December 21, 2007

Mr. J. Michael Kennedy
Designated Representative
Progress Energy Carolinas, Inc.
P.O. Box 1551
Raleigh, NC 27602

Re: Petition for an Alternative Mercury Monitoring Certification Deadline, for Units 1A and 1B at the Mayo Electric Generating Station (Facility ID (ORISPL) 6250), Unit 1 at the Roxboro Electric Generating Station (Facility ID (ORISPL) 2712), and Units 4 and 5 at the Crystal River Electric Generating Station (Facility ID (ORISPL) 628)

Dear Mr. Kennedy:

The United States Environmental Protection Agency (EPA) has reviewed the September 10, 2007 petition submitted under 40 CFR 75.80(h)(1) by Progress Energy, in which Progress Energy requested an alternative mercury monitoring system certification deadline for Units 1A and 1B at the Mayo Electric Generating Station, Unit 1 at the Roxboro Electric Generating Station, and Units 4 and 5 at the Crystal River Electric Generating Station. EPA approves the petition in part, with conditions, as discussed below.

Background

Progress Energy owns and operates five coal-fired boilers, Units 1A and 1B at the Mayo Electric Generating Station (Mayo), Unit 1 at the Roxboro Electric Generating Station (Roxboro), and Units 4 and 5 at the Crystal River Electric Generating Station (Crystal River). The Mayo and Roxboro units are located in Person County, North Carolina and the Crystal River units are located in Citrus County, Florida. Mayo Units 1A and 1B share a common stack, known as CS0005.

These units are subject to the emission monitoring and reporting requirements of the Clean Air Mercury Regulation (CAMR). The owner or operator of an existing unit subject to CAMR is required to install and certify a continuous mercury (Hg) monitoring system, no later than January 1, 2009. The units are also subject to the Acid Rain Program.

Progress Energy intends to install flue gas desulfurization (FGD) systems to control SO_2 emissions from the aforementioned units, with a co-benefit of reducing Hg emissions. New stacks will be built as part of the FGD construction projects and the

emissions will exit to the atmosphere through the new stacks. Progress Energy states that it intends to abandon the existing stacks but keeps open the option of using one or more of the existing stacks as a bypass stack. The projected in-service dates for the FGD systems and new stacks are shown in Table 1, below:

Table 1

Facility Name	Monitored Location	FGD In-Service Date
Mayo	Units 1A and 1B Common Stack	May 2009
Roxboro	Unit 1 Stack	January 2009
Crystal River	Unit 4 Stack	April 2010
Crystal River	Unit 5 Stack	December 2009

Due to the timing of the FGD installations, CAMR requires Progress to certify a Hg monitoring system on the existing stack at each facility by January 1, 2009 and then to meet a second Hg monitoring system certification deadline on the new stacks, when construction of these stacks is completed and the FGDs become operational. The second deadline results from the requirement that Progress Energy must install and certify a Hg monitoring system on each new stack within 90 unit operating days or 180 calendar days (whichever comes first) after emissions first exit to the atmosphere through the stack.

In the September 10, 2007 petition, Progress Energy requested that the January 1, 2009 monitor certification deadline be extended to coincide with the monitor certification deadlines associated with the FGD installations and construction of the new stacks, with the exception of Crystal River Unit 4. In the case of Crystal River Unit 4, Progress Energy would certify a Hg monitoring system for temporary use on the existing stack by December 31, 2009. A permanent Hg monitoring system would then be certified at the new stack within 90 unit operating days or 180 calendar days (whichever comes first) after emissions first exit to the atmosphere through the new stack, which is expected to occur in April 2010.

According to Progress Energy, EPA should consider extending the January 1, 2009 monitor certification deadline, because certifying Hg monitoring systems on each of the four existing stacks to meet the requirements of CAMR would be costly and provides no environmental benefit. Progress Energy proposed to report Hg mass emissions data in 2009 using the Hg low mass emissions methodology (HgLME) described in 40 CFR 75.81(c) through (f).

