

# Florida Power and Light Company

## Martin Power Plant

Facility ID No. 0850001

Martin County

Title V Air Operation Permit Renewal

**Permit No. 0850001-042-AV**

(Renewal of Title V Air Operation Permit No. 0850001-033-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

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Email: [DARM\\_Permitting@dep.state.fl.us](mailto:DARM_Permitting@dep.state.fl.us)

### **Compliance Authority:**

DEP Southeast District

3301 Gun Club Road, MSC 7210-1

West Palm Beach, Florida 33401

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Email: [SED.AIR@dep.state.fl.us](mailto:SED.AIR@dep.state.fl.us)

**Title V Air Operation Permit Renewal**

Permit No. 0850001-042-AV

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# FLORIDA DEPARTMENT OF Environmental Protection

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2600 Blair Stone Road  
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**PERMITTEE:**

Florida Power and Light Company (FPL)  
700 Universe Blvd  
Juno Beach, Florida 33408

Permit No. 0850001-042-AV  
Martin Power Plant  
Facility ID No. 0850001  
Title V Air Operation Permit Renewal

The purpose of this permit is to renew the Title V air operation permit for the above referenced facility. The existing Martin Power Plant is in Martin County at 21900 SW Warfield Blvd, Indiantown. UTM Coordinates are: Zone 17, 543.22 km East and 2992.85 km North. Latitude is: 27°3'26.1847" North; and, Longitude is: 80°33'50.8724" 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.

0850001-042-AV Effective Date: November 5, 2018

Renewal Application Due Date: March 25, 2023

Expiration Date: November 5, 2023

*For:*

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

SA/dlr/srl

## SECTION I. FACILITY INFORMATION.

### **Subsection A. Facility Description.**

FPL operates the existing Martin Power Plant, which is an electric utility. This existing facility consists of two oil and natural gas fired conventional fossil fuel steam electric generating stations (Units 1 and 2), two oil and natural gas fired (Units 3 and 4) combined cycle combustion turbine (CT) systems, four oil and natural gas fired combined cycle CT's (Unit 8), and associated support equipment.

**Emissions Units 001 and 002:** Two oil and natural gas fired conventional fossil fuel steam electric generating stations (Units 1 and 2); the maximum capacity of each steam turbine driven electrical generator is 863.3 megawatts (MW). The two units may also be regulated as oil fired units under 40 CFR 63, Subpart UUUUU, National Emission Standards for Hazardous Air Pollutants: Coal-and Oil-Fired Electric Utility Steam Generating Units, i.e., Mercury and Air Toxics Standards (MATS) Rule. The MATS Rule is only applicable at this time to "coal" and "oil" - fired electric utility steam generating units (EGU's). FPL may choose to qualify these units as "natural gas-fired electric steam generating units" under the MATS Rule.

**Emissions Units 003 - 006:** Two oil and natural gas fired combined cycle combustion turbine systems (two "2-on-1" sets) (Units 3 and 4), each gas turbine is nominally rated at 170 MW, with a matched unfired heat recovery steam generator (HRSG). Each pair of the gas turbines (3A/3B and 4A/4B) shares a common steam turbine driven electrical generator rated at 160 MW each. The total generating capacity of each 2-on-1 turbine system is approximately 500 MW.

**Emissions Units 011, 012, 017 and 018:** Collectively regulated as Unit 8, this unit is a "4-on-1" combined cycle system which consists of four oil and natural gas fired combustion turbine/HRSG systems with a single steam turbine electrical generator. Each of the four gas combustion turbines (8A, 8B, 8C and 8D) is nominally rated at 207.6 MW, with a matched 495 million British thermal units per hour (MMBtu/hr) gas-fired HRSG, and a single 470 MW steam turbine driven electrical generator that serves all four CT/HRSG systems, and associated support equipment. Nitrogen oxides (NO<sub>x</sub>) emissions are controlled by using Dry Low NO<sub>x</sub> (DLN) combustors for natural gas and steam injection for fuel oil firing. A selective catalytic reduction (SCR) system, in combination with the other NO<sub>x</sub> controls, further reduces NO<sub>x</sub> emissions during combined cycle operation. The total generating capacity of this combined cycle combustion turbine system is approximately 1,300.4 MW. There is also a solar thermal facility on-site that produces steam, which is used to augment the steam produced by the Unit 8 HRSGs, thus reducing fossil fuel use in the duct burners when adequate sunlight is available.

**Emissions Unit 026:** The unit is a natural gas fired auxiliary steam boiler with a maximum heat input of 13.26 MMBtu/hr. This boiler produces steam to actuate the steam seals on the steam turbine components of Units 3 and 4 during cold starts when steam is, otherwise, not available for this purpose.

This facility also includes emergency generators, four hurricane emergency shelter stationary spark ignition (SI) engine driven generators, an emergency fire pump, two storage oil tanks, a mechanical cooling tower, and four electrical fuel line heaters (to heat up the natural gas fuel prior to introduction into the CT, when needed). Also included in this permit are additional unregulated emissions units identified as facility-wide particulate matter (PM) and volatile organic compounds (VOC) emissions.

### **Subsection B. Summary of Emissions Units.**

EU No.	Brief Description
<i>Regulated Emissions Units</i>	
001	Fossil Fuel Fired Steam Generator No. 1
002	Fossil Fuel Fired Steam Generator No. 2
003	CT with HRSG (CT 3A)
004	CT with HRSG (CT 3B)
005	CT with HRSG (CT 4A)

**SECTION I. FACILITY INFORMATION.**

<b>EU No.</b>	<b>Brief Description</b>
<i>Regulated Emissions Units</i>	
006	CT with HRSG (CT 4B)
011	CT with HRSG (CT 8A)
012	CT with HRSG (CT 8B)
014	Two Distillate Oil Storage Tanks for Unit 8 Gas Turbines
017	CT with HRSG (CT 8C)
018	CT with HRSG (CT 8D)
019	Mechanical Draft Cooling Tower for Unit 8
022	One Diesel Engine-driven Emergency Fire Pump
023	Four Hurricane Emergency Shelter Stationary Spark Ignition Engines
024	One Spark Ignition Engine-driven Emergency Generator
026	New Auxiliary Boiler (for EU Nos. 003–006)
027	Data Center Emergency SI RICE
<i>Unregulated Emissions Units and Activities (see Appendix U, List of Unregulated Emissions Units and/or Activities)</i>	
009	One Diesel Engine-driven Emergency Generator (for EU Nos. 003 to 006)
015	One Diesel Engine-driven Emergency Generator to aid Unit Nos. 1 and 2
016	Facility-wide Fugitive Emissions for PM and VOC
025	Two Diesel Engine-driven Emergency Generators to aid Unit 8 (EU Nos. 011, 012, 017 and 018)

Also included in this permit are miscellaneous insignificant emissions units and/or activities (see Appendix I, List of Insignificant Emissions Units and/or Activities).

**Subsection C. Applicable Regulations.**

Based on the Title V air operation permit renewal application received May 21, 2018, this facility is a major source of hazardous air pollutants (HAP). The existing facility is a prevention of significant deterioration (PSD) major source of air pollutants in accordance with Rule 62-212.400, F.A.C. A summary of applicable regulations is shown in the following table.

<b>Regulation</b>	<b>EU No(s).</b>
<i>Federal Rule Citations</i>	
40 CFR 60, Subpart A, NSPS General Provisions	001, 002, 003, 004, 005, 006, 007, 011, 012, 017, 018, 026, 027
40 CFR 60, Subpart D, Standards of Performance for Fossil-Fuel-Fired Steam Generators	001, 002
40 CFR 60, Subpart Dc, Standards of Performance for Small Industrial-Commercial-Institutional Steam Generating Units	026
40 CFR 60, Subpart GG, Standards of Performance for Stationary Gas Turbines	003, 004, 005, 006

**SECTION I. FACILITY INFORMATION.**

<b>Regulation</b>	<b>EU No(s).</b>
<i>Federal Rule Citations</i>	
40 CFR 60, Subpart KKKK, Standards of Performance for Stationary Combustion Turbines	011, 012, 017, 018
40 CFR 60, Subpart IIII, Standards of Performance for Stationary Compression Ignition Internal Combustion Engines	022
40 CFR 60, Subpart JJJJ, Standards of Performance for Stationary Spark Ignition Internal Combustion Engines	023, 024, 027
40 CFR 63, Subpart A, NESHAP General Provisions	001, 002, 022, 023, 024, 026, 027
40 CFR 63, Subpart ZZZZ, NESHAP for Stationary Reciprocating Internal Combustion Engines	022, 023, 024, 027
40 CR 63, Subpart DDDDD, NESHAP for Major Sources: Industrial, Commercial, and Institutional Boilers and Process Heaters	026
40 CFR 63, Subpart UUUUU, NESHAP: Coal- and Oil-fired Electric Utility Steam Generating Units	001, 002
40 CFR 64, Compliance Assurance Monitoring (CAM)	001, 002
40 CFR 75, Acid Rain Monitoring Provisions	001, 002, 003, 004, 005, 006, 011, 012, 017, 018
<i>State Rule Citations</i>	
Chapter 62-4, F.A.C., Permits	001, 002, 003, 004, 005, 006, 011, 012, 017, 018, 019, 026
Rule 62-204.800, F.A.C., Federal Regulations Adopted by Reference	
Chapter 62-210, F.A.C., Stationary Sources – General Requirements	
Chapter 62-212, F.A.C., Stationary Sources – Preconstruction Review	003, 004, 005, 006, 011, 012, 014, 017, 018, 019, 026
Chapter 62-214, F.A.C. (Requirements For Sources Subject To The Federal Acid Rain Program)	001, 002, 003, 004, 005, 006, 011, 012, 017, 018
Rule 62-296.405, F.A.C., Fossil Fuel Steam Generators with More Than 250 Million Btu Per Hour Heat Input	001, 002
Rule 62-296.406, F.A.C., Fossil Fuel Steam Generators with Less Than 250 Million Btu Per Hour Heat Input, New and Existing Emissions Units	026
Chapter 62-297, F.A.C. (Test Methods and Procedures, Continuous Monitoring Specifications, and Alternate Sampling Procedures)	001, 002, 003, 004, 005, 006, 011, 012, 017, 018, 026

## SECTION II. FACILITY-WIDE CONDITIONS.

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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 V, 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. In order to perform sandblasting on fixed plant equipment, sandblasting enclosures shall be constructed and operated as necessary. Thick poly flaps shall be used over doorways to prevent sandblasting material from leaving the facility.
- b. Maintenance of paved areas and roads shall be performed as needed.
- c. Mowing of grass and care of vegetation shall be done on a regular basis.
- d. Access to plant property by unnecessary vehicles shall be controlled and limited. Vehicles shall be restricted to slow speeds at the plant site.
- e. Bagged chemical products (e.g., soda ash, di-, tri-, and monosodium phosphate, and other chemicals as needed) shall be stored in weather tight buildings until they are used.
- f. Spills of powdered chemical products shall be cleaned up as soon as practical.

[Rule 62-296.320(4)(c), F.A.C.; and, proposed by applicant in Title V air operation permit renewal application received May 21, 2018.]

### **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

## SECTION II. FACILITY-WIDE CONDITIONS.

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 1<sup>st</sup> 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: <https://floridadep.gov/air/permitting-compliance/content/title-v-fees>. [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](mailto: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).**

- a. As required by Section 112(r)(7)(B)(iii) of the CAA and 40 CFR 68, the owner or operator shall submit an updated Risk Management Plan (RMP) to the Chemical Emergency Preparedness and Prevention Office (CEPPO) RMP Reporting Center. (See paragraph e., below.)
- b. As required under Section 252.941(1)(c), F.S., the owner or operator shall report to the appropriate representative of the Division of Emergency Management, as established by department rule, within one working day of discovery of an accidental release of a regulated substance from the stationary source, if the owner or operator is required to report the release to the United States Environmental Protection Agency under Section 112(r)(6) of the CAA.
- c. The owner or operator shall submit the required annual registration fee to the Division of Emergency Management on or before April 1, in accordance with Part IV, Chapter 252, F.S., and Rule 27P-21, F.A.C.
- d. Any required written reports, notifications, certifications, and data required to be sent to the Division of Emergency Management, should be sent to: Division of Emergency Management, 2555 Shumard Oak Boulevard, Tallahassee, FL 32399-2100, Telephone: (850) 413-9970, Fax: (850) 488-1739.
- e. 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:

## SECTION II. FACILITY-WIDE CONDITIONS.

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<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.

- f. Any required reports to be sent to the National Response Center, should be sent to: U.S. Environmental Protection Agency, Office of Solid Waste and Emergency Response, 1200 Pennsylvania Ave. NW, Mail Code: US EPA (5101T), Washington, DC 20460, Telephone: (800) 424-8802.
- g. Send the required annual registration fee using approved forms made payable to: Cashier, Division of Emergency Management, State Emergency Response Commission, 2555 Shumard Oak Boulevard, Tallahassee, FL 32399-2149

[Part IV, Chapter 252, F.S.; and, Rule 27P-21, F.A.C.]

**FW9. Semi-Annual Reports.** The permittee shall monitor compliance with the terms and conditions of this permit and shall submit reports at least every six months to the compliance office. Each semi-annual report shall cover the 6-month periods of January 1 – June 30 and July 1 – December 31. The reports shall be submitted by the 60<sup>th</sup> day following the end of each calendar half (i.e., March 1<sup>st</sup> and August 29<sup>th</sup> of every year). All instances of deviations from permit requirements (including conditions in the referenced Appendices) must be clearly identified in such reports, including reference to the specific requirement and the duration of such deviation. If there are no deviations during the reporting period, the report shall so indicate. Any semi-annual reporting requirements contained in applicable federal NSPS or NESHAP requirements may be submitted as part of this report. The submittal dates specified above shall replace the submittal dates specified in the federal rules. All additional reports submitted as part of this report should be clearly identified according to the specific federal requirement. All reports shall include 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.; and, 40 CFR 60.19, 40 CFR 61.10 & 40 CFR 63.10]

*{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.}*

**SECTION III. EMISSIONS UNITS AND SPECIFIC CONDITIONS.**

**Subsection A. Emissions Units 001 and 002**

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

EU No.	Brief Description
001	Fossil Fuel Fired Steam Generator No. 1
002	Fossil Fuel Fired Steam Generator No. 2

Each fossil fuel fired steam generator emissions unit is identical in configuration. Each steam generator has a capacity of 863.3 MW and are equipped with low NO<sub>x</sub> dual fuel firing burners to reduce emissions of NO<sub>x</sub>; and dry electrostatic precipitator (ESPs), with fly ash reinjection, to control PM emissions. In addition, the units have a continuous emission monitoring system (CEMS) for measuring NO<sub>x</sub> and sulfur dioxide (SO<sub>2</sub>) and a continuous opacity monitoring system (COMS) for measuring visible emissions (VE). Steam Generator No. 1 commenced commercial operation in December 1980. Steam Generator No. 2 commenced commercial operation in June 1981. The stack parameters for both steam generators are: 499 feet in height; 36 feet in diameter; a flow rate of 2,634,519 actual cubic feet per minute (acfm) at a temperature of 338 degrees Fahrenheit (°F); and exit velocity is 43.1 feet per second (fps).

*{Permitting Note: These emissions units are regulated under: 40 CFR 60, Subpart A, General Provisions, and Subpart D, Standards of Performance for Fossil Fuel-Fired Steam Generators, adopted by reference in Rule 62-204.800(8)(d) and (8)(b)1., F.A.C., respectively; 40 CFR 63, Subpart A, General Provisions, and, Subpart UUUUU, NESHAP: Coal- and Oil-Fired Electric Utility Steam Generating Units, adopted by reference in Rule 62-204.800(11)(d)1. and (11)(b)1., F.A.C., respectively; Rule 62-296.405, F.A.C., Fossil Fuel Steam Generators with More Than 250 Million Btu Per Hour Heat Input; and, Chapter 62-214, F.A.C., the Phase II Acid Rain Program as specified in Section IV of this Permit. These emissions units currently do not meet the definition of “oil-fired electric utility steam generating units”, in accordance with 40 CFR 63.10042, because these units have not burned oil for more than 10.0 percent(%) of the average annual heat input during the previous 3 calendar years or more than 15.0% of the annual heat input during any of the previous 3 calendar years. These units currently meet the definition of “natural-gas fired electric utility steam generating units” in accordance with 40 CFR 63.10042. In accordance with 40 CFR 63.9983(b), these units are currently not subject to 40 CFR 63, Subpart UUUUU, but shall be required to meet the provisions of this subpart if these units meet the definition of “oil-fired electric utility steam generating units”, pursuant to 40 CFR 63.9984(f).}*

**Essential Potential to Emit (PTE) Parameters**

**A.1. Permitted Capacity.** The maximum allowable heat input rate to each boiler is as follows:

<u>Unit No.</u>	<u>MMBtu/hr Heat Input</u>	<u>Fuel Type</u>
001 & 002	8,650	Fuel Oil
001 & 002	9,040	Natural Gas

When a blend of fuel oil and natural gas is burned, the heat input is prorated based on the percent heat input of each fuel.

[Rules 62-4.160(2), 62-210.200(PTE), 62-214.330 & 62-296.405, F.A.C.; and, Permit Nos. AC43-4037 & AC43-4038, as amended February 16, 1993]

**A.2. Emissions Unit Operating Rate Limitation After Testing.** Testing of emissions shall be conducted with the emissions unit operating at testing capacity (i.e., at least 90% of the maximum operation rate in Specific Condition **A.1**). If it is impracticable to test at the testing capacity, the emissions unit may be tested at less than the testing capacity. If an emissions unit is tested at less than the testing capacity, another emissions test shall be conducted and completed no later than 60 days after the emissions unit exceeds 110% of the capacity at which its most recent emissions test was conducted. See the related testing provisions in Appendix TR, Facility-wide Testing Requirements. [Rules 62-297.310(3)(b) & (4), F.A.C.]

**A.3. Methods of Operation.**

## SECTION III. EMISSIONS UNITS AND SPECIFIC CONDITIONS.

### Subsection A. Emissions Units 001 and 002

- a. *Fuels.* The only fuels allowed to be burned are low sulfur fuel oil containing a maximum of 0.7 percent (%) sulfur content, by weight; natural gas; or, a mixture of low sulfur fuel oil containing a maximum of 1.0% sulfur content, by weight, and natural gas in a ratio that shall not exceed the SO<sub>2</sub> emission limiting standard of 0.80 pounds per MMBtu (lb/MMBtu) heat input.
- b. *Additives.* Boiler conditioning additives, such as magnesium hydroxide (MgOH) may be added to the boilers as needed when firing residual oil.
- c. *Evaporation of Spent Boiler Cleaning Chemicals.* Spent non-hazardous boiler chemical cleaning solution and rinses are allowed to be disposed of by evaporation in the boilers.  
[Rule 62-213.410, F.A.C.; and, Permit Nos. AC43-4037 & AC43-4038, as amended February 16, 1993]

**A.4. Hours of Operation.** These emissions units may operate continuously (8,760 hours/year). [Rule 62-210.200(PTE), F.A.C.]

#### **Control Technology**

**A.5. Circumvention.** The permittee shall not circumvent the ESP or allow the emission of air pollutants without this equipment operating properly per the manufacturer's operating instructions when firing oil. [Rule 62-210.650, F.A.C.; and, Permit No. 0850001-029-AC.]

#### **Emission Limitations and Standards**

Unless otherwise specified, the averaging times for Specific Conditions **A.8-A.14** are based on the specified averaging time of the applicable test method.

**A.6. PM/PM<sub>10</sub> Emissions Limit.** PM/PM<sub>10</sub> emissions shall not exceed 0.03 pounds per million Btu of heat input (lb/MMBtu) except for periods of startup or shutdown. [Permit No. 0850001-029-AC; 40 CFR 63 Subpart UUUUU, Table 2; and, Rules 62-210.700(1) & (2), F.A.C.]

**A.7. PM/PM<sub>10</sub> Emissions Limit During Soot Blowing and Load Change.** PM/PM<sub>10</sub> emissions shall not exceed 0.10 lb/mmBtu during the 3-hours in any 24-hour period of excess emissions allowed for boiler cleaning (soot blowing) and load change. A load change occurs when the operational capacity of the unit is in the 10% to 100% capacity range, other than startup or shutdown, which exceeds 10% of the unit's rated capacity and which occurs at a rate of 0.5% per minute or more. [Rule 62-210.700(3), F.A.C.; and, Permit No. 0850001-029-AC]

**A.8. PM Emissions.** As determined by stack tests, the maximum emission limit for PM contained in the gases discharged to the atmosphere from each of these emissions units shall not exceed 865 pounds per hour (lb/hr) when firing 100% oil. [Permit Nos. AC43-4031 & AC43-4038, as amended 2/16/93.]

**A.9. Visible Emissions.** The maximum emission limit for opacity exhibited by the gases discharged into the atmosphere from each of these emissions units any gases which exhibit greater than 20% opacity except for one six-minute period per hour of not more than 27% opacity. This standard shall apply at all times except during periods of startup, shutdown, malfunction and as otherwise provided in NSPS Subpart D (see Appendix NSPS Subpart D). [40 CFR 60.11(c) & 60.42(a)(2); and, Permit Nos. AC43-4031 & AC43-4038, as amended 2/16/93]

**A.10. SO<sub>2</sub> Emissions.** As determined by CEMS or fuel sampling and analysis, the maximum emission limit for sulfur dioxide contained in the gases discharged to the atmosphere from each of these emissions units shall not exceed:

- a. 340 nanograms per joule (ng/J) heat input (0.80 lb/MMBtu) derived from liquid fossil fuel.
- b. In addition, emissions shall not exceed 6,920 lb/hr when firing 100% oil.

Compliance shall be based on the total heat input from all fossil fuels burned, including gaseous fuels. When different fuels are burned simultaneously in any combination, the applicable standard (in ng/J) shall be determined by proration using the following formula:

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$$PS_{SO_2} = \frac{y(340) + z(520)}{(y + z)}$$

Where:

$PS_{SO_2}$  = Prorated standard for SO<sub>2</sub> when burning different fuels simultaneously, in ng/J heat input derived from all fossil fuels or from all fossil fuels fired;

y = Percentage of total heat input derived from liquid fossil fuel; and

z = Percentage of total heat input derived from solid fossil fuel.

[40 CFR 60.43(a)(1), (b) & (c), ; and, Permit Nos. AC43-4031 & AC43-4038, as amended 2/16/93]

**A.11. NO<sub>x</sub> Emissions.** As determined by the CEMS, the maximum emission limit for nitrogen oxides contained in the gases discharged to the atmosphere from each of these emissions units shall not exceed:

- a. 86 nanograms per joule heat input (0.20 lb/MMBtu) derived from gaseous fossil fuel. In addition, emissions shall not exceed 1,808 lb/hr.
- b. 129 nanograms per joule heat input (0.30 lb/MMBtu) derived from liquid fossil fuel. In addition, emissions shall not exceed 2,595 lb/hr.

When different fossil fuels are burned simultaneously in any combination, the applicable standard (in lb/MMBtu) is determined by proration using the following formula:

$$PS_{NO_x} = \frac{x(0.20) + y(0.30)}{x + y}$$

Where:

$PS_{NO_x}$  = is the prorated standard for nitrogen oxides when burning different fuels simultaneously, in lb/MMBtu heat input derived from all fossil fuels fired;

x = is the percentage of total heat input derived from gaseous fossil fuel;

y = is the percentage of total heat input derived from liquid fossil fuel.

[40 CFR 60.44(a)(1), (2) & (b); and, Permit Nos. AC43-4031 & AC43-4038, as amended 2/16/93]

**A.12. Used Oil.** Burning of on-specification used oil is allowed in this emissions unit in accordance with all other conditions of this permit and the following conditions:

- a. *On-specification Used Oil Emissions Limitations.* This emissions unit is permitted to burn on specifications used oil, which contains a polychlorinated biphenyl (PCB) concentration of less than 50 parts per million (ppm). On-specification used oil is defined as used oil that meets the specifications of 40 CFR 279 – Standards for the Management of Used Oil, listed below. “Off-specification” used oil shall not be burned. Used oil which fails to comply with any of these specification levels is considered “off-specification” used oil.

CONSTITUENT/PROPERTY	ALLOWABLE LEVEL
Arsenic	5 ppm maximum
Cadmium	2 ppm maximum
Chromium	10 ppm maximum
Lead	100 ppm maximum
Total Halogens	1000 ppm maximum
Flash point	100 degrees F minimum

- b. *Quantity Limitation.* This emissions unit is permitted to burn “on-specification” used oil not to exceed 10,000 gallons during any calendar year.

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- c. *PCB Limitation.* Used oil containing a PCB concentration of 50 or more ppm shall not be burned at this facility. Used oil shall not be blended to meet this requirement.
- d. *Operational Requirements.* On-specification used oil with a PCB concentration of 2 to less than 50 ppm shall be burned only at normal source operating temperatures. On-specification used oil with a PCB concentration of 2 to less than 50 ppm shall not be burned during periods of startup or shutdown.
- e. *Testing Requirements.* For each batch of used oil to be burned, the owner or operator must be able to demonstrate that the used oil qualifies as on-specification used oil and that the PCB content is less than 50 ppm. The requirements of this demonstration are governed by the following federal regulations:
  - (1) Analysis of used oil fuel. A generator, transporter, processor/re-refiner, or burner may determine that used oil that is to be burned for energy recovery meets the fuel specifications of Sec. 279.11 by performing analyses or obtaining copies of analyses or other information documenting that the used oil fuel meets the specifications. [40 CFR 279.72(a)]
  - (2) Testing of used oil fuel. Used oil to be burned for energy recovery is presumed to contain quantifiable levels (2 ppm) of PCB unless the marketer obtains analyses (testing) or other information that the used oil fuel does not contain quantifiable levels of PCBs.
    - (a) The person who first claims that a used oil fuel does not contain quantifiable level (2 ppm) PCB must obtain analyses or other information to support that claim.
    - (b) Testing to determine the PCB concentration in used oil may be conducted on individual samples, or in accordance with the testing procedures described in Sec. 761.60(g)(2). However, for purposes of this part, if any PCBs at a concentration of 50 ppm or greater have been added to the container or equipment, then the total container contents must be considered as having a PCB concentration of 50 ppm or greater for purposes of complying with the disposal requirements of this part.
    - (c) Other information documenting that the used oil fuel does not contain quantifiable levels (2 ppm) of PCBs may consist of either personal, special knowledge of the source and composition of the used oil, or a certification from the person generating the used oil claiming that the oil contains no detectable PCBs.  
[40 CFR 761.20(e)(2)]
  - (3) Testing Requirements. When testing is required, the owner or operator shall sample and analyze each batch of used oil to be burned for the following parameters: Arsenic, cadmium, chromium, lead, total halogens, flash point and PCBs. Testing (sampling, extraction and analysis) shall be performed using approved methods specified in EPA Publication SW-846 (Test Methods for Evaluating Solid Waste, Physical/Chemical Methods).
  - (4) In addition to the above requirements, the owner or operator shall sample and analyze each batch of used oil to be burned for the sulfur content (by weight), density and heat content in accordance with approved test methods.
- f. *Record Keeping Requirements.* The owner or operator shall obtain, make, and keep the following records related to the use of used oil in a form suitable for inspection at the facility by the Department:
- g. *Reporting Requirements.* The owner or operator shall submit, with the Annual Operation Report form, the analytical results required above and the total amount of on-specification used oil placed into inventory to be burned and the total amount of on-specification used oil burned during the previous calendar year.

