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RON CURRY
Secretary

DERRITH WATCHMAN-MOORE
Deputy Secretary

September 16, 2005

CERTIFIED MAIL NO. 7003 0500 0005 1472 3816
RETURN RECEIPT REQUESTED

Ms. Diana Tickner, Vice President
Peabody Energy
701 Market Street
St. Louis, MO 63101-1826

Permit Application No. 2663
Mustang Generating Station
Revised BACT Analysis

Dear Ms. Tickner:

This letter serves as a follow-up to the Air Quality Bureau's June 1, 2005 meeting with you and Lars Scott of Peabody Energy ("Peabody"). At the meeting, you requested that the Air Quality Bureau comment on the Best Available Control Technology (BACT) analysis submitted by Peabody on April 30, 2004 and provide guidance on other issues related to the permit application.

The Air Quality Bureau ("AQB" or "Bureau") has reviewed your April 30, 2004 revised BACT Analysis and previous BACT submittals. For the AQB to determine compliance with applicable regulations, Peabody must revise the application and include the information outlined below.

- i. Supercritical pulverized coal combustion (SCPC) and ultra-supercritical pulverized coal combustion technologies have not been included in Peabody's original BACT submittal (Appendix F, Mustang PSD permit application dated March 2002) and the revised BACT submittal dated June 20, 2003. The first step of the "Top-down" BACT procedure in the Environmental Protection Agency (EPA) 1990 Draft New Source Review Workshop Manual ("NSR Manual") requires the applicant to identify and list all available control options. *See NSR Manual at B6.* Accordingly, please include and evaluate both options in your revised BACT analysis. If either option is technically infeasible, it may be eliminated in the next step of the BACT procedure; however, a decision to eliminate any control option or alternative production process as technically infeasible must be adequately explained and justified. Please note that the AQB has notified Peabody in its letter dated August 29, 2003 of its decisions that "cost" cannot be the basis for technical infeasibility and that the Integrated Gasification Combined Cycle (IGCC) and the Circulating Fluidized Bed Boiler (CFB) are technically feasible and must be further evaluated in the BACT analysis.

- ii Rank all the remaining (after eliminating technically infeasible options) control options and alternative production processes (e.g., IGCC and CFB) by control efficiency. For each control option or alternative production process, provide detailed and comprehensive cost estimates (e.g., annualized costs, capital costs, operating costs etc.) based on vendor bids, vendor-guaranteed emissions rates, and a detailed economic and environmental impact analysis. This is necessary in order for the AQB to make a proper comparison of all technologies by considering all the evidence for and against each control option. Furthermore, it is the AQB's position that a detailed and comprehensive BACT analysis is necessary for a complete administrative record of the permitting action.
 - a. The AQB has previously explained the procedures for conducting a BACT evaluation in its letter dated August 29, 2003. For major pieces of equipment within each control system battery limits, attach design specifications and either provide facility-specific price quotes from equipment vendors or use the information contained in the EPA Air Pollution Control Cost Manual (Sixth Edition), EPA/452/B-02-001, January 2002. Explain the basis for any site adjustments made to standard costing factors and provide a comparison of control option costs incurred by other recently permitted or planned coal-fired power plants of similar capacity. For example, if a cost adjustment to account for turbine altitude correction is made for the IGCC and CFB, then a similar cost adjustment must be made for all other control technologies and alternative production processes. Include vendor performance guarantees of achievable control efficiencies and emissions rates (by pollutant) for each control option and alternative production process. All materials and supporting documentation should be legibly typewritten or printed; please avoid submitting handwritten materials.
 - b. For the CFB Boiler, at a minimum, evaluate limestone injection in the CFB furnace with a circulating dry scrubber (lime injection) downstream for the control of SO₂, sulfuric acid and fluorides; and selective non-catalytic reduction (SNCR) using ammonia for the control of NO_x. Cost savings from any decrease in coal use relative to the proposed PC Boiler must be factored into the analysis of CFB.
 - c. For the Airborne ProcessTM, include vendor emission guarantees and cost estimates of each major piece of equipment, and itemize the cost of incorporating mercury controls and technology for CO₂ removal and sequestration.
 - d. For the IGCC, the AQB requires that Peabody obtain a minimum of two bids for building an IGCC plant from major vendors and engineering and procurement contractors such as GE, Conoco-Phillips, Global Energy, Bechtel, Eastman Chemical, Fluor, or Shell Global Solutions (not an exhaustive listing of vendors). The IGCC proposal must include a Spare Gasifier, Selective Catalytic Reduction (SCR) for NO_x control; an Activated Carbon

Absorber for Mercury Control; and a Shift Conversion Unit (or Shift Reactor) for CO₂ capture. Itemize the cost estimates of the Spare Gasifier, SCR, the Activated Carbon and Shift Conversion Unit of the IGCC plant. Please note that the AQB had discussed by telephone, on August 13, 2003, the issue of vendor bids with Bob Hennekes of Shell Global Solutions and were told that he had provided Peabody a bid for building an IGCC plant at the Mustang site.

