

**Peabody Western Coal Company  
Black Mesa Complex**

Title V Permit to Operate No. NN-OP 99-07  
Response to Comments

**A. Summary of Provisions of the Draft Permit and Statement of Basis Changed in the Final Permit and Final Statement of Basis**

1. EPA has changed the description of the emission point/unit N8TP to "Transfer Points (K-2 and K-3 stockpile and screen/sample systems)" in Table 1 of the final permit. See comment #1.
2. EPA has deleted the condition with generally applicable testing requirements (condition III.A in the draft permit), and renumbered the remaining conditions accordingly. See comment #2.
3. EPA has exempted the transfer points associated with the sample system crushers from monitoring requirements. Conditions II.C.1 and II.C.3 in the final permit have been revised to exempt the sample system crusher and their associated transfer points from monitoring. This change has also been documented in Section 4 of the final Statement of Basis, where a list of the exempted transfer points has been added. See comment #2.
4. EPA has modified condition II.D.1 to include the 20,000 gallon tanks. See comment #3. EPA has also updated sections 3.b, 3.f and 3.h.ii in the final Statement of Basis with respect to the applicability of the New Source Performance Standard for tanks.
5. EPA has added several emissions generating activities to Table 1 in the final Statement of Basis, and changed the existing table entry for "N11SC" "N11SSC." See comment #5.
6. EPA has revised Table 2 in the final Statement of Basis with updated emissions numbers and additional emission units. See comment #6.
7. EPA has revised condition IV.C.1 of the final permit to clarify the reporting periods and due date of the annual compliance certifications.
8. EPA has revised condition III.B.1 of the final permit to clarify the reporting periods and due dates of the semi-annual monitoring reports.
9. EPA has revised condition III.B.4 to clarify that monitoring reports must be certified by the permit-designated responsible official consistent with Section IV.E. of the permit and 40 CFR § 71.5(d).

10. EPA has added the phrase "while the equipment is operating" to the last sentence of condition II.C.1 and the first sentence of condition II.C.3 in order to clarify the Method 9 testing requirement.

**B. Response to Comments Raised During the Public Comment Period**

EPA received public comments from Peabody Western Coal Co.

**Comments submitted by Peabody Western Coal Co.**

1. Draft Permit, Section II.A.

Table 1 indicates the NSPS Subpart Y requirement applies to all transfer points (N8TP) at the N8 coal handling area. It appears Region IX relied upon the Applicability Determinations Tables accompanying PWCC's application to conclude some of the N8 emission units are subject to NSPS Subpart Y. However, the tables included in the application were in error. Only the equipment involved in the "Phase I" and "Phase II" expansions of the Kayenta Mine overland conveyor system were installed, modified, or reconstructed after the October 10, 1974 applicability date for Subpart Y. Specifically, this would involve transfer points associated with the radial stacker systems at coal stockpiles K-2 and K-3 (belts 25, 11, 12, 15, and 16), and the secondary crusher/screen/sampler loop. The remaining units at the N8 handling facilities, including the other transfer points were installed prior to October 10, 1974, and are not subject to the emission limits. Thus, the emission point/unit N8TP – Transfer Points (all transfers) should be changed to N8TP – Transfer Points (K-2 and K-3 stockpile and screen/sample systems) in Table 1.

**EPA Response:**

EPA has revised Table 1 as requested.

2. Draft Permit, Section II.C.

The opacity monitoring requirements in the draft permit are unreasonable and inconsistent with requirements in permits for similar sources. The draft permit would require PWCC to perform daily visual emission (VE) surveys of all NSPS-affected units and perform a Method 9 test whenever a VE survey resulted in an opacity reading of ten percent or greater. Method 9 tests would be required for each NSPS-affected unit monthly. According to the general testing requirements in the draft permit (Section III.A.), a source test plan would have to be submitted at least 45 days prior to each monthly Method 9 test, visual emissions would have to be observed for two hours prior and two hours following each test, and the test would have to consist of at least three valid runs. These requirements are onerous and go far beyond the opacity monitoring requirements required in other permits containing coal-handling facilities. PWCC estimates that up to two full-time Method 9

observers would be required to comply with the opacity monitoring provisions in the permit as presently proposed.