[Rules 62-4.070(3) & 62-213.440, F.A.C., 40 CFR 279 & 40 CFR 761, and, Permit Nos. AO43-170568 & AO43-170567, unless otherwise noted.]

#### **Excess Emissions**

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

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- A.13. NSPS Best Operational Procedures.** At all times, including periods of startup, shutdown, and malfunction, owners and operators shall, to the extent practicable, maintain and operate any affected facility including associated air pollution control equipment in a manner consistent with good air pollution control practice for minimizing emissions. Determination of whether acceptable operating and maintenance procedures are being used will be based on information available to the Department which may include, but is not limited to, monitoring results, opacity observations, review of operating and maintenance procedures, and inspection of the source. [40 CFR 60.11(d)]
- A.14. Excess Emissions Allowed.** Excess emissions resulting from startup, shutdown or malfunction of any emissions unit shall be permitted provided:
- a. best operational practices to minimize emissions are adhered to, and
  - b. the duration of excess emissions shall be minimized but in no case exceed two hours in any 24-hour period unless specifically authorized by the Department for longer duration.
- [Rules 62-210.700(1), F.A.C.; and, Permit Nos. AO43-170568 & AO43-170567, Specific Condition 9.]
- A.15. 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(1), F.A.C.]
- A.16. NSPS Excess Emissions.** Excess emissions with respect to the emissions standards in NSPS Subpart D are defined as follows:
- a. *Visible Emissions.* Excess VE are defined as any 6-minute period during which the average opacity of emissions exceeds 20% opacity, except that one 6-minute average per hour of up to 27% opacity need not be reported (see Specific Condition **A.9**).
  - b. *Sulfur Dioxide.* Excess SO<sub>2</sub> emissions are defined as any 3-hour period during which the average emissions (arithmetic average of 3 contiguous 1-hour periods) of SO<sub>2</sub> as measured by a CEMS exceed the applicable standard in Specific Condition **A.10**.
  - c. *Nitrogen Oxides.* Excess NO<sub>x</sub> emissions are defined as any 3-hour period during which the average emissions (arithmetic average of 3 contiguous 1-hour periods) exceed the applicable standard in Specific Condition **A.11**.
- [40 CFR 60.45(g)(1), (2) & (3)]

#### **Monitoring of Operations**

- A.17. CAM Plan.** When these emissions units meet the definition of “natural gas-fired electric utility steam generating unit”, as defined in 40 CFR 63.10042, these emissions units are subject to the Compliance Assurance Monitoring (CAM) requirements contained in the attached Appendix CAM. Failure to adhere to the monitoring requirements specified does not necessarily indicate an exceedance of a specific emissions limitation; however, it may constitute good reason to require compliance testing pursuant to Rule 62-297.310(8)(c), F.A.C. [Rules 62-204.800; 40 CFR 64; and, 62-213.440(1)(b)1.a., F.A.C.]

#### **Continuous Emissions Monitoring Requirements**

- A.18. COMS for Periodic Monitoring.** When required, the owner or operator shall maintain and operate continuous opacity monitoring systems (COMS) pursuant to 40 CFR Part 75. The owner or operator shall maintain and operate COMS and shall make and maintain records of opacity measured by the COMS, for purposes of periodic monitoring. [Rule 62-213.440, F.A.C.; and applicant agreement with EPA on March 3, 1998]

*{Permitting Note: In addition, Units 1 or 2 are no longer required to operate continuous opacity monitors (COMS) so long as each unit maintains “gas-firing” status according to 40 CFR Part 75. 40 CFR Part 75 exempts “gas-fired” units from opacity monitor requirements by way of the definition in 40 CFR 72.2. The Martin Units 1 & 2 meet the gas-fired definition. The installation of the ESPs, initial compliance test results from each unit, and implementation of a particulate matter continuous parametric monitoring system (PM*

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*CPMS) according to the requirements specified in MATS or a Continuous Assurance Monitoring (CAM) Plan for the “natural gas-fired electric utility steam generating unit,” assures that the NSPS 40 CFR 60 Subpart D limit of 0.10 lb/MMBtu will continuously be met and the COMS exemption criteria of 40 CFR 60.45(b)(8) would be satisfied. Therefore, COMS are no longer required. In the future if FP&L Martin Unit 1 or 2 fails to meet the definition of “gas-fired” in 40 CFR 72, then FP&L has one year to install and certify an opacity monitor from the end of year in which the units at Martin do not meet the definition of a “gas-fired” unit in 40 CFR 72.2 and the COMS portions of the specific conditions of this permit shall once again apply.}*

- A.19. CEMS.** The permittee has installed and shall continue to calibrate, maintain, and operate CEMS for measuring the opacity of emissions, sulfur dioxide emissions, nitrogen oxides emissions, and carbon dioxide (CO<sub>2</sub>) emissions. Because these units do not use a flue gas desulfurization device, a CEMS for measuring SO<sub>2</sub> emissions is not required if the owner or operator monitors SO<sub>2</sub> emission by fuel sampling and analysis. [40 CFR 60.45(a) & (b)(2)]
- A.20. Performance Specifications.** For the purposes of 40 CFR 60.13, all continuous monitoring systems required under applicable subparts shall be subject to the provisions of 40 CFR 60.13 upon promulgation of performance specifications for continuous monitoring systems under Appendix B of 40 CFR 60 and, if the continuous monitoring system is used to demonstrate compliance with emission limits on a continuous basis, Appendix F of 40 CFR 60, or 40 CFR 75, unless otherwise specified in an applicable subpart or by the Department. Appendix F is applicable December 4, 1987. [40 CFR 60.13(a)]
- A.21. Performance Evaluation.** If the permittee elects to use COMS data for compliance with the opacity standard as provided under Specific Condition **A.22**, the permittee shall conduct a performance evaluation of the COMS as specified in Performance Specification 1, Appendix B, of 40 CFR 60 before the performance test required under 40 CFR 60.8 is conducted. Otherwise, permittee shall conduct a performance evaluation of the COMS or CEMS during any performance test required under 40 CFR 60.8 or within 30 days thereafter in accordance with the applicable performance specification in Appendix B of 40 CFR 60. The owner or operator of an affected facility shall conduct COMS or CEMS performance evaluations at such other times as may be required by the Department under section 114 of the Act. [40 CFR 60.13(c)]
- A.22. COMS Data for Compliance.** The owner or operator of an affected facility subject to an opacity standard may submit, for compliance purposes COMS data results produced during any performance test required under 40 CFR 60.8 in lieu of Method 9 observation data. If the permittee elects to submit COMS data for compliance with the opacity standard, he shall notify the Department of that decision, in writing, at least 30 days before any performance test required under 40 CFR 60.8 is conducted. Once the owner or operator of an affected facility has notified the Department to that effect, the COMS data results will be used to determine opacity compliance during subsequent tests required under 40 CFR 60.8 until the owner or operator notifies the Department, in writing, to the contrary. For the purpose of determining compliance with the opacity standard during a performance test required under 40 CFR 60.8 using COMS data, the minimum total time of COMS data collection shall be averages of all 6-minute continuous periods within the duration of the mass emission performance test. Results of the COMS opacity determinations shall be submitted along with the results of the performance test required under 60.8. The owner or operator of an affected facility using a COMS for compliance purposes is responsible for demonstrating that the COMS meets the requirements specified in 40 CFR 60.13(c), that the COMS has been properly maintained and operated, and that the resulting data have not been altered in any way. If COMS data results are submitted for compliance with the opacity standard for a period of time during which Method 9 data indicates noncompliance, the Method 9 data will be used to determine compliance with the opacity standard. [40 CFR 60.11(e)(5)]
- A.23. CEMS Procedures.**
- a. Owners and operators of all CEMS installed in accordance with the provisions of Part 60 shall check the zero (or low-level value between 0 and 20% of span value) and span (50 to 100% of span value) calibration drifts at least once daily in accordance with a written procedure. The zero and span shall, as a

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minimum, be adjusted whenever the 24-hour zero drift or 24-hour span drift exceeds two times the limits of the applicable performance specifications in Appendix B. The system must allow the amount of excess zero and span drift measured at the 24-hour interval checks to be recorded and quantified, whenever specified. For continuous monitoring systems measuring opacity of emissions, the optical surfaces exposed to the effluent gases shall be cleaned prior to performing the zero and span drift adjustments except that for systems using automatic zero adjustments. The optical surfaces shall be cleaned when the cumulative automatic zero compensation exceeds 4% opacity.

- b. Unless otherwise approved by the Department, the following procedures shall be followed for continuous monitoring systems measuring opacity of emissions. Minimum procedures shall include a method for producing a simulated zero opacity condition and an upscale (span) opacity condition using a certified neutral density filter or other related technique to produce a known obscuration of the light beam. Such procedures shall provide a system check of the analyzer internal optical surfaces and all electronic circuitry including the lamp and photo detector assembly.

[40 CFR 60.13(d)]

**A.24. Frequency of Operation.** Except for system breakdowns, repairs, calibration checks, and zero and span adjustments required under 40 CFR 60.13(d), all continuous monitoring systems (CMS) shall be in continuous operation and shall meet minimum frequency of operation requirements as follows:

- a. All continuous monitoring systems referenced by 40 CFR 60.13(c) for measuring opacity of emissions shall complete a minimum of one cycle of sampling and analyzing for each successive 10-second period and one cycle of data recording for each successive 6-minute period.
- b. All continuous monitoring systems referenced by 40 CFR 60.13(c) for measuring emissions, except opacity, shall complete a minimum of one cycle of operation (sampling, analyzing, and data recording) for each successive 15-minute period.

[40 CFR 60.13(e)(1) and (2)]

**A.25. Representative Measurements.** All CMS or monitoring devices shall be installed such that representative measurements of emissions or process parameters from the affected facility are obtained. Additional procedures for location of CMS contained in the applicable Performance Specifications of Appendix B of 40 CFR 60 shall be used. [40 CFR 60.13(f)]

**A.26. Multiple Systems.** When the effluents from a single affected facility or two or more affected facilities subject to the same emission standards are combined before being released to the atmosphere, the owner or operator may install applicable CMS on each effluent or on the combined effluent. When the affected facilities are not subject to the same emission standards, separate continuous monitoring systems shall be installed on each effluent. When the effluent from one affected facility is released to the atmosphere through more than one point, the owner or operator shall install an applicable CMS on each separate effluent unless the installation of fewer systems is approved by the Department. When more than one continuous monitoring system is used to measure the emissions from one affected facility (e.g., multiple breechings, multiple outlets), the owner or operator shall report the results as required from each CMS. [40 CFR 60.13(g)]

**A.27. Data Reduction.** Owners or operators of all CMS for measurement of opacity shall reduce all data to 6-minute averages and for CMS other than opacity to 1-hour averages for time periods as defined in 40 CFR 60.2. Six-minute opacity averages shall be calculated from 36 or more data points equally spaced over each 6-minute period. For CMS other than opacity, 1-hour averages shall be computed from four or more data points equally spaced over each 1-hour period. Data recorded during periods of CMS breakdowns, repairs, calibration checks, and zero and span adjustments shall not be included in the data averages computed under this paragraph. An arithmetic or integrated average of all data may be used. The data may be recorded in reduced or non reduced form (e.g., ppm pollutant and percent O<sub>2</sub> or ng/J of pollutant). All excess emissions shall be converted into units of the standard using the applicable conversion procedures specified in subparts. After conversion into units of the standard, the data may be rounded to the same number of significant digits

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as used in the applicable subparts to specify the emission limit (e.g., rounded to the nearest 1 percent opacity). [40 CFR 60.13(h)]

**A.28. Performance Evaluations and Calibration Checks.** For performance evaluations under Specific Condition **A.21** and calibration checks under Specific Condition **A.23**, the following procedures shall be used:

- a. Methods 6, 7, and 3B, as applicable, shall be used for the performance evaluations of sulfur dioxide and nitrogen oxides continuous monitoring systems. Acceptable alternative methods for Methods 6, 7, and 3B are given in 40 CFR 60.46(d).
- b. SO<sub>2</sub> or NO<sub>x</sub>, as applicable, shall be used for preparing calibration gas mixtures under Performance Specification 2 of Appendix B to 40 CFR 60.
- c. For affected facilities burning fossil fuel(s), the span value for a continuous monitoring system measuring the opacity of emissions shall be 80, 90, or 100% and for a continuous monitoring system measuring sulfur oxides or nitrogen oxides the span value shall be determined using one of the following procedures:
  - (1) Except as provided under paragraph c.(2), SO<sub>2</sub> and NO<sub>x</sub> span value shall be determined as follows:

Fossil Fuel	Span value for SO <sub>2</sub> (ppm)	Span value for NO <sub>x</sub> (ppm)
Gas	Not applicable	500
Liquid	1,000	500
Combinations	1,000y	500 (x + y)

Where:

x = the fraction of total heat input derived from gaseous fossil fuel, and  
 y = the fraction of total heat input derived from liquid fossil fuel.

- (2) As an acceptable alternative, the owner or operator of an affected facility may elect to use the SO<sub>2</sub> and NO<sub>x</sub> span values determined according to sections 2.1.1 and 2.1.2 in appendix A to part 75 of this chapter. Span values shall be rounded off according to the applicable procedures in section 2 of appendix A to 40 CFR 75.

- d. All span values computed under paragraph **c(1)** for burning combinations of fossil fuels shall be rounded to the nearest 500 ppm. Span values that are computed under paragraph **c(2)** shall be rounded off according to the applicable procedures in section 2 of appendix A to 40 CFR 75.

[40 CFR 60.45(c)]

**A.29. Conversion Procedures.** For any continuous monitoring system installed under 40 CFR 60.45(a), the following conversion procedures shall be used to convert the continuous monitoring data into units of the applicable standards (ng/J, lb/MMBtu):

- a. When a continuous monitoring system for measuring oxygen is selected, the measurement of the pollutant concentration and oxygen concentration shall each be on a consistent basis (wet or dry). Alternative procedures approved by the Administrator shall be used when measurements are on a wet basis. When measurements are on a dry basis, the following conversion procedure shall be used:

$$E = CF \left( \frac{20.9}{20.9 - \%O_2} \right)$$

Where E, C, F and %O<sub>2</sub> are determined under Specific Condition **A.30**.

- b. When a CEMS for measuring CO<sub>2</sub> is selected, the measurement of the pollutant concentration and carbon dioxide concentration shall each be on a consistent basis (wet or dry) and the following conversion procedure shall be used:

$$E = CF_c \left( \frac{100}{\%CO_2} \right)$$

Where E, C, F<sub>c</sub> and %CO<sub>2</sub> are determined under Specific Condition **A.30**.

[40 CFR 60.45(e)]

**A.30. Equation Values.** The values used in the equations under Specific Condition **A.29** are derived as follows:

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- a. E = pollutant emissions, ng/J (lb/MMBtu).
- b. C = pollutant concentration, ng/dscm (lb/dscf), determined by multiplying the average concentration (ppm) for each one-hour period by  $4.15 \times 10^4$  M ng/dscm per ppm ( $2.59 \times 10^{-9}$  M lb/dscf per ppm) where M = pollutant molecular weight, g/g-mole (lb/lb-mole). M = 64.07 for sulfur dioxide and 46.01 for nitrogen oxides.
- c. % O<sub>2</sub>, % CO<sub>2</sub> = oxygen or carbon dioxide volume (expressed as percent), determined with equipment specified under Specific Condition **A.19**.
- d. F, F<sub>c</sub> = a factor representing a ratio of the volume of dry flue gases generated to the calorific value of the fuel combusted (F), and a factor representing a ratio of the volume of carbon dioxide generated to the calorific value of the fuel combusted (F<sub>c</sub>), respectively. Values of F and F<sub>c</sub> are given as follows:
  - (1) For liquid fossil fuels including crude, residual, and distillate oils,  $F = 2.476 \times 10^{-7}$  dscm/J (9,220 dscf/MMBtu) and  $F_c = 0.384 \times 10^{-7}$  scm CO<sub>2</sub> /J (1,430 scf CO<sub>2</sub>/MMBtu).
  - (2) For gaseous fossil fuels,  $F = 2.347 \times 10^{-7}$  dscm/J (8,740 dscf/MMBtu). For natural gas, propane, and butane fuels,  $F_c = 0.279 \times 10^{-7}$  scm CO<sub>2</sub> /J (1,040 scf CO<sub>2</sub> /MMBtu) for natural gas,  $0.322 \times 10^{-7}$  scm CO<sub>2</sub> /J (1,200 scf CO<sub>2</sub>/million Btu) for propane, and  $0.338 \times 10^{-7}$  scm CO<sub>2</sub> /J (1,260 scf CO<sub>2</sub> /MMBtu) for butane.
- e. The owner or operator may use the following equation to determine an F factor (dscm/J or dscf/MMBtu) on a dry basis (if it is desired to calculate F on a wet basis, consult the Department) or F<sub>c</sub> factor (scm CO<sub>2</sub> /J, or scf CO<sub>2</sub> /MMBtu) on either basis in lieu of the F or F<sub>c</sub> factors specified in paragraph **d** above:

$$F = 10^{-6} \left( \frac{227.2(\%H) + 95.5(\%C) + 35.6(\%S) + 8.7(\%N) - 28.7(\%O)}{GCV} \right) \text{ (SI Units)}$$

$$F_c = \frac{2.0 \times 10^{-5} (\%C)}{GCV \text{ (SI Units)}}$$

$$F = 10^{-6} \left( \frac{3.64(\%H) + 1.53(\%C) + 0.57(\%S) + 0.14(\%N) - 0.46(\%O)}{GCV} \right) \text{ (English Units)}$$

$$F_c = \frac{20.0(\%C)}{GCV \text{ (SI units)}}$$

$$F_c = \frac{321 \times 10^3 (\%C)}{GCV \text{ (English Units)}}$$

- (1) H, C, S, N, and O are content by weight of hydrogen, carbon, sulfur, nitrogen, and oxygen (expressed as percent), respectively, as determined on the same basis as GCV by ultimate analysis of the fuel fired, or computed from results using ASTM method D1137-53(75), D1945-64(76), or D1946-77 (gaseous fuels) as applicable. (These three methods are incorporated by reference-see 40 CFR 60.17.)
- (2) GCV is the gross calorific value (kJ/kg, Btu/lb) of the fuel combusted determined by the ASTM test method D1826-77 for gaseous fuels as applicable. (This method is incorporated by reference-see 40 CFR 60.17.)
- (3) For affected facilities which fire both fossil fuels and non fossil fuels, the F or F<sub>c</sub> value shall be subject to the Administrator's approval.
- f. For affected facilities firing combinations of fossil fuels, the F or F<sub>c</sub> factors determined by paragraphs **d** and **e** shall be prorated in accordance with the applicable formula as follows:

$$F = \sum_{i=1}^n X_i F_i \quad \text{or} \quad F_c = \sum_{i=1}^n X_i (F_c)_i$$

Where:

X<sub>i</sub> = the fraction of total heat input derived from each type of fuel (e.g. natural gas, etc.)

F<sub>i</sub> or (F<sub>c</sub>)<sub>i</sub> = the applicable F or F<sub>c</sub> factor for each fuel type determined in accordance with paragraphs (f)(4) and (f)(5) of this section

n = the number of fuels being burned in combination.

[40 CFR 60.45(f)]

**Test Methods and Procedures**

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**A.31. Test Methods.** When 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
3, 3A, 3B	Determination of Oxygen and Carbon Dioxide Concentrations in Emissions from Stationary Sources
5, 5B, 17	Method for Determining Particulate Matter Emissions (All PM is assumed to be PM <sub>10</sub> .)
6, 6A, 6B, 6C	Determination of Sulfur Dioxide Emissions from Stationary Sources
7, 7A, 7C, 7D, 7E	Determination of Nitrogen Oxide Emissions from Stationary Sources
9	Visual Determination of the Opacity of Emissions from Stationary Sources
19	Determination of Sulfur Dioxide Removal Efficiency and Particulate Matter, Sulfur Dioxide, and Nitrogen Oxides Emission Rates (Optional F-factor method may be used to determine flow rate and gas analysis to calculate mass emissions in lieu of Methods 1-4.)
20	Determination of Nitrogen Oxides, Sulfur Dioxide and Diluent Emissions from Stationary Gas Turbines

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. [Rule 62-204.800, F.A.C.]

**A.32. Annual Compliance Tests.** During each calendar year, each EU shall be tested to demonstrate compliance with the emissions standards for PM, VE (except as provided in Specific Condition **A.18**) and SO<sub>2</sub> (except as provided in Specific Condition **A.35**). Annual compliance tests for these pollutants shall be performed on each unit that burns oil for 400 hours or more during the calendar year. Unless specifically requested by the Compliance Authority pursuant to Rule 62-297.310(7)(b), F.A.C., periodic opacity tests are not required when firing natural gas. [Rule 62-297.310(8)(a), F.A.C.]

**A.33. Compliance Tests Prior To Renewal.** Except as provided in subparagraph 62-297.310(8)(b)3., F.A.C. (see condition **TR7.b.(3)** in Appendix TR – Facility-wide Testing Requirements), prior to permit renewal, compliance tests shall be performed for the following pollutants: VE (except as provided in Specific Condition **A.18**), PM, NO<sub>x</sub> and SO<sub>2</sub> (except as provided in Specific Condition **A.35**). [Rule 62-297.310(8)(b), F.A.C.]

**A.34. VE Testing.** If Martin Units' 1 or 2 liquid fuel or fuel blend burning exceeds 400 hours combined during the calendar year, other than during startup, a visible emissions test shall be completed no later than 60 days after the emissions unit's liquid fuel or fuel blend burning exceeds 400 hours combined, or by the end of the calendar year, whichever is later. [Applicant Request; and, Rule 62-4.070(3), F.A.C.]

**A.35. Alternate Compliance for NO<sub>x</sub> and SO<sub>2</sub>.**

- a. **NO<sub>x</sub>.** No stack tests are required if CEMS show compliance with NO<sub>x</sub> emissions limits.
- b. **SO<sub>2</sub>.** Annual and renewal stack tests are not required as long as results of fuel sampling and analysis demonstrate compliance with SO<sub>2</sub> emissions limits.

The Department will retain the authority to require EPA test methods, referenced above if it has reason to believe that exceedances of the NO<sub>x</sub> and SO<sub>2</sub> emissions limiting standard are occurring. Results of an approved fuel sampling and analysis program shall have the same effect as EPA Method 6 test results for purposes of demonstrating compliance or noncompliance with SO<sub>2</sub> standards. [Rule 62-213.440, F.A.C.; and,

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### Subsection A. Emissions Units 001 and 002

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- A.36. 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.]
- A.37. Opacity Observation.** Compliance with opacity standards in 40 CFR 60 shall be determined by conducting observations in accordance with Reference Method 9 in Appendix A of 40 CFR 60, any alternative method that is approved by the Administrator, or as provided in 40 CFR 60.11(e)(5). [40 CFR 60.11(b)]
- A.38. Opacity Compliance.** Compliance with standards in 40 CFR 60, other than opacity standards, shall be determined in accordance with performance tests established by 40 CFR 60.8, unless otherwise specified in the applicable standard. [40 CFR 60.11(a)]
- A.39. Performance Tests.** Performance tests shall be conducted under such conditions as the Administrator shall specify to the plant operator based on representative performance of the affected facility. The owner or operator shall make available to the Administrator such records as may be necessary to determine the conditions of the performance tests. Operations during periods of startup, shutdown, and malfunction shall not constitute representative conditions for the purpose of a performance test nor shall emissions in excess of the level of the applicable emission limit during periods of startup, shutdown, and malfunction be considered a violation of the applicable emission limit unless otherwise specified in the applicable standard. [40 CFR 60.8(c)]
- A.40. Compliance.**
- a. The permittee shall determine compliance with the particulate matter, SO<sub>2</sub>, and NO<sub>x</sub> standards in 40 CFR 60.42, 60.43, and 60.44 as follows:
    - (1) The emission rate (E) of particulate matter, SO<sub>2</sub>, or NO<sub>x</sub> shall be computed for each run using the following equation:
$$E = CF_d \left( \frac{20.9}{(20.9 - \%O_2)} \right)$$
Where:
      - E = Emission rate of pollutant, ng/J (1b/million Btu).
      - C = Concentration of pollutant, ng/dscm (1 lb/dscf).
      - %O<sub>2</sub> = O<sub>2</sub> concentration, percent dry basis.
      - F<sub>d</sub> = factor as determined from Method 19 of appendix A of 40 CFR 60.
    - (2) Method 5 of appendix A of 40 CFR 60 shall be used to determine the PM concentration (C) at affected facilities without wet flue-gas-desulfurization (FGD) systems and Method 5B of appendix A of 40 CFR 60 shall be used to determine the PM concentration (C) after FGD systems.
      - (a) The sampling time and sample volume for each run shall be at least 60 minutes and 0.85 dscm (30 dscf). The probe and filter holder heating systems in the sampling train may be set to provide a gas temperature no greater than 160 ± 14°C (320 ± 25°F).
      - (b) The emission rate correction factor, integrated or grab sampling and analysis procedure of Method 3B shall be used to determine the O<sub>2</sub> concentration (%O<sub>2</sub>). The O<sub>2</sub> sample shall be obtained simultaneously with, and at the same traverse points as, the particulate sample. If the grab sampling procedure is used, the O<sub>2</sub> concentration for the run shall be the arithmetic mean of all the sample O<sub>2</sub> concentrations at all traverse points.
      - (c) If the particulate run has more than 12 traverse points, the O<sub>2</sub> traverse points may be reduced to 12 provided that Method 1 is used to locate the 12 O<sub>2</sub> traverse points.
    - (3) Method 9 of appendix A of 40 CFR 60 and the procedures in 40 CFR 60.11 shall be used to determine opacity.
    - (4) Method 6 of appendix A of 40 CFR 60 shall be used to determine the SO<sub>2</sub> concentration.

