Duke Energy Florida, LLC
P.L. Bartow Plant

Facility ID No. 1030011
Pinellas County

Title V Air Operation Permit Revision

Permit No. 1030011-025-AV
(Revision of Title V Air Operation Permit No. 1030011-020-AV)

Permitting Authority:

State of Florida
Department of Environmental Protection
Division of Air Resource Management
Office of Permitting and Compliance
2600 Blair Stone Road
Mail Station #5505
Tallahassee, Florida 32399-2400

Telephone: (850) 717-9000
Email: DARM_Permitting@dep.state.fl.us

Compliance Authority:

Pinellas County Department of Environmental Management
Air Quality Management Division
300 South Garden Avenue
Clearwater, Florida 34616

Telephone: (727) 464-4422

Title V Air Operation Permit Revision

Permit No. 1030011-025-AV

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Florida Department of Environmental Protection

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

Rick Scott
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Lt. Governor

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Interim Secretary

PERMITTEE:
Duke Energy Florida, LLC
P.L. Bartow Plant
1601 Weedon Island Drive
St. Petersburg, Florida 33702

Permit No. 1030011-025-AV
P.L. Bartow Plant
Facility ID No. 1030011
Title V Air Operation Permit Revision

The purpose of this permit is to revise the Title V air operation permit for the above referenced facility. The existing P.L. Bartow Plant is in Pinellas County at 1601 Weedon Island Drive, St. Petersburg, Florida. UTM Coordinates: Zone 17, 343.87 km East and 3,082.69 km North; Latitude: 27° 51' 41" North and Longitude: 82° 36' 6" West.

The Title V air operation permit is issued under the provisions of Chapter 403, Florida Statutes (F.S.), and Florida Administrative Code (F.A.C.) Chapters 62-4, 62-210, 62-213 and 62-214. The above named permittee is hereby authorized to operate the facility in accordance with the terms and conditions of this permit.

Executed in Tallahassee, Florida.

1030011-020-AV Effective Date: January 1, 2015
1030011-025-AV Effective Date: May 10, 2017
Renewal Application Due Date: May 20, 2019
Expiration Date: December 31, 2019

David Lyle Read, P.E.

David Lyle Read, P.E.
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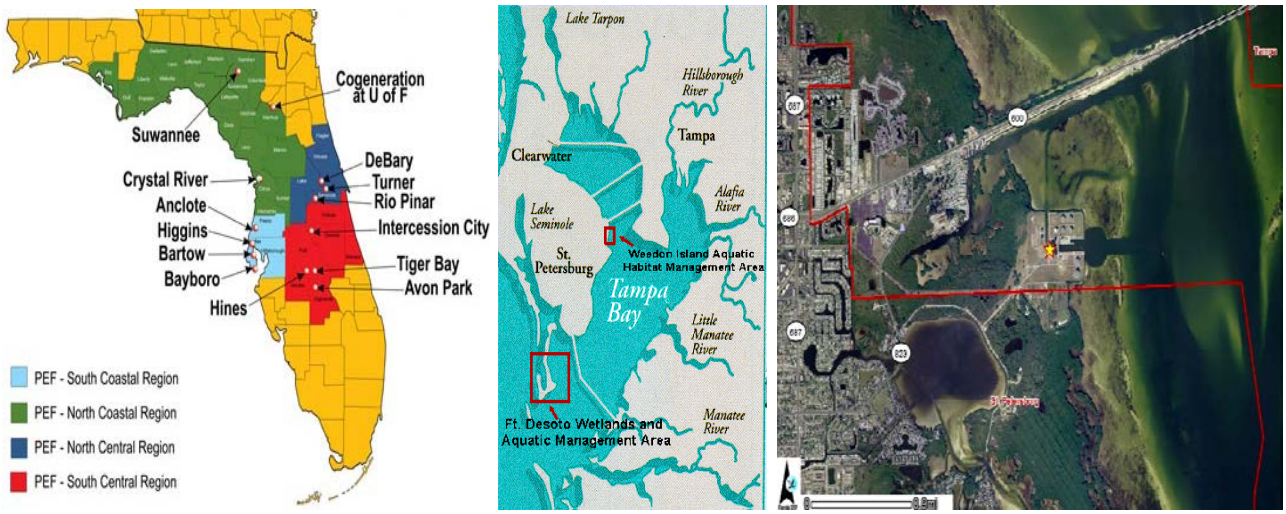
For:
Syed Arif, P.E., Program Administrator
Office of Permitting and Compliance
Division of Air Resource Management

SA/dlr/jpd

Subsection A. Facility Description.

Duke Energy Florida (DEF) operates the P.L. Bartow Plant, which is an existing power plant (SIC No. 4911). The plant is located at Weedon Island approximately 83 km south of the PSD Class I Chassahowitzka Wilderness Area. The placard page above indicates the exact geographical coordinates.



Bartow Power Plant in the DEF System and Location of Weedon Island and Power Plant

This power plant currently consists of:

- Four Model SGT6-501F combined cycle combustion turbine-electrical generators (CCCT). This combined cycle unit system ("4-on-1"), designated as Unit 4, has a nominal generation capacity of 1,280 megawatts (MW);
- Four natural gas fired fuel heaters; two diesel fuel storage tanks; and a diesel fueled emergency fire pump. These emission units are part of the ancillary equipment for Unit 4; and
- Four simple cycle units designated as Gas Combustion Turbine Peaking Units Nos. P-1, P-2, P-3 and P-4 each of which has a nominal capacity of 56 MW.

Subsection B. Summary of Emissions Units.

E.U. ID	Emission Unit Description
Regulated Emissions Units	
005	56 MW Gas Turbine Peaking Unit #P-1
006	56 MW Gas Turbine Peaking Unit #P-2
007	56 MW Gas Turbine Peaking Unit #P-3
008	56 MW Gas Turbine Peaking Unit #P-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
044	Four Nominal 3 MMBtu/hr Gas-fired Process Heaters

E.U. ID	Emission Unit Description
046	One Nominal 300 horsepower Diesel-fueled Emergency Fire Pump
Insignificant Emissions Units and Activities	
	Insignificant Emissions Units and Activities (See Appendix I-1.)

Miscellaneous unregulated/insignificant emissions units and/or activities including fuel storage tanks and gas tanks that can be located at various DEF power plants.

Subsection C. Applicable Regulations.

Based on the Title V Air Operation permit revision application received January 18, 2017, this facility is a major source of hazardous air pollutants (HAP). This facility is classified as a PSD major facility. A summary of applicable regulations is shown in the following table.

Regulation	EU No(s).
State Rule Citations	
Rule 62-4, Florida Administrative Code (F.A.C.) (Permitting Requirements)	005, 006, 007, 008, 038, 039, 040, 041, 044, 046
Rule 62-204, F.A.C. (Ambient Air Quality Requirements, PSD Increments, and Federal Regulations Adopted by Reference)	
Rule 62-210, F.A.C. (Permits Required, Public Notice, Reports, Stack Height Policy, Circumvention, Excess Emissions, and Forms)	
Rule 62-213, F.A.C. (Title V Air Operation Permits for Major Sources of Air Pollution)	
Rule 62-212, F.A.C. (Preconstruction Review, PSD Review and Best Available Control Technology (BACT))	038, 039, 040, 041, 044, 046
Rule 62-214, F.A.C. (Requirements For Sources Subject To The Federal Acid Rain Program)	038, 039, 040, 041
Rule 62-297, F.A.C. (Test Methods and Procedures, Continuous Monitoring Specifications, and Alternate Sampling Procedures)	005, 006, 007, 008, 038, 039, 040, 041, 044, 046
Federal Rule Citations	
40 CFR 60, Subpart A, NSPS General Provisions	038, 039, 040, 041, 046
40 CFR 60, NSPS Subpart KKKK	038, 039, 040, 041
40 CFR 60, NSPS Subpart IIII	046
40 CFR 63, Subpart A, NESHAP General Provisions	038, 039, 040, 041, 044, 046
40 CFR 63, Subpart DDDDD	044
40 CFR 63, Subpart YYYY	038, 039, 040, 041
40 CFR 63, Subpart ZZZZ	046
40 CFR 75 Acid Rain Monitoring Provisions	038, 039, 040, 041
40 CFR 96: Clean Air Interstate Rule	005, 006, 007, 008, 038, 039, 040, 041

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The following conditions apply facility-wide to all emission units and activities:

FW1. Appendices. The permittee shall comply with all documents identified in Section VI, Appendices, listed in the Table of Contents. Each document is an enforceable part of this permit unless otherwise indicated. [Rule 62-213.440, F.A.C.]

Emissions and Controls

FW2. **Not federally Enforceable.** 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. [Rule 62-296.320(2) and 62-210.200(Definitions), F.A.C.]

FW3. General Volatile Organic Compounds (VOC) Emissions or Organic Solvents (OS) Emissions. The permittee shall allow no person to store, pump, handle, process, load, unload or use in any process or installation, volatile organic compounds or organic solvents 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.]

{Permitting Note: Nothing is deemed necessary and ordered at this time.}

FW4. 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), F.A.C.]

FW5. Unconfined Particulate Matter. No person shall cause, let, permit, suffer or allow the emissions of unconfined particulate matter from any activity, including vehicular movement; transportation of materials; construction; alteration; demolition or wrecking; or industrially related activities such as loading, unloading, storing or handling; without taking reasonable precautions to prevent such emissions. Reasonable precautions to prevent emissions of unconfined particulate matter at this facility include:

a. Maintenance of paved areas;
b. Regular mowing of grass and care of vegetation; and
c. Limiting access to plant property by unnecessary vehicles.

[Rule 62-296.320(4)(c)2., F.A.C. and provided by applicant in Title V air operation permit renewal application received May 19, 2014.]

Reports and Fees

See Appendix RR, Facility-wide Reporting Requirements, for additional details and requirements.

