

# Record of Decision and Resource Management Plan Amendments

## Introduction

The Powder River Basin Oil and Gas Project is a proposal of a group of oil and gas companies with leases in the Powder River Basin (PRB). They include Lance Oil and Gas (Western Gas Company), Barrett Resources Corporation (Williams), Devon Energy Corporation, Yates Petroleum Corporation, Pennaco Energy (Marathon Oil Corporation), and CMS Oil and Gas (Perenco S.A.). The companies are collectively identified as the Powder River Basin Companies (Companies).

Upon receipt of the proposal the Bureau of Land Management (BLM) prepared a Reasonable Foreseeable Development (RFD) scenario for the planning area. BLM then initiated the Environmental Impact Statement (EIS) and Proposed Plan Amendments for the Powder River Basin Oil and Gas Project.

The Final EIS (FEIS) analyzes exploration and development of oil and natural gas, including coal bed methane (CBM), in the PRB and the anticipated impacts and environmental consequences associated with exploration and development of oil and natural gas, including CBM. The FEIS updates the scope and analysis of effects for oil and gas development originally presented in the 1985 Buffalo and Platte River RMPs to include CBM and includes mitigation measures that when applied would reduce the impacts of oil and gas development activities.

Prior to approval of individual Applications for Permit to Drill (APD) or Plans of Development (POD), site-specific environmental analyses will be conducted and will be tiered to the FEIS.

This document records the decision made by the BLM concerning the proposed plan amendments for managing oil and gas operations on BLM administered public lands and federal mineral estate in the Wyoming portion of the PRB as analyzed in the FEIS.

The planning area encompasses almost 8 million acres of federal, state, and private lands (Figure 1) in all or parts of Campbell, Converse, Johnson, and Sheridan counties. Of the total surface area, BLM administers 883,061 acres (11 percent of the Project Area) and the USDA Forest Service (FS) administers 261,009 acres (3 percent of the Project Area). In addition, BLM administers the federal minerals under 4,326,704 acres (68 percent of the Project Area). Thus, about 3,182,634 acres in the planning area (40 percent) are split estate (private surface and federal minerals). The FS and the State of Wyoming are cooperating agencies in this analysis. The FS will be issuing a separate Record of Decision (ROD) for FS administered lands.

## Summary of Proposed Action and Alternatives

Three alternatives were analyzed in detail: (1) Proposed Action, (2) Proposed Action with Reduced Emission Levels and Expanded Produced Water Handling Scenarios, and (3) No Action.

**Alternative 1** – The Companies’ proposed action was combined with BLM’s Reasonably Foreseeable Development (RFD) scenario. The RFD scenario is based primarily on geology (potential for oil and gas resources to occur) and past and present oil and gas development, with consideration of other significant factors such as economics, technology, and physical limitations on access, existing or anticipated infrastructure, and transportation.

Along with industry’s proposed action, which relates only to CBM, BLM’s RFD scenario forecasts the continued drilling of an estimated 3,200 oil wells. The RFD scenario also forecasts an estimated 51,000 CBM wells in the EIS area over the next 10 years. About 25 trillion cubic feet (tcf) of CBM may be recoverable from coal beds in the PRB within Wyoming.

The Companies’ projections of CBM well drilling and production include various ancillary facilities. The ancillary facilities include access roads, pipelines to gather gas and produced water, electrical utilities, facilities to treat and compress gas and dispose of produced water, and pipelines to deliver gas under high pressure to transmission pipelines. Although the Companies would develop new wells throughout the 10-year period beginning in 2003, most drilling would occur during the first 8 years. Not all 51,000 wells would be drilled into a single coal seam. Wells drilled into different coal seams can be collocated on common well pads. The projected number of well pads is 35,589. The total numbers of wells and well pads is based on an 80-acre spacing pattern (eight pads per square mile). The 51,000 proposed CBM wells include an estimated 12,000 existing wells.

Under the Proposed Action, the Companies would construct, operate, and maintain wells and ancillary facilities in 10 of the 18 sub-watersheds that make up the Project Area. However, most of the new wells (63 percent) and facilities would be constructed in two sub-watersheds: the Upper Powder River and Upper Belle Fourche River. Sub-watersheds that would contain relatively high numbers of wells and facilities include Clear Creek, Crazy Woman Creek, Tongue River, and Little Powder River.