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- (a) The sampling site shall be the same as that selected for the particulate sample. The sampling location in the duct shall be at the centroid of the cross section or at a point no closer to the walls than 1 m (3.28 ft). The sampling time and sample volume for each sample run shall be at least 20 minutes and 0.020 dscm (0.71 dscf). Two samples shall be taken during a 1-hour period, with each sample taken within a 30-minute interval.
- (b) The emission rate correction factor, integrated sampling and analysis procedure of Method 3B shall be used to determine the O<sub>2</sub> concentration (%O<sub>2</sub>). The O<sub>2</sub> sample shall be taken simultaneously with, and at the same point as, the SO<sub>2</sub> sample. The SO<sub>2</sub> emission rate shall be computed for each pair of SO<sub>2</sub> and O<sub>2</sub> samples. The SO<sub>2</sub> emission rate (E) for each run shall be the arithmetic mean of the results of the two pairs of samples.
- (5) Method 7 shall be used to determine the NO<sub>x</sub> concentration.
  - (a) The sampling site and location shall be the same as for the SO<sub>2</sub> sample. Each run shall consist of four grab samples, with each sample taken at about 15-minute intervals.
  - (b) For each NO<sub>x</sub> sample, the emission rate correction factor, grab sampling and analysis procedure of Method 3B shall be used to determine the O<sub>2</sub> concentration (%O<sub>2</sub>). The sample shall be taken simultaneously with, and at the same point as, the NO<sub>x</sub> sample.
  - (c) The NO<sub>x</sub> emission rate shall be computed for each pair of NO<sub>x</sub> and O<sub>2</sub> samples. The NO<sub>x</sub> emission rate (E) for each run shall be the arithmetic mean of the results of the four pairs of samples.
- b. When combinations of fossil fuels are fired, the owner or operator (in order to compute the prorated standard as shown in 40 CFR 60.43(b) and 60.44(b)) shall determine the percentage (x or y) of the total heat input derived from each type of fuel as follows:
  - (1) The heat input rate of each fuel shall be determined by multiplying the gross calorific value of each fuel fired by the rate of each fuel burned.
  - (2) ASTM Methods D240-76 (liquid fuels), or D 1826-77 (gaseous fuels) (incorporated by reference-see 40 CFR 60.17) shall be used to determine the gross calorific values of the fuels.
  - (3) Suitable methods shall be used to determine the rate of each fuel burned during each test period, and a material balance over the steam generating system shall be used to confirm the rate.
- c. The owner or operator may use the following as alternatives to the reference methods and procedures in 40 CFR 60.46 or in other sections as specified:
  - (1) The emission rate (E) of particulate matter, SO<sub>2</sub> and NO<sub>x</sub> may be determined by using the F<sub>c</sub> factor, provided that the following procedure is used:
    - (a) The emission rate (E) shall be computed using the following equation:
$$E = CF_c \left( \frac{100}{\%CO_2} \right)$$
Where:  
E = Emission rate of pollutant, ng/J (lb/million Btu).  
C = Concentration of pollutant, ng/dscm (lb/dscf).  
%CO<sub>2</sub> = CO<sub>2</sub> concentration, percent dry basis.  
F<sub>c</sub> = factor as determined in appropriate sections of Method 19 of appendix A of 40 CFR 60.
    - (b) If and only if the average F<sub>c</sub> factor in Method 19 is used to calculate E and either E is from 0.97 to 1.00 of the emission standard or the relative accuracy of CEMS is from 17 to 20 percent, then three runs of Method 3B of appendix A of 40 CFR 60 shall be used to determine the O<sub>2</sub> and CO<sub>2</sub> concentration according to the procedures in 40 CFR 60.46(b) (2)(ii), (4)(ii), or (5)(ii). Then if F<sub>o</sub> (average of three runs), as calculated from the equation in Method 3B of appendix A of 40 CFR 60, is more than ± 3 percent than the average F<sub>o</sub> value, as determined from the average values of F<sub>d</sub> and F<sub>c</sub> in Method 19, i.e., F<sub>oa</sub> = 0.209 (F<sub>da</sub> / F<sub>ca</sub>), then the following procedure shall be followed:
      - i. When F<sub>o</sub> is less than 0.97 F<sub>oa</sub>, then E shall be increased by that proportion under 0.97 F<sub>oa</sub>, e.g., if F<sub>o</sub> is 0.95 F<sub>oa</sub>, E shall be increased by 2 percent. This recalculated value shall be used to

## SECTION III. EMISSIONS UNITS AND SPECIFIC CONDITIONS.

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determine compliance with the emission standard.

- ii. When  $F_o$  is less than  $0.97 F_{oa}$  and when the average difference ( $\bar{d}$ ) between the continuous monitor minus the reference methods is negative, then E shall be increased by that proportion under  $0.97 F_{oa}$ , e.g., if  $F_o$  is  $0.95 F_{oa}$ , E shall be increased by 2 percent. This recalculated value shall be used to determine compliance with the relative accuracy specification.
  - iii. When  $F_o$  is greater than  $1.03 F_{oa}$  and when  $\bar{d}$  is positive, then E shall be decreased by that proportion over  $1.03 F_{oa}$ , e.g., if  $F_o$  is  $1.05 F_{oa}$ , E shall be decreased by 2 percent. This recalculated value shall be used to determine compliance with the relative accuracy specification.
- (2) For Method 5 or 5B, Method 17 may be used at facilities with or without wet FGD systems if the stack gas temperature at the sampling location does not exceed an average temperature of  $160^{\circ}\text{C}$  ( $320^{\circ}\text{F}$ ). The procedures of sections 2.1 and 2.3 of Method 5B may be used with Method 17 only if it is used after wet FGD systems. Method 17 shall not be used after wet FGD systems if the effluent gas is saturated or laden with water droplets.
  - (3) PM and  $\text{SO}_2$  may be determined simultaneously with the Method 5 of appendix A of 40 CFR 60 train provided that the following changes are made:
    - (a) The filter and impinger apparatus in sections 2.1.5 and 2.1.6 of Method 8 is used in place of the condenser (section 2.1.7) of Method 5.
    - (b) All applicable procedures in method 8 for the determination of  $\text{SO}_2$  (including moisture) are used.
  - (4) For Method 6 of appendix A of 40 CFR 60, Method 6C of appendix A of 40 CFR 60 may be used. Method 6A of appendix A of 40 CFR 60 may also be used whenever Methods 6 and 3B of appendix A of 40 CFR 60 data are specified to determine the  $\text{SO}_2$  emission rate, under the conditions in 40 CFR 60.46(d)(1).
  - (5) For Method 7 of appendix A of 40 CFR 60, Method 7A, 7C, 7D, or 7E of appendix A of 40 CFR 60 may be used. If Method 7C, 7D, or 7E of appendix A of 40 CFR 60 is used, the sampling time for each run shall be at least 1 hour and the integrated sampling approach shall be used to determine the  $\text{O}_2$  concentration (% $\text{O}_2$ ) for the emission rate correction factor.
  - (6) For Method 3 of appendix A of 40 CFR 60, Method 3A or 3B of appendix A of 40 CFR 60 may be used.
  - (7) For Method 3B of appendix A of 40 CFR 60, Method 3A of appendix A of 40 CFR 60 may be used. [40 CFR 60.46(b), (c) & (d)]

**A.41. Test Methodology.** All compliance tests shall be performed using reference test methods as given in 40 CFR 60, Appendix A, as adopted by reference in Rule 62-204.800, F.A.C. Any deviations from the test methodology in order to facilitate “representative” testing shall be approved by the Department pursuant to Rule 62-297.620, F.A.C., prior to conducting the tests. [40 CFR 60, Appendix A; Rules 62-204.800 & 62-297.620, F.A.C.; and, Permit Nos. AO43-170568, Specific Condition 3. & AO43-170567, Specific Condition 3]

**A.42. Samples.** Compliance with the “on-specification” used oil requirements will be determined from a sample collected from each batch delivered for firing. [Rules 62-4.070 and 62-213.440, F.A.C.; and 40 CFR 279.]

**A.43. Testing While Injecting Additives.** The owner or operator shall conduct emission tests while injecting additives consistent with normal operating practices. [Rule 62-213.440, F.A.C.; and applicant agreement with EPA on March 3, 1998.]

### **Recordkeeping and Reporting Requirements**

**A.44. Reporting Schedule.** The following reports and notifications shall be submitted to the Compliance Authority:

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**Subsection A. Emissions Units 001 and 002**

<b>Report</b>	<b>Reporting Deadline</b>	<b>Related Condition(s)</b>
Notice of Operational Changes	60 days prior to change.	<b>A.46</b>
NSPS Excess Emissions Reports	Semi-annually	<b>A.48</b>
CEMS Reports	Semi-annually	<b>A.51</b>

[Rule 62-213.440(1)(b), F.A.C.]

**A.45. Other Reporting Requirements.** See Appendix RR, Facility-Wide Reporting Requirements, for additional reporting requirements. [Rule 62-213.440(1)(b), F.A.C.]

**A.46. Facility Changes.** The owner or operator subject to the provisions of 40 CFR 60 shall furnish the Department written notification as follows: A notification of any physical or operational change to an existing facility which may increase the emission rate of any air pollutant to which a standard applies, unless that change is specifically exempted under an applicable subpart or in 40 CFR 60.14(e). This notice shall be postmarked 60 days or as soon as practicable before the change is commenced and shall include information describing the precise nature of the change, present and proposed emission control systems, productive capacity of the facility before and after the change, and the expected completion date of the change. The Administrator may request additional relevant information subsequent to this notice. [40 CFR 60.7(a)(4)]

**A.47. NSPS Records.** The owner or operator subject to the provisions of 40 CFR 60 shall maintain records of the occurrence and duration of any startup, shutdown, or malfunction in the operation of an affected facility; any malfunction of the air pollution control equipment; or, any periods during which a continuous monitoring system or monitoring device is inoperative. [40 CFR 60.7(b)]

**A.48. NSPS Excess Emissions Reports.** The owner or operator required to install a continuous monitoring system (CMS) or monitoring device shall submit an excess emissions and monitoring systems performance report (excess emissions are defined in applicable subparts) and/or a summary report form [see 40 CFR 60.7(d) and Specific Condition **A.49**] to the Department semiannually, except when: more frequent reporting is specifically required by an applicable subpart; or, the CMS data are to be used directly for compliance determination, in which case quarterly reports shall be submitted; or, the Department, on a case-by-case basis, determines that more frequent reporting is necessary to accurately assess the compliance status of the source. All reports shall be postmarked by the 60th day following the end of each calendar half (or quarter, as appropriate). Periods of excess emissions and monitoring systems downtime that shall be reported are defined in accordance with Specific Condition **A.16**. Written reports of excess emissions shall include the following information:

- a. The magnitude of excess emissions computed in accordance with 40 CFR 60.13(h), any conversion factor(s) used, and the date and time of commencement and completion of each time period of excess emissions. The process operating time during the reporting period.
- b. Specific identification of each period of excess emissions that occurs during startups, shutdowns, and malfunctions of the affected facility. The nature and cause of any malfunction (if known), the corrective action taken or preventative measures adopted.
- c. The date and time identifying each period during which the continuous monitoring system was inoperative except for zero and span checks and the nature of the system repairs or adjustments.
- d. When no excess emissions have occurred or the continuous monitoring system(s) have not been inoperative, repaired, or adjusted, such information shall be stated in the report.

[40 CFR 60.7(c)(1), (2), (3), (4), 60.19(c) & 60.45(g)]

**A.49. Summary Report.** The summary report form shall contain the information and be in the format shown in Figure 1 (attached) unless otherwise specified by the Department. One summary report form shall be submitted for each pollutant monitored at each affected facility.

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- a. If the total duration of excess emissions for the reporting period is less than 1 percent of the total operating time for the reporting period and CMS downtime for the reporting period is less than 5 percent of the total operating time for the reporting period, only the summary report form shall be submitted and the excess emission report described in 40 CFR 60.7(c) need not be submitted unless requested by the Department.
- b. If the total duration of excess emissions for the reporting period is 1 percent or greater of the total operating time for the reporting period or the total CMS downtime for the reporting period is 5 percent or greater of the total operating time for the reporting period, the summary report form and the excess emission report described in 40 CFR 60.7(c) shall both be submitted.

*{See attached Figure 1: Summary Report-Gaseous and Opacity Excess Emission and Monitoring System Performance}*

[40 CFR 60.7(d)(1) and (2)]

#### **A.50. Reporting Options.**

- a. Notwithstanding the frequency of reporting requirements specified in 40 CFR 60.7(c), an owner or operator who is required by an applicable subpart to submit excess emissions and monitoring systems performance reports (and summary reports) on a quarterly (or more frequent) basis may reduce the frequency of reporting for that standard to semiannual if the following conditions are met:
  - (1) For 1 full year (e.g., 4 quarterly or 12 monthly reporting periods) the affected facility's excess emissions and monitoring systems reports submitted to comply with a standard under this part continually demonstrate that the facility is in compliance with the applicable standard;
  - (2) The owner or operator continues to comply with all recordkeeping and monitoring requirements specified in 40 CFR 60, Subpart A, and the applicable standard; and
  - (3) The Department does not object to a reduced frequency of reporting for the affected facility, as provided in 40 CFR 60.7(e)(2).
- b. The frequency of reporting of excess emissions and monitoring systems performance (and summary) reports may be reduced only after the owner or operator notifies the Department in writing of his or her intention to make such a change and the Department does not object to the intended change. In deciding whether to approve a reduced frequency of reporting, the Department may review information concerning the source's entire previous performance history during the required recordkeeping period prior to the intended change, including performance test results, monitoring data, and evaluations of an owner or operator's conformance with operation and maintenance requirements. Such information may be used by the Department to make a judgment about the source's potential for noncompliance in the future. If the Department disapproves the owner or operator's request to reduce the frequency of reporting, the Department will notify the owner or operator in writing within 45 days after receiving notice of the owner or operator's intention. The notification from the Department to the owner or operator will specify the grounds on which the disapproval is based. In the absence of a notice of disapproval within 45 days, approval is automatically granted.
- c. As soon as monitoring data indicate that the affected facility is not in compliance with any emission limitation or operating parameter specified in the applicable standard, the frequency of reporting shall revert to the frequency specified in the applicable standard, and the owner or operator shall submit an excess emissions and monitoring systems performance report (and summary report, if required) at the next appropriate reporting period following the noncomplying event. After demonstrating compliance with the applicable standard for another full year, the owner or operator may again request approval from the Department to reduce the frequency of reporting for that standard as provided for in 40 CFR 60.7(e)(1) and (e)(2).

[40 CFR 60.7(e)(1)]

- A.51. CEMS Reports.** Operation and maintenance of CEMS shall be carried out according to the requirements of 40 CFR 60; reports thereof shall be submitted to the Compliance Authority within sixty (60) days following each 6-month period in a calendar year and will include information required under 40 CFR

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## SECTION III. EMISSIONS UNITS AND SPECIFIC CONDITIONS.

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### Subsection A. Emissions Units 001 and 002

60.7(c). The Department reserves the right to modify the format of the reports. For any periods of excess emissions, as defined in 40 CFR 60.45(g), the reports shall specify the cause and corrective actions taken as well as the specific operational conditions existing (i.e., steady-state output, load charging rate; soot blowing, limiting, or air preheated steam cleaning sequences), during the period of excess emissions. [Permit No. 0850001-041-AC (PSD-FL-146J & 327G)]

- A.52. Files.** The owner or operator subject to the provisions of 40 CFR 60 shall maintain a file of all measurements, including continuous monitoring system, monitoring device, and performance testing measurements; all continuous monitoring system performance evaluations; all continuous monitoring system or monitoring device calibration checks; adjustments and maintenance performed on these systems or devices; and, all other information required by 40 CFR 60 recorded in a permanent form suitable for inspection. The file shall be retained for at least 5 (five) years following the date of such measurements, maintenance, reports, and records. [40 CFR 60.7(f); and Rule 62-213.440(1)(b)2.b., F.A.C.]
- A.53. Used Oil Records.** Records shall be kept of each delivery of “on-specification” used oil with a statement of the origin of the used oil and the quantity delivered/stored for firing. In addition, monthly records shall be kept of the quantity of “on-specification” used oil fired in these emissions units. The above records shall be maintained in a form suitable for inspection, retained for a minimum of five years, and be made available upon request. [Rule 62-213.440(1)(b)2.b., F.A.C.; and 40 CFR 279.61 and 761.20(e)]
- A.54. Summary of Used Oil Analysis.** The permittee shall include in the “Annual Operating Report for Air Pollutant Emitting Facility” a summary of the “on-specification” used oil analyses for the calendar year and a statement of the total quantity of “on-specification” used oil fired in Fossil Fuel Fired Steam Generators Nos. 1 and 2 during the calendar year. [Rule 62-213.440(1)(b)2.b., F.A.C.]
- A.55. Fuel Sampling and Analysis Program.** The permittee may use of any of the four (4) available fuel oil sampling and analysis methods allowed in 40 CFR Part 75, Appendix D (Optional SO<sub>2</sub> Emissions Data Protocol for Gas-Fired and Oil-Fired Units), Section 2.2 “Oil Sampling and Analysis,” Table D-4, and provided here as follows: Daily Manual Sampling; Flow Proportional/Weekly Composite; In Storage Tank (after addition of fuel to tank); and, As Delivered Sampling (in delivery truck or barge). [Applicant Request; and, Rule 62-213.440(1), F.A.C.]

#### **Other Requirements**

- A.56. NSPS Requirements.** These emissions units are subject to the performance and monitoring requirements of the New Source Performance Standards for Subparts A and D in 40 CFR 60. For completeness, the provisions of Subparts A and D are included in the Appendices of this permit. [Rule 62-204.800, F.A.C. and 40 CFR 60, Subpart D]

#### **40 CFR 63, Subpart UUUUU - National Emission Standards for Hazardous Air Pollutants: Coal- and Oil-Fired Electric Utility Steam Generating Units Requirements {also referred to as the “MATS Rule”}**

- A.57. Subpart UUUUU Requirements.** In addition to the emissions limits shown above, if either unit meets the definition of an oil-fired electric utility steam generating unit in Subpart UUUUU, the permittee shall for that unit also comply with the following emissions limits as applicable, and other Subpart UUUUU requirements within a 180-day period following that date to demonstrate compliance. The permittee must also meet all the applicable requirements of NESHAP 40 CFR 63, Subpart A – General Provisions which is included in Appendix NESHAP, Subpart A: General Provisions.
- a. Oil fired electric utility steam generating unit meeting the definition of limited-use liquid oil-fired subcategory are not subject to the emission standards, testing and reporting requirements for an Oil-fired electric utility steam generating unit. A “Limited-use liquid oil-fired subcategory” means an oil-fired electric utility steam generating unit with an annual capacity factor of less than 8 percent of its maximum or nameplate heat input, whichever is greater, averaged over a 24-month block contiguous period

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commencing April 16, 2015. If either unit meets the definition of limited-use it is subject to the following requirements:

- (1) Tune-Ups: Conduct a tune-up of the EGU burner and combustion controls at least each 36 calendar months, or each 48 calendar months if neural network combustion optimization software is employed, as specified in § 63.10021(e). [63.9991]
  - (2) Continuous Compliance: Conducting periodic performance tune-ups of your EGU(s), as specified in § 63.10021(e). [63.10021]
  - (3) Reports: Submit a Semi-Annual Compliance report according to 63.10031(b)
- b. Oil fired electric utility steam generating units are subject to the following emission standards:
- (1) *Filterable Particulate Matter (PM)*. Emissions of PM shall not exceed either 0.030 pound/million British thermal unit (lb/MMBtu) or 0.30 pound per megawatt-hour (lb/MWh). In lieu of the filterable PM emission limit, the permittee may select to meet a total HAP metals emission limit of either  $8.0 \times 10^{-4}$  lb/MMBtu or either  $8.0 \times 10^{-3}$  lb/MWh. Finally, in lieu of either filterable PM or total HAP metals emission limits the permittee may meet the following individual HAP metal emission limits:
    - Antimony (Sb) - 13 pounds per terra Btu (lb/TBtu) or 0.20 pounds per gigawatt hour (lb/GWh).
    - Arsenic (As) - 2.8 lb/TBtu or  $3.0 \times 10^{-2}$  lb/GWh.
    - Beryllium (Be) - 0.20 lb/TBtu or  $2.0 \times 10^{-3}$  lb/GWh.
    - Cadmium (Cd) - 0.30 lb/TBtu or  $2.0 \times 10^{-3}$  lb/GWh.
    - Chromium (Cr) - 5.5 lb/TBtu or  $6.0 \times 10^{-2}$  lb/GWh.
    - Cobalt (Co) - 21 lb/TBtu or 0.30 lb/GWh.
    - Lead (Pb) - 8.1 lb/TBtu or  $8.0 \times 10^{-2}$  lb/GWh.
    - Manganese (Mn) - 22 lb/TBtu or 0.30 lb/GWh.
    - Nickel (Ni) - 111 lb/TBtu or 1.1 lb/GWh.
    - Selenium (Se) - 3.3 lb/TBtu or  $4.0 \times 10^{-2}$  lb/GWh.
    - Mercury (Hg) - 0.20 lb/TBtu or  $2.0 \times 10^{-3}$  lb/GWh.
  - (2) *Hydrogen Chloride (HCl)*. Emissions of HCl shall not exceed either  $2.0 \times 10^{-3}$  lb/MMBtu or  $1.0 \times 10^{-2}$  lb/MWh. As an alternative to monitoring and testing, the owner/operator may demonstrate compliance with the HCL limit by retaining records of fuel moisture content indicating less than or equal to 1.0 percent by weight. Fuel analyses or supplier guarantee may satisfy this requirement.
  - (3) *Hydrogen Fluoride (HF)*. Emissions of HF shall not exceed either  $4.0 \times 10^{-4}$  lb/MMBtu or  $4.0 \times 10^{-3}$  lb/MWh. As an alternative to monitoring and testing, the owner/operator may demonstrate compliance with the HF limit by retaining records of fuel moisture content indicating less than or equal to 1.0 percent by weight. Fuel analyses or supplier guarantee may satisfy this requirement.

Compliance with the above emissions limits shall be demonstrated pursuant to one of the available options specified in 40 CFR 63, Subpart UUUUU (see attached Appendix NESHAP, Subpart UUUUU: Coal- and Oil-Fired Electric Utility Steam Generating Units). The permittee shall also comply with the recordkeeping and reporting requirements specified Subpart UUUUU, as applicable. [40 CFR 63.9991 and Table 2 to Subpart UUUUU.]

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**SECTION III. EMISSIONS UNITS AND SPECIFIC CONDITIONS.**

**Subsection B. Emissions Units 003, 004, 005 and 006**

The specific conditions in this section apply to the following emissions unit(s):

EU No.	Brief Description
003	CT with HRSG (CT 3A)
004	CT with HRSG (CT 3B)
005	CT with HRSG (CT 4A)
006	CT with HRSG (CT 4B)

All four CTs are identical General Electric (GE) Model MS7001FA CT-electrical generators. CTs 3A and 4A are paired with CTs 3B and 4B, respectively, in a pair of “two-on-one” arrangements. A common steam turbine electrical generator (STEG) is shared by each pair of CTs. Exhaust from each pair vents through an unfired HRSG to produce steam, which is vented through the STEG. NO<sub>x</sub> emissions are controlled by using dry low NO<sub>x</sub> (DLN) combustors for natural gas with steam injection for fuel oil firing. Steam injection is also used for power augmentation. Inlet foggers installed at the compressor inlet to each of the four CT units reduce the turbine inlet air temperature. The temperature reduction improves the heat rate and increases power due to the cooler/denser inlet air. Duct modules suitable for future installation of selective catalytic reduction (SCR) equipment have been installed on each combined cycle generating unit. CT 3A and CT 3B commenced commercial operation in February 1994. CT 4A and CT 4B commenced commercial operation in April 1994. For all CT, the stack parameters are: stack heights 213 feet; stack diameter 20 feet; flow rate 2,420,307 acfm at 280°F; and exit velocity 128.4 fps.

CAM is not applicable to these CT’s since DLN combustors when firing natural gas are not considered a pollution control device under 40 CFR 64. When firing distillate fuel oil, compliance with the emissions limits are determined using CEMS data, and therefore the requirements of CAM are not required.

*{Permitting Note: These emissions units are regulated under: 40 CFR 60, Subpart A, General Provisions, and Subpart GG, Standards of Performance for Stationary Gas Turbines, adopted by reference in Rule 62-204.800(8)(d) and (8)(b)42., F.A.C., respectively; Rule 62-212.400, Best Available Control Technology (BACT) limits for NO<sub>x</sub>, VOC, carbon monoxide (CO), PM and PM less than 10 microns in diameter (PM<sub>10</sub>), lead (Pb) and SO<sub>2</sub>; and Chapter 62-214, F.A.C., the Phase II Acid Rain Program as specified in Section IV of this Permit}*

*{Permitting Note: The following emissions, determined by BACT, are tabulated for informational purposes only (i.e., PSD and inventory use) in permit No. PSD-FL-146, Specific Condition No. 5}:*

Pollutant	Fuel	Maximum Allowable Emissions @40 °F	
		lb/hr/CT	TPY/CT <sup>a</sup>
Sulfuric Acid Mist (H <sub>2</sub> SO <sub>4</sub> ) <sup>b</sup>	Gas	11.2	70 (combined gas and oil total)
	Oil	113	
Mercury	Gas	0.021	0.34 (combined gas and oil total)
	Oil	0.0052	
Fluoride	Oil	0.055	0.055
Beryllium	Oil	0.004	0.004

- a. Tons per year (TPY) emission limits for natural gas and oil combined apply as an emissions cap based on limiting oil firing to an annual aggregate of 2,000 hours for the 4 CT units, with compliance to be demonstrated in annual operation reports.
- b. Sulfuric acid mist emissions assume a maximum of 0.5% sulfur content, by weight, in fuel oil for hourly emissions and an average sulfur content of 0.3%, by weight, for annual emissions.

## SECTION III. EMISSIONS UNITS AND SPECIFIC CONDITIONS.

### Subsection B. Emissions Units 003, 004, 005 and 006

*{Permitting Note: These units were originally permitted under PSD-FL-146 to fire both natural gas and oil. The equipment necessary to burn fuel oil was not installed prior to the construction expiration date of the PSD permit. If it is ever desired to fire oil in these units, a new source review applicability determination and related construction permit will be required to provide the authority to modify the units and to evaluate current applicable regulations at the time of the request. Conditions within this subsection that pertain to the firing of oil have been retained due to their establishment in the underlying PSD permit; however, they shall not apply unless or until a construction permit is issued that provides the authority to modify the units to accommodate oil firing.}*

#### **Essential Potential to Emit (PTE) Parameters**

**B.1. Permitted Capacity.** The maximum heat input to each CT shall neither exceed 1,966 MMBtu/hr while firing natural gas, nor 1,846 MMBtu/hr while firing fuel oil at 40 degrees Fahrenheit (°F). These heat input limitations are subject to change. Any changes shall be provided at least 90 days before commercial operation for each fuel available to the site which a unit is capable of firing, at which time this condition may be modified to reflect those parameters. Each combined cycle's fuel consumption shall be continuously determined and recorded. [Rules 62-4.160(2), 62-297.310(3) & 62-210.200(PTE), F.A.C.; and, Permit Nos. PSD-FL-146, PSD-FL-146A (0850001-002-AC & 0850001-003-AC issued 9/6/96) & 0850001-016-AC/PSD-FL-327B & 146C]

**B.2. Operation During Testing.** Testing of emissions shall be conducted with the emissions unit operating at permitted capacity. Permitted capacity is defined as 90 to 100 percent (%) of the maximum operation rate allowed by the permit. Permitted capacity and operating data may be adjusted for the appropriate site conditions in accordance with the performance curves and/or equations on file with the Department.

If it is impractical to test at permitted capacity, an emissions unit may be tested at less than the maximum permitted capacity; in this case, subsequent emissions unit operation is limited to 110 percent of the test rate until a new test is conducted. Once the unit is so limited, operation at higher capacities is allowed for no more than 15 consecutive days for the purpose of additional compliance testing to regain the authority to operate at the permitted capacity.

If tested at less than capacity, the entire heat input versus inlet temperature curves will be adjusted by the increment equal to the difference between the design heat input value and 110 percent of the value reached during the test. Data, curves, and calculations necessary to demonstrate the heat input rate correction at both design and test conditions shall be submitted to the Department with the compliance test report. (See the related testing provisions in Appendix TR, Facility-wide Testing Requirements.)

