

Bureau of Land Management

Analysis and Response of Public Comments Received on the West Antelope II Final Environmental Impact Statement (EIS)

A notice announcing the availability of the *West Antelope II Coal Lease Application Final EIS* was published in the Federal Register by the Environmental Protection Agency (EPA) on December 19, 2008; parties on the distribution list were sent copies of the final EIS at that time. The comment period for the final EIS ended on January 20, 2009. As explained on the first page of the final EIS, the public review period was open for 30 days after the EPA's Notice of Availability published in the Federal Register. The final EIS was also made available in pdf form and was posted to the Bureau of Land Management (BLM) Wyoming public website.

Public comment letters and emails were received from:

- WildEarth Guardians in conjunction with Sierra Club (Jeremy Nichols and Steve Thomas)
- Powder River Basin Resource Council (Shannon Anderson)
- Leslie Glustrom
- EPA
- Gary Goodman

These public comments have been electronically posted in their entirety and are available at http://www.blm.gov/wy/st/en/info/NEPA/cfodocs/West_Antelope_II.html. All public comments that were received and the formal hearing transcript are on file and can be reviewed at the BLM Wyoming High Plains District Office in Casper, Wyoming.

Additionally, the BLM received 293 emails from individuals across the country; 265 of these were identical in content to the letter received from Mr. Goodman. Two emails expressed their support of the West Antelope II coal leasing proposal. The remaining 26 emails paralleled Mr. Goodman's letter, but also added the following statements, as summarized below:

- "...no one should try to claim that coal is clean energy..."
- "...the ecosystem is already strained by oil and gas development and livestock grazing..."
- "...the U.S. should concentrate on solar energy, wind energy and energy conservation..."
- "...mining caused an impoundment to breach in Tennessee..."
- "...wilderness should not be mined..."
- "...CO₂ (carbon dioxide) is already 15ppm (parts per million) over a level that is acceptable or safe..."

All comments that were received in a timely manner were considered. Public comments that BLM received on the West Antelope II Final EIS have been summarized and responded to on the following pages.

WildEarth Guardians/Sierra Club (January 20, 2009)

I. The Powder River Basin has been Erroneously Decertified as a Coal Production Region

Response

You are correct in that the Powder River Coal Production Region was “decertified” as a federal coal production region in 1990, and that it remains “decertified” currently. This is consistent with the original federal coal production regions established as part of the Federal Coal Management Program. Coal leasing in the Powder River Basin (PRB) operated as a certified federal coal production region, with leasing developed under the regional leasing process as described under 43 CFR 3420, through the 1980s.

Many of the federal coal production regions were decertified in the later 1980s, in large part because of a decline of interest in leasing federal coal (64 FR 52240).

The Powder River Coal Production Region had no leasing interest during the late 1980s. The mines that exist today were operating or already had adequate reserves to begin operating. The PRB had become a mature mining region, that is, a region where sufficient mining operations had been established to meet expected coal demand.

In 1990, based on the advice of the Powder River Regional Coal Team (RCT), BLM decertified the region. However, there were certain conditions of the decertification established in part based on the RCT’s advice. The region was decertified for production maintenance leasing, and the RCT would remain active and periodically review BLM’s leasing activity to provide advice on the leasing in a regional perspective.

In a region that is decertified, BLM is able to consider leasing by application (LBA) under the rules at 43 CFR 3425. The RCT has met about once each year since the decertification. BLM has presented lease by applications to the RCT and has considered their advice on how to proceed with those applications.

You are correct that production of PRB coal has increased steadily since decertification. Part of this growth is due to an increase in the demand for electric power and the related increase in demand for steam coal as a fuel for low cost electric generation. There are also cost (mining and reclamation) advantages that have favored PRB coal over other domestic coal regions as well as the low sulfur content which results in cost-effective air pollution control.

The production increase has been made with no new mining operations opening since decertification, although several of the operations have consolidated. As shown in figure 4-2 in the EIS, leasing under the LBA process has essentially been at the same rate as reserves existing before decertification have been being depleted. This level of leasing activity remains consistent with the 1990 decertification action.

The interpretation of the lease by application process made in this comment is incorrect, and it is not borne out by practice or results. The lease application is made to identify

those lands that the applicant has identified as needed to maintain production at an existing mine. BLM identifies alternatives (Alternatives 1 and 2 in this EIS) which may include more or less lands than are included in the application. Under these alternatives, BLM is able to reconfigure the tract in the public interest to conserve coal resources, enhance competitive potential, and mitigate impacts. BLM has frequently (in almost every LBA offered) delineated a preferred alternative smaller or larger than the application, and containing some different lands than those applied for.

It is logical, and prudent, for the lease tracts to be adjacent to one or more existing mines. These are production maintenance tracts and, as such, are located so that existing operations can pass onto these tracts without gaps requiring the significant additional disturbance and cost required to open a new pit rather than extend an existing one.

We have had several sales where there were multiple bids and sales where the applicant was not the successful bidder. The sales are always competitive, even if there is only one bidder, because the BLM sets a fair market value and will not accept any bid that does not meet that value. These values are not disclosed, and bidders recognize that they need to bid a fair value or the bids will be rejected. BLM has rejected numerous bids that were the apparent high bid.

All of this evidence demonstrates that BLM's practice has ensured fair market values are received for LBA tracts that are designed by BLM to allow production to be maintained at already operating mines, with the coal resource being managed to avoid bypass, isolation, and to encourage competition.

The BLM properly established the Powder River Coal Production Region as required by 43 CFR 3400.5. The change to the region was published in the Federal Register (January 9, 1990, 55 FR 784-785). The BLM has, and continues to manage the Federal coal leasing process in conformance with the status of the Powder River Coal Production Region, and the criteria and conditions applicable to a decertified coal region.

Processing the West Antelope II LBA is consistent with the practice we follow in the decertified Powder River Coal Production Region. These are production maintenance tracts, have been reviewed by the Powder River RCT, and are being reviewed in accordance with the leasing by application process (43 CFR 3425).