FW6. Electronic Annual Operating Report and Title V Annual Emissions Fees. The information required by the Annual Operating Report for Air Pollutant Emitting Facility [Including Title V Source Emissions Fee Calculation] (DEP Form No. 62-210.900(5)) shall be submitted by April 1 of each year, for the previous calendar year, to the Department of Environmental Protection's Division of Air Resource Management. Each Title V source shall submit the annual operating report using the DEP's Electronic Annual Operating Report (EAOR) software, unless the Title V source claims a technical or financial hardship by submitting DEP Form No. 62-210.900(5) to the DEP Division of Air Resource Management instead of using the reporting software. Emissions shall be computed in accordance with the provisions of subsection 62-210.370(2), F.A.C. Each Title V source must pay between January 15 and April 1 of each year an annual emissions fee in an amount determined as set forth in subsection 62-213.205(1), F.A.C. The annual fee shall only apply to those regulated pollutants, except carbon monoxide and greenhouse gases, for which an allowable numeric emission-limiting standard is specified in the source's most recent construction permit or operation permit. Upon completing the required EAOR entries, the EAOR Title V Fee Invoice can be printed by the source

showing which of the reported emissions are subject to the fee and the total Title V Annual Emissions Fee that is due. The submission of the annual Title V emissions fee payment is also due (postmarked) by April 1st of each year. A copy of the system-generated EAOR Title V Annual Emissions Fee Invoice and the indicated total fee shall be submitted to: **Major Air Pollution Source Annual Emissions Fee, P.O. Box 3070, Tallahassee, Florida 32315-3070.** Additional information is available by accessing the Title V Annual Emissions Fee On-line Information Center at the following Internet web site: http://www.dep.state.fl.us/air/emission/tvfee.htm. [Rules 62-210.370(3), 62-210.900 & 62-213.205, F.A.C.; and, §403.0872(11), Florida Statutes (2013)]

{Permitting Note: Resources to help you complete your AOR are available on the electronic AOR (EAOR) website at: http://www.dep.state.fl.us/air/emission/eaor. If you have questions or need assistance after reviewing the information posted on the EAOR website, please contact the Department by phone at (850) 717-9000 or email at eaor@dep.state.fl.us.}

{Permitting Note: The Title V Annual Emissions Fee form (DEP Form No. 62-213.900(1)) has been repealed. ***A separate Annual Emissions Fee form is no longer required to be submitted by March 1st each year.****}*

FW7. Annual Statement of Compliance. The permittee shall submit an annual statement of compliance to the compliance authority at the address shown on the cover of this permit and to the US. EPA at the address shown below within 60 days after the end of each calendar year during which the Title V air operation permit was effective. (See also Appendix RR, Conditions RR1 and RR7.) [Rules 62-213.440(3)(a)2. & 3. and (b), F.A.C.]

U.S. Environmental Protection Agency, Region 4
Atlanta Federal Center
61 Forsyth Street, SW
Atlanta, Georgia 30303
Attn: Air Enforcement Branch

FW8. Prevention of Accidental Releases (Section 112(r) of CAA). If, and when, the facility becomes subject to 112(r), the permittee shall:

a. Submit its Risk Management Plan (RMP) to the Chemical Emergency Preparedness and Prevention Office (CEPPO) RMP Reporting Center. Any Risk Management Plans, original submittals, revisions or updates to submittals, should be sent electronically through EPA's Central Data Exchange system at the following address: https://cdx.epa.gov. Information on electronically submitting risk management plans using the Central Data Exchange system is available at: http://www2.epa.gov/rmp. The RMP Reporting Center can be contacted at: RMP Reporting Center, Post Office Box 10162, Fairfax, VA 22038, Telephone: (703) 227-7650.
b. Submit to the permitting authority Title V certification forms or a compliance schedule in accordance with Rule 62-213.440(2), F.A.C.

[40 CFR 68]

FW9. Semi-Annual Monitoring Reports. The permittee shall monitor compliance with the terms and conditions of this permit and shall submit reports of any deviations from the requirements of these conditions at least every six (6) months. All instances of deviations from permit requirements must be clearly identified in such reports, including reference to the specific requirement and the duration of such deviation. All reports shall be accompanied by a certification by a responsible official, pursuant to subsection 62-213.420(4), F.A.C. (See also Conditions RR2. – RR4. of Appendix RR, Facility-wide Reporting Requirements, for additional reporting requirements related to deviations.) [Rule 62-213.440(1)(b)3.a., F.A.C.]

{Permitting Note: EPA has clarified that, pursuant to 40 CFR 70.6(a)(3), the word "monitoring" is used in a broad sense and means monitoring (i.e., paying attention to) the compliance of the source with all emissions limitations, standards, and work practices specified in the permit.}

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The specific conditions in this subsection apply to the following emissions units:

E.U. ID No.	Brief Description
005	56 MW Gas Turbine Peaking Unit #P-1
006	56 MW Gas Turbine Peaking Unit #P-2
007	56 MW Gas Turbine Peaking Unit #P-3
008	56 MW Gas Turbine Peaking Unit #P-4

The four gas turbines are natural gas and/or No. 2 fuel oil fired combustion turbines manufactured by General Electric (model number MS7000) and are designated as Gas Turbine Peaking Units #P-1, #P-2, #P-3 and #P-4. The manufacturer's fuel flow and heat input ratings for each turbine are 5,174 gallons per hour of No. 2 fuel oil, or 714 million cubic feet per hour of natural gas (corresponds to approximately 714 million Btu per hour , at 59 degrees F). The actual heat input rate of the turbine is a function of the ambient temperature. These combustion turbines are used as peaking units during peak demand times to run a nominal 56 MW generator (each). Emissions from the combustion turbines are uncontrolled. Each combustion turbine has its own stack. Each combustion turbine began commercial operation in 1972.

{Permitting Notes: These emissions units are regulated under Rule 62-210.300, F.A.C., Permits Required. These emissions units are not subject to 40 CFR 60, Subpart GG, Standards of Performance for New Stationary Gas Turbines. Each combustion turbine has its own stack. Each combustion turbine began commercial operation in 1972.}

The following specific conditions apply to the emissions units listed above:

Essential Potential to Emit (PTE) Parameters

A.1. Permitted Capacity - Gas Turbines. The maximum heat input rate to each gas turbine is 714 MMBtu per hour when firing natural gas or distillate fuel oil (based on a compressor inlet air temperature of 59° F, the lower heating value (LHV) of each fuel, and 100% load). Heat input rates will vary depending upon gas turbine characteristics, ambient conditions, alternate methods of operation, and evaporative cooling. The permittee shall provide updated manufacturer's performance curves (or equations) that correct for site conditions to the Compliance Authority within 45 days of completing testing, maintenance or tuning sessions that result in a need to reestablish the curves. 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(PTE), F.A.C.]

A.2. Emissions Unit Operating Rate Limitation After Testing. See the related testing provisions in Appendix TR, Facility-wide Testing Requirements. [Rule 62-297.310(2), F.A.C.]

A.3. Methods of Operation – Fuels. Only natural gas and/or new No. 2 fuel oil shall be fired in the combustion turbines. New No. 2 fuel oil is defined as fuel oil that has been refined from crude oil and has not been used and which may or may not contain additives. [Rule 62-213.410(1), F.A.C.; and, AO52-253215A, AO52-253216A, AO52-253217A & AO52-253218A]

A.4. Hours of Operation. These emissions units may operate continuously, i.e., 8,760 hours/year. [Rules 62-4.160(2) and 62-210.200(PTE), F.A.C.; and, AO52-253215A, AO52-253216A, AO52-253217A & AO52-253218A]

Emission Limitations and Standards

{Permitting Note: The attached Table 1, Summary of Air Pollutant Standards and Terms, summarizes information for convenience purposes only. This table does not supersede any of the terms or conditions of this permit.}

Unless otherwise specified, the averaging time for Specific Condition **A.5.** is based on the specified averaging

time of the applicable test method.

A.5. Visible Emissions. Visible emissions from each turbine shall not be equal to or greater than 20 percent opacity. [Rule 62-296.320(4)(b)1., F.A.C.; and, AO52-253215A, AO52-253216A, AO52-253217A & AO52-253218A]

A.6. **Not federally enforceable.** Sulfur Dioxide - Sulfur Content. The sulfur content of the No. 2 fuel oil shall not exceed 0.5 percent, by weight. (See Specific Condition **A.9**.) [AO52-253215A, AO52-253216A, AO52-253217A & AO52-253218A]

Excess Emissions

Rule 62-210.700 (Excess Emissions), F.A.C. cannot vary any requirement of an NSPS, NESHAP or Acid Rain program provision.

A.7. Excess Emissions Allowed. Excess emissions from these emissions units resulting from startup, shutdown or malfunction shall be permitted provided that 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 unless specifically authorized by PCDEM for longer duration. [Rule 62-210.700(1), F.A.C.]

A.8. Excess Emissions Prohibited. Excess emissions which are caused entirely or in part by poor maintenance, poor operation, or any other equipment or process failure which may reasonably be prevented during startup, shutdown or malfunction shall be prohibited. [Rule 62-210.700(4), F.A.C.]

Monitoring of Operations

A.9. **Not federally enforceable.** Fuel Analysis. The permittee shall demonstrate compliance with the liquid fuel sulfur limit by means of a fuel analysis provided by the vendor upon each fuel delivery. See specific condition **A.15.** (See Specific Condition **A.6**.) [Rule 62-213.440, F.A.C.]

Test Methods and Procedures

{Permitting Note: The attached Table 2, Summary of Compliance Requirements, summarizes information for convenience purposes only. This table does not supersede any of the terms or conditions of this permit.}

A.10. Test Methods. Required tests shall be performed in accordance with the following reference methods:

Method	Description of Method and Comments
9	Visual Determination of the Opacity of Emissions from Stationary Sources

The above 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 unless prior written approval is received from the Department. [62-297.401, F.A.C.]

A.11. Common Testing Requirements. Unless otherwise specified, tests shall be conducted in accordance with the requirements and procedures specified in Appendix TR, Facility-Wide Testing Requirements, of this permit. [Rule 62-297.310(7), F.A.C.]