EPA's Determination

EPA conditionally approves Progress Energy's petition for an extension of the January 1, 2009 Hg monitoring certification deadline for Units 1A and 1B at the Mayo facility, Roxboro Unit 1, and Crystal River Units 4 and 5. Under the following unique circumstances, EPA has concluded that the January 1, 2009 Hg monitoring certification deadline should be conditionally extended:

- First, Progress Energy is constructing FGD systems (including new stacks) that will reduce SO_2 and Hg emissions from the units. If Progress Energy were to install continuous Hg monitoring systems by January 1, 2009 on each of the existing stacks, Progress Energy would also be required to install continuous Hg monitoring systems on the new stacks after completing construction of the FGD systems.

- Second, Progress Energy states that all of the FGD projects will be completed in 2009, except for the Crystal River Unit 4 project, which will be completed in 2010. For that unit, Progress Energy has agreed to certify a Hg monitor on the existing stack by December 31, 2009 and to report Hg emissions data from that monitor until the FGD project has been completed.

- Third, the requirement for Hg emissions reductions under CAMR begins in 2010. Not only will Hg emissions data recorded during calendar year 2009 not be used to determine compliance with CAMR, but also, due to the future installation of FGD systems and the need to install and operate continuous Hg monitoring systems in new locations on new stacks, any continuous Hg monitoring systems installed on the existing stacks, and any pre-2010 Hg emissions data from such monitoring systems on the existing stacks, would not be representative of the units' Hg monitoring systems and Hg emissions in 2010 and thereafter.

EPA concludes that requiring continuous Hg monitoring systems to be installed and certified on the existing stacks by January 1, 2009 would serve little or no purpose under CAMR. The Agency is therefore approving, with conditions, an extension of that certification deadline to whichever one of the following dates occurs first: (a) December 31, 2009; (b) 90 unit operating days after the date on which emissions first exit to the atmosphere through the new stacks or FGD systems; or (c) 180 calendar days after the date on which emissions first exit to the atmosphere through the new stacks or FGD systems.

However, although EPA is extending the January 1, 2009 Hg monitor certification deadline for Mayo Units 1A and 1B, Roxboro Unit 1, and Crystal River Units 4 and 5, Progress Energy must still report Hg mass emissions using the HgLME monitoring methodology, and heat input data using the existing monitoring systems under the Acid Rain Program for these units in 2009. Although the HgLME methodology is not intended for use by units such as Mayo Units 1A and 1B, Roxboro Unit 1, and Crystal River Units 4 and 5 that have annual Hg mass emissions greater than 29 lbs, allowing the HgLME methodology to be used for 2009 is a reasonable alternative for getting emissions data that are required under CAMR, but that will not be used to determine whether the Hg emissions reductions required under CAMR (i.e., the reductions required in 2010 and thereafter) are met. In this case, Hg emissions data reported in 2009 using the HgLME methodology will not compromise the integrity of CAMR. Therefore, the conditions of this approval are as follows:

(1) On or before December 31, 2008, Progress Energy shall perform Hg emission testing on Roxboro Unit 1, Crystal River Units 4 and 5, and on common stack CS0005 at Mayo, as described in 40 CFR 75.81(c)(1). A minimum of three 1-hour test runs is required for each unit or stack, while coal is being combusted. All units shall be in operation at typical normal load levels during the emission tests;

(2) From the results of these emission tests, Progress Energy shall determine a default Hg emission factor, in $\mu g/m^3$ at standard conditions, for each unit or stack. The default emission factor shall be the greater of: (a) the highest Hg concentration from any test run; or (b) 0.50 $\mu g/m^3$;

(3) In 2009, for each hour of operation if Mayo Units 1A and 1B, Roxboro Unit 1, and Crystal River Units 4 and 5 prior to completion of the FGD installations, Progress Energy shall use the appropriate default Hg concentration from paragraph (2) above to calculate the hourly Hg mass emissions in ounces for each unit or stack. These calculations shall be performed according to section 9.1.3 in Appendix F to 40 CFR Part 75. All Hg emissions from the units shall be accounted for. For any hour that quality-assured data from the stack gas flow rate monitors are unavailable, the appropriate missing data procedures from 40 CFR Part 75, Subpart D shall be used;

(4) Notwithstanding paragraph (3) above, Progress Energy shall, upon request from either the North Carolina Department of the Environment and Natural Resources (NCDENR) or the Florida Department of Environmental Protection (FDEP):

(a) Perform additional Hg emission testing in 2008 and/or 2009 on the existing stacks, as described in 40 CFR 75.81(d)(4); and

(b) Determine a new default Hg concentration from each retest, as described in paragraph (2) above, using the new default value for reporting purposes under 40 CFR Part 75.

