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PERMITTEE

Florida Municipal Power Agency
Kissimmee Utility Authority (KUA)
1701 West Carroll Street
Kissimmee, Florida 34741

Authorized Representative:
Mr. Larry Mattern, Vice President of Power Supply

Air Permit No. 0970043-020-AC
(PSD-FL-182J/PSD-FL-254A/PSD-FL-400B)
Minor Air Construction Permit Revision
Cane Island Power Park
Osceola County

PROJECT

This is the final air construction permit, which revises several specific conditions of previously issued air construction permit Nos. AC49-205703/PSD-FL-182 (for emissions Unit Nos. 001 & 002), permit No. PSD-FL-254 (for EU Nos. 003 & 005), and permit No. 0970043-014-AC/PSD-FL-400A (previously revised permit No. 0970043-018-AC/PSD-FL-400A) for Unit 4 (EU 009).

The revised permit conditions are related to excess emissions provisions for the combustion turbines. Also, KUA requested that annual and renewal carbon monoxide (CO) tests be utilized as a surrogate in lieu of the required annual and renewal Volatile Organic Compounds (VOC) tests for the combustion turbines and to waive the periodic compliance test requirements for those parameters for which continuous compliance is demonstrated with a continuous emission monitoring system (CEMS).

Cane Island Power Park is jointly owned by Florida Municipal Power Agency (FMPA) and Kissimmee Utility Authority (KUA). KUA operates the existing Cane Island Power Park which is which is a power plant categorized under Standard Industrial Classification No 4911. The existing facility is located in Osceola County at 6075 Old Tampa Highway, Intercession City, Florida. UTM Coordinates are: Zone 17, 449.8 East and 3127.9 North. The Latitude is 28° 16’ 31” North and the Longitude is 81° 31’ 51” West.

This final permit is organized into the following sections: Section 1 (General Information) and Section 2 (Permit Revisions).

STATEMENT OF BASIS

This air pollution construction permit is issued under the provisions of: Chapter 403 of the Florida Statutes (F.S.) and Chapters 62-4, 62-204, 62-210, 62-212, 62-296 and 62-297 of the Florida Administrative Code (F.A.C.). This project is subject to the general preconstruction review requirements in Rule 62-212.300, F.A.C. and is not subject to the preconstruction review requirements for major stationary sources in Rule 62-212.400, F.A.C. for the Prevention of Significant Deterioration (PSD) of Air Quality. A copy of this permit modification shall be filed with the referenced permit and shall become part of the permit.

Executed in Tallahassee, Florida.

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

JFK/sa/yha

CERTIFICATE OF SERVICE

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

Mr. Larry Mattern, Kissimmee Utility Authority: lmattern@kua.com
Mr. Thomas Reedy, Florida Municipal Power Agency: tom.reedy@fmpa.com
Mr. Jerome Guidry, P.E., Perigee Technical Services, Inc.: jerome.guidry@att.net
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Ms. Barbara Friday, DEP OPC: barbara.friday@dep.state.fl.us
Ms. Lynn Scearce, DEP OPC: lynn.scearce@dep.state.fl.us

Clerk Stamp

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

FACILITY DESCRIPTION

KUA operates the existing Cane Island Power Park, which is an electric utility. The existing facility consists of the following emissions units:

- Unit 1 (EU 001) is a 40 megawatt (MW) General Electric Model LM-6000PA simple-cycle combustion turbine with an electrical generator set. The provisions of 40 CFR 64, Compliance Assurance Monitoring (CAM), do not apply to this Unit because the Acid Rain required NO_X CEMS is being used as a continuous compliance determination method.
- Unit 2 (EU 002) is a General Electric Model PG7111(EA) combined-cycle combustion turbine with electrical generator set and an unfired heat recovery steam generator (HRSG) with a steam-electric generator, it produces 80 MW during simple-cycle operation and 120 MW during combined-cycle operation. This Unit fires natural gas as the primary fuel with very low sulfur distillate oil (≤ 0.05% sulfur by weight) as a backup fuel. This Unit has a simple-cycle stack and a separate HRSG stack for combined-cycle operation. The provisions of 40 CFR 64, Compliance Assurance Monitoring (CAM), do not apply to this Unit because the Acid Rain required NO_X CEMS is being used as a continuous compliance determination method.
- Unit 3 (EU 003) is a nominal 167 MW stationary gas combustion turbine-electrical generator burning natural gas with very low sulfur fuel oil as backup; a supplemental gas-fired HRSG Unit 5 (EU 005) to raise sufficient steam to achieve 250 MW in combined-cycle operation; a nominal 80-90 MW steam electric generator; a 44 MMBtu/hr heat input duct burner (DB); a selective catalytic reduction unit and ancillary equipment; ammonia storage; a 130-foot stack; a 100-foot bypass stack for simple-cycle operation; and a cooling tower Unit 6 (EU 006), an unregulated emissions unit.
- Unit 4 (EU 009) consists of: a nominal 150 MW gas fueled General Electric 7241 FA combustion turbine generator (CTG); a supplementary-fired HRSG with a nominal 600 million Btu per hour (MMBtu) DB; and a nominal 150 MW steam turbine generator (STG) for an overall nominal rating of 300 MW. This Unit includes a GE Mark VI Gas Turbine Control System and a 160-foot stack.

The units fire natural gas as the primary fuel, with distillate fuel as backup.

Auxiliary equipment includes: a cooling tower; water and wastewater facilities; water storage tanks; a storm water detention pond; a 230 kilovolt (KV) transmission line; and, a 1.0 million gallon storage tank for back-up distillate fuel oil (EU 004). Nitrogen oxides (NO_X) emissions are controlled by Dry Low NO_X (DLN) combustors and wet injection under simple-cycle operation. NO_X emissions are controlled by DLN and wet injection and selective catalytic reduction (SCR) when operating in combined-cycle mode. Inherently clean fuels and good combustion practices are employed to control all pollutants. The provisions of 40 CFR 64, Compliance Assurance Monitoring (CAM), do not apply to these Units because the Acid Rain required NO_X CEMS is being used as a continuous compliance determination method. The Site Certification was approved on November 22, 1999.

This facility also includes emergency diesel engine fire pump and small diesel fuel storage tank (EU 010), a nominal 750 kilowatts diesel generator with a small diesel fuel storage tank (EU 011), a mechanical draft cooling tower with drift eliminators (EU 012), two diesel engines-driven emergency fire pumps (EU 013) and one diesel engine-driven emergency generator (EU 014).

CO, $PM/PM_{10}/PM_{2.5}$, SAM and SO_2 emissions are minimized by the efficient combustion of natural gas. NO_X emissions are reduced with dry low-NO_X (DLN) combustion technology. A selective catalytic reduction (SCR) system further controls NO_X emissions. Flue gas oxygen content or carbon dioxide content is monitored as a diluent gas.

<u>Unregulated Emissions Units 007 and 008</u>: Two distillate fuel oil storage tanks.

Also included in this permit are miscellaneous unregulated/insignificant emissions units and/or activities.

FACILITY REGULATORY CLASSIFICATION

Standard Industrial Classification (SIC) Code: 4911 - Electrical Generation.

Title III: The facility is identified as a major source of hazardous air pollutants (HAP).

Title IV: The facility operates units subject to the acid rain provisions of the Clean Air Act.

Title V: The facility is a Title V major source of air pollution in accordance with Chapter 62-213, Florida Administrative Code (F.A.C.).

PSD: The facility is a Prevention of Significant Deterioration (PSD)-major source of air pollution in accordance with Rule 62-212.400, F.A.C.

NSPS: The facility operates units subject to the New Source Performance Standards (NSPS) of 40 Code of Federal Regulations (CFR) 60.

NESHAP: The facility operates units subject to the National Emissions Standards for Hazardous Air Pollutants (NESHAP) of 40 CFR 63.