[Rules 62-297.310(3) & 62-210.200(PTE), F.A.C.; and, Permit Nos. PSD-FL-146, PSD-FL-146A (0850001-002-AC & 0850001-003-AC issued 9/6/96) & 0850001-016-AC/PSD-FL-327B & 146C]

#### **B.3. Methods of Operation.**

- a. *Fuels.* Only natural gas or No. 2 fuel oil shall be fired in the CT units.
- b. *Inlet Foggers.* Operation of the foggers on each unit shall not exceed a combined total of 3,663 hours per calendar year.
- c. *Power Augmentation.* The CTs may also be operated in power augmentation mode, which involves the introduction of steam into the combustion chamber turbine to generate additional direct, shaft-driven electrical power to respond to peak demands.

[Permit Nos. PSD-FL-146, Specific Condition No. 3, 0850001-016-AC/PSD-FL-327B & 146C & 0850001-041-AC/PSD-FL-146J & 327G]

**B.4. Hours of Operation.** Each of these CTs may operate continuously (8,760 hr/yr). [Rule 62-210.200(PTE), F.A.C.; and, Permit No. PSD-FL-146, Specific Condition 2.]

#### **Control Technology**

**SECTION III. EMISSIONS UNITS AND SPECIFIC CONDITIONS.**

**Subsection B. Emissions Units 003, 004, 005 and 006**

**B.5. NO<sub>x</sub>.** NO<sub>x</sub> emissions from each CT/HRSG unit shall be controlled by using DLN combustors for natural gas with steam injection for fuel oil firing. The permittee has installed duct modules suitable for future installation of SCR equipment on each combined cycle generating unit. [Permit No. PSD-FL-146, Specific Condition 9.]

**Emission Limitations and Standards**

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

**B.6.** The maximum allowable emissions from each CT, in accordance with the BACT determination, shall not exceed the following, at 40 degrees F, except during periods of startup and shutdown:

Pollutant	Fuel	Basis	Emission Limitations		Compliance Method
		Concentration	lb/hr/CT	TPY/CT <sup>a</sup> .	
NO <sub>x</sub>	Gas	25 ppmvd @ 15% O <sub>2</sub>	177	3,108	CEMS
	Oil	65 ppmvd @ 15% O <sub>2</sub>	461		
VOC <sup>b</sup> .	Gas	1.6 ppmvd	3	57	CO Compliance & Stack Test
	Oil	6 ppmvd	11.0		
CO	Gas	30 ppmvd	94.3	871	Stack Test
	Oil	33 ppmvd	105.8		
PM/PM <sub>10</sub>	Gas		18	100	N/A
	Oil		60.6		Stack Test
Pb	Gas		negligible	0.015	N/A
	Oil		0.015		
SO <sub>2</sub>	Gas		91.5	568	Fuel Specs.
	Oil <sup>c</sup> .		920		

- a. Tons per year (TPY) emission limits listed for natural gas and oil combined apply as an emissions cap based on limiting oil firing to an annual aggregate of 2,000 hours for the 4 CT units, with compliance to be demonstrated in annual operation reports.
- b. Exclusive of background concentrations.
- c. Sulfur dioxide emissions based on a maximum of 0.5 percent sulfur content, by weight, in oil for hourly emissions and an average sulfur content of 0.3 percent, by weight, for annual emissions.

[Rule 62-212.400(BACT), F.A.C.; and, Permit No. PSD-FL-146, Specific Condition No. 4.]

*{Permitting Note: Chapter 403.0872(13)(b) of the Florida Statutes states that, for emission units that are subject to continuous monitoring requirements under 40 CFR 75, compliance with NO<sub>x</sub> emission limits shall be demonstrated based on a 30-day rolling average, except as specifically provided by 40 CFR part 60 or part 76.}*

**B.7. NSPS NO<sub>x</sub> Emissions Limits.** The permittee shall not cause to be discharged into the atmosphere from any stationary gas turbine, any gases which contain NO<sub>x</sub> in excess of:

a.  $STD = 0.0075 \frac{(14.4)}{Y} + F$

Where:

STD = allowable ISO corrected (if required as given in 40 CFR 60.335(b)(1)) NO<sub>x</sub> emission concentration (percent by volume at 15% O<sub>2</sub> on a dry basis),

Y = manufacturer's rated heat rate at manufacturer's rated peak load (kilojoules per watt hour), or actual measured heat rate based on lower heating value of fuel as measured at actual peak load for the facility. The value of Y shall not exceed 14.4 kilojoules per watt hour, and

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F = Optional NO<sub>x</sub> emission allowance for fuel-bound nitrogen as defined in c.

- b. The use of F in the previous paragraph is optional. That is, the permittee may choose to apply a NO<sub>x</sub> allowance for fuel-bound nitrogen and determine the appropriate F-value in accordance with paragraph (a)(4) of this section or may accept an F-value of zero.
- c. If the permittee elects to apply a NO<sub>x</sub> emission allowance for fuel-bound nitrogen, F shall be defined according to the nitrogen content of the fuel during the most recent performance test required under 40 CFR 60.8 as follows:

<b>Fuel-bound nitrogen (percent by weight)</b>	<b>F (NO<sub>x</sub> percent by volume)</b>
N ≤ 0.015	0
0.015 < N ≤ 0.1	0.04 (N)
0.1 < N ≤ 0.25	0.004 + 0.0067 (N - 0.1)
N > 0.25	0.005

Where N = the nitrogen content of the fuel (percent by weight).

[40 CFR 60.332(a)(1), (3), (4) & (b)]

**B.8. NSPS SO<sub>2</sub> Emissions Limits.** The permittee shall comply with either of the following conditions:

- a. No permittee shall cause to be discharged into the atmosphere from any stationary gas turbine any gases which contain SO<sub>2</sub> in excess of 0.015% by volume at 15% O<sub>2</sub> and on a dry basis.
- b. No owner or operator subject to the provisions of this subpart shall burn in any stationary gas turbine any fuel which contains total sulfur in excess of 0.8 percent by weight (8000 ppmw).

[40 CFR 60.333]

**B.9. Visible Emissions.** As determined by opacity test, VE shall neither exceed 10% opacity while burning natural gas, nor 20% opacity while burning distillate oil. [Permit No. PSD-FL-146, Specific Condition No. 8.]

*{Permitting Note: These VE standards apply at all times except during periods of startup, shutdown or malfunction in accordance with Rule 62-210.700(1), F.A.C. (see Specific Condition B.10)}*

**Excess Emissions**

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

**B.10. Excess Emissions Allowed.** Except as provided in Specific Condition **B.12**, excess emissions resulting from startup, shutdown or malfunction of any emissions unit 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 the Department for longer duration. [Rule 62-210.700(1), F.A.C.]

**B.11. Excess Emissions Prohibited.** Excess emissions that are caused entirely or in part by poor maintenance, poor operation, or any other equipment or process failure that may reasonably be prevented during startup, shutdown or malfunction shall be prohibited. [Rule 62-210.700(1), F.A.C.]

**B.12. Excess Emissions Allowed.** As specified in this condition, excess emissions resulting from startup, shutdown, fuel switches, and documented malfunctions are allowed provided that operators employ the best operational practices to minimize the amount and duration of emissions during such incidents. For each gas turbine/HRSG system, excess emissions of NO<sub>x</sub> from startup, shutdown, or malfunction shall be excluded from the CEMS data in any 24-hour period for the following conditions (these conditions are considered separate events and each event may occur independently within any 24-hour period):

- a. *Steam Turbine Cold Startup.* For cold startup of the steam turbine system, excluded emissions from both gas turbine/HRSG systems in the 2-on-1 combined cycle system, combined, shall not exceed eight hours

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in any 24-hour period. A cold “startup of the steam turbine” is defined as startup of the 2-on-1 combined cycle system following a shutdown of the steam turbine lasting at least 48 hours.

*{Permitting Note: During a cold startup of the steam turbine, each gas turbine/HRSG system in the 2-on-1 combined cycle system is sequentially brought on line at low load to gradually increase the temperature within the steam-electrical turbine in order to prevent thermal metal fatigue. Note that shutdowns and documented malfunctions are separately regulated in accordance with the requirements of this condition.}*

- b. *Gas Turbine/HRSG System Cold Startup.* For cold startup of an individual gas turbine/HRSG system, excluded emissions shall not exceed four hours in any 24-hour period. “Cold startup of a gas turbine/HRSG system” is defined as a startup after the pressure in the high-pressure (HP) steam drum falls below 450 pounds per square inch gauge (psig) for at least a one-hour period.
- c. *Gas Turbine/HRSG System Warm Startup.* For warm startup of an individual gas turbine/HRSG system, excluded emissions shall not exceed two hours in any 24-hour (with the additional provision of a limit of 2 warm startup periods per 24 hours per gas turbine/HRSG system, in which case excluded emissions shall not exceed four hours total for the 2-on-1 combined cycle system). “Warm startup of a gas turbine/HRSG system” is defined as a startup after the pressure in the high-pressure (HP) steam drum is above 450 psig.
- d. *Gas Turbine/HRSG System Shutdown.* For shutdown of the gas turbine/HRSG operation, excluded emissions from any individual gas turbine/HRSG system shall not exceed two hours in any 24-hour period.
- e. *Shutdown Combined Cycle Operation.* For shutdown of the entire 2-on-1 combined cycle operation, excluded emissions from both gas turbine/HRSG systems, combined, shall not exceed three hours in any 24-hour period.
- f. *Fuel Switching.* For fuel switching, excluded emissions shall not exceed two hours in any 24-hour period for each fuel switch and no more than four hours in any 24-hour period for any gas turbine/HRSG system.
- g. *Documented Malfunction.* For each gas turbine/HRSG system, excess emissions of NO<sub>x</sub> resulting from documented malfunctions shall not exceed two hours in any 24-hour period. 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.

As authorized by Rule 62-210.700(4), F.A.C., the above conditions allow excess emissions only for specifically defined periods of startup, shutdown, and documented malfunction of the gas turbines.

[Rules 62-212.400(BACT Determination) & 62-210.700, F.A.C.; and, Permit No. 0850001-032-AC (PSD-FL-146H/PSD-FL-327F)]

**B.13. DLN Tuning/FSNL Testing.** CEMS data collected during initial or other major DLN tuning sessions and during manufacturer required Full Speed No Load (FSNL) trip tests 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 a combustor change-out, a major repair or maintenance to a combustor, or other similar circumstances. Prior to performing any major tuning session, the permittee shall provide the Compliance Authority with an advance notice of at least one working (business) day that details the activity and proposed tuning schedule. The notice may be by telephone, facsimile transmittal, or electronic mail. [Rules 62-4.160(2), 62-4.070(1) & (3), F.A.C.; and, Permit No. 0850001-032-AC/PSD-FL-146H & 327F]

**B.14. NSPS Excess NO<sub>x</sub> Emissions Identification.** For the purpose of demonstrating compliance with the NSPS NO<sub>x</sub> monitoring requirements in 40 CFR 60.334 (see Appendix NSPS Subpart GG), the permittee may use a CEMS that meets the requirements of 40 CFR 75 and is continuing to meet the ongoing requirements of 40 CFR 75, except that the missing data substitution methodology provided for at 40 CFR 75, Subpart D, is not required for purposes of identifying excess emissions. Instead, periods of missing CEMS data are to be

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reported as monitor downtime in the excess emissions and monitoring performance report required in 40 CFR 60.7(c) (see Appendix NSPS Subpart A). [40 CFR 60.334(b)(3)(iii)]

**B.15. NSPS Excess NO<sub>x</sub> Emissions Definition.** An hour of excess emissions shall be any unit operating hour in which the 4-hour rolling average NO<sub>x</sub> concentration exceeds the applicable emission limit in 40 CFR 60.332(a)(1) (see Specific Condition **B.7**). For the purposes of NSPS Subpart GG, a “4-hour rolling average NO<sub>x</sub> concentration” is the arithmetic average of the average NO<sub>x</sub> concentration measured by the CEMS for a given hour (corrected to 15% O<sub>2</sub> and, if required under 40 CFR 60.335(b)(1), to ISO standard conditions) and the three unit operating hour average NO<sub>x</sub> concentrations immediately preceding that unit operating hour. [40 CFR 60.334(j)(1)(iii)(A)]

**B.16. NSPS Monitor Downtime Definition.** For the purpose of complying with NSPS Subpart GG, a period of monitor downtime shall be any unit operating hour in which sufficient data are not obtained to validate the hour, for either NO<sub>x</sub> concentration or diluent (or both). [40 CFR 60.334(j)(1)(iii)(B)]

#### **Monitoring of Operations**

**B.17. Equipment Practices.** At all times, including periods of startup, shutdown and malfunction, owners and operators shall, to the extent practicable, maintain and operate any affected facility including associated pollution control equipment in a manner consistent with good air pollution control practice for minimizing emissions. Determination of whether acceptable operating and maintenance procedures are being used will be based on information available to the Administrator which may include, but is not limited to, monitoring results, opacity observations, review of operating and maintenance procedures, and inspection of the source. [Rule 62-204.800(8)(d), F.A.C.; and, 40 CFR 60.11(d)]

**B.18. Custom Fuel Monitoring Schedule for Natural Gas.** The Martin Power Plant facility requested approval for and was granted approval to utilize a customized fuel monitoring schedule for natural gas firing, pursuant to 40 CFR 60.334. The schedule is as follows:

- a. *Nitrogen Content.* Monitoring of fuel nitrogen content shall not be required if natural gas is the only fuel being fired in the gas turbines.
- b. *Sulfur Monitoring.*
  - (1) Analysis for fuel sulfur content of the natural gas shall be conducted using one of the approved ASTM reference methods for the measurement of sulfur in gaseous fuels, or an approved alternative method. The reference methods are ASTM D1072-80, ASTM D3246-81, ASTM D4468-85 and ASTM D6667-01, as referenced in 40 CFR 60.335(b)(10), and ASTM D4084-82 (if the total sulfur content of the gaseous fuel during the most recent performance test was less than 0.4 weight percent), or the latest edition(s).
  - (2) This custom fuel monitoring schedule shall become effective on the date this permit becomes valid. Effective the date of this custom schedule, sulfur monitoring shall be conducted twice monthly for six months. If this monitoring shows little variability in the fuel sulfur content, and indicates consistent compliance with 40 CFR 60.333, then sulfur monitoring shall be conducted once per quarter for six quarters. If monitoring data is provided by the applicant which demonstrates consistent compliance with the requirements herein the applicant may begin monitoring as per the requirements of 2(c).
  - (3) If after the monitoring required in item 2(b) above, or herein, the sulfur content of the fuel shows little variability and, calculated as sulfur dioxide, represents consistent compliance with the sulfur dioxide emission limits specified under 40 CFR 60.333, sample analysis shall be conducted twice per annum. This monitoring shall be conducted during the first and third quarters of each calendar year.
  - (4) Should any sulfur analysis as required in items 2(b) or 2(c) above indicate noncompliance with 40 CFR 60.333, the owner or operator shall notify the Department of such excess emissions and the custom schedule shall be re-examined by the Environmental Protection Agency. Sulfur monitoring shall be conducted weekly during the interim period when this custom schedule is being re-examined.

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### SECTION III. EMISSIONS UNITS AND SPECIFIC CONDITIONS.

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- c. *Change in Fuel Supply.* If there is a change in fuel supply, the owner or operator must notify the Department of such change for re-examination of this custom schedule. A substantial change in fuel quality shall be considered as a change in fuel supply. Sulfur monitoring shall be conducted weekly during the interim period when this custom schedule is being re-examined.
- d. *Fuel Records.* Records of sample analysis and fuel supply pertinent to this custom schedule shall be retained for a period of five years, and be available for inspection by personnel of federal, state, and local air pollution control agencies.

[40 CFR 60.334(h)(1), (i)(3) & 60.335(b)(10)(ii); Permit No. PSD-FL-146; and, NSPS Custom Fuel Monitoring Schedule dated 10/14/1997]

*{Permitting Note: Pursuant to 40 CFR 60.335(b)(11), the fuel analyses required by this Custom Fuel Monitoring Schedule may be performed by the permittee, a service contractor retained by the permittee, the fuel vendor or any other qualified agency.}*

**B.19. NSPS Natural Gas Sulfur Content Monitoring Exemption.** For the purposes of complying with monitoring provisions of NSPS Subpart GG, the permittee may elect not to monitor the total sulfur content of the natural gas combusted in each turbine, if the natural gas is demonstrated to meet the definition of natural gas in 40 CFR 60.331(u) (see Appendix NSPS Subpart GG), regardless of whether an existing custom schedule approved by the Department for NSPS Subpart GG requires such monitoring. The permittee shall use one of the following sources of information to make the required demonstration:

- (a) The gas quality characteristics in a current, valid purchase contract, tariff sheet or transportation contract for the gaseous fuel, specifying that the maximum total sulfur content of the fuel is 20.0 grains/100 scf or less; or
- (b) Representative fuel sampling data which show that the sulfur content of the gaseous fuel does not exceed 20 grains/100 scf. At a minimum, the amount of fuel sampling data specified in section 2.3.1.4 or 2.3.2.4 of Appendix D of 40 CFR 75 is required.

[40 CFR 60.334(h)(3)]

**B.20. Monitoring of Inlet Foggers.** The permittee shall monitor and record the hours of operation for the inlet foggers. [Permit No. 0850001-041-AC/PSD-FL-146J & 327G]

#### **Continuous Emissions Monitoring Requirements**

**B.21. System Requirements.** A continuous emissions monitoring system has been installed and shall be operated and maintained in accordance with 40 CFR 75 for each combined cycle unit to monitor nitrogen oxides.

- a. Each continuous emissions monitoring system (CEMS) shall meet performance specifications of 40 CFR 75, Appendices A, B, and F.
- b. CEMS data shall be recorded and reported in accordance with 40 CFR 75 and 40 CFR 60.7. The excess emissions report shall include periods of startup, shutdown, and malfunction and shall be based on NO<sub>x</sub> data corrected to 15 % O<sub>2</sub> and 40 degrees F.
- c. A malfunction means any sudden and unavoidable failure of air pollution equipment or process equipment to operate in a normal or usual manner. Failures that are caused entirely or in part by poor maintenance, careless operation or any other preventable upset condition or preventable equipment breakdown shall not be considered malfunctions.
- d. For purposes of reports required under this permit, excess emissions are defined as any calculated average emission concentration which exceeds the applicable emission limits in Specific Condition **B.6**.

[Permit No. PSD-FL-146, Specific Condition No. 13]

**B.22. Performance Specifications.** For the purposes of 40 CFR 60.13, all continuous monitoring systems required under applicable subparts shall be subject to the provisions of 40 CFR 60.13 upon promulgation of performance specifications for continuous monitoring systems under Appendix B of 40 CFR 60 and, if the continuous monitoring system is used to demonstrate compliance with emission limits on a continuous basis,

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Appendix F of 40 CFR 60, 40 CFR Part 75, or as specified by the Department. [40 CFR 60.13 and 40 CFR 60.334]

- B.23. CEMS Calibration.** Should the permittee elect not to follow 40 CFR Part 75 calibration procedures as permitted in Specific Conditions **B.21** and **B.22**, owners and operators of all CEMS installed in accordance with the provisions of this part shall check the zero (or low-level value between 0 and 20 percent of span value) and span (50 to 100% of span value) calibration drifts at least once daily in accordance with a written procedure. The zero and span shall, as a minimum, be adjusted whenever the 24-hour zero drift or 24-hour span drift exceeds two times the limits of the applicable performance specifications in Appendix B. The system must allow the amount of excess zero and span drift measured at the 24-hour interval checks to be recorded and quantified, whenever specified. [40 CFR 60.13(d)(1)]
- B.24. Frequency of Operation.** During each full unit operating hour, each CEMS must complete a minimum of one cycle of operation (sampling, analyzing and data recording) for each 15-minute quadrant of the hour, to validate the hour. For partial unit operating hours, at least one valid data point must be obtained for each quadrant of the hour in which the unit operates. For unit operating hours in which required quality assurance and maintenance activities are performed on the CEMS, a minimum of two valid data points (one in each of two quadrants) are required to validate the hour. [40 CFR 60.334(b)(2)]
- B.25. Representative Measurements.** All CMS or monitoring devices shall be installed such that representative measurements of emissions or process parameters from the affected facility are obtained. Additional procedures for location of continuous monitoring systems contained in the applicable Performance Specifications of Appendix B of 40 CFR 60 shall be used. [40 CFR 60.13(f)]
- B.26. Multiple Systems.** When the effluents from a single affected facility or two or more affected facilities subject to the same emission standards are combined before being released to the atmosphere, permittee may install applicable CMS on each effluent or on the combined effluent. When the affected facilities are not subject to the same emission standards, separate continuous monitoring systems shall be installed on each effluent. When the effluent from one affected facility is released to the atmosphere through more than one point, the permittee shall install an applicable continuous monitoring system on each separate effluent unless the installation of fewer systems is approved by the Department. When more than one continuous monitoring system is used to measure the emissions from one affected facility (e.g., multiple breechings, multiple outlets), the permittee shall report the results as required from each continuous monitoring system. [40 CFR 60.13(g)]
- B.27. Data Reduction.** For the purpose of complying with NSPS Subpart GG standards, the permittee shall reduce all CEMS data to 1-hour averages for time periods as defined in 40 CFR 60.2. One-hour averages shall be computed from four or more data points equally spaced over each 1-hour period. Data recorded during periods of continuous monitoring system breakdowns, repairs, calibration checks, and zero and span adjustments shall not be included in the data averages computed under this paragraph. An arithmetic or integrated average of all data may be used. The data may be recorded in reduced or non-reduced form (e.g., ppm pollutant and percent O<sub>2</sub> or ng/J of pollutant). All excess emissions shall be converted into units of the standard using the applicable conversion procedures specified in subparts. After conversion into units of the standard, the data may be rounded to the same number of significant digits as used in the applicable subparts to specify the emission limit (e.g., rounded to the nearest 1 percent opacity). [40 CFR 60.13(h)]

**Test Methods and Procedures**

- B.28. Test Methods.** When 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

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<b>Method</b>	<b>Description of Method and Comments</b>
3	Determination of Oxygen and Carbon Dioxide Concentrations in Emissions from Stationary Sources
5 or 17	Method for Determining Particulate Matter Emissions (All PM is assumed to be PM <sub>10</sub> .)
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 {Note: The method shall be based on a continuous sampling train.}
20	Determination of Nitrogen Oxides, Sulfur Dioxide and Diluent Emissions from Stationary Gas Turbines

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. The stack test for each turbine shall be performed within 10% of the maximum heat rate input for the tested operating temperature. See Specific Condition **B.2** for utilization of ambient temperature versus heat input curves during compliance testing. [Rule 62-204.800, F.A.C.; and, Permit No. 0850001-032-AC/PSD-FL-327B & 146C]

**B.29. Annual Compliance Tests Required.** Unless exempted by Chapter 62-297, F.A.C. or Specific Condition **B.30**, during each calendar year (January 1st to December 31st), each CT shall be tested to demonstrate compliance with the emissions standards for PM (only while firing oil), VE, CO and NO<sub>x</sub> for normal gas firing, gas firing with power augmentation and backup distillate oil firing. CO and NO<sub>x</sub> compliance tests shall be conducted concurrently. If conducted at permitted capacity, NO<sub>x</sub> emissions data collected during the annual NO<sub>x</sub> CEMS Relative Accuracy Test Audit (RATA), required pursuant to 40 CFR 75, may be substituted for the required annual compliance test. [Rule 62-297.310(8), F.A.C., and, Permit No. 0850001-016-AC/PSD-FL-327B & 146C, Specific Condition 10]

**B.30. Compliance Tests Not Required.**

- a. *Power Augmentation.* Annual compliance tests when operating in power augmentation mode are not required for any CT that operates in power augmentation mode for less than 400 hours in the previous calendar year.
- b. *Distillate Oil Firing.* Annual compliance tests when firing distillate oil are not required for any CT that fires distillate oil for less than 400 hours in the previous calendar year. CTs firing more than 400 hours on oil will also be required to demonstrate compliance with PM emissions standards.

[Rule 62-297.310(8); and, Permit No. 0850001-032-AC/PSD-FL-146H & 327F, Specific Condition 10]

**B.31. VOC Compliance Requirements.** Annual testing and testing prior to permit renewal are only required if the annual CO test indicates an exceedance of the CO emissions standards (see Specific Condition **B.6**). [Permit Nos. PSD-FL-146 & 0850001-032-AC/PSD-FL-146H & 327F, Specific Condition 10]

**B.32. Compliance Tests Prior To Renewal.** Unless specifically exempted per Florida Chapter 62-297, F.A.C. (see condition **TR7.b.(3)** in Appendix TR – Facility-wide Testing Requirements), prior to permit renewal, compliance tests shall be performed for the following pollutants: VE, CO, VOC (if the annual CO test indicates an exceedance of the CO standard), NO<sub>x</sub> (if substitution with the 40 CFR 75 RATA is not performed) and PM (if oil is fired). The permittee may submit the most recent compliance test to satisfy this requirement, provided such test occurred within the term of the current operating permit. [Rule 62-297.310(8)(b), F.A.C.; and, 0850001-032-AC/PSD-FL-146H & PSD-FL-327F]

**SECTION III. EMISSIONS UNITS AND SPECIFIC CONDITIONS.**

**Subsection B. Emissions Units 003, 004, 005 and 006**

- B.33. 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.34. Sulfur Content.** The owner or operator shall determine compliance with the sulfur content standard of 0.8 percent, by weight, by following all requirements of 40 CFR 60.335 (See Appendix NSPS Subpart GG). [40 CFR 60.335]
- B.35. Fuel Analysis.** To meet the requirements of 40 CFR 60.334, the owner or operator shall use the methods specified in 40 CFR 60.335 and the Custom Fuel Monitoring Schedule for Natural Gas (See Specific Condition **B.18**) to determine the nitrogen and sulfur content of the fuel being burned. The analysis may be performed by the owner or operator, a service contractor retained by the owner or operator, the fuel vendor, or any other qualified agency. [40 CFR 60.335]
- B.36. Distillate Oil Sulfur Content Testing.** The average sulfur content of the light distillate oil shall not exceed 0.3%, by weight, during any consecutive 12-month period. The maximum sulfur content of the light distillate fuel oil shall not exceed 0.5%, by weight. The 12-month average sulfur content shall be calculated as a weighted average based upon the sulfur content of the oil and the amount burned on a daily basis. Compliance shall be demonstrated in accordance with the requirements of 40 CFR 60.334 by testing for sulfur content, for nitrogen content, and for heating value of oil storage tanks once per day when firing oil using ASTM D 2880-96. [Rule 62-213.440, F.A.C.; applicant agreement with EPA on March 3, 1998; and PSD-FL-146, Specific Condition No. 11]

**Recordkeeping and Reporting Requirements**

- B.37. Reporting Schedule.** The following reports and notifications shall be submitted to the Compliance Authority:

<b>Report</b>	<b>Reporting Deadline</b>	<b>Related Condition(s)</b>
NSPS 40 CFR 60 Subpart GG Reports	Semiannually.	<b>B.41</b>
Inlet Fogger Operation Reporting	Annually	<b>B.44</b>

[Rule 62-213.440(1)(b), F.A.C.]

