



March 12, 2012

Jeffery F. Koerner – Program Administrator
Office of Permitting and Compliance
Division of Air Resource Management
Department of Environmental Protection
2600 Blair Stone Road
Mail Station #5505
Tallahassee, FL 32399-2400

Re: FPL Comments for West County Energy Center Title V Modification to incorporate Unit 3(0990646-007-AV)

Dear Mr. Koerner,

Provided in the attachment you will find the FPL comments related to the Department's draft Title V Permit modification. We appreciate the Departments' efforts in preparing the draft permits and have provided comments which we believe will further assist the facility in understanding and maintaining compliance with the substantial list of state and federal regulations. Admittedly the increasing number of regulations which now affect the variety of small sources located at new facilities has created a very complex permitting process as we try to work together in creating permits that are neither burdensome for the permittee or the compliance authority. .

Should you have any questions, or need any additional information, please contact me at your earliest convenience.

Sincerely,

John Hampp
Air Program Manager
FPL / NextEra Energy
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FPL Comments for Title V Permit Re:

Florida Power and Light Company (FPL)
West County Energy Center
Facility ID No. 0990646
Palm Beach County

Title V Air Operation Permit Revision
Permit No. 0990646-007-AV
(First revision to permit No. 0990646-004-AV)

~~Suggested deletions to permit are in strike through text~~

Suggested additions to permit are in double underline

Subsection A. Facility Description.

The West County Energy Center ~~currently is operated~~ as a nominal ~~2,500~~ 3,750 megawatt (MW) power plant. The initial phase of the facility was for the construction of two nominal 1,250 MW gas-fired combined cycle units that use ultra low sulfur distillate (ULSD) fuel oil as backup fuel. These two combined cycle units are designated as Unit 1 and Unit 2 and they commenced operation in 2009. The permitted second phase of the facility ~~is to add~~ added another a third nominal 1,250 MW gas-fired combined cycle unit designated as Unit 3, for a total of ~~3.75 gigawatts (GW)~~ 3,750 MW. Unit 3 commenced operation in 2011.

Subsection B. Summary of Emissions Units.

E.U. ID Brief Description
No.

Regulated Emissions Units

- 001 Unit 1A - 250 MW Gas Turbine with Supplementary-fired Heat Recovery Steam Generator
- 002 Unit 1B - 250 MW Gas Turbine with Supplementary-fired Heat Recovery Steam Generator
- 003 Unit 1C - 250 MW Gas Turbine with Supplementary-fired Heat Recovery Steam Generator
- 004 Unit 2A - 250 MW Gas Turbine with Supplementary-fired Heat Recovery Steam Generator
- 005 Unit 2B - 250 MW Gas Turbine with Supplementary-fired Heat Recovery Steam Generator
- 006 Unit 2C - 250 MW Gas Turbine with Supplementary-fired Heat Recovery Steam Generator
- 009 One Limited Use Gas-fueled Auxiliary Boiler
- 010 Two 8.3 MMBtu/hr Natural Gas-fired Process Heaters
- 011 Three Emergency Generators/Engines (EPA Tier 1 certified)
- 012 One Emergency Fire Pump Engine (EPA Tier 1 certified) and 500 Gallon Fuel Oil Storage Tank
- 013 Unit 3A – 250 MW Gas Turbine with Supplementary-fired Heat Recovery Steam Generator
- 014 Unit 3B – 250 MW Gas Turbine with Supplementary-fired Heat Recovery Steam Generator
- 015 Unit 3C – 250 MW Gas Turbine with Supplementary-fired Heat Recovery Steam Generator
- 016 ~~One 26 Cell Mechanical Draft Cooling Tower~~
- 017 Two 8.3 MMBtu/hr Natural Gas-fired Process Heaters
- 019 Four Propane-fired Emergency Generators (30 kilowatt (kW)) - Hurricane Shelters

Unregulated Emissions Units and/or Activities

- 007 Two Distillate Fuel Oil Storage Tanks
- 008 Two Mechanical Draft Cooling Towers
- 016 One 26 Cell Mechanical Draft Cooling Tower

Subsection C. Applicable Requirements.

Based on the Title V air operation permit revision application received on November 7, 2011, this facility is a major source of hazardous air pollutants (HAP). This facility is classified as a Prevention of Significant Deterioration (PSD) major facility. A summary of important applicable requirements is shown in the following table.

Applicable Requirement	E.U. ID No(s).
Rule 62-212.400, F.A.C., Prevention of Significant Deterioration (PSD)	001 - 006 & 009 - 012, 013, 014 and 015
40 CFR 60, Subpart A, New Stationary Source Performance Standards (NSPS) General Provisions	001 - 006, 013, 014 and 015
NSPS - 40 CFR 60, Subpart KKKK, Standards of Performance for Stationary Combustion Turbines	001 - 006, 013, 014 and 015
40 CFR 63, Subpart A, General Provisions	001 - 006, 011, 012 & 019
40 CFR 63, Subpart YYYY, National Emissions Standards for Hazardous Air Pollutants for Stationary Combustion Turbines	001 - 006, 013, 014 and 015
Acid Rain, Phase II SO2	001 - 006, 013, 014 and 015
Rule 62-296.470, F.A.C., Clean Air Interstate Rule	001 - 006, 013, 014 and 015
Rule 62-210.300, F.A.C., Permits Required	007, 008, 010 and 017
NSPS - 40 CFR 60, Subpart Dc, Standards of Performance for Small Industrial-Commercial-Institutional Steam Generating Units	009
40 CFR 63, Subpart ZZZZ, National Emissions Standards for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines	011, 012 and 019
NSPS - 40 CFR 60, Subpart IIII, Standards of Performance for Stationary Compression Ignition Internal Combustion Engines	011 and 012
<u>NSPS - 40 CFR 60, Subpart DDDDD, National Emission Standards for Hazardous Air Pollutants for Major Sources: Industrial, Commercial, and Institutional Boilers and Process Heaters</u>	<u>009</u>

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

E.U. ID	Brief Description
No.	
001	Unit 1A - 250 MW Gas Turbine with Supplementary-fired Heat Recovery Steam Generator
002	Unit 1B - 250 MW Gas Turbine with Supplementary-fired Heat Recovery Steam Generator
003	Unit 1C - 250 MW Gas Turbine with Supplementary-fired Heat Recovery Steam Generator
004	Unit 2A - 250 MW Gas Turbine with Supplementary-fired Heat Recovery Steam Generator
005	Unit 2B - 250 MW Gas Turbine with Supplementary-fired Heat Recovery Steam Generator
006	Unit 2C - 250 MW Gas Turbine with Supplementary-fired Heat Recovery Steam Generator
<u>013</u>	<u>Unit 3A - 250 MW Gas Turbine with Supplementary-fired Heat Recovery Steam Generator</u>
<u>014</u>	<u>Unit 3B - 250 MW Gas Turbine with Supplementary-fired Heat Recovery Steam Generator</u>
<u>015</u>	<u>Unit 3C - 250 MW Gas Turbine with Supplementary-fired Heat Recovery Steam Generator</u>

This subsection of the permit consists of ~~two~~ three nominal 1,250 megawatt (MW) gas-fired “3-on-1” combined cycle units that use ultra low sulfur distillate (ULSD) fuel oil as backup fuel. The two combined cycle units are designated individually as “Unit 1”, and “Unit 2”, and “Unit 3.”

Each combined cycle unit consists of: three nominal 250 MW “G” Class gas turbine-electrical generator sets (Mitsubishi Heavy Industries Model M501G) with evaporative inlet cooling systems; three supplementary-fired heat recovery steam generators (HRSGs) with selective catalytic reduction (SCR) reactors; one nominal 428 MMBtu/hour lower heating value (LHV) gas-fired duct burner located within each of the three HRSGs; three 149 feet exhaust stacks; one 26 cell mechanical draft cooling tower; and, a common nominal 500 MW steam-electrical generator.

Each of the six gas turbine-electrical generator sets has a nominal generating capacity of 250 MW. Each of the two steam turbine-electrical generators has a nominal generating capacity of 500 MW. The total nominal generating capacity of each of the “3-on-1” combined cycle unit is approximately 1,250 MW. The total nominal generating capacity of the initial phase of the West County Energy Center (Units 1 and 2) was therefore 2,500 MW. Unit 3 was added in the final phase for a site total nominal generating capacity of 3,750 MW.

The efficient combustion of natural gas and restricted firing of ultra low sulfur distillate fuel oil minimizes the emissions of CO, PM/PM₁₀, SAM, SO₂ and VOC. Dry Low-NOx (DLN) combustion technology for gas firing and water injection for oil firing reduce NOx emissions. A selective catalytic reduction (SCR) system further reduces NOx emissions.

Each HRSG has a 149 foot tall stack (total of 6 stacks) with a nominal diameter of 22 feet. When firing natural gas (with the duct burners), at a compressor inlet temperature of 59°F, the stack gas flow rate is 1,311,589 acfm and the exhaust temperature is 188°F. When firing oil (without the duct burners), at a compressor inlet temperature of 59°F the stack gas flow rate is 1,533,502 acfm and the exhaust

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. "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. *Shutdown Combined Cycle Operation*. For shutdown of the combined cycle operation, excluded emissions from any gas turbine/HRSG system shall not exceed three hours in any 24-hour period.

e. *Gas Turbine/HRSG System Shutdown*. For shutdown of the gas turbine/HRSG operation, excluded emissions from any gas turbine/HRSG system shall not exceed two 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 the gas turbine/HRSG system, excess emissions of NOx and CO 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.

[Permit Nos. 0990646-001-AC/PSD-FL-354 and 0990646-005-AC/PSD-FL-354B, specific condition III.A.18 & 0990646-002-AC, Specific Condition A.17.]

A.16. Ammonia Injection. 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(5), F.A.C., the above conditions allow excess emissions only for specifically defined periods of startup, shutdown, fuel switching, and documented malfunction of the gas turbines. [Rules 62-4.160(2), 62-210.700 & 62-212.400 (BACT Determination), F.A.C.; and, Permit No. 0990646-001-AC/PSD-FL-354, specific condition III.A.19 & 0990646-002-AC, Specific Condition A. 18.]

A.17. 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 Nos. 0990646-001-AC/PSD-FL-354 & 0990646-005-AC/PSD-FL-354B, specific condition III.A.20 & 0990646-002-AC, Specific Condition A.19.]

Monitoring Requirements

A.18. 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. [Rules 62-4.070(1), (3) & 62-212.400 (BACT Determination), F.A.C.; and, Permit No. 0990646-001-AC/PSD-FL-354 & 0990646-002-AC, Specific Condition A.28.]

A.19. 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 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. [Rules 62-4.070(1), (3) & 62-212.400 (BACT Determination), F.A.C.; and, Permit No. 0990646-001-AC/PSD-FL-354 & 0990646-002-AC, Specific Condition A.29.]

Continuous Monitoring Requirements

{Permitting Note: The following continuous monitors are installed on these units: CO, NO_x and O₂.}

A.20. Continuous Emission Monitoring Systems (CEMS). The permittee shall calibrate, maintain, and operate CEMS to measure and record the emissions of CO and NO_x from the gas turbine/HRSG system in a manner sufficient to demonstrate continuous compliance with the CEMS emission standards of this section. Within one working day of discovering emissions in excess of a CO or NO_x standard (and subject to the specified averaging period), the permittee shall notify the Compliance Authority.

a. *CO Monitors.* The CO monitors shall be certified pursuant to 40 CFR 60, Appendix B, Performance Specification 4 or 4A. Quality assurance procedures shall conform to the requirements of 40 CFR 60, Appendix F or 40 CFR Part 75, 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_x Monitors.* Each NO_x monitor shall be certified, operated, and maintained in accordance with the requirements of 40 CFR 75. Record keeping and reporting shall be conducted pursuant to Subparts F and G in 40 CFR 75. The RATA tests required for the NO_x monitor shall be performed using EPA Method 20 or 7E in Appendix A of 40 CFR 60.

c. *Diluent Monitors.* The oxygen (O₂) or carbon dioxide (CO₂) content of the flue gas shall be monitored at the location where CO and NO_x are monitored to correct the measured emissions rates to 15% oxygen. If a CO₂ 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.