CAIR: The facility is subject to the Clean Air Interstate Rule (CAIR) set forth in Rule 62-296.470, F.A.C.

PROPOSED PROJECT

This permit addresses the following emissions units at this facility.

EU ID No.	Brief Description
001	Simple-Cycle Combustion Turbine rated at 40 MW, 367 MMBtu/hr for natural gas and 372 MMBtu/hr for No. 2 fuel oil.
002	Combined-Cycle Combustion Turbine rated at 120 MW, 869 MMBtu/hr for natural gas and 928 MMBtu/hr for No. 2 fuel oil.
003 **005**	Combined-Cycle Combustion Turbine (Unit 003) with duct burner (Unit 005) rated at 250 MW combined, 1,696 MMBtu/hr for natural gas and 1,910 MMBtu/hr for No. 2 fuel oil.
009	Unit 4 is comprised of: a nominal 150 MW natural gas-fueled General Electric 7FA CTG equipped with evaporative inlet air cooling equipment; a supplementary-fired HRSG with a nominal 600 million Btu per hour (MMBtu) DB; a HRSG stack; and a nominal 150 MW STG.

MODIFIED PERMIT CONDITIONS

For the current project, the applicant has requested an air construction permit revision to change several of the underlying construction permit conditions:

- Conduct abbreviated ammonia testing for Unit 4 on an annual basis and full length ammonia compliance tests every five years.
- Change the excess emissions reporting requirement for Unit 4 from quarterly to semiannually.
- Change the tuning notification requirement for Unit 4 from 14 days to one business day.
- Remove the requirement for duct burner testing for Units 3 and 4 if the duct burners are not operated more than 400 hours during the federal fiscal year.

- Remove the emission limits and testing requirements for metals for Units 1 and 2, to remove the requirement to conduct permit renewal testing for Volatile Organic Compounds (VOC) for Units 1, 2, and 3 if the carbon monoxide (CO) emissions limits are met, to limit the PM testing requirement for Units 001 and 002 to oil firing operations only, and to remove semi-annual reporting of 24-hour rolling NO_X emissions for Units1 and 2.
- Add "fuel switching, tuning, load change, full speed no load testing, and compressor blade drying" to allowable excess emissions.
- Waive the periodic compliance test requirements for those parameters for which compliance is demonstrated continuously by CEMS.
- Correct the hour's limitation for continuous operation.

APPLICABLE STANDARDS AND REGULATIONS

1. Existing Permits. This permit does not authorize any new construction or increases in allowable operating limitations or emissions limits. This permit supplements all existing valid air permits. Except as specified below, the permittee shall continue to comply with all applicable conditions from valid air construction and operation permits. The proposed project involves no physical changes and no obvious operational changes to the facility. It does not involve any maintenance, repair or replacement tasks. [Rule 62-4.070(3), F.A.C.]

The following conditions of previous permits are revised as indicated below. ~~Strikethrough~~ is used to denote the deletion of text. Double-underlines are used to denote the addition of text.

PERMIT BEING MODIFIED: AC49-205703/PSD-FL-182

Affected Emissions Units: EU Nos. 001 and 002
(The remainder of the permit remains unchanged as a result of this permitting action)

2. Deleting the emission limits and testing requirements for metals for Units 1 and 2. Metals such as (Mercury (Hg), Arsenic (As), Beryllium (Be) and Lead (Pb)) are emitted at very low levels and much less than the respective emission standard and the applicable significant emission rate. Specific conditions related to the emission limits and testing requirements for Hg, As, Be and Pb for Emissions Units 001 and 002, has been deleted from permit No. AC49-205703/PSD-FL-182

3. To remove the requirements to conduct permit renewal testing for VOC and to allow CO testing results to serve as an indicator of proper combustion which assures that the VOC emissions limit is being met for Units No. 001 and 002. Specific Condition 8 of the original air construction permit No. PSD-FL-182 related to the VOC testing requirements has been revised as follows to specify that the VOC testing is only required if the annual CO test indicates an exceedance of the CO standard.

