



Florida Department of Environmental Protection

Bob Martinez Center
2600 Blair Stone Road
Tallahassee, Florida 32399-2400
June 6, 2008

Charlie Crist
Governor

Jill Kottkamp
Lt. Governor

Monica W. Soto
Secretary

Electronically Sent – Received Receipt Requested.

Progress Energy Florida, Inc.
6525 Osceola-Polk County Line Road
Intercession City, Florida 33848

Authorized Representative:

Ms. Julie Turner, Plant Manager

Intercession City Plant
DEP File No. 0970014-013-AC
PSD-FL-268B
Facility ID No. 0970014
SIC No. 49

Permit Expires: December 31, 2008

Re: Air Construction Permit Modification
Data Exclusion Conditions Units P12, P13 and P14

Dear Ms. Turner:

The Florida Department of Environmental Protection (“the Department”) has reviewed your application to make some minor modifications to air construction Permit No. PSD-FL-268A (0970014-006-AC). Progress Energy Florida requested modifications that would further define the methodology for the exclusion of excess emissions data recorded during startups, shutdowns and malfunctions from the calculation of 24-hour nitrogen oxides (NO_x) averages applicable to combustion turbines P12, P13 and P14 at the Intercession City Plant. Therefore, the changes requested will be addressed as an air construction Permit Modification.

MODIFICATIONS OF AIR CONSTRUCTION PERMIT NO. 0970014-006-AC

Double-underline denotes additions.

Specific Conditions 21 and 35 are revised as follows:

21. Alternate Standards and NO_x CEMS Data Exclusion: The following permit conditions establish alternate standards or allow the exclusion of monitoring data for specifically defined periods of startup, shutdown, and documented malfunction of a gas turbine. These conditions apply only if operators employ the best operational practices to minimize the amount and duration of emissions during such episodes.

- (a) **Opacity**: During startup and shutdown, visible emissions excluding water vapor shall not exceed 20% opacity for up to 2.0 hours in any 24-hour period.
- (b) **NO_x CEMS Data Exclusion**: For the following identified operational periods, 1-hour NO_x emissions rate values may be excluded from the 24-hour block compliance averages in accordance with the corresponding requirements.
 - (1) Startup, Shutdown, and Malfunction: No more than 1 hourly emission rate value or 60 minutes of data due to startup shall be excluded per cycle. No more than 1 hourly emission rate value or 60 minutes of data due to shutdown shall be excluded per cycle. No more than 2 hourly emission rate values or 120 minutes of data shall be excluded in a 24-hour period due to malfunction. No more than 4 hourly emission rate values or 240 minutes of data shall be excluded in a 24-hour period due to all startups, shutdowns, and malfunctions. Note: A fuel-switch is not considered “startup”.
 - (2) Tuning: If the permittee provides at least five days advance notice prior to a major tuning session performed by the manufacturer’s representative, hourly NO_x emissions rate values during tuning may be excluded from the 24-hour block compliance averages. Data excluded due to tuning shall not count towards the limit on total excluded data in a 24-hour period. {Permitting Note: As an example, a major tuning session would occur after a combustor change-out. A tuning session may take several hours each day over a few days. No more than two major tuning sessions would be expected during any year. Major

tuning sessions are intended to return the unit to manufacturer's specifications for efficient operation and should result in lower actual emissions.}

As provided by the authority in Rule 62-210.700(5), F.A.C., the above requirements are established in lieu of the provisions of Rule 62-210.700(1), F.A.C. [Design; Rules 62-210.700(5), 62-4.130, and Rule 62-212.400(BACT), F.A.C.]

