



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

FEB 10 2003

OFFICE OF
AIR AND RADIATION

Ed Bielarski
General Manager
Panther Creek Partners
1001 Industrial Road
Nesquehoning, PA 18240-2244

Re: Petition for Approval of a Default Moisture Constant for Panther Creek Partners
(Facility ID (ORISPL) 50776), Units 1 and 2

Dear Mr. Bielarski:

This is in response to your letter, dated December 13, 2002, in which Panther Creek Partners (Panther Creek) requested approval to use a default moisture constant for the purposes of reporting nitrogen oxides (NO_x) mass emissions and heat input data under 25 Pa. Code Chapter 145. EPA approves the petition, subject to the conditions, discussed below.

Background

Panther Creek Partners owns and operates two fluidized bed boilers, Units 1 and 2, at its Nesquehoning, Pennsylvania facility. Units 1 and 2 burn waste anthracite coal (known as "culm"). The units are subject to the continuous emission monitoring and reporting provisions of 25 Pa. Code Chapter 145, which requires that NO_x mass emissions and heat input be monitored and reported using the methods prescribed in 40 CFR Part 75.

Section 75.11(b) of Part 75 requires certain units that combust coal or coal-derived fuel to either install and certify a continuous moisture monitoring system or use a constant, default moisture value. This rule provision applies to units whose mathematical equations for determining NO_x mass emissions or heat input rate require a correction for the stack gas moisture content. Panther Creek uses Equation F-26 in Appendix F of Part 75 to calculate the hourly NO_x mass emissions from Units 1 and 2. Since Equation F-26 has a moisture correction term, Panther Creek must either certify a moisture monitoring system or use an appropriate default moisture value in order to obtain accurate heat input rates. When Equation F-26 is used, the

calculated NO_x mass emissions decrease as the stack gas moisture content increases. Therefore, if a conservatively high moisture constant is used in Equation F-26, NO_x mass emissions may be underestimated.

Section 75.11(b) provides default moisture constants for anthracite coal. However, these values were derived from the combustion of pure coal, not coal waste. Therefore, they may not be appropriate for use by Panther Creek, which combusts anthracite culm. Panther Creek requested to use a default moisture content value of 6.0 % H₂O, and in support, provided moisture measurements from previous relative accuracy test audits (RATAs) of the continuous emission monitoring systems (CEMS) at Units 1 and 2.

EPA's Determination

EPA analyzed the moisture data provided by Panther Creek. The data represent moisture measurements made during RATA tests of the Unit 1 and 2 CEMS for four consecutive years, i.e., 1999, 2000, 2001 and 2002. A total of 35 moisture runs were provided for Unit 1 and 38 runs for Unit 2. For Unit 1, the percent moisture values ranged from 5.2 to 7.4 % H₂O, with a mean value of 6.2 % H₂O. For Unit 2, the percent moisture values ranged from 5.1 to 7.7 % H₂O, with a mean value of 6.0 % H₂O. For Unit 1, the absolute average deviation from the mean value was 0.4 % H₂O, and for Unit 2, the absolute average deviation was 0.3% H₂O. For Unit 1, 13 of the individual values (i.e., 37 percent of the data) were lower than the default value of 6.0 % H₂O proposed by Panther Creek. For Unit 2, 15 of the individual values (i.e., 39 percent of the data) were lower than the proposed default value.

Based on the results of the data analysis, EPA concludes that the default value of 6.0 % H₂O proposed by Panther Creek is not sufficiently conservative for reporting purposes, due to the fairly wide data scatter and the fact that nearly 40% of the data points were lower than the proposed default value of 6.0 % H₂O. For the two units, the average of the 28 runs that were less than the proposed default value was 5.7% H₂O. The 10th percentile value for all of the moisture data was 5.6 % H₂O. In view of this, EPA believes that a default moisture percentage of 5.6% H₂O better ensures that future NO_x mass emissions from Units 1 and 2 will not be underestimated. Therefore, the Agency approves, with conditions, the use of a default moisture value of 5.6 % H₂O for the purpose of reporting emission data from Units 1 and 2 under 25 Pa. Code Chapter 145.

As conditions of approval of this petition request, Panther Creek must:

1. Use the approved default moisture value of 5.6% H₂O to calculate NO_x mass emissions from Units 1 and 2, starting no later than May 1, 2003. The default moisture value must be shown in the electronic monitoring plans for Units 1 and 2. Use Electronic Data Reporting (EDR) record type 531 for this purpose, indicating in column 41 that the moisture value was approved by petition; and

2. Re-evaluate the appropriateness of the default moisture value each year. Provided that the average percent moisture measured during the annual RATAs is not lower than 5.6% H₂O, the default value of 5.6% H₂O may continue to be used. However, if the average flue gas moisture content measured during the RATAs is less than 5.6% H₂O, that average value must be used as the new moisture constant, beginning no later than one week from the date on which the results of the moisture tests are received.

EPA's determination in this letter relies on the accuracy and completeness of the information provided by Panther Creek in the December 13, 2002 petition and is appealable under Part 78. If you have any questions or concerns about this determination, please contact Robert Vollaro, at (202) 564-9116. Thank you for your continued cooperation.

Sincerely,



Sam Napolitano, Acting Director
Clean Air Markets Division

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