Compliance Determination

8. Compliance with the NO_X, SO_2, CO, PM, PM_{10} and VOC standards shall be determined (while operating at 95-100% of the permitted maximum heat rate input corresponding to the particular ambient conditions) within 180 days of initial operation of the maximum capability of the unit and annually thereafter, by the following reference methods as described in 40 CFR 60, Appendix A and adopted by reference in F.A.C. Rule 17-2.700. VOC testing is only required if the annual CO test indicates an exceedance of the CO standard.

4. To limit the PM testing requirement for Units 1 and 2 to oil firing operations only, Specific Condition 9 of the original air construction permit No. PSD-FL-182 related to the PM testing requirements has been revised as follows:

9. Methods 5 or Methods 17 must be performed on each unit to determine the initial compliance status of particulate matter emissions of the unit. Thereafter, the opacity emissions test may be used unless 10%

opacity is exceeded. Particulate matter emissions test is only required for demonstrating compliance with the emissions limits while firing oil.

5. To establish excludable periods of excess emissions related to periods of startup, shutdown and fuel switching for emissions units 001 and 002, KUA believes that they have gained experience in operating and maintaining their GE units and that the revised language would give them more flexibility in their operation. Specific Condition related to Excess Emissions Allowed has been established by this permit as follows:

Excess Emissions Allowed. Excess emissions resulting from startup, shutdown, fuel switching, tuning, load change, full speed no load testing, compressor blade drying, or malfunction of any emissions unit shall be permitted providing: (1) Best operational practices to minimize emissions are adhered to, and (2) the duration of excess emissions shall be minimized but in no case exceed two hours in any 24 hour period (except as provided for in other limited use operations) unless specifically authorized by the Department for longer duration.

6. To establish excludable periods of excess emissions from the CEMS compliance averages related to periods of startup, shutdown and fuel switching for emissions units 001 and 002, which will give KUA more flexibility in their operation. Specific Condition related to CEMS Data Exclusion has been established by this permit as follows:

CEMS Data Exclusion – Other Limited Use Operations. CEMS data collected during any of the following limited use operational periods may be excluded from the compliance averages provided the activities are performed in accordance with the manufacturer's specifications (or industry standards).

(a) Tuning. Tuning means operating the gas turbine at intermittent loads throughout the full load range in order to adjust and tune the water injection system.

(b) Compressor Blade Drying. Following a compressor blade wash, the permittee may operate a gas turbine at very low loads to heat and dry the compressor blades.
{Permitting Note: A gas turbine would typically operate at approximately 10% of base load or less to perform compressor blade drying.}

(c) Full Speed No Load Testing. As a periodic maintenance practice, the permittee may perform full speed no load tests.

{Permitting Note: An example of full speed no load testing includes, but is not limited to, checking the synchronizing instrumentation to assure safe and reliable connection to the electrical grid.}

7. To waive the periodic compliance test requirements for those parameters for which compliance is demonstrated continuously. When compliance with a standard is demonstrated continuously using continuous emissions monitoring system (CEMS), annual compliance testing and testing prior to permit renewal is not necessary. The following language has been inserted into Specific Condition 8 of permit No. AC49-205703/PSD-FL-182 as follows:

Since compliance with the NO_X standard is demonstrated continuously using the CEMS, annual testing and testing prior to permit renewal for NO_X using Method 7E and/or Method 20 is waived.

PERMIT BEING MODIFIED: PSD-FL-254

Affected Emissions Units: EU No. 003
(The remainder of the permit remains unchanged as a result of this permitting action)

8. To correct the hours limitation for continuous operation for EU 003, Specific Condition 16 has been revised as follows:

16. ~~Maximum allowable hours of operation for the~~ The 250 MW Combined Cycle ~~plant~~unit is ~~are 8,760 hours per year~~ permitted to operate continuously while firing natural gas. Fuel oil firing of the combustion turbine is permitted for a maximum of 720 hours per year.

