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May 15, 2002

Ref: 8EPR-N

Al Pierson, State Director
Bureau of Land Management, Wyoming State Office
5353 Yellowstone, PO Box 1828
Cheyenne, WY 82003

RE: EPA's Review of the Draft Environmental Impact Statement (Draft EIS) and Draft Planning Amendment for the Powder River Basin Oil and Gas Project [CEQ #020017]

Dear Mr. Pierson:

The U.S. Environmental Protection Agency (EPA) Region 8 has reviewed the Draft Environmental Impact Statement and Draft Planning Amendment for the Powder River Basin Oil and Gas Project. EPA's review and comments are provided pursuant to the National Environmental Policy Act (NEPA), the Council on Environmental Quality's NEPA Implementation Regulations at 40 CFR Sections 1500-1508, and Section 309 of the Clean Air Act. BLM proposes to amend the Buffalo and the Platte River Resource Management Plans to allow coal bed methane development in the Wyoming portion of the Powder River Basin.

EPA is concurrently providing comments on a Draft EIS addressing coal bed methane development in the Montana portion of the Powder River Basin. Please see a copy of the enclosed letter to Sherry Barnett, Montana BLM Acting State Director.

Management of produced water from coal bed methane development creates an inter-jurisdictional water quality question that EPA believes needs to be addressed. We believe that this complex situation should be resolved by effective dialogue between the Bureau of Land Management (BLM) offices in both states, the State of Wyoming, and the downstream State of Montana. The downstream Crow and Northern Cheyenne Tribes should also be included in these discussions.

Our agencies made progress in that direction during our April 30, 2002, meeting in Sheridan, Wyoming, in which Dennis Hemmer and Jan Sensibaugh, Directors of the Departments of Environmental Quality for Wyoming and Montana, respectively, committed their States to assuring that the discharges of CBM-produced water would be protective of these streams present beneficial uses, such as agricultural irrigation. I personally offer my assistance to you, the States, and the Tribes in moving to a clear resolution that will protect all affected streams for all designated uses. The EPA's intent is to collaborate with all interested parties to achieve a watershed management framework that will allow coal bed methane development to occur in an environmentally sound manner.



Background Information: In the Powder River Basin, 65% of the mineral ownership is Federal. The Draft EIS predicts that coal bed methane production will proceed on 8 million acres of federal, state and private lands in Wyoming, with 51,400 projected coal bed methane wells (including 12,000 existing or permitted coal bed methane wells) and 3,200 conventional oil and gas wells. The Draft EIS projects that these wells will disturb 278,000 acres of vegetation and result in 17,000 miles of new roads, 20,000 miles of new pipeline, and 5,300 miles of additional overhead electric power lines. This project will also create facilities to provide an additional 500,000 horsepower for gas compression.

To extract methane from underground coal formations, large quantities of groundwater need to be brought to the surface. Although the produced water may be suitable for humans and livestock to drink, it is typically not suitable for irrigation. Irrigation use accounts for 98 percent of the surface water withdrawals on the Wyoming side of the Powder River Basin. Due to its levels of sodium (which is often described in terms of a sodium adsorption ratio or SAR) and salinity, coal bed methane-produced water can, if allowed to contact surface soil, permanently destroy the soil's ability to percolate water in a manner that can support plant growth.

Alternative 1, the Preferred Alternative, proposes discharging produced water without treatment to surface streams and rivers. The Draft EIS estimates that the projected 51,367 coal bed methane wells will bring 4.4 million acre feet (192 billion cubic feet) of groundwater to the surface. A maximum yearly discharge of 381,000 acre-feet is projected for the year 2006. The Draft EIS further predicts that there will be 4,800 coal bed methane-related surface discharge locations in the Wyoming portion of the Powder River Basin.

BLM's assessment in the Draft EIS determined that if produced water is allowed to flow to surface streams and rivers, as it would be under the Preferred Alternative, it would make the Tongue River and the Belle Fourche River unsuitable for irrigation (Table S-2 on Page xxv and Page 4-64.) The SAR and salinity values predicted to occur in the Tongue River under the Preferred Alternative are inconsistent with the existing agricultural practices in the basin. These values are also inconsistent with our interpretation of the State of Wyoming's regulations, which specify that water quality degradation "shall not be of such an extent to cause a measurable decrease in crop or livestock production" and the requirement that downstream state standards be met.