PWCC believes it is not necessary to perform VE Surveys and opacity tests at each and every qualifying emission point/unit. Indeed, Region IX already recognizes that it is not necessary to conduct VE surveys or Method 9 opacity tests on the sample system crushers, presumably because potential maximum emissions from these units is small due to the minor amount of coal that is processed. This same rationale should apply to the transfers on the conveyors feeding and retrieving coal from the sample system crushers (and the sample analyzers) because the amount of coal processed is minimal. Furthermore, these "minor transfers" are shrouded, as are the major transfers. Therefore, PWCC proposes revision of Table 1 to exempt the minor transfer points (those feeding and retrieving coal from the sample system crushers and analyzers), or specifically excepting them in Sections II.C.1 and 3.

The requirement to conduct a daily VE survey of the specified emission points/units, including each opening where gases vent to the atmosphere in cases where more than one point/unit is housed within a single structure is excessive and unwarranted. Peabody believes a weekly VE survey of key emission points/units (as discussed above) is appropriate to ensure compliance with the applicable NSPS requirements, and is consistent with survey requirements found in other permits for similar facilities located in the region (examples are identified below).

The draft monitoring and testing requirements incorporate a 10 percent opacity threshold in the VE surveys, to trigger a Method 9 opacity test. It is PWCC's position that there is no basis for using a 10 percent threshold because a trained Method 9 observer can distinguish between 10 percent and 20 percent opacity, and there is no regulatory basis or permitting precedent at similar facilities to warrant such a threshold.

Section II.C also specifies at least a monthly frequency for performing Method 9 opacity tests at each applicable emission point/unit subject to NSPS Subpart Y (with exception of the sample system crushers). A monthly (or shorter) frequency is excessive, inconsistent with permit requirements for other similar facilities, and unnecessary at each and every unit. PWCC proposes this requirement be changed to annually, since ample weekly VE surveys with follow-up opacity tests (if needed) would be incorporated in the permit to verify performance.

PWCC's proposed opacity monitoring provisions are consistent with the procedures required of other coal handling facilities in the region. PWCC has reviewed the Title V operating permits for the following coal-fired power plants located in Arizona and Utah:

- Cholla Power Plant;
- Coronado Generating Station;

- Irvington Generating Station;
- Springerville Generating Station;
- Huntington Power Plant; and
- Hunter Power Plant.

The opacity monitoring requirements for these plants can generally be paraphrased as follows:

A certified Method 9 observer shall conduct a weekly survey of visible emissions. If the observer sees a plume that on an instantaneous basis, appears to exceed the regulatory threshold, the observer shall take a six-minute Method 9 observation of the plume. If the six-minute opacity is less than the regulatory threshold, the date, time and results of the test will be documented. If the six-minute opacity exceeds the regulatory threshold, repairs or adjustments to the system will be made to reduce the opacity below the regulatory threshold and excess emissions will be reported.

Finally, this section would require PWCC to conduct weekly observations of the water sprays at the facility, take corrective action if any operational problems with the sprays are noted, and maintain records of these observations and repairs. The water sprays are not subject to NSPS Subpart Y or to any other requirement under the Clean Air Act, and EPA may not impose any new requirements in the facility's Title V permit. Accordingly, PWCC is under no legal obligation to operate the water sprays at the facility, and EPA may not impose monitoring or record-keeping requirements for the sprays. On the other hand, as part of the win-win solution we are proposing, Peabody is willing to accept a federally enforceable limitation on PTE that incorporates the spraying, and is prepared to propose a practical program for monitoring, reporting, and corrective action.

**EPA Response:**

With respect to source test plan requirements, condition III.A. is a standard condition that EPA includes in many Part 71 permits when performance testing is required. However, EPA does not expect Peabody to submit source plans for Method 9 opacity monitoring. Since at this time the 20% opacity limit is the only emission limit Peabody is subject to, EPA has deleted condition III.A and renumbered the remaining conditions accordingly.