- iii. Finally, for each control option or alternative production process, calculate total annualized costs and the average and incremental cost-effectiveness (by pollutant) expressing the results in the desired units (\$/MWh or KWh of electricity produced and \$/ton of pollutant removed) as previously explained in the AQB's letter dated August 29, 2003, and provide the results of the BACT analysis together with their associated energy and environmental (water and solid waste disposal) impacts in a summary table. The environmental impact analysis for each control option or alternative production process must include the estimated controlled emissions of CO₂, Mercury, and other Hazardous Air Pollutants (HAPs). As part of the environmental impact analysis, the AQB has the discretionary authority to evaluate emissions of air toxics, hazardous air pollutants, and greenhouse gases such as CO₂. *See NSR Manual at B.46-50.*
- iv. "Coal Washing" has not been included in the BACT analysis. Please include coal washing in the BACT analysis and provide estimates of total annualized costs and the average and incremental cost-effectiveness of using washed coal in combination with other control options and alternative production processes. Analyze the effect of coal washing on reductions in the emissions of SO₂, particulate matter and mercury. In addition, provide information as to whether the El Segundo mine, the coal supplier for the Mustang Station, plans to supply washed coal to other customers.
- v. "Clean Fuels" must be included in the BACT evaluation because the requirement is contained in the 1990 Federal Clean Air Act Amendments' (CAAA) definition of BACT. At our June 1, 2005 meeting, you brought to the AQB's attention that the Clean Fuels requirement was included in the BACT definition after the 1990 CAAA and that Peabody would analyze the cost-effectiveness of using Powder Reserve Basin (PRB) Coal. The Clean Fuels option must be considered in conjunction with other control options and alternative production processes such as the IGCC and the CFB Boiler. The Mustang permit application proposes the use of coal containing a 1.56% sulfur content and 20% ash content. At a minimum, Peabody must evaluate the use of coal containing lower sulfur and ash contents from Peabody's El Segundo mine and from the nearby Navajo Mine and evaluate whether or not they will be a cost-effective alternative for the Mustang Station. Please note that the Navajo Mine in San Juan County, New Mexico will supply a coal of 0.82% sulfur content to the planned Sithe Global Power Plant in San Juan County, New Mexico.

Below is the AQB's response to other issues raised by Peabody at our June 1, 2005 meeting.

- a. Startup and shutdown emissions: It is the AQB's position that startup and shutdown emissions are subject to BACT requirements, and therefore, must be included in the BACT evaluation. Accordingly, please propose BACT limits (by pollutant) for startup and shutdown conditions. Additionally, as required by 20.2.72.203.5 NMAC, submit a preliminary operational plan defining the measures to be taken to mitigate source emissions during malfunction, startup or shutdown. Please be advised that a startup or shutdown situation cannot cause or contribute to a violation of any applicable national or state air quality standard or increment.
- b. Compliance Averaging Times: For SO₂ emissions limits, the AQB will require compliance based on 3-hour, 24-hour, 30-day and annual averaging periods. For NO_x, TSP and PM₁₀, compliance shall be based on 24-hour, 30-day and annual averaging periods. Accordingly, Peabody must propose lb/MMBTU and lb/hr emission limits with the above compliance-averaging periods.
- c. Particulate matter (PM) emissions and PM CEMS: The AQB requires that PM emissions be speciated and that both filterable and condensable particulate emissions be reported separately. With regard to your question about PM continuous emissions monitoring systems (CEMS), the AQB believes the PM CEMS to be necessary and appropriate for determination of compliance with the filterable PM emissions limits for the facility.
- d. Application forms for reporting TAP and HAP emissions: Please use the AQB's Universal Application Form currently available on our website. If you need additional space or need to include additional information, attach separate sheets.

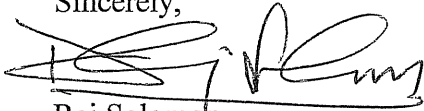
In steps 3 through 5 of the AQB's letter dated August 29, 2003, the AQB explained the five-step "Top-down" BACT procedure set forth in Chapter B and Appendix B of the "NSR Manual". At the June 1, 2005 meeting, you stated that having permitted coal-fired power plants in various states, you were very familiar with the NSR Manual, EPA's top-down BACT procedure, EPA's Air Pollution Control Cost Manual, EAB decisions on the permits of coal-fired power plants, BACT emissions limits of recently permitted coal-fired power plants, and most other aspects of PSD permitting and BACT review, so our guidance to you is surely familiar based on your extensive experience. Despite the AQB's multiple requests through numerous letters, emails, meetings and conference calls, Peabody has not, to date, provided a comprehensive BACT analysis.

The Department has determined that the above information is necessary to evaluate permit application no. 2663, and therefore, in accordance with 20.2.72.203.E (2) NMAC the Department is requesting this information in writing. In accordance with 20.2.72.203.E (1) NMAC, Peabody has a duty to promptly supplement and correct information submitted in the application. Please submit all the requested information within one hundred twenty (120) days of the date of this letter.

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Mustang Generating Station
September 16, 2005
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If you have any questions or need further clarification, please call me in Santa Fe at (505) 955-8027.

Sincerely,

A handwritten signature in black ink, appearing to read 'Raj Solomon', written over a horizontal line.

Raj Solomon
Permits Section
Air Quality Bureau

cc: Lars Scott, Peabody Energy
Ron Curry, Cabinet Secretary, New Mexico Environment Department
Jim Norton, Director, Environmental Protection Division
Ned Farquhar, Office of the Governor
Mary Uhl, Acting Bureau Chief, Air Quality Bureau
Leslie Barnhart, NMED Office of General Counsel
NSR Permit File # 2663