EPA's rating of this Draft EIS: EPA, as part of its review process, provides a rating of the Preferred Alternative that summarizes EPA's concerns over the potential environmental impacts. We have rated the environmental impacts as Environmentally Unsatisfactory ("EU") because of impacts to irrigated agriculture. BLM's assessment of the preferred alternative states that if the full surface discharge of produced water were to be implemented, the Tongue and Belle Fourche Rivers would no longer support irrigation. Specifically, for the Tongue River, the analysis shows that the predicted levels of SAR would cause irreversible impacts to soils. Therefore, EPA is rating the Preferred Alternative as environmentally unsatisfactory. EPA recommends looking at alternatives that have fewer environmental impacts although they may have higher costs.

Our NEPA review process also calls for providing a rating regarding the adequacy of the information provided in the Draft EIS. In this case, we have significant concerns over the adequacy of the Draft EIS and have rated the document as "inadequate" ("3"). See the enclosed "Summary of Rating Definitions." A summary of our most significant concerns follows:

Range of alternatives: The Wyoming Draft EIS is considered to be inadequate because the range of alternatives did not include an alternative that would meet state water quality standards. Beyond the Preferred Alternative, Alternatives 2a and 2b, which emphasize infiltration and treatment, do not provide an analysis of impacts to water quality. In the absence of that analysis, the EIS does not demonstrate that water quality standards can be met by any alternative presented.

Impacts to the Tongue River may not meet Clean Water Act requirements. The analysis contained in the Draft EIS shows that the discharge of untreated water into the Tongue River can result in water quality unsuitable for irrigation. EPA also conducted an analysis of the impacts to the Tongue River. The EPA similarly found that if produced water is discharged without treatment, water quality in the Tongue River would result in significantly reduced crop production and irreparable soil dispersion in Montana. Applying what EPA considers to be critical flow and appropriate background water quality conditions, the predicted water quality for discharge without treatment would be inconsistent with support for the existing agricultural practices in the basin and inconsistent with both States' requirements to protect these streams for irrigation uses. The results of EPA's analysis show that only a small fraction of the produced water could be discharged without treatment before reaching the salinity and SAR cumulative effects threshold for adverse crop and soil effects. EPA urges BLM to comprehensively address the water quality issues for the Tongue River in the two Draft EISs and to prepare a predictive analysis for this river that is acceptable to the States and the Tribes.

Impacts to the Powder River and Little Powder River are not well understood. Regarding impacts associated with discharging untreated produced water, EPA's analysis suggests that the frequency of flows with salinity suitable for alfalfa irrigation may decrease. At the same time, there would likely be an increase in the volume of flow suitable for alfalfa irrigation due to mixing CBM-produced water discharge with river flow. It is not yet understood how such changes would affect irrigation practices. EPA urges BLM to comprehensively address the water quality issues for the Powder River and Little Powder River in the two Draft EISs and to prepare predictive analyses for these rivers that is acceptable to the States.

Impacts to Belle Fourche River and Cheyenne River. Regarding impacts associated with discharging untreated produced water, EPA's analysis of the Belle Fourche River suggests that there may be a concern with potential changes to the SAR values in relation to salinity. This could potentially affect irrigation in South Dakota. EPA urges BLM to comprehensively address the water quality issues for the Belle Fourche River and Cheyenne River in this Draft EIS and to prepare predictive analyses for these rivers that is acceptable to the States.

Combined Analyses for this Draft EIS and the Montana Draft EIS should be provided: The bifurcation of the Powder River Basin into two EISs does not enable the decision-maker and the public to fully evaluate the cumulative impact of both projects. In addition, the separation of the EIS's between the two states has resulted in conflicting information. For example, for future water quality conditions in the same streams at the same monitoring locations, the analyses in the two Draft EISs differ. Another difference exists between the Reasonably Foreseeable Development (RFD) scenario for each Draft EIS. The Wyoming RFD projects much less recoverable gas than does the RFD in the Montana EIS. These inconsistencies should be evaluated and harmonized for both draft EISs. The EISs should also refer to the USGS report issued in 2001 concerning the recoverable coal bed methane for the entire Powder River Basin.