Overall, implementation of the Proposed Action could disturb as many as 212,000 acres, though requirements for reclamation will be imposed. This short-term disturbance would encompass about 3 percent of the Project Area, and most would be associated with construction of pipelines and roads. Long-term disturbance is projected to involve approximately 109,000 acres. Compressor stations would account for the smallest amount of the overall disturbance.

Construction of wells under the PRB EIS would begin during 2003. Generally, construction of most CBM wells would be completed over the first 8 years (by the end of 2011). The production lifetime of the wells is expected to be about 7 years, and final reclamation is expected to be completed during the 2 to 3 years after production ends.

Emphasis for water handling for Alternative 1 is untreated surface discharge. All compression would be powered by CBM.

**Alternative 2** - proposes the same number of CBM and conventional wells as the Proposed Action. However, two additional water-handling methods are analyzed: A – emphasis on infiltration, and B – emphasis on treatment for beneficial use.

There are also two air quality options: A – 50 percent of booster compression would be electrically powered, and B – 100 percent of booster compression would be electrically powered.

Alternative 2A and applicable portions of Alternative 1, relative to use of natural gas fired compressors, was the preferred alternative analyzed in the FEIS.

**Alternative 3 – No Action.** This alternative would consist of no new federal wells. Wells would be developed only on state and private mineral ownership.

Alternative 3 was determined to be the environmentally preferred alternative because there would not be any oil and gas development on BLM administered public lands and federal mineral estate.

The Department of Interior’s authority to implement a “No Action” alternative that precludes development by denying the process is, however, limited. An oil and gas lease grants the lessee the “right and privilege to drill for, mine, extract, remove, and dispose of all oil and gas deposits” in the lease lands, “subject to the terms and conditions incorporated in the lease” (Form 3110–2).

Implementation of Alternative 3 would not:

- Ø meet the Purpose and Need,
- Ø accomplish the objectives of the National Energy Policy,
- Ø prevent the financial loss of CBM through drainage, or
- Ø provide an efficient option to recover the resource.

Through the analysis process the following alternatives were eliminated from detailed consideration. The reasons for dropping these alternatives can be found in chapter 2 of the FEIS.

- Ø Return all produced water to aquifers.
- Ø Capture and treat produced water for additional beneficial uses.
- Ø Staged rate or phased development.
- Ø No action on all lands.
- Ø Discharge produced water to the surface, but ensure that water quality at the Wyoming-Montana border does not change enough to adversely affect the uses of water at and downstream of the border.
- Ø Several environmental groups developed an alternative they identify as the “Conserving Wyoming’s Heritage Alternative.” This alternative is based primarily on phased development, alternative and innovative technologies, adaptive management, the “reopening” of permits, landowner

protections, injection and treatment of produced water, and minimizing adverse effects to the full range of resources present in the Project Area.

## Decision

Based on the information contained in the FEIS, referenced supporting documentation, and other considerations described below, the decision is hereby made to approve the proposed plan amendments. The decision is to approve Alternative 2A (preferred alternative) for water and that portion of Alternative 1 regarding the use of natural gas fired compressors. Alternative 2A, and that portion of Alternative 1 relative to use of natural gas fired compressors, describes the management goals, objectives, management actions and conditions of use that will guide future management of oil and gas operations on public lands and federal mineral estate managed by BLM within the Buffalo and Platte River Resource Management Plan (RMP) areas.

This plan was prepared under the regulations implementing Federal Land Policy and Management Act (FLPMA) (43 CFR 1600). An EIS was prepared for the plan amendments in compliance with the National Environmental Policy Act (NEPA)

The RMP Amendments approved by this ROD do not change the decisions of the 1985 RMPs relative to the availability of lands for oil and gas development. All other aspects of the 1985 RMPs concerning management of oil and gas and related activities are hereby replaced with the provisions contained in the RMPs as amended. Approval of this amendment provides for the use of the BLM administered public lands and federal mineral estate under the conditions described and the level analyzed in the FEIS.

This ROD is not the final approval for the action associated with the PRB oil and gas project. BLM or FS must analyze and approve each component of the project that involves disturbance of federal lands on a site-specific basis. A separate authorization(s) from BLM or FS (and other permitting agencies) is required prior to approval of any APD, POD, Sundry Notice (SN), Right-of-way (ROW) Grant or Special-Use Permit before any construction can occur.