EPA has reviewed PWCC's request to exempt the transfer points associated with the sample system crushers from monitoring. We agree that due to the small amounts of emissions from both the sample system crushers and associated transfer points, it is appropriate to also exempt the transfer points from monitoring. Therefore conditions

II.C.1 and II.C.3 have been revised to exclude the transfer points, and the final Statement of Basis documents exactly which transfer points are not subject to monitoring.

EPA added the language requiring instantaneous opacity readings of 10% or greater to trigger Method 9 tests in response comments from Peabody Western Coal Co. on an earlier version of the draft permit, which required a Method 9 test if any visible emissions were observed. In a letter to EPA dated May 12, 2000, Peabody Western Coal Co. stated that since the "presence of a minor amount of emissions is inherent in the emission units at the Black Mesa Complex...", EPA should revise the monitoring so that the observation of any visible emissions would not automatically trigger Method 9 observations. EPA agrees with this approach and selected an instantaneous 10% opacity as a practically enforceable means of determining whether a Method 9 test is required. The language suggested by Peabody ("a plume that on an instantaneous basis, appears to exceed the regulatory threshold") is not enforceable as a practical matter and is insufficiently protective because it would only trigger Method 9 testing if an instantaneous opacity reading appeared to be above the 20% limit. While 10% opacity is not a regulatory requirement, EPA believes that the monitoring in the draft permit is a prudent approach that provides Peabody with flexibility while assuring compliance with the 20% opacity limit in the permit. Peabody's comment that there is no basis for choosing the 10% threshold because a trained Method 9 observer can distinguish between 10% and 20% does not account for the fact that a Method 9 test is a six minute average. An instantaneous opacity reading of 10% or greater is a useful gatekeeper to determine whether additional monitoring is warranted, but is not sufficient to determine compliance. For these reasons, EPA has retained the 10% threshold in the final permit.

EPA has retained the proposed opacity monitoring of daily visible emissions surveys and monthly Method 9 testing in the final permit (with the exception of the minor transfers, as explained above). We do not believe that Peabody's proposal of weekly visible emission surveys and annual method 9 testing are sufficient to assure compliance with a 20% opacity limit at coal handling equipment without baghouses. Decisions made by permitting authorities on periodic and other title V monitoring are always case-specific, and vary depending on factors such as the size and potential to emit of the emission unit, emission limit, margin of compliance, variability of emissions, and whether a control device is necessary to comply with the emission limit. Most of the title V permits cited by Peabody have 40% opacity limits on coal handling equipment, a much less stringent standard than the 20% limit applicable to the Black Mesa Complex.

With respect to the water sprays, EPA disagrees with Peabody's contention that "EPA may not impose any new requirements in the facility's title V permit." Title V permitting authorities have the statutory and regulatory authority to add monitoring to title V permits. EPA and air pollution districts routinely add periodic and other title V monitoring to title V permits when the monitoring associated with applicable requirements is inadequate. The 1990 Clean Air Act (CAA) requires that all title V

permits have "monitoring, compliance certification, and reporting requirements to assure compliance with the permit terms and conditions" (Section 504(c)). Section 114(a)(3) of the Act requires "enhanced monitoring at all major stationary sources, and section 504(a) require title V permits to include "such other conditions as are necessary to assure compliance with applicable requirements" of the Act. In addition, there are regulatory provisions in 40 CFR Part 71 that implement these statutory requirements.

As noted in EPA's Statement of Basis for the Black Mesa title V permit, when an underlying applicable requirement does not require periodic testing or monitoring, Part 71 requires that title V permits must contain "periodic monitoring sufficient to yield reliable data from the relevant time period that are representative of the source's compliance with the permit" (40 CFR 71.6(a)(3)(i)(B)). Permitting authorities have an obligation to add monitoring provisions to title V permits when applicable requirements have no periodic monitoring or insufficient monitoring. For opacity, such conditions typically include visible emission surveys, Method 9 tests, water spray observations, pressure drop monitoring and leak detection for baghouses, as well as associated record-keeping requirements. Since Peabody uses sprayers to comply with an opacity limit in an NSPS that does not require any on-going monitoring, EPA is using its statutory and regulatory authority to require sprayer inspection and maintenance as part of the periodic monitoring needed to assure compliance with the opacity limit. EPA believes it is reasonable to expect Peabody to conduct weekly observations of its water sprays and record the results.

