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Governor

Department of Environmental Protection

DEP06-1269

Twin Towers Building
2600 Blair Stone Road
Tallahassee, Florida 32399-2400

Colleen M. Castille
Secretary

August 14, 2006

- CERTIFIED MAIL - RETURN RECEIPT REQUESTED -

Mrs. Barbara Linkiewicz
Environmental Licensing Manager
Florida Power & Light Company
700 Universe Blvd.
Juno Beach, FL 33408

**RE: Florida Power & Light Company
Manatee Power Plant – Unit 3
Modification to Conditions of Certification
DEP Case Number PA02-44B
OGC Case Number 06-1772**

FINAL ORDER MODIFYING CONDITIONS OF CERTIFICATION

Dear Mrs. Linkiewicz:

On September 19, 2002, the Department published notice of its intent to issue PSD Permit FL-328 (0810010-006-AC). On April 15, 2003, the Department issued PSD Permit FL-328 (0810010-006-AC) for the Manatee Unit 3 Station. Pursuant to 403.516 (1) (b)., Florida Statutes ("F.S."), the Department may modify specific Conditions of a site Certification which are inconsistent with the terms of any federally delegated or approved permit. Such modification(s) may be made without further notice if the matter has been previously noticed under the requirements for any federally delegated or approved permit program. The Conditions of Certification for the Manatee Unit 3 Station are hereby modified as follows:

XXIII. AIR

The construction and operation of the Manatee Unit 3 project shall be in accordance with all applicable provisions of Permit PSD-FL-328 (0810010-006-AC), which is attached as Appendix 2 and/or any Title V Permit issued for Manatee Unit 3, and of Chapters 62-210 through 62-297, F.A.C. Any final issuance, modification, or amendment to such PSD permit and/or Title V, are incorporated by reference herein, and are binding and enforceable Conditions of this Certification. The Licensee is subject to and shall comply with the terms, conditions, requirements, limitations, and restrictions set forth in Appendix 2 and any final issuance, modification, or amendment

to such PSD permit. A violation of the terms conditions, requirements, limitations, and restrictions in Appendix 2 is a violation of these Conditions of Certification.

A. General and Administrative

1. Permitting Authority ~~The construction and operation of the Manatee Unit 3 project shall be in accordance with all applicable provisions of any Prevention of Significant Deterioration (PSD) Permit and/or Title V permit issued for Manatee Unit 3 and of any updates or modifications thereto, and of Chapters 62-210 through 62-297, F.A.C~~

All documents related to applications for federally delegated or approved air permits to construct, modify or operate these emissions units shall be submitted to the:

Bureau of Air Regulation (BAR)
Florida Department of Environmental Protection
2600 Blair Stone Road, Tallahassee, Florida 32399-2400

and phone number 850/488-0114. Copies of these documents shall be submitted to the Compliance Authority.

2. Compliance Authority: All documents related to compliance activities for federally delegated or approved air permits such as reports, tests, and notifications shall be submitted to the

Air Quality Division
DEP Southwest District Office
3804 Coconut Palm Dr.
Tampa, Florida 33619-8218.

Copies of all such documents shall also be submitted to

Air Section
Manatee County Environmental Management Department
202 Sixth Avenue East
Bradenton, Florida 34208.

B. ~~Equipment~~

~~1. The permittee is authorized to install, tune, operate, and maintain four new General Electric Model PG7241FA gas turbine electrical generator sets each with a nominal capacity of 170 MW (EU 006, 007, 008 and 009). Each gas turbine shall include the SpeedtronicTM automated gas turbine control system. Ancillary equipment includes an inlet air filtration system, an evaporative inlet air cooling system, and a bypass stack for simple cycle operation. The gas turbines will utilize the "hot nozzle"~~

~~DLN combustors, which require natural gas to be preheated to approximately 290° F before combustion to increase overall unit efficiency. Gas-fired fuel heaters (EU 010) will preheat the natural gas during simple cycle operation and during startup to combined cycle operation. For full combined cycle operation, feedwater heat exchangers will preheat the natural gas.~~