A.12. Annual Compliance Tests Required. Except as provided in Specific Condition **A.16.**, during each calendar year (January 1st to December 31st), each emissions unit shall be tested to demonstrate compliance with the emissions standards for visible emissions. [Rule 62-297.310(8)(a), F.A.C.]

A.13. Compliance Tests Prior To Renewal. Compliance tests shall be performed for visible emissions once every 5 years. The tests shall occur prior to obtaining a renewed operating permit to demonstrate compliance with the visible emissions limit in Specific Condition **A.5.** [Rules 62-210.300(2)(a) and 62-297.310(8)(b)1., F.A.C.]

A.14. Visible Emissions Test Method. The test method for visible emissions shall be EPA Method 9, adopted and incorporated by reference in Rule 62-204.800, F.A.C., and referenced in Chapter 62-297, F.A.C. [Rules 62-204.800, 62-296.320(4)(b)4.a. and 62-297.401, F.A.C.]

A.15. Methods to Evaluate Fuel Sulfur Content. The fuel sulfur content, percent by weight, for liquid fuels shall be evaluated using either ASTM D2622-92, ASTM D4294-90, or ASTM D7039-07, both ASTM D4057-88 and ASTM D129-91, or latest edition, or ASTM D1552-95 or an equivalent method after Department approval. [Rules 62-213.440 and 62-297.440, F.A.C.]

A.16. Visible Emissions Testing – Annual. By this permit, annual emissions compliance testing for visible emissions is not required for these emissions units while burning:
a. only gaseous fuels; or
b. gaseous fuels in combination with any amount of liquid fuels for less than 400 hours per year; or
c. only liquid fuels for less than 400 hours per year.
{Permitting Note: Units would have to fire or co-fire on oil for more than 400 hours per year to require compliance VE testing}
[Rules 62-297.310(7)(a)4. & 8., F.A.C.]

Recordkeeping and Reporting Requirements

A.17. Reporting Schedule. The following reports and notifications shall be submitted to the Compliance Authority:

Report	Reporting Deadline	Related Condition(s)
Notice of Malfunctions	Quarterly	**A.19**
Operating Reports	April 1st	**A.20**

A.18. Other Reporting Requirements. See Appendix RR, Facility-Wide Reporting Requirements, for additional reporting requirements.

A.19. Reporting Malfunction. In the case of excess emissions resulting from malfunctions, each owner or operator shall notify the PCDEM 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.]

A.20. Not Federally Enforceable. Operating Reports. The annual operating report shall be based on the following:
a. The Btu heating value, sulfur content (percent by weight), API gravity and density of the fuel being fired in the peaking units, shall be based on a weighted 12-month average (calendar year) and be calculated from the fuel delivery receipts and the vendors fuel oil analysis.
b. Until further notice by the PCDEM, Duke Energy Florida shall calculate annual emissions (pounds per hour and tons per year), for the Annual Operating Report, by multiplying the total million Btu from fuel usage by the following emissions factors:

Pollutant	Emissions Factors for No. 2 Fuel Oil Pound per MMBtu
Particulate Matter (PM)	0.061 (Total)
PM_{10}	0.48 PM
Carbon Monoxide	0.048
Sulfur Dioxide	1.01(S)
Nitrogen Oxides	0.698

Hydrocarbons (TOC)	0.017

"S" denotes sulfur content, percent by weight. The sulfur dioxide emissions shall be based on a weighted 12-month average "S" value.

[AO52-253215A, AO52-253216A, AO52-253217A and AO52-253218A]

A.21. Records of Fuel Consumption and Operating Time Required. The owner or operator shall make and maintain records of the hours of operation and the total fuel oil consumption in sufficient detail to ensure compliance with specific conditions of this permit. [Rule 62-4.070(3), F.A.C.]

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The specific conditions in this subsection apply to 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

Emissions Unit 4 consists of four ("4-on-1") Siemens SGT6-501 F gas turbine-electrical generator set (Units 4A-4D) with a generating capacity of 215 MW (each) for gas firing at ISO conditions when practicing power (steam) augmentation. Exhaust from each gas turbine passes through a separate supplementary 500 MMBtu/hr gas fired heat recovery steam generator (HRSG). Steam from each HRSG is delivered to the 420 MW single steam turbine-electrical generator (STG). Each CT is equipped with an Advanced Low-Load Turn Down (ALLTD) package, which enables the units to operate at low loads.

Each combustion turbine (CT) has 2 stacks that are equipped with continuous emissions monitoring systems (CEMS) to measure and record CO and NO_X emissions, as well as flue gas oxygen or carbon dioxide content.

Each CT within the combined-cycle unit system is permitted to operate in simple-cycle by directing the exhaust to a bypass stack instead of the respective heat recovery steam generator (HRSG) exhaust stack. All 8 stacks measure approximately 120 feet in height. The four CTs in aggregate are capable of firing backup low sulfur (<0.05% S) distillate fuel oil for the equivalent of 4,000 hours per year (hr/yr). All CTs are equipped with evaporative coolers to condition incoming air at high ambient temperatures.

Emissions of CO, PM/PM_{10}, SAM, SO_2 and VOC are controlled by the efficient combustion of natural gas and restricted firing of low sulfur distillate fuel oil. Unit 4 uses (as needed) a selective catalytic reduction (SCR) system with ammonia injection in conjunction with Ultra Low-NO_X (ULN) combustion (natural gas firing) and wet injection (0.05% distillate fuel oil firing) to control nitrogen oxide (NO_X) emissions

The total generating capacity of Power Block 4, which includes 4 combined-cycle CTs and STG is 1280 MW. Theses units commenced operation in November and December 2008.

{*Permitting Note: These emissions units were reviewed under the rules for the Prevention of Significant Deterioration (PSD), Rule 62-212.400, F.A.C. Best Available Control Technology (BACT) determinations were made for carbon monoxide (CO) and volatile organic compounds (VOC) in accordance with Rule 62-210.200 (Definitions). These units are also regulated under Acid Rain-Phase II, 40CFR60 - NSPS, Subpart KKKK and 40CFR63 - NESHAP, Subpart YYYY; Rule 62-212.400 (PSD), F.A.C.}*

Applicable Standards and Regulations

B.1. NSPS Requirements. Each CT shall comply with all applicable requirements of 40 CFR 60, listed below, adopted by reference in Rule 62-204.800(7)(b), F.A.C.

a. *Subpart A - General Provisions*, including:
- 40 CFR 60.7, Notification and Record Keeping
- 40 CFR 60.8, Performance Tests
- 40 CFR 60.11, Compliance with Standards and Maintenance Requirements
- 40 CFR 60.12, Circumvention
- 40 CFR 60.13, Monitoring Requirements
- 40 CFR 60.19, General Notification and Reporting Requirements

b. Subpart KKKK - Standards of Performance for Stationary Combustion Turbines: These provisions were finalized on July 6, 2006 and include requirements applicable to duct burners located in HRSGs.

B.2. NESHAP Requirements. The CTs are subject to 40 CFR 63, Subpart A - Identification of General Provisions and 40 CFR 63, Subpart YYYY - National Emissions Standard for Hazardous Air Pollutants for Stationary Combustion Turbines. [Rule 62-204.800(11)(b), F.A.C.]

Equipment And Control Technology

B.3. Combustion Turbines (CTs). The permittee is authorized to tune, operate, and maintain four Model SGT6-501F CT-electrical generator sets. Each CT shall include an automated control system and have dual-fuel capability. Ancillary equipment includes an inlet air filtration system, evaporative inlet air-cooling system and a nominal 120 foot exhaust stack for simple cycle operation. [Permit 1030011-010-AC; Design]

B.4. Heat Recovery Steam Generators (HRSGs). The permittee is authorized to operate and maintain four new duct-fired HRSGs that recover exhaust heat energy from four of the CTs and deliver steam to a nominal 420 MW steam turbine electrical generator. Each HRSG shall be equipped with a nominal 120 foot exhaust stack for combined cycle operation. [Permit 1030011-010-AC; Design]

B.5. ULN Combustion System. The permittee shall operate and maintain Ultra Low NO_X (ULN) systems to control NO_X emissions from each CT when firing natural gas. Each system shall be maintained and tuned in accordance with the manufacturer's recommendations or industry standards. [Permits 1030011-010-AC & 1030011-019-AC; Design]

B.6. Water Injection. The permittee shall operate, and maintain a water injection system to reduce NO_X emissions from each CT when firing distillate fuel oil. Each system shall be maintained and tuned in accordance with the manufacturer's recommendations or industry standards. [Permit 1030011-010-AC; Design]

B.7. Selective Catalytic Reduction Systems. The permittee is authorized to tune, operate, and maintain a selective catalytic reduction (SCR) system within each HRSG to control NO_X emissions from each of the four CT/Duct-fired HRSGs comprising the combined cycle unit. The SCR system consists of an ammonia (NH_3) injection grid, catalyst, ammonia storage, monitoring and control system, electrical, piping and other ancillary equipment. The SCR system shall be designed, constructed and operated to achieve the permitted levels for NO_X and NH_3 emissions. Operation of the SCR systems is not required when the NO_X emission limits can be met without their use. [Permit 1030011-010-AC; Design, and 62-210.650 (Circumvention), F.A.C.]

B.8. Oxidation Catalyst Systems. The permittee shall have designed and built the project to facilitate future installation of an oxidation catalyst system within each HRSG to control CO and VOC emissions from each of the four CTs/Duct-fired HRSGs comprising the combined cycle unit. The permittee may install oxidation catalyst during project construction or, after notifying the Department, at a future date as described in Specific Condition **B.17.f.** [Rule 62-213.440, F.A.C.]

B.9. Ammonia Storage. In accordance with 40 CFR 60.130, the storage of ammonia shall comply with all applicable requirements of the Chemical Accident Prevention Provisions in 40 CFR 68. [Rule 62-213.440, F.A.C.]