### 3. Draft Permit, Section II.D

The requirement to keep records showing the dimensions and capacity of storage tanks also applies to the 20,000-gallon tanks (K17ST and K18ST), even if diesel is the only liquid stored in the tanks. This is because paragraph 60.110b(c) of NSPS Kb says "Except as specified in paragraphs (a) and (b) of 60.116b, vessels with a capacity...greater than or equal to 75 m<sup>3</sup> (19,800 gal) but less than 151 m<sup>3</sup> (40,000 gal) storing a liquid with a maximum true vapor pressure less than 15.0 kPa are exempt from the General Provisions (part 60, subpart A) and from the provisions of this subpart." Since K17ST and K18ST are required to only store diesel fuel (draft permit section II.B.1), the vapor pressure will always be less than 15.0 kPa. The capacity of these tanks is 20,000 gallons, which falls between 19,800 and 40,000 gallons. Therefore, the tanks are exempt from all provisions of subpart Kb, except as specified in paragraphs (a) and (b) of 60.116b. Paragraph (a) of 60.116b specifies the length of time that records will be maintained and paragraph (b) of 60.116b says that the operator shall keep records "showing the dimension of the storage vessel and an analysis showing the capacity of the storage vessel." Therefore, PWCC recommends Region IX include the 20,000-gallon tanks in this section.

#### **EPA Response:**

EPA agrees and has changed condition II.D.1 to include the 20,000 gallon tanks.

4. Draft Permit, Section III.

Subpart A.1 in this section appears to require submittal of a source test plan 45 days prior to each monthly Method 9 opacity test. Therefore, 12 of these plans will need to be submitted each year because Section II.C.3 requires at least monthly Method 9 testing. This level of plan submittal and review is excessive because each plan will be virtually identical. Subpart A.4.b states visible emissions will be monitored for two hours prior and two hours following each test. An observer will have to measure VE for four hours in addition to the Method 9 opacity test. The Method 9 test could take anywhere from six minutes to three hours, depending upon the protocol approved in the testing plan(s). In addition, Subpart A.5, specifies that each test shall consist of at least three valid runs. Such monitoring specifications will result in devoting at least one, and possibly two full time observers in order to complete all the testing on a monthly basis. This level of testing is unreasonable and unwarranted. Also, PWCC is not aware of any facilities or any instances where permitted facilities or other facilities subject to NSPS Subpart Y Have been required to replicate tests these tests three times. This language looks like methodology that would be required for an EPA Method 5 test rather than a Method 9 test, and should be reconsidered.

**EPA Response:**

EPA has deleted condition III.A. See our response to comment #2 above.

5. Draft Statement of Basis, Section 1.f.

Table 1 does not include all of the emission generating units and activities at the Black Mesa Complex. Instead, it appears to include only those units and activities that are subject to NSPS requirements. If the table should include all units and activities, then the following need to be added to the table: J28D, J28WE, N11D, N11WE, N8D, N8WE, OCTP21A, SILO, BMPC, BMTPO, BMCTEC, BMD, BMWE, K01ST, K08ST, BM01ST, SCRAPER, OBDRILL, OBBLAST, OBDRAG, OBTS, OBDOZER, OBHAUL, CDRILL, CBLAST, CTS, CHAUL, GRADER, WE.

Also, the existing table entry for "N11SC" should be changed to "N11SSC."

**EPA Response:**

EPA's intent in Table 1 is to list all emission generating units and activities at the Black Mesa Complex. We have added the emission units and activities identified in the comment to Table 1. In addition, we have changed the table entry for "N11SC" to "N11SSC."

6. Draft Statement of Basis, Section 1.g.

Region IX contends that it may not limit PWCC's potential to emit in the facility's Title V permit because the crushers and screens at the facility are not completely enclosed and emissions from the units therefore cannot be measured using EPA Method 5. However, there are other means of calculating emissions from these units that are generally accepted and technically accurate. PWCC based its potential to emit calculations on emission factors used routinely in permit applications for these types of facilities. These emission factors are considered technically accurate and appropriate for use in calculating potential to emit. To determine the efficiencies of the control equipment at the facility, PWCC used data on control efficiencies calculated for comparable control devices that have been accepted by state permitting authorities.

