

January 24, 2005

Mr. Frank Luchetti
Designated Representative
Nevada Power Company
P.O. Box 10100
(MS S4BO8)
Reno, NV 89520-0024

Re: Petition for Approval to Use an Alternative Missing Data Routine for Unit 4 at the Reid Gardner Power Station (Facility ID (ORISPL) 2324)

Dear Mr. Luchetti:

The United States Environmental Protection Agency (EPA) has reviewed the petition submitted under §75.66 by the Nevada Power Company (NPC) on January 19, 2004, in which NPC requested to use an alternative missing data routine for Unit 4 at the Reid Gardner Power Station, to provide substitute emissions data for sulfur dioxide (SO₂), nitrogen oxides (NO_x), and carbon dioxide (CO₂). EPA denies the petition for the reasons given below.

Background

Unit 4 at Nevada Power's Reid Gardner facility in Moapa, Nevada, is a coal-burning 270 MWe dry-bottom, wall-fired boiler. Unit 4 is subject to the Acid Rain Program, and NPC is required to monitor and report SO₂, NO_x, and CO₂ emissions and heat input data for the unit in accordance with 40 CFR part 75. To meet the SO₂, NO_x, and CO₂ monitoring requirements of Part 75, NPC uses dry extractive continuous emissions monitoring systems (CEMS). Unit 4 is also subject to Subpart Da of the New Source Performance Standards (NSPS) regulations, under 40 CFR part 60.

In the January 9, 2004 petition, NPC claims that, due to a misunderstanding of the differences between the linearity check requirements of 40 CFR part 75 and the cylinder gas audit (CGA) requirements of 40 CFR part 60, required linearity checks of Unit 4's SO₂, NO_x, and CO₂ monitors were not performed in the fourth quarter of 2002. Appendix B of Part 75 requires a linearity check of each gas monitor to be done in each "QA operating quarter" (i.e., each calendar quarter in which the unit operates for at least 168 hours). In contrast, Appendix F of Part 60 requires CGAs to be conducted only in three of the four calendar quarters in each year,

and a relative accuracy test audit (RATA) to be performed in the other quarter.

Under section 2.2.4 of Part 75, Appendix B, when a required linearity check is not completed by the end of the quarter in which it is due, the owner or operator has a grace period of 168 unit operating hours in which to perform a “makeup” linearity test. The grace period begins with the first unit operating hour following the calendar quarter in which the linearity test was due. If, at the end of the grace period, the required linearity check has not been completed, data from the monitoring system are considered invalid, beginning with the first unit operating hour following the expiration of the grace period. Data from the monitoring system remain invalid until the hour of completion of a subsequent successful linearity check of the monitoring system.

Section 2.2.4 further states that when a linearity check is conducted within a grace period for the purpose of satisfying the linearity check requirement from a previous QA operating quarter, the results of that linearity check may only be used to meet the linearity check requirement of the previous quarter, not the quarter in which the late linearity check is completed.

In the case of Reid Gardner Unit 4, NPC failed to perform required linearity checks in the 2nd quarter of 2002, but performed “makeup” linearity checks in a grace period at the beginning of the 3rd quarter to satisfy the 2nd quarter test requirement. However, after the grace period tests were completed, no additional linearity checks were performed in the 3rd quarter to satisfy the 3rd quarter testing requirement. To make up for this deficiency, NPC again performed linearity checks in a grace period, this time at the beginning of the 4th quarter. However, NPC did not perform any additional linearity checks in the 4th quarter or within the ensuing grace period in the 1st quarter of 2003. Therefore, the 4th quarter, 2002 linearity check requirement was never met. The next linearity checks of the Unit 4 gas monitors were performed on March 31, 2003.

Failure to perform the required linearity checks for the 4th quarter of 2002 (or within the ensuing grace period) resulted in the invalidation of 1,802 hours of SO₂, NO_x, and CO₂ data in the 1st quarter of 2003, in the time period extending from January 9, 2003, hour 07 (i.e., the end of the grace period) through March 31, 2003, hour 14 (when the next linearity checks were successfully completed). Consequently, the percent monitor data availability (PMA) for each parameter dropped below 80.0%, which, according to §75.33 and Question 15.5 in the Clean Air Markets Division’s Policy Manual¹, requires substitution of the maximum potential concentration (MPC) for SO₂ and CO₂, and the maximum potential emission rate (MER) for NO_x, for each hour of the missing data period.