## Goals, Objectives, and Management Actions

The preferred alternative describes the management goals and objectives and management actions that will guide future management of oil and gas operations on BLM administered minerals within the Buffalo and Platte River RMP areas. The decisions relative to the primary issues are as follows:

### Operator Requirements

The Companies are responsible for obtaining all necessary federal, state, and county permits, and for implementing the PRB oil and gas project in an environmentally responsible manner (see Appendix A, Table A-1, Federal, State and Local Permits, Approvals, and Authorizing Actions Necessary for Construction, Operation, Maintenance and Abandonment of the PRB Oil and Gas Project).

## **Air**

As part of the permit approval process, the air quality regulatory agencies will prepare additional analysis, conduct monitoring, and require mitigation as needed to ensure compliance with all applicable standards before permits could be approved.

## **Water**

As part of the permit approval process, the water quality regulatory agencies will prepare additional analysis, conduct monitoring, and require mitigation as needed to ensure compliance with all applicable standards before permits could be approved.

### ***Water Well Agreement***

All operators on federal minerals are required to offer a Water Well Agreement as set forth in the Gillette South FEIS and the Wyodak FEIS. This agreement protects nearby water wells permitted by Wyoming State Engineer's Office (WSEO). The Companies generally offer the same agreement when they are drilling on fee and state lands (Appendix B)

### ***Montana and Wyoming Powder River Interim Water Quality Criteria Memorandum of Cooperation***

The Interim Memorandum of Cooperation (MOC) documents WDEQ's commitments and intent to protect and maintain water quality conditions in the PRB within Montana.

WDEQ's current permitting process incorporates the numeric water quality standards for electrical conductivity (EC) and sodium adsorption ratio (SAR) adopted for water bodies downstream in South Dakota, specifically drainages in the Upper Cheyenne and Upper Belle Fourche River sub-watersheds. Wyoming and Montana have entered into an interim MOC for waters downstream in Montana to protect the downstream water quality in the Powder and Little Powder River sub-watersheds while allowing for development of CBM in both states. This MOC is included as Appendix C. Interim thresholds are established for EC in the Powder River at the state line, based on monitoring data collected at the gauging station in Moorhead, Montana. The criteria for EC are expressed in monthly maximum values that are not to be exceeded. The two states are also concerned with SAR and bicarbonate, but lacked sufficient data to establish threshold criteria at the time of the MOC. Under the MOC, monitoring of the Little Powder River will include EC, SAR, and total dissolved solids (TDS) to evaluate whether levels of these constituents change appreciably from historical records. In the event that significant changes in baseline conditions are detected, the State of Wyoming would be required to investigate potential causes to determine if CBM discharges are responsible. Wyoming would be required to adjust its criteria for granting permits to ensure compliance with the spirit of the agreement.

WDEQ, through its current National Pollutant Discharge Elimination System (NPDES) permitting process, is restricting the amount of CBM discharge water that reaches the main stems to meet the short-term goal of the MOC. Discharges are limited through such mechanisms as impoundment storage, channel loss, and

other consumptive uses. Furthermore, as a matter of policy, WDEQ has elected to impose its antidegradation policy on all CBM discharges. This policy results in effluent limitations in NPDES permits for discharges of CBM produced water that equate to 20 percent of the available increment between low-flow pollutant concentrations and the relevant standards (assimilative capacity) for critical constituents. A separate antidegradation policy for barium, in which the assimilative capacity is basin-specific, is also applied to CBM discharges. Montana has accepted Wyoming's antidegradation policies to be protective of Montana's water quality.

### **Water Management Plans**

A Water Management Plan (WMP), a comprehensive document that addresses the handling of produced water during the testing and production of CBM well(s) is required to be submitted with CBM APDs or PODs. The WMP must provide adequate information for the BLM to complete site-specific NEPA analysis and to ensure compliance with all state and federal requirements prior to approval. A CBM APD or POD will not be considered complete or processed by BLM unless it contains a WMP. For details on WMPs, see Appendix D.

### **T&E**

The BLM will comply with the ESA by implementing on BLM administered minerals, when applicable, the measures prescribed in the U. S. Fish and Wildlife Service (USFWS) Biological Opinion (BO) for the FEIS. These measures are included in the Programmatic Mitigation Section in Appendix A of the ROD.