The use of these methods of calculation in the context of limiting potential to emit has been accepted by state permitting agencies for numerous other mine facilities. For example, below we list many mines in which the permitting agency has established (or will soon establish) source PTE, at least in part, by using emission factors and assumed control efficiencies and then based on the PTE limit, granted the source synthetic minor status for Title V purposes. This approach is no different than the case here, whereby PWCC is seeking to qualify as a synthetic minor source for purposes of PSD by agreeing to permit limitations on the facilities PTE.

1. Wyoming Coal Mines
  - a. P&M Kemmerer Mine
  - b. Triton Buckskin Mine
  - c. Wyodak Resources Wyodak Mine
  - d. Kennecott Energy Antelope Mine
  - e. Triton North Rochelle Mine
  - f. RAG Coal West Belle Ayr Mine
  - g. RAG Coal West Shoshone Mine
2. Colorado Coal Mines
  - a. Kennecott Energy Colowyo Mine
  - b. RAG Coal West Twenty-Mile Mine
3. New Mexico Coal Mines
  - a. P&M McKinley Mine
  - b. P&M York Canyon Mine
4. Nevada Gold Mines
  - a. Coeur the Precious Metals Company Coeur Rochester Mine
  - b. Echo Bay Round Mountain Mine
  - c. Placer Dome U.S. Bald Mountain Mine
  - d. Newmont Gold Rain Mine
  - e. Newmont Gold Lone Tree Mine

f. Cortez Gold Mines' Pipeline Operation

In addition to the coal and gold mines, there are countless sand and gravel operations permitted throughout the west that utilize emission factors to limit PTE and gain Title V synthetic minor status.

In at least one case, there is also precedence for using emission factors to directly monitor compliance with emission limits. In the Technical Review Document for the Public Service Company Arapahoe Station (Operating Permit 96OPDE136), the Colorado Department of Public Health and Environment Air Pollution Control Division (the Division) discusses a "New Rail Car Unloading Station" which includes conveyors, unloading hoppers and a coal storage pile. The emission unit is subject to the NSPS Subpart Y 20% opacity limit and can process up to 1,568,040 tons of coal per year. The PM<sub>10</sub> emission limit for the source is 2.9 tons per year. The document states that "Approval of emission factors is necessary to monitor compliance with the emission limits for the railcar unloading station" and "The Division believes that this is a reasonable method to estimate emissions from coal conveying and unloading." The emission factor used to estimate emissions from this unit is the same factor used by PWCC to estimate emissions from conveyor transfers (the drop/transfer equation from AP42 Section 13.2.4 dated January 1995). Further this unit is located in the former Denver metropolitan PM<sub>10</sub> non-attainment area (which was just re-designated to attainment status earlier in August, 2002). If the use of emission factors for tracking actual emissions is suitable in a metropolitan non-attainment area, it seems logical that it would be suitable in rural Arizona.

Limiting the potential to emit for the facility to actual, controlled emissions would result in a "win-win" situation for the environment and for PWCC. In the absence of a federally enforceable provision in the Title V permit requiring PWCC to operate the emission controls at the facility, PWCC would be legally free to curtail or discontinue the use of these controls. By limiting PWCC's potential to emit to actual emissions, EPA would create a binding, federally enforceable requirement that would ensure that PM<sub>10</sub> emissions from the facility would remain at their present very low level.

Table 2 lists EPA's recalculated emissions. PWCC has reviewed Table 2 emissions and believe a few of them are in error. Our calculations indicate that the following entries should be changed: J28SC = 1 ton per year (tpy), J28TP = 2 tpy, N11TP = 1 tpy, N8SC = 1 tpy, N8D = 107 tpy, N8TP = 1 tpy, BMSC = 0 tpy, SILO = 0 tpy. PWCC recommends Region IX verify the emission for these units if Table 2 will remain in the final Statement of Basis.