B.10. Advanced Low-Load Turn-Down. The permittee is authorized to operate ALLTD on each of the four CTs while in combined-cycle mode and simple-cycle mode. [Permit No. 1030011-023-AC]

Essential Potential to Emit (PTE) Parameters

B.11. 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. Operating data may be adjusted for the appropriate site conditions in accordance with the performance curves and/or equations on file with the Department. [Application, Rule 62-210.200(Definitions - PTE), F.A.C.; and, Permits 1030011-010-AC & 1030011-019-AC]

B.12. Permitted Capacity - Duct Burners. The total nominal heat input rate to the duct burners (DBs) located within each HRSG is 500 MMBtu per hour based on the higher heating value (HHV) of natural gas. Only natural gas shall be fired in the duct burners. [Rule 62-210.200 (Definitions - PTE), F.A.C.; and, Permit 1030011-010-AC]

B.13. Emissions Unit Operating Rate Limitation After Testing. See the related testing provisions in Appendix TR, Facility-wide Testing Requirements. [Rule 62-297.310(2), F.A.C.]

B.14. Authorized Fuels. Each CT shall fire only natural gas and distillate oil. The maximum sulfur content of natural gas shall not exceed 2.0 grains of sulfur per 100 standard cubic feet of natural gas. The maximum sulfur content of distillate oil shall not exceed 0.05% by weight. [Design; Rules 62-213.440 and 62-210.200 (Definitions – PTE), F.A.C.; 40 CFR 60, Subpart KKKK; and, Permit 1030011-010-AC]

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

a. The hours of operation of the CTs are not limited (8,760 hours per year).
b. Distillate oil firing is limited to **4**,000 hours total aggregate for all four CTs (based on an average of 1,000 hours per CT) during any consecutive 12-month period.
c. Operation of the DBs is limited to 4.7 billion cubic feet of natural gas per year for four DBs) during any consecutive 12-month period.
d. 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.

[Rules 62-4.070 (3) and 62-212.400(BACT), F.A.C.; and, Permits 1030011-010-AC, 1030011-019-AC & 1030011-024-AC]

B.16. Methods of Operation. Subject to the restrictions and requirements of this permit, the CTs may commence commercial operation and thereafter operate under the following methods of operation.

a. *Simple Cycle (SC) Operation.* All four CTs may operate in simple cycle (SC) mode whereby the turbine exhaust gas (TEG) exits through or is diverted to a stack unassociated with a DB-fired HRSG. This method of operation will be an infrequent occurrence for the four CTs that will typically operate in combined cycle mode as described below.
b. *Combined Cycle (CC) Operation*. The four CTs associated with combined cycle Unit 4 may operate in combined cycle (CC) mode whereby the TEG is exhausted to their respective duct-fired HRSGs for energy recovery in order to raise steam to drive the single steam turbine-electrical generator (STG) subject to the restrictions of this permit.
c. *Inlet Conditioning*. In accordance with the manufacturer's recommendations and appropriate ambient conditions, the evaporative cooling systems may be operated to reduce the compressor inlet air temperature and provide additional direct, shaft-driven electrical power.
d. *Duct Firing*. The DB within each HRSG may be fired with natural gas to reheat the TEG in order to provide additional steam to the STG or the CTs for power augmentation.
e. *Power augmentation.* Power (Steam) Augmentation (PA): Steam for PA is taken from the HRSG and is introduced into the CT compressor discharge, thus increasing the power produced by the expander portion of the turbine.

[Rules 62-210.200(PTE) and 62-212.400(BACT), F.A.C; and, Permit 1030011-010-AC.]

Emissions Standards

{Permitting Note: The attached Table 1, Summary of Air Pollutant Standards and Terms, summarizes information for convenience purposes only. This table does not supersede any of the terms or conditions of this permit.}

Unless otherwise specified, the averaging times for Specific Conditions **B.16. – B.19.** are based on the specified averaging time of the applicable test method.

B.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 (corrected to 15% O_2)
NO_X [c]	Oil	CT (SC)	42 on 4-hour basis 96 on 4-hour basis (<75% peak load)
		CT (CC)	42 on 30-operating days basis 96 ppm on 30-operating days basis (<75% peak load)
	Gas	CT (SC)	15 on 4-hour basis 96 on 4-hour basis (<75% peak load)
		CT (CC)	15 on 30-operating days basis 96 ppm 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 of 40 CFR 60, Subpart KKKK, Table 1.

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

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. [Permits 1030011-010-AC & 1030011-012-AC & 1030011-019-AC; and, 40 CFR 60, Subpart KKKK]

B.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 Block Average
			ppmvd @ 15% O_2	lb/hr [b]	ppmvd @ 15% O_2
CO	Oil	CT	8.0	40.4	8.0, 24-hr [c] 6, 12-month [e]
	Gas	CT	4.1	20.8	
		CT & DB (HRSG stacks only)	7.6	38.3	
VOC [d, f]	Oil	CT	2.8	7.6	Not Applicable
	Gas	CT	1.2	3.0	
		CT & DB (HRSG stacks only)	1.5	3.8	

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. Compliance with the continuous 24-hour 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 may also be used to demonstrate compliance with the individual standards for natural gas, fuel oil, or duct burner modes.
d. 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.
e. *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.
f. Compliance with the CO CEMS based limits shall be deemed as compliance with the VOC limit.

[Rule 62-210.200(Definitions – BACT) and 62-212.400 F.A.C.; Permit Nos. 1030011-010-AC and 1030011-024-AC]

B.19. New Source Performance Standard for SO_2. Pursuant to §60.4330(a)(2), SO_2 emissions are limited in NSPS Subpart KKKK by a prohibition on the firing of any fuels that contain total potential sulfur emissions in excess of 0.060 lb SO_2/MMBtu heat input. Refer to Appendix KKKK of this permit for the full NSPS requirements. [40 CFR 60, Subpart KKKK and Permit 1030011-010-AC]

*{Permitting note: Compliance with the sulfur restriction in Specific Condition **B.14.** assures compliance with this NSPS Subpart KKKK fuel sulfur restriction.}*

B.20. Measures to Limit Particulate Emissions (PM/PM_{10}/Fine Particulate Matter). The following measures and limitations, in conjunction with decreases from other units, effectively limit combined annual PM/PM_{10} emissions to a level that ensures net emissions increases are well below the significant emission rate at which

PSD applies and a subsequent BACT determination is required. These measures also minimize fine particulate emissions and formation:

a. *Fuel Sulfur Limits*. The sulfur concentration shall be limited to 2 grains per 100 standard cubic feet of natural gas. The sulfur concentration in the distillate fuel oil used shall be limited to 0.05 percent. Compliance with the fuel specifications shall be demonstrated by keeping records of the fuel sulfur content.

b. *Visible Emissions*. Visible emissions shall not exceed 10 percent opacity for each 6-minute block average. Compliance with the visible emissions standard shall be demonstrated by conducting tests in accordance with EPA Method 9.

c. *Ammonia Emissions (Slip) Limits*. Ammonia emissions shall be limited to 5 ppmvd @15% O_2. Compliance with the ammonia slip standard shall be demonstrated by conducting tests in accordance with EPA Methods TM-027 or 320.

[62-212.400(12)(PSD Avoidance); and, Permit 1030011-010-AC]

Excess Emissions

The following conditions apply only to the SIP-based emissions standards specified in Specific Condition **B.17.** of this section. Rule 62-210.700, F.A.C. (Excess Emissions) cannot vary or supersede any federal provision of the NSPS or Acid Rain programs.

B.21. Operating Procedures. The Best Available Control Technology (BACT) determinations established by this permit rely on "good operating practices" to reduce emissions. Therefore, all operators and supervisors shall be properly trained to operate and maintain the CTs, HRSGs, and pollution control systems in accordance with the guidelines and procedures established by each manufacturer. The training shall include good operating practices as well as methods of minimizing excess emissions. [Permit 1030011-010-AC; Rules 62-213.440, F.A.C and 62-212.400 (BACT), F.A.C.]

B.22. Alternate Visible Emissions Standard. Visible emissions due to startups, shutdowns, and malfunctions shall not exceed 10% opacity except for up to ten, 6-minute averaging periods during a calendar day, which shall not exceed 20% opacity. [Rule 62-212.400(BACT), F.A.C.; and, Permit 1030011-010-AC]

B.23. Definitions

a. *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. [Rule 62-210.200(245), F.A.C.]

b. *Shutdown* is the cessation of the operation of an emissions unit for any purpose. [Rule 62-210.200(230), F.A.C.]

c. *Malfunction* is defined as 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(159), F.A.C.]

[Permit 1030011-010-AC]

B.24. Excess Emissions Allowed and 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(4), F.A.C., these conditions replace the provisions in Rule 62-210.700(1), F.A.C. For each CT/HRSG system or CT in simple cycle mode, excess emissions resulting from startup, shutdown, and documented malfunctions shall not exceed 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 480

minutes 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 combined cycle system following a shutdown of the steam turbine 24 hours or longer.

b. *Steam Turbine/HRSG Hot Startup:* For hot startup of the steam turbine system, up to 240 minutes 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. *Shutdown Combined Cycle Operation*: For shutdown of the combined cycle operation, up to 180 minutes in any 24-hour period of excess emissions from any CT/HRSG system can be excluded.

d. *CT/HRSG System Cold Startup*: For cold startup of a CT/HRSG system, up to 240 minutes in any 24-hour period can be excluded. "Cold startup of a CT/HRSG system" is defined as a CT/HRSG starting up and blending into *combined-cycle* service after that CT/HRSG has been off-line for 4 hours or longer.

e. *CT/HRSG System Hot Startup*: For hot startup of a CT/HRSG system, up to 180 minutes in any 24-hour period can be excluded. "Hot startup of a CT/HRSG system" is defined as a CT/HRSG starting up and blending into *combined-cycle* service after that CT/HRSG has been off-line for less than 4 hours.

f. *Fuel Switching*: For fuel switching, up to 120 minutes 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 various conditions.}

Start-Up Conditions	Hours Off-Line	Excess Emissions Data Exclusion Allowance for Startup
Steam Turbine/HRSG Starts		
ST/HRSG System Cold Startup	≥24	480 minutes
ST/HRSG Hot Startup	<24	240 minutes
CT/HRSG Blend Ins		
CT/HRSG Cold Startup	≥4	240 minutes
CT/HRSG Hot Startup	<4	180 minutes
Fuel Switching		
Fuel Switching		120 minutes

[Permits 1030011-010-AC,1030011-012-AC, 1030011-019-AC, and 1030011-024-AC]

B.25. 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. [Rule 62-210.700(4), F.A.C.]

