

May 17, 2005

Mr. Randy Wooten
Authorized Account Representative
Duke Power Company
526 South Church Street
Charlotte, NC 28202-1802

Re: Petition to Retain Low Mass Emissions Unit Status for Unit 6C at the W.S. Lee Plant (Facility ID (ORISPL) 3264)

Dear Mr. Wooten:

This is in response to your December 3, 2004 petition under §75.66 in which Duke Power Company (Duke) requested to retain low mass emissions (LME) status for Unit 6C at its W.S. Lee, South Carolina power plant. During the 2004 ozone season, Unit 6C exceeded the 50-ton nitrogen oxides (NO_x) emission limit in §75.19 (a)(1)(i)(A)(3), resulting in disqualification from using the LME methodology. EPA approves the petition, with conditions, as discussed below.

Background

Duke Power owns and operates three 30 MW simple-cycle combustion turbines at the W.S. Lee power plant in South Carolina. These combustion turbines are a secondary source of backup power for Duke Power's Oconee Nuclear Station. The primary source of backup power is the Keowee hydro-electric facility. The three W.S. Lee turbines are subject to the NO_x Budget Program under South Carolina Department of Health and Environmental Control (SCDHEC) Regulation 61-62.96. Regulation 61-62.96 requires Duke to monitor and report NO_x mass emissions and heat input for these units in accordance with Subpart H of 40 CFR Part 75. According to Duke, the turbines are exempted from the Acid Rain Program under §72.6(b)(1), because they commenced commercial operation before November 15, 1990.

Under Part 75, for oil and gas-fired units there are three possible compliance options for NO_x monitoring. The owner or operator may either: (1) install continuous emission monitoring systems (CEMS); or (2) use the methodology in Appendix E (peaking units, only); or (3) use the low mass emissions (LME) methodology in §75.19. Historically, the NO_x mass emissions from the W.S. Lee turbines have been low due to infrequent operation, and the units initially qualified for LME status on this basis. Therefore, Duke elected to use the LME option for these units.

However, during the 2004 ozone season the Keowee hydro-electric facility was out of service as it underwent a once-in-a-generation refurbishment. Since reserve power from Keowee

was unavailable, W.S. Lee Unit 6C was required to idle for 1,250 hours during August and September, 2004. This extended usage of Unit 6C resulted in NO_x emissions of 82.2 tons for the 2004 ozone season. Therefore, since Unit 6C failed to meet the 50-ton NO_x ozone season limit in §75.19 (a)(1)(i)(A)(3), it is disqualified from using the LME methodology.

According to §75.19 (b)(2)(ii), the loss of LME status requires the owner or operator to install, certify, and report NO_x mass emissions and heat input data from monitoring systems that meet the requirements of §§75.11, 75.12 and 75.13, by December 31 of the calendar year following the year in which LME status was lost. Therefore, for Unit 6C, since LME status was lost in 2004, the monitoring system certification deadline is December 31, 2005. Further, according to §75.19(b)(5), Unit 6C will not be able to re-qualify for LME status unless at least three full ozone seasons of actual, monitored emissions data are subsequently obtained (e.g., in 2006, 2007 and 2008), showing that the unit emits no more than 50 tons of NO_x during the ozone season.

In the December 3, 2004 petition, Duke stated that it plans to retire and replace all three of the W.S Lee units prior to the summer of 2007. The units will be replaced with two new peaking combustion turbines that will use the methodologies in Appendices D, E and G of Part 75 to comply with the Acid Rain Program and NO_x Budget Program requirements. Therefore, according to Duke, if monitoring systems were to be installed on Unit 6C by December 31, 2005, these systems would be use for only one, or at most two, more ozone seasons before the unit is retired. Duke also asserted that it believes the 82.2 tons of NO_x emissions reported for Unit 6C in the 2004 ozone season (which were calculated using a generic NO_x emission rate of 0.7 lb/mmBtu from §75.19) are over-stated by a factor of about 3 and that the actual NO_x emissions were likely much less than the 50 ton limit for LME units. Duke cited as evidence the results of emission testing of Unit 6C in 2002, in which the measured NO_x emission rate was 0.24 lb/mmBtu. In view of these considerations, Duke requested relief from the requirements of §75.19 (b)(2)(ii) and (b)(5) and asked that the LME status for Unit 6C be retained.

EPA's Determination

EPA conditionally approves Duke's request to retain the LME status for Unit 6C at the W.S. Lee facility. EPA's approval is conditioned on Duke obtaining from SCDHEC a Federally-enforceable permit limit for Unit 6C of 50 tons of NO_x per ozone season. The permit limit must be obtained no later than May 1, 2006.

As previously noted, under §75.19(b)(5), when LME status is lost, the owner or operator must install and certify Part 75-compliant monitoring systems on the unit by December 31 of the following calendar year, and the unit may only re-qualify for LME status if three years of actual, monitored data are subsequently collected, showing that the unit emits less than the number of tons required for LME qualification. However, in view of the unusual circumstances that caused Unit 6C to lose its LME status in the 2004 ozone season (i.e., the once-in-a-generation refurbishment of the Keowee plant) and considering Duke's plans to retire the unit in 2007 (or sooner), the Agency will waive these requirements for Unit 6C if Duke obtains the aforementioned Federally-enforceable permit limit.

Duke may use the LME methodology for Unit 6C in the 2005 ozone season, regardless of whether a permit revision has been obtained from SCDHEC¹. However, if the required Federally-enforceable permit limit is not in place² by May 1, 2006, then Unit 6C will be immediately disqualified from using the LME methodology and Duke shall report the maximum potential NO_x emission rate and the maximum potential hourly heat input for each hour of operation of Unit 6C in the 2006 ozone season and in any subsequent ozone season in which Unit 6C operates, until Part 75-compliant monitoring systems have been installed and certified.

EPA's determination relies on the accuracy and completeness of Duke's December 3, 2004 petition and the emissions data reported to EPA in the 2004 electronic data reports (EDRs) for the W.S. Lee facility and is appealable under Part 78. If you have any questions regarding this determination, please contact Manuel J. Oliva at (202) 343-9009.

Sincerely,

/s/

Sam Napolitano, Director
Clean Air Markets Division

cc: David McNeal, EPA Region IV
Carl W. Richardson, SCDHEC
Heather Preston, SCDHEC
Manuel J. Oliva, CAMD

¹ Since the deadline for certifying Part 75-compliant monitoring systems is December 31, 2005 (i.e., after the end of the 2005 ozone season), Duke may use the LME methodology for Unit 6C in the 2005 ozone season even without the relief from §75.19(b)(2)(ii).

² That is, if, as of May 1, 2006: (1) Duke has not applied for the permit limit; or (2) Duke has applied for the permit limit, but the application has neither been approved nor disapproved by SCDHEC; or (3) Duke has applied for the permit limit, but the application has been disapproved by SCDHEC.