December 21, 2007

Ms. Pamela Graika
Designated Representative
Xcel Energy
414 Nicollet Mall
Minneapolis, Minnesota 55401-1993

Re: Petition for an Alternative Mercury Monitoring Methodology for Unit 8 at the Riverside Generating Plant (Facility ID (ORISPL) 1927)

Dear Ms. Graika:

The United States Environmental Protection Agency (EPA) has reviewed the March 9, 2007 petition submitted under 40 CFR 75.80(h)(1) by Xcel Energy (Xcel), in which Xcel requested an alternative mercury (Hg) monitoring methodology for Unit 8 at the Riverside Generating Plant (Riverside). EPA approves the petition, with conditions, as discussed below.

Background

Xcel owns and operates three coal-fired boilers, Units 6, 7, and 8, at the Riverside Generating Plant, located in Hennepin County, Minnesota. Units 6 and 7 are dry-bottom wall-fired boilers. Unit 8 is a cyclone boiler that combusts a blend of sub-bituminous coal and petroleum coke and is controlled by electrostatic precipitators. All three 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 Hg monitoring system in accordance with Subpart I of 40 CFR Part 75, no later than January 1, 2009. The units are also subject to the Acid Rain Program.

Xcel intends to re-power Riverside, converting it from a coal-fired operation to a natural gas-fired combined-cycle combustion turbine facility. This conversion involves the permanent shutdown and retirement of Units 6, 7, and 8. Coal combustion at Riverside will be gradually phased out. In the fall of 2008, Units 6 and 7 will be permanently shut down. The Riverside air emissions permit (05300015-004) requires Unit 8 and all associated equipment to be permanently shut down within six months of commercial operation of the new combustion turbines or December 31, 2009, whichever is earlier. First-fire of the combustion turbines is planned for December 2008 with commercial operation expected to commence in May 2009. Therefore, coal combustion in Unit 8 will overlap with operation of the new turbines in 2009.

According to Xcel, Riverside Units 6 and 7 are exempted from the Hg emissions monitoring and reporting requirements of CAMR, since the air permit requires them to be

permanently shut down prior to January 1, 2009. However, Unit 8 is not exempted from the CAMR monitoring and reporting requirements because it will continue to operate in 2009. Unit 8 is expected to operate for at least the first half of 2009, and possibly for the entire year, if the projected date of commercial operation of the new combustion turbines is delayed.

In the March 9, 2007 petition, Xcel requested to use an alternative Hg monitoring methodology for Unit 8 in 2009 to avoid the expense of installing and certifying a continuous Hg monitoring system that would be used for only a year or less. Xcel proposed to use the Hg low mass emissions (HgLME) methodology described in 40 CFR 75.81(c) - (f). The HgLME option is allowed for sources that emit no more than 29 lbs (464 ounces) of Hg per year. Based on annual reports to EPA's Toxic Release Inventory and from the MPCA Mercury Inventory, Unit 8's annual Hg emissions were reported as 61.1 lbs and 60.2 lbs for 2004 and 2005, respectively. Clearly, these estimated Hg emissions are above the HgLME threshold value. Nevertheless, Xcel believes that the HgLME approach will adequately quantify Unit 8's Hg mass emissions for the remainder of its operational life in 2009.

Xcel proposed to conduct two separate Hg emission tests, consisting of three runs each, using either the sorbent-based Method 30B or the Ontario Hydro method. The first test would be performed in the 4th quarter of 2008, and the results would be used to report the Hg mass emissions from Unit 8 in the first half of 2009. A second emission test would be done in the 2nd quarter of 2009 and the results would be used to report Unit 8's Hg mass emissions in second half of 2009. According to Xcel, since the first phase of the EPA-administered emissions trading program under CAMR does not begin until 2010, any Hg emissions data reported for Unit 8 in 2009 would be for informational purposes only.

EPA's Determination

EPA conditionally approves Xcel's petition to use an alternative Hg monitoring methodology for Riverside Unit 8. Under the following unique circumstances, EPA concludes that use of the HgLME methodology to quantify Unit 8's Hg mass emissions in 2009 should be approved on lieu of installation and certification of a continuous Hg monitoring system by January 1, 2009:

(a) Xcel has enforceable permit conditions requiring permanent shutdown of Unit 8 within six months of commercial operation of the new combustion turbines or December 31, 2009, whichever is earlier. Therefore, if Xcel were to install and certify a continuous Hg monitoring system by January 1, 2009, the monitoring system would be used only for a year or less until Unit 8 is permanently retired.

(b) 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 permanent shutdown of the unit by December 31, 2009, the unit will have no Hg emissions, and will report no Hg emissions data, in 2010 and thereafter.

EPA concludes that requiring a Hg monitoring system to be installed and certified at Riverside Unit 8 would serve little or no purpose under CAMR. The Agency is therefore approving, with conditions, an exemption from the requirement to install and certify a continuous Hg monitoring system at the unit by January 1, 2009.

However, although EPA is granting an exemption from the January 1, 2009 Hg monitor certification deadline for Riverside Unit 8, Xcel must still report Hg mass emissions using the Hg low mass emission (HgLME) monitoring methodology, and heat input data using the existing monitoring systems under the Acid Rain Program in 2009. Although the HgLME methodology is not intended for use by units such as Riverside Unit 8 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) In the 4th quarter of 2008, Xcel shall perform Hg emission testing on Riverside Unit 8, as described in 40 CFR 75.81(c)(1). A minimum of three test runs at normal load are required, while coal is being combusted. Unit 8 shall be in operation at typical, normal load levels during the tests;

(2) From the results of these emission tests, Xcel shall determine a default Hg emission factor for Unit 8, in µg/m^3, at standard conditions. The default emission factor shall be the greater of: (a) the highest Hg concentration from any test run; or (b) 0.50 µg/m^3;

(3) Except as provided in paragraph (4) below, in 2009 for each hour of operation of Unit 8, Xcel shall use the appropriate default Hg concentration from (2) above to calculate the hourly Hg mass emissions in ounces. These calculations shall be performed according to section 9.1.3 in Appendix F to 40 CFR Part 75. All Hg emissions from the unit must be accounted for. For any hour that quality-assured data from the stack gas flow rate monitor are unavailable, the appropriate missing data procedures from 40 CFR Part 75, Subpart D shall be used;

(4) XCel has the option of performing, in the 2nd quarter of 2009, a second round of Hg emission testing on Unit 8, as described in 40 CFR 75.81(c)(1). If the second round of Hg emission testing is performed, the results shall be used to determine a default Hg emission factor for Unit 8, in µg/m^3, at standard conditions. The default emission factor shall be the greater of: (a) the highest

Hg concentration from any test run; or (b) 0.50 µg/m^3. Starting with the first unit operating hour after the second round of emission testing and continuing until Unit 8 permanently shuts down, for each hour of operation of Unit 8, Xcel shall use the appropriate default Hg concentration from that testing to calculate the hourly Hg mass emissions in ounces. These calculations shall be performed according to section 9.1.3 in Appendix F to 40 CFR Part 75; and

(5) In 2009, Xcel shall comply with the applicable recordkeeping and reporting requirements in 40 CFR 75.84 for Unit 8.

EPA's determination relies on the accuracy and completeness of the information provided by Xcel in the March 9, 2007 petition and is appealable under 40 CFR Part 78. If you have any questions about this determination, please contact Louis Nichols at (202) 343-9008. Thank you for your continued cooperation.

Sincerely,

/s/
Sam Napolitano, Director
Clean Air Markets Division

cc: Constantine Blathras, EPA Region V
Marshall Cole, Minnesota PCA
Louis Nichols, CAMD