[Rule 62-212.400 (BACT Determination), F.A.C. and Permit No. 0990646-001-AC/PSD-FL-354, specific condition III.A.25 & 0990646-002-AC, Specific Condition A.25.]

A.21. CEMS Data Requirements.

a. *Data Collection.* Emissions shall be monitored and recorded at all times including startup, operation, shutdown, and malfunction except for continuous monitoring system breakdowns, repairs, calibration checks, and zero and span adjustments. The CEMS shall be designed and operated to sample, analyze, and record data evenly spaced over an hour. If the CEMS measures concentration on a wet basis, the CEM system shall include provisions to determine the moisture content of the exhaust gas and an algorithm to enable correction of the monitoring results to a dry basis (0% moisture). Alternatively, the owner or operator may develop through manual stack test measurements a curve of moisture contents in the exhaust gas versus load for each allowable fuel, and use these typical values in an algorithm to enable correction of the monitoring results to a dry basis (0% moisture). Final results of the CEMS shall be expressed as parts per million volume dry (ppmvd) corrected to 15% oxygen. The CEMS shall be used to demonstrate compliance with the CEMS emission standards for CO and NO_x as specified in this permit. For purposes of determining compliance with the CEMS emissions standards of this permit, missing (or excluded) data shall not be substituted. Upon request by the Department, the CEMS emission rates shall be corrected to ISO conditions.

b. *Valid Hour.* Hourly average values shall begin at the top of each hour. Each hourly average value shall be computed using at least one data point in each fifteen-minute quadrant of an hour, where

temperature is 293°F. Temperature and exhaust flow rate will vary with CT load, fuel type and ambient conditions.

Initial start-up dates were as follows: Unit 1A - May 17, 2009; Unit 1B - April 29, 2009; Unit 1C - April 16, 2009; Unit 2A - September 22, 2009; Unit 2B - September 7, 2009; Unit 2C - August 27, 2009, Unit 3A - December 26, 2010; Unit 3B - December 1, 2010; and Unit 3C - December 16, 2010.

{Permitting Notes: These emissions units are regulated under Acid Rain, Phase II; 40 CFR 60, Subpart KKKK, Standards of Performance for Stationary Combustion Turbines; 40 CFR 63, Subpart YYYY, National Emissions Standards for Hazardous Air Pollutants for Stationary Combustion Turbines; Rule 62-212.400(5), F.A.C., Prevention of Significant Deterioration (PSD) [PSD-FL-354, as amended]; Rule 62-212.400(6), F.A.C., Best Available Control Technology (BACT) Determination; and, Rule 62-296.470, F.A.C., Clean Air Interstate Rule (CAIR). These emissions units are exempt from Compliance Assurance Monitoring (CAM) due to the use of NOx CEMS for continuous compliance.}

Equipment and Air Pollution Controls/Measures

A.1. Gas Turbines. The permittee is authorized to tune, operate, and maintain ~~six~~ nine Mitsubishi Heavy Industries Model 501G gas turbine-electrical generator sets each with a nominal generating capacity of 250 MW. Each gas turbine includes an automated gas turbine control system and dual-fuel capability. Ancillary equipment includes an inlet air filtration system and an evaporative inlet air-cooling system. The gas turbines shall utilize DLN combustors. [Rules 62-4.160(2) & 62-210.200 (Definitions - Potential to Emit (PTE)), F.A.C.; and, Permit No. 0990646-001-AC/PSD-FL-354 & 0990646-002-AC, Specific Condition A.4.]

A.2. Heat Recovery Steam Generators (HRSG). The permittee is authorized to operate and maintain ~~six~~ nine heat recovery steam generators (HRSG) with separate HRSG exhaust stacks. Each HRSG recovers exhaust heat energy from one of the ~~six~~ nine gas turbines (1A to 1C, ~~and~~ 2A to 2C, and 3A to 3C) and delivers steam to one of the ~~two~~ three steam turbine electrical generators. Each HRSG is equipped with a gas-fired duct burner (DB) having a nominal heat input rate of 428 MMBtu/hour lower heating value (LHV). [Rules 62-4.160(2) & 62-210.200 (PTE), F.A.C.; and, Permit No. 0990646-001-AC/PSD-FL-354 & 0990646-002-AC, Specific Condition A.5.]

A.3. Gas Turbine/Supplementary-fired HRSG Emission Controls.

a. DLN Dry Low NOx (DLN) Combustion. The permittee shall operate and maintain the DLN system to control NOx emissions from each gas turbine when firing natural gas. Prior to the initial emissions performance tests required for each gas turbine, the DLN combustors and automated gas turbine control system shall be tuned to achieve sufficiently low CO and NOx values to meet the CO and NOx limits with the additional SCR control technology described below. Thereafter, each system shall be maintained and tuned in accordance with the manufacturer's recommendations.

b. Water Injection. The permittee shall operate and maintain a water injection system to reduce NOx emissions from each gas turbine when firing distillate fuel oil. Prior to the initial emissions performance tests required for each gas turbine, the water injection system shall be tuned to achieve sufficiently low CO and NOx values to meet the CO and NOx limits with the additional SCR control technology described below. Thereafter, each system shall be maintained and tuned in accordance with the manufacturer's recommendations.

c. Selective Catalytic Reduction (SCR) System. The permittee shall tune, operate, and maintain an SCR system to control NOx emissions from each gas turbine when firing either natural gas or distillate fuel oil. The SCR system consists of an ammonia (NH₃) injection grid, catalyst, ammonia storage, monitoring and control system, electrical, piping and other ancillary equipment. The SCR system shall be operated to achieve the permitted levels for NOx and NH₃ emissions.

d. Oxidation Catalyst. The permittee designed and built the project to facilitate possible future installation of an oxidation catalyst system to control CO emissions from each gas combustion turbine/supplementary-fired heat recovery steam generator. The permittee may install the oxidation catalyst after notifying the Department, at a future date as described in Specific Condition **A.9.h.**

e. *Ammonia Storage.* The storage of ammonia shall comply with all applicable requirements of the Chemical Accident Prevention Provisions in 40 CFR 68.

[Rules 62-4.160(2), 62-210.200 (PTE) & 62-212.400 (Best Available Control Technology (BACT)) Determination, F.A.C.; and, Permit No. 0990646-001-AC/PSD-FL-354 & 0990646-002-AC, Specific Condition A.6.]

{*Permitting Note: See Appendix CP-1, Compliance Plan.*}

Essential Potential to Emit (PTE) Parameters

A.4. Permitted Capacity - Gas Turbines. The nominal heat input rate to each gas turbine is 2,333 MMBtu per hour when firing natural gas and 2,117 MMBtu per hour when firing distillate fuel oil (based on a compressor inlet air 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 45 days of completing the initial compliance testing while firing ULSD fuel oil. Operating data may be adjusted for the appropriate site conditions in accordance with the performance curves and/or equations on file with the Department. [Rules 62-4.160(2) & 62-210.200 (PTE), F.A.C.; and, Permit No. 0990646-001-AC/PSD-FL-354 & 0990646-002-AC, Specific Condition A.7.]

{*Permitting Note: See Appendix CP-1, Compliance Plan.*}

A.5. Permitted Capacity - HRSG Duct Burners. The total nominal heat input rate to the duct burners for each HRSG is 428 MMBtu/hour based on the LHV of natural gas. Only natural gas shall be fired in the duct burners. [Rules 62-4.160(2) & 62-210.200 (PTE), F.A.C.; and, Permit No. 0990646-001-AC/PSD-FL-354 & 0990646-002-AC, Specific Condition A.8.]

A.6. Authorized Fuels. The 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, the gas turbine may fire ultra low sulfur distillate (ULSD) fuel oil containing no more than 0.0015% sulfur by weight. Each gas turbine shall fire no more than 500 hours of fuel oil, during any calendar year. The initial emissions performance tests while firing ULSD fuel oil in Unit 1 and Unit 2 have not yet been completed; as such the permittee must comply with the attached compliance plan in **Appendix CP-1, Compliance Plan.** [Rules 62-4.160(2), 62-210.200 (PTE), 62-212.400 (BACT Determination), 62-213.410, 62-213.440(1) & 213.440(2), F.A.C.; and, Permit No. 0990646-001-AC/PSD-FL-354 & 0990646-002-AC, Specific Condition A.9.]

A.7. Methods of Operation. Subject to the restrictions and requirements of this permit, the gas turbines may operate under the following methods of operation.

a. *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 three-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.

b. *Inlet Conditioning.* 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 to provide additional direct, shaft-driven electrical power.

c. *Duct Firing.* When firing natural gas, 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 six HRSGs) shall not exceed 7,395,840 MMBtu (LHV) during any consecutive 12 months.

[Rules 62-4.160(2), 62-210.200 (PTE), 62-212.400 (BACT Determination), 62-213.410, 62-213.440(1) & 213.440(2), F.A.C.; and, Permit No. 0990646-001-AC/PSD-FL-354 & 0990646-002-AC, Specific Condition A.11.]

A.8. Hours of Operation. Subject to the operational restrictions of this permit, the combined cycle units may operate throughout the year (8,760 hours per year). Restrictions on individual methods of operation are specified above. [Rules 62-4.160(2) & 62-210.200 (PTE), F.A.C.; and, Permit No. 0990646-001-AC/PSD-FL-354 & 0990646-002-AC, Specific Condition A.10.]

A.9. Emissions Limitations and Standards. Emissions from each gas turbine/duct burner shall not exceed the following standards.

Air Pollutant	Fuel	Method of Operation	Stack Test, 3-Run Average		CEMS Block Average
			ppmvd @ 15% O ₂	lb/hr ^g	ppmvd @ 15% O ₂
CO ^a	Oil	Combustion Turbine (CT)	8.0	42.0	8.0, 24-hr 6, 12-month ^h
		CT & DB	7.6	52.5	
	Gas	CT Normal Mode	4.1	23.2	
NOX ^b	Oil	CT	8.0	82.4	8.0, 24-hr ⁱ
		CT & DB	2.0	24.2	2.0, 24-hr ⁱ
	Gas	CT Normal Mode	2.0	20.0	
PM/PM10 ^c	Oil/Gas	All Modes	2 grains S/100 scf of gas, 0.0015% sulfur fuel oil Visible emissions shall not exceed 10% opacity for each 6-minute block average.		
SAM/SO2 ^d	Oil/Gas	All Modes	2 grains S/100 SCF of gas, 0.0015% sulfur fuel oil		
	Oil	CT	6.0	19.6	
VOC ^e	Gas	CT & DB	1.5	5.4	NA
		CT Normal Mode	1.2	4.1	
NH3 ^f	Oil/Gas	CT, All Modes	5	NA	NA

Notes:

a. Compliance with the continuous 24-hour CO standards shall be demonstrated based on data collected by the required CEMS. The initial and annual EPA Method 10 tests associated with the certification of the CEMS instruments shall also be used to demonstrate compliance with the individual standards for natural gas, fuel oil, and basic duct burner modes. The stack test limits apply only at high load (90-100% of the combustion turbine capacity).

b. Compliance with the continuous NOx standards shall be demonstrated based on data collected by the required CEMS. The initial and annual EPA Method 7E or Method 20 tests associated with demonstration of compliance with 40 CFR 60, Subpart KKKK or certification of the CEMS instruments shall also be used to demonstrate compliance with the individual standards for natural gas, fuel oil, and duct burner modes during the time of those tests. NOx mass emission rates are defined as oxides of nitrogen expressed as NO₂.

c. The sulfur (S) fuel specifications combined with the efficient combustion design and operation of each gas turbine represents (BACT) for PM/PM10 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.

d. The fuel sulfur specifications effectively limit the potential emissions of SAM and SO₂ from the gas turbines and represent BACT for these pollutants. Compliance with the fuel sulfur specifications shall be determined by the ASTM methods as detailed in the permit.