9. Specific Condition No. 24 has been revised as follows:

24. Nitrogen Oxides (NO_X) Emissions. During any calendar day in which a start-up or shutdown, fuel switching, load change, tuning, compressor blade drying, or full speed no load testing occurs with natural gas as the exclusively fired fuel, an alternative NO_X limit of 86 lb/hr (310 lb/hr if fuel oil is fired during the calendar day) on the basis of a 24-hour block average shall apply. A minimum of 3 valid hours shall be required to calculate a 24-hour block average.

A. Combined-Cycle Operation.
- The concentration of NO_X in the stack exhaust gas, with the combustion turbine operating on gas and the duct burner on or off, shall not exceed 3.5 ppmvd @ 15% O_2 on a 3-hr block average. Compliance shall be determined by the continuous emission monitor (CEMS). Emissions of NO_X calculated as NO_2 in the stack exhaust gas (at ISO conditions) with the combustion turbine operating shall not exceed 26 (108) pounds per hour (lb/hr) with the duct burner on or off.
- The concentration of ammonia in the exhaust gas from each combustion turbine shall not exceed 5 ppmvd @ 15% O_2. The compliance procedures are described in Specific Condition 52.
- When NO_X monitoring data are not available, substitution for missing data shall be handled as required by Title IV (40 CFR 75) to calculate any specified average time.

B. Intermittent Simple-Cycle Operation.
- The concentration of NO_X in the stack exhaust gas, with the combustion turbine operating on gas shall not exceed 12 ppmvd at 15% O_2 (24-hr block average). Emissions of NO_X in the stack exhaust gas (at ISO conditions) with the combustion turbine operating shall not exceed 86 (310) pounds per hour (lb/hr).
- Notwithstanding the applicable NO_X limit during simple-cycle operation, reasonable measures shall be implemented to maintain the concentration of NO_X in the exhaust gas at 9 ppmvd at 15% O_2 or lower. Any tuning of the combustors for Dry Low NO_X operation while firing gas shall result in initial subsequent NO_X concentrations of 9 ppmvd @ 15% O_2 or lower.
- When NO_X monitoring data are not available, substitution for missing data shall be handled as required by Title IV (40 CFR 75) to calculate any specified average time.

C. Continuous Simple-Cycle Operation.
- The concentration of NO_X in the stack exhaust gas, with the combustion turbine operating on gas shall not exceed 9 ppmvd at 15% O_2 (24-hr block average). Emissions of NO_X in the stack exhaust gas (at ISO conditions) with the combustion turbine operating shall not exceed 65 (310) pounds per hour (lb/hr).
- Notwithstanding the applicable NO_X limit during simple-cycle operation, reasonable measures shall be implemented to maintain the concentration of NO_X in the exhaust gas at 9 ppmvd at 15% O_2 or lower. Any tuning of the combustors for Dry Low NO_X operation while firing gas shall result in initial subsequent NO_X concentrations of 9 ppmvd @ 15% O_2 or lower.
- When NO_X monitoring data is not available, substitution for missing data shall be handled as required by Title IV (40 CFR 75) to calculate any specified average time.

D. Other Limited Use Operations.
- Tuning. Tuning means operating the gas turbine at intermittent loads throughout the full load range in order to adjust and tune the dry low-NO_X (DLN) combustion system, ammonia injection grid (AIG), and/or the water injection system. Tuning shall be conducted in accordance with manufacturer's recommendations (or industry standards).
- Compressor Blade Drying. Following a compressor blade wash in accordance with the manufacturer's recommendations (or industry standards), the permittee may operate a gas turbine at very low loads to heat and dry the compressor blades. *(Permitting Note: A gas turbine would typically operate at approximately 10% of base load or less to perform compressor blade drying.)*

- Full Speed No Load Testing. As a periodic maintenance practice, the permittee may perform full speed no load tests in accordance with the manufacturer's recommendations (or industry standards). *(Permitting Note: An example of full speed no load testing includes, but is not limited to, checking the synchronizing instrumentation to assure safe and reliable connection to the electrical grid.)*