The Powder River RCT meetings are public and provide an opportunity for public comment and statements. We added your name and email address to the RCT meeting notification email list and sent you a courtesy notification in advance of the 2009 meeting. BLM staff did provide the team a briefing of your request at the Team's meeting in 2009. Although you did not attend that 2009 meeting, you are welcome to present your petition, either in person or in writing, to the Team at any future meeting. Notices for upcoming Regional Coal Team meetings are published in the Federal Register and a press release will be posted on the BLM web site.

WildEarth Guardians/Sierra Club (January 20, 2009)

II. The Charter of the Powder River Regional Coal Team, as well as BLM Regulations Regarding the Function of the Coal Team, Violate the Federal Advisory Committee Act

Response

The Powder River Regional Coal Team was established under the coal program regulations (43 CFR 3400.4) for the purpose of the duties specified in 43 CFR 3420. The RCT is not an advisory group as established under the regulations for advisory committees under 43 CFR 1784, although it is bound to use the public participation procedures (43 CFR 1784.4-2, 43 CFR 1784.4-3, and 43 CFR 1784.5) as in the advisory committee regulations (also see 64 FR 52240).

The item you point out (from Charter PRB RCT, approved October 24, 1995, section 6.c (11)), where the Regional Coal Team's advice shall be accepted, with certain exceptions, pertain only to one specific duty: regional leasing in a certified coal production region. The Powder River Coal Production Region has not operated in the regional leasing mode since 1990.

The section of the charter defining the RCT's duties when operating in the Leasing by Application (LBA) mode (Charter PRBRCT, approved October 24, 1995, Section 6.b) is relevant to the way the Team is presently operating. The role is that of an advisor to solicit and consider public views.

In section 6.a of the Charter, which defines all operations of the Team, if BLM chooses not to accept the Team's recommendations, "a written explanation of the reasons will be prepared by the BLM Director's authorized representative and provided to the team and the public."

WildEarth Guardians/Sierra Club (January 20, 2009)

- ### **III. The FEIS Fails to Adequately Analyze and Assess Global Warming Impacts**
- **The FEIS Fails to Address the Cumulative Impacts of Other Department of Interior-authorized actions**
 - **The FIS Fails to Consider Alternatives that Address Global Warming**

Powder River Basin Resource Council

- ### **III. BLM must consider the significance of climate change impacts of the new lease tracts and should consider alternatives to mitigate these impacts.**

Leslie Glustrom

- **Failure to recognize that once the coal is taken out of the ground the resulting CO₂ will do titanic damage to our planet.**

WildEarth Guardians/Sierra Club (February 23, 2009)

- ### **I. Global Warming Impacts**
- **Authorizing More Global Warming is not in the Public Interest**

- **Cumulative Global Warming Effects have not been Adequately Analyzed**
- **Other Direct, Indirect, and Cumulative Global Warming Impacts have not been Assessed**

Response

The purpose of this EIS is to disclose the potential effects to the natural and human environment from the proposed leasing of the West Antelope II LBA to maintain production at the currently operating Antelope mine in the Powder River Basin of Wyoming. Although leasing the West Antelope II LBA tract would not authorize mining operations on the tract, the EIS evaluates the potential impacts of mining the West Antelope II because mining is a logical consequence of issuing a lease for a maintenance tract of coal. The EIS assesses the site-specific impacts resulting from a range of alternative actions to the proposed action of leasing a specific tract of land. The EIS also assesses the cumulative impact on the environment which results from the incremental impact of the proposed LBA when added to other past, present, and reasonably foreseeable future actions that would add to the impact of the proposed action. In this EIS, cumulative impacts are discussed in chapter 4.

The analysis of cumulative impacts presented in the West Antelope II EIS is based on a comprehensive study designed to provide a basis for assessing the level of cumulative impacts resulting from reasonably foreseeable actions occurring in the Powder River Basin. The analysis recognizes that the areal extent of each type of effect depends on the environmental value affected. In recognition, the “effect area” for each value is scaled to be that area where the effects of development in the PRB can be estimated. In some cases, this is a multiple county area, in others it is multi state, in others it might be on a watershed, herd unit boundary, or the actual lands that are affected. For each environmental value, the effect area extends the analysis of the cumulative impact to where that impact is no longer quantifiable or is at a level as to be insignificant.

The site-specific impacts analyzed in this EIS are based on the assumption that if the LBA tract is offered for competitive lease, a lease would issue, and mining would be permitted. We further assume that the applicant would be the lessee, and the lease would be permitted as an extension of their current mining operations. In chapter 3, we have estimated the change to emissions of green house gas (GHG) under each alternative LBA configuration, including the No Action Alternative (please see table 3-20 in the FEIS).

In chapter 4, the contribution of the site-specific alternatives to cumulative effects on the environment is evaluated. To do this, we assume that coal mining will proceed in accordance with permit conditions. We further assume that this coal will be sold to coal users in response to forecasts of demand for this coal. Historically these users have been electric utilities in the United States, although there is potential for sales outside the U.S. This coal market is open and competitive, and users can buy from the most cost effective suppliers that meet their needs.

In section 4.2.13.1 in the FEIS, we estimated the amount of GHG emissions that could be attributed to coal production as a result of leasing the proposed LBA, as well as from the forecast coal production from all coal mines in the Wyoming PRB. We assumed that all PRB coal was used for coal fired electric generation as part of the total U.S. use of coal for electric generation. This gives an upper estimate of the GHG resulting from use of the coal that would be produced from the proposed LBA and for forecast total PRB coal production. The estimate was done by relating the portion of coal produced in the Wyoming PRB to national steam coal totals, and then applying that ratio to the total emission of GHG estimated in the U.S. as a result of coal fired electric generation. Policies regulating specific levels of significance have not yet been established for GHG emissions. Given the state of the science, it is not possible to associate specific actions with the specific global impacts such as potential climate effects. Since there are no tools available to quantify incremental climate changes associated with these GHG emissions, the analysis cannot reach conclusions as to the extent or significance of the emissions on global climate. The potential impacts of climate change represent the cumulative aggregation of all worldwide GHG emissions. The EIS provides a meaningful context and measure of the relative significance of coal use from the proposed LBA and overall projected PRB coal production on total GHG emissions, and the FEIS recognizes the effects of historic warming on the western U.S. (FEIS at page 4-103).