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. The limits apply only at high load (90-100% of the combustion turbine capacity). Compliance with the CO CEMS based limits at lower loads shall be deemed as compliance with the VOC limit.

f. Compliance with the ammonia slip standard shall be demonstrated by conducting tests in accordance with EPA Method CTM-027 or EPA Method 320.

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

h. Rolling Average. Enforcement discretion may be exercised for up to 12 months with respect to the 6 ppmvd @15% O₂ limit for any combustion turbine/supplementary-fired heat recovery steam generator upon notification by the permittee of intent to install the oxidation catalyst. The permittee shall have 12 months to complete the oxidation catalyst installation. After completing the installation of the catalyst all prior partial or complete calendar months shall be excluded from the 12-month rolling average.

i. Compliance with the 24-hour block NOX BACT limits will insure compliance with the less stringent Subpart KKKK limits of 15 and 42 ppmvd for gas and fuel oil respectively on a 30 day rolling average.

"DB" means duct burning; "SCR" means selective catalytic reduction; "NA" means not applicable.

{Permitting Note: The initial emissions performance tests while firing ULSD fuel oil in Unit 1 and Unit 2 have not yet been completed.}

[Rules 62-212.400 (BACT Determination), 62-213.410 & 62-213.440(1), F.A.C.; and, Permit No. 0990646-001-AC/PSD-FL-354 & 0990646-002-AC, Specific Condition A.12.]

*{Permitting Note: See **Appendix CP-1, Compliance Plan.**}*

~~— **A.10. Visible Emissions Standard.** Visible emissions shall not exceed 10% opacity. [Rule 62-212.400 (BACT Determination), F.A.C. and Permit No. 0990646-001-AC/PSD-FL-354.]~~

~~— **A.11. Visible Emissions Standard - Startups, Shutdowns, Fuel Switches and Malfunctions.** Visible emissions shall not exceed 20% opacity for up to ten, 6 minute averaging periods during a calendar day due to startups, shutdowns, fuel switches and malfunctions. [Rule 62-212.400 (BACT Determination), F.A.C. and Permit Nos. 0990646-001-AC/PSD-FL-354 & 0990646-005-AC/PSD-FL-354B.]~~

Excess Emissions

The following conditions apply only to the state implementation plan (SIP)-based emissions standards in specific conditions ~~A.9, A.10, and A.11.~~ Rule 62-210.700 (Excess Emissions), F.A.C., cannot vary any requirement of a NSPS, NESHAP or Acid Rain program provision.

A.10. Visible Emissions Standard. Visible emissions shall not exceed 10% opacity. [Rule 62-212.400 (BACT Determination), F.A.C. and Permit No. 0990646-001-AC/PSD-FL-354 & 0990646-002-AC, Specific Condition A.14.]

A.11. Visible Emissions Standard - Startups, Shutdowns, Fuel Switches and Malfunctions. Visible emissions shall not exceed 20% opacity for up to ten, 6-minute averaging periods during a

calendar day due to startups, shutdowns, fuel switches and malfunctions. [Rule 62-212.400 (BACT Determination), F.A.C. and Permit Nos. 0990646-001-AC/PSD-FL-354, 0990646-005-AC/PSD-FL-354B & 0990646-002-AC, Specific Condition A.14.]

A.12. Operating Procedures. The BACT determinations rely on “good operating practices” to reduce emissions. Therefore, all operators and supervisors shall be properly trained to operate and maintain the gas turbines, HRSGs, and pollution control systems in accordance with the guidelines and procedures established by each manufacturer. The training shall include good operating practices as well as methods of minimizing excess emissions. [Rules 62-4.070(1), (3) & 62-212.400 (BACT Determination), F.A.C.; and, Permit No. 0990646-001-AC/PSD-FL-354 & 0990646-002-AC, Specific Condition A.13.]

A.13. Definitions.

a. *Startup* is defined as the commencement of operation of any emissions unit which has shut down or ceased operation for a period of time sufficient to cause temperature, pressure, chemical or pollution control device imbalances, which result in excess emissions. [Rule 62-210.200 (Definitions - Startup), F.A.C.]

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

c. *Malfunction* is defined as any unavoidable mechanical and/or electrical failure of air pollution control equipment or process equipment or of a process resulting in operation in an abnormal or unusual manner. [Rule 62-210.200 (Definitions - Malfunction), F.A.C.]

[Permit No. 0990646-001-AC/PSD-FL-354, specific condition III.A.16 & 0990646-002-AC, Specific Condition A.15.]

A.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. 0990646-001-AC/PSD-FL-354, specific condition III.A.17 & 0990646-002-AC, Specific Condition A.16. and Rule 62-210.700(4), F.A.C.]

A.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_x and CO resulting from startup, shutdown, or malfunction shall be excluded from CEMS data in any 24-hour period (“any 24-hour period” means a calendar day, midnight to midnight) 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, excluded emissions from any gas turbine/HRSG system shall not exceed eight hours in any 24-hour period. A cold “startup of the steam turbine” is defined as startup of the 3-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 is sequentially brought on line at low load to gradually increase the temperature of the steam-electrical turbine and prevent thermal metal fatigue. Note that shutdowns and documented malfunctions are separately regulated in accordance with the requirements of this condition.}

b. *Gas Turbine/HRSG System Cold Startup.* For cold startup of a 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

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

c. *24-hour Block Averages.* A 24-hour block shall begin at midnight of each operating day and shall be calculated from 24 consecutive hourly average emission rate values. If a unit operates less than 24 hours during the block, the 24-hour block average shall be the average of all available valid hourly average emission rate values for the 24-hour block. For purposes of determining compliance with the 24-hour CEMS standards, the missing data substitution methodology of 40 CFR Part 75, subpart D, shall not be utilized. Instead, the 24-hour block average shall be determined using the remaining hourly data in the 24-hour block.

{Permitting Note: There may be more than one 24-hour compliance demonstration required for CO and NOx emissions depending on the use of alternate methods of operation.}

d. *Data Exclusion.* Each CEMS shall monitor and record emissions during all operations including episodes of startup, shutdown, malfunction, fuel switches and DLN tuning. Some of the CEMS emissions data recorded during these episodes may be excluded from the corresponding CEMS compliance demonstration subject to the provisions of specific condition A.14. and A.15. All periods of data excluded shall be consecutive for each such episode and only data obtained during the described episodes (startup, shutdown, malfunction, fuel switches, DLN tuning) may be used for the appropriate exclusion periods. The permittee shall minimize the duration of data excluded for such episodes to the extent practicable. Data recorded during such episodes shall not be excluded if the episode was caused entirely or in part by poor maintenance, poor operation, or any other equipment or process failure, which may reasonably be prevented. Best operational practices shall be used to minimize hourly emissions that occur during such episodes. Emissions of any quantity or duration that occur entirely or in part from poor maintenance, poor operation, or any other equipment or process failure, which may reasonably be prevented, shall be prohibited.

e. *Availability.* Monitor availability for the CEMS shall be 95% or greater in any calendar quarter. The quarterly excess emissions report shall be used to demonstrate monitor availability. In the event 95% availability is not achieved, the permittee shall provide the Department with a report identifying the problems in achieving 95% availability and a plan of corrective actions that will be taken to achieve 95% availability. The permittee shall implement the reported corrective actions within the next calendar quarter. Failure to take corrective actions or continued failure to achieve the minimum monitor availability shall be violations of this permit, except as otherwise authorized by the Department's Compliance Authority.

[Rules 62-4.070(1) & (3), 62-212.400 (BACT Determination) & 62-297.520, F.A.C.; and, Permit No. 0990646-001-AC/PSD-FL-354, specific condition III.A.26 , & 0990646-002-AC, Specific Condition A.26.]

A.22. 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 and periodically update the general range of ammonia flow rates required to meet permitted emissions levels over the range of load conditions allowed by this permit by comparing NOx emissions recorded by the CEM system with ammonia flow rates recorded using the ammonia flow meter. During NOx monitor downtimes or malfunctions, the permittee shall operate at the ammonia flow rate and, as applicable for fuel oil firing, the water-to-fuel ratio, that are consistent with the documented flow rate for the combustion turbine load condition. [Rules 62-4.070(1), (3) & 62-212.400 (BACT Determination),

F.A.C.; and, Permit No. 0990646-001 -AC/PSD-FL-354 & 0990646-002-AC, Specific Condition A.27.]

Test Methods and Procedures

A.23. Test Methods. Required tests shall be performed in accordance with the following reference methods:

Method(s)	Description of Method(s) and Comment(s)
EPA Method 7E	Determination of NOx Emissions from Stationary Sources
EPA Method 9	Visual Determination of the Opacity of Emissions (VE)
EPA Method 10	Determination of CO Emissions from Stationary Sources {Notes: The method shall be based on a continuous sampling train.}
EPA Method 18	Measurement of Gaseous Organic Compound Emissions by Gas Chromatography {Note: EPA Method 18 may be used (optional) concurrently with EPA Method 25A to deduct emissions of methane and ethane from the measured VOC emissions.}
EPA Method 20	Determination of NOx, SO2 and Diluent Emissions from Stationary Gas Turbines
EPA Method 25A	Measurement of Gaseous Organic Compound Emissions (VOC)
CTM-0271 or <u>EPA Method 329</u>	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 parts per million (ppm).}

Method CTM-027 is published on EPA's Technology Transfer Network (TTN) web site at www.epa.gov/ttn/emc/ctm.html. The above methods are described in Chapter 62-297, F.A.C. and/or 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. [Chapter 62-297, F.A.C., Rule 62-212.400 (BACT Determination), F.A.C.; and, Permit No. 0990646-001 -AC/PSD-FL-354 & 0990646-002-AC, Specific Condition A.20.]

A.24. Initial Compliance Determinations. Each gas turbine/HRSG system shall be stack tested to demonstrate initial compliance with the emission standards for CO, NOx, VOC, visible emissions, and ammonia slip. The tests shall be conducted within 60 days after achieving the maximum production rate at which the unit will be operated, but not later than 180 days after the initial startup of each unit configuration. Each unit shall be tested when firing natural gas, when using the duct burners and when firing distillate fuel oil. Referenced method data collected during the required Relative Accuracy Test Audits (RATAs) may be used to demonstrate compliance with the initial CO and NOx standards. With appropriate flow measurements (or fuel measurements and approved F-factors), CEMS data may be used to demonstrate compliance with the CO and NOx mass rate emissions standards. CO and NOx emissions recorded by the CEMS shall also be reported for each run during tests for visible emissions, VOC and ammonia slip. The Department may require the permittee to conduct additional tests after major replacement or major repair of any air pollution control equipment, such as the SCR catalyst, oxidation catalyst, DLN combustors, etc. [Rules 62-212.400 (BACT Determination) & 62-297.310(7)(a)1., F.A.C.; and, Permit No. 0990646-001 -AC/PSD-FL-354 & 0990646-002-AC.]
{Permitting Note: See **Appendix CP-1, Compliance Plan.**}

A.25. Continuous Compliance. The permittee shall demonstrate continuous compliance with the 24-hour CO and NOx emissions standards based on data collected by the certified CEMS. Within 45

days of conducting any RATA on a CEMS, the permittee shall submit a report to the Compliance Authority summarizing results of the RATA. Compliance with the CO emission standards also serves as an indicator of efficient fuel combustion and oxidation catalyst operation, which reduces emissions of particulate matter and volatile organic compounds (VOC). The Department also reserves the right to use data from the continuous monitoring record and from annual RATA tests to determine compliance with the short term CO and NOx limits for each method of operation given in specific condition A.9. [Rule 62-212.400 (BACT Determination), F.A.C. and Permit No. 0990646-001-AC/PSD-FL-354 & 0990646-002-AC, Specific Condition A.22.]

