

December 21, 2007

Mr. Stephen S. Davies
Designated Representative
Reliant Energy
121 Champion Way
Canonsburg, PA 15317

Re: Petition for an Alternative Mercury Monitor Certification Deadline for Units 1 and 2 at the Keystone Electric Generating Station (Facility ID (ORISPL) 3136) and for Unit 1 at the Cheswick Electric Generating Station (Facility ID (ORISPL) 8226)

Dear Mr. Davies:

The United States Environmental Protection Agency (EPA) has reviewed the May 30, 2007 petition submitted under 40 CFR 75.80(h)(1) by Reliant Energy (Reliant), in which Reliant requested an alternative mercury monitoring system certification deadline for Units 1 and 2 at the Keystone Electric Generating Facility and Unit 1 at the Cheswick Electric Generating Facility. EPA approves the petition in part, with conditions, as discussed below.

Background

Reliant co-owns and operates two coal-fired boilers, Units 1 and 2, at the Keystone Electric Generating Facility (Keystone), located in Indiana County, Pennsylvania. Reliant owns and operates one coal-fired boiler, Unit 1, at the Cheswick Electric Generating Facility (Cheswick), located in Allegheny County, Pennsylvania. These units are all subject to the emission monitoring and reporting requirements of the Clean Air Mercury Regulation (CAMR) under Subpart I of 40 CFR Part 75, which the Pennsylvania Department of Environmental Protection (PADEP) has adopted and incorporated by reference in 25 Pa. Code Section 123.210. Under 40 CFR 75.80(b) and Section 123.210(f), the owner or operator of an existing unit subject to CAMR in Pennsylvania must install and certify a continuous mercury (Hg) monitoring system in accordance with Subpart I of 40 CFR Part 75, no later than January 1, 2009. These units are also subject to the Acid Rain Program.

Reliant intends to install flue gas desulfurization (FGD) systems on Keystone Units 1 and 2 and Cheswick Unit 1 to control sulfur dioxide (SO₂) emissions with a co-benefit of reducing Hg emissions. Construction of the FGDs will begin in 2007 and is expected to be completed by mid-2009. New stacks will be built as part of the FGD construction projects, and the emissions from Keystone Units 1 and 2 and Cheswick Unit 1 will exit to the atmosphere through these stacks.

As a result of the timing of the FGD installation and new stack construction for each unit, Sections 123.210(f) and (g) require Reliant to certify Hg monitoring systems by January 1, 2009 on the existing stacks 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 Reliant 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 May 30, 2007 petition, Reliant requested that the January 1, 2009 deadline be extended to coincide with the monitor certification deadline associated with the FGD installations and construction of the new stacks. Reliant further proposed to report Hg emissions data in 2009 using the Hg low mass emissions (HgLME) methodology described in 40 CFR 75.81(c) through (f) and agreed to install and certify Hg monitoring systems for Keystone Units 1 and 2 and Cheswick Unit 1 no later than December 31, 2009.

EPA's Determination

EPA conditionally approves Reliant's petition for an extension of the January 1, 2009 Hg monitoring system certification deadline for Keystone Units 1 and 2 and Cheswick Unit 1. Under the following unique circumstances, EPA has concluded that the January 1, 2009 Hg monitoring system certification deadline for these units should be conditionally extended:

- First, Reliant is constructing new FGD systems (including new stacks) that will reduce SO₂ and Hg emissions from the units. If Reliant were to install continuous Hg monitoring systems by January 1, 2009 on each of the existing stacks, Reliant would also be required to install continuous Hg monitoring systems on the new stacks after completing construction of the FGD systems.
- Second, Reliant states that construction of the FGD systems will be completed by mid-2009 and the continuous Hg monitoring systems on the new stacks will be certified by December 31, 2009.
- Third, the requirement for Hg emissions reductions under CAMR begins in 2010. EPA also notes that, consistent with CAMR, compliance with the specified annual Hg emission limitation for coal-fired electric generating units in Pennsylvania's CAMR State Plan (which EPA has proposed to approve) is not required until January 1, 2010 (see 25 Pa. Code Section 123.207). 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 at Keystone Units 1 and 2 and Cheswick Unit 1 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 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 Keystone Units 1 and 2 and Cheswick Unit 1, Reliant 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 Keystone Units 1 and 2 and Cheswick Unit 1 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, Reliant shall perform Hg emission testing on Keystone Units 1 and 2 and Cheswick Unit 1, as described in 40 CFR 75.81(c)(1). A minimum of three 1-hour test runs at normal load is required for each unit, while coal is being combusted. The units shall be in operation at typical, normal load levels during the tests;
- (2) From the results of these emission tests, Reliant shall determine a default Hg emission factor, in $\mu\text{g}/\text{m}^3$ at standard conditions, for each affected unit. The default emission factor shall be the greater of: (a) the highest Hg concentration from any test run; or (b) $0.50 \mu\text{g}/\text{m}^3$;
- (3) In 2009, for each hour of unit operation prior to completion of the FGD installation, Reliant shall use the appropriate default Hg concentration from (2) above to calculate the hourly Hg mass emissions in ounces for each unit. 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 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) In 2009, Reliant shall comply with the applicable recordkeeping and reporting requirements in 40 CFR 75.84 for Keystone Units 1 and 2 and Cheswick Unit 1;
- (5) For the new monitoring systems installed on the new stacks, Reliant 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;
- (6) Reliant shall install and certify continuous Hg monitoring systems on Keystone Units 1 and 2 and Cheswick Unit 1 by whichever 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 the emissions first exit to the atmosphere through the new stacks or FGD systems; and
- (7) If, for a particular unit, the Hg monitoring system certification deadline in paragraph (6) above is not met, Reliant shall report the maximum potential Hg concentration at that unit, as defined in section 2.1.7.1 of Appendix A to 40 CFR Part 75, beginning with the first unit 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 Reliant in the May 30, 2007 petition and is appealable under 40 CFR Part 78. In accordance with 40 CFR 75.80(h)(1), EPA made this determination in consultation with the Pennsylvania Department of Environmental Protection and the Allegheny County Health Department. EPA notes that, while concurrence of the permitting authority is not required under 40 CFR 75.80(h)(1), these agencies concurred with EPA’s determination. If you have any questions about this determination, please contact Charles Frushour, at (202) 343-9847. Thank you for your continued cooperation.

Sincerely,

/s/

Sam Napolitano, Director
Clean Air Markets Division

cc: Charles Perritt, EPA Region III
Charles Zadakis, Pennsylvania DEP
Sandra Etzel, Allegheny County Health Department
Charles Frushour, CAMD