~~2. Gas Turbine Controls~~

~~a. The permittee shall tune, maintain and operate the General Electric DLN-2.6 combustion system to control NO_x emissions from each turbine. Prior to the initial emissions performance tests for each gas turbine, the DLN combustors and automated gas turbine control system shall be tuned to achieve the simple cycle permitted level for CO and NO_x. Thereafter, each system shall be maintained and tuned in accordance with the manufacturer's recommendations.~~

~~b. The permittee shall install, tune, maintain and operate a SCR system to control NO_x emissions from each turbine during a combined cycle operation mode. The SCR system consists of an ammonia injection grid, catalyst, ammonia storage, monitoring and control system, electrical, piping and other ancillary equipment. The SCR system shall be designed, constructed and operated to achieve the permitted levels for NO_x emissions and ammonia slip. {Note: In accordance with 40 CFR 60.130, the storage of ammonia shall comply with all applicable requirements of the Chemical Accident Prevention Provisions of 40 CFR 68}~~

~~The permittee is authorized to install, operate, and maintain four new heat recovery steam generators (HRSGs). Each HRSG shall be designed to recover heat energy from one of the four gas turbines (3A-3D) and deliver steam to the steam turbine electrical generator through a common manifold. Each HRSG may be equipped with supplemental gas-fired duct burners having a maximum heat input rate of 495 MMBtu per hour (LHV). {Note: The four HRSGs deliver steam to a single steam turbine electrical generator with a nominal capacity of 470 MW.}~~

~~C. The maximum heat input rate to each gas turbine is 1600 MMBtu/hr (normal conditions) based on a compressor inlet air temperature of 59° F, the lower heating value (LHV) of natural gas, 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 Air Quality Division, DEP Southwest District Office 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.~~

~~D. — The total maximum heat input rate to the duct burners for each HRSG is 495 MMBTU/hr based on the lower heating value (LHV) of the natural gas.~~

~~E. — Subject to the restrictions and requirements of this certification, the gas turbines may operate under the following methods of operation.~~

~~1. — Subject to the operational restrictions of this certification, the gas turbines may operate throughout the year (8760 hours per year). Restrictions on individual methods of operation are specified below.~~

~~2. — Each gas turbine shall fire natural gas as the primary fuel, which shall contain on average no more than 2 grains of sulfur per 100 standard cubic feet of natural gas.~~

~~3. — Each gas turbine/HRSG system may operate to produce direct, shaft-driven electrical power and steam-generated electrical power from the steam turbine-electrical generator as a four-on-one combined cycle unit subject to the restrictions of this certification. 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.~~

~~4. — When firing natural gas and operating in combined cycle mode, each gas turbine/HRSG system may fire natural gas in the duct burners to provide additional steam-generated electrical power. The total combined heat input to the duct burners (all four HRSGs) shall not exceed 5,702,400 MMBtu (LHV) during any consecutive 12 months.~~

~~5. — Each gas turbine may operate individually in simple cycle mode to produce only direct, shaft-driven electrical power subject to the following operational restrictions.~~

~~a. — Prior to demonstrating compliance in combined cycle mode, each gas turbine shall operate in simple cycle mode for no more than 3390 hours during any consecutive 12 months.~~

~~b. — After demonstrating initial compliance in combined cycle mode, the combined group of four gas turbines shall operate in simple cycle mode for no more than an average of 1000 hours per unit during any consecutive 12 months.~~

~~6. — In accordance with the manufacturer's recommendations and appropriate ambient conditions, the evaporative cooling system may be operated to reduce the compressor inlet air temperature and provide additional direct, shaft-driven electrical power. This method of operation is commonly referred to as "fogging" and may be used in either simple cycle or combined cycle modes.~~

7. ~~When firing natural gas in either simple cycle or combined cycle modes, steam may be injected into each gas turbine to generate additional direct, shaft-driven electrical power to respond to peak demands. To qualify as "power augmentation", the combustion turbine must operate at a load of 95% or greater than that of the manufacturer's maximum base load rate adjusted for the compressor inlet air conditions. Prior to activating and after deactivating the power augmentation mode, the operator shall log the date, time, and new mode of operation. Each gas turbine shall operate in this power augmentation mode no more than 400 hours per unit during any consecutive 12 months.~~