The use of carbon-based fuels as a primary fuel for electric generation results in the release of a large quantity of CO₂, a greenhouse gas, as estimated and disclosed in the FEIS. A large portion of our existing domestic electric generating capacity is designed for carbon fuels. While there is presently substantial interest and potential public policy and regulation to move from carbon fuels for electric generation, the demand for electric power is not forecast to decrease. The FEIS (pages 4-106 to 108) discloses the results of two studies of future scenarios for sources of electric generation, which anticipate that carbon fuels will still represent a significant part of electric generation through the year 2030. The proposed leasing action in this EIS, as well as the other proposed leasing actions currently under consideration in the PRB, would extend current production at existing mines to about year 2030.

If the mines in the PRB are not able to produce coal for the marketplace in the future, the expected result is that there would be less PRB coal available to electric generating facilities and more non-PRB coal would be sold in the market and used. PRB coal has been favored in this market in the past because it is low cost and is environmentally sulfur compliant. In addition, mines in the Wyoming Powder River Basin have demonstrated highly successful reclamation.

We anticipate that as existing coal fired electric generators operate in accord with regulatory and cost factors in effect in the future, they would continue to acquire coal supplies from national and international coal markets. Examining the options available to reduce GHG releases from burning coal is best applied at the place where the coal is consumed rather than at the sources of supply.

The comment suggests that the EIS should examine a wide variety of actions with the only connection being that the actions are under the jurisdiction of the Department of the Interior. The suggested approach fails to recognize that each of these proposals are federal actions in their own right, and must be evaluated in light of the effects of that action when added to other past, present, and reasonably foreseeable future actions regardless of what agency (federal or non-federal) or person undertakes such other actions.

The EIS does address a full range of alternatives to the lease by application submitted by the lease applicant. The range includes an alternative which would represent all lands that include coal reserves that are comparable to those applied for, which may be efficiently recovered with the LBA, which may enhance competitive interest in the tract, and which could be bypassed if not leased. On the other end of the range is the No Action Alternative.

The BLM is a multiple use land management agency that manages the federal coal reserves under the predominantly private land surface in the Powder River Basin. In the land area covered by the PRB LBAs, over 90% of the surface ownership is private or state land. Although there are wind and solar resources that may have energy development potential, the BLM does not have authority to permit these types of activities on private land surface. The BLM neither permits for the surface disturbance nor for the mining operations in coal mining operations. Therefore, the reasonable alternative options available for BLM to review in this EIS are the No Action Alternative where leasing one or more of these LBAs does not occur, and the leasing alternatives exploring the lease size and configuration.

Other forms of addressing increasing electric demand are noted in this EIS. Ongoing scientific research has identified the potential impacts of GHG emissions on the global climate. The addition of noncarbon fueled electric generation sources could reduce GHG emissions. Further, the addition of alternate sources of electric generation would conserve carbon fuels, which are not renewable in the short term, and would provide a broader portfolio of electric sources. The EIS estimates likely long term electric generation portfolios. However, the specific environmental effects of the variety of alternative electric generation technologies are not in the scope of this EIS. These technologies would be evaluated under the National Environmental Policy Act (NEPA) as they are proposed to be permitted and built.

PRBRC states correctly that eastern and midwestern coals are of higher Btu, i.e. having less moisture and noncarbon compounds. A lesser amount of this coal needs to be burned to yield the same heat value as PRB coal; however, the inference that this means less CO₂ as a by-product is not necessarily correct. CO₂ results from the degree of combustion of carbon and hydrocarbons in the coals. Higher Btu coals have a higher concentration of carbon and hydrocarbons per ton. Also, it is reasonable to expect that PRB coal will be used by existing plants designed to burn PRB coal and other coals would go to existing plants designed for those coals. Because of PRB coal cost and environmental advantages, historically, new plants and plants capable of switching fuels

have favored PRB coal. However, the relative ability of PRB coals to displace other coal sources cannot be predicted into the future with any certainty.

The FEIS does identify the potential release of methane, both as a direct result of mining based on an inventory at the existing Antelope mine (FEIS section 3.18), and the cumulative release of methane from activities in the PRB (FEIS section 4.2.13). These estimates reflect mining and oil and gas activity based on national data scaled to activity in the PRB region. Surface mines release methane to the atmosphere as the coal is exposed and loaded in small diluted volumes. Flaring is not feasible with surface mining operations since flaring requires the gas to be concentrated in quantities sufficient to burn, as might be possible in an underground mine. We did recognize that large volumes of methane have been put to beneficial use as a result of CBNG (coal bed natural gas) recovery in advance of mining.

WildEarth Guardians/Sierra Club (January 20, 2009)

IV. The FEIS Fails to Adequately Analyze and Assess Other Potentially Significant Impacts

- **Failure to Address Ocean Acidification**

Response

Tools necessary to quantify incremental effects on oceans due to increased CO₂ levels for specific activities like mining of an LBA tract are not available. Consequently, impact assessment of effects of specific anthropogenic activities cannot be performed. Additionally, specific levels of significance have not yet been established. Therefore, potential global analysis of ocean acidification in this EIS is limited to accounting and disclosing factors that contribute to levels of greenhouse gases. To the extent that emission data were available or could be inferred from representative type data, we have identified potential GHG emissions that could result from development of the proposed LBA, as well as emissions that will result from selection of the No Action Alternative. See the discussion above about direct, indirect and cumulative estimates of GHG release as a result of developing the LBA area, as well as activity in the PRB region.