B.26. ULN Tuning. CEMS data collected during initial or other major 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 that details the activity and proposed tuning schedule. The notice may be by telephone,

facsimile transmittal, or electronic mail. [Design; Rule 62-213.440, F.A.C; and, Permits 1030011-010-AC, 1030011-019-AC, and 1030011-024-AC]

Continuous Monitoring Requirements

B.27. CEM Systems. The permittee shall calibrate, maintain, and operate continuous emission monitoring systems (CEMS) to measure and record the emissions of CO and NO_X from all stacks in a manner sufficient to demonstrate continuous compliance with the CEMS emission standards of this subsection. Each monitoring system shall be installed, calibrated, and properly functioning prior to the initial performance tests. Within one working day of discovering emissions in excess of a CO or NO_X standard (and subject to the specified averaging period), the permittee shall notify the Compliance Authority.

a. *CO Monitors.* The CO monitors shall be certified pursuant to 40 CFR 60, Appendix B, Performance Specification 4 or 4A within 60 calendar days of achieving permitted capacity as defined in Rule 62-297.310(2), F.A.C., but no later than 180 calendar days after initial startup. Quality assurance procedures shall conform to the requirements of 40 CFR 60, Appendix F, and the Data Assessment Report of Section 7 shall be made each calendar quarter, and reported semiannually to the Compliance Authority. The RATA tests required for the CO monitor shall be performed using EPA Method 10 in Appendix A of 40 CFR 60. The CO monitor span values shall be set appropriately considering the allowable methods of operation and corresponding emission standards.

b. *NO_X Monitors.* Each NO_X monitor shall be certified, operated, and maintained in accordance with the requirements of 40 CFR 75. Record keeping and reporting shall be conducted pursuant to Subparts F and G in 40 CFR 75. The RATA tests required for the NO_X monitor shall be performed using EPA Method 7E in Appendix A of 40 CFR 60.

c. *Diluent Monitors.* The oxygen (O_2) or carbon dioxide (CO_2) content of the flue gas shall be monitored at the location where NOx and CO are monitored to correct the measured emissions rates to 15% oxygen. If a CO_2 monitor is installed, the oxygen content of the flue gas shall be calculated using F-factors that are appropriate for the fuel fired. Each monitor shall comply with the performance and quality assurance requirements of 40 CFR 75.

[Permit 1030011-010-AC]

B.28. CEM Data Requirements.

a. *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 NO_X and CO corrected to 15% oxygen. The CEMS shall be used to demonstrate compliance with the CEMS emission standards for CO and NO_X as specified in this section. For purposes of determining compliance with the CEMS emissions standards of this section, missing (or excluded) data shall not be substituted. Upon request by the Department, the CEMS emission rates shall be corrected to ISO conditions.

b. *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.

c. *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 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.]

d. *Data Exclusion.* Each CEMS shall monitor and record emissions during all operations including episodes of startup, shutdown, malfunction, fuel switches and 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. 24 and 25 of this subsection. 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, 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.

e. *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.

[Permits 1030011-010-AC & 1030011-012-AC & 1030011-019-AC and Rules 62-213.440 and 62-212.400(12), F.A.C.; 40 CFR 75.]

B.29. Ammonia Monitoring Requirements. In accordance with the manufacturer's specifications, the permittee shall calibrate, operate and maintain an ammonia flow meter to measure and record the ammonia injection rate to the SCR system by the time of the initial compliance tests. The permittee shall document and periodically update the general range of ammonia flow rates required to meet permitted emissions levels over the range of load conditions allowed by this permit by comparing NO_X emissions recorded by the CEM system with ammonia flow rates recorded using the ammonia flow meter. During NO_X monitor downtimes or malfunctions, the permittee shall operate at the ammonia flow rate and, as applicable for fuel oil firing, the water-to-fuel ratio, that are consistent with the documented flow rate for the CT load condition. [Rules 62-213.440, F.A.C.; and, Permit 1030011-010-AC]

Test Methods and Procedures

{Permitting Note: The attached Table 2, Summary of Compliance Requirements, summarizes information for convenience purposes only. This table does not supersede any of the terms or conditions of this permit.}

B.30. Test Methods. Any 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
CTM-027	Procedure for Collection and Analysis of Ammonia in Stationary Source. {Notes: This is an EPA conditional test method.} The minimum detection limit shall be 1 ppm.
320	Measurement of Vapor Phase Organic and Inorganic Emissions by Extractive Fourier Transform Infrared (FTIR) Spectroscopy
7E	Determination of Nitrogen Oxide Emissions from Stationary Sources
9	Visual Determination of the Opacity of Emissions from Stationary Sources
10	Determination of Carbon Monoxide Emissions from Stationary Sources {Notes: The method shall be based on a continuous sampling train.}
18	Measurement of Gaseous Organic Compound Emissions by Gas Chromatography {Note: EPA Method 18 may be used (optional) concurrently with EPA Method 25A to deduct emissions of methane and ethane from the measured VOC emissions.}
25A	Determination of Volatile Organic Concentrations

No other methods may be used unless prior written approval is received from the Department. [Rules 62-204.800, F.A.C.; 40 CFR 60, Appendix A]

B.31. Common Testing Requirements. Unless otherwise specified, tests shall be conducted in accordance with the requirements and procedures specified in Appendix TR, Facility-Wide Testing Requirements, of this permit. [Rule 62-297.310, F.A.C.]

B.32. Annual Compliance Tests. During each calendar year (January 1st to December 31st), each CT shall be tested to demonstrate compliance with the emission standards for visible emissions.

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*: 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*: Annual VOC test is 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 TR, Testing Requirements.

[Rules 62-212.400, 62-210.200 (243) (BACT), 62-213.440 and 62-297.310(8)(a)1., F.A.C.; and, Permits 1030011-010-AC,1030011-019-AC, and 1030011-024-AC]

B.33. 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, ULN combustors, etc. [Rule 62-297.310(7)(a)1, F.A.C. and 40 CFR 60.8.; and, Permits 1030011-010-AC & 1030011-019-AC]

B.34. Continuous Compliance. The permittee shall demonstrate continuous compliance with the 24-hour and 12-month CO emission standards, and the NO_X emissions standards based on data collected by the certified CEMS. Within 45 days of conducting any RATA on a CEMS, the permittee shall submit a report to the Compliance Authority summarizing results of the RATA. Compliance with the CO emission standards also serves as an indicator of efficient fuel combustion and oxidation catalyst operation, which reduces emissions of particulate matter and volatile organic compounds. [Rule 62-212.400 (BACT), F.A.C., and Permit 1030011-010-AC]

{Permitting note: An oxidation catalyst is required only if it is needed to meet the applicable CO emission limits. These turbines are not currently equipped with an oxidation catalyst.}

Recordkeeping and Reporting Requirements

B.35. Reporting Schedule. The following reports and notifications shall be submitted to the Compliance Authority:

Report	Reporting Deadline	Related Condition(s)
Notice of Excess Emissions	Varied	**B.40**

B.36. Other Reporting Requirements. See Appendix RR, Facility-Wide Reporting Requirements, for additional reporting requirements. [Rule 62-213.440, F.A.C.]

B.37. Monitoring of Capacity. The permittee shall monitor and record the operating rate of each CT and HRSG duct burner system 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 using a monitoring component of the CEM system required above, or by monitoring daily rates of consumption and heat content of each allowable fuel in accordance with the provisions of 40 CFR 75 Appendix D. [Permit 1030011-010-AC, Rules 62-213.440, F.A.C and 62-212.400(BACT), F.A.C.]

B.38. Monthly Operations Summary. By the 10th calendar day of each month, the permittee shall record the following for each fuel in a written or electronic log for each CT for the previous month of operation: fuel consumption, hours of operation, hours of duct firing, and the updated 12-month rolling totals for each. Information recorded and stored as an electronic file shall be available for inspection and printing within at least three days of a request by the Department. The fuel consumption shall be monitored in accordance with the provisions of 40 CFR 75 Appendix D. [Permit 1030011-010-AC, Rules 62-213.440, 62-212.400, 62-210.200 (38) and 62-210.200 (243)(BACT), F.A.C.]

B.39. 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, 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 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. [Rules 62-213.440 and 62-4.160(15), F.A.C.; and, Permits 1030011-010-AC & 1030011-019-AC]

B.40. 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 Permit Limits Excess Emissions Report*. Within 30 days following the end of each calendar-quarter, the permittee shall submit a report to the Compliance Authority summarizing periods of CO emissions in excess of the BACT permit standards following the NSPS format in 40 CFR 60.7(c), Subpart A. Periods of startup, shutdown and malfunction, shall be monitored, recorded and reported as excess emissions when emission levels exceed the standards specified in this permit. In addition, the report shall summarize the CEMS systems monitor availability for the previous quarter. A summary of data excluded from SIP compliance calculations should also be provided.

c. *NSPS Semi-Annual Excess Emissions Reports*. Within thirty (30) days following each calendar semi-annual period, the permittee shall submit a report on any periods of excess emissions of the applicable NSPS that occurred during the previous semi-annual period.

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

[Permit 1030011-010-AC, Rules 62-4.130, 62-204.800, 62-210.700(6), F.A.C.; 40 CFR 60.7 and Subpart KKKK]

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Subsection C. Process Heaters (E.U. 044)

The specific conditions in this subsection apply to the following emissions unit:

ID	Emission Unit Description
044	Four Small Gaseous-fueled Process Heaters (3 MMBtu/hr)

This emissions unit consists of four small gaseous-fueled process heaters (3 MMBtu/hr) that serve Unit 4. The four process heaters are used for the purpose of heating the natural gas supply. These units commenced operation in November/December 2008.