- B.38. Other Reporting Requirements.** See Appendix RR, Facility-Wide Reporting Requirements, for additional reporting requirements. [Rule 62-213.440(1)(b), F.A.C.]
- B.39. Fuel Oil Usage.** To determine compliance with the oil firing heat input limitation, the permittee shall maintain daily records of fuel oil consumption and hourly usage for each turbine and heating value for each fuel. All records shall be maintained for a minimum of five (5) years after the date of each record and shall be made available to representatives of the Department upon request. [Permit No. PSD-FL-146, Specific Condition No. 14]
- B.40. Annual Testing.** Fifteen days' notice before subsequent annual testing shall be provided to the Southeast District Office. Written reports of the tests shall be submitted to the Southeast District Office within 45 days of test completion. [Permit No. PSD-FL-146, Specific Condition No. 17]
- B.41. Semiannual Reports.** Semiannual excess emission reports, in accordance with 40 CFR 60.7 and 60.334, shall be submitted to the Compliance Authority. Annual reports shall be submitted to the Compliance Authority office in accordance with Condition **TR9**, in Appendix TR – Facility-wide Testing Requirements. Semiannual reports shall be postmarked by the 60<sup>th</sup> day following the end of each 6-month period. Each semiannual report shall include the following:

### SECTION III. EMISSIONS UNITS AND SPECIFIC CONDITIONS.

#### Subsection B. Emissions Units 003, 004, 005 and 006

- a. The magnitude of excess emissions computed in accordance with 40 CFR 60.13(h), any conversion factor(s) used, and the date and time of commencement and completion of each time period of excess emissions. The process operating time during the reporting period.
- b. Specific identification of each period of excess emissions that occurs during startups, shutdowns, and malfunctions of the affected facility. The nature and cause of any malfunction (if known), the corrective action taken or preventative measures adopted.
- c. The date and time identifying each period during which the continuous monitoring system was inoperative except for zero and span checks and the nature of the system repairs or adjustments.
- d. When no excess emissions have occurred or the continuous monitoring system(s) have not been inoperative, repaired, or adjusted, such information shall be stated in the report.
- e. Ambient conditions (temperature, pressure and humidity) at the time of the excess emission period. If the worst case ISO correction factor, as specified in 40 CFR 60.334(b)(3)(ii), is used; or, if the ISO correction equation under the provisions of 40 CFR 60.335(b)(1) is not used, the ambient conditions do not have to be reported.
- f. The nitrogen content of the fuel during the period of excess emissions (only if the permittee has claimed an emission allowance for fuel bound nitrogen).
- g. If applicable, a summary report form completed in accordance with Specific Condition **B.43**. [40 CFR 60.7(c), (d), 60.19(c) & 60.334(j)(1)(iii)(C); and, Permit Nos. PSD-FL-146, Specific Condition No. 19 & 0850001-041-AC/PSD-FL-146J & 327G]

**B.42. Records.** The owner or operator subject to the provisions of 40 CFR 60 shall maintain records of the occurrence and duration of any startup, shutdown, or malfunction in the operation of an affected facility; any malfunction of the air pollution control equipment; or, any periods during which a continuous monitoring system or monitoring device is inoperative. [40 CFR 60.7(b)]

**B.43. Summary Reports.** The summary report form shall contain the information and be in the format shown in Figure 1 (attached) unless otherwise specified by the Department. One summary report form shall be submitted for each pollutant monitored at each affected facility.

- a. If the total duration of excess emissions for the reporting period is less than 1 percent of the total operating time for the reporting period and CMS downtime for the reporting period is less than 5 percent of the total operating time for the reporting period, only the summary report form shall be submitted and the excess emission report described in 40 CFR 60.7 need not be submitted unless requested by the Department.
- b. If the total duration of excess emissions for the reporting period is 1 percent or greater of the total operating time for the reporting period or the total CMS downtime for the reporting period is 5 percent or greater of the total operating time for the reporting period, the summary report form and the excess emission report described in 40 CFR 60.7 shall both be submitted.

[40 CFR 60.7(d)]

*{Permitting Note: See Referenced Attachments for Figure 1: Summary Report-Gaseous and Opacity Excess Emission and Monitoring System Performance (40 CFR 60, July, 1996).}*

**B.44. Inlet Fogger Operation Reporting.** The total hours of inlet fogger operation for the foggers of these emissions units shall be summed and submitted to the Compliance and Permitting Authorities with the Annual Operation Report. [Permit No. 0850001-041-AC/PSD-FL-146J and 327G]

**B.45. Files.** The owner or operator subject to the provisions of 40 CFR 60 shall maintain a file of all measurements, including continuous monitoring system, monitoring device, and performance testing measurements; all continuous monitoring system performance evaluations; all continuous monitoring system or monitoring device calibration checks; adjustments and maintenance performed on these systems or devices; and, all other information required by 40 CFR 60 recorded in a permanent form suitable for inspection. The

**SECTION III. EMISSIONS UNITS AND SPECIFIC CONDITIONS.**

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**Subsection B. Emissions Units 003, 004, 005 and 006**

file shall be retained for at least 5 (five) years following the date of such measurements, maintenance, reports, and records. [40 CFR 60.7(f); and Rule 62-213.440, F.A.C.]

**Other Requirements**

**B.46. NSPS Requirements.** This unit shall comply with all applicable provisions of NSPS in 40 CFR 60 including Subpart A (General Provisions) and Subpart GG (Standards of Performance for Stationary Gas Turbines). See Appendix NSPS Subpart A and Appendix NSPS Subpart GG for provisions of NSPS Subparts A and GG, respectively. [Rule 62-204.800(8)(b)42. & (8)(d), F.A.C.; and, 40 CFR 60, Subparts A & GG]

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**SECTION III. EMISSIONS UNITS AND SPECIFIC CONDITIONS.**

**Subsection C. Emissions Unit 026**

**Subsection C. The specific conditions in this section apply to the following emissions units:**

<b>EU No.</b>	<b>Brief Description</b>
026	13.23 MMBtu/hr Auxiliary Boiler – New

This unit is a 13.23 MMBtu/hr Vapor Circulatic model VG-5907-SHK-350 auxiliary boiler used to produce steam to actuate the steam seals on the steam turbine components of the combined-cycle units (Emissions Units 003, 004, 005, and 006) during cold starts when steam is not otherwise available for this purpose. The 13.23 MMBtu/hr heat input rate is reflective of the auxiliary boiler (11.73MMBtu/hr) and the super heater (1.5MMBTU/hr) while firing natural gas. Initial startup of the auxiliary boiler was on September 7, 2017. Exhaust gas exits a 60 ft stack with a diameter of 3.6 ft at a flow rate of 30,536 acfm, an exit velocity of 50 fps and a temperature of 490°F.

Because the unit has no installed pollution control devices, the unit is not subject to compliance assurance monitoring (CAM).

*{Permitting Note: The emissions unit is regulated under NSPS – 40 CFR 60.40c, Subpart Dc, Standards of Performance for Small Industrial-Commercial-Institutional Steam Generating Units; adopted and incorporated by reference in Rule 62-204.800(8), F.A.C. (Although subject to regulation pursuant to Subpart Dc, no emissions limiting standards apply due to the firing of only natural gas and to being less than 30 MMBtu/hr in size); Rule 62-296.406, F.A.C., Fossil Fuel Steam Generators with Less Than 250 Million Btu Per Hour Heat Input, Air Construction Permit No. 0850001-039-AC; and, 40 CFR Part 63 Subpart DDDDD, NESHAP for Industrial, Commercial, and Institutional Boilers and Process Heaters, adopted and incorporated by reference in Rule 62-204.800(11)(b)86., F.A.C.}*

**Essential Potential to Emit (PTE) Parameters**

- C.1. Design Capacity.** The design heat input to the Auxiliary Boiler is 13.23 MMBtu/hour heat input rate. This capacity is reflective of both the auxiliary boiler (11.73 MMBtu/hr) and the super heater (1.5 MMBtu/hr) while firing natural gas, both of which are operated when more steam is required during cold starts of the combined-cycle units when steam is not otherwise available. [Rule 62-210.200(PTE), F.A.C.; and, Permit No. 0850001-039-AC]
- C.2. Authorized Fuel.** The auxiliary steam boiler shall only be fired with natural gas. The firing of natural gas is considered the best available control technology (BACT) for reducing emissions of particulate matter (PM) and sulfur dioxide (SO<sub>2</sub>). [Permit No. 0850001-039-AC]
- C.3. Restricted Operation.** The auxiliary boiler shall operate only during startup and shutdown of the combined-cycle units, and for periodic maintenance testing. [Permit No. 0850001-039-AC]

**Emission Limitations and Standards**

Unless otherwise specified, the averaging time for Specific Condition **C.4** is based on the specified averaging time of the applicable test method.

- C.4. Visible Emissions.** Visible emissions shall not exceed 20 percent opacity except for one six-minute period per one-hour period during which opacity shall not exceed 27 percent. [Rule 62-296.406(1), F.A.C.]
- C.5. Emissions Minimizing Practices.** The permittee must operate this unit, including associated air pollution control equipment and monitoring equipment, in a manner consistent with safety and good air pollution control practices for minimizing emissions. Determination of whether such operation and maintenance procedures are being used will be based on information available to the Department that may include, but is not limited to, monitoring results, review of operation and maintenance procedures, review of operation and maintenance records, and inspection of the source. [Rule 62-204.800(11)(b)86., F.A.C. & 40 CFR 63.7500(a)(3)]

**SECTION III. EMISSIONS UNITS AND SPECIFIC CONDITIONS.**

**Subsection C. Emissions Unit 026**

**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.6. Excess Emissions Allowed.** Excess emissions resulting from startup, shutdown or malfunction of any emissions unit 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 the Department for longer duration. [Rule 62-210.700(1), F.A.C.]

**C.7. 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(1), F.A.C.]

**Test Methods and Procedures**

**C.8. 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. [Rule 62-204.800, F.A.C.; and, Permit No. 0850001-039-AC]

**C.9. 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.10. Annual Compliance Tests.** During each calendar year (January 1<sup>st</sup> to December 31<sup>st</sup>), the emissions unit shall be tested to demonstrate compliance with the emissions standards for VE. An annual VE test shall not be required for any emissions unit that operates for 400 hours or less (including during startup and shutdown) during the calendar year. If an emission unit operates for more than 400 hours during the calendar year, an emissions test shall be completed no later than 60 days after the emissions unit’s annual operation exceeds 400 hours, or by the end of the calendar year, whichever is later. [Rule 62-297.310(8)(a)1., 3. & 5.d., F.A.C.; and, Permit No. 0850001-039-AC]

**C.11. Compliance Test Duration.** Because this emissions unit is subject to multiple-valued opacity standard, the required minimum period of observation for a VE test shall be 60 minutes. [Rule 62-297.310(5)(b), F.A.C.]

**C.12. Annual Tune Up.** The permittee must conduct an annual tune-up of the boiler or process heater to demonstrate continuous compliance as specified in the following paragraphs. If this unit is not operating on the required date for a tune-up, the tune-up must be conducted within 30 calendar days of startup. Each annual tune-up must be no more than 13 months after the previous tune-up.

- a. As applicable, inspect the burner, and clean or replace any components of the burner as necessary (the permittee may perform the burner inspection any time prior to the tune-up or delay the burner inspection until the next scheduled unit shutdown). If entry into a piece of process equipment or into a storage vessel is required to complete the tune-up inspections, inspections are required only during planned entries into the storage vessel or process equipment;
- b. Inspect the flame pattern, as applicable, and adjust the burner as necessary to optimize the flame pattern. The adjustment should be consistent with the manufacturer’s specifications, if available;
- c. Inspect the system controlling the air-to-fuel ratio, as applicable, and ensure that it is correctly calibrated and functioning properly (the permittee may delay the inspection until the next scheduled unit shutdown);

**SECTION III. EMISSIONS UNITS AND SPECIFIC CONDITIONS.**

**Subsection C. Emissions Unit 026**

- d. Optimize total emissions of CO. This optimization should be consistent with the manufacturer’s specifications, if available, and with any NO<sub>x</sub> requirement to which the unit is subject;
- e. Measure the concentrations in the effluent stream of CO in parts per million, by volume, and oxygen in volume percent, before and after the adjustments are made (measurements may be either on a dry or wet basis, as long as it is the same basis before and after the adjustments are made). Measurements may be taken using a portable CO analyzer; and
- f. Maintain on-site and submit, if requested by the Department, a report containing the information in the following paragraphs:
  - (1) The concentrations of CO in the effluent stream in parts per million by volume, and oxygen in volume percent, measured at high fire or typical operating load, before and after the tune-up of the boiler or process heater; and
  - (2) A description of any corrective actions taken as a part of the tune-up.

[Rule 62-204.800(11)(b)86., F.A.C.; and, 40 CFR 63.7515(d), 63.7540(a)(10) & (a)(13)]

**Recordkeeping and Reporting Requirements**

**C.13. Reporting Schedule.** The following reports and notifications shall be submitted to the Compliance Authority:

<b>Report</b>	<b>Reporting Deadline</b>	<b>Related Condition(s)</b>
Annual Tune Up	Annual	<b>C.17</b>

[Rule 62-213.440(1)(b), F.A.C.]

**C.14. Other Reporting Requirements.** See Appendix RR, Facility-Wide Reporting Requirements, for additional reporting requirements. [Rule 62-213.440(1)(b), F.A.C.]

- C.15. Tune Up Report.** The permittee is required to submit an annual compliance report with the following information:
- a. Company and facility name and address.
  - b. Process unit information, emissions limitations and operating parameter limitations.
  - c. Date of report and beginning and end dates of the reporting period.
  - d. Include the date of the most recent tune-up for each unit subject to only the requirement to conduct an annual tune up according Specific Condition **C.12**. Include the date of the most recent burner inspection if it was not done annually and was delayed until the next scheduled or unscheduled unit shutdown.
  - e. Statement by a responsible official with that official’s name, title, and signature, certifying the truth, accuracy, and completeness of the content of the report.

[Rule 62-204.800(11)(b)86., F.A.C.; and, 40 CFR 63.7550(c)(1) & (c)(5)]

**C.16. NESHAP Subpart DDDDD Recordkeeping.** The permittee must keep records according to the following paragraphs:

- a. A copy of each notification and report submitted to comply with NESHAP Subpart DDDDD, including all documentation supporting any Initial Notification or Notification of Compliance Status or semiannual compliance report that you submitted, according to the requirements in 40 CFR 63.10(b)(2)(xiv) (see Appendix NESHAP Subpart A).
- b. Records of performance tests, fuel analyses, or other compliance demonstrations and performance evaluations as required in 40 CFR 63.10(b)(2)(viii) (see Appendix NESHAP Subpart A).

[Rule 62-204.800(11)(b)86., F.A.C.; and, 40 CFR 63.7555(a)(1) & (2)]

## SECTION III. EMISSIONS UNITS AND SPECIFIC CONDITIONS.

### Subsection C. Emissions Unit 026

**C.17. Fuel Usage Recordkeeping.** The permittee shall record and maintain records of the amount of natural gas combusted during each calendar month by this unit using the hours of operation each month, the maximum heat input rate of 13.23 MMBtu/hr and the most recent natural gas heating value data from the vendor. [40 CFR 60.48c(g)(2) & Permit No. 0850001-041-AC/PSD-FL-146J & 327G]

**C.18. NSPS Subpart Dc Recordkeeping.** The permittee shall comply with the following recordkeeping provisions:

- a. If all steam generating units in the facility (including steam generating units not subject to 40 CFR 60, Subpart Dc) combust natural gas and distillate oil meeting the most current requirements of 40 CFR 60.42c to use fuel certification to demonstrate compliance with the SO<sub>2</sub> standard may elect to record and maintain records of the total amount of each steam generating unit fuel delivered to the facility property during each calendar month.
- b. All records required under this specific condition shall be maintained by the owner or operator of the affected facility for a period of 5 years following the date of such records.

[Rules 62-204.800(8)(b)4., F.A.C. & 62-213.205(1)(e); and, 40 CFR 60.48c(g)(3) & (i)]

*{Permitting Note: Use of the recordkeeping options in 40 CFR 60.42c(g)(3) (see paragraph b. and Appendix NSPS, Subpart Dc) is predicated on all steam generating units (e.g., Units 1, 2 and the auxiliary boiler) burning fuel that is compliant with SO<sub>2</sub> standards in NSPS Subpart Dc. Oil burned by Units 1 and 2 is limited to sulfur content of 0.7% by weight or less. This oil is not guaranteed to demonstrate compliance with the NSPS Subpart Dc standard of 0.5% sulfur by weight or less, unless certification from the fuel supplier (see 40 CFR 60.42c(h) states otherwise. The recordkeeping options in 40 CFR 60.42c(g)(3) may also be used if every steam generating unit in the facility is only burning natural gas.}*

#### **Other Requirements**

**C.19. NSPS Requirements.** This unit shall comply with all applicable provisions of NSPS in 40 CFR 60 including Subpart A (General Provisions) and Subpart Dc (Standards of Performance for Small Industrial-Commercial-Institutional Steam Generating Units). See Appendix NSPS Subpart A and Appendix NSPS Subpart Dc for provisions of NSPS Subparts A and Dc, respectively. [Rule 62-204.800(8)(b)4. & (8)(d), F.A.C.; and, 40 CFR 60, Subparts A & Dc]

**C.20. NESHAP Requirements.** This unit shall comply with all applicable provisions of NESHAP in 40 CFR 63 including Subpart A (General Provisions) and Subpart DDDDD (NESHAP for Major Sources: Industrial, Commercial, and Institutional Boilers and Process Heaters). See Appendix NESHAP Subpart A and Appendix NESHAP Subpart DDDDD for provisions of NESHAP Subparts A and DDDDD, respectively. [Rule 62-204.800(11)(b)86. & (11)(d)1., F.A.C.; and, 40 CFR 63, Subparts A & DDDDD]

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### SECTION III. EMISSIONS UNITS AND SPECIFIC CONDITIONS.

#### Subsection D. Emissions Units 011, 012, 017, 018

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

EU No.	Brief Description
011	170 MW Gas Turbine with Gas Fired HRSG (CT 8A)
012	170 MW Gas Turbine with Gas Fired HRSG (CT 8B)
017	170 MW Gas Turbine with Gas Fired HRSG (CT 8C)
018	170 MW Gas Turbine with Gas Fired HRSG (CT 8D)

Each CT (8A, 8B, 8C and 8D) consists of a nominal 207.4 MW General Electric Model PG7241(FA) gas turbine-electrical generator set, an automated gas turbine control system, an inlet air filtration system, an evaporative inlet air cooling system, and associated support equipment. Each CT is coupled with a HRSG equipped with a 495 MMBtu/hr natural gas fired duct burner. Steam from each HRSG is delivered to the single steam turbine driven electrical generator that serves all four CT/HRSG systems, which has a nominal capacity of 470 MW. The total nominal generating capacity of the (one “4-on-1” set) combined cycle unit is 1,300.4 MW. The stack parameters for each CT/HRSG are: 120 feet in height; 19 feet in diameter; exhaust flow rates of 1,004,200 acfm for natural gas firing and 1,193,900 acfm for oil firing; and gas exit temperatures of 202°F (gas) and 295°F (oil). At a compressor inlet air temperature of 59°F, the heat input rate to each CT based on lower heating value (LHV) is approximately 1,884 MMBtu/hr (gas) and 1,885 MMBtu/hour (oil).

The CTs use natural gas as the primary fuel and distillate oil as a restricted alternate fuel. The efficient combustion of natural gas at high temperatures minimizes emissions of CO, PM/PM<sub>10</sub>, SAM, SO<sub>2</sub>, and VOC. NO<sub>x</sub> emissions are reduced by Dry Low-NO<sub>x</sub> (DLN) combustion technology. A selective catalytic reduction (SCR) system combined with DLN combustion technology further reduces NO<sub>x</sub> emissions during combined cycle mode. Each CT is equipped with CEMS to measure and record CO and NO<sub>x</sub> emissions as well as flue gas O<sub>2</sub> or CO<sub>2</sub> content. CAM does not apply since these emissions units have NO<sub>x</sub> CEMS which are used to demonstrate continuous compliance.

Emissions Units 8A and 8B commenced commercial simple cycle operation in November 2001. In a permitting action issued on 2003, these two existing units in addition to two new units conformed the (one “4-on-1” set) combined cycle combustion system (Units 8A, 8B, 8C and 8D) that commenced commercial operation on June 30, 2005.

*{Permitting Note: These emissions units are regulated under: 40 CFR 60, Subpart A, General Provisions, and Subpart KKKK, Standards of Performance for Stationary Combustion Turbines, adopted by reference in Rules 62-204.800(8)(d) and (8)(b)84., F.A.C., respectively; 40 CFR 63, Subpart A, General Provisions, and Subpart YYYY, NESHAP for Stationary Combustion Turbines, adopted by reference in Rule 62-204.800(11)(d)1. and (11)(b)81., F.A.C., respectively; Rule 62-212.400, F.A.C., BACT for CO, NO<sub>x</sub>, PM/PM<sub>10</sub>, SO<sub>2</sub>, SAM and VOC under Permit No. 0850001-010-AC/PSD-FL-327, which was issued on 4/16/2003 and modified on 7/7/2005, and superseded Permit No. PSD-FL-286; and, Chapter 62-214, F.A.C., the Phase II Acid Rain Program as specified in Section IV of this Permit.*

*On March 5, 2004, EPA promulgated 40 CFR 63, Subpart YYYY – National Emission Standards for Hazardous Air Pollutants for Stationary Combustion Turbines built after January 14, 2003. Unit 8 was under contractual obligations before this date and is therefore an existing unit. Currently, ‘existing combustion turbines’ are not required to meet the emission limitations, notifications, reporting or any other requirements of 40 CFR 63, Subpart YYYY or 40 CFR 63, Subpart A, pursuant to 40 CFR 63.6090(b)(4). EPA may at a future date promulgate standards for existing units.}*

#### **Essential Potential to Emit (PTE) Parameters**

**D.1. Permitted Capacity – Gas Turbines.** The maximum heat input rate to each gas turbine is 1,884 MMBtu/hr when firing natural gas and 1,885 MMBtu per hour when firing distillate oil (based on a compressor inlet air

## SECTION III. EMISSIONS UNITS AND SPECIFIC CONDITIONS.

### Subsection D. Emissions Units 011, 012, 017, 018

temperature of 59°F, the 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 manufacturer's performance curves (or equations) that correct for site conditions to the Permitting and Compliance Authorities within 75 days of completing testing, maintenance or tuning sessions. Operating data may be adjusted for the appropriate site conditions in accordance with the performance curves and/or equations on file with the Department. [Permit Nos. 0850001-010-AC/PSD-FL-327 & 0850001-041-AC/PSD-FL-146J & 327G]

- D.2. Permitted Capacity – HRSG Duct Burners.** The total maximum heat input rate to the duct burners for each HRSG is 495 MMBtu/hr based on LHV of natural gas. Only natural gas shall be fired in the duct burners. [Permit No. 0850001-010-AC/PSD-FL-327]
- D.3. Methods of Operation.** Subject to the restrictions and requirements of this permit, the gas turbines may operate under the following methods of operation.
- Hours of Operation.** Subject to the operational restrictions of this permit, the gas turbines may operate throughout the year (8,760 hours per year). Restrictions on individual methods of operation are specified below.
  - Authorized Fuels.** Each gas turbine shall fire natural gas as the primary fuel, which shall contain no more than 2.0 grains of sulfur per 100 standard cubic feet of natural gas. As a restricted alternate fuel, each gas turbine may fire No. 2 distillate oil (or a superior grade) containing no more than 0.05% sulfur by weight. Each gas turbine shall fire no more than 500 hours of distillate oil during any consecutive 12 months.
  - Combined Cycle Operation.** Each gas turbine/HRSG system may operate to produce direct, shaft-driven electrical power and steam-generated electrical power from the steam turbine-electrical generator as a four-on-one combined cycle unit subject to the restrictions of this permit. In accordance with the specifications of the SCR and HRSG manufacturers, the SCR system shall be on line and functioning properly during combined cycle operation or when the HRSG is producing steam.
  - Inlet Fogging.** In accordance with the manufacturer's recommendations and appropriate ambient conditions, the evaporative cooling system may be operated to reduce the compressor inlet air temperature and provide additional direct, shaft-driven electrical power. This method of operation is commonly referred to as "fogging" and may be used in or combined cycle mode.
  - Peaking.** When firing natural gas, each gas turbine may operate in a high-temperature peaking mode to generate additional direct, shaft-driven electrical power to respond to peak demands. During any consecutive 12 months, each gas turbine shall operate while in the peaking mode for *no more than 400 hours of combined cycle operation.*
  - Power Augmentation.** When firing natural gas in combined cycle mode, steam may be injected into each gas turbine to generate additional direct, shaft-driven electrical power to respond to peak demands. To qualify as "power augmentation", the CT must operate at a load of 95% or greater than that of the manufacturer's maximum base load rate adjusted for the compressor inlet air conditions. Prior to activating and after deactivating the power augmentation mode, the operator shall log the date, time, and new mode of operation. The gas turbines shall not operate simultaneously in peaking and power augmentation modes. Total combined operation of power augmentation and peaking modes shall not exceed 400 hours per unit during any consecutive 12 months.
  - Combined Cycle Operation with HRSG Duct Firing.** When firing natural gas and operating in combined cycle mode, each HRSG system may fire natural gas in the duct burners to provide additional steam-generated electrical power. The total combined heat input rate to the duct burners (all four HRSG units) shall not exceed 5,702,400 MMBtu (LHV) during any consecutive 12 months.  
[Permit No. 0850001-010-AC/PSD-FL-327]

#### **Equipment and Control Technology**

- D.4. Gas Turbines.** The permittee is authorized to tune, operate and maintain the four General Electric model PG7241FA CT. Each CT shall include a modern automated gas turbine control system and have dual-fuel

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capability. Ancillary equipment includes an inlet air filtration system and an evaporative inlet air-cooling system. The gas turbines utilize DLN combustors. Electric fuel heaters preheat the natural gas during startup to combined cycle operation. For full combined cycle operation, feedwater heat exchangers preheat the natural gas. [Permit No. 0850001-010-AC/PSD-FL-327]

**D.5. Gas Turbine NO<sub>x</sub> Controls.**

- a. *DLN Combustion.* The permittee shall operate and maintain the General Electric DLN 2.6 combustion system (or better) to control NO<sub>x</sub> emissions from each gas turbine when firing natural gas. Each system shall be maintained and tuned in accordance with the manufacturer’s recommendations.
- b. *Water Injection.* The permittee shall install, operate, and maintain a water injection system to reduce NO<sub>x</sub> emissions from each gas turbine when firing distillate oil. Thereafter, each system shall be maintained and tuned in accordance with the manufacturer’s recommendations.
- c. *SCR System.* The permittee shall tune, operate, and maintain an SCR system to control NO<sub>x</sub> emissions from each gas turbine during combined cycle operation when firing either natural gas or distillate oil. The SCR system consists of an ammonia injection grid, catalyst, ammonia storage, monitoring and control system, electrical, piping and other ancillary equipment. The SCR system shall be designed and operated to achieve the permitted levels for NO<sub>x</sub> emissions and ammonia slip. {Note: In accordance with 40 CFR 68.130, the storage of ammonia shall comply with all applicable requirements of the Chemical Accident Prevention Provisions in 40 CFR 68 (see Facility-Wide Condition FW8).}

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**D.6. Heat Recovery Steam Generators (HRSG).** The permittee is authorized to operate and maintain four HRSG with separate HRSG exhaust stacks. Each HRSG shall be designed to recover heat energy from one of the four gas turbines (8A-8D) and deliver steam to the steam turbine electrical generator through a common manifold. Each HRSG may be equipped with supplemental gas-fired duct burners having a maximum heat input rate of 495 MMBtu/hr (LHV). The duct burners shall be designed in accordance with the following specifications: 0.04 lb CO/MMBtu and 0.08 lb NO<sub>x</sub>/MMBtu. {Note: The four HRSG units deliver steam to a single steam turbine-electrical generator with a generating capacity of 470 MW.} [Permit No. 0850001-010-AC/PSD-FL-327]

**Emissions Limitations and Standards**

Unless otherwise specified, the averaging times for the limitations contained in Specific Conditions **D.7** are based on the specified averaging time of the applicable test method.