WildEarth Guardians/Sierra Club (January 20, 2009)

- **Failure to Address Endangered Species Issues Related to Climate Change**
- **Failure to Address Bald and Golden Eagle Impacts**
- **Failure to Adequately Analyze and Assess Impacts to Raptors**
- **The FEIS Fails to Demonstrate the BLM has Designated High Priority Lands for Migratory Birds as Unsuitable**

WildEarth Guardians/Sierra Club (February 23, 2009)

IV. Endangered Species Impacts

Response

Within the federal coal leasing program, BLM only has the authority to make decisions regarding the potential leasing of federal coal resources. BLM does not authorize

surface mining operations by issuing a coal lease. As discussed in Section 1.2 of the EIS, WDEQ is authorized by the Secretary of the Interior to regulate surface coal mining operations and surface effects of underground mining on federal and nonfederal lands within Wyoming. Mitigation and monitoring requirements, including wildlife, are developed as part of the mining and reclamation permit, which much be approved by WDEQ before mining operations can begin on leased federal coal lands.

The U.S. Fish and Wildlife Service (USFWS) is responsible for the administration of the Endangered Species Act. USFWS is the lead agency that manages threatened and endangered species and, through the Section 7 process, consults with other agencies in how proposed projects may impact and affect listed species. BLM prepared and provided the West Antelope II EIS, Biological Evaluation, and Biological Assessment to USFWS for their review. Comments that we received from USFWS indicated that the EIS was well written and effectively addressed sensitive, threatened, and endangered species and migratory bird issues. The wildlife analysis was also reviewed by professional wildlife biologists in the Wyoming Game and Fish Department, USDA-Forest Service, and BLM. The Record of Decision appendices include the letter of concurrence from the USFWS.

There were no bald or golden eagle concentration or roosting sites identified in our review based on the most recent environmental data, including the prior years of monitoring that have been done on the lands studied for potential leasing.

The occurrence of raptors and related nesting sites were evaluated in Section 3.10.4 of the EIS. As is our practice, our review was based on the most recent environmental data, including previous years of monitoring that have been done. You are correct that two golden eagle nesting sites were identified and 19 of 40 species of migratory birds of management concern were also observed at least once within the area being considered for potential leasing under this LBA.

We have identified that these areas are available for further consideration for coal leasing based on the following: 1) the application of the Service's special lease stipulation which was specifically developed by the USFWS for the federal coal leasing program to address (c) Threatened, Endangered, Candidate or Other Special Status Plant and Animal Species (Appendix D, pages 2&3, FEIS); and 2) the requirement that the coal company, in concert with the Service, will develop a USFWS-approved mitigation plan that will address and mitigate wildlife issues before any surface disturbing activities can occur.

A division of the Department of Commerce , the National Oceanic and Atmospheric Administration (NOAA) Marine Fisheries Service is the federal agency responsible for the stewardship of the nation's living marine resources and their habitat. NOAA's National Marine Fisheries Service is responsible for the management, conservation, and protection of living marine resources within the United States' Exclusive Economic zone—water that is three to 200 miles offshore. The proposed coal leasing project is located at least 850 miles away from the Pacific ocean; we did not consult with the

Marine Fisheries Service. BLM does not authorize nor permit the mining or burning of coal. BLM does not approve, permit, nor regulate combusted fossil fuel emissions. The Clean Air Act requires EPA to regulate air pollutants and they are required to develop regulations, rules, and standards for industries that emit one or more pollutants in significant quantities.

Powder River Basin Resource Council

- I. BLM should not lease new tracts without first ensuring compliance with SMCRA's reclamation mandates for existing tracts.**

WildEarth Guardians/Sierra Club (January 20, 2009)

VI. The FEIS Fails to Provide Sufficient Data on Reclamation

Response

Within the federal coal leasing program, BLM only has the authority to make decisions regarding the potential leasing of federal coal resources. BLM does not authorize surface mining operations by issuing a coal lease, and has no authority over reclamation. As described in Section 1.2 of the EIS, WDEQ is authorized by the Secretary of the Interior to regulate surface coal mining operations and surface effects of underground mining on federal and nonfederal lands within Wyoming. The Office of Surface Mining Reclamation and Enforcement (OSM) and the WDEQ-Land Quality Division (LQD) has reclamation authority.

Please see table 4-2, in the FEIS at pages 4-10 and 11. In this table, we have summarized a detailed review and projection of actual and projected disturbance and reclamation through the years that the West Antelope II LBA requested coal reserves would be mined. This review reflects the total disturbance (including active mining and mined but unreclaimed, as well as disturbed but unavailable for reclamation, due to be occupied by long term structures or facilities) as well as areas permanently reclaimed. The trend is that the acreage including active mining and mined but unreclaimed is expected to increase slowly, less than one percent per year, as is the acreage of land disturbed but unavailable for reclamation. The rate of permanent reclamation will be more rapid, about 4% per year. The ratio of total land reclamation to total land disturbance was around 30% in 2003, and is expected to be 45% by 2010, and approaching 60% by 2020. As of 2007 the actual ratio of total land reclamation to total land disturbance was about 38% (15,800 acres permanently reclaimed out of a total disturbance of 41,700 acres) for the Wyoming PRB mines. Of the total unreclaimed disturbance, about 12,000 acres were unavailable for reclamation and 14,000 acres were in active mining operations. At the Antelope Mine, for 2007, the actual ratio of total land reclamation to total land disturbance was about 27% (1,725 acres permanently reclaimed out of a total disturbance of 6,375 acres). Of the total unreclaimed disturbance, about 1,560 acres were unavailable for reclamation and 3,100 acres were in active mining operations.

WildEarth Guardians/Sierra Club (January 20, 2009)

VII. The FEIS Fails to Adequately Analyze Alluvial Valley Floors

Response

Section 3.6.1 of the EIS addresses alluvial valley floors (AVFs) and the results of the studies that have been conducted to determine the presence of AVFs. As described in the EIS, the declared AVF on Antelope Creek will not be disturbed by mining operations at the Antelope Mine.