8. ~~When firing natural gas, each gas turbine may operate in a high-temperature peaking mode to generate additional direct, shaft-driven electrical power to respond to peak demands. During any consecutive 12 months, each gas turbine shall operate in this peaking mode for no more than 60 hours of simple cycle operation and no more than 400 hours of combined cycle operation. The gas turbines shall not operate simultaneously in peaking and power augmentation modes. In addition, total combined operation of power augmentation and peaking modes shall not exceed 400 hours per unit during any consecutive 12 months.~~

F. ~~Emissions from each gas turbine shall not exceed the following standards.~~

Pollutant	Fuel	Method of Operation	Stack Test, 3-Run Average		CEMS Block Average
			ppmvd @ 15% O ₂	lb/hr	ppmvd @ 15% O ₂
CO ^a	Gas	Simple Cycle	7.4	27.5	8.0, 24-hr
		Simple Cycle w/PA	12.0	45.0	12.0, 24-hr
		Combined Cycle, Normal Operation	7.4	27.5	10.0, 24-hr
		Combined Cycle, All Modes	NA	NA	10.0, 24-hr
NOx ^b	Gas	Simple Cycle	9.0	58.7	9.0, 24-hr
		Simple Cycle w/PA	12.0	76.2	12.0, 24-hr
		Simple Cycle w/PK	15.0	95.3	15.0, 24-hr
		Combined Cycle w/SCR	2.5	16.3	2.5, 24-hr
		Combined Cycle w/SCR and DB	2.5	23.6	2.5, 24-hr
		Combined Cycle w/SCR, All Modes	N/A	N/A	2.5, 24-hr

PM/PM ₁₀ ^e	Gas	Simple or Combined Cycle	Fuel Specifications		
		Simple or Combined Cycle	Visible emissions shall not exceed 10% opacity for each 6-minute block average.		
SAM/SO ₂ ^d	Gas	Simple or Combined Cycle	Fuel Specifications		
VOC ^e	Gas	Simple or Normal Combined Cycle	1.3	2.8	NA
VOC ^e	Gas	Combined Cycle, w/DB and/or PA	4.0	10.5	NA
Ammonia ^f	Gas	Combined Cycle w/SCR	5	NA	NA

Notes:

a. Compliance with the CO standards shall be demonstrated based on data collected by the required CEMS. Compliance may also be determined by EPA Method 10. Compliance with the 24-hr CO CEMS standard shall be determined separately for each mode of operation based on the hours of operation in each mode. {Note: 24-hr compliance average may be based on as little as 1-hr of data or as much as 24-hr of CEMS data}.

b. Compliance with the NO_x standards shall be demonstrated based on data collected by the required CEMS. Compliance may also be determined by EPA Method 7E or 20. NO_x mass emission rates are defined as oxides of nitrogen expressed as NO₂. Compliance with the 24-hr NO_x CEMS standards during simple cycle operation shall be determined separately for each method of operation based on the hours of operation for each method.

{Note: A 24-hr compliance average may be based on as little as 1-hr of CEMS data or as much as 24-hr of CEMS data.}

c. In its review for the prevention of Significant Deterioration permit for this facility, the Department determined that the fuel specifications combined with the efficient combustion design and operation of each gas turbine represents the Best Available Control Technology (BACT) determination for PM/PM₁₀ emissions. Note, however, that the specifications and emissions limitations in this certification do not establish BACT. 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.

{Note: PM₁₀ emissions for gas firing are estimated at 9 lb/hour for simple cycle operation, 11 lb/hour for combined cycle operation, and 17 lb/hour for combined cycle operation with duct burning.}

d. In its review for the prevention of Significant Deterioration permit for this facility, the Department determined that the fuel sulfur specifications effectively limit the potential emissions of SAM and SO₂ from the gas turbines and represent the Best Available Control Technology (BACT) determination for these pollutants. Note, however, that the specifications and emissions limitations in this certification do not establish BACT.