CONTINUOUS MONITORING REQUIREMENTS

35. **NO_x CEMS Requirements:** For each gas turbine, the permittee shall install, calibrate, maintain, and operate continuous emissions monitors (CEMS) to measure and record emissions of nitrogen oxides (NO_x) and oxygen (O₂) in a manner sufficient to demonstrate compliance with the standards of this permit. A monitor for carbon dioxide (CO₂) may be used in place of the oxygen monitor, but the system shall be capable of correcting the emissions to 15% oxygen.
- (a) **Performance Specifications.** Each monitor shall be installed in a location that will provide emissions measurements representative of actual stack emissions. Each CEMS shall comply with the corresponding performance specifications that identify location, installation, design, performance, and reporting requirements.
- (1) Each NO_x monitor shall be certified pursuant to 40 CFR Part 75 and shall be operated and maintained in accordance with the applicable requirements of 40 CFR Part 75, Subparts B and C. Record keeping and reporting shall be conducted pursuant to 40 CFR Part 75, Subparts F and G. The RATA tests required for the NO_x monitor shall be performed using EPA Method 7E or 20 as defined in Appendix A of 40 CFR 60. The NO_x monitor shall have dual span capability with a low span (gas) no greater than 30 ppmvd corrected to 15% O₂ and a high span (oil) no greater than 200 ppmvd corrected to 15% O₂.
- (2) Each O₂ (or CO₂) CEMS shall comply with Performance Specification 3 in Appendix B of 40 CFR 60. The O₂ reference method for the annual RATA shall be EPA Method 3A Appendix A of 40 CFR 60.
- (b) **Data Collection.** Each CEMS shall be designed and operated to sample, analyze, and record emissions data evenly spaced over a 1-hour period during all periods of operation. Each 1-hour average shall be computed using at least one data point in each fifteen minute quadrant of the 1-hour block during which the unit combusted fuel. Notwithstanding this requirement, each 1-hour average shall be computed from at least two data points separated by a minimum of 15 minutes. All valid measurements or data points collected during a 1-hour block shall be used to calculate the 1-hour emission averages. If the NO_x CEMS measures concentration on a wet basis, the permittee shall use approved methods for correction of measured emissions to a dry basis (0% moisture). The O₂ (or CO₂) CEMS shall express the 1-hour emission rate values in terms of "percent oxygen by volume". The NO_x CEMS shall express the 1-hour emission averages in terms of "ppmvd corrected to 15% oxygen".
- (c) **Compliance Averages.** Compliance with the 24-hour block NO_x emissions standards shall be based on data collected by each required CEMS. The 24-hour block shall start at midnight of each operating day and consist of 24 consecutive 1-hour blocks. For purposes of determining compliance with the emission standards of this permit, missing data shall not be substituted. Instead the 24-hour block average shall be determined using the remaining hourly data in the 24-hour block. If a unit operates continuously throughout the day, the 24-hour block average shall be the average of 24 consecutive 1-hour emission averages. If a unit operates less than 24 hours during the day, the 24-hour block average shall be the average of the available valid 1-hour emission averages collected during actual operation. If monitoring data is authorized for exclusion (due to startup, shutdown, malfunction, or tuning), the 24-hour block average shall be the average of the remaining valid 1-hour emission averages collected during actual operation. In cases of reduced operation or data exclusion, the compliance average will be based on less than 24, 1-hour emission averages. Upon completion of each 24-hour block, the permittee shall determine separate compliance averages for gas firing and oil firing. A 1-hour emissions average that includes any amount of oil firing shall only be included in the compliance average for oil firing. Upon a request from the Department, the NO_x emission rate shall be corrected to ISO (International Standards Organization (refers to those conditions at 288 Kelvin, 60% relative humidity and 101.3 kilopascals

pressure)) conditions to demonstrate compliance with the applicable standards of 40 CFR 60.332. In the rare case where the remaining hourly data exceeds the 24 hour block NO_x emissions standards, compliance will be demonstrated by excluding startup, shutdown, and malfunction *minutes* from the 24 hour block as outlined in Section 3 paragraph 3 (b) (1). The remaining minute NO_x values will be averaged and compared to the emission standard. Normally compliance would be evaluated on an hourly basis.

- (d) **Data Exclusion.** Except for continuous monitoring system breakdowns, repairs, calibration checks, and zero and span adjustments, each CEMS shall record emissions data at all times including episodes of startup, shutdown, DLN tuning, and malfunction. Emissions data recorded during periods of startup, shutdown, or malfunction may only be excluded from the compliance averages in accordance with the requirements previously specified in this permit. All periods of data excluded shall be consecutive for each episode and only data obtained during the described episodes (startup, shutdown, malfunction, DLN tuning) may be used for the appropriate exclusion periods. To the extent practicable, the permittee shall minimize the duration of data excluded for startup, shutdown and malfunctions. Data recorded during startup, shutdown or malfunction 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 startup, shutdown and malfunction. 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. Excluded emissions data shall be summarized in the required quarterly report.
- (e) **Reporting.** If a CEMS reports NO_x emissions in excess of a standard, the permittee shall notify the Compliance Authority within one working day with a preliminary report 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 Compliance Authority may request a written summary report of the incident.
- (f) **Monitor Availability.** Monitor availability shall not be less than 95% in any calendar quarter. 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.

[Rules 62-204.800, 62-210.700, 62-4.130, 62-4.160(8), F.A.C.; 40 CFR 60.7]

A copy of this letter shall be filed with the referenced permit and shall become part of the permit. Any party to this permitting decision (order) has the right to seek judicial review of it under Section 120.68 of the Florida Statutes, by filing a notice of appeal under Rule 9.110 of the Florida Rules of Appellate Procedure with the clerk of the Department of Environmental Protection in the Office of General Counsel, Mail Station #35, 3900 Commonwealth Boulevard, 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 must be filed within thirty days after this order is filed with the clerk of the Department.

Executed in Tallahassee, Florida.

Joseph Kahn, Director
Division of Air Resource Management