{Permitting Note: These emissions units were reviewed under the rules for the Prevention of Significant Deterioration (PSD), Rule 62-212.400, F.A.C. Best Available Control Technology (BACT) determinations were made for carbon monoxide (CO) and volatile organic compounds (VOC) in accordance with Rule 62-210.200 (Definitions). These units are also regulated under 40 CFR 63, Subpart DDDDD NESHAP for Industrial, Commercial, and Institutional Boilers and Process Heaters.}

Applicable Standards and Regulations

C.1. NESHAP Requirements. This unit shall comply with all applicable provisions of Appendix DDDDD, which contains the 40 CFR 63, Subpart DDDDD requirements for Industrial, Commercial, and Institutional Boilers and Process Heaters.

Essential Potential to Emit (PTE) Parameters

C.2. Permitted Capacity. The maximum allowable heat input rate is as follows:

Unit No.	MMBtu/hr Heat Input	Fuel Type
044	3 MMBtu/hr each	Natural Gas

[Rules 62-4.160(2), 62-204.800 & 62-210.200(PTE), F.A.C.; and, 1030011-010-AC (PSD-FL-381)]

C.3. Emissions Unit Operating Rate Limitation After Testing. See the related testing provisions in Appendix TR, Facility-wide Testing Requirements. [Rule 62-297.310(2), F.A.C.]

C.4. Methods of Operation – Fuels. The only fuel allowed to be burned in these units is natural gas. [1030011-010-AC (PSD-FL-381)]

C.5. Hours of Operation. The gas-fueled process heaters are allowed to operate continuously (8,760 hours per year). [1030011-010-AC (PSD-FL-381)]

Emission Limitations and Standards

{Permitting Note: The attached Table 1, Summary of Air Pollutant Standards, summarizes information for convenience purposes only. This table does not supersede any of the terms or conditions of this permit.}

Unless otherwise specified, the averaging times for Specific Conditions **C.6** and **C.8.** are based on the specified averaging time of the applicable test method.

C.6. Visible Emissions. Visible emissions from these units shall not exceed 10% opacity. (See Specific Condition **C.14.**) [Permit 1030011-010-AC (PSD-FL-381)

C.7. Carbon Monoxide Emissions. Carbon monoxide emissions from these units shall not exceed 0.08 lb/MMBtu. (See Specific Condition **C.14.**) [Permit 1030011-010-AC (PSD-FL-381)]

C.8. Fuel Sulfur Limit. The sulfur content of the natural gas combusted in these units shall not exceed 2 grains of sulfur per 100 standard cubic feet. [Permit 1030011-010-AC (PSD-FL-381)]

Work Practice Standards

C.9. Applicable Work Practice Standards. This unit shall conduct a tune-up every 5 years as specified in §63.7540. [40 CFR 63, Subpart DDDD, Table 3 and, Permit 1030011-019-AC]

Excess Emissions

Rule 62-210.700 (Excess Emissions), F.A.C. cannot vary any requirement of an NSPS, NESHAP or Acid Rain program provision.

C.10. Excess Emissions Allowed. Excess emissions from these emissions units resulting from startup, shutdown or malfunction shall be permitted provided that 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 unless specifically authorized by PCDEM for longer duration. [Rule 62-210.700(1), F.A.C.]

C.11. Excess Emissions Prohibited. Excess emissions which are caused entirely or in part by poor maintenance, poor operation, or any other equipment or process failure which may reasonably be prevented during startup, shutdown or malfunction shall be prohibited. [Rule 62-210.700(4), F.A.C.]

Test Methods and Procedures

{Permitting Note: The attached Table 2, Summary of Compliance Requirements, summarizes information for convenience purposes only. This table does not supersede any of the terms or conditions of this permit.}

C.12. Test Methods. Required tests shall be performed in accordance with the following reference methods:

Method	Description of Method and Comments
9	Visual Determination of the Opacity of Emissions from Stationary Sources
10	Determination of Carbon Monoxide Emissions from Stationary Sources {Note: The method shall be based on a continuous sampling train.}

The above 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 unless prior written approval is received from the Department. [62-297.401, F.A.C. and Permit 1030011-010-AC (PSD-FL-381)]

C.13. Common Testing Requirements. Unless otherwise specified, tests shall be conducted in accordance with the requirements and procedures specified in Appendix TR, Facility-Wide Testing Requirements, of this permit. [Rule 62-297.310, F.A.C.]

C.14. Annual Compliance Tests Not Required. Regular testing to demonstrate compliance with the emissions standards for visible emissions and carbon monoxide is not required; however, the provisions for special compliance testing upon request still apply (see Specific Condition TR.7b.). [Rule 62-297.310(7), F.A.C. and Permit 1030011-010-AC (PSD-FL-381)]

Recordkeeping and Reporting Requirements

C.15. Reporting Schedule. The following reports and notifications shall be submitted to the Compliance Authority:

Report	Reporting Deadline	Related Condition(s)
Notice of Malfunctions	Quarterly, If Requested.	**C.17.**
Fuel Usage	Annually	**C.18.**

C.16. Other Reporting Requirements. See Appendix RR, Facility-Wide Reporting Requirements, for additional reporting requirements.

C.17. Malfunction Reporting. In the case of excess emissions resulting from malfunctions, the owner or operator shall notify PCDEM, 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 PCDEM. [Rule 62-210.700(6), F.A.C.]

C.18. Fuel Usage. The permittee shall maintain records of the sulfur content and the amount of natural gas used in the heaters. These records shall be submitted to the Compliance Authority on an annual basis or upon request. [Rule 62-213.440, F.A.C. and Permit 1030011-010-AC (PSD-FL-381)]

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Subsection D. Emergency Diesel Fire Pump (EU 046)

The specific conditions in this subsection apply to 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.

This emissions unit consists of one nominal 300-hp (224 kW) emergency diesel engine-driven fire pump and 500-gallon fuel oil storage tank that serves Unit 4. This unit commenced operation in November/December 2008.

{Permitting Note: This emissions unit was reviewed under the rules for the Prevention of Significant Deterioration (PSD), Rule 62-212.400, F.A.C. Best Available Control Technology (BACT) determinations were made for carbon monoxide (CO) and volatile organic compounds (VOC) in accordance with Rule 62-210.200 (Definitions). This unit is also regulated under NSPS, Subpart IIII.}

The following table provides important details for this emissions unit:

Date Manufactured	Date ordered	Date Installed	Model Year	Displacement liters/cylinder (l/c)	Model No.
September 2007	2006	2008	2007	1.35 liters/cylinder (Six (6) cylinders & 8.1 liters Total Displacement)	Clarke Fire Protection Products, Inc. Fire Pump Model No. JW6H-UF58 (The diesel engine driving the pump is a John Deere Corporation Model No. 6081HF001)

This CI RICE is regulated under 40 CFR 63, Subpart ZZZZ, NESHAP for Stationary RICE and 40 CFR 60, Subpart IIII, NSPS for Stationary Compression Ignition RICE, adopted in Rules 62.204.800(11)(b) & (8)(b), F.A.C., respectively. ***This RICE is a fire pump****. This is a "**new**" stationary emergency CI RICE with a displacement of less than 10 liters per cylinder, located at a major source of HAP, and that has a 2007 model year. In accordance with provisions of 40 CFR 63.6590(c)(6), meeting the requirements of 40 CFR 60, Subpart IIII, satisfies compliance with the requirements of Subpart ZZZZ. Compliance with the lower NSPS sulfur limits and other NSPS Subpart IIII rule requirements assure compliance with the PSD permit requirements.}*

Essential Potential to Emit (PTE) Parameters

D.1. Equipment. The permittee is authorized to operate and maintain one diesel engine driven fire pump (approximately 300 hp) and an associated 500 gallon fuel oil storage tank. [Permit 1030011-010-AC (PSD-FL-381)]

D.2. Authorized Fuel. This Stationary RICE must use diesel fuel that meets the following requirements for non-road diesel fuel:

a. *Sulfur Content*. The sulfur content shall not exceed = 15 ppm = 0.0015% by weight (ultra-low sulfur) for non-road fuel.

b. *Cetane and Aromatic*. The fuel must have a minimum cetane index of 40 or must have a maximum aromatic content of 35 volume percent.

c. *Use of Existing Fuel.* Any existing diesel fuel purchased (or otherwise obtained) prior to October 1, 2010, may be used until depleted.

[40 CFR 60.4207(b), 80.510(b); and, Permits 1030011-010-AC (PSD-FL-381) & 1030011-019-AC]

D.3. Restricted Hours of Operation.

a. *Emergency Situations*. There is no time limit on the use of this emergency stationary RICE (fire pump) in emergency situations.

b. *Maintenance and Testing.* This engine is authorized to operate for the purpose of maintenance checks and readiness testing, provided that the tests are recommended by federal, state, or local government, the manufacturer, the vendor, or the insurance company associated with the engine. Maintenance checks and readiness testing of such units is limited to 100 hours per year.

c. *Non-emergency Situations*. This engine may operate up to 50 hours per year in non-emergency situations, but those 50 hours are counted towards the 100 hours per year provided for maintenance and testing.

