



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
WASHINGTON, D.C. 20460

SEP 25 2002

OFFICE OF
AIR AND RADIATION

Rick Letarte
General Manager
Schuylkill Energy Resources
P.O. Box 112
Shenandoah, PA 17976

Re: Petition for a Moisture Missing Data Substitution Procedure for Unit 1 at the St. Nicholas Cogeneration Project (Facility ID (ORISPL) 54634)

Dear Mr. Letarte:

This is in response to your August 19, 2002 petition under §75.66 (a), in which Schuylkill Energy Resources (SER) requested approval of a substitute data procedure for stack gas moisture content for Unit 1 at the St. Nicholas Cogeneration Project. EPA approves the petition, for the reasons indicated below.

Background:

SER owns and operates a fluidized-bed boiler, Unit 1, at the St. Nicholas Cogeneration project in Mahanoy Township, Pennsylvania. Unit 1 burns waste anthracite coal (known as "culm"). The unit is subject to the continuous emission monitoring and reporting provisions of the NO_x Budget Trading Program under 25 Pa. Code Chapter 145, which requires NO_x mass emissions and heat input to be monitored and reported in accordance with Part 75 of the Acid Rain Regulations.

To determine hourly NO_x emission rate and heat input rate for Unit 1, SER uses Equations 19-3 and Equation F-17 respectively. Both of these equations require a mathematical correction for the stack gas moisture content. SER has installed a continuous moisture monitoring system on Unit 1 to provide the necessary hourly data for the moisture corrections. However, when the moisture monitoring system is out-of-control and the Part 75 missing data routines in §75.37 must be applied, there is an issue concerning which missing data algorithms to use.

There are two distinct sets of moisture missing data algorithms described in §75.37. One set requires conservatively high moisture values (i.e., 90th or 95th percentile values or maximum values) to be substituted, while the other set requires substitution of conservatively low moisture values (i.e., 5th or 10th percentile values or minimum values). The appropriate set of algorithms for a particular application depends on the position of the moisture correction term in the NO_x emission rate and heat input equations, i.e., whether the correction term is in the numerator or denominator.

In Equation 19-3, if the conservatively high moisture algorithms are applied, this will tend to overestimate the hourly NO_x emission rates. However, using these same algorithms in Equation F-17 has the opposite effect for the hourly heat input rates, i.e., heat input will be underestimated. Conversely, applying the conservatively low moisture missing data algorithms tends to overestimate heat input rate and underestimate NO_x emission rate. In view of this, §75.37 (d)(2) instructs the owner or operator of an affected facility using both Equations 19-3 and F-17 to petition the Administrator under § 75.66 for an alternative missing data procedure.

On August 19, 2002, SER petitioned to use the conservatively high moisture missing data algorithms in §75.37 (which are summarized in Table 1 under §75.33) for Unit 1. According to SER, these algorithms are appropriate for Unit 1 (which is subject only to the NO_x Budget Trading Program under 25 Pa. Code Chapter 145 and not to the Acid Rain Program) because NO_x allowances for future years are based on unit heat input. If heat input is underestimated during periods of moisture missing data, this may result in fewer NO_x allowances being allocated to the unit. Because application of the conservatively high moisture missing data algorithms results in overestimation of NO_x emission rate and underestimation of heat input, this provides a strong incentive to keep the percent monitor data availability (PMA) for the moisture monitoring system as high as possible. SER noted that the moisture missing data algorithms have no effect on the reported NO_x mass emissions for Unit 1, since the moisture correction terms in Equations F-17 and 19-3 cancel out when the equations are multiplied together to determine the NO_x mass.

EPA's Determination

EPA approves SER's petition to use the conservatively high moisture missing data algorithms in §75.37 for Unit 1. The Agency believes that for Unit 1, the use of these missing data algorithms creates an incentive to operate the moisture monitoring system properly and is consistent with the objectives of the NO_x Budget Trading Program, as it prevents underestimation of NO_x emission rate and overestimation of unit heat input.

EPA's approval of SER's petition relies on the accuracy and completeness of the information in the August 19, 2002 petition and is appealable under Part 78. If you have any questions or concerns about this matter, please contact Robert Vollaro of my staff, at (202) 564-9116. Thank you for your continued cooperation.

Sincerely,



Peter Tsigotis, Acting Director
Clean Air Markets Division

cc: Renee McLaughlin, EPA Region III
Joseph Nazzaro, Pennsylvania DEP
Robert Vollaro, CAMD