~~{Note: SO₂ emissions for gas firing are estimated at 9.8 lb/hour for simple and combined cycle operation and 12.8 lb/hour for combined cycle operation with duct burning. SAM emissions are estimated to be less than 10% of the SO₂ emissions.}~~

- e. ~~Compliance with the VOC standards shall be demonstrated by conducting tests in accordance with EPA Method 25A. Optionally, EPA Method 18 may be also be performed to deduct emissions of methane and ethane. The emission standards are based on VOC measured as methane.~~
- f. ~~Each SCR system shall be designed and operated for an initial ammonia slip target of less than 5 ppmvd corrected to 15% oxygen based on the average of three test runs. Compliance with the ammonia slip standard shall be demonstrated by conducting tests in accordance with EPA Method CTC-027.~~

~~{General Notes: "DB" means duct burning. "PA" means power augmentation. "SCR" means selective catalytic reduction. "NA" means not applicable. The mass emission rate standards are based on a turbine 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.}~~

~~G. The duct burners are also subject to the provisions of Subpart Da of the New Source Performance Standards in 40 CFR 60.~~

~~J. If the steam-electrical turbine generator is off line, the permittee is authorized to operate the gas turbine/HRSG systems by dumping steam to the condenser. When operating in this manner, each unit shall comply with the standards established for combined cycle operation with ammonia injection (SCR).~~

~~K. The permittee shall install, calibrate, maintain, and operate continuous emission monitoring systems (CEMS) to measure and record the emissions of CO and NO_x from each gas turbine in a manner sufficient to demonstrate continuous compliance with the CEMS emission standards of this section. Each monitoring system shall be installed, calibrated, and properly functioning prior to the initial performance tests. Within one working day of discovering emissions in excess of a CO or NO_x standard (and subject to the specified averaging period), the permittee shall notify Air Quality Division, DEP Southwest District Office.~~

~~1. Each CO monitor shall be certified pursuant to 40 CFR 60, Appendix B, Performance Specification 4 or 4A. Quality assurance procedures shall conform to the requirements of 40 CFR 60, Appendix F, and the Data Assessment Report of Section 7 shall be made each calendar quarter, and reported semiannually to the Air Quality Division, DEP Southwest District Office. 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.~~

~~2. — Each NO_x monitor shall be certified, operated, and maintained in accordance with the requirements of 40 CFR Part 75. Record keeping and reporting shall be conducted pursuant to Subparts F and G in 40 CFR Part 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. In addition to the requirements of Appendix A of 40 CFR 75, the NO_x monitor span values shall be set approximately considering the allowable method of operation and corresponding emission standards.~~

~~L. — The oxygen (O₂) content or carbon dioxide (CO₂) content of the flue gas shall also 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 by the CEMS using F-factors that are appropriate for the fuel fired. Each monitor shall comply with the performance and quality assurance requirements of 40 CFR Part 75.~~

~~M. — 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. The permittee shall use all valid measurements or data points collected during an hour to calculate the hourly average values. The CEMS shall be designed and operated to sample, analyze, and record data evenly spaced over an hour. If the CEMS measures concentration on a wet basis, the CEM system shall include provisions to determine the moisture content of the exhaust gas and an algorithm to enable correction of the monitoring results to a dry basis (0% moisture). Alternatively, the owner or operator may develop through manual stack test measurements a curve of moisture contents in the exhaust gas versus load for each allowable fuel, and use these typical values in an algorithm to enable correction of the monitoring results to a dry basis (0% moisture). Final results of the CEMS shall be expressed as ppmvd, corrected to 15% oxygen. The CEMS shall be used to demonstrate compliance with the CEMS emission standards for CO and NO_x as specified in this certification. For purpose of determining compliance with the CEMS emission standard of this certification, missing (or excluded) data shall not be submitted. Upon request by the Department, the CEMS emission rates shall be corrected to ISO conditions to demonstrate compliance with the applicable standards of 40 CFR 60.332.~~

~~N. — A 24-hour block shall begin at midnight of each operating day and shall be calculated from 24 consecutive hourly average emission rate values. If a unit operates less than 24 hours during the block, the 24-hour block average shall be the average of available valid hourly average emission rate values for the 24-hour block. For purposes of determining compliance with the 24-hour CEMS standards, missing (or excluded)~~

~~data shall not be substituted. Instead the 24-hour block average shall be determined using the remaining hourly data in the 24-hour block.~~

~~O. — Each CEMS shall monitor and record emissions during all operations including all episodes of startup, shutdown, malfunction, DLN tuning, and steam blows. CEMS emissions data recorded during such episodes may be excluded from the corresponding CEMS compliance demonstration subject to the provisions of Specific Conditions XXIII.W.4 and XXIII.W.7.~~

