

April 11, 2007

Robert M. Matty, Jr.
Alternate Designated representative
Exelon Power
300 Exelon Way
Kennett Square, PA 19348

Re: Petition to Accept an SO₂ RATA Performed While Combusting Natural Gas in Unit 2 at the Cromby Generating Station (Facility ID (ORISPL) 3159)

Dear Mr. Matty:

The United States Environmental Protection Agency (EPA) has reviewed the January 9, 2007 petition submitted by Exelon Generation Company, LLC (Exelon) under §75.66, in which Exelon requested acceptance of a relative accuracy test audit (RATA) of the sulfur dioxide (SO₂) monitor installed on Unit 2 at the Cromby Generating Station (Cromby). The RATA was performed while Unit 2 was combusting natural gas. EPA denies the petition, for the reasons given below.

Background

Exelon owns and operates a tangentially-fired boiler, Unit 2, at the Cromby Generating Station in Phoenixville, Pennsylvania. Residual oil is the primary fuel for the unit. Natural gas is used for burner ignition and is occasionally combusted as a backup fuel. The unit is subject to the Acid Rain Program. Therefore, Exelon is required to continuously monitor and report SO₂, nitrogen oxides (NO_x), and carbon dioxide (CO₂) emissions and heat input for Unit 2, in accordance with 40 CFR Part 75. To meet the Part 75 monitoring requirements, Exelon has installed and certified dilution-extractive continuous emission monitoring systems (CEMS) for SO₂, NO_x, and CO₂ and a differential pressure-type flow monitor.

Section 2.3 of Appendix B to Part 75 requires semiannual or annual RATA testing of all gas monitors, for the purposes of quality-assurance. On September 26, 2006, Exelon conducted the required annual RATAs of Cromby Unit 2's SO₂, NO_x, and CO₂ monitoring systems while the unit was combusting natural gas. According to Exelon, at the time of the tests the operators were unaware of the provision in §75.21(a)(5) that prohibits the RATA of an SO₂ monitor from being performed while a unit is combusting "very low sulfur fuel" (as defined in 40 CFR §72.2). The definition of very low sulfur fuel includes natural gas.

The SO₂ monitor passed the RATA with a relative accuracy (RA) of 1.3 percent. In view of this, on January 9, 2007 Exelon petitioned EPA under §75.66 to accept the test as valid. Exelon provided a summary of the RATA results as an attachment to the petition.

EPA's Determination

EPA denies Exelon's request to use the September 26, 2006 RATA of Cromby Unit 2's SO₂ monitor to satisfy the quality-assurance requirements of Part 75. The basis for this denial is provided in the following paragraphs.

Performing the SO₂ RATA while combusting "very low sulfur fuel" is clearly disallowed under §75.21(a)(5) for units such as Cromby Unit 2, in which very low sulfur fuel is "sometimes burned as a primary or backup fuel and in which higher sulfur fuel(s) such as oil or coal are, at other times, burned as primary or backup fuel(s)". Section 75.21(a)(5) explicitly states that "the owner shall perform the relative accuracy test audits of the SO₂ monitoring system...required by...section 2.3.1 of appendix B to this part...only when the higher-sulfur fuel is combusted in the unit and shall not perform SO₂ relative accuracy test audits when the very low sulfur gaseous fuel is the only fuel being combusted".

The provisions in §75.21(a)(5) were added to Part 75 in 1996 (see 61 FR 59142, 59148-49, November 20, 1996), in recognition of the fact that when natural gas is combusted, the sulfur dioxide concentration in the flue gas is often so low that it is undetectable by either an SO₂ CEMS or by an EPA reference (stack test) method. Since the purpose of a RATA is to assess the accuracy of a CEMS by directly comparing CEMS data to measurements made with a reference method (RM), a meaningful evaluation is precluded when the measured emissions are at or below the detectable limit of the CEMS and RM.

Taken at face value, the results of the September 26, 2006 SO₂ monitor RATA provided by Exelon (i.e., 1.3% relative accuracy) appear to be well within the 10.0% RA requirement of Part 75. However, this test result is somewhat misleading. A closer inspection of the RATA run data confirms, rather, that the provisions in §75.21(a)(5) prohibiting the SO₂ RATA from being performed on natural gas are well-founded. The CEMS readings during the RATA were all between 1.6 and 2.2 parts per million (ppm) of SO₂. None of the corresponding RM values was above 1.0 ppm, and for five of the nine test runs, the RM readings were 0.0 ppm of SO₂.

EPA rejects these test data as a credible demonstration of the accuracy of Cromby Unit 2's SO₂ monitor. The Agency reviewed the 2005 and 2006 electronic data reports (EDRs) submitted by Exelon for Unit 2 and found that oil was combusted for approximately 74 percent of the unit operating hours in these two calendar years. By far, the vast majority of the SO₂ emissions from Unit 2 occur during fuel oil combustion. When Unit 2 combusts fuel oil, the SO₂ emissions typically range from about 100 to 300

ppm, whereas the SO₂ emissions are generally less than 5 ppm and are often near zero when natural gas is combusted. Therefore, it is essential that the accuracy of the SO₂ monitor be demonstrated at the higher emission levels to ensure the integrity of Acid Rain Program allowance accounting for this unit.

Exelon must repeat the SO₂ RATA for Unit 2 while combusting fuel oil, in order to maintain the quality-assured status of the unit's SO₂ emissions data. According to section 2.3.3(a)(1) in Appendix B to Part 75, when a required RATA is not completed by the end of the calendar quarter in which it is due, the owner or operator has a 720 unit operating hour grace period after the end of that quarter in which to complete the test, without incurring data loss. Further, section 2.3.3(b) in Appendix B states that for units, such as Cromby Unit 2, that sometimes combust very low sulfur fuel and burn higher-sulfur fuel at other times, the grace period begins with the first hour after the RATA deadline in which the higher-sulfur fuel is combusted.

For Cromby Unit 2, the original deadline for the SO₂ RATA was at the end of the 3rd quarter of 2006 (i.e., September 30, 2006). According to the 4th quarter electronic data report (EDR) for Unit 2, fuel oil was combusted in the unit during that quarter, as evidenced by the magnitude of the reported SO₂ emissions in EDR record type 200 and the fuel-specific F-factors reported in EDR record type 320. Therefore, the grace period began in the 4th quarter of 2006. However, the unit operated for only 79 hours in the 4th quarter; thus, at the end of 2006, there were at least 641 hours remaining in the grace period.

If the SO₂ RATA is completed within the allotted grace period, Exelon shall determine the deadline for the next RATA according to the provisions in section 2.3.3(c) of Appendix B. If the required SO₂ RATA is not completed by the end of the grace period, data from the SO₂ monitor shall become invalid, starting with the first unit operating hour after the expiration of the grace period and continuing until a successful RATA has been completed.

EPA's determination relies on the accuracy and completeness of the information provided by Exelon in the January 9, 2007 petition and is appealable under Part 78. If you have any questions or concerns about this determination, please contact Robert Vollaro, at (202) 343-9116. Thank you for your continued cooperation.

Sincerely,

/s/

Sam Napolitano, Director
Clean Air Markets Division

cc: Jerry Curtin, EPA Region III
Charles Zadakis, Pennsylvania DEP
Robert Vollaro, CAMD