Air quality analysis needs to be provided: The Draft EIS does not include sufficient information on existing air quality trends in the Powder River Basin. Air quality conditions have changed considerably in the Powder River Basin in Wyoming in the last several years. Beginning in 1999, particulates of a size of 10 microns or smaller have been recorded at or above the Class II PSD increment, culminating in 13 exceedances of the health based standard (NAAQS) in 2001 and 2002. Impacts from the addition of 6,680 miles of unpaved roads in the Montana portion of the Powder River Basin when combined with the 17,000 miles of mostly gravel roads or dirt "two track" roads in Wyoming could further exacerbate particulate air pollution in the Powder River Basin. These events and mitigation measures should be analyzed, in consultation with the Wyoming DEQ, and included in a revised or supplemental Draft EIS.

Steps Toward Quick Resolution of Issues: We suggest the following steps for the agencies to move toward resolution of the issues discussed above:

Incorporate the existing state agreements and the water quality thresholds being prepared by the Montana Department of Environmental Quality and the Northern Cheyenne Tribe. The Montana Board of Environmental Review will shortly be presented with recommendations from the Montana DEQ regarding numeric thresholds for protection of agriculture, and with scientific information that supports those recommendations. The Northern Cheyenne Tribe has recently proposed water quality criteria for the Tongue River, based on independent scientific analysis of water quality impacts to agriculture and riparian vegetation. BLM should incorporate into its analysis the thresholds that these agencies determine are protective of designated uses, and use those thresholds as the basis for determining cumulative loading limits needed to avoid degrading the Powder River Basin watersheds.

A Watershed Management Framework should be prepared. EPA offers its assistance in preparing a watershed management framework that utilizes the scientific basis described above, and consists of the following steps: 1) setting a cumulative allowable threshold of untreated produced water as a percentage of the total water expected from the number of wells that could be reasonable foreseen, 2) defining the mix of technically feasible and economically viable water management practices other than discharge without treatment, and 3) analyzing the cumulative environmental impacts of those water management practices. By working together, we believe we can assist BLM in developing an alternative that meets water quality standards and incorporates a watershed management framework.

Include additional key information in a Revised or Supplemental Draft EIS. The EPA believes the above watershed information, the additional air quality analysis, and the additional fish and wildlife assessment should be included in a revised or supplemental Draft EIS in order for the public to have an adequate opportunity to review and provide comments on it. BLM should (1) harmonize the two current analyses of the impacts on this basin; (2) present alternatives that industry can implement and that are sufficient to protect all affected water bodies; and (3) provide an adequate opportunity for the public to review and comment on these complex issues. Without resolution of the issues raised in this letter, the proposed amendment of these Resource Management Plans could become a candidate for referral to the President's Council on Environmental Quality.

We appreciate the opportunity to review this Draft EIS. If you would like to discuss our comments in further detail, please call me at (303) 312-6308 or Max H. Dodson, Assistant Regional Administrator for Ecosystems Protection and Remediation, at (303) 312-6598, or have your staff call Gregory Oberley, our lead NEPA reviewer for this project, at (303) 312-7043.

Sincerely,

original signed by:

/s/ Robert E. Roberts
Regional Administrator

Enclosures

cc: Sherry Barnett, BLM Acting State Director , Montana State Office
Dennis Hemmer, Wyoming DEQ, Cheyenne, Wyoming
Jan Sensibaugh, Montana DEQ, Helena, Montana
Steve Pirner, South Dakota Department of Natural Resources
David Ballard, Montana Oil and Gas Commission, Billings, Montana
Geri Small, Northern Cheyenne Tribe, Lame Deer, Montana
Clifford Bird-in-Ground, Crow Tribe, Crow Agency, Montana
Keith Beartusk, Bureau of Indian Affairs, Billings, Montana