~~All periods of data excluded shall be consecutive for each such episode. The permittee shall minimize the duration of data excluded for such episodes to the extent practicable. Data recorded during such episodes shall not be excluded if the episode was caused entirely or in part by poor maintenance, poor operation, or any other equipment or process failure, which may reasonably be prevented. Best operational practices shall be used to minimize hourly emissions that occur during such episodes. Emissions of any quantity or duration that occur entirely or in part from poor maintenance, poor operation, or any other equipment or process failure, which may reasonably be prevented, shall be prohibited.~~

~~P. — Monitor availability for the CEMS shall be 95% or greater in any calendar quarter. The report required in this certification 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 certification, except as otherwise authorized by the Department.~~

~~Q. — In accordance with the manufacturer's specifications, the permittee shall install, calibrate, maintain and operate an ammonia flow meter to measure and record the ammonia injection rate to the SCR system. The permittee shall document the general range of ammonia flow rates required to meet allowable emissions levels over the range of load conditions allowed by this certification 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 that is consistent with the documented flow rate for the combustion turbine load.~~

~~R. — 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.~~

~~S. — By the fifth calendar day of each month, the permittee shall record the following in a written or electronic log for each gas turbine for the previous month of operation: consumption of each fuel, the hours of operation, the hours of power augmentation, the hours of peaking, the 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.~~

~~T. — The permittee shall demonstrate compliance with the fuel sulfur specification of this certification by maintaining records of the sulfur content of the natural gas being supplied based on the vendor's analysis for each month of operation. Methods for determining the sulfur content of the natural gas shall be ASTM methods D4084-82, D3246-81 (or more recent versions) in conjunction with the provisions of 40 CFR 75 Appendix D.~~

~~U. — Within one working day of a malfunction that causes emissions in excess of a standard (subject to the specified averaging periods), the permittee shall notify the Air Quality Division, DEP Southwest District Office. The notification shall include a preliminary report of: the nature, extent, and duration of the emissions; the probable cause of the emissions; and the actions taken to correct the problem. If requested by the Air Quality Division, DEP Southwest District Office, the permittee shall submit written quarterly reports report of the malfunctions.~~

~~V. — Within 30 days following the end of each calendar quarter, the permittee shall submit a report to the Air Quality Division, DEP Southwest District Office summarizing emissions in excess of an NSPS standard. For purposes of reporting emissions in excess of NSPS standards, excess emissions from the gas turbine are defined as: any CEMS hourly average value exceeding the NSPS NO_x emission standard; and any daily period during which the sulfur content of the fuel being fired in the gas turbine exceeds the NSPS standard. For purposes of reporting emissions in excess of NSPS standards, excess emissions from duct firing are defined as: NO_x or PM emissions in excess of the NSPS standards except during periods of startup, shutdown, or malfunction; and SO₂ emissions in excess of the NSPS standards except during startup or shutdown.~~

~~W. — Within 30 days following the end of each quarter, the permittee shall submit a report to the Air Quality Division, DEP Southwest District Office summarizing periods of excess emissions. The information shall be summarized for simple/combined cycle startups, simple/combined cycle shutdowns, malfunctions, and major tuning sessions. In addition, the report shall summarize the CEMS systems monitor availability for the previous quarter.~~

~~X. The permittee is authorized to install, operate, and maintain four fuel heaters fired exclusively with natural gas at a maximum heat input rate of 24 MMBtu per hour. The fuel heaters will be designed to preheat the natural gas during simple cycle operation and during startup to combined cycle operation. For full combined cycle operation, feedwater heat exchangers will preheat the natural gas. {Note: In accordance with Air Permit No. PSD-FL-286, construction of two gas-fired fuel heaters has been completed.}~~

~~Y. Excess Emissions~~

~~1. In order to ensure that good operating practices to reduce emissions are followed, 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.~~

~~2. 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.~~

~~3. Visible emissions due to startups, shutdowns, and malfunctions shall not exceed 10% opacity except for up to ten, 6-minute averaging periods during a calendar day, which shall not exceed 20% opacity. [Rule 62-212.400(BACT), F.A.C.]~~