A.26. Annual Compliance Tests. During each federal fiscal year (October 1st to September 30th), each gas turbine/HRSR system shall be tested to demonstrate compliance with the emission limitations and standards for NOx, CO and visible emissions (VE). NOx and CO emissions data collected during the required continuous emissions monitor system Relative Accuracy Test Audits (RATAs) may be used to demonstrate compliance with the NOx and CO standards, provided the testing requirements (notification, procedures and reporting) of Chapter 62-297, F.A.C. are met. Annual testing to determine the ammonia slip shall be conducted while firing the primary fuel. NOx emissions recorded by the CEMS shall be reported for each ammonia slip test run. CO emissions recorded by the CEMS shall be reported for the visible emissions observation period. [Rules 62-212.400 (BACT Determination) & 62-297.310(7)(a)4., F.A.C.; and, Permit No. 0990646-001-AC/PSD-FL-354 & 0990646-002-AC, Specific Condition A.23.]

{Permitting Note: Initial compliance with the VOC standards was demonstrated, therefore, annual compliance tests for VOC emissions are not required. Compliance with the continuously monitored CO standards shall indicate efficient combustion and low VOC emissions. The Department retains the right to require VOC testing if CO limits are exceeded or for the reasons given in Rule 62-297.310(7)(b), F.A.C., Special Compliance Tests.}

A.27. Compliance Test Prior To Renewal. Prior to permit renewal, each gas turbine/HRSR system shall be tested to demonstrate compliance with the emission standards for NOx, CO and VE. The NOx and CO RATA test data may be used to demonstrate compliance with the renewal test requirement, provided the testing requirements (notification, procedures and reporting) of Chapter 62-297, F.A.C. are met. [Rule 62-297.310(7)(a)3., F.A.C.]

A.28. Common Testing Requirements. Unless otherwise specified above, 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.]

Recordkeeping and Reporting Requirements

A.29. Reporting Schedule. The following report shall be submitted to the Compliance Authority:

Report	Reporting Deadline(s)	Related Condition(s)
NSPS Excess Emissions and Monitoring System Performance	Every 6 months (semi-annual), except when more frequent reporting is specifically required <u>Varies</u>	A.32. and A.34.

[40 CFR 60, Subpart A.]

A.30. Other Reporting Requirements. See Appendix RR, Facility-Wide Reporting Requirements, for additional reporting requirements. [Rule 62-213.440, F.A.C.]

A.31. Fuel Sulfur Records. The permittee shall demonstrate compliance with the fuel sulfur limits specified in this permit by maintaining the following records of the sulfur contents.

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

b. *Distillate ULSD Fuel Oil Sulfur Limit.* Compliance with the distillate fuel oil sulfur limit shall be demonstrated by taking a sample, analyzing the sample for fuel sulfur, and reporting the results to each Compliance Authority before initial startup. Sampling the fuel oil sulfur content shall be conducted in accordance with ASTM D4057-88, Standard Practice for Manual Sampling of Petroleum and Petroleum Products, and one of the following test methods for sulfur in petroleum products: ASTM methods D5453-00, D129-91, D1552-90, D2622-94, or D4294-90. 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. [Rules 62-4.160(15), 62-4.070(1), (3) & 62-212.400 (BACT Determination), F.A.C.; and, Permit No. 0990646-001-AC/PSD-FL-354 & 0990646-002-AC, Specific Condition A.30.]

A.32. Excess Emissions Reporting.

a. *Malfunction Notification.* If emissions in excess of a standard (subject to the specified averaging period) occur due to malfunction, the permittee shall notify the Compliance Authority within (1) working day of: the nature, extent, and duration of the excess emissions; the cause of the excess emissions; and the actions taken to correct the problem. In addition, the Department may request a written summary report of the incident.

b. *SIP Quarterly Permit Limits Excess Emissions Report.* Within 30 days following the end of each calendar-quarter, the permittee shall submit a report to the Compliance Authority summarizing periods of CO and NO_x emissions in excess of the BACT permit standards, and the amounts of authorized data excluded following the format in Figure XSE attached to this permit. Periods of startup, shutdown and, malfunction, fuel switching and tuning shall be monitored, and recorded at all times. In addition, the report shall summarize the CEMS systems monitor availability for the previous quarter.

c. *NSPS Semi-Annual Excess Emissions Reports.* For purposes of reporting emissions in excess of NSPS Subpart KKKK, excess emissions from the gas turbine are defined as: a specified averaging period over which either the NO_x emissions are greater than 15 ppm at 15 percent O₂ on a 30-day rolling average while firing natural gas and greater than 42 ppm at 15 percent O₂ on a 30-day rolling average while firing ultra low sulfur distillate; or the total sulfur content of the fuel being combusted in the affected facility exceeds the limit specified in 60.4330. Within thirty (30) days following each calendar semi-annual period, the permittee shall submit a report on any periods of excess emissions that occurred during the previous semi-annual period to the Compliance Authority.

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

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

E.U. ID Brief Description

No.

- | | |
|-----|--|
| 009 | One Limited Use Gas-fueled Auxiliary Boiler |
| 010 | Two 8.3 MMBtu/hr Natural Gas-fired Process Heaters |
| 017 | Two 8.3 MMBtu/hr Natural Gas-fired Process Heaters |

This emissions unit is comprised of one limited use natural gas-fueled auxiliary boiler with a maximum design heat input of 99.8 MMBtu/hr (85,000 lb/hr) to produce steam during the start up of the combustion turbines (CTs) for Units 1 and 2 and ~~two~~ four 8.3 MMBtu/hr natural gas-fired process heaters for the purpose of heating the natural gas supply to the CTs.

The gas-fired process heaters were manufactured by Total Energy Resources, Inc., Model No. P0708. Air pollutant emissions from the gas-fired process heaters are not controlled. The process heaters commenced operation in May of 2009 & December 2010.

The auxiliary boiler was manufactured by Babcock & Wilcox Company, Model No. FM103-79 F.M. Air pollutant emissions from the auxiliary boiler are controlled by the use of dry low-NOx burners when firing natural gas. The auxiliary boiler's stack parameters are: height, 60 feet; diameter, 5.5 feet; exit temperature, 275°F; and, actual stack gas flow rate, 17,718 acfm. The auxiliary boiler commenced operation in 2009.

{Permitting Note(s): The auxiliary boiler is regulated under 40 CFR 60, Subpart Dc, Standards of Performance for Small Industrial-Commercial-Institutional Steam Generating Units; and, Rule 62-212.400(5), F.A.C., Prevention of Significant Deterioration (PSD) [PSD-FL-354, as amended]; and, Rule 62-212.400(6), F.A.C., Best Available Control Technology (BACT). The auxiliary boiler was subject to 40 CFR 63, Subpart DDDDD, National Emission Standards for Hazardous Air Pollutants for Industrial, Commercial, or Institutional Boiler or Process Heater, a.k.a. "Boiler MACT." The two process heaters are regulated under Rule 62-212.400(5), F.A.C., Prevention of Significant Deterioration (PSD) [PSD-FL-354, as amended]; and, Rule 62-212.400(6), F.A.C., Best Available Control Technology (BACT).}

Essential Potential to Emit (PTE) Parameters

B.1. Hours of Operation. The hours of operation of the limited use natural gas-fueled auxiliary boiler shall not exceed 1,500 hours per year. The natural gas-fired process heaters may operate continuously (8,760 hours/year). [Rule 62-210.200 (Definitions - Potential to Emit (PTE), F.A.C. and Permit Nos. 0990646-001-AC/PSD-FL-354 & 0990646-003-AC/PSD-FL-354A & 0990646-002-AC/PSD-FL-396.]

B.2. Methods of Operation - Fuels. The auxiliary boiler and the process heaters shall fire natural gas, which shall contain no more than 2 grains sulfur (S) / 100 scf. [Rules 62-212.400 (BACT) & 62-204.800(8), F.A.C.; and, Permit No. 0990646-001-AC/PSD-FL-354 & 0990646-002-AC/PSD-FL-396.]

Emission Limitations and Standards

Unless otherwise specified, the averaging times for Specific Conditions **B.3.** - **B.4.** are based on the specified averaging time of the applicable test method.

B.3. The applicable emission limitations/standards for the auxiliary boiler are:

CO	NOx	VE
0.08 lb/MMBtu	0.05 lb/MMBtu	10%

[Rules 62-212.400 (BACT) & 62-204.800(8), F.A.C.; and, Permit No. 0990646-001-AC/PSD-FL-354 & 0990646-002-AC/PSD-FL-396.]

B.4. The applicable emission limitations/standards for each process heater are:

CO	NOx	VE
0.08 lb/MMBtu	0.095 lb/MMBtu	10%

[Rules 62-212.400 (BACT) & 62-204.800(8), F.A.C.; and, Permit No. 0990646-001-AC/PSD-FL-354 & 0990646-002-AC/PSD-FL-396.]

Test Methods and Procedures

B.5. Test Methods. If required, tests shall be performed in accordance with the following reference methods:

Method(s)	Description of Method(s) and Comment(s)
EPA Methods 1-4	Traverse Points, Velocity and Flow Rate, Gas Analysis, and Moisture Content
EPA Method 7E	Determination of NOx Emissions
EPA Method 9	Visual Determination of the Opacity of Emissions (VE)
EPA Method 10	Determination of CO Emissions
ASTM Methods	Methods for Determining Sulfur Content of Gaseous Fuel

The above methods are described in Chapter 62-297, F.A.C. and/or 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. [Chapter 62-297, F.A.C.]

B.6. Annual Compliance Test. During each federal fiscal year (October 1st to September 30th), Emissions Unit ID Nos. 009 (Auxiliary Boiler) and 010 (Process Heaters) shall be tested to demonstrate compliance with the emission limitations and standards for VE. [Rule 62-297.310(7), F.A.C.]

B.7. Compliance Test Prior To Renewal. Prior to permit renewal, E.U. ID Nos. 009 (Auxiliary Boiler) and 010 (Process Heaters) shall be tested to demonstrate compliance with the emission limitations and standards for CO, NOx and VE. As an alternative to testing for NOx and CO emissions from the natural gas-fired process heaters (E.U. ID No. 010), a manufacturer

certification of emissions characteristics for NO_x and CO that are at least as stringent as the BACT values can be used to fulfill this requirement. [Rule 62-297.310(7)(a)3., F.A.C. and Permit No. 0990646-001-AC/PSD-FL-354, specific condition III.D.7 & 0990646-002-AC/PSD-FL-396, specific condition III.D.]

B.8. Common Testing Requirements. Unless otherwise specified above, 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.]

Recordkeeping and Reporting Requirements

B.9. Recordkeeping Requirement - Heaters. Since the process heaters burn the same natural gas as the combustion turbines, the permittee fulfills a fuel sulfur content analysis for the heaters by the sulfur content analysis of the natural gas fired in the combustion turbines. The permittee shall maintain records of the sulfur content and the amount of natural gas used in the heaters. The records shall be maintained for a minimum of 5 (five) years and made available to the Department upon request. [Rules 62-212.400 (BACT) & 62-213.440, F.A.C.; and, Permit No. 0990646-001-AC/PSD-FL-354 & 0990646-002-AC/PSD-FL-396.]

