



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

DEC 23 2004

OFFICE OF  
AIR AND RADIATION

Mr. Joseph D. Mikesell  
Authorized Account Representative  
Purdue University  
Freehafer Hall  
401 South Grant Street  
West Lafayette, IN 47907-2024

Re: Petition to Use Off-Season Linearity Check Results to Quality Assure Ozone Season Data for Units 1, 2 and 5 at Purdue University in West Lafayette, Indiana (Facility ID (ORISPL) 50240)

Dear Mr. Mikesell:

This is in response to your November 11, 2004 petition under §75.66, in which Purdue University (Purdue) requested permission to use linearity checks done prior to the 2004 ozone season to quality-assure data within the ozone season, for Units 1, 2, and 5 at its Wade Utility in West Lafayette, Indiana. EPA approves the petition, with conditions, as discussed below.

Background

Purdue University operates three coal-fired boilers, Units 1, 2, and 5, at its Wade Utility in West Lafayette, Indiana. Units 1, 2, and 5 are subject to the NO<sub>x</sub> Budget Trading Program, under Indiana regulation 326 IAC 10-12. This regulation requires Purdue to continuously monitor and report nitrogen oxides (NO<sub>x</sub>) mass emissions and heat input for Units 1, 2, and 5 during each ozone season (i.e., from May 1<sup>st</sup> through September 30<sup>th</sup> of each year), in accordance with Subpart H of 40 CFR part 75. This monitoring and reporting requirement became effective on May 1, 2003.

Regulation 326 IAC 10-12 allows two emission reporting options for non-electrical generating units (non-EGUs), such as Units 1, 2, and 5. The owner or operator may either report quarterly NO<sub>x</sub> mass emissions and heat input data year-round or may report data only for the ozone season months. For Units 1, 2, and 5, Purdue has chosen the latter option, i.e., ozone season-only reporting.

For sources that report data on an ozone season-only basis, the quality-assurance requirements for the continuous emission monitoring systems (CEMS) are found in §75.74(c). For gas monitors, one of the required quality-assurance tests is a linearity check. Under §75.74(c)(2)(i), a linearity check of each gas monitor is required prior to each ozone season.

Further, §75.74(c)(3)(ii) requires linearity checks to be done within the ozone season, in the 2<sup>nd</sup> and 3<sup>rd</sup> calendar quarters, if those quarters are “QA operating quarters”, i.e., quarters in which the unit operates for 168 hours or more.

Purdue performed linearity checks of the gas monitors installed on Units 1, 2, and 5 prior to the ozone season, on April 19, 20, and 29, 2004, respectively. For Units 1, 2, and 5, the 2<sup>nd</sup> and 3<sup>rd</sup> quarters of 2004 were “QA operating quarters”, thus triggering the requirement of §75.74(c)(3)(ii) to perform linearity checks in each of these quarters, inside the ozone season. However, Purdue did not meet this requirement. The 2<sup>nd</sup> quarter linearity checks ‘inside the ozone season were not done, and the next linearity checks of Units 1, 2, and 5 were not performed until July 26, 27, and 22, 2004, respectively. According to §75.74(c)(3)(ii), since 2<sup>nd</sup> quarter tests were not done inside the ozone season as required, data from the monitoring systems are considered invalid beginning with the first operating hour in the 3<sup>rd</sup> quarter and remain invalid until a linearity check is passed. In this case, the NO<sub>x</sub> emission rate data for Units 1, 2, and 5 would be invalidated in the periods from July 1, 2004, hour 00 through July 26, 2004, hour 14, July 27, 2004, hour 16, and July 22, 2004, hour 13, respectively, and missing data substitution would be required in accordance with §75.74(c)(7).

In the November 11, 2004 petition, Purdue requested to use the April, 2004 linearity checks to meet both the pre-ozone season test requirement of §75.74(c)(2)(i) and the 2<sup>nd</sup> quarter “inside-the-ozone-season” test requirement of §75.74(c)(3)(ii). Purdue noted that if the tests had been completed a short time later (i.e., within the first 168 operating hours of the ozone season), the results could have been used, according to §75.74(c)(3)(viii), to satisfy both the pre-season and inside-season linearity check requirements. Purdue further asserted that there would be no adverse effects if EPA were to approve the petition.

#### EPA’s Determination

EPA conditionally approves Purdue’s request to use the April 19, 20, and 29, 2004 linearity checks of the gas monitor installed on Units 1, 2, and 5 to meet the 2<sup>nd</sup> quarter, 2003 “inside-the-ozone-season” linearity check requirement of §75.74(c)(3)(ii). The Agency is granting this one-time exception to the requirement of §75.74(c)(3)(ii), for the following reasons. First, the pre-season linearity checks (which could have been performed any time from October 1, 2003 through April 30, 2004) were actually performed within the 2<sup>nd</sup> quarter of 2004 (April), and the monitors were operated and quality-assured by means of daily calibration error checks for the remainder of the quarter. This provides reasonable assurance of the quality of the 2<sup>nd</sup> quarter data generated by the gas monitors. Second, for sources that report emissions data year-round, Part 75 requires only one linearity check per quarter, under normal circumstances (e.g., in the absence of monitor replacements under §75.20(b)) to provide assurance that the monitors are generating accurate data. Therefore, EPA believes that the emissions data for Units 1, 2, and 5 should be treated as quality-assured in the time period extending from July 1, 2004 to the completion of the 3<sup>rd</sup> quarter, 2003 linearity checks, and the Agency waives the requirement of §75.74(c)(3)(ii) to perform missing data substitution in that time period. The conditions of this approval are as follows:

- (1) If, as a result of the missed 2<sup>nd</sup> quarter "inside-the-ozone-season" linearity checks, Purdue used missing data substitution in the 3<sup>rd</sup> quarter, 2004 electronic data reports (EDRs) for Units 1, 2, and 5, Purdue may resubmit the 3<sup>rd</sup> quarter, 2004 EDRs within 7 days of the date of receipt of this letter, replacing the substitute data with the actual emissions data recorded by the gas monitors; and
- (2) In the resubmitted 3<sup>rd</sup> quarter, 2004 reports, Purdue shall include a note in EDR record type 910, indicating that EPA approved the use of the April, 2004 linearity checks to satisfy both the pre-ozone season linearity check requirement of §75.74(c)(2)(i) and the 2<sup>nd</sup> quarter "inside-the-ozone-season" linearity check requirement of §75.74(c)(3)(ii); and
- (3) This approval applies only to the 2004 ozone season. In 2005 and beyond, EPA expects the pre-ozone season and "inside-the-ozone-season" quality assurance test requirements of §§75.74(c)(2) and (c)(3) to be fully met, otherwise missing data substitution shall be used.

EPA's determination in this letter relies on the accuracy and completeness of the information provided by Purdue in the November 11, 2004 petition and is appealable under 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,

*Rona Bibaum for*

Sam Napolitano, Director  
Clean Air Markets Division

cc: Cecelia Mijares, EPA Region V  
Roger Letterman, IDEM  
Louis Nichols, CAMD