~~4. Excess Emissions Allowed~~

~~a. As specified in this condition, excess emissions resulting from startup, shutdown, and documented malfunctions are allowed provided that operators employ the best operational practices to minimize the amount and duration of emissions during such incidents. A "documented malfunction" means a malfunction that is documented within one working day of detection by contacting the Air Quality Division, DEP Southwest District Office by telephone, facsimile transmittal, or electronic mail. For each gas turbine/HRSG system, excess emissions resulting from startup, shutdown, or documented malfunctions shall not exceed two hours in any 24-hour period except for the following specific cases.~~

~~1) For cold startup of the steam turbine system, excess emissions from any gas turbine/HRSG system shall not exceed six hours in any 24-hour period. Cold startup of the steam turbine system shall be completed within twelve hours. A cold "startup of the steam turbine system" is defined as startup of the 4 on 1 combined cycle system following a shutdown of the steam turbine lasting at least 48~~

~~hours. {Note: During a cold startup of the steam turbine system, 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.}~~

~~2) — For shutdown of the steam turbine system, excess emissions from any gas turbine/HRSG system shall not exceed three hours in any 24-hour period.~~

~~3) — For cold startup of a gas turbine/HRSG system, excess 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.~~

~~b. — 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, and documented malfunction of the gas turbines.~~

~~5. Work Practice Standard and Load Restriction~~

~~a. — Each unit will be operated according to manufacturer specifications and control systems. The CT control system is designed to reach Mode 5Q (i.e. five burners plus quaternary pegs in operation) within 15 minutes following gas turbine ignition and crossfire.~~

~~b. — A Best Operating Practice procedure for minimizing emissions during startup and shutdown shall be submitted to the Department within 60 days following determination of initial compliance with emission limits when operating in combined cycle mode.~~

~~c. — Except for initial steam blows, startup and shutdown, malfunctions, commissioning and recommissioning, operation at loads where the DLN 2.6 system is not in pre-mix mode is prohibited.~~

~~6. — Initial Steam Blows~~

~~a. Prior to completing the conversion from simple cycle to combined cycle operation, the permittee is authorized to operate each gas turbine at loads below 50% for the purpose of cleaning the HRSG piping system and piping connecting the HRSG to the steam turbine. Prior to conducting any steam blows, the permittee shall submit a proposed schedule. On the first day of conducting steam blows, the permittee shall notify the Air Quality Division, DEP Southwest District Office that the process has begun. The permittee shall complete this process within 90 days of conducting the initial steam blow. For good cause, the permittee may request that the Air Quality Division, DEP Southwest District Office extend the steam blow period. During the steam blows, the following conditions apply:~~

~~i. The permittee shall take all precautions to minimize the extent and duration of excess emissions.~~

~~ii. Each gas turbine shall fire only natural gas and each CEMS shall be on line and functioning properly.~~

~~iii. CO and NO_x emissions may exceed the BACT limits specified in the PSD permit; however, NO_x emissions shall not exceed the NSPS Subpart GG limit of 110 ppmvd corrected to 15% oxygen based on a 24-hour block average. If the NSPS standard is exceeded, the permittee shall notify the Air Quality Division, DEP Southwest District Office within one working day of the incident.~~

~~b. Within 30 days of completing the initial steam blows, the permittee shall submit a report to the Bureau of Air Regulation and the Air Quality Division, DEP Southwest District Office summarizing the daily emissions resulting from each steam blow. {Permitting Note: It is estimated that steam blows will occur intermittently over a 30-day period for each gas turbine/HRSG system followed by a similar 60-day period of intermittent steam blows for the common piping system serving the four interconnected combined cycle units. It is not expected that steam blows would occur every day during these periods. This condition only applies if simple cycle operation begins prior to combined cycle operation and NSPS compliance tests for simple cycle operation have been performed}~~

~~7. CEMS data collected during initial or other major DLN tuning sessions shall be excluded from the CEMS compliance demonstration provided the tuning session is performed in accordance with the manufacturer's specifications. A "major tuning session" would occur after completion of initial construction, a combustor change out, a major repair or maintenance to a combustor, or other similar circumstances. Prior to performing any major tuning session, the permittee shall provide the Air Quality Division, DEP Southwest District Office with an advance notice that details the activity and proposed tuning schedule. The notice may be by telephone, facsimile transmittal, or electronic mail.~~