10. Specific Condition No. 29 has been revised as follows:

29. Excess Emissions Allowed. Excess emissions resulting from startup, shutdown, or malfunction shall be permitted provided that best operational practices are adhered to and the duration of excess emissions shall be minimized. Excess emissions occurrences shall in no case exceed two hours in any 24-hour period. Note that Condition 24 addresses an alternative NO_X limit applicable during any calendar day when a startup or shutdown, fuel switching, load change, tuning, compressor blade drying, or full speed no load testing occurs. ~~During any calendar day in which a start-up or shutdown occurs with natural gas as the exclusively fired fuel, an alternative NO_X limit of 86 lb/hr (310 lb/hr if fuel oil is fired during the calendar day) on the basis of a 24-hour average shall apply.~~

11. Specific Condition No. 31 has been revised as follows:

31. Excess Emissions Report. If excess emissions occur for more than two hours due to malfunction, the owner or operator shall notify DEP's Central District office 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. Pursuant to the New Source Performance Standards, all excess emissions shall also be reported in accordance with 40 CFR 60.7, Subpart A. Following this format, 40 CFR 60.7, periods of startup, shutdown, fuel switching, tuning, load change, full speed no load testing, compressor blade drying and malfunction, shall be monitored, recorded, and reported as excess emissions when emission levels exceed the permitted standards listed in Specific Condition No. 24. [Rules 62-4.130, 62-204.800, 62-210.700(6), F.A.C.; 40 CFR 60.7 (1998 version)]

12. To remove the requirement for duct burner testing for Emissions Unit No. 003, if the duct burner has not operated more than 400 hours during the federal fiscal year. The following language has been added to Specific Condition 32 as follows:

32. Compliance with the allowable emission limiting standards shall be determined within 60 days after achieving the maximum production rate, but not later than 180 days of initial operation of the unit, and annually thereafter as indicated in this permit, by using the following reference methods as described in 40 CFR 60 Appendix A, and adopted by reference in Chapter 62-204.800, F.A.C. If the duct burner did not operate more than 400 hours during the federal fiscal year, testing with the duct burner on is waived for this requirement.

13. Specific Condition 34 related to the continuous compliance with the NO_X emission limits requirements has been revised as follows:

34. Continuous compliance with the NO_X emission limits. Continuous compliance with the NO_X emission limits shall be demonstrated with the CEM system on a 3-hr average basis (a 24-hour block average shall be used to demonstrate compliance with the NO_X limits when operating under Intermittent Simple-Cycle Operation or Continuous Simple-Cycle Operation). Based on CEMS data, a separate compliance determination is conducted at the end of each 3-hr period and a new average emission rate is calculated from the arithmetic average of all valid hourly emission rates from the previous 3-hr period. Valid hourly emission rates shall not include periods of start up, shutdown, or malfunction unless prohibited by 62-210.700, F.A.C. A valid hourly emission rate shall be calculated for each hour in which at least two NO_X concentrations are obtained at least 15 minutes apart. These excess emissions periods shall be reported as required in Specific Condition 31. Since compliance with the NO_X standard is demonstrated continuously using the CEMS, annual testing and

testing prior to permit renewal for NO_X using Method 7E and/or Method 20 is waived. [Rules 62-4.070 F.A.C., 62-210.700, F.A.C., 40 CFR 75 and BACT]

PERMIT BEING MODIFIED: 0970043-014-AC/PSD-FL-400

Affected Emissions Units: Unit 4 (EU No. 009)
(The remainder of the permit remains unchanged as a result of this permitting action)

14. To correct the hours limitation for continuous operation for Unit 4 (EU No. 009), Specific Condition 9 of permit No. 0970043-014-AC/PSD-FL-400 has been revised as follows:

9. Hours of Operation. The CTG and the DB are permitted to operate continuously. ~~may operate throughout the year (8,760 hours per year).~~

15. Changing the annual testing for ammonia slip to a single test prior to permit renewal. Since rules 62-297.310(7) requires annual testing only for those pollutants with a potential to emit in excess of 100 tons per year, and since the Unit 4 potential to emit for ammonia is approximately 75 tons per year, KUA believes that this request was justified. As an alternative to full length annual compliance testing for ammonia slip, KUA will conduct engineering runs using the required test method CTM 027.