For applicability determinations (Table 2), it is PWCC's understanding is that any unit or activity that is located at a coal preparation facility should be included in the determination, regardless of whether it is regulated under any NSPS. If PWCC's

understanding is correct, then Table 2 is missing the following entries: BMTPO = 2 tpy, BMT PSSC = 0 tpy, BMC TEC = 0 tpy, OCTP21A = 0 tpy.

With these table additions and emission changes, total uncontrolled PTE PM10 emissions would be 474 tpy.

**EPA Response:**

EPA has not revised the permit to limit the potential to emit (PTE) of the Black Mesa Complex. We note that decisions by permitting authorities to limit PTE are case specific, and depend on the configuration and operation of a particular facility. The fact that other permitting authorities have created PTE limits in permits for other mines does not bind EPA in this case. We have explained our position on the PTE issue in detail in the Statement of Basis, as well as in a letter to Peabody dated March 21, 2001. Peabody's comment focuses on the use of emission factors to calculate emissions, but fails to take into account the requirement for practically enforceable limits in order to establish a limit on potential to emit. EPA is not disputing Peabody's use of emission factors and control efficiencies for the purpose of calculating actual emissions. We note in the Statement of Basis that PTE is meant to be a worst case emissions calculation, and that actual emissions may be much lower than PTE. EPA has accepted Peabody's calculations of actual emissions for Part 71 fee payment purposes. However, the creation of a practically enforceable PTE limit for regulatory purposes requires a short-term PM-10 emission limit and appropriate compliance determination requirements. An opacity limit and Method 9 monitoring are not sufficient to establish a PTE limit for PM-10. In the absence of a PM-10 emission limit and a means of verifying compliance with such a limit, Peabody does not satisfy the criteria needed to establish a PTE limit and become a minor source for the purposes of the Prevention of Significant Deterioration (PSD) program.

Peabody is correct that the table should include all emission units and activities regardless of NSPS applicability. EPA has revised Table 2 with the updated emissions numbers and additional emission units.

7. Draft Statement of Basis, Section 3.b.

See comments on Section II.D. of the Draft Title V Permit to Operate regarding tanks K17ST and K18ST.

**EPA Response:**

EPA agrees and has revised the Statement of Basis to indicate that the 20,000 gallon tanks, in addition to the 12,000 gallon tanks, are only subject to the requirements keep records of the tank dimensions and storage capacity.

8. Draft Statement of Basis, Section 3.f.

Regarding Table 3 in this section, please see the comments on the Draft Title V Permit to Operate regarding NSPS Subpart Y applicability to N8TP (section II.A). Also,

the table indicates that NSPS Subpart A applies to storage tanks BM11ST, BM12ST, BM14ST, BM15ST, K07ST, K17ST, and K18ST. This is incorrect. The language in NSPS Kb paragraphs 60.110b(b) and 60.110b(c) exempts these tanks from requirements of Subpart A.

**EPA Response:**

EPA agrees and has revised the Statement of Basis.

9. Draft Statement of Basis, Section 3.h.ii.

Please see PWCC's comments on the Draft Title V Permit to Operate regarding tanks K17ST and K18ST (Section II.D).

**EPA Response:**

EPA agrees and has revised the Statement of Basis to clarify the applicability of NSPS Subpart Kb to these two tanks.

10. Draft Statement of Basis, Section 4.

Table 5 indicates that a Method 9 opacity test is required if VE exceed 10 percent. The opacity limit set by NSPS Subpart Y is 20%. Permitted facilities are required to use a certified Method 9 observer for VE testing. A certified observer can distinguish between 10 percent and 20 percent opacity. Therefore, PWCC sees no reason to conduct the Method 9 test when the certified observer detects opacities up to the regulatory limitation of 20 percent. Also, this requirement is not consistent with precedent set at coal handling operations at Arizona power plants, where the 20 percent criterion is used (see discussion under Section II.C. of the draft Permit to Operate for additional information).

**EPA Response:**

The permit requires the use of Method 9 tests to determine compliance with the opacity limit. As explained in EPA's response to comment #2 above, an instantaneous opacity reading is a useful tool but is not sufficient to determine compliance because Method 9 tests require a six minute average. An instantaneous opacity reading of 10% does not demonstrate compliance with a 20% opacity limit that is verified by Method 9 testing.