~~Z. Emissions Performance Testing~~

~~1. Required tests shall be performed in accordance with the following reference methods.~~

Method	Description of Method and Comments
CTM-027	Procedure for Collection and Analysis of Ammonia in Stationary Source {Notes: This is an EPA conditional test method. The minimum detection limit shall be 1 ppm.}
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

Except for Method CTM-027, the above methods are described in 40 CFR 60, Appendix A, and adopted by reference in Rule 62-204.800, F.A.C. Method CTM-027 is published on EPA's Technology Transfer Network Web Site at "<http://www.epa.gov/ttn/emc/ctm.html>". No other methods may be used for compliance testing unless prior written approval is received from the Department.

~~2. Each gas turbine 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 for each unit configuration (i.e., simple cycle an combined cycle operation), but not later than 180 days after the initial startup of each unit configuration. Each unit shall be tested under all operating scenarios as required in Specific Condition No. 10. CEMS data collected during the required Relative Accuracy Test Assessments (RATA) may be used to demonstrate~~

~~compliance with the initial CO and NO_x standards. With appropriate flow measurements (or fuel measurements and approved F-factors), CEMS data may also be used to demonstrate compliance with the CO and NO_x mass emissions standards. CO and NO_x emissions recorded by the CEMS shall also be reported for each run during tests for visible emissions, VOC and ammonia slip. Initial CO and VOC emissions tests performed during simple cycle operation may be used to satisfy the initial test requirement for similar operation in combined cycle mode. The Department may require the permittee to conduct additional tests after major replacement or repair of any air pollution control equipment, such as the SCR catalyst, DLN combustors, etc.~~

~~AA. The permittee shall demonstrate continuous compliance with the CO and NO_x emissions standards based on data collected by the certified CEMS. Within 45 days of conducting any Relative Accuracy Test Assessments (RATA) on a CEMS, the permittee shall submit a report to the Compliance Authority summarizing results of the RATA. Compliance with the CO emission standards also serves as an indicator of efficient fuel combustion, which reduces emissions of particulate matter and volatile organic compounds.~~

~~BB. During each federal fiscal year (October 1st to September 30th), each gas turbine shall be tested to demonstrate compliance with the emission standards for visible emissions and ammonia slip. 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. {Note: After initial compliance with the VOC standards are 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.}~~

~~CC. If the tested ammonia slip rate for a gas turbine exceeds 5 ppmvd corrected to 15% oxygen when firing natural gas during the annual test, the permittee shall:~~

~~a. Begin testing and reporting the ammonia slip for each subsequent calendar quarter;~~

~~b. Before the ammonia slip exceeds 7 ppmvd corrected to 15% oxygen, take corrective actions that result in lowering the ammonia slip to less than 5 ppmvd corrected to 15% oxygen; and~~

~~c. Test and demonstrate that the ammonia slip is no more than 5 ppmvd corrected to 15% oxygen within 15 days after completing the corrective actions. Corrective actions may include, but are not limited to, adding catalyst, replacing catalyst, or other SCR system maintenance or repair. After demonstrating that the ammonia slip level is no more than 5 ppmvd corrected to 15% oxygen, testing and reporting shall resume on an annual basis~~

Any party to the this Order has a right to seek judicial review of it pursuant to Section 120.68, Florida Statutes by filing a Notice of Appeal, pursuant to Rule 9.110, Florida Rules of Appellate Procedure, with the Clerk of the Department of Environmental Protection in the Office of General Counsel, 3900 Commonwealth Boulevard, M.S. 35, Tallahassee, Florida 32399-3000, and by filing a copy of the Notice of Appeal, accompanied by the applicable filing fees, with the appropriate District Court of Appeal. The Notice of Appeal must be filed within thirty days from the date this Order is filed with the Clerk of the Department of Environmental Protection.

Executed in Tallahassee, Florida.

Hamilton S. Oven

Hamilton S. Oven, P.E.

Administrator, Siting Coordination Office

FILING AND ACKNOWLEDGMENT

FILED, on this date, pursuant to §120.52
Florida Statutes, with the designated
Department Clerk, receipt of which is
hereby acknowledged.

Landa Karakos

Clerk

8-14-06

Date

I HEREBY CERTIFY that a copy of the foregoing Final Order has been sent by United States Postal Service to:

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