Specific Condition 12.e of permit 0970043-014-AC/PSD-FL-400 has been revised to change the excess emissions reporting requirement for Unit 4 (EU No. 009) as follows:

12. Emissions Standards:

e. Compliance with the ammonia slip standard shall be demonstrated by conducting tests in accordance with EPA Method CTM-027 or EPA Method 320 or other methods approved by the Permitting Authority.

16. Specific Condition No. 17 of Permit No. 0970043-014-AC/PSD-FL-400 has been revised as follows:

17. Excess Emissions Allowed. Excess emissions resulting from startup, shutdown, load change, and documented malfunctions shall be permitted, provided that operators employ the best operational practices to minimize the amount and duration of emissions during such incidents. For the CTG/HRSG system, excess emissions of NO_X and CO emissions resulting from startup, shutdown, load change, or documented malfunctions shall not exceed the following specified time periods in any 24-hour period (for the purposes of this condition, "any 24-hour period" means a calendar day, midnight to midnight).

a. *STG/HRSG System Cold Startup.* For cold startup of the STG/HRSG system, excess NO_X and CO emissions from the CTG/HRSG system shall not exceed six hours in any 24-hour period. A "cold startup of the STG/HRSG system" is defined as startup of the combined cycle system following a shutdown of the steam turbine lasting at least 48 hours.
{Permitting Note: During a cold startup of the steam turbine system, the CTG/HRSG system is brought on line at low load to gradually increase the temperature of the STG and prevent thermal metal fatigue.}

b. *STG/HRSG System Warm Startup.* For warm startup of the STG/HRSG system, excess NO_X and CO emissions shall not exceed four hours in any 24-hour period. A "warm startup of the STG/HRSG system" is defined as a startup of the combined cycle system following a shutdown of the steam turbine lasting at least 8 hours and less than 48 hours.

c. *STG/HRSG System Hot Startup*. For hot startup of the STG/HRSG system, excess NO_X and CO emissions shall not exceed two hours in any 24-hour period. A "hot startup of the STG/HRSG system" is defined as a startup of the combined cycle system following a shutdown of the steam turbine lasting less than 8 hours.

d. *Shutdown.* For shutdown of the combined cycle operation, excess NO_X and CO emissions from the CTG/HRSG system shall not exceed three hours in any 24-hour period.

e. *Documented Malfunction.* For the CTG/HSRG 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.

f. *Load Change:* Excess emissions due to load change shall not exceed 2 hours in any 24-hour period.

17. To change the excess emissions reporting requirement for Unit 4 from quarterly to semiannually in accordance with 40 CFR 60.7(e), Specific Condition III.A.26 f. & g of permit No. 0970043-014-AC/PSD-FL-400 for Unit 4 (EU No.009) has been revised as follows:

26. CEMS Data Requirements:

f. *Data Exclusion:* Each CEMS shall monitor and record emissions during all operations including episodes of startup, shutdown, load change, full speed no load testing, compressor blade drying, malfunction 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 Nos. 15 and 17 of this section. All periods of data excluded shall be consecutive for each such episode and only data obtained during the described episodes (startup, shutdown, load change, full speed no load testing, compressor blade drying, malfunction, ~~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.

g. *Availability*. Monitor availability for the CEMS shall be 95% or greater in any calendar quarter. The ~~quarterly~~ semi-annual 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~~ semi-annual period. 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.