For stream-laid deposits that could possibly be AVFs, we ask for comment from the WDEQ-LQD as to whether these areas could be mined and reclaimed in accordance with WDEQ-LQD and SMCRA regulations. If WDEQ provides a preliminary finding that the AVF is significant to farming and that protection of the AVF precludes mining, the lands are not leased. Neither the WDEQ nor OSM, both cooperating agencies on this EIS, identified additional areas as potential AVFs that would be unsuitable for mining. As described in the EIS, the West Antelope II BLM study area is undeveloped rangeland and does not include any lands used for farming.

Environmental Protection Agency

Powder River Basin Resource Council

IV. BLM must consider mitigation measures to reduce air quality impacts

WildEarth Guardians/Sierra Club (January 20, 2009)

VIII. The FEIS Fails to Adequately Analyze and Assess Air Quality Impacts and Assure Compliance with Substantive Duties under FLPMA

- **Ozone**
- **PSD Increments**
- **PM-10 Impacts**

Response

Air pollution is controlled by state and federal air quality regulations and standards established under the federal Clean Air Act Amendments. State implementation plans are in place to ensure that proposed actions like coal mining comply with all associated air quality regulations and criteria. The Wyoming Ambient Air Quality Standards for the PM₁₀ annual and the SO_x annual and 24-hour levels are more stringent than the National Ambient Air Quality Standards and are enforced by the WDEQ-Air Quality Division.

Large surface coal mines have the potential to become particulate emission sources in the PRB contributing to air quality degradation. By statute, WDEQ-AQD has the authority and responsibility to require mitigation for air quality impacts. BLM does not have the authority to mitigate air quality impacts.

WildEarth Guardians/Sierra Club (February 23, 2009)

II. Air Quality Impacts have not been Adequately Addressed

- **Ozone**
- **Cumulative Air Quality Impacts of Rail Traffic**

Response

Ozone has been included in discussions on emissions of nitrogen oxide (NO_x) since NO_x is one of the main ingredients involved in the formation of ground level ozone. Ozone has the same chemical structure whether it occurs miles above the earth or at ground-level and can be "good" or "bad," depending on its location in the atmosphere. In the earth's lower atmosphere, ground-level ozone is considered "bad." Motor vehicle exhaust and industrial emissions, gasoline vapors, and chemical solvents as well as natural sources emit NO_x and volatile organic compounds (VOC) that help form ozone. Ground-level ozone is the primary constituent of smog. Sunlight and hot weather cause ground-level ozone to form in harmful concentrations in the air. As a result, it is known mainly as a summertime air pollutant. Many urban areas tend to have high levels of "bad" ozone, but even rural areas are also subject to increased ozone.

Under the Clean Air Act (CAA), EPA has set protective health-based standards for ozone in the air we breathe. Prior to May 27, 2008, the National ambient air quality 8-hour standard (NAAQS) for ozone was 0.080 ppm (157 micrograms per cubic meter-- $\mu\text{g}/\text{m}^3$). In May of 2008, EPA revised the 8-hour standard to 0.075 ppm (147 $\mu\text{g}/\text{m}^3$). The EPA proposed a new primary and secondary ozone standard in the Federal Register on Tuesday Jan. 19, 2010. The final standard is expected to be issued by August 31, 2010. The new primary standard was proposed as a range from 0.060 ppm - 0.070 ppm - daily maximum 8-hour average. This is a proposed standard, and we are unaware of what the actual standard will be.

According to the EPA AirData website, ozone levels have been monitored in the PRB since 2001. An exceedance of the ozone 8-hour standard occurs if 4th-highest daily maximum value is above the level of the standard (0.08 ppm prior to 2008 and 0.075 ppm since 2008). There are two ozone monitoring stations available: one with data starting in 2001 and the other with data starting in 2003. The Thunder Basin National Grassland monitor read 0.074 ppm in 2003 and 0.074 ppm in 2008. All other values read at the Thunder Basin National Grassland monitor were below that level. The south Campbell County monitor read 0.077 ppm in 2003 and 0.072 ppm in 2007. All other values read at the Thunder Basin National Grassland monitor were below that level.

The EIS evaluates the prevention of significant deterioration (PSD), and it is addressed in chapters 3 and 4. Section 169 of the Clean Air Act addresses visibility protection. On June 15, 2005, EPA issued final amendments to its July 1999 regional haze rule. These amendments apply to the provisions of the regional haze rule that require emission controls known as Best Available Retrofit Technology, or BART, for industrial facilities emitting air pollutants that reduce visibility. The nearest Class I PSD areas to the general analysis area for this LBA are Wind Cave National Park (about 100 miles

east), and the Badlands Wilderness Area (about 150 miles east). There are also five Class II PSD areas 80 to 100 miles away from the LBA general analysis area; all others are at least 100 miles away. These are listed in table 3-8 in the FEIS. This EIS uses two tools to evaluate visibility impact. Regional modeling is used to estimate and disclose the change in the number of days that a change of 10% or more in extinction would occur by 2010, in relation to a baseline, also modeled, for 2002. On site, monitoring at Class I areas is included to show actual measured changes in visibility over the period of record (1989 to 2005). While monitoring results show annual variability in visibility impairment at the two sites illustrated in figure 3-10 in the FEIS, the trend is stable overall with some slight lessening of impairment in recent years.

We were unable to locate the statement in the EIS where BLM does not believe it has to perform an analysis of impacts to the PSD. There is a statement in section 4.2.3 explaining table 4-10, where it is clarified that the cumulative air quality modeling “did not separate PSD increment-consuming sources from those that do not consume increment.” This explains that the modeling was designed to include both known and predicted sources, regardless of regulatory status.

Because the WDEQ, Air Quality Division (AQD) requires the PRB mines to collect air quality data, which is discussed in section 3.4.2.3, the eastern PRB is one of the most intensely monitored areas in the world. According to EPA AirData, in 2007 there were six total suspended particulate (TSP) monitors, five $PM_{2.5}$ (particulates smaller than 2.5 microns in diameter) monitors and 36 PM_{10} (particulates smaller than 10 microns in diameter) monitors in the Wyoming portion of the PRB. Data for TSP dates back to 1980 and data for PM_{10} dates back to 1989. Approximately 57,000 TSP samples had been collected through 2004, and approximately 47,550 PM_{10} samples had been collected through 2007. Information about the regulatory framework, the monitoring network, and PM_{10} concentration trends since monitoring began are included in appendix F. In 2005, one exceedance of the 24-hour PM_{10} particulate standard was documented at the Antelope Mine which was attributed by WDEQ/AQD to adjacent railroad construction activity (FEIS, page 3-28).