[40 CFR 60.4211(f) and Permits 1030011-010-AC (PSD-FL-381) & 1030011-019-AC]

Emissions Standards

D.4. NO_X + NMHC Emissions. Emissions of NO_X plus non-methane hydrocarbons shall not exceed 10.5 g/kW-hr (7.8 g/HP-hr). [40 CFR 60.4205(c) & Table 4; BACT for VOC[1]; and, Permit 1030011-010-AC (PSD-FL-381)]

{Note 1. From Permits 1030011-010-AC (PSD-FL-381) & 1030011-019-AC -. Non-Methane Hydrocarbons (NMHC) are a surrogate for VOC.}

D.5. CO Emissions. CO emissions shall not exceed 3.5 g/kW-hr (2.6 g/HP-hr). [40 CFR 60.4205(c) & Table 4; BACT for CO; and, Permit 1030011-010-AC (PSD-FL-381)]

D.6. PM Emissions. PM emissions shall not exceed 0.54 g/kW-hr (0.40 g/HP-hr). [40 CFR 60.4205(c) & Table 4; and, Permit 1030011-010-AC (PSD-FL-381)]

Monitoring Requirements

D.7. Hour Meter. The owner or operator must install a non-resettable hour meter if one is not already installed. [40 CFR 60.4209(a)]

Testing and Compliance Requirements

D.8. Operation and Maintenance. The owner or operator must operate and maintain the stationary CI internal combustion engines according to the manufacturer's written instructions or procedures developed by the owner or operator that are approved by the engine manufacturer. In addition, owners and operators may only change those settings that are permitted by the manufacturer. This RICE must be maintained and operated to meet the emissions limits in Specific Conditions **D.4.** through **D.6.** over the entire life of the engine. [40 CFR 60.4206, 4211(a)]

D.9. Engine Certification Requirements. The owner or operator must comply with the emissions standards specified above by having purchased an engine certified by the manufacturer to meet those limits. The engine must have been installed and configured according to the manufacturer's emission-related specifications. Manufacturer certification shall be provided to the Department in lieu of actual testing. [40 CFR 60.4211(b) and Permits 1030011-010-AC (PSD-FL-381) & 1030011-019-AC]

D.10. Compliance Requirements Due to Loss of Certification. If you do not install, configure, operate, and maintain your engine and control device according to the manufacturer's emission-related written instructions, or you change emission-related settings in a way that is not permitted by the manufacturer, you must keep a maintenance plan and records of conducted maintenance and must, to the extent practicable, maintain and operate the engine in a manner consistent with good air pollution control practice for minimizing emissions. In addition you must conduct an initial performance test to demonstrate compliance with the applicable emission standards within 1 year of startup, or within 1 year after an engine and control device is no longer installed, configured, operated, and maintained in accordance with the manufacturer's emission-related written instructions, or within 1 year after you change emission-related settings in a way that is not permitted by the manufacturer. [40 CFR 60.4211(g)]

D.11. Testing Requirements. In the event performance tests are required pursuant to Specific Condition **D.10.**, the performance test must be conducted according to the in-use testing procedures in 40 CFR Part 1039, Subpart F. Link to Subpart F [40 CFR 60.4212(a)]

D.12. Fuel Oil Sampling. 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. 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, 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. [Permits 1030011-010-AC (PSD-FL-381) & 1030011-019-AC]

D.13. Common Testing Requirements. Unless otherwise specified and if required, tests shall be conducted in accordance with the requirements and procedures specified in Appendix TR, Facility-Wide Testing Requirements, of this permit. [Rule 62-297.310, F.A.C.]

Records and Reports

D.14. Hours of Operation Records. The owner or operator must keep records of the operation of the engine in emergency and non-emergency services that are recorded through the non-resettable hour meter. The owner or operator must record the time of operation of the engine and the reason the engine was in operation during that time. [40 CFR 60.4214(b)]

D.15. Maintenance Records. To demonstrate conformance with the manufacturer's written instructions for maintaining the certified engine and to document when compliance testing must be performed pursuant to Specific Condition **D.11.**, the owner or operator must keep the following records:

a. Engine manufacturer documentation and certification indicating compliance with the standards.
b. A copy of the manufacturer's written instructions for operation and maintenance of the certified engine.
c. A written maintenance log detailing the date and type of maintenance performed on the engine, as well as any deviations from the manufacturer's written instructions.

[Rule 62-213.440(1), F.A.C.; and, 40 CFR 60.4211(b) & (g)]

D.16. Testing Notification. At such time that the requirements of Specific Condition **D.11.** become applicable, the owner or operator shall notify the compliance authority of the date by which the initial compliance test must be performed. [Rule 62-213.440(1)]

D.17. Other Reporting Requirements. See Appendix RR, Facility-Wide Reporting Requirements, for additional reporting requirements. [Rule 62-213.440(1)(b), F.A.C.]

General Provisions

D.18. 40 CFR 60 Subpart A, General Provisions. The owner or operator shall comply with the applicable requirements of 40 CFR 60 Subpart A, General Provisions, as specified below. Link to 40 CFR 60, Subpart A - General Provisions.

General Provisions Citation	Subject of Citation
§ 60.1	General applicability of the General Provisions
§ 60.2	Definitions (see also § 60.4219)
§ 60.3	Units and abbreviations
§ 60.4	Address
§ 60.5	Determination of construction or modification

General Provisions Citation	Subject of Citation
§ 60.6	Review of plans
§ 60.9	Availability of information
§ 60.10	State Authority
§ 60.12	Circumvention
§ 60.14	Modification
§ 60.15	Reconstruction
§ 60.16	Priority list
§ 60.17	Incorporations by reference
§ 60.19	General notification and reporting requirements

[40 CFR 60.4218 and Table 8 to 40 CFR 60, Subpart IIII]

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SECTION IV. ACID RAIN PART.
Acid Rain Program Provisions

Operated by: Duke Energy Florida – P. L. Bartow Plant
ORIS code: 634

The emissions units listed below are regulated under Acid Rain Part, Phase II.

E.U. ID No.	Brief Description
-001	No. 1 Unit, Fossil Fuel Fired Steam Generator with Electrostatic Precipitator (Retired 6/1/09)
-002	No. 2 Unit, Fossil Fuel Fired Steam Generator (Retired 6/1/09)
-003	No. 3 Unit, Fossil Fuel Fired Steam Generator (Retired 6/1/09)
-038	Gas turbine with supplementary-fired heat recovery steam generator (EPA ID # 4A)
-039	Gas turbine with supplementary-fired heat recovery steam generator (EPA ID # 4B)
-040	Gas turbine with supplementary-fired heat recovery steam generator (EPA ID # 4C)
-041	Gas turbine with supplementary-fired heat recovery steam generator (EPA ID # 4D)

The existing three (3) fossil fuel fired steam generating units were shutdown on June 1, 2009. These Units were designated as Units 1, 2 and 3 that produced 120, 120 and 225 megawatts (MW) of electrical power respectively

A.1. The Acid Rain Part application submitted for this facility, as approved by the Department, is a part of this permit. The owners and operators of these acid rain units must comply with the standard requirements and special provisions set forth in the application listed below:
a. DEP Form No. 62-210.900(1)(d), dated 06/05/09.
b. DEP Form No. 62-210.900(1)(a), dated 04/29/09.
[Chapter 62-213, F.A.C. and Rule 62-214.320, F.A.C.]

A.2. Sulfur dioxide (SO_2) Emission Allowances. SO_2 emissions from sources subject to the Federal Acid Rain Program (Title IV) shall not exceed any allowances that the source lawfully holds under the Federal Acid Rain Program. Allowances shall not be used to demonstrate compliance with a non-Title IV applicable requirement of the Act.
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(3), 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. & 3., F.A.C.]

Comments, notes, and justifications: None.

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Acid Rain Part Application

For more information, see instructions and refer to 40 CFR 72.30, 72.31, and 74; and Chapter 62-214, F.A.C.

This submission is: ☐ New ☐ Revised ■ Renewal

STEP 1

Identify the source by plant name, state, and ORIS or plant code.

Plant name	State	ORIS/Plant Code
P. L. Bartow	FL	634

STEP 2
Enter the unit ID# for every Acid Rain unit at the Acid Rain source in column "a."

If unit a SO_2 Opt-in unit, enter "yes" in column "b".

For new units or SO_2 Opt-in units, enter the requested information in columns "d" and "e."

a	b	c	d	e
Unit ID#	SO_2 Opt-in Unit? (Yes or No)	Unit will hold allowances in accordance with 40 CFR 72.9(c)(1)	New or SO_2 Opt-in Units Commence Operation Date	New or SO_2 Opt-in Units Monitor Certification Deadline
1		Yes		
2		Yes		
3		Yes		
4A		Yes		
4B		Yes		
4C		Yes		
4D		Yes		

DEP Form No. 62-210.900(1)(a) – Form
Effective: 3/16/08

1

Plant Name (from STEP 1) **P. L. Bartow**

STEP 3

Read the standard requirements.

Acid Rain Part Requirements.

(1) The designated representative of each Acid Rain source and each Acid Rain unit at the source shall:
(I) Submit a complete Acid Rain Part application (including a compliance plan) under 40 CFR Part 72 and Rules 62-214.320 and 330, F.A.C., in accordance with the deadlines specified in Rule 62-214.320, F.A.C.; and
(II) Submit in a timely manner any supplemental information that the DEP determines is necessary in order to review an Acid Rain Part application and issue or deny an Acid Rain Part;
(2) The owners and operators of each Acid Rain source and each Acid Rain unit at the source shall:
(I) Operate the unit in compliance with a complete Acid Rain Part application or a superseding Acid Rain Part issued by the DEP; and
(II) Have an Acid Rain Part.

Monitoring Requirements.

(1) The owners and operators and, to the extent applicable, designated representative of each Acid Rain source and each Acid Rain unit at the source shall comply with the monitoring requirements as provided in 40 CFR Part 75, and Rule 62-214.420, F.A.C.
(2) The emissions measurements recorded and reported in accordance with 40 CFR Part 75 shall be used to determine compliance by the unit with the Acid Rain emissions limitations and emissions reduction requirements for sulfur dioxide and nitrogen oxides under the Acid Rain Program.
(3) The requirements of 40 CFR Part 75 shall not affect the responsibility of the owners and operators to monitor emissions of other pollutants or other emissions characteristics at the unit under other applicable requirements of the Act and other provisions of the operating permit for the source.
(4) For applications including a SO_2 Opt-in unit, a monitoring plan for each SO_2 Opt-in unit must be submitted with this application pursuant to 40 CFR 74.14(a). For renewal applications for SO_2 Opt-in units include an updated monitoring plan if applicable under 40 CFR 75.53(b).

Sulfur Dioxide Requirements.