In the January 19, 2004 petition, NPC requested relief from reporting maximum potential values during the 1,802 hour missing data period, proposing instead to use the missing data algorithms in §75.33 that are prescribed for PMA values between 80.0 and 90.0%. That is, NPC

¹ See “Part 75 Emissions Monitoring Policy Manual”, <http://www.epa.gov/airmarkets/monitoring/polman/index.html>

requested to report the maximum SO₂ and CO₂ concentrations recorded in the previous 720 quality-assured hours and the maximum NO_x emission rate recorded in the previous 2,160 quality-assured hours, in lieu of reporting the maximum potential values. Furthermore, NPC requested that for the duration of 2003, the same relief be given for any other hours of missing SO₂, NO_x, and CO₂ data until the PMA for each parameter returned to a level above 80.0%.

EPA's Determination

EPA denies NPC's petition to use the proposed alternative missing data substitution routine (i.e., the standard missing data algorithms prescribed for PMA values between 80.0% and 90.0%) for Reid Gardner Unit 4, in the time period extending from January 9, 2003, hour 07 through March 31, 2003, hour 14, and for any other subsequent missing data hour until the PMA returns to a level above 80.0%. Notwithstanding this denial, EPA will allow NPC to resubmit the first quarter, 2003 data for Unit 4, using a "stepwise" approach rather than the usual "block" approach for applying the standard SO₂ missing data algorithms of §75.33. For CO₂ concentration and NO_x emission rate, either the block missing data approach or a stepwise approach may be applied.

Using a stepwise missing data approach for SO₂ will provide NPC with a measure of the requested relief from reporting the MPC, without compromising the integrity of the rule. EPA is granting this regulatory relief for the following reasons. First, as discussed below, stepwise application of the standard missing data routines is a reasonable interpretation of §75.33. Second, Unit 4 has an SO₂ scrubber, and in the first quarter, 2003 electronic data report (EDR), the emission controls were certified by NPC's designated representative to be in operation during the missing data period. Therefore, the actual SO₂ emissions were considerably less than the MPC. Third, NPC's petition to use alternative missing data substitution for Unit 4 was received before EPA had completed the compliance process under §73.35 for reconciling the unit's allowances and SO₂ emissions for 2003.

The "block" approach for missing data substitution was adopted as EPA policy in May 1993, due to the fact that Part 75 does not require hourly calculation and reporting of the PMA during a missing data period. Therefore, if a source elects not to report the PMA during a missing data period, it is not possible to know which substitute data algorithm should be used for each hour of the event. In view of this, EPA decided that the PMA at the end of the missing data period should be used to determine which tier of substitute data is appropriate. (see Policy Question 15.5) This implementation approach, in effect, always uses the most conservative algorithm for the entire block of missing data.

However, in §75.33(b), while the SO₂ concentration substitute data requirements are applied "[f]or each hour of missing SO₂ concentration data", it is unclear whether the PMA is to be determined for each hour or at the end of the entire missing data period. Specifically, §75.33(b) sets forth several different substitute data provisions that apply "[w]henver the monitor data availability" is within a specified range, but does not state how frequently monitor data availability should be determined in the missing data period. 40 CFR 75.33(b)(1), (2), (3), and (4). Thus, "stepwise" application of the standard missing data routines (i.e., using the

algorithms in succession across a missing data period, switching to a more conservative algorithm only when the PMA drops below a certain value) appears to be a justifiable interpretation of the rule. It also may be the preferable interpretation of the rule, particularly for extended missing data periods, in that it provides a gradual, PMA-based transition from the less conservative to the more conservative missing data algorithms. In light of this, EPA is considering possible revisions to Policy Question 15.5 to mandate the use of a stepwise missing data approach.

If NPC decides to implement the stepwise missing data approach for SO₂, then, for each hour of the missing data period extending from January 9, 2003, hour 07 through March 31, 2003, hour 14, NPC shall report the PMA for the appropriate CEMS and the following values for SO₂ concentration, using a method of determination code (MODC) of "55". Manual entry of this MODC is permitted:

1. For each hour where the PMA is greater than or equal to 90.0% , but less than 95.0%, and since the duration of the missing data period is greater than 8 hours (i.e., from January 9, 2003, hour 07 through January 16, 2003, hour 20), the greater of the following must be reported:
 - \$ The average value recorded during the hour before and hour after the missing data period; or
 - \$ The 95th percentile value from the 720 hour lookback of quality assured, monitor operating hours² prior to the missing data period.This value is 42.1 ppm of SO₂.
2. For each hour where the PMA is greater than or equal to 80.0% , but less than 90.0% (i.e., from January 16, 2003, hour 21 through February 22, hour 13), the maximum value from the 720 hour lookback of quality assured, monitor operating hours² prior to the missing data period must be reported. This value is 66.6 ppm of SO₂.
3. For each hour where the PMA is less than 80.0% (i.e., from February 22, 2003, hour 14 through March 31, 2003, hour 14), the MPC must be reported . This value is 481 ppm of SO₂.