The federal standard for particulate matter was measured as TSP until 1987. This measurement included all suspendable dust (generally less than 100 microns in diameter). In 1987, EPA changed from a TSP-based standard to a PM_{10} -based standard. In 2006, EPA again revised the air quality standards for particulate matter by changing the 24-hour fine particle standard from the previous level of $65 \mu\text{g}/\text{m}^3$ to $35 \mu\text{g}/\text{m}^3$ and revoking the annual PM_{10} standard of $50 \mu\text{g}/\text{m}^3$. EPA retained the existing annual $PM_{2.5}$ standard of $15 \mu\text{g}/\text{m}^3$ and the 24-hour PM_{10} standard of $150 \mu\text{g}/\text{m}^3$. These revisions took effect on December 18, 2006. The current federal ambient air standards are shown in table 3-3. Wyoming added the PM_{10} standard in 1989. Even with the evolution of state or federal small size particulate standards, TSP is still monitored in some PRB locations as a surrogate for PM_{10} and as an indication of overall atmospheric levels of particulate matter.

The Task 1A Report for the PRB Coal Review (BLM 2005a) documents the modeled air quality impacts of operations during a baseline year (2002), using actual emissions and operations for that year. Emissions from permitted minor sources were estimated due to unavailability of actual emissions data. The baseline year analysis evaluated impacts both within the PRB itself and at selected sensitive areas surrounding the region. The analysis specifically looked at impacts of coal mines, power plants, CBNG development, and other development activities.

As discussed in section 3.4.2.2.1, modeling tends to over-predict the 24-hour impacts of surface coal mining and, as a result, WDEQ/AQD does not consider short-term PM₁₀ modeling to be an accurate representation of short-term impacts. In view of this, a memorandum of agreement between WDEQ/AQD and EPA Region VIII, dated January 24, 1994, allows WDEQ/AQD to conduct monitoring in lieu of short-term modeling for assessing coal mining-related impacts in the PRB. This agreement also requires Wyoming to implement “Best Available Work Practice” mitigation measures at any mine where an exceedance of the PM₁₀ and PM_{2.5} NAAQS has occurred. The monitored exceedances at surface coal mines in the Wyoming PRB and the measures that WDEQ/AQD has implemented or is proposing to implement to prevent future exceedances of the PM₁₀ NAAQS are discussed in chapter 3, sections 3.4.2.1 and 3.4.2.3.

Rail transport of coal, as well as the air quality impacts related to transport, are identified and considered in the EIS (see FEIS, section 4.1.1.2.1). The amount of rail traffic was estimated for the analysis years 2010, 2015 and 2020. Based on projections of the volume of coal transport, emissions were estimated and used in dispersion modeling. The modeling results are presented in section 4.2.3 of the FEIS.

BLM as the leasing agent responsible for completing the NEPA analysis and ensuring the delineated LBA tract is available for competitive leasing is configured such as to achieve maximum economic recovery of the coal and the public receives fair market value for the public coal resource (43 CFR 3425.4). However, because leasing is a competitive process, there is no assurance the applicant will be the eventual high bidder and be granted a coal lease. BLM does not request operational information from an applicant, but rather discloses potential impacts based on accepted mining practices found in the area. The BLM would find it difficult to apply mitigation to a coal lease for actions that lie outside of our authority, and when we are not certain who will obtain the lease and the specifics of how the lease will be developed. The OSM and WDEQ are required to consider the specifics of coal mine operations, development, and reclamation. These agencies will assess site-specific conditions under their jurisdiction and will develop and apply appropriate mitigation during mine permitting. It should be noted that WDEQ/AQD issues permits to mine coal under the authority delegated them by the EPA under the CAA. In Wyoming, mines in the PRB are permitted under the CAA as regulated emission sources, and the permits identify mitigating measures that the permittee must do to comply with the permit. These measures currently in place at the Antelope mine, and typically in place at other PRB mines, are explained in the FEIS at section 3-4. AQD would be able to condition

permits as necessary to provide necessary mitigation. AQD has stated clearly that they cannot issue any permit that violates ambient air quality standards.

WildEarth Guardians/Sierra Club (January 20, 2009)

IX. The FEIS Fails to Analyze the Impacts of Connected Actions

Response

You are correct that a number of LBAs are pending in the PRB. We have grouped the applications for NEPA evaluation. Each grouped EIS considers those LBAs that are geographically clustered in that group. It also includes a comprehensive analysis of cumulative direct and indirect impacts of all reasonably foreseeable development activity, including all the applications shown on figure 1-1 of the FEIS.

LBAs are combined by mine group, in the same mine groupings that are studied in the PRB coal review. Chapter 4 discusses development in the Powder River Basin and the consequences of that development. Both low and high production scenarios with projections to the year 2020 are also discussed. Past, present and reasonably foreseeable development and the cumulative environmental consequences of that development are also detailed.

The years 2010, 2015 and 2020 were selected for the analysis of the direct, indirect and cumulative impacts in chapter 4 of the FEIS, where all the LBAs are collectively evaluated. This is the duration of the expected production of the coal reserves requested in the LBAs.

WildEarth Guardians/Sierra Club (January 20, 2009)

X. The FEIS Fails to Analyze a Range of Reasonable Alternatives

Leslie Glustrom

- **Failure to carefully consider the potential of Concentrating Solar Power and national transmission to provide significant power to the country.**

Response

The EIS addresses a full range of alternatives to the lease by application submitted by the lease applicant. The range includes an alternative which represents all lands that include coal reserves that are comparable to those applied for, which may be efficiently recovered with the LBA, which may enhance competitive interest in the tract, and which could be bypassed if not leased. On the other end of the range is the No Action Alternative. This alternative assumes that the lease as applied for is rejected, and that no lands are offered for lease.