(1) The owners and operators of each source and each Acid Rain unit at the source shall:
(I) Hold allowances, as of the allowance transfer deadline, in the unit's compliance subaccount (after deductions under 40 CFR 73.34(c)), or in the compliance subaccount of another Acid Rain unit at the same source to the extent provided in 40 CFR 73.35(b)(3), not less than the total annual emissions of sulfur dioxide for the previous calendar year from the unit; and
(II) Comply with the applicable Acid Rain emissions limitations for sulfur dioxide.
(2) Each ton of sulfur dioxide emitted in excess of the Acid Rain emissions limitations for sulfur dioxide shall constitute a separate violation of the Act.
(3) An Acid Rain unit shall be subject to the requirements under paragraph (1) of the sulfur dioxide requirements as follows:
(I) Starting January 1, 2000, an Acid Rain unit under 40 CFR 72.6(a)(2); or
(II) Starting on the later of January 1, 2000, or the deadline for monitor certification under 40 CFR Part 75, an Acid Rain unit under 40 CFR 72.6(a)(3).
(4) Allowances shall be held in, deducted from, or transferred among Allowance Tracking System accounts in accordance with the Acid Rain Program.
(5) An allowance shall not be deducted in order to comply with the requirements under paragraph (1) of the sulfur dioxide requirements prior to the calendar year for which the allowance was allocated.
(6) An allowance allocated by the Administrator under the Acid Rain Program is a limited authorization to emit sulfur dioxide in accordance with the Acid Rain Program. No provision of the Acid Rain Program, the Acid Rain Part application, the Acid Rain Part, or an exemption under 40 CFR 72.7 or 72.8 and no provision of law shall be construed to limit the authority of the United States to terminate or limit such authorization.
(7) An allowance allocated by the Administrator under the Acid Rain Program does not constitute a property right.

Nitrogen Oxides Requirements. The owners and operators of the source and each Acid Rain unit at the source shall comply with the applicable Acid Rain emissions limitation for nitrogen oxides.

Excess Emissions Requirements.

(1) The designated representative of an Acid Rain unit that has excess emissions in any calendar year shall submit a proposed offset plan, as required under 40 CFR Part 77.
(2) The owners and operators of an Acid Rain unit that has excess emissions in any calendar year shall:
(I) Pay without demand the penalty required, and pay upon demand the interest on that penalty, as required by 40 CFR Part 77; and
(II) Comply with the terms of an approved offset plan, as required by 40 CFR Part 77.

Recordkeeping and Reporting Requirements.

(1) Unless otherwise provided, the owners and operators of the source and each Acid Rain unit at the source shall keep on site at the source each of the following documents for a period of 5 years from the date the document is created. This period may be extended for cause, at any time prior to the end of 5 years, in writing by the EPA or the DEP:
(I) The certificate of representation for the designated representative for the source and each Acid Rain unit at the source and all documents that demonstrate the truth of the statements in the certificate of representation, in accordance with Rule 62-214.350, F.A.C.; provided that the certificate and documents shall be retained on site at the source beyond such 5-year period until such documents are superseded because of the submission of a new certificate of representation changing the designated representative;
(II) All emissions monitoring information, in accordance with 40 CFR Part 75, provided that to the extent that 40 CFR Part 75 provides for a 3-year period for recordkeeping, the 3-year period shall apply;
(III) Copies of all reports, compliance certifications, and other submissions and all records made or required under the Acid Rain Program; and,

Plant Name (from STEP 1) **P. L. Bartow**

STEP 3, Continued.

Recordkeeping and Reporting Requirements (cont)

(iv) Copies of all documents used to complete an Acid Rain Part application and any other submission under the Acid Rain Program or to demonstrate compliance with the requirements of the Acid Rain Program.

(2) The designated representative of an Acid Rain source and each Acid Rain unit at the source shall submit the reports and compliance certifications required under the Acid Rain Program, including those under 40 CFR Part 72, Subpart I, and 40 CFR Part 75.

Liability.

(1) Any person who knowingly violates any requirement or prohibition of the Acid Rain Program, a complete Acid Rain Part application, an Acid Rain Part, or an exemption under 40 CFR 72.7 or 72.8, including any requirement for the payment of any penalty owed to the United States, shall be subject to enforcement pursuant to section 113(c) of the Act.
(2) Any person who knowingly makes a false, material statement in any record, submission, or report under the Acid Rain Program shall be subject to criminal enforcement pursuant to section 113(c) of the Act and 18 U.S.C. 1001.
(3) No permit revision shall excuse any violation of the requirements of the Acid Rain Program that occurs prior to the date that the revision takes effect.
(4) Each Acid Rain source and each Acid Rain unit shall meet the requirements of the Acid Rain Program.
(5) Any provision of the Acid Rain Program that applies to an Acid Rain source (including a provision applicable to the designated representative of an Acid Rain source) shall also apply to the owners and operators of such source and of the Acid Rain units at the source.
(6) Any provision of the Acid Rain Program that applies to an Acid Rain unit (including a provision applicable to the designated representative of an Acid Rain unit) shall also apply to the owners and operators of such unit. Except as provided under 40 CFR 72.44 (Phase II repowering extension plans) and 40 CFR 76.11 (NO_x averaging plans), and except with regard to the requirements applicable to units with a common stack under 40 CFR Part 75 (including 40 CFR 75.16, 75.17, and 75.18), the owners and operators and the designated representative of one Acid Rain unit shall not be liable for any violation by any other Acid Rain unit of which they are not owners or operators or the designated representative and that is located at a source of which they are not owners or operators or the designated representative.
(7) Each violation of a provision of 40 CFR Parts 72, 73, 74, 75, 76, 77, and 78 by an Acid Rain source or Acid Rain unit, or by an owner or operator or designated representative of such source or unit, shall be a separate violation of the Act.

Effect on Other Authorities.

No provision of the Acid Rain Program, an Acid Rain Part application, an Acid Rain Part, or an exemption under 40 CFR 72.7or 72.8 shall be construed as:
(1) Except as expressly provided in title IV of the Act, exempting or excluding the owners and operators and, to the extent applicable, the designated representative of an Acid Rain source or Acid Rain unit from compliance with any other provision of the Act, including the provisions of title I of the Act relating to applicable National Ambient Air Quality Standards or State Implementation Plans;
(2) Limiting the number of allowances a unit can hold; *provided*, that the number of allowances held by the unit shall not affect the source's obligation to comply with any other provisions of the Act;
(3) Requiring a change of any kind in any state law regulating electric utility rates and charges, affecting any state law regarding such state regulation, or limiting such state regulation, including any prudence review requirements under such state law;
(4) Modifying the Federal Power Act or affecting the authority of the Federal Energy Regulatory Commission under the Federal Power Act; or,
(5) Interfering with or impairing any program for competitive bidding for power supply in a state in which such program is established.

STEP 4
For SO_2 Opt-in units only.

In column "f" enter the unit ID# for every SO_2 Opt-in unit identified in column "a" of STEP 2.

For column "g" describe the combustion unit and attach information and diagrams on the combustion unit's configuration.

In column "h" enter the hours.

f	g	h (not required for renewal application)
Unit ID#	Description of the combustion unit	Number of hours unit operated in the six months preceding initial application

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Plant Name (from STEP 1) **P. L. Bartow**

STEP 5

For SO_2 Opt-in units only. (Not required for SO_2 Opt-in renewal applications.)

In column "i" enter the unit ID# for every SO_2 Opt-in unit identified in column "a" (and in column "f").

For columns "j" through "n," enter the information required under 40 CFR 74.20-74.25 and attach all supporting documentation required by 40 CFR 74.20-74.25.

i	j	k	l	m	n
Unit ID#	Baseline or Alternative Baseline under 40 CFR 74.20 (mmBtu)	Actual SO_2 Emissions Rate under 40 CFR 74.22 (lbs/mmBtu)	Allowable 1985 SO_2 Emissions Rate under 40 CFR 74.23 (lbs/mmBtu)	Current Allowable SO_2 Emissions Rate under 40 CFR 74.24 (lbs/mmBtu)	Current Promulgated SO_2 Emissions Rate under 40 CFR 74.25 (lbs/mmBtu)

STEP 6

For SO_2 Opt-in units only.

Attach additional requirements, certify and sign.

A. If the combustion source seeks to qualify for a transfer of allowances from the replacement of thermal energy, a thermal energy plan as provided in 40 CFR 74.47 for combustion sources must be attached.
B. A statement whether the combustion unit was previously an affected unit under 40 CFR 74.
C. A statement that the combustion unit is not an affected unit under 40 CFR 72.6 and does not have an exemption under 40 CFR 72.7, 72.8, or 72.14.
D. Attach a complete compliance plan for SO_2 under 40 CFR 72.40.
E. The designated representative of the combustion unit shall submit a monitoring plan in accordance with 40 CFR 74.61. For renewal application, submit an updated monitoring plan if applicable under 40 CFR 75.53(b).
F. The following statement must be signed by the designated representative or alternate designated representative of the combustion source: "I certify that the data submitted under 40 CFR Part 74, Subpart C, reflects actual operations of the combustion source and has not been adjusted in any way."

Signature | Date

STEP 7

Read the certification statement; provide name, title, owner company name, phone, and e-mail address; sign, and date.

Certification (for designated representative or alternate designated representative only)

I am authorized to make this submission on behalf of the owners and operators of the Acid Rain source or Acid Rain units for which the submission is made. I certify under penalty of law that I have personally examined, and am familiar with, the statements and information submitted in this document and all its attachments. Based on my inquiry of those individuals with primary responsibility for obtaining the information, I certify that the statements and information are to the best of my knowledge and belief true, accurate, and complete. I am aware that there are significant penalties for submitting false statements and information or omitting required statements and information, including the possibility of fine or imprisonment.

Name **Jeffrey R. Swartz** | Title **Vice President, Florida – Power Generation Operations**

Owner Company Name **Duke Energy Florida, Inc.**

Phone **(727) 820-5188** | E-mail address **Jeffrey.Swartz@duke-energy.com**

Signature [signature] | Date 5/9/2014

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