B.10. Recordkeeping Requirement from NSPS 40 CFR 60, Subpart Dc - Auxiliary Boiler. The owner or operator of each affected emissions unit (auxiliary boiler) shall record and maintain records of the sulfur content and of the amounts of natural gas combusted during each day. The records shall be retained for a period of at least 5 (five) years following the date of such record. [40 CFR 60.48c(g) & (h); and, Rule 62-213.440, F.A.C.]

B.11. Other Reporting Requirements. See Appendix RR, Facility-Wide Reporting Requirements, for additional reporting requirements. [Rule 62-213.440, F.A.C.]

NOTE:

FPL recommends moving emission units 013, 014 & 015 to Section “A” and deleting Section “F” in its entirety to streamline the operating permit.

In the alternative, should the Department retain Section “F”, FPL recommends the following changes:

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

E.U. ID No.	Brief Description
013	Unit 3A - 250 MW Gas Turbine with Supplementary-fired Heat Recovery Steam Generator
014	Unit 3B - 250 MW Gas Turbine with Supplementary-fired Heat Recovery Steam Generator
015	Unit 3C - 250 MW Gas Turbine with Supplementary-fired Heat Recovery Steam Generator

Combined cycle Unit 3 is comprised of three identical Mitsubishi Power Systems Frame G (Model 501G) combustion turbine (CT)/heat recovery steam generators (HRSG) designated as emissions units (EU) 013, 014 and 015. Each EU consists of: A CT with automated control, inlet air filtration system and evaporative cooling, a gas-fired HRSG with duct burner (DB), a HRSG stack, and associated support equipment. The project also includes one steam turbine generator (STG) that serves the combined cycle unit.

Each CT fires natural gas as the primary fuel and ultra low sulfur diesel (ULSD) fuel oil as a restricted alternate fuel. Each of the three CT has a nominal generating capacity of 250 MW. The STG has a nominal generating capacity of 500 MW. The total nominal generating capacity of the "3 on 1" combined cycle unit is approximately 1,250 MW. The total nominal generating capacity of the facility is 3,750 MW.

The efficient combustion of natural gas and restricted firing of ULSD fuel oil minimizes the emissions of CO, PM/PM₁₀, SAM, SO₂ and VOC. Dry Low-NO_x (DLN) combustion technology for gas firing and water injection for oil firing reduce NO_x emissions. A SCR system further reduces NO_x emissions.

Each HRSG has a stack at least 149 feet tall with a nominal diameter of 22 feet. The following summarizes the exhaust characteristics without the DB:

Fuel	Heat Input Rate (LHV)	Compressor Inlet Temp.	Exhaust Temp., °F	Flow Rate ACFM
Gas	2,333 MMBtu/hour	59°F	195°F	1,330,197
Oil	2,117 MMBtu/hour	59°F	293°F	1,533,502

Each stack is equipped with continuous emissions monitoring systems (CEMS) to measure and record CO and NO_x emissions as well as flue gas oxygen or carbon dioxide content.

Initial start-up dates were as follows: Unit 3A – December 26, 2010; Unit 3B – December 1, 2010; and Unit 3C – December 16, 2010.

Equipment and Air Pollution Controls/Measures

F.1. ~~Combustion Turbines Electrical Generators (CTG).~~ ~~The permittee is authorized to tune, operate, and maintain three Model 501G CTG each with a nominal generating capacity of 250 MW. Each CTG shall include an automated control system and have dual fuel capability. Ancillary equipment includes an inlet air filtration system and an evaporative inlet air cooling system. The CTG utilizes DLN combustors.~~ **Gas Turbines.** The permittee is authorized to tune, operate, and maintain three Mitsubishi Heavy Industries Model 501G gas turbine-electrical generator sets each with a nominal generating capacity of 250 MW. Each gas turbine includes an automated gas turbine control system and dual-fuel capability. Ancillary equipment includes an inlet air filtration system and an evaporative inlet air-cooling system. The gas turbines shall utilize DLN combustors. [0990646-002-AC, Specific Condition A.4.]

F.2. Heat Recovery Steam Generators (HRSG). ~~The permittee is authorized to operate, and maintain three new HRSG with separate exhaust stacks. Each HRSG is designed to recover exhaust heat energy from one of the three CTG (3A to 3C) and deliver steam to the steam turbine electrical generator (STG). Each HRSG is equipped with a gas-fired duct burner (DB) having a nominal heat input rate of 428 MMBtu per hour (LHV). Heat Recovery Steam Generators (HRSG).~~

The permittee is authorized to operate and maintain three heat recovery steam generators (HRSG) with separate HRSG exhaust stacks. Each HRSG recovers exhaust heat energy from one of the three gas turbines (3A to 3C) and delivers steam to the steam turbine electrical generator. Each HRSG is equipped with a gas-fired duct burner (DB) having a nominal heat input rate of 428 MMBtu/hour lower heating value (LHV). [0990646-002-AC, Specific Condition A.5.]

F.3. ~~CTG/Supplementary Gas Turbine/Supplementary-fired~~ HRSG Emission Controls.

a. *Dry Low NO_x (DLN) Combustion.* The permittee shall operate and maintain the DLN system to control NO_x emissions from each ~~CTG gas turbine~~ when firing natural gas. Prior to the initial emissions performance tests required for each ~~CTG gas turbine~~, the DLN combustors and automated control system shall be tuned to achieve sufficiently low CO and NO_x values to meet the CO and NO_x limits with the additional SCR control technology described below. Thereafter, each turbine shall be maintained and tuned in accordance with the manufacturer's recommendations.

b. *Wet Injection (WI).* ~~The permittee shall operate and maintain a WI system (water or steam) to reduce NO_x emissions from each CTG when firing ULSD fuel oil. The WI system shall be tuned to achieve sufficiently low CO and NO_x values to meet the CO and NO_x limits with the additional SCR control technology described below. Each turbine shall be maintained and tuned in accordance with the manufacturer's recommendations.~~ The permittee shall operate and maintain a water injection system to reduce NO_x emissions from each gas turbine when firing distillate fuel oil. Prior to the initial emissions performance tests required for each gas turbine, the water injection system shall be tuned to achieve sufficiently low CO and NO_x values to meet the CO and NO_x limits with the additional SCR control technology described below. Thereafter, each system shall be maintained and tuned in accordance with the manufacturer's recommendations.

c. *Selective Catalytic Reduction (SCR) System.* The permittee shall tune, operate, and maintain an SCR system to control NO_x emissions from each ~~CTG gas turbine~~ when firing either natural gas or distillate fuel oil. The SCR system consists of an ammonia (NH₃) injection grid, catalyst, ammonia storage, monitoring and control system, electrical, piping and other ancillary equipment. The SCR system shall be designed, constructed and operated to achieve the permitted levels for NO_x and NH₃ emissions.

d. *Oxidation Catalyst.* The permittee shall design and build the project to facilitate possible future installation of an oxidation catalyst system to control CO emissions from each ~~CTG/Supplementary Gas Turbine/Supplementary~~ HRSG. The permittee may install the oxidation catalyst during project construction or, after notifying the Department.

e. *Ammonia Storage.* In accordance with 40 CFR 60.130, the storage of ammonia shall comply with all applicable requirements of the Chemical Accident Prevention Provisions in 40 CFR 68.

[Design and Rule 62-212.400(BACT), F.A.C.; 0990646-002-AC, Specific Condition A.6.]

Essential Potential to Emit (PTE) Parameters

F.4. Permitted Capacity – ~~Combustion Turbine Electric Generators (CTG) Gas Turbines.~~ The nominal heat input rate to each ~~CTG gas turbine~~ is 2,333 MMBtu per hour when firing natural gas and 2,117 MMBtu per hour when firing distillate fuel oil (based on a compressor inlet air temperature of 59°F, LHV of each fuel, and 100% load). Heat input rates will vary depending upon ~~CTG 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 45 days of completing the initial compliance testing. Operating data may be adjusted for the appropriate site conditions in accordance with the performance curves and/or equations on file with the Department. [Rule 62-210.200(PTE), F.A.C.; 0990646-002-AC, Specific Condition A.7.]

F.5. Permitted Capacity - HRSG Duct Burners (DB). The total nominal heat input rate to the DB duct burners for each HRSG is 428 MMBtu per hour based on the LHV of natural gas. Only natural gas shall be fired in the duct burners. [Rule 62-210.200(PTE), F.A.C.; 0990646-002-AC, Specific Condition A.8.]

F.6. Authorized Fuels. The CTG 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 (gr S/100 SCF) of natural gas. As a restricted alternate fuel, the CTG gas turbine may fire ULSD fuel oil containing no more than 0.0015% sulfur, by weight. Each CTG gas turbine shall fire no more than 500 hours of fuel oil during any calendar year. [Rules 62-210.200(PTE) and 62-212.400 (BACT), F.A.C.; 0990646-002-AC, Specific Condition A.9.]

F.7. Methods of Operation. Subject to the restrictions and requirements of this permit, the CTG gas turbine may operate under the following methods of operation.

a. *Combined Cycle Operation.* Each CTG 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 three-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.

b. *Inlet Conditioning.* 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.

c. *Duct Burner (DB) Firing.* When firing natural gas in a CTG gas turbine, the respective HRSG may fire natural gas in the DB duct burners to raise additional steam for use in the STG or in the operation of CTG gas turbine components. The total combined heat input rate to the DB duct burners (all three HRSG) shall not exceed 3,697,920 MMBtu (LHV) during any consecutive 12 months.

[Application; Rules 62-210.200(PTE) and 62-212.400(BACT), F.A.C.; 0990646-002-AC, Specific Condition A.11.]

F.8. Hours of Operation. Subject to the operational restrictions of this permit, the CTG gas turbine may operate throughout the year (8,760 hours per year). Restrictions on individual methods of operation are specified below. [Rules 62-210.200(Definitions - PTE) and 62-212.400 (BACT), F.A.C.; 0990646-002-AC, Specific Condition A.10.]

Emission Limitations and Standards

Unless otherwise specified, the averaging times for Specific Condition **F.9.** are based on the specified averaging time of the applicable test method.

F.9. Emissions Standards. Emissions from each ~~CTG/DB~~ gas turbine/duct burner shall not exceed the following BACT standards. Compliance with the BACT limits also insures compliance with the emission limitations in Subpart KKKK.