18. To change the excess emissions reporting requirement for Unit 4 from quarterly to semiannually in accordance with 40 CFR 60.7(e), Specific Condition III A.32.b of permit No. 0970043-014-AC/PSD-FL-400 for Unit 4 (EU No.009) has been revised as follows:

32. Excess Emissions Reporting:

b. SIP ~~Quarterly~~ Semiannual Permit Limits Excess Emissions Report: Within 30 days following the end of each calendar ~~quarter~~ semi-annual period, 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 following the NSPS format in 40 CFR 60.7(c), Subpart A. Periods of startup, shutdown and malfunction, shall be monitored, recorded and reported as excess emissions when emission levels exceed the standards specified in this permit. In addition, the report shall summarize the CEMS systems monitor availability for the previous ~~quarter~~ semi-annual period.

PERMIT BEING MODIFIED: 0970043-018-AC/PSD-FL-400A

Affected Emissions Units: Unit 4 (EU No. 009)
(The remainder of the permit remains unchanged as a result of this permitting action)

19. Specific Condition No. 5 of Permit No. 0970043-018-AC/PSD-FL-400A has been revised as follows:

5. Ammonia Injection. Ammonia injection shall begin as soon as operation of the CTG/HRSG system achieves the operating parameters specified by the manufacturer. As authorized by Rule 62-210.700(5), F.A.C., the above condition allows excess emissions only for specifically defined periods of startup, shutdown, load change, full speed no load testing, compressor blade drying, ~~fuel switching, DLN~~ tuning and documented malfunction of the CTG/HRSG system including the pollution control equipment.

20. To provide excludable periods of excess emissions from the CEMS compliance averages due to excess emissions related to DLN tuning testing condition for Unit 4 (EU No.009), Specific Condition 19 of permit No. 0970043-018-AC/PSD-FL-400A has been revised to change the tuning notification requirement for Unit 4 from 14 days to one business day as follows:

19. CEMS Data Exclusion – Other Limited Use Operations. CEMS data collected during any of the following limited use operational periods may be excluded from the compliance averages.
    (a) ~~*DLN*~~ *Tuning*. CEMS data collected during initial or other major DLN or ammonia injection grid (AIG) tuning sessions ~~shall~~ 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 as identified or requested by the equipment manufacturer. Prior to performing any major tuning session, where the intent is to exclude data from the CEMS compliance demonstration, the permittee shall provide the Compliance Authority with an advance notice of at least one working (business) day ~~14 days~~ that details the activity and proposed tuning schedule. The notice may be by telephone, facsimile transmittal, or electronic mail.
    (b) *Compressor Blade Drying.* Following a compressor blade wash in accordance with the manufacturer's recommendations (or industry standards), the permittee may operate a gas turbine at very low loads to heat and dry the compressor blades. *(Permitting Note: A gas turbine would typically operate at approximately 10% of base load or less to perform compressor blade drying.)*
    (c) *Full Speed No Load Testing.* As a periodic maintenance practice, the permittee may perform full speed no load tests in accordance with the manufacturer's recommendations (or industry standards). *(Permitting Note: An example of full speed no load testing includes, but is not limited to, checking the synchronizing instrumentation to assure safe and reliable connection to the electrical grid.)*

21. To change the annual testing for ammonia slip to a single test prior to permit renewal and to remove the requirement for duct burner testing for Unit 4 (EU No.009), if the duct burner is not operated more than 400 hours during the federal fiscal year and to waive the periodic compliance test requirements for those parameters for which compliance is demonstrated continuously using CEMS, Specific Condition 22 of permit 0970043-018-AC/PSD-FL-400A has been revised as follows:

22. Annual Compliance Tests: During each federal fiscal year (October 1st, to September 30th), the CTG shall be tested to demonstrate compliance with the emission standard for ammonia slip and visible emissions. For annual ammonia testing only, sampling will be conducted using CTM-027 but for one test run with the duct burner on and one test run with the duct burner off. Since compliance with the NO_X and CO standards are demonstrated continuously using the CEMS, annual testing and testing prior to permit renewal for NO_X and CO using Method 7E and/or Method 20 and Method 10 is waived. 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. If the duct burner did not operate more than 400 hours during the federal fiscal year, testing with the duct burner on is waived for this requirement. [Rules 62-212.400 (BACT) and 62-297.310(7)(a)4, F.A.C.]