Action alternatives assume the decision is to offer a lease, with the assumed result that the coal is leased and ultimately mined. No action assumes the coal is not offered. The affects of these alternatives are evaluated both specific to the lands that would or would

not be offered for lease, as well as the effects of leasing added to the cumulative effects of past, present, and reasonably foreseeable future PRB development.

The EIS recognizes that coal mining will continue at the mines adjacent to the proposed LBAs under any of the alternatives. This activity is permitted, and impacts of this activity would not be mitigated by any alternative to the proposed action. Your comment suggests, but does not specify, alternatives to activity already permitted. We did not include alternatives for this purpose, since they are beyond the scope of the decision options proposed in this EIS.

The BLM is a multiple use land management agency that manages the federal coal reserves under the predominantly private land surface in the Gillette area of the Powder River Basin. In the land area covered by these LBAs, only 3% of the surface ownership is federal land. Although there are many wind and solar resources that can be used for energy development, the BLM does not have authority over private land surface use and surface development. The BLM neither permits for the surface disturbance nor for the mining operations in coal mining operations. Therefore, the reasonable alternative options available for BLM to review in this EIS are leasing alternatives exploring the lease size, and shape, and the No Action Alternative where leasing one or more of these LBAs does not occur.

Other forms of addressing increasing electric demand are noted in this EIS. Ongoing scientific research has identified the potential impacts of GHG emissions on the global climate. The addition of noncarbon fueled electric generation sources could reduce GHG emissions. Further, the addition of alternate sources of electric generation would conserve carbon fuels, which are not renewable in the short term, and would provide a broader portfolio of electric sources. The EIS estimates likely long term electric generation portfolios. However, the specific environmental effects of the variety of alternative electric generation technologies, including solar concentration and national transmission, are not in the scope of this EIS. These technologies would be evaluated under NEPA as they are proposed to be permitted and built.

WildEarth Guardians/Sierra Club (January 20, 2009)

XI. Need to Ensure Compliance with Mineral Leasing Act Provisions

Response

Prior to proceeding with any lease offer as a result of processing the West Antelope II LBA, BLM will ensure that the provisions of the Mineral Leasing Act are complied with. A lease cannot be issued to any entity that would result in that entity exceeding acreage limitations.

WildEarth Guardians/Sierra Club (January 20, 2009)

XII. Failure to Ensure Compliance With Surface Owner Provisions

Response

Prior to proceeding with any lease offer as a result of processing the West Antelope II LBA, BLM will ensure that the written consent of any surface owner determined qualified under the provisions of 43CFR3427 has been received.

WildEarth Guardians/Sierra Club (January 20, 2009)

XIII. Need to Use the Multiple Use Criteria in 43 CFR s. 3420.1-4 (e) (3)

Response

The referenced sections of the coal regulations were applied in the Buffalo and Casper resource management plans (RMPs) to identify areas that were to be eliminated from further consideration for coal leasing due to multiple use considerations. The findings under the so called “multiple use screen” are presented as they apply to the areas studied in response to the West Antelope II LBA. We have also addressed air and water quality, wetlands, riparian areas, and aquifers in detail as they apply to the West Antelope II LBA study area. Please see sections 3-4, 3-5,3-7,3-8 and 3-9 in the FEIS.

Leslie Glustrom

- **Failure to respond to my comments and all the scientific papers I submitted. The purpose of an EIS is to use the best science available. The papers I sent in are some of the best science we have-and they should have been summarized and cited in the Final EIS and my comments responded to.**

WildEarth Guardians/Sierra Club (January 20, 2009)

XIV. Failure to Respond to the Comments of Sierra Club Member Leslie Glustrom

Response

Leslie Glustrom has provided numerous scientific papers and articles in support of her comments. These papers deal with investigation and discussion of the phenomenon of anthropogenic climate change and alternative (to coal and fossil fuel) energy sources. We have responded to all of her comments. The discussion and summarization of studies and articles in support of comments on these subjects are beyond the scope of an EIS study addressing the BLM’s decision whether or not to offer lands for coal lease. However, we do acknowledge that the release of GHGs is a direct impact of mining, as well as the release of GHGs that occurs if the coal is used as a fuel for coal fired steam electric generation. We have estimated and disclosed the amount and type of GHGs that could result under proposed action and all alternatives to the proposed action. We have also disclosed the findings of two studies on the likely mix of energy sources in the future, recognizing the possibility that GHGs may be regulated in the future.

Powder River Basin Resource Council

II. BLM should not lease new tracts without first ensuring compliance with SMCRA's hydrologic balance protection requirements.

Response

As noted in our response to your comments on water impacts in the DEIS (Appendix J in the FEIS), SMCRA and Wyoming state law require that the surface coal mine operator provide the owner of the affected water right with water of equivalent quantity and quality.

There are a number of specific studies, under SMCRA and Wyoming law that would be done and would bear on the approval of a permit to mine any lands that might be leased because of the West Antelope II LBA. At that time, the specific plan to develop the West Antelope II LBA would be known. A cumulative Hydrologic Impact Assessment would be developed by the WDEQ/LQD to look at how the mining of the West Antelope II lease, along with any other already approved mining, would affect groundwater. The CHIA considers recharge contribution. Also a system of wells to monitor groundwater would be specified. The management of surface water flows during mining, as well as the restoration off surface water flow systems post mining would also be specified in any mining permit to develop the West Antelope II LBA if leased.

For the purposes of identifying and disclosing potential impacts, the EIS assumes that the West Antelope II LBA is offered for lease, that the successful lessee is the Antelope mine, and that the mine applies for, and is granted, a permit to mine the West Antelope II LBA in a manner similar to the mining that is already permitted on other lands at the Antelope mine. The FEIS includes an evaluation of these potential impacts in sections 3.5 and 4.2.4.