**D.7. Emissions Standards.** Emissions from each gas turbine shall not exceed the following standards.

Pollutant	Fuel	Method of Operation	Stack Test, 3-Run Average		CEMS Block Average
			ppmvd @ 15% O <sub>2</sub>	lb/hour	ppmvd @ 15% O <sub>2</sub>
CO <sup>a</sup>	Oil	Combined Cycle	14.4	64.7	15.0, 24-hr
	Gas	Combined Cycle, Normal	7.4	27.5	10.0, 24-hr
		Combined Cycle, All Modes	NA	NA	
NO <sub>x</sub> <sup>b</sup>	Oil	Combined Cycle w/SCR	10.0	76.0	10.0, 24-hr
	Gas	Combined Cycle w/SCR, Normal	2.5	16.3	2.5, 24-hr
		Combined Cycle w/SCR and DB	2.5	23.6	

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		Combined Cycle w/SCR, All Modes	NA	NA	
<b>PM/PM<sub>10</sub><sup>c</sup></b>	Oil/Gas	Combined Cycle	Fuel Specifications		
		Combined Cycle	Visible emissions shall not exceed 10% opacity for each 6-minute block average.		
<b>SAM/SO<sub>2</sub><sup>d</sup></b>	Oil/Gas	Combined Cycle	Fuel Specifications		
<b>VOC<sup>e</sup></b>	Oil	Combined Cycle	2.5	6.0	NA
	Gas	Normal Combined Cycle	1.3	2.8	NA
		Combined Cycle, w/DB and/or PA	4.0	10.5	NA
<b>Ammonia<sup>f</sup></b>	Oil/Gas	Combined Cycle w/SCR	5	NA	NA

- a. Compliance with the CO standards shall either be demonstrated by stack tests using EPA Method 10 or based on data collected by the optional CEMS. If a CEMS is used, compliance with the 24-hour CO CEMS standards shall be determined separately for each method of operation based on the hours of operation for each method. *{Permitting Note: A 24-hour compliance average may be based on as little as 1-hour of CEMS data or as much as 24-hours of CEMS data.}*
- b. Compliance with the NO<sub>x</sub> standards shall be demonstrated based on data collected by the required CEMS. Compliance may also be determined by EPA Method 7E or 20. NO<sub>x</sub> mass emission rates are defined as oxides of nitrogen expressed as NO<sub>2</sub>. *{Permitting Note: A 24-hour compliance average may be based on as little as 1-hour of CEMS data or as much as 24-hours of CEMS data.}*
- c. The fuel specifications established in Specific Condition **D.3** of this section, combined with the efficient combustion design and operation of each gas turbine represents the Best Available Control Technology (BACT) determination for PM/PM<sub>10</sub> emissions. Compliance with the fuel specifications, CO standards, and visible emissions standards shall serve as indicators of good combustion. Compliance with the fuel specifications shall be demonstrated by keeping records of the fuel sulfur content. Compliance with the visible emissions standard shall be demonstrated by conducting tests in accordance with EPA Method 9. *{Permitting Note: PM<sub>10</sub> emissions for gas firing are estimated at 11 lb/hour for combined cycle operation and 17 lb/hour for combined cycle operation with duct burning. PM<sub>10</sub> emissions for oil firing are estimated at 37 lb/hour for combined cycle operation.}*
- d. The fuel sulfur specifications in Specific Condition **D.3** of this section effectively limit the potential emissions of SAM and SO<sub>2</sub> from the gas turbines and represent the Best Available Control Technology (BACT) determination for these pollutants. Compliance with the fuel sulfur specifications shall be determined by the requirements in Specific Condition **D.34**. *{Permitting Note: SO<sub>2</sub> emissions for gas firing are estimated at 9.8 lb/hour for combined cycle operation and 12.8 lb/hour for combined cycle operation with duct burning. SO<sub>2</sub> emissions for oil firing are estimated at 99 lb/hour for combined cycle operation. SAM emissions are estimated to be less than 10% of the SO<sub>2</sub> emissions.}*
- e. Compliance with the VOC standards shall be demonstrated by conducting tests in accordance with EPA Method 25A. Optionally, EPA Method 18 may also be performed to deduct emissions of methane and ethane. The emission standards are based on VOC measured as methane.
- f. Subject to the requirements of Specific Condition **D.30**. of this section, each SCR system shall be designed and operated for an ammonia slip target of less than 5 ppmvd corrected to 15% oxygen based on the average of three test runs. Compliance with the ammonia slip standard shall be demonstrated by conducting tests in accordance with EPA Method CTC-027.

*{Permitting Notes: “DB” means duct burning. “PA” means power augmentation. “SCR” means selective catalytic reduction. “NA” means not applicable. The mass emission rate standards are based on a turbine*

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*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. These emissions units have not to date been operated in the high power modes (HPM) of peaking or power augmentation; therefore, a compliance plan is included to cover initial testing requirements for these HPM for emissions of CO and NO<sub>x</sub>. See Appendix CP* [Rule 62-212.400(BACT), F.A.C.; and, Permit Nos. 0850001-010-AC/ PSD-FL-327 & 0850001-041-AC/PSD-FL-146J & 327G]

- D.8. NO<sub>x</sub> Emissions Limits – NSPS Subpart KKKK.** The concentration of NO<sub>x</sub> in the exhaust gas of each CT shall not exceed the following limits, based on a 30-unit operating day rolling average (as described in Specific Condition **D.17**, paragraph **a**):
- Natural Gas.* 15 ppm at 15% O<sub>2</sub> or 54 nanograms per Joule (ng/J) of useful output (0.43 pounds per megawatt-hour (lb/MWh)) while operating at 75% of peak load or greater.
  - Fuel Oil.* 42 ppm at 15% O<sub>2</sub> or 160 ng/J of useful output (1.3 lb/MWh) while operating at 75% of peak load or greater.
  - Low Load Operation.* 96 ppm at 15% O<sub>2</sub> or 590 ng/J of useful output (4.7 lb/MWh) while operating at less than 75% of peak load.
  - Multiple Fuels.* If the total heat input to each CT is greater than or equal to 50% natural gas, the corresponding limit for a natural-gas fired turbine must be met when burning that fuel. Similarly, when the total heat input to each CT is greater than 50% distillate oil, the corresponding limit for distillate oil must be met for the duration of the time that distillate oil is burned.
  - Independent HRSGs.* Each HRSG must meet a limit of 54 ppm at 15% O<sub>2</sub> or 110 ng/J of useful output (0.86 lb/MWh) while the duct burners are operating independent of the CT. [40 CFR 60.4320(a), 60.4325 & 60.4350(h)]
- D.9. SO<sub>2</sub> Emissions Limits – NSPS Subpart KKKK.** The permittee must not burn in each CT any fuel which contains total potential sulfur emissions in excess of 26 ng SO<sub>2</sub>/J (0.060 lb SO<sub>2</sub>/MMBtu) heat input. If the CT simultaneously fires multiple fuels, each fuel must meet this requirement. [Rule 62-204.800(8)(b)82., F.A.C.; and, 40 CFR 60.4330(a)(2)]
- D.10. Visible Emissions.** VE from each CT shall not exceed the following limits:
- Combined Cycle Operation While Firing All Fuels.* 10% opacity for each 6-minute block average; and
  - Startup, Shutdown and Malfunction.* 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 No. 0850001-010-AC/PSD-FL-327]
- D.11. Combined Cycle Operation with Steam Dumped to Condenser.** If the steam-electrical turbine generator is off line, the permittee is authorized to operate the gas turbine/HRSG systems by dumping steam to the condenser. When operating in this manner, each unit shall comply with the standards established for combined cycle operation with ammonia injection (SCR). [Permit No. 0850001-010-AC/PSD-FL-327]

#### **Excess Emissions**

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

- D.12. Excess Emissions Allowed.** Except as provided in Specific Condition **D.15**, excess emissions resulting from startup, shutdown or malfunction of any emissions unit 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 the Department for longer duration. [Rule 62-210.700(1), F.A.C.]
- D.13. 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 gas turbines, HRSG units, and pollution control systems

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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 No. 0850001-010-AC/PSD-FL-327]

- D.14. 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. [Permit No. 0850001-010-AC/PSD-FL-327]
- D.15. Excess Emissions Allowed.** As specified in this condition, excess emissions resulting from startup, shutdown, fuel switches, and documented malfunctions are allowed provided that operators employ the best operational practices to minimize the amount and duration of emissions during such incidents. For each gas turbine/HRSG System, excess emissions of NO<sub>x</sub> and CO (if the option to use a CO CEMS is chosen) resulting from startup, shutdown, fuel switches or malfunction shall be excluded from CEMS data in any 24-hour period for the following conditions (these conditions are considered separate events and each event may occur independently within any 24-hour period):
- a. *Steam Turbine Cold Startup.* For cold startup of the steam turbine system, excluded emissions from any gas turbine/HRSG system shall not exceed eight hours in any 24-hour period. Cold startup of the steam turbine system shall be completed within twelve hours. A cold “startup of the steam turbine” is defined as startup of the 4-on-1 combined cycle system following a shutdown of the steam turbine lasting at least 48 hours. *{Permitting Note: During a cold startup of the steam turbine system, each gas turbine/HRSG system in the 4-on-1 combined cycle system is sequentially brought on line at low load to gradually increase the temperature of the steam-electrical turbine in order to prevent thermal metal fatigue. Note that shutdowns and documented malfunctions are separately regulated in accordance with the requirements of this condition.}*
  - b. *Gas Turbine/HRSG System Cold Startup.* For cold startup of an individual gas turbine/HRSG system, excluded emissions shall not exceed four hours in any 24-hour period. “Cold startup of a gas turbine/HRSG system” is defined as a startup after the pressure in the high-pressure (HP) steam drum falls below 450 pounds per square inch gauge (psig) for at least a one-hour period.
  - c. *Gas Turbine/HRSG System Warm Startup:* For warm startup of a gas turbine/HRSG system, excluded emissions shall not exceed two hours in any 24-hour period (with the additional provision of a limit of 2 warm startup periods per 24 hours per gas turbine/HRSG system, in which case excluded emissions shall not exceed eight hours total for the 4-on-1 combined cycle system). “Warm startup of a gas turbine/HRSG system” is defined as a startup after the pressure in the high-pressure (HP) steam drum is above 450 psig.
  - d. *Gas Turbine/HRSG System Shutdown:* For shutdown of the gas turbine/HRSG system operation, excluded emissions from any individual gas turbine/HRSG system shall not exceed two hours in any 24-hour period.
  - e. *Shutdown Combined Cycle Operation:* For shutdown of the entire 4-on-1 combined cycle system, excluded emissions from any gas turbine/HRSG system shall not exceed three hours in any 24-hour period.
  - f. *Fuel Switching.* For fuel switching, excluded emissions shall not exceed two hours in any 24-hour period for each fuel switch and no more than four hours in any 24-hour period for any gas turbine/HRSG system.
  - g. *Documented Malfunction:* For each gas turbine/HRSG system, excess emissions of NO<sub>x</sub> and CO (if the option to use a CO CEMS is chosen) resulting from documented malfunctions shall not exceed two hours in any 24-hour period. 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.

Ammonia injection shall begin as soon as operation of the gas turbine/HRSG system achieves the operating parameters specified by the manufacturer. As authorized by Rule 62-210.700(4), F.A.C., the above

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conditions allow excess emissions only for specifically defined periods of startup, shutdown, and documented malfunction of the gas turbines. [Rules 62-212.400(BACT) & 62-210.700, F.A.C.; and, Permit Nos. 0850001-010-AC/PSD-FL-327, 0850001-016-AC/PSD-FL-327B, 0850001-020-AC/PSD-FL-327C & 0850001-032-AC/PSD-FL-146H & 327F & 0850001-041-AC/PSD-FL-146J & 327G]

**D.16. DLN Tuning/FSNL Testing.** CEMS data collected during initial or other major DLN tuning sessions and during manufacturer required Full Speed No Load (FSNL) trip tests shall be excluded from the CEMS compliance demonstration provided the tuning session is performed in accordance with the manufacturer's specifications. A "major tuning session" would occur after completion of initial construction, a combustor change-out, a major repair or maintenance to a combustor, or other similar circumstances. Prior to performing any major tuning session, the permittee shall provide the Compliance Authority with an advance notice of at least one working (business) day that details the activity and proposed tuning schedule. The notice may be by telephone, facsimile transmittal, or electronic mail. [Permit Nos. 0850001-010-AC/PSD-FL-327 & 0850001-032-AC (PSD-FL-146H/PSD-FL-327F)]

**D.17. NSPS Subpart KKKK Excess NO<sub>x</sub> Emissions Definition.** Excess emissions for combined cycle operation are defined as follows:

- a. *Combined Cycle Operation.* For combined cycle operation, excess emissions are defined as any unit operating period in which the 30-day rolling average NO<sub>x</sub> emission rate exceeds the applicable emission limit in 40 CFR 60.4320 (see Specific Condition **D.8**). A "30-day rolling average NO<sub>x</sub> emission rate" is the arithmetic average of all hourly NO<sub>x</sub> emission data in ppm or ng/J (lb/MWh) measured by the CEMS for a given day and the 29 unit operating days immediately preceding that unit operating day. A new 30-day average is calculated each unit operating day as the average of all hourly NO<sub>x</sub> emissions rates for the preceding 30 unit operating days if a valid NO<sub>x</sub> emission rate is obtained for at least 75% of all operating hours.
- b. For operating periods during which multiple emissions standards apply, the applicable standard is the average of the applicable standards during each hour. For hours with multiple emissions standards, the applicable limit for that hour is determined based on the condition that corresponded to the highest emissions standard.

[40 CFR 60.4350(h), 60.4380(b)(1) & (3)]

*{Permitting Note: If the permittee wishes to comply with the output-based standards in NSPS Subpart KKKK, the equations in 40 CFR 60.4350(f) shall be used to assess excess emissions on a 30 unit operating day rolling average for combined cycle operation (see Appendix NSPS Subpart KKKK)}.*

**D.18. NSPS Subpart KKKK Monitor Downtime Definition.** For the purposes of demonstrating compliance with NSPS Subpart KKKK, a period of monitor downtime is any unit operating hour in which the data for any of the following parameters are missing or invalid: NO<sub>x</sub> concentration, CO<sub>2</sub> or O<sub>2</sub> concentration, fuel flow rate, steam flow rate, steam temperature, steam pressure, or megawatts. The steam flow rate, steam temperature, and steam pressure are only required if this information will be used for compliance purposes. [40 CFR 60.4380(b)(2)]

**D.19. NSPS Subpart KKKK Excess NO<sub>x</sub> Emissions Identification.** For the purpose of identifying excess emissions with respect to NSPS Subpart KKKK NO<sub>x</sub> emissions standards:

- a. All CEMS data must be reduced to hourly averages as specified in paragraph **a** of Specific Condition **D.23**.
- b. For each unit operating hour in which a valid hourly average, as described in 40 CFR 60.4345(b) (See Appendix NSPS Subpart KKKK), is obtained for both NO<sub>x</sub> and diluent monitors, the data acquisition and handling system must calculate and record the hourly NO<sub>x</sub> emission rate in units of ppm or lb/MMBtu,

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using the appropriate equation from method 19 in appendix A of 40 CFR 60. For any hour in which the hourly average O<sub>2</sub> concentration exceeds 19.0% O<sub>2</sub> (or the hourly average CO<sub>2</sub> concentration is less than 1.0% CO<sub>2</sub>), a diluent cap value of 19.0% O<sub>2</sub> or 1.0% CO<sub>2</sub> (as applicable) may be used in the emission calculations.

- c. Correction of measured NO<sub>x</sub> concentrations to 15% O<sub>2</sub> is not allowed.
- d. All required fuel flow rate, steam flow rate, temperature, pressure, and megawatt data must be reduced to hourly averages.

[40 CFR 60.4350(a) – (e)]

#### **Monitoring of Operations**

**D.20. 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. The permittee shall document 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<sub>x</sub> emissions recorded by the CEM system with ammonia flow rates recorded using the ammonia flow meter. During NO<sub>x</sub> monitor downtimes or malfunctions, the permittee shall operate at the ammonia flow rate that is consistent with the documented flow rate for the CT load condition. [Permit No. 0850001-010-AC/PSD-FL-327]

**D.21. Water Injection Monitoring Requirements.** In accordance with the manufacturer's specifications, the permittee shall calibrate, operate and maintain a monitoring system to continuously measure and record the water-to-fuel ratio when firing distillate oil. The permittee shall document the water-to-fuel ratio required to meet permitted emissions levels over the range of load conditions allowed by this permit. The NO<sub>x</sub> CEMS is used to demonstrate compliance with the NO<sub>x</sub> emissions standards. During NO<sub>x</sub> CEMS downtimes or malfunctions, the permittee shall monitor the water-to-fuel ratio and operate at a level that is consistent with the documented flow rate for the gas turbine load condition. *{Note: The actual water-to-fuel ratio will vary depending on operating conditions and load.}* [Rule 62-212.400(BACT), F.A.C. and, Permit No. 0850001-010-AC/0PSD-FL-327]

#### **Continuous Emissions Monitoring Requirements**

**D.22. CEM Systems.** The permittee shall calibrate, maintain, and operate CEMS to measure and record the emissions of CO (if the option to use a CO CEMS is chosen) and NO<sub>x</sub> from the combined cycle gas turbine in a manner sufficient to demonstrate continuous compliance with the CEMS emission standards of this section. 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<sub>x</sub> standard (and subject to the specified averaging period), the permittee shall notify the Compliance Authority.

- a. *Optional CO Monitors.* If the option to use a CO CEMS is chosen, the CO monitor shall be certified pursuant to 40 CFR 60, Appendix B, Performance Specification 4 or 4A. 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 and shall be based on a continuous sampling train. The CO monitor span values shall be set appropriately considering the allowable methods of operation and corresponding emission standards.
- b. *NO<sub>x</sub> Monitors.* Each NO<sub>x</sub> monitor shall be certified, operated, and maintained in accordance with the requirements of 40 CFR 75. Recordkeeping and reporting shall be conducted pursuant to Subparts F and G in 40 CFR 75. The RATA tests required for the NO<sub>x</sub> monitor shall be performed using EPA Method 20 or 7E in Appendix A of 40 CFR 60. In addition to the requirements of Appendix A of 40 CFR 75, the NO<sub>x</sub> monitor span values shall be set appropriately considering the allowable methods of operation and corresponding emission standards.

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- c. *Diluent Monitors.* The oxygen (O<sub>2</sub>) or carbon dioxide (CO<sub>2</sub>) content of the flue gas shall be monitored at the location where CO and NO<sub>x</sub> are monitored to correct the measured emissions rates to 15% oxygen. If a CO<sub>2</sub> 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.
- d. *1-Hour Block Averages.* 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. 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 corrected to 15% oxygen. The CEMS shall be used to demonstrate compliance with the CEMS emission standards for CO (if the option to use a CO CEMS is chosen) and NO<sub>x</sub> as specified in this permit. For purposes of determining compliance with the CEMS emissions standards of this permit, missing (or excluded) data shall not be substituted.
- e. *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 available valid hourly average emission rate values for the 24-hour block. For purposes of determining compliance with the 24-hour CEMS standards, missing (or excluded) data shall not be substituted. Instead, the 24-hour block average shall be determined using the remaining hourly data in the 24-hour block. *{Permitting Note: There may be more than one 24-hour compliance demonstration required for CO and NO<sub>x</sub> emissions depending on the use of alternate methods of operation}.* [Rule 62-212.400(BACT), F.A.C.]
- f. *Data Exclusion.* Each CEMS shall monitor and record emissions during all operations including episodes of startup, shutdown, malfunction, fuel switches, and DLN tuning. CEMS emissions data recorded during some of these episodes may be excluded from the corresponding CEMS compliance demonstration subject to the provisions of Specific Conditions **D.15** and **D.16**. All periods of data excluded shall be consecutive for each such episode. 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.
- g. *Availability.* Monitor availability for the CEMS shall be 95% or greater in any calendar quarter. The quarterly permit 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, except as otherwise authorized by the Department's Compliance Authority.

**SECTION III. EMISSIONS UNITS AND SPECIFIC CONDITIONS.**

**Subsection D. Emissions Units 011, 012, 017, 018**

[Rule 62-212.400(BACT), F.A.C.; and, Permit Nos. 0850001-010-AC (PSD-FL-327), 0850001-032-AC PSD-FL-146H & 327F & 0850001-041-AC/PSD-FL-146J & 327G]

*{Permitting Note: Compliance with these requirements ensure compliance with the other applicable CEM system requirements such as: 40 CFR 60.7(a)(5) and 40 CFR 60.13; 40 CFR Part 51, Appendix P; 40 CFR 60, Appendix B - Performance Specifications; and 40 CFR 60, Appendix F - Quality Assurance Procedures.}*

**D.23. NSPS Subpart KKKK CEMS Requirements.** A NO<sub>x</sub> diluent CEMS that is installed and certified according to appendix A of 40 CFR 75 is acceptable for use under 40 CFR 60, Subpart KKKK for the purpose of demonstrating compliance with NO<sub>x</sub> emissions limits of this subpart (see Specific Condition **D.7**). The relative accuracy test audit (RATA) of the CEMS shall be performed on a lb/MMBtu basis. If a NO<sub>x</sub> diluent CEMS is to be used for NSPS Subpart KKKK compliance, the permittee shall comply with the following operating and work practice standards:

- a. As specified in 40 CFR 60.13(e)(2), during each full unit operating hour, both the NO<sub>x</sub> monitor and the diluent monitor must complete a minimum of one cycle of operation (sampling, analyzing, and data recording) for each 15-minute quadrant of the hour, to validate the hour. For partial unit operating hours, at least one valid data point must be obtained with each monitor for each quadrant of the hour in which the unit operates. For unit operating hours in which required quality assurance and maintenance activities are performed on the CEMS, a minimum of two valid data points (one in each of two quadrants) are required for each monitor to validate the NO<sub>x</sub> emission rate for the hour.
- b. Each fuel flow meter shall be installed, calibrated, maintained, and operated according to the manufacturer's instructions. Alternatively, with state approval, fuel flowmeters that meet the installation, certification, and quality assurance requirements of appendix D to part 75 of this chapter are acceptable for use under 40 CFR 60, Subpart KKKK
- c. Each watt meter, steam flow meter, and each pressure or temperature measurement device shall be installed, calibrated, maintained, and operated according to the manufacturer's instructions.
- d. The permittee shall develop and keep on-site a quality assurance (QA) plan for all of the continuous monitoring equipment described in this specific condition. For the CEMS and fuel flow meters, the permittee may, with state approval, satisfy the requirements of this paragraph by implementing the QA program and plan described in section 1 of appendix B of 40 CFR 75.

[40 CFR 60.4345]

**Test Methods and Procedures**

**D.24. Test Methods.** Any required tests shall be performed in accordance with the following reference methods.

Method	Description of Method and Comments
CTM-027 <sup>1</sup>	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.}
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

**SECTION III. EMISSIONS UNITS AND SPECIFIC CONDITIONS.**

**Subsection D. Emissions Units 011, 012, 017, 018**

	{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.}
20	Determination of Nitrogen Oxides, Sulfur Dioxide and Diluent Emissions from Stationary Gas Turbines
25A	Determination of Volatile Organic Concentrations

Method CTM-027 is published on EPA's Technology Transfer Network Web Site at <http://www.epa.gov/ttn/emc/ctm.html> and <sup>1</sup>see Appendix ASP, Alternative Sampling Procedure. The other methods are described in Appendix A of 40 CFR 60, 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. [Rule 62-204.800, F.A.C.; 40 CFR 60, Appendix A; and, Permit No. 0850001-010-AC/ PSD-FL-327]

- D.25. Annual Compliance Tests.** During each calendar year (January 1st to December 31st), each gas turbine shall be tested to demonstrate compliance with the emission standards for VE and CO (if a CO CEMS is not used). Annual testing to determine the ammonia slip shall be conducted while firing the primary fuel. CEMS data collected during the required Relative Accuracy Test Assessments (RATA) may be used to demonstrate compliance with the CO (if the optional CO CEMS is used) and NO<sub>x</sub> standards. NO<sub>x</sub> emissions recorded by the CEMS shall be reported for each ammonia slip test run. If an optional CO CEMS is used, CO emissions recorded by the CEMS shall be reported for the VE observation period. VOC testing is only required if the CO CEMS (optional) and/or stack test indicates an exceedance of the CO standard. [Rules 62-212.400(BACT) & 62-297.310, F.A.C.; and, Permit No. 0850001-010-AC/PSD-FL-327, 0850001-032-AC/PSD-FL-146H & 327F & 0850001-041-AC/PSD-FL-146J & 327G]
- D.26. Compliance Tests Prior To Renewal.** Unless specifically exempted per Florida Chapter 62-297, F.A.C., prior to permit renewal, compliance tests shall be performed for the following pollutants: VE, CO, NO<sub>x</sub> and ammonia slip. VOC testing is only required if the CO CEMS (optional) and/or stack test indicates an exceedance of the CO standard. [Rule 62-297.310, F.A.C.; and, Permit Nos. 0850001-010-AC/ PSD-FL-327, 0850001-032-AC/PSD-FL-146H & 327F & 0850001-041-AC/PSD-FL-146J & 327G]
- D.27. 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.]
- D.28. Special Compliance Determinations.** Based on a specific condition of permit No. 0850001-010-AC, 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, DLN combustors, etc. Each gas turbine shall be stack tested to demonstrate compliance with the emission standards for CO, NO<sub>x</sub>, VOC, visible emissions, and ammonia slip. The tests shall be conducted within 60 days after achieving the maximum production rate at which the unit will be operated for each unit configuration (i.e., combined cycle operation), but not later than 180 days after startup of each unit configuration. Each unit shall be tested when firing natural gas and distillate oil. CEMS data collected during the required Relative Accuracy Test Assessments (RATA) may be used to demonstrate compliance with the CO and NO<sub>x</sub> standards. With appropriate flow measurements (or fuel measurements and approved F-factors), CEMS data may be used to demonstrate compliance with the CO and NO<sub>x</sub> mass rate emissions standards. CO and NO<sub>x</sub> emissions recorded by the CEMS shall also be reported for each run during tests for visible emissions, VOC and ammonia slip. [Rule 62-297.310, F.A.C.; 40 CFR 60.8; and, Permit No. 0850001-010-AC, Specific Condition 20]
- D.29. Continuous Compliance.** The permittee shall demonstrate continuous compliance with the NO<sub>x</sub> emissions standards based on data collected by the certified CEMS. The permittee shall demonstrate compliance with the CO emissions standards using data collected by a certified CEMS if an optional CO CEMS is used. Within 45 days of conducting any Relative Accuracy Test Assessments (RATA) on a CEMS, the permittee shall submit a report to the Compliance Authority summarizing results of the RATA.