Air Pollutant	Fuel	Method of Operation	Stack Test, 3-Run Average		CEMS Block Average
			ppmvd @ 15% O ₂	lb/hr ^g	ppmvd @ 15% O ₂
CO ^a	Oil	<u>Combustion Turbine (CT)</u>	8.0	42.0	8.0, 24-hr 6, 12-month ^h
	Gas	<u>CT & DB</u>	7.6	52.5	
		CT Normal Mode	4.1	23.2	
NO _x ^b	Oil	<u>CT</u>	8.0	82.4	8.0, 24-hr ⁱ
	Gas	<u>CT & DB</u>	2.0	24.2	2.0, 24-hr ⁱ
		<u>CT Normal Mode</u>	2.0	20.0	
PM/PM ₁₀ ^c	Oil/Gas	All Modes	2 grains S/100 scf of gas, 0.0015% sulfur fuel oil Visible emissions shall not exceed 10% opacity for each 6-minute block average.		
SAM/SO ₂ ^d	Oil/Gas	All Modes	2 grains S/100 SCF of gas, 0.0015% sulfur fuel oil		
	Oil	<u>CT</u>	6.0	19.6	
VOC ^e	Gas	<u>CT & DB</u>	1.5	5.4	NA
		<u>CT Normal Mode</u>	1.2	4.1	
NH ₃ ^f	Oil/Gas	<u>CT, All Modes</u>	5	NA	NA

a. Compliance with the continuous 24-hour CO standards shall be demonstrated based on data collected by the required CEMS. The initial and annual EPA Method 10 tests associated with the certification of the CEMS instruments shall also be used to demonstrate compliance with the individual standards for natural gas, ~~FO fuel oil~~, and basic ~~DB duct burner~~ mode. The stacks test limits apply only at high load (90-100% of the ~~CTG gas turbine~~ capacity).

b. ~~Continuous compliance with the 24-hr~~ Compliance with the continuous NO_x standards shall be demonstrated based on data collected by the required CEMS. The initial and annual EPA Method 7E or Method 20 tests associated with demonstration of compliance with 40 CFR 60, Subpart KKKK or certification of the CEMS instruments shall also be used to demonstrate compliance with the individual standards for natural gas, fuel oil, and duct burner modes during the time of those tests. NO_x mass emission rates are defined as oxides of nitrogen expressed as nitrogen dioxide (NO₂).

c. The sulfur (S) fuel specifications combined with the efficient combustion design and operation

of each CTG gas turbine represents (BACT) for PM/PM₁₀/PM_{2.5} 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.

d. The fuel sulfur specifications effectively limit the potential emissions of SAM and SO₂ from the CTG gas turbines and represent BACT for these pollutants. Compliance with the fuel sulfur specifications shall be determined by the ASTM methods for determination of fuel sulfur as detailed in the draft permit.

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. The limits apply only at high load (90-100% of the CTG gas turbine capacity). Compliance with the CO CEMS based limits at lower loads shall be deemed as compliance with the VOC limit.

f. Compliance with the NH₃ slip standard shall be demonstrated by conducting tests in accordance with EPA Method CTM-027 or EPA Method 320.

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

~~h. Compliance with the 24-hour block NO_x BACT limits will insure compliance with the less stringent Subpart KKKK limits of 15 and 42 ppmvd for gas and fuel oil respectively on a 30-day rolling average.~~

h. Rolling Average. Enforcement discretion may be exercised for up to 12 months with respect to the 6 ppmvd @15% O₂ limit for any combustion turbine/supplementary-fired heat recovery steam generator upon notification by the permittee of intent to install the oxidation catalyst. The permittee shall have 12 months to complete the oxidation catalyst installation. After completing the installation of the catalyst all prior partial or complete calendar months shall be excluded from the 12-month rolling average.

i. Compliance with the 24-hour block NO_x BACT limits will insure compliance with the less stringent Subpart KKKK limits of 15 and 42 ppmvd for gas and fuel oil respectively on a 30-day rolling average.

[Rule 62-212.400(BACT), F.A.C.; 40 CFR 60, Subpart KKKK; 0990646-002-AC, Specific Condition A.12.]

Excess Emissions

The following conditions apply only to the state implementation plan (SIP)-based emissions standards in Specific Condition F.9. Rule 62-210.700 (Excess Emissions), F.A.C., cannot vary any requirement of a NSPS, NESHAP or Acid Rain program provision.

~~F.10. Operating Procedures. The 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 CTG, DB, HRSG, and pollution control systems in accordance with the guidelines and procedures established by each manufacturer. The training shall include good operating practices as well as methods of minimizing excess emissions. [Rules 62-4.070(3) and 62-212.400(BACT), F.A.C.; 0990646-002-AC, Specific Condition A.13.]~~

F.10. Visible Emissions Standard. Visible emissions shall not exceed 10% opacity. [Rule 62-212.400 (BACT Determination), F.A.C. and Permit No. 0990646-002-AC]

F.11. Alternate Visible Emissions Standard. Visible emissions due to startups, shutdowns, fuel switches and malfunctions shall not exceed 10% opacity except for up to ten, 6-minute averaging periods during a calendar day, which shall not exceed 20% opacity. [Rule 62-212.400(BACT), F.A.C.; 0990646-002-AC, 0990646-006-AC, Specific Condition A.14.]

F.12. Operating Procedures. The 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 CTG, DB, HRSG, and pollution control systems in accordance with the guidelines and procedures established by each manufacturer. The training shall include good operating practices as well as methods of minimizing excess emissions. [Rules 62-4.070(3) and 62-212.400(BACT), F.A.C.; 0990646-002-AC, Specific Condition A.13.]

F.123. Definitions.

a. *Startup* is defined as the commencement of operation of any emissions unit which has shut down or ceased operation for a period of time sufficient to cause temperature, pressure, chemical or pollution control device imbalances, which result in excess emissions. [Rule 62-210.200(245), F.A.C.]

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

c. *Malfunction* is defined as any unavoidable mechanical and/or electrical failure of air pollution control equipment or process equipment or of a process resulting in operation in an abnormal or unusual manner. [Rule 62-210.200(159), F.A.C.] [0990646-002-AC, Specific Condition A.15.]

F. 134. Excess Emissions Prohibited. Excess emissions caused entirely or in part by poor maintenance, poor operation or any other equipment or process failure that may reasonably be prevented during startup, shutdown or malfunction shall be prohibited. All such preventable emissions shall be included in any compliance determinations based on CEMS data. [Rule 62-210.700(4), F.A.C.; 0990646-002-AC, Specific Condition A.16.]

F. 1415. Excess Emissions Allowed. As specified in this condition, excess emissions resulting from startup, shutdown, fuel switching 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_x and CO resulting from startup, shutdown, or malfunction may be excluded from CEMS data in any 24-hour period (“any 24-hour period” means a calendar day, midnight to midnight) 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, excluded emissions from any gas turbine/HRSG system shall not exceed eight hours in any 24-hour period. A cold “startup of the steam turbine” is defined as startup of the 3-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 is sequentially brought on line at low load to gradually increase the temperature of the STG and prevent thermal metal fatigue. Note that shutdowns and documented malfunctions are separately regulated in accordance with the requirements of this condition.}

~~b. *Shutdown Combined Cycle Operation.* For shutdown of the combined cycle operation, excluded emissions from any gas turbine/HRSG system shall not exceed three hours in any 24-hour period.~~

e b. *Gas Turbine/HRSG System Cold Startup.* For cold startup of a 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 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. “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

[Rules 62-4.130 & 62-212.400 (BACT Determination), F.A.C.; and, Permit Nos. 0990646-001-AC/PSD-FL-354 & 0990646-005-AC/PSD-FL-354B, specific condition III.A.32 & 0990646-002-AC/PSD-FL-396 & 0990646-002-AC, Specific Condition A.32.]

A.33. Recordkeeping for Annual Operating Report (AOR). The permittee shall keep records sufficient to determine the annual throughput of distillate fuel oil for the fuel oil storage tank for use in the AOR. [Permit No. 0990646-001-AC/PSD-FL-354 & 0990646-002-AC, Specific Condition A.33.]

NSPS 40 CFR 60 Requirements

A.34. NSPS 40 CFR 60, Subpart A. These emissions units shall comply with all applicable requirements of 40 CFR 60, Subpart A, General Provisions, including:

40 CFR 60.7, Notification and Recordkeeping

40 CFR 60.8, Performance Tests

40 CFR 60.11, Compliance with Standards and Maintenance Requirements

40 CFR 60.12, Circumvention

40 CFR 60.13, Monitoring Requirements

40 CFR 60.19, General Notification and Reporting Requirements,

which have been adopted by reference in Rule 62-204.800(8)(d), F.A.C., except that the Secretary is not the Administrator for purposes of 40 CFR 60.4, 40 CFR 60.8(b)(2) and (3), 40 CFR 60.11(e)(7) and (8), 40 CFR 60.13(g), (i) and (j)(2), and 40 CFR 60.16. These emissions units shall comply with **Appendix 40 CFR 60 Subpart A** included with this permit. [Rule 62-204.800(8)(d), F.A.C.]

A.35. NSPS Requirements - Subpart KKKK. Except as otherwise provided in this permit, these emissions units shall comply with all applicable requirements of 40 CFR 60, Subpart KKKK, Standards of Performance for Stationary Combustion Turbines, which have been adopted by reference in Rule 62-204.800(8)(b), F.A.C. These emissions units shall comply with **Appendix 40 CFR 60 Subpart KKKK** included with this permit. [Rule 62-204.800(8)(b)81., F.A.C.]

{Permitting Note: The provisions of 40 CFR 60, Subpart KKKK include standards for combustion gas turbines and duct burners. The BACT limits applicable during duct firing are much more stringent than the standards of NSPS 40 CFR 60, Subpart KKKK for duct burners. Compliance with the BACT emissions performance requirements also assures compliance with the New Source Performance Standards given in 40 CFR 60, Subpart KKKK.}

NESHAP 40 CFR 63 Subpart A & Subpart YYYY Requirements

A.36. NESHAP 40 CFR 63 Requirements - Subpart A. These emissions units shall comply with all applicable requirements of 40 CFR 63, Subpart A, General Provisions, which have been adopted by reference 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. These emissions units shall comply with **Appendix 40 CFR 63 Subpart A** included with this permit. [Rule 62-204.800(11)(d)1., F.A.C.]

A.37. NESHAP 40 CFR 63 Requirements - Subpart YYYY. Except as otherwise provided in this permit, these emissions units shall comply with all applicable requirements of 40 CFR 63, Subpart YYYY, National Emissions Standards for Hazardous Air Pollutants for Stationary Combustion Turbines, which have been adopted by reference in Rule 62-204.800(11)(b)81., F.A.C., except that the Secretary is not the Administrator for purposes of 40 CFR 63.6170(c)(1) through (5). These emissions units shall comply with **Appendix 40 CFR 63 Subpart YYYY** included with this permit. These emissions units need not comply with any other requirement of 40 CFR 63, Subpart YYYY until EPA takes final action to require compliance and publishes a document in the federal register. [Rule 62-204.800(11)(b)81., F.A.C.]

{Permitting Note: The requirements of NESHAP 40 CFR 63 Subpart YYYY emission limitations for oil-fired Stationary Combustion Turbines shall apply if the facility exceeds 1,000 turbine fired hours cumulatively in any one year.}

b d. Shutdown Combined Cycle Operation. For shutdown of the combined cycle operation, excluded emissions from any gas turbine/HRSG system shall not exceed three hours in any 24-hour period.

~~d. Fuel Switching.~~ For fuel switching, ~~excluded emissions shall not exceed two hours in any 24-hour period and no more than four hours in any 24-hour period for any gas turbine/HRSG system.~~

~~e. 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. "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.~~

~~f e. Gas Turbine/HRSG System Shutdown.~~ For shutdown of the gas turbine/HRSG operation, ~~excluded emissions from any gas turbine/HRSG system shall not exceed two hours in any 24-hour period.~~

f. Fuel Switching. For fuel switching, excluded emissions shall not exceed two hours in any 24-hour period and no more than four hours in any 24-hour period for any gas turbine/HRSG system.

g. Documented Malfunction. For the gas turbine/HRSG system, excess emissions of NO_x and CO 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.

[0990646-002-AC, 0990646-006-AC, Specific Condition A.17.]

F.-4516. Ammonia Injection. Ammonia injection shall begin as soon as operation of the CTG gas turbine /HRSG system achieves the operating parameters specified by the manufacturer. As authorized by Rule 62-210.700(5), F.A.C., the above conditions allow excess emissions only for specifically defined periods of startup, shutdown, fuel switching, and documented malfunction of the CTG gas turbine. [Design; Rules 62-212.400(BACT) and 62-210.700, F.A.C.; 0990646-002-AC, Specific Condition A.18.]