Progress Energy shall notify EPA upon receipt of a request for retesting from the NCDENR or FDEP. Progress Energy shall also provide test notifications to EPA and to the NCDENR or FDEP (as applicable), at least 21 days in advance of the scheduled date for each retest. Absent a request from the NCDENR or FDEP for retesting, the periodic retests described in 40 CFR 75.81(d)(4) are not required.

(5) In 2009, Progress Energy shall comply with the applicable recordkeeping and reporting requirements in 40 CFR 75.84 for Mayo Units 1A and 1B, Roxboro Unit 1, and Crystal River Units 4 and 5;

(6) Starting on the date and hour when emissions first exit to the atmosphere through the new stacks serving Mayo Units 1A and 1B, Roxboro Unit 1, and Crystal River Units 4 and 5, Progress Energy shall begin reporting emissions data from the new stacks for all parameters;

(7) For the monitoring systems installed on the new stacks, Progress Energy shall follow the applicable monitor certification and data validation guidelines in Questions 16.14 through 16.16 in the "Part 75 Emissions Monitoring Policy Manual". For the purposes of this approval, those general guidelines are extended to include Hg monitoring systems;

(8) Progress Energy shall install and certify continuous Hg monitoring systems at the new common stack serving Mayo Units 1A and 1B and at the new stacks for Roxboro Unit 1 and Crystal River Unit 5 by whichever one of the following dates occurs first: (a) December 31, 2009; or (b) 90 unit operating days after the date on which emissions first exit to the atmosphere through the new stacks or FGD systems; or (c) 180 calendar days after the date on which emissions first exit to the atmosphere through the new stacks or FGD systems;

(9) For Crystal River Unit 4, a continuous Hg monitoring system (i.e., either a continuous emissions monitoring system (CEMS) or a sorbent trap system) must be installed and certified on the existing stack by December 31, 2009. Upon completion of the FGD installation, a permanent monitoring system must be installed and certified on the new stack within 90 unit operating days or 180 calendar days (whichever comes first) after emissions first exit to the atmosphere through the stack;

(10) In 2010, for each hour of operation of Mayo Units 1A and 1B, Roxboro Unit 1, and Crystal River Units 4 and 5, Progress Energy shall report hourly Hg mass emissions and heat input using data recorded by continuous Hg monitoring systems. The Hg mass emissions calculations shall be performed according to section 9.1.3 of Appendix F to 40 CFR Part 75. All Hg emissions from the units must be accounted for. For any hour that quality-assured data from the Hg or stack gas flow rate monitors are unavailable, the appropriate missing data procedures from 40 CFR Part 75, Subpart D shall be used;

(11) In the event that Progress Energy elects to use any of the existing stacks as a bypass stack, Progress Energy shall report the maximum potential Hg concentration (MPC) (as defined in section 2.1.7.1 of Appendix A to 40 CFR Part 75) for each hour in which the effluent gases are routed through the bypass stack, unless and until Progress Energy installs and certifies a continuous Hg monitoring system at the bypass stack; and

(12) If, for a particular unit or stack, the Hg monitoring system certification deadline in paragraph (8) or (9) above is not met, Progress Energy shall report

the maximum potential Hg concentration at that unit or stack, as defined in section 2.1.7.1 of Appendix A to 40 CFR Part 75, beginning with the first operating hour following the deadline and continuing until all required certification tests of the required Hg monitoring system have been successfully completed.

EPA's determination relies on the accuracy and completeness of the information provided by Progress Energy in the September 10, 2007 petition and is appealable under 40 CFR Part 78. If you have any questions about this determination, please contact Venu Ghanta, at (202) 343-9009. Thank you for your continued cooperation.

Sincerely,

/s/
Sam Napolitano, Director
Clean Air Markets Division

cc: David McNeal, EPA Region IV
Dennis Igboko, NCDENR
Errin Pichard, Florida DEP
Venu Ghanta, CAMD