**SECTION III. EMISSIONS UNITS AND SPECIFIC CONDITIONS.**

**Subsection D. Emissions Units 011, 012, 017, 018**

Compliance with the CO emission standards also serves as an indicator of efficient fuel combustion, which reduces emissions of particulate matter and volatile organic compounds. [Permit Nos. 0850001-010-AC/PSD-FL-327 & 0850001-041-AC/PSD-FL-146J & 327G]

- D.30. Additional Ammonia Slip Testing.** If the tested ammonia slip rate for a gas turbine exceeds 5 ppmvd corrected to 15% oxygen when firing natural gas during the annual test, the permittee shall:
- a. Begin testing and reporting the ammonia slip for each subsequent calendar quarter;
  - b. Before the ammonia slip exceeds 7 ppmvd corrected to 15% oxygen, take corrective actions that result in lowering the ammonia slip to less than 5 ppmvd corrected to 15% oxygen; and
  - c. Test and demonstrate that the ammonia slip is no more than 5 ppmvd corrected to 15% oxygen within 15 days after completing the corrective actions.

Corrective actions may include, but are not limited to, adding catalyst, replacing catalyst, or other SCR system maintenance or repair. After demonstrating that the ammonia slip level is no more than 5 ppmvd corrected to 15% oxygen, testing and reporting shall resume on an annual basis. [Permit No. 0850001-010-AC/PSD-FL-327]

**Recordkeeping and Reporting Requirements**

- D.31. Reporting Schedule.** The following reports and notifications shall be submitted to the Compliance Authority:

Report	Reporting Deadline	Related Condition(s)
Notice of Capacity Monitoring	Daily.	<b>D.32</b>
Notice of Monthly Operations	Monthly.	<b>D.33</b>
NSPS Excess Emissions Report	Semiannual.	<b>D.36</b>
Semiannual Permit Excess Emission Report	Semiannual.	<b>D.37</b>

[Rule 62-213.440(1)(b), F.A.C.]

- D.32. Monitoring of Capacity.** The permittee shall monitor and record the operating rate of each gas turbine 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 No. 0850001-010-AC/PSD-FL-327]

- D.33. Monthly Operations Summary.** By the fifth calendar day of each month, the permittee shall record the following for each fuel in a written or electronic log for each gas turbine for the previous month of operation: fuel consumption, hours of operation, hours of power augmentation, hours of peaking, 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 No. 0850001-010-AC/PSD-FL-327]

- D.34. 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. 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, D3246-81 or more recent versions.
  - b. Compliance with the distillate 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.

### SECTION III. EMISSIONS UNITS AND SPECIFIC CONDITIONS.

#### Subsection D. Emissions Units 011, 012, 017, 018

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 D129-91, ASTM D1552-90, ASTM D2622-94, or ASTM D4294-90. More recent versions of these 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.

The above methods shall be used to determine the fuel sulfur content in conjunction with the provisions of 40 CFR 75 Appendix D. [Permit No. 0850001-010-AC/PSD-FL-327]

*{Permitting Note: Pursuant to 40 CFR 60.4365, the permittee may elect not to monitor the total sulfur content of the fuel for the purposes of demonstrating compliance with NSPS Subpart KKKK if these records are current, valid purchase contracts, tariff sheets or transportation contracts that specify that the total sulfur content is equal to or less than 20 grains per 100 standard cubic feet for natural gas and 0.05 weight percent for oil.}*

- D.35. Malfunction Notification.** Within one working day of a malfunction that causes emissions in excess of a standard (subject to the specified averaging periods), the permittee shall notify the Compliance Authority. The notification shall include a preliminary report of: the nature, extent, and duration of the emissions; the probable cause of the emissions; and the actions taken to correct the problem. If requested by the Compliance Authority, the permittee shall submit written quarterly reports summarizing the malfunctions. [Permit No. 0850001-010-AC/PSD-FL-327]
- D.36. Semiannual NSPS Excess Emissions Report.** The permittee must submit reports of excess emissions and monitor downtime, in accordance with 40 CFR 60.7(c) (see Appendix NSPS Subpart A). Excess emissions must be reported for all periods of unit operation, including startup, shutdown and malfunction. All reports must be postmarked by the 60<sup>th</sup> day following the end of each 6-month period. [Rule 62-204.800(8)(b)83., F.A.C.; and, 40 CFR 60.19(c), 60.4375 & 60.4395]
- D.37. Semiannual Permit Excess Emission Report:** Within 60 days following the end of each 6-month period in a calendar year, the permittee shall submit a report to the Compliance Authority summarizing periods of excess CO (if the option to use a CO CEMS is chosen) and NO<sub>x</sub> emissions. Such information shall also be summarized for combined cycle startups, combined cycle shutdowns, malfunctions and major tuning sessions. In addition, the report shall summarize the CEMS systems monitor availability for the previous 6-month period. [Rules 62-4.130, 62-204.800, 62-210.700(6), F.A.C.; 40 CFR 60.7; and, Permit No. 0850001-010-AC/PSD-FL-327 & 0850001-041-AC/PSD-FL-146J & 327G]
- D.38. Actual Emissions Reporting (Permit No. 0850001-038-AC).** Permit No. 0850001-038-AC is based on an analysis that compared baseline actual emissions with projected actual emissions and avoided the requirements of subsection 62-212.400(4) through (12), F.A.C. for several pollutants. Therefore, pursuant to Rule 62-212.300(1)(e), F.A.C., the permittee is subject to the following monitoring, reporting and recordkeeping provisions:
- a. The permittee shall monitor the emissions of any PSD pollutant that the Department identifies could increase as a result of the construction or modification and that is emitted by any emissions unit that could be affected; and, using the most reliable information available, calculate and maintain a record of the annual emissions, in tons per year on a calendar year basis, for a period of **10** years following resumption of regular operations after the change. Emissions shall be computed in accordance with the provisions in Rule 62-210.370, F.A.C.
  - b. The permittee shall report to the Department within 60 days after the end of each calendar year during the **10**-year period setting out the unit's annual emissions during the calendar year that preceded submission of the report. That report shall contain the following:

### SECTION III. EMISSIONS UNITS AND SPECIFIC CONDITIONS.

#### Subsection D. Emissions Units 011, 012, 017, 018

- (1) The name, address and telephone number of the owner or operator of the major stationary source;
  - (2) The annual emissions calculations pursuant to the provisions of 62-210.370, F.A.C., which are provided in Appendix C of this permit;
  - (3) If the emissions differ from the preconstruction projection, an explanation as to why there is a difference; and
  - (4) Any other information that the owner or operator wishes to include in the report.
- c. The information required to be documented and maintained pursuant to subparagraphs 62-212.300(1)(e)1 and 2, F.A.C., shall be submitted to the Department, which shall make it available for review to the general public.
  - d. For this project, the permittee estimated the following baseline actual emissions: 205.24 tons/year of CO; 205.28 tons/year of NO<sub>x</sub>; 15.61 tons/year of SO<sub>2</sub>; 47.57 tons/year of VOC; 39.52 tons/year of PM/PM<sub>10</sub>/PM<sub>2.5</sub>; 2.39 tons/year of sulfuric acid mist (SAM); and 2,812,880 of GHG (CO<sub>2</sub>e).
  - e. The Department has identified NO<sub>x</sub> as the only PSD-pollutant that could reasonably increase as a result of this modification. For the purpose of comparisons with baseline actual emissions, the permittee shall use the installed CEMS to determine and report the actual annual emissions of NO<sub>x</sub>.
  - f. Heat input rates will vary depending upon gas turbine characteristics, ambient conditions, alternate methods of operation, and evaporative cooling. The permittee shall provide manufacturer's performance curves (or equations) that correct for site conditions to the Permitting and Compliance Authorities within 75 days of completing the initial compliance testing. Operating data may be adjusted for the appropriate site conditions in accordance with the performance curves and/or equations on file with the Department. [Rule 62-210.200(PTE), F.A.C.]

*{Permitting Note: Continuous compliance with the NO<sub>x</sub> standard will be demonstrated by CEMS. Other required stack tests may be conducted during the next scheduled period in accordance with existing permit conditions.}*

[Rules 62-212.300(1)(e) & 62-210.370, F.A.C.; and, Permit Nos. 0850001-038-AC & 0850001-041-AC/PSD-FL-146J & 327G]

*{Permitting Note: Construction was completed near the end of the 2017 calendar year. The reporting period for Unit 8 starts on the 2018 calendar year and ends on the 2027 calendar year.}*

**D.39. Other Reporting Requirements.** See Appendix RR, Facility-Wide Reporting Requirements, for additional reporting requirements. [Rule 62-213.440(1)(b), F.A.C.]

#### **Other Requirements**

**D.40. NSPS Requirements.** These units shall comply with the applicable provisions of NSPS Subpart A (General Provisions) and NSPS Subpart KKKK (Standards of Performance for Stationary Combustion Turbines). See Appendix NSPS Subpart A and Appendix NSPS Subpart KKKK for the provisions of NSPS Subparts A and KKKK, respectively. [Rules 62-204.800(8)(b)83. & 62-204.800(8)(d), F.A.C.; and, 40 CFR 60]

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**SECTION III. EMISSIONS UNITS AND SPECIFIC CONDITIONS.**

**Subsection E. Emission Unit 019**

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

EU No.	Brief Description
019	22-Cell Mechanical Draft Cooling Tower

This emissions unit is a 22-Cell Mechanical Draft Cooling Tower that commenced operation on December 10, 2004.

*{Permitting Note: This unit is subject to Rule 62-212.400, F.A.C., BACT for PM/PM<sub>10</sub>}*

**E.1. Cooling Tower.** The permittee is authorized to operate a 22-cell mechanical draft cooling tower with the following design characteristics: a circulating water flow rate of 310,000 gpm; design hot/cold water temperatures of 104 °F/90 °F; a design air flow rate of 1,386,055 per cell; a liquid-to-gas air flow ratio of 1.4; and drift eliminators with a drift rate of no more than 0.001%. [Permit Nos. 0850001-010-AC/PSD-FL-327 & 0850001-016-AC/PSD-FL-327B & PSD-FL-146C]

**Emissions and Performance Requirements**

**E.2. Drift Rate.** The permittee has submitted certification that the cooling tower was constructed to achieve the specified drift rate of no more than 0.001% of the circulating water flow rate. *{Note: This work practice standard is established as BACT for PM/PM<sub>10</sub> emissions from the cooling tower. Based on this design criteria, potential emissions are expected to be less than 34 tons of PM per year and less than 10 tons of PM<sub>10</sub> per year. Actual emissions are expected be less than half these rates.}* [Permit No. 0850001-010-AC/PSD-FL-327]

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**SECTION III. EMISSIONS UNITS AND SPECIFIC CONDITIONS.**

**Subsection F. Emissions Unit 014**

The specific conditions in this section apply to the following emissions unit.

EU No.	Brief Description
014	Two distillate oil storage tanks for Unit 8 gas turbines (2.1 million gallons each)

**NSPS Applicability**

**F.1. NSPS Subpart Kb Applicability.** The distillate oil tanks are not subject to Subpart Kb, which applies to any storage tank with a capacity greater than or equal to 10,300 gallons (40 cubic meters) that is used to store volatile organic liquids for which construction, reconstruction, or modification is commenced after July 23, 1984. Tanks with a capacity greater than or equal to 40,000 gallons (151 cubic meters) storing a liquid with a maximum true vapor pressure less than 3.5 kPa are exempt from the General Provisions (40 CFR 60, Subpart A) and from the provisions of NSPS Subpart Kb, except for the record keeping requirements listed below. [Rule 62-204.800, F.A.C.; 40 CFR 60.110b(a) & (c); and, Permit Nos. 0850001-016-AC (PSD-FL-327B and PSD-FL-146C)]

**Equipment Specifications**

**F.2. Equipment.** The permittee is authorized to operate and maintain two, 2.1 million gallon distillate oil storage tank designed to provide low sulfur distillate oil to the Unit 8 gas turbines. [Permit No. 0850001-010-AC (PSD-FL-327)]  
*{Permitting Note: One existing 2.1 million gallon distillate oil storage tank was permitted under PSD-FL-286.}*

**Essential Potential to Emit (PTE) Parameters**

**F.3. Hours of Operation.** The hours of operation are not restricted (8,760 hours per year). [Permit No. 0850001-010-AC (PSD-FL-327)]

**Recordkeeping and Reporting Requirements**

**F.4. Oil Tank Records.** The permittee shall keep readily accessible records showing the dimension of each storage vessel and an analysis showing the capacity of each storage tank. Records shall be retained for the life of the facility. The permittee shall also keep records sufficient to determine the annual throughput of distillate oil for each storage tank for use in the Annual Operating Report. [Rule 62-204.800(7)(b)16, F.A.C.; 40 CFR 60.116b(a) & (b); and, Permit No. 0850001-010-AC (PSD-FL-327)]

*{Permitting Note: These new distillate oil storage tanks serve Unit 8. An existing 50,000-barrel distillate oil storage tank was constructed as part of Units 3 and 4. The existing tank was identified for use in Permit No. PSD-FL-268 issued for simple cycle Units 8A and 8B. Unit 8 will utilize both the existing and new distillate oil storage tanks.}*

**F.5. Fuel Oil Records.** The permittee shall keep readily accessible records showing the maximum true vapor pressure of the stored liquid. The maximum true vapor pressure shall be less than 3.5 kPa. Compliance with this condition may be demonstrated by using the information from the respective Material Safety Data Sheets (MSDS) for the low or ultralow sulfur fuel oil stored in the tanks. [Permit No. 0850001-016-AC (PSD-FL-327B and PSD-FL-146C)]

*{Permitting Note: An evaluation of several MSDS by the Department demonstrated that the vapor pressure is much less than 3.5 kPa for low sulfur fuel oil and for ultralow sulfur fuel oil.}*

**F.6. Other Reporting Requirements.** See Appendix RR, Facility-Wide Reporting Requirements, for additional reporting requirements. {Rule 62-213.440(1)(b), F.A.C.]

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**SECTION III. EMISSIONS UNITS AND SPECIFIC CONDITIONS.**

**Subsection G. Emissions Unit 022**

The specific conditions in this section apply to the following emissions unit.

EU No.	Brief Description
022	Diesel Engine-driven Emergency Fire Pump (EPA Tier 3 certified)

This emissions unit is a diesel engine-driven emergency fire pump that services Martin Unit 8. Exhaust gas exits a stack that is 6 ft high and 0.33 ft in diameter.

The following table provides important details for this emissions unit:

E.U. ID No.	Engine Brake HP	Date of Construction	Model Year	Primary Fuel	Type of Engine	Displacement liters/cylinder (l/c)	Manufacturer
							Model #
							Engine Serial #
022	197	2015	2015	Diesel	Emergency	1.13	John Deere®
							JU6H-UFADN0
							-

*{Permitting note: This compression ignition (CI) internal combustion engine (ICE) is regulated under: 40 CFR 60, Subpart A, General Provisions, and 40 CFR 60, Subpart III, NSPS for Stationary CI ICE, adopted by reference in Rule 62-204.800(8)(d) and (8)(b)82., F.A.C., respectively; and 40 CFR 63, Subpart A, General Provisions, and 40 CFR 63, Subpart ZZZZ, NESHAP for Stationary Reciprocating Internal Combustion Engines (RICE), adopted by reference in Rule 62-204.800(11)(d) and (11)(b)82., F.A.C., respectively. This subsection of the permit addresses a stationary CI RICE of model year 2007 or later, with a displacement of less than 10 liters per cylinder. In accordance with the provisions of 40 CFR 63.6590(c)(1), meeting the requirements of 40 CFR 60, Subpart III, satisfies compliance with the requirements of 40 CFR 63, Subpart ZZZZ.}*

**Essential Potential to Emit (PTE) Parameters**

- G.1. Allowable Fuel.** The stationary RICE must use diesel fuel that meets the following requirements for non-road diesel fuel:
- Sulfur Content.* The sulfur content shall not exceed 15 ppm (0.0015% by weight) for non-road diesel fuel. *{Permitting Note: equivalent to 0.0006 lb SO<sub>2</sub>/hour}*
  - Cetane and Aromatic.* The fuel must have a minimum cetane index of 40 or must have a maximum aromatic content of 35 volume percent.
  - 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) and 40 CFR 80.510(b)]
- G.2. Restricted Hours of Operation.**
- Emergency Situations.* There is no time limit on the use of emergency stationary RICE in emergency situations. [40 CFR 60.4211(f)(1)]
  - Maintenance and Testing.* This RICE 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. The owner or operator may petition the Department for approval of additional hours to be used for maintenance checks and readiness testing, but a petition is not required if the owner or operator maintains records indicating that Federal, State, or local standards require maintenance and testing of emergency RICE beyond 100 hours per year. [40 CFR 60.4211(f)(2)(i)]

## SECTION III. EMISSIONS UNITS AND SPECIFIC CONDITIONS.

### Subsection G. Emissions Unit 022

- c. *Non-emergency Situations.* Each RICE cannot be used for peak shaving or to generate income for a facility to supply power to an electric grid or otherwise supply power as part of a financial arrangement with another entity. Each RICE may be operated for up to 50 hours per calendar year in non-emergency situations.

[40 CFR 60.4211(f)]

#### **Emission Standards and Limitations**

- G.3. NMHC + NO<sub>x</sub> Emissions.** Non-methane hydrocarbons and nitrogen oxide emissions shall not exceed 4.0 g/KW-hr (equivalent to 3.0 g/HP-hr). *{Permitting Note: equivalent to 1.3 lb/hour}* [40 CFR 60.4205(c), Subpart III, Table 4 & 40 CFR 89.112(a)]
- G.4. CO Emissions.** Carbon monoxide emissions shall not exceed 3.5 g/KW-hr (equivalent to 4.8 g/HP-hr).. *{Permitting Note: equivalent to 1.1 lb/hour}* [40 CFR 60.4205(c), Subpart III, Table 4 & 40 CFR 89.112(a)]
- G.5. PM Emissions.** Particulate matter emissions shall not exceed 0.20 g/KW-hr (equivalent to 0.15g/HP-hr) *{Permitting Note: equivalent to 0.06 lb/hour}* [40 CFR 60.4205(c), Subpart III, Table 4 & 40 CFR 89.112(a)]

#### **Monitoring of Operations**

- G.6. 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**

- G.7. Operation and Maintenance.** The owner or operator must operate and maintain the stationary CI ICE according to the manufacturer's written emission-related instructions. In addition, owners and operators may only change those settings that are permitted by the manufacturer. The owner or operator must meet the requirements of 40 CFR 89, 94 and/or 1068, as they apply. This RICE must be maintained and operated to meet the emissions limits in Specific Conditions **G.3**, **G.4** and **G.5** over the entire life of the engine. [40 CFR 60.4206 & 60.4211(a)]
- G.8. 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 the limits in Specific Conditions **G.3**, **G.4** and **G.5**. The engine must be installed and configured according to the manufacturer's emission-related specifications, except as permitted in Specific Condition **G.9** of this subsection. [40 CFR 60.4211(c)]
- G.9. Compliance Due to Loss of Certification.** If the owner or operator does not install, configure, operate and maintain your engine and control device according to the manufacturer's emission-related written instructions, or the owner or operator changes emission-related settings in a way that is not permitted by the manufacturer, the owner or operator must keep a maintenance plan and records of conducted maintenance and must, to the extent practicable, maintain and operate the engine in manner consistent with good air pollution control practice for minimizing emissions. In addition, the owner or operator must conduct an initial performance test to demonstrate compliance with the applicable emission standards 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)]
- G.10. Testing Requirements.** In the event that performance tests are required pursuant to Specific Condition **G.9**, the following requirements shall be met.
- a. *Testing Procedures.* The performance test must be conducted according to the in-use testing procedures in 40 CFR 1039, Subpart F.

**SECTION III. EMISSIONS UNITS AND SPECIFIC CONDITIONS.**

**Subsection G. Emissions Unit 022**

- b. *NTE Requirements.* Exhaust emissions from this RICE must not exceed the not-to-exceed (NTE) numerical requirements, rounded to the same number of decimal places as the applicable standards in Specific Conditions **G.3**, **G.4** and **G.5**, determined from the following equation:

$$\text{NTE requirement for each pollutant} = (1.25) \times (\text{STD})$$

Where:

STD = The standard specified for that pollutant in 40 CFR 89.112 (See Specific Conditions **G.3**, **G.4** and **G.5**), as applicable.

Alternatively, this stationary CI ICE may follow the testing procedures specified in 40 CFR 60.4213, as appropriate (See Appendix NSPS, Subpart III – Standards of Performance for Stationary CI ICE, included in the Appendices Section of this permit).

[40 CFR 60.4212(a) & (c)]

- G.11. Common Testing Requirements.** Unless otherwise specified, any tests, if required, 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.]

**Recordkeeping and Reporting Requirements**

- G.12. Testing Notification.** At such time that the requirements of Specific Condition **G.10** become applicable, the permittee shall notify the Compliance Authority of the date by which the initial compliance test must be performed. [Rule 62-213.440(1), F.A.C.]

- G.13. Hours of Operation Records.** Owner or operator must keep records of the operation of the engine in emergency and non-emergency service 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)]

- G.14. 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 **G.8**, the owner or operator must keep the following records:
  - a. Engine manufacturer documentation and certification including 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 instruction.

[Rule 62-212.440(1), F.A.C.; and, 40 CFR 60.4211(c) & (g)]

- G.15. 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**

- G.16. 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 Subpart A](#) and [Link to Subpart III](#).

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
§ 60.6	Review of plans

**SECTION III. EMISSIONS UNITS AND SPECIFIC CONDITIONS.**

**Subsection G. Emissions Unit 022**

<b>General Provisions Citation</b>	<b>Subject of Citation</b>
§ 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]

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**SECTION III. EMISSIONS UNITS AND SPECIFIC CONDITIONS.**

**Subsection H. Emissions Units 023**

The specific conditions in this section apply to the following emissions unit.

EU No.	Brief Description
023	Two Hurricane Emergency Shelter Propane Generators (36 HP)
	Two Hurricane Emergency Shelter Propane Generators (50 HP)

Emissions Unit 023 consists of four stationary spark ignition (SI) reciprocating internal combustion engines (RICE) that fire propane. There are two identical emergency generators with a rating of 36 HP at 100% load (approximately 27 kW) that are used to provide emergency power to the hurricane shelters for the staff assigned to EU 001 and EU 002. There are two additional identical emergency generators with a rating of 50 HP at 100% load (approximately 37 kW) that are used to provide emergency power to the hurricane shelters for the staff assigned to EU's 003-006.

The following table provides important details for the engines collectively regulated as EU 023:

Engine Identification	Engine Brake HP	Date of Construction	Model Year	Displacement liters/cylinder (l/c)	Engine Manufacturer	Model No.
Two Hurricane Emergency Shelter Generators	36 (27 kW)	2005	2005	1.0	Generac	47253
Two Hurricane Emergency Shelter Generator	50 (37 kW)	2005	2005	1.0	Generac	47231

*{Permitting Note: These SI RICE are regulated under: 40 CFR 63, Subpart A, General Provisions, and 40 CFR 63, Subpart ZZZZ, NESHAP for Stationary RICE adopted by reference in Rule 62-204.800(11)(d)1. and (11)(b)82., F.A.C., respectively. These RICE are exempted from regulations under 40 CFR 60, Subpart JJJJ – Standards of Performance for Stationary Spark Ignition (SI) ICE based on the manufacturer date. These are “existing” stationary SI RICE less than or equal to 500 bhp, with a displacement of less than 10 liters per cylinder that are located at a major source of HAP and that have not been modified or reconstructed after 6/12/2006.}*

**Essential Potential to Emit (PTE) Parameters**

**H.1. Hours of Operation.**

- a. *Emergency Situations.* There is no time limit on the use of emergency stationary RICE in emergency situations. [40 CFR 63.6640(f)(1)]
- b. *Maintenance and Testing.* Each RICE is authorized to operate for a maximum of 100 hours per calendar year 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. The owner or operator may petition the Administrator for approval of additional hours to be used for maintenance checks and readiness testing, but a petition is not required if the owner or operator maintains records indicating that Federal, State, or local standards require maintenance and testing of emergency RICE beyond 100 hours per year. [40 CFR 63.6640(f)(2)(i)]
- c. *Non-emergency Situations.* These RICE may be operated for up to 50 hours per calendar year in non-emergency situations. The 50 hours of operation in non-emergency situations are counted as part of the 100 hours per calendar year for maintenance and testing provided in paragraph **b**, above. The 50 hours

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## SECTION III. EMISSIONS UNITS AND SPECIFIC CONDITIONS.

### Subsection H. Emissions Units 023

per year for non-emergency situations cannot be used for peak shaving or non-emergency demand response, or to generate income for a facility to supply power to an electric grid or otherwise supply power as part of a financial arrangement with another entity.

[40 CFR 63.6640(f)]

#### **H.2. Work or Management Practice Standards.**

- a. *Oil.* Change oil and filter every 500 hours of operation or annually, whichever comes first. [40 CFR 63.6602 & Table 2c.6.a.]
- b. *Spark Plugs.* Inspect spark plugs every 1,000 hours of operation or annually, whichever comes first and replace as necessary. [40 CFR 63.6602 & Table 2c.6.b.]
- c. *Hoses and Belts.* Inspect all hoses and belts every 500 hours of operation or annually, whichever comes first, and replace as necessary. [40 CFR 63.6602 & Table 2c.6.c.]
- d. *Operation and Maintenance.* Operate and maintain the stationary RICE according to the manufacturer's emission-related operation and maintenance instructions or develop and follow your own maintenance plan which must provide, to the extent practicable for the maintenance and operation of the engine in a manner consistent with good air pollution, control practice for minimizing emissions. [40 CFR 63.6625(e), 63.6640(a) & Table 6.9.a.]
- e. *Engine Startup.* During periods of startup the owner or operator must minimize the engine's time spent at idle during startup and minimize the engine's startup time to a period needed for appropriate and safe loading of the engine, not to exceed 30 minutes. [40 CFR 63.6625(h)]
- f. *Oil Analysis.* The owner or operator has the option of using an oil analysis program to extend the oil change requirement. The oil analysis must be performed at the same frequency specified for changing the oil in paragraph **a**, above. The analysis program must at a minimum analyze the following three parameters: Total Acid Number, viscosity, and percent water content. The condemning limits for these parameters are as follows: Total Acid Number increases by more than 3.0 milligrams of potassium hydroxide (KOH) per gram from Total Acid Number of the oil when new; viscosity of the oil has changed by more than 20 percent from the viscosity of the oil when new; or percent water content (by volume) is greater than 0.5. If all of these condemning limits are not exceeded, the engine owner or operator is not required to change the oil. If any of the limits are exceeded, the engine owner or operator must change the oil within 2 business days of receiving the results of the analysis; if the engine is not in operation when the results of the analysis are received, the engine owner or operator must change the oil within 2 business days or before commencing operation, whichever is later. The owner or operator must keep records of the parameters that are analyzed as part of the program, the results of the analysis, and the oil changes for the engine. The analysis program must be part of the maintenance plan for the engine. [40 CFR 63.6625(j)]

#### **Monitoring of Operations**

- H.3. Hour Meter.** The owner or operator must install a non-resettable hour meter if one is not already installed. [40 CFR 63.6625(f)]

#### **Compliance**

- H.4. Continuous Compliance.** Each unit shall be in compliance with the emission limitations and operating standards in this section at all times. [40 CFR 63.6605(a)]
- H.5. Operation and Maintenance of Equipment.** At all times the owner or operator must operate and maintain, any affected source, including associated air pollution control equipment and monitoring equipment, in a manner consistent with safety and good air pollution control practices for minimizing emissions. Determination of whether such operation and maintenance procedures are being used will be based on information available to the compliance authority which may include, but is not limited to, monitoring results, review of operation and maintenance procedures, review of operation and maintenance records, and inspection of the source. [40 CFR 63.6605(b)]

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## SECTION III. EMISSIONS UNITS AND SPECIFIC CONDITIONS.