F.-4617. 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 may 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. [Design; Rule 62-4.070(3), F.A.C.; 0990646-002-AC, 0990646-006-AC, Specific Condition A.19.]

Monitoring Requirements

F.-4718. Monitoring of Capacity. The permittee shall monitor and record the operating rate of each CTG gas turbine and HRSG ~~DB~~ duct burner system on a daily average basis, considering the number of hours of operation during each day (including the times of startup, shutdown, malfunction and fuel switching). Such monitoring shall be made using a monitoring component of the CEMS 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. [Rules 62-4.070(3) and 62-212.400(BACT), F.A.C.; 0990646-002-AC, Specific Condition A.28.]

F.-4819. 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 CTG gas turbine for the previous month of operation: fuel consumption, hours of operation, hours of duct firing, and the updated 12-month rolling totals for each. Information recorded and stored as an electronic file shall be available for inspection and printing within at least three days of a request by the Department. The fuel consumption shall be monitored in accordance with the provisions of 40 CFR 75, Appendix D. [Rules

62-4.070(3) & 62-212.400(BACT), F.A.C.; and, 0990646-002-AC, Specific Condition A.29.]

Continuous Monitoring Requirements

{Permitting Note: The following continuous monitors are installed on these units: CO, NO_x and O₂.}

F.-1920. Continuous Emissions Monitoring System(s) (CEMS). The permittee shall calibrate, maintain, and operate CEMS to measure and record the emissions of CO and NO_x from the combined cycle CTG gas turbine in a manner sufficient to demonstrate continuous compliance with the CEMS emission standards of this section. Each monitoring system shall be calibrated and properly functioning. Within one working day of discovering emissions in excess of a CO or NO_x standard (and subject to the specified averaging period), the permittee shall notify the Compliance Authority.

a. *CO Monitors.* The CO monitors shall be certified pursuant to 40 CFR 60, Appendix B, Performance Specification 4 or 4A within 60 calendar days of achieving permitted capacity as defined in Rule 62-297.310(2), F.A.C., but no later than 180 calendar days after initial startup. Quality assurance procedures shall conform to the requirements of 40 CFR 60, Appendix F or 40 CFR Part 75, 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_x Monitors.* Each NO_x monitor shall be certified, operated, and maintained in accordance with the requirements of 40 CFR 75. Record keeping and reporting shall be conducted pursuant to Subparts F and G in 40 CFR 75. The RATA tests required for the NO_x monitor shall be performed using EPA Method 20 or 7E in Appendix A of 40 CFR 60.

c. *Diluent Monitors.* The oxygen (O₂) or carbon dioxide (CO₂) content of the flue gas shall be monitored at the location where CO and NO_x are monitored to correct the measured emissions rates to 15% oxygen. If a CO₂ 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.

[0990646-002-AC, 0990646-006-AC, Specific Condition A.25.]

F.-2021. CEMS Data Requirements.

a. *Data Collection.* Emissions shall be monitored and recorded at all times including startup, operation, shutdown, and malfunction except for continuous monitoring system breakdowns, repairs, calibration checks, and zero and span adjustments. The CEMS shall be designed and operated to sample, analyze, and record data evenly spaced over an hour. If the CEMS measures concentration on a wet basis, the CEM system shall include provisions to determine the moisture content of the exhaust gas and an algorithm to enable correction of the monitoring results to a dry basis (0% moisture). Alternatively, the owner or operator may develop through manual stack test measurements a curve of moisture contents in the exhaust gas versus load for each allowable fuel, and use these typical values in an algorithm to enable correction of the monitoring results to a dry basis (0% moisture). Final results of the CEMS shall be expressed as ppmvd corrected to 15% oxygen. The CEMS shall be used to demonstrate compliance with the CEMS emission standards for CO and NO_x as specified in this permit. For purposes of determining compliance with the CEMS emissions standards of this permit, missing (or excluded) data shall not be substituted. Upon request by the Department, the CEMS emission rates shall be corrected to International Organization of Standardization (ISO) conditions.

b. *Valid Hour.* Hourly average values shall begin at the top of each hour. Each hourly average value shall be computed using at least one data point in each fifteen-minute quadrant of an hour, where the unit combusted fuel during that quadrant of an hour. Notwithstanding this requirement, an hourly value shall be computed from at least two data points separated by a minimum of 15 minutes (where the unit operates for more than one quadrant of an hour). If less than two such data points are available, the hourly average value is not valid. An hour in which any oil is fired is attributed towards compliance with

the permit standards for oil firing. The permittee shall use all valid measurements or data points collected during an hour to calculate the hourly average values.

c. *24-hour Block Averages.* A 24-hour block shall begin at midnight of each operating day and shall be calculated from 24 consecutive hourly average emission rate values. If a unit operates less than 24 hours during the block, the 24-hour block average shall be the average of all available valid hourly average emission rate values for the 24-hour block. For purposes of determining compliance with the 24-hour CEMS standards, the missing data substitution methodology of 40 CFR Part 75, subpart D, shall not be utilized. Instead, the 24-hour block average shall be determined using the remaining hourly data in the 24-hour block. [Rule 62-212.400(BACT), F.A.C.]

{Permitting Note: There may be more than one 24-hour compliance demonstration required for CO and NO_x emissions depending on the use of alternate methods of operation}

~~d. *12-month Rolling Averages.* Compliance with the long term emission limit for CO shall be based on a 12-month rolling average. Each 12-month rolling average shall be the arithmetic average of all valid hourly averages collected during the current calendar month and the previous 11 calendar months.~~

~~e-d. *Data Exclusion.* Each CEMS shall monitor and record emissions during all operations including episodes of startup, shutdown, malfunction, fuel switches and DLN tuning. Some of the CEMS emissions data recorded during these episodes may be excluded from the corresponding CEMS compliance demonstration subject to the provisions of Specific Conditions F.14. and F.16. All periods of data excluded shall be consecutive for each such episode and only data obtained during the described episodes (startup, shutdown, malfunction, fuel switches, DLN tuning) may be used for the appropriate exclusion periods. The permittee shall minimize the duration of data excluded for such episodes to the extent practicable. Data recorded during such episodes shall not be excluded if the episode was caused entirely or in part by poor maintenance, poor operation, or any other equipment or process failure, which may reasonably be prevented. Best operational practices shall be used to minimize hourly emissions that occur during such episodes. Emissions of any quantity or duration that occur entirely or in part from poor maintenance, poor operation, or any other equipment or process failure, which may reasonably be prevented, shall be prohibited.~~

~~f-g. *Availability.* Monitor availability for the CEMS shall be 95% or greater in any calendar quarter. The quarterly excess emissions report shall be used to demonstrate monitor availability. In the event 95% availability is not achieved, the permittee shall provide the Department with a report identifying the problems in achieving 95% availability and a plan of corrective actions that will be taken to achieve 95% availability. The permittee shall implement the reported corrective actions within the next calendar quarter. Failure to take corrective actions or continued failure to achieve the minimum monitor availability shall be violations of this permit, except as otherwise authorized by the Department's Compliance Authority.~~

[Rules 62-4.070(3), 62-212.400(BACT) & 62-297.520, F.A.C.; 40 CFR 60.7(a)(5) & 40 CFR 60.13; 40 CFR Part 51, Appendix P; 40 CFR 60, Appendix B - Performance Specifications; 40 CFR 60, Appendix F - Quality Assurance Procedures; and, 0990646-002-AC, Specific Condition A.26.]

F. 2122. 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 and periodically update the general range of ammonia flow rates required to meet permitted emissions levels over the range of load conditions allowed by this permit by comparing NO_x emissions recorded by the CEM system with ammonia flow rates recorded using the ammonia flow meter. During NO_x monitor downtimes or malfunctions, the permittee shall operate at the ammonia flow rate and, as applicable for fuel oil firing, the water-to-fuel ratio, that are consistent with the documented flow rate for the

combustion turbine load condition. [Rules 62-4.070(3) & 62-212.400(BACT), F.A.C.; and, 0990646-002-AC, Specific Condition A.27.]

Test Methods and Procedures

F.2223. Test Methods. Required tests shall be performed in accordance with the following reference methods.

Method	Description of Method and Comments
CTM-027 or 320	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.} Measurement of Vapor Phase Organic and Inorganic Emissions by Extractive Fourier Transform Infrared (FTIR) Spectroscopy
7E	Determination of Nitrogen Oxide Emissions from Stationary Sources
9	Visual Determination of the Opacity of Emissions from Stationary Sources
10	Determination of Carbon Monoxide Emissions from Stationary Sources {Notes: The method shall be based on a continuous sampling train. The ascarite trap may be omitted or the interference trap of section 10.1 may be used in lieu of the silica gel and ascarite traps.}
18	Measurement of Gaseous Organic Compound Emissions by Gas Chromatography {Note: EPA Method 18 may be used (optional) concurrently with EPA Method 25A to deduct emissions of methane and ethane from the measured VOC emissions.}
20	Determination of Nitrogen Oxides, Sulfur Dioxide and Diluent Emissions from Stationary Gas Turbines
25A	Determination of Volatile Organic Concentrations

No other methods may be used for compliance testing unless prior written approval is received from the Department in accordance with an alternate sampling procedure pursuant to 62-297.620, F.A.C. [Rules 62-204.800 & 62-297.100, F.A.C.; 40 CFR 60, Appendix A; and, 0990646-002-AC, Specific Condition A.20.]

F.24. Initial Compliance Determinations. Each gas turbine/HRSG system shall be stack tested to demonstrate initial compliance with the emission standards for CO, NOx, VOC, visible emissions, and ammonia slip. The tests shall be conducted within 60 days after achieving the maximum production rate at which the unit will be operated, but not later than 180 days after the initial startup of each unit configuration. Each unit shall be tested when firing natural gas, when using the duct burners and when firing distillate fuel oil. Referenced method data collected during the required Relative Accuracy Test Audits (RATAs) may be used to demonstrate compliance with the initial CO and NOx standards. With appropriate flow measurements (or fuel measurements and approved F-factors), CEMS data may be used to demonstrate compliance with the CO and NOx mass rate emissions standards. CO and NOx emissions recorded by the CEMS shall also be reported for each run during tests for visible emissions, VOC and ammonia slip. The Department may require the permittee to conduct additional tests after major replacement or major repair of any air pollution control equipment, such as the SCR catalyst, oxidation catalyst, DLN combustors, etc. [Rules 62-212.400 (BACT Determination) & 62-297.310(7)(a)1., F.A.C.; and, Permit No. 0990646-002-AC.]

F.2325. Continuous Compliance. The permittee shall demonstrate continuous compliance with the 24-hour CO and NOx emissions standards based on data collected by the certified CEMS. Within 45 days of conducting any RATA on a CEMS, the permittee shall submit a

report to the Compliance Authority summarizing results of the RATA. Compliance with the CO emission standards also serves as an indicator of efficient fuel combustion and oxidation catalyst operation, which reduces emissions of particulate matter and volatile organic compounds. The Department also reserves the right to use data from the continuous monitoring record and from annual RATA tests to determine compliance with the short term CO and NO_x limits for each method of operation given in Condition 12 above. [Rule 62-212.400 (BACT), F.A.C.; and, 0990646-002-AC, Specific Condition A.22.]

F.-2426. Annual Compliance Tests. During each federal fiscal year (October 1st to September 30th), each CTG gas turbine shall be tested to demonstrate compliance with the emission standards for visible emissions. NO_x and CO emissions data collected during the required continuous monitor Relative Accuracy Test Audits (RATAs) may be used to demonstrate compliance with the CO and NO_x standards. Annual testing to determine the ammonia slip shall be conducted while firing the primary fuel. NO_x emissions recorded by the CEMS shall be reported for each ammonia slip test run. CO emissions recorded by the CEMS shall be reported for the visible emissions observation period. [Rules 62-212.400 (BACT) & 62-297.310(7)(a)4, F.A.C.; and, 0990646-002-AC, Specific Condition A.23.]