Values for CO₂ and NO_x emissions rate should be determined in a similar manner if NPC chooses to resubmit these data using the stepwise approach.

As discussed, while EPA is allowing NPC to use the stepwise approach for applying standard SO₂ missing data algorithms, EPA is denying NPC's request not to use maximum potential values for hours when the percent monitor availability is less than 80.0%. The requirement to substitute maximum potential values whenever the percent monitor data availability is less than 80.0% was adopted as part of the May 26, 1999 amendments to Part 75. In the preamble to these rule revisions, EPA noted that it had originally proposed "that if the

² Considering only hours in which the unit was in operation.

annual monitor data availability dropped below 80% for SO₂, NO_x, flow rate, or CO₂, this would violate the primary measurement requirement of § 75.10(a).” 64 Fed. Reg. 28564, 28568 (May 26, 1999). Section 75.10(a) establishes the general requirement for owners or operators of affected units to install, certify, operate, and maintain, in accordance with Part 75, monitoring systems for each required parameter. In response to comments on the proposed rule, EPA agreed not to “treat a percent monitor data availability of less than 80% as a violation.” Id. Instead, the final rule provided that “if percent monitor availability is less than 80%, then the appropriate maximum value (i.e., maximum potential concentration (MPC) for SO₂ and CO₂, maximum potential emission rate (MER) for NO_x and maximum potential flow rate for flow) will have to be used as substitute data for any hour for which valid data is not available.” Id.

EPA further explained that the missing data approach set forth in the rule to address low monitor data availability:

retains the basic design of the part 75 program and appropriately addresses the need for accountability from sources that are inadequately maintaining their monitoring systems. The Agency maintains that this provides a strong incentive to achieve at least 80% monitor availability. Unlike the proposed approach of considering sources to be in violation, the substitute data approach adopted today creates this incentive while rendering unnecessary the task of determining and evaluating the reason(s) for the low monitoring availability. Id.

In the case of Reid Gardner Unit 4, NPC failed to perform required linearity checks of the gas monitoring systems for the 4th quarter of 2002. This resulted in 1,979 hours of invalid data, causing the PMA for SO₂, NO_x, and CO₂ to drop below 80.0%, triggering the requirement to report maximum potential substitute data values. Apparently, NPC confused the requirements of Part 75, Appendix B with those of Part 60, Appendix F, and assumed that since RATAs were performed in the 4th quarter of 2002, no linearity checks were required in that quarter. However, only the Part 60 CGA is not required in a quarter where a RATA is performed. The Part 75 linearity check is required in every QA operating quarter, without exception.

NPC did not follow its own quality assurance/quality control (QA/QC) plan for Unit 4, which evidences no confusion concerning the linearity requirements. The QA/QC plan, which is required by Part 75, Appendix B, section 1, outlines the specific procedures used by NPC for preventative maintenance, quality assurance testing, record keeping, and reporting. This QA/QC plan was reviewed by EPA as part of a June 25, 2002 audit of the Reid Gardner Station, at which time it was confirmed that the procedures for linearity checks and all other quality assurance tests required by Part 75 were adequately documented. In light of the clear requirements for linearity checks in Part 75 and in NPC’s own QA/QC plan and the important purpose of the substitute data provisions of providing a strong incentive for achieving at least 80% monitor availability, EPA finds that NPC’s claim of confusion concerning Part 60 and Part 75 requirements provides no basis for relief from reporting the maximum potential substitute data values for those hours where the PMA is less than 80.0%.

If NPC, chooses to resubmit the 1st quarter 2003 data for Reid Gardner Unit 4 using the

stepwise substitute data approach outlined in this petition response, EPA will reapply for Unit 4 the compliance procedures under §73.35 for truing up allowances and emissions. Specifically, EPA will return to NPC an amount of allowances equal to the difference between cumulative tons of SO₂ reported for 2003, using the “block” versus the “stepwise” substitute data methodologies . After resubmitting the unit’s 2003 quarterly electronic emissions data reports to EPA, NPC should contact Kenon Smith of my staff, at (202) 343-9164, to implement this return of allowances. Note that the 2nd, 3rd, and 4th quarter electronic data reports will also have to be resubmitted with updated emissions totals to reflect the changes in the 1st quarter report.

EPA’s determination relies on the accuracy and completeness of the information provided in NPC’s January 19, 2004 petition and is appealable under Part 78. If you have any questions regarding this determination, please contact Matthew Boze at (202) 343-9211.

Sincerely,

/s/

Sam Napolitano, Director
Clean Air Markets Division

cc: Steve Frey, USEPA Region IX
David Gahr, Nevada DCNR
Matthew Boze, CAMD