### Subsection H. Emissions Units 023

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#### Recordkeeping Requirements

- H.6. Notification, Performance and Compliance Records.** The owner or operator must keep:
- A copy of each notification and report that the owner or operator submitted to comply with this section, including all documentation supporting any Initial Notification or Notification of Compliance Status that the owner or operator submitted.
  - Records of the occurrence and duration of each malfunction of operation.
  - Records of all required maintenance performed on the hour meter.
  - Records of actions taken during periods of malfunction to minimize emissions in accordance with Specific Condition **H.5.** , including corrective actions to restore malfunctioning process and monitoring equipment to its normal or usual manner of operation.
  - Records of the actions required in Specific Condition **H.2.** paragraph **d** to show continuous compliance with each emission limitation or operating requirement.
  - Records of the Work or Management Practice Standards specified in Specific Condition **H.2.** .
  - Records of the maintenance conducted in order to demonstrate that the RICE was operated and maintained according to your own maintenance plan.
  - Records of the hours of operation of the engine that is recorded through the non-resettable hour meter. The owner or operator must document how many hours are spent for emergency operation including what classified the operation as emergency and how many hours are spent for non-emergency operation. If the engines are used for emergency demand response operation or for periods of voltage or frequency deviations, the owner or operator must keep records of the notification of the emergency situation, and the time of engine operation for these purposes.

[40 CFR 63.6655]

**H.7. Record Retention.**

- The owner or operator must keep records in a suitable and readily available form for expeditious reviews.
- The owner or operator must keep each record readily accessible in hard copy or electronic form for at least 5 years after the date of each occurrence, measurement, maintenance, corrective action, report, or record.

[40 CFR 63.6660 and 40 CFR 63.10(b)(1)]

#### Reporting Requirements

- H.8. Non-compliance.** You must report each instance in which you did not meet the requirements of this permit. These instances are deviations from the emission and operating limitations in this subpart. These deviations must be reported according to the requirements in Specific Conditions RR4. and RR7. of Appendix RR – Facility-wide Reporting requirements. [40 CFR 63.6640(b) & 63.6650(f)]

- H.9. Delay of Performing Work Practice Requirements.** If an emergency engine is operating during an emergency and it is not possible to shut down the engine in order to perform the work practice requirements on the schedule required in Specific Condition **H.2.** , or if performing the work practice on the required schedule would otherwise pose an unacceptable risk under federal, state, or local law, the work practice can be delayed until the emergency is over or the unacceptable risk under federal, state, or local law has abated. The work practice should be performed as soon as practicable after the emergency has ended or the unacceptable risk under federal, state, or local law has abated. Sources must report any failure to perform the work practice on the schedule required and the federal, state or local law under which the risk was deemed unacceptable. [40 CFR 63, Subpart ZZZZ, Table 2c, footnote 1]

- H.10. Other Reporting Requirements.** See Appendix RR, Facility-Wide Reporting Requirements, for additional reporting requirements. [Rule 62-213.440(1)(b), E.A.C.]

#### General Provisions

- H.11. 40 CFR 63 Subpart A – General Provisions.** The owner or operator shall comply with the following applicable requirements of 40 CFR 63 Subpart A – General Provisions, which have been adopted by reference

**SECTION III. EMISSIONS UNITS AND SPECIFIC CONDITIONS.**

**Subsection H. Emissions Units 023**

in Rule 62-204.800(11)(d)1., F.A.C., except that the Secretary is not the Administrator for purposes of 40 CFR 63.5(e), 40 CFR 63.5(f), 40 CFR 63.6(g), 40 CFR 63.6(h)(9), 40 CFR 63.6(j), 40 CFR 63.13, and 40 CFR 63.14. [Link to Subpart A](#) and [Link to Subpart ZZZZ](#).

<b>General Provisions Citation</b>	<b>Subject of Citation</b>
§63.1	General applicability of the General Provisions
§63.2	Definitions (additional terms defined in 43 CFR 63.6675)
§63.3	Units and abbreviations
§63.4	Prohibited activities and circumvention
§63.5	Construction and reconstruction
§63.6(a)	Applicability
§63.9(a)	Applicability and State delegation of notification requirements
§63.9(b)(1)-(5)	Initial notifications (except that §63.9(b)(3) is reserved)
§63.9(i)	Adjustment of submittal deadlines
§63.9(j)	Change in previous information
§63.10(a)	Administrative provisions for recordkeeping/reporting
§63.10(b)(1)	Record retention
§63.10(b)(2)(vi)–(xi)	Records
§63.10(b)(2)(xii)	Record when under waiver
§63.10(b)(2)(xiv)	Records of supporting documentation
§63.10(b)(3)	Records of applicability determination
§63.10(d)(1)	General reporting requirements
§63.10(f)	Waiver for recordkeeping/reporting
§63.12	State authority and delegations
§63.13	Addresses
§63.14	Incorporation by reference
§63.15	Availability of information

[40 CFR 63.6645(a), 63.6665 & Table 8 to Subpart ZZZZ of Part 63]

**SECTION III. EMISSIONS UNITS AND SPECIFIC CONDITIONS.**

**Subsection I. Emissions Units 024 and 027**

The specific conditions in this section apply to the following emissions units.

EU No.	Brief Description
024	SI Engine-driven Emergency Generator
027	Data Center Emergency SI RICE

EU No. 024 is an emergency generator/engine set, SI four-stroke RICE that fires natural gas with a maximum engine power of 48 HP at 100% load (approximately 30 kW). The engine has never been reconstructed or modified.

EU No. 027 is an SI emergency engine-electrical generator that fires propane with a maximum engine horsepower of 71 HP at its rated kW (45 kW). This engine-generator set supplies emergency power to a phone room/data center that will be added to the facility.

The following table provides important details for the engines regulated as EU Nos. 024 and 027:

Engine Identification	Engine Brake HP	Date of Construction	Model Year	Displacement liters/cylinder (l/c)	Engine Manufacturer	Model No.
EU No. 024	48 (30 kW)	2013	2013	0.5	Generac	QT030
EU No. 027	71 (45 kW)	2018	2017	0.675	Generac	SG045

*{Permitting Note: These SI ICE are regulated under: 40 CFR 60, Subpart A, General Provisions, and 40 CFR 60, Subpart JJJJ, Standards of Performance for Stationary SI ICE, adopted by reference in Rule 62-204.800(8)(d) and (8)(b)83., F.A.C., respectively. These four-stroke SI ICE are regulated under: 40 CFR Part 60, Subpart A, General Provisions, and , 40 CFR 60, Subpart JJJJ, Standards of Performance for Stationary Spark Ignition Internal Combustion Engines adopted by reference in Rule 62.204.800(8)(d) and (8)(b)83., F.A.C., respectively. Pursuant to Subpart JJJJ, this is “new” emergency stationary engines, with an engine power greater than 19 kW (25 HP) and less than 75 kW (100 HP), with a displacement of less than 10 liters per cylinder, and that are located at a major source of HAPs. Construction commenced (ordered) on these engines after January 1, 2009. Pursuant to Subpart ZZZZ, these are two “new” four-stroke emergency stationary SI RICE engines with a site rating of less than 250 brake HP located at a major source of HAP that commenced construction after December 19, 2002. In accordance with 40 CFR 63.6590(c) (3), these engines meet the requirements of Subpart ZZZZ by meeting the requirements of 40 CFR 60 Subpart JJJJ.}*

*{Permitting Note: EU No. 027 will be constructed along with the data center that it services near the end of the 2018 calendar year.}*

**Essential Potential to Emit (PTE) Parameters**

**I.1. Authorized Fuel.**

- a. *EU No. 024.* EU No. 024 is fueled by Natural Gas. This engine may be fired using propane for a maximum of 100 hours per year as an alternative fuel solely during emergency operations, but must keep records of such use. If propane is used for more than 100 hours per year in an engine that is not certified to the emission standards when using propane, you are required to conduct a performance test to demonstrate compliance with the emission standards of Specific Conditions **I.3.** and **I.4.** . [40 CFR 60.4243(e) and Application No. 0850001-33-AV]
- b. *EU No. 027.* EU No. 027 is fueled by propane. [Application No. 0850001-042-AV]

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## SECTION III. EMISSIONS UNITS AND SPECIFIC CONDITIONS.

### Subsection I. Emissions Units 024 and 027

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- I.2. Restricted Hours of Operation.** You must operate these emergency engines according to the requirements in paragraphs a. through d. In order for these engines to be considered emergency stationary ICE under Subpart JJJJ, any operation other than emergency operation, maintenance and testing, emergency demand response, and operation in non-emergency situations for 50 hours per year, as described in the paragraphs below, is prohibited. If you do not operate these engines according to the requirements in paragraphs a. through d. below, these engines will not be considered emergency engines and must meet all requirements for non-emergency engines pursuant to 40 CFR 60, Subpart JJJJ. [40 CFR 60.4243(d)]
- a. *Emergency Situations.* There is no time limit on the use of these engines in emergency situations. [40 CFR 60.4243(d)(1)]
  - b. *Non-Emergency Situations.* You may operate these engines for any combination of the purposes specified in paragraphs (1) through (3) for a maximum of 100 hours per calendar year. Any operation for non-emergency situations as allowed by paragraphs c. and d. below counts as part of the 100 hours per calendar year allowed. [40 CFR 60.4243(d)(2)]
    - (1) *Maintenance and Testing.* Each engine is authorized to operate for a maximum of 100 hours per calendar year 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, regional transmission organization or equivalent balancing authority and transmission operator, or the insurance company associated with the engine. The owner or operator may petition the Administrator for approval of additional hours to be used for maintenance checks and readiness testing, but a petition is not required if the owner or operator maintains records indicating that Federal, State, or local standards require maintenance and testing of emergency ICE beyond 100 hours per year. [40 CFR 60.4243(d)(2)(i)]
  - c. *Other Non-emergency Situations.* These engines may be operated for up to 50 hours per calendar year in non-emergency situations. The 50 hours of operation in non-emergency situations are counted as part of the 100 hours per calendar year for maintenance and testing provided in paragraph **b** above. Except as provided in paragraph d. below, the 50 hours per year for non-emergency situations cannot be used for peak shaving or non-emergency demand response, or to generate income for a facility to supply power to an electric grid or otherwise supply power as part of a financial arrangement with another entity. [40 CFR 60.4243(d)(3)]
  - d. *Limited Non-emergency 50 hours Operation.* The 50 hours per year for non-emergency situations can be used to supply power as part of a financial arrangement with another entity if all of the following conditions are met:
    - (1) The engine is dispatched by the local balancing authority or local transmission and distribution system operator.
    - (2) The dispatch is intended to mitigate local transmission and/or distribution limitations so as to avert potential voltage collapse or line overloads that could lead to the interruption of power supply in a local area or region.
    - (3) The dispatch follows reliability, emergency operation or similar protocols that follow specific NERC, regional, state, public utility commission or local standards or guidelines.
    - (4) The power is provided only to the facility itself or to support the local transmission and distribution system.
    - (5) The owner or operator identifies and records the entity that dispatches the engine and the specific NERC, regional, state, public utility commission or local standards or guidelines that are being followed for dispatching the engine. The local balancing authority or local transmission and distribution system operator may keep these records on behalf of the engine owner or operator.[40 CFR 60.4243(d)(3)(i)]

### **Emissions Standards**

- I.3. NO<sub>x</sub> + HC Emissions.** Emissions of NO<sub>x</sub> plus hydrocarbons (HC) shall not exceed 10 grams per horse power hour (g/HP-hr). [40 CFR 60.4233(d) and Table 1]

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## SECTION III. EMISSIONS UNITS AND SPECIFIC CONDITIONS.

### Subsection I. Emissions Units 024 and 027

- I.4. CO Emissions.** Carbon monoxide (CO) emissions shall not exceed 387 g/HP-hr. [40 CFR 60.4233(d) and Table 1]
- I.5. Emissions Standards Timeline.** You must operate and maintain these engines to achieve the emission standards specified in **I.3.** and **I.4.** over the entire life of the engine. [40 CFR 60.4234]

#### **Monitoring Requirements**

- I.6. Hour Meter.** You must operate and maintain non-resettable hour meters on these engines. [40 CFR 60.4237(c)]

#### **Testing and Compliance Requirements**

- I.7. Compliance Requirements.** You must demonstrate compliance with the emission standards specified in Conditions **I.3.** and **I.4.** according to one of the following methods: [40 CFR 60.4243(b)]
- a. *Having Purchased a Certified Engine.* If you purchased an engine certified to meet the emissions standards specified in Conditions **I.3.** and **I.4.**, you may demonstrate compliance according to the methods specified in paragraphs a.(1) and a.(2), below. [40 CFR 60.4243(a)]
- (1) *Certified Engine Operated According to Manufacturer.* If you operate and maintain the certified stationary SI internal combustion engine and control device according to the manufacturer's emission-related written instructions, you must keep records of conducted maintenance to demonstrate compliance, but no performance testing is required. If you adjust engine settings according to and consistent with the manufacturer's instructions, your stationary SI internal combustion engine will not be considered out of compliance. [40 CFR 60.4243(a)(1)]
- (2) *Certified Engine Not Operated According to Manufacturer.* If you do not operate and maintain the certified stationary SI internal combustion engine and control device according to the manufacturer's emission-related written instructions, your engine will be considered a non-certified engine, and you must demonstrate compliance by keeping a maintenance plan and records of conducted maintenance to demonstrate compliance and must, to the extent practicable, maintain and operate the engine in a manner consistent with good air pollution control practice for minimizing emissions, but no performance testing is required. [40 CFR 60.4243(a)(2) & (2)(i)]
- b. *Having Purchased a Non-Certified Engine.* If you purchased a non-certified engine or you do not operate and maintain your certified stationary SI internal combustion engine and control device according to the manufacturer's written emission-related instructions, you must conduct an initial test to demonstrate compliance with the emissions standards specified in Conditions **I.3.** and **I.4.** according to Specific Conditions **I.8.** and **I.9.**, but you are not required to conduct subsequent performance testing unless the stationary engine is rebuilt or undergoes major repair or maintenance. A rebuilt stationary SI ICE means an engine that has been rebuilt as that term is defined in 40 CFR 94.11(a). In addition, 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. [40 CFR 60.4243(b)(2), (b)(2)(i) & (e)]

#### **Testing Requirements**

- I.8. Test Procedures:** When required, performance tests must follow the procedures below.
- a. Each performance test must be conducted within 10 percent of 100 percent peak (or the highest achievable) load and according to the requirements in 40 CFR 60.8 and Specific Condition **I.9.**
- b. Performance tests during periods of startup, shutdown, or malfunction are not allowed, as specified in 40 CFR 60.8(c). If the engine is non-operational, it is not necessary to startup the engine solely to conduct a performance test; however, the performance test must be conducted immediately upon startup of the engine.

## SECTION III. EMISSIONS UNITS AND SPECIFIC CONDITIONS.

### Subsection I. Emissions Units 024 and 027

- c. Three separate test runs must be conducted for each performance test required, as specified in 40 CFR 60.8(f). Each test run must be conducted within 10 percent of 100 percent peak (or the highest achievable) load and last at least 1 hour.
- d. To determine compliance with the NO<sub>x</sub> mass per unit output emission limitation, the concentration of NO<sub>x</sub> in the engine exhaust should be converted using Equation 1, below:

$$ER = \frac{C_d \times 1.912 \times 10^{-3} \times Q \times T}{HP - hr} \quad (\text{Eq. 1})$$

Where:

ER = Emission rate of NO<sub>x</sub> in g/HP-hr.

C<sub>d</sub> = Measured NO<sub>x</sub> concentration in parts per million by volume (ppmv).

1.912×10<sup>-3</sup> = Conversion constant for ppm NO<sub>x</sub> to grams per standard cubic meter at 20 degrees Celsius.

Q = Stack gas volumetric flow rate, in standard cubic meter per hour, dry basis.

T = Time of test run, in hours.

HP-hr = Brake work of the engine, horsepower-hour (HP-hr).

- e. To determine compliance with the CO mass per unit output emission limitation, the concentration of CO in the engine exhaust should be converted using Equation 2, below:

$$ER = \frac{C_d \times 1.164 \times 10^{-3} \times Q \times T}{HP - hr} \quad (\text{Eq. 2})$$

Where:

ER = Emission rate of CO in g/HP-hr.

C<sub>d</sub> = Measured CO concentration in ppmv.

1.164×10<sup>-3</sup> = Conversion constant for ppm CO to grams per standard cubic meter at 20 degrees Celsius.

Q = Stack gas volumetric flow rate, in standard cubic meters per hour, dry basis.

T = Time of test run, in hours.

HP-hr = Brake work of the engine, in HP-hr.

[40 CFR 60.4243(b)(2) & 40 CFR 60.4244]

**I.9. Requirements for Performance Tests.** When required to demonstrate compliance with the emissions standards specified in Specific Conditions **I.3.** and **I.4.**, the following requirements must be met:

a. *NO<sub>x</sub>.*

- (1) Select the sampling port location and the number of traverse points using Method 1 or 1A of 40 CFR part 60, appendix A or ASTM Method D6522–00(2005)<sup>a</sup>. If using a control device, the sampling site must be located at the outlet of the control device.
- (2) Determine the O<sub>2</sub> concentration of the stationary internal combustion engine exhaust at the sampling port location using Method 3, 3A, or 3B<sup>b</sup> of 40 CFR part 60, appendix A or ASTM Method D6522–00(2005)<sup>a</sup>. Measurements to determine O<sub>2</sub> concentration must be made at the same time as the measurements for NO<sub>x</sub> concentration.
- (3) Determine the exhaust flowrate of the stationary internal combustion engine exhaust using Method 2 or 19 of 40 CFR Part 60.
- (4) If necessary, measure moisture content of the stationary internal combustion engine exhaust at the sampling port location using Method 4 of 40 CFR part 60, appendix A, Method 320 of 40 CFR part 63, appendix A, or ASTM D6348–03 (incorporated by reference, see 40 CFR 60.17). Measurements to determine moisture must be made at the same time as the measurement for NO<sub>x</sub> concentration.
- (5) Measure NO<sub>x</sub> at the exhaust of the stationary internal combustion engine using Method 7E of 40 CFR part 60, appendix A, Method D6522–00(2005)<sup>a</sup>, Method 320 of 40 CFR part 63, appendix A, or ASTM D6348–03 (incorporated by reference, see §60.17). Results of this test consist of the average of the three 1-hour or longer runs.

b. *CO.*

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## SECTION III. EMISSIONS UNITS AND SPECIFIC CONDITIONS.

### Subsection I. Emissions Units 024 and 027

- (1) Select the sampling port location and the number of traverse points using Method 1 or 1A of 40 CFR part 60, Appendix A. If using a control device, the sampling site must be located at the outlet of the control device.
- (2) Determine the O<sub>2</sub> concentration of the stationary internal combustion engine exhaust at the sampling port location using Method 3, 3A, or 3Bb of 40 CFR part 60, Appendix A or ASTM Method D6522-00(2005)<sup>a</sup>. Measurements to determine O<sub>2</sub> concentration must be made at the same time as the measurements for CO concentration.
- (3) Determine the exhaust flowrate of the stationary internal combustion engine exhaust using Method 2 or 19 of 40 CFR part 60.
- (4) If necessary, measure moisture content of the stationary internal combustion engine exhaust at the sampling port location using Method 4 of 40 CFR part 60, appendix A, Method 320 of 40 CFR part 63, appendix A, or ASTM D6348-03 (incorporated by reference, see 40 CFR 60.17). Measurements to determine moisture must be made at the same time as the measurement for CO concentration.
- (5) Measure CO at the exhaust of the stationary internal combustion engine using Method 10 of 40 CFR part 60, Appendix A, ASTM Method D6522-00(2005)<sup>a</sup>, Method 320 of 40 CFR part 63, Appendix A, or ASTM D 6348-03 (incorporated by reference, see 40 CFR 60.17). Results of this test consist of the average of the three 1-hour or longer runs.

Note a: You may petition the Administrator for approval to use alternative methods for portable analyzer. [40 CFR 60.4243(b)(2)(i), 40 CFR 60.4244, and Table 2]

**I.10. 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.]

#### **Notification, Records and Reports**

**I.11. Hours of Operation Records.** The owner or operator must keep records of the hours of operation of the engine that is recorded through the non-resettable hour meter and must document how many hours are spent for emergency operation; including what classified the operation as emergency and how many hours are spent for non-emergency operation. [40 CFR 60.4245(b)]

**I.12. Maintenance Records.** To demonstrate conformance with the manufacturer's written instructions for maintaining the certified engine and to document when compliance testing was performed pursuant to Specific Conditions **I.9.** and **I.10.** (if tests are applicable), the owner and operator must keep records of the following information:

- a. *Notifications.* All notifications submitted to comply with 40 CFR 60, Subpart JJJJ, as specified in this subsection of the permit, and all documentation supporting any notification.
- b. *Manufacturer Data.* Engine manufacturer data indicating compliance with the standards.
- c. *Manufacturer Instructions.* A copy of the manufacturer's written instructions for operation and maintenance of the certified engine.
- b. *Maintenance Log.* Maintenance conducted on the engine. 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.
- c. *Manufacturer Certification Documentation.* If the emissions unit is a certified engine, documentation from the manufacturer that the engine is certified to meet the emission standards and information as required in 40 CFR parts 90, 1048, 1054, and 1060, as applicable.
- d. *Documentation showing Compliance with Standards.* If the SI ICE is not a certified engine or is a certified engine operating in a non-certified manner and subject to Specific Condition **I.7.** a.(2), documentation that the engine meets the emission standards.

[Rule 62-213.440(1), F.A.C., and 40 CFR 60.4245(a)]

**SECTION III. EMISSIONS UNITS AND SPECIFIC CONDITIONS.**

**Subsection I. Emissions Units 024 and 027**

- I.13. Performance Test Reports.** Owners and operators of stationary SI ICE that are subject to performance testing must submit a copy of each performance test within 60 days after the test has been completed. [40 CFR 60.6245(d)]
- I.14. 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**

- I.15. 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 Subpart A](#) and [Link to Subpart JJJJ](#).

<b>General provisions citation</b>	<b>Subject of citation</b>	<b>Explanation</b>
§ 60.1	General applicability of the General Provisions	
§ 60.2	Definitions	Additional terms defined in § 60.4248.
§ 60.3	Units and abbreviations	
§ 60.4	Address	
§ 60.5	Determination of construction or modification	
§ 60.6	Review of plans	
§ 60.7	Notification and Recordkeeping	Except that § 60.7 only applies as specified in § 60.4245.
§ 60.8	Performance tests	Except that § 60.8 only applies to owners and operators who are subject to performance testing in subpart JJJJ.
§ 60.9	Availability of information	
§ 60.10	State Authority	
§ 60.11	Compliance with standards and maintenance requirements	Requirements are specified in subpart JJJJ.
§ 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	

**SECTION III. EMISSIONS UNITS AND SPECIFIC CONDITIONS.**

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**Subsection I. Emissions Units 024 and 027**

[40 CFR 60.4245 (a)]

[Table of Contents](#)

**SECTION IV. ACID RAIN PART.**

**Federal Acid Rain Provisions**

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Operated by: Florida Power and Light Company  
ORIS Code: 6043

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

**E.U.**

<b><u>ID No.</u></b>	<b><u>Brief Description</u></b>
001	Fossil Fuel Fired Steam Generator No. 1
002	Fossil Fuel Fired Steam Generator No. 2
003	CT with HRSG (CT 3A)
004	CT with HRSG (CT 3B)
005	CT with HRSG (CT 4A)
006	CT with HRSG (CT 4B)
011	CT with HRSG (CT 8A)
012	CT with HRSG (CT 8B)
017	CT with HRSG (CT 8C)
018	CT with HRSG (CT 8D)

**A.1.** The Phase II 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 Phase II acid rain units must comply with the standard requirements and special provisions set forth in the application listed below:

DEP Form No. 62-210.900(1)(a), dated 04/27/18, received 05/21/18.

[Chapter 62-213, F.A.C. and Rule 62-214.320, F.A.C.]

**A.2.** Sulfur Dioxide (SO<sub>2</sub>) Emission Allowances. SO<sub>2</sub> 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.]

**A.3.** Comments, Notes, and Justifications: None.

**SECTION IV. ACID RAIN PART.**

**Federal Acid Rain Provisions**

## 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 ; MARTIN	State Florida	006043 ORIS/Plant Code
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**STEP 2**

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

If unit a SO<sub>2</sub> Opt-in unit, enter "yes" in column "b".

For new units or SO<sub>2</sub> Opt-in units, enter the requested information in columns "d" and "e."

a	b	c	d	e
Unit ID#	SO <sub>2</sub> Opt-in Unit? (Yes or No)	Unit will hold allowances in accordance with 40 CFR 72.9(c)(1)	New or SO <sub>2</sub> Opt-in Units Commence Operation Date	New or SO <sub>2</sub> Opt-in Units Monitor Certification Deadline
PMR1	NO	Yes		
PMR2	NO	Yes		
HRSG3A	NO	Yes		
HRSG3B	NO	Yes		
HRSG4A	NO	Yes		
HRSG4B	NO	Yes		
PMR8A	NO	Yes		
PMR8B	NO	Yes		
PMR8C	NO	Yes		
PMR8D	NO	Yes		

## SECTION IV. ACID RAIN PART.

### Federal Acid Rain Provisions

Plant Name (from STEP 1) **MARTIN**

#### 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<sub>2</sub> Opt-in unit, a monitoring plan for each SO<sub>2</sub> Opt-in unit must be submitted with this application pursuant to 40 CFR 74.14(a). For renewal applications for SO<sub>2</sub> 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,

**SECTION IV. ACID RAIN PART.**

**Federal Acid Rain Provisions**

Plant Name (from STEP 1) **MARTIN**

**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 75.11 (NO<sub>x</sub> 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 72.7 or 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<sub>2</sub> Opt-in units only.

In column "f" enter the unit ID# for every SO<sub>2</sub> 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