{Permitting Note: After initial compliance with the VOC standards is demonstrated, annual compliance tests for VOC emissions are not required. Compliance with the continuously monitored CO standards shall indicate efficient combustion and low VOC emissions. The Department retains the right to require VOC testing if CO limits are exceeded or for the reasons given in Rule 62-297.310(7)(b), F.A.C., Special Compliance Tests.}

F.-2527. Compliance Test Prior To Renewal. Prior to permit renewal, each gas turbine/HRSG system shall be tested to demonstrate compliance with the emission standards for NO_x, CO and VE. The NO_x and CO RATA test data may be used to satisfy the renewal test requirement, provided the testing requirements (notification, procedures and reporting) of Chapter 62-297, F.A.C., are met. [Rule 62-297.310(7)(a)3., F.A.C.]

F.-2628. Common Testing Requirements. Unless otherwise specified above, 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.]

Recordkeeping and Reporting Requirements

F.-2729. Reporting Schedule. The following report shall be submitted to the Compliance Authority:

Report	Reporting Deadline(s)	Related Condition(s)
Excess Emissions and Monitoring System Performance	Varies	F.30. and F.32.

[40 CFR 60, Subpart A.]

F.-2830. Other Reporting Requirements. See Appendix RR, Facility-Wide Reporting Requirements, for additional reporting requirements. [Rule 62-213.440, F.A.C.]

F.-2931. Fuel Sulfur Records. The permittee shall demonstrate compliance with the fuel sulfur limits specified in this permit by maintaining the following records of the sulfur contents.

a. *Natural Gas.* Compliance with the fuel sulfur limit for natural gas shall be demonstrated by keeping reports obtained from the vendor indicating the average sulfur content of the natural gas being supplied from the pipeline for each month of operation. Methods for determining the sulfur content of the natural gas shall be ASTM methods D4084-82, D4468-85,

D5504-01, D6228-98 and D6667-01, D3246-81 or more recent versions.

b. *ULSD Fuel Oil*. Compliance with the distillate fuel oil sulfur limit shall be demonstrated by taking a sample, analyzing the sample for fuel sulfur, and reporting the results to each Compliance Authority before initial startup. Sampling the fuel oil sulfur content shall be conducted in accordance with ASTM D4057-88, Standard Practice for Manual Sampling of Petroleum and Petroleum Products, and one of the following test methods for sulfur in petroleum products: ASTM methods D5453-00, D129-91, D1552-90, D2622-94, or D4294-90. 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. [Rules 62-4.070(3) and 62-4.160(15), F.A.C.; 0990646-002-AC, Specific Condition A.30.]

F. 3032. Excess Emissions Reporting.

a. *Malfunction Notification*. If emissions in excess of a standard (subject to the specified averaging period) occur due to malfunction, the permittee shall notify the Compliance Authority within (1) working day of: the nature, extent, and duration of the excess emissions; the cause of the excess emissions; and the actions taken to correct the problem. In addition, the Department may request a written summary report of the incident.

b. *SIP Quarterly Permit Limits Excess Emissions Report*. Within 30 days following the end of each calendar-quarter, the permittee shall submit a report to the Compliance Authority summarizing periods of CO and NO_x emissions in excess of the BACT permit standards, and the amounts of authorized data excluded following the format in Figure XSE attached to this permit. Periods of startup, shutdown, malfunction, fuel switching and tuning, shall be monitored and recorded at all times. In addition, the report shall summarize the CEMS systems monitor availability for the previous quarter.

c. *NSPS Semi-Annual Excess Emissions Reports*. For purposes of reporting emissions in excess of NSPS Subpart KKKK, excess emissions from the CTG gas turbine are defined as: a specified averaging period over which either the NO_x emissions are higher than the applicable emission limit in 60.4320; or the total sulfur content of the fuel being combusted in the affected facility exceeds the limit specified in 60.4330. Within thirty (30) days following each calendar semi-annual period, the permittee shall submit a report on any periods of excess emissions that occurred during the previous semi-annual period to the Compliance Authority.

[Rules 62-4.130, 62-204.800, 62-210.700(6), F.A.C.; 40 CFR 60.7, and 60.442; 00990646-002-AC, 00990646-006-AV, Specific Condition A.32.]

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

F. 3133. Recordkeeping for Annual Operating Report (AOR). The permittee shall keep records sufficient to determine the annual throughput of distillate fuel oil for the fuel oil storage tank for use in the AOR. [00990646-002-AC, Specific Condition A.33.]

NSPS 40 CFR 60 Requirements

F. 3234. NSPS 40 CFR 60, Subpart A. These emissions units shall comply with all applicable requirements of 40 CFR 60, Subpart A, General Provisions, including:

40 CFR 60.7, Notification and Recordkeeping
40 CFR 60.8, Performance Tests
40 CFR 60.11, Compliance with Standards and Maintenance Requirements
40 CFR 60.12, Circumvention
40 CFR 60.13, Monitoring Requirements
40 CFR 60.19, General Notification and Reporting Requirements,
which have been adopted by reference in Rule 62-204.800(8)(d), F.A.C., except that the Secretary is not the Administrator for purposes of 40 CFR 60.4, 40 CFR 60.8(b)(2) and (3), 40 CFR 60.11(e)(7) and (8), 40 CFR 60.13(g), (i) and (j)(2), and 40 CFR 60.16. These emissions units shall comply with **Appendix 40 CFR 60 Subpart A** included with this permit. [Rule 62-204.800(8)(d), F.A.C.]

F.3335. NSPS Requirements - Subpart KKKK. Except as otherwise provided in this permit, these emissions units shall comply with all applicable requirements of 40 CFR 60, Subpart KKKK, Standards of Performance for Stationary Combustion Turbines, which have been adopted by reference in Rule 62-204.800(8)(b), F.A.C. These emissions units shall comply with **Appendix 40 CFR 60 Subpart KKKK** included with this permit. [Rule 62-204.800(8)(b)81., F.A.C.]

{Permitting Note: The provisions of 40 CFR 60, Subpart KKKK include standards for combustion gas turbines and duct burners. The BACT limits applicable during duct firing are much more stringent than the standards of NSPS 40 CFR 60, Subpart KKKK for duct burners. Compliance with the BACT emissions performance requirements also assures compliance with the New Source Performance Standards given in 40 CFR 60, Subpart KKKK.}

NESHAP 40 CFR 63 Subpart A & Subpart YYYY Requirements

F.3436. NESHAP 40 CFR 63 Requirements - Subpart A. These emissions units shall comply with all applicable requirements of 40 CFR 63, Subpart A, General Provisions, which have been adopted by reference 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. These emissions units shall comply with **Appendix 40 CFR 63 Subpart A** included with this permit. [Rule 62-204.800(11)(d)1., F.A.C.]

F.3537. NESHAP 40 CFR 63 Requirements - Subpart YYYY. Except as otherwise provided in this permit, these emissions units shall comply with all applicable requirements of 40 CFR 63, Subpart YYYY, National Emissions Standards for Hazardous Air Pollutants for Stationary Combustion Turbines, which have been adopted by reference in Rule 62-204.800(11)(b)81., F.A.C., except that the Secretary is not the Administrator for purposes of 40 CFR 63.6170(c)(1) through (5). These emissions units shall comply with **Appendix 40 CFR 63 Subpart YYYY** included with this permit. These emissions units need not comply with any other requirement of 40 CFR 63, Subpart YYYY until EPA takes final action to require compliance and publishes a document in the federal register. [Rule 62-204.800(11)(b)81., F.A.C.]

{Permitting Note: The requirements of NESHAP 40 CFR 63 Subpart YYYY emission limitations for oil-fired Stationary Combustion Turbines shall apply if the facility exceeds 1,000 turbine fired hours cumulatively in any one year.}

This section of the permit addresses the following new emissions unit.

ID Emission Unit Description

016 One 26-cell mechanical draft cooling tower

Equipment Specifications

~~— G.1. Cooling Tower. The permittee is authorized to operate a 26-cell mechanical draft cooling tower with the following nominal design characteristics: A circulating water flow rate of 304,000 gallons per minute (gpm); design hot/cold water temperatures of 92°F/76°F; a design air flow rate of 1,350,000 actual cubic feet per minute (acfm) per cell; a liquid to air flow ratio of 1.13; and drift eliminators. [0990646-002 AC, Specific Condition B.1.]~~

Emissions and Performance Standards

~~— G.2. Drift Rate. The permittee shall operate and maintain the cooling tower to maintain compliance with the certified drift rate of no more than 0.0005 percent of the circulating water flow rate. [Rules 62-212.400(BACT) & 62-213.440, F.A.C.; and, 0990646-002 AC, Specific Condition B.2.]~~

{Permitting Note: This work practice standard is established as BACT for PM/PM₁₀ emissions from the cooling tower. Based on this design criteria, potential emissions are expected to be less than 100 tons of PM per year and less than 5 tons of PM₁₀ per year. Actual emissions are expected to be lower than these rates.}

This section of the permit addresses the following emissions units.

NOTE: Requirements and Emission Unit information moved to Section "B"

ID Emission Unit Description

017 Two gas fueled 8.3 MMBtu/hr process heaters

Equipment Specifications

~~— H.1. Equipment. The permittee is authorized to operate and maintain two 8.3 MMBtu/hr process heaters for the purpose of heating the natural gas supply to the CTs. [Rule 62-210.200(PTE), F.A.C.; and, 0990646-002-AC, Specific Condition C.4. & 0990646-006-AC Specific Condition C.4.]~~

Essential Potential to Emit (PTE) Parameters

~~— H.2. Hours of Operation. The gas-fueled process heaters are allowed to operate continuously (8,760 hours per year). [Rule 62-210.200(PTE), F.A.C. and 0990646-002-AC, Specific Condition C.5.]~~

Emission Limitations and Standards

~~— H.3. Natural Gas Fired Process Heaters BACT Emissions Limits.~~

NO_x	CO	VOC, SO₂, PM/PM₁₀
0.095 lb/MMBtu	0.08 lb/MMBtu	2-gr S/100SCF natural gas spec and 10% Opacity

~~[0990646-002-AC, Specific Condition C.2.]~~

Test Methods and Procedures

~~— H.4. Annual Compliance Test. During each federal fiscal year (October 1st to September 30th), Emissions Unit ID No. 010 (Process Heaters) shall be tested to demonstrate compliance with the emission limitations and standards for VE. [Rule 62-297.310(7), F.A.C.]~~

~~— H.5. Compliance Test Prior To Renewal. Prior to renewal, each unit shall be stack tested to demonstrate compliance with the emission standards for CO, NO_x and visible emissions. As an alternative, a manufacturer certification of emissions characteristics of the purchased model that are at least as stringent as the BACT values can be used to fulfill this requirement. [Rule 62-297.310(7)(a)1, F.A.C.; 40 CFR 60.8; and, 0990646-002-AC, Specific Condition C.3.]~~

~~— H.6. Test Methods. Any required tests shall be performed in accordance with the following reference methods:~~

Method Description of Method and Comments

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.}

~~[0990646-002-AC, Specific Condition C.3.]~~

Recordkeeping and Reporting Requirements

~~H.7. Reporting. The permittee shall maintain records of the amount of natural gas used~~

~~in the heaters. These records shall be submitted to the Compliance Authority on an annual basis or upon request. [Rule 62 4.070(3), F.A.C. and 0990646-002 AC, Specific Condition C.7.]~~