Leslie Glustrom

- **Failure to conduct additional surveys for the Ute Ladies Tresses. The surveys that have been conducted were limited in time and scope. This is not adequate when we know these flowers can lie dormant for many years.**

Response

As noted in our response to the Wild Earth Guardians' comment on Ute ladies-tresses (ULT) in the DEIS (Appendix J in the FEIS), there were a number of surveys done between 1997 and 2008, either on all or portions of the West Antelope II LBA analysis area. The surveys were completed consistent with FWS guidelines, and the survey results supported a finding that, if the tract is leased under either the proposed action or alternatives, mining of the tract may affect, but is not likely to adversely affect, Ute ladies-tresses (FEIS, Appendix I). The FWS has been consulted and concurs with this finding.

Leslie Glustrom

- **Failure to make the FEIS readable and to highlight the environmental consequences-- rather than to bury them as you have done. As BLM employees, your job is to clearly identify the laws that need to be complied with and then to clearly identify how that is happening and what the environmental consequences are. Your job is not to pave the way for the coal companies to destroy the land, heat up the planet and consume our coal unnecessarily.**
- **Failure to clearly identify all the direct, indirect and cumulative impacts of this decision as well as to identify the resources that will be irretrievably lost (coal, species, water table etc.)**

Response

We understand that the FEIS, like the DEIS, can be difficult to read, especially for highly specific and technical matters, where the resource information is detailed or the regulations require technical analysis. As pointed out in your comments on the DEIS, we have provided an executive summary of about 20 pages where the proposal, alternatives, and environmental consequences are explained and highlighted. We have also provided appendices of the more technical evaluation in order to improve readability.

We have evaluated direct, indirect, and cumulative effects of the proposed action and alternatives in some detail in chapters 3 and 4, as well as technical appendices.

WildEarth Guardians/Sierra Club (February 23, 2009)

III. The West Antelope II LBA Fails to Ensure Conformity as Required Under the Clean Air Act

Response

Direct or indirect emissions resulting from the proposed action or alternatives to the West Antelope II LBA were not identified as occurring in a non attainment area. The mining of the West Antelope II LBA, if leased and permitted, would occur in Campbell and Converse counties in Wyoming. If mined, the coal would be sold on the open coal market and would be used by the coal buyer. We have disclosed that this use would likely be by electric utilities which are regulated by agencies within that local jurisdiction to meet the requirements of the CAA. We assume the end user would be required to comply with requirements of their approved CAA emission permits.

Gary Goodman

- I am writing to oppose the Bureau of Land Management's proposal to offer the West Antelope II coal lease in the Casper Field Office of Wyoming. Coal mining in the Powder River Basin of Wyoming is fueling global warming, leading to the release of 13 percent of the nation's greenhouse gases. It's time to shift away from coal. It's time for the Bureau of Land Management to be a leader in safeguarding the climate. The health, sustainability, and prosperity of our future depend on clean energy. I call on the Bureau to take the

first, big step by rejecting the West Antelope II coal lease and embracing clean energy.

Text from Typical E-mail

To easper_wymail@blm.gov
02/04/2009 2:53 PM
cc
bcc
Subject: Please oppose the West Antelope II coal lease

Casper Field Office

Dear Ms. Bucklin:

I am writing to oppose the Bureau of Land Management's proposal to offer the West Antelope II coal lease in the Casper Field Office of Wyoming. Coal mining in the Powder River Basin of Wyoming is fueling global warming, leading to the release of 13 percent of the nation's greenhouse gases. It's time to shift away from coal. It's time for the Bureau of Land Management to be a leader in safeguarding the climate.

The health, sustainability, and prosperity of our future depends on clean energy. I call on the Bureau to take the first, big step by rejecting the West Antelope II coal lease and embracing clean energy.

Sincerely,

Response

The FEIS estimates that, according to the Energy Information Administration, about 33% of the U.S energy-related CO₂ emissions resulted from coal fired electric generation in 2006. In that year, Wyoming PRB coal was used to provide 42% of the fuel for domestic coal-fired electric generation.

The use of carbon based fuels as a primary fuel for electric generation does result in the release of a large quantity of CO₂, a greenhouse gas, as estimated and disclosed in the FEIS. A large portion of our existing domestic electric generating capacity is designed for carbon fuels. While there is presently substantial interest and potential public policy and regulation to move from carbon fuels for electric generation, the demand for electric power is not forecast to decrease.

Since neither mining the LBA reserves, nor the continued operation of a PRB mine without acquiring the proposed additional reserves, is specifically tied to any specific existing or proposed electric generation facility, the result of a production maintenance leasing decision has no direct effect on the expected release of GHGs as a result of carbon fuel use in electric generating facilities. Electric generation activity is directly influenced by consumer demand. If electricity cannot be supplied to meet demand, power prices will rise until the demand falls. Measures to reduce GHG releases are best applied at the place where the coal is consumed, because the coal consumer must comply with regulatory and price constraints, which will bear on fuel choices. Infrastructure, equipment availability, incentives and cost also determine the potential for switching to noncarbon based electric generation. Limiting one or even several point

of fuel supply will not affect coal use, because of the diverse group of national and international suppliers.

We would expect that so long as existing coal fired electric generators can operate in accord with the regulatory and cost factors in effect in the future, they would be able to acquire necessary supplies of coal from national and international coal markets. The expected result if the mines in the PRB are not able to produce into the coal market in the future is that there would be less PRB coal available, and more non-PRB coal would be used. The PRB coal has been favored in this market in the past because it is low cost, sulfur compliant, and mined land in the PRB has been demonstrated able to be reclaimed with high success and with little residual adverse land use effects compared to other coal producing areas.

The EIS, at pages 4-106-108, discloses the results of two studies of future scenarios for sources of electric generation, which anticipate that carbon fuels will still represent a significant part of the electric generation through the year 2030. The proposed leasing action in this EIS, as well as the other proposed leasing actions currently under consideration in the PRB, would extend current production at already existing mines to about year 2020.