### **Sensitive Species**

BLM will take necessary actions to meet the policies set forth in sensitive species policy (BLM Manual 6849) for all sensitive species listed in the FEIS, including the greater sage grouse and black-tailed prairie dog. To help ensure BLM's activities do not contribute to the listing of the black-tailed prairie dog or greater sage grouse as threatened or endangered species (see Appendix A for mitigation measures that will be required and Appendix E for monitoring relative to these species). Protection of the prairie dog is provided for in mitigation for the black-footed ferret, primarily that "prairie dog colonies will be avoided whenever possible."

### **Cultural**

At a minimum, all areas of proposed ground disturbing activity will be intensively inventoried for cultural resources in conformance with minimal BLM Class III survey standards at the APD, POD, or SN phase of each proposed Federal undertaking. For CBM well fields or PODs, a block survey of the entire project area early in the planning phase is highly recommended by the BLM and is required by the FS. All sites within the planning area must be evaluated for eligibility under the NRHP.

Specific plans for avoidance and protection or minimization of adverse direct or indirect effects would be recommended for any historic properties within the areas of potential effect of proposed project activities. Prior to implementation, these plans must be approved by the BLM or FS, as appropriate, State Historic

Preservation Office (SHPO), and, if applicable, by the private surface owner. Such plans might include, but are not limited to the following constraints, stipulations, or actions:

- ∅ Relocation, redesign, or constraint of project facilities and infrastructure to avoid or minimize earth disturbance within historic properties or contributing portions of historic properties or to avoid or minimize indirect effects or intrusions caused by vibration, dust, exhaust, or noise. This may include barricading or fencing of sensitive areas and buffer zones.
- ∅ Relocation, redesign, or constraint of project facilities and infrastructure to avoid or minimize visual intrusion on a sensitive historic, traditional, or religious setting. This might include low profile facilities, non-intrusive colors, landscaping, berms, screening with vegetation, or other measures to minimize visual impact.
- ∅ Stabilization of sediments, bedrock, or structures that could be destabilized, or could deteriorate, as a result of nearby project activities and identification of an appropriate buffer zone.
- ∅ Restriction or prevention of access to sensitive areas.
- ∅ Rehabilitation of buildings or structures, or protective screening of art work to minimize deterioration.
- ∅ Detailed documentation, possibly including archival photo documentation, of contributing structures, landscape features, or aspects of historic setting that cannot feasibly be avoided. In some cases it may be feasible to restore some of these contributing features after construction has been completed.
- ∅ Detailed recordation or data recovery of the essential contributing elements of a historic property that cannot be avoided or protected. Recordation may include archival, documentary, and contextual research related to the historic property in addition to site documentation. Data recovery is the systematic recovery of data important in history or prehistory for which the property is considered eligible. Data recovery for prehistoric or historic archaeological sites typically entails excavation of buried materials and detailed documentation of stratigraphic context.

## **Vegetation**

An Integrated Pest Management Plan (IPMP) will be required to be submitted with the APD if the location of the well or POD falls within an area of identified noxious weeds. For details on the IPMP see Appendix F.

## **Reclamation**

Phased reclamation plans will be submitted to the Buffalo Field Office (BFO) and Casper Field Office (CFO) for approval prior to individual CBM POD facility abandonment. These plans will be submitted as a Notice of Intent (NOI) SN for individual facilities, such as well locations, pipelines, discharge points, and impoundments, because they are no longer needed.

## **Areas of Critical Environmental Concern**

The Sierra Club of Wyoming petitioned the BFO during the scoping process to nominate areas for designation as outlined in the BLM's 1617.8 Manual guide-

lines for Designation of Areas of Critical Environmental Concern, (ACEC). These designations apply only to public lands.

Before an area is nominated for ACEC designation the area must meet both the relevance and importance criteria (43 CFR 1610.7-2) and BLM Manual 1613, to become eligible for further consideration.

Of the eight areas reviewed, the BLM administered lands on two areas were found to not meet the criteria and were dropped from further consideration. The BLM administered lands on 6 proposed ACECs were found to meet the criteria and were retained for further consideration (FEIS Appendix R).

The six areas that met the criteria for relevance and importance are being deferred for designation until such time as an amendment specific to their designation or revision of the Buffalo RMP is conducted. Any future land use planning process addressing these areas will provide an opportunity for the public to provide comments on the findings in this evaluation. A decision to not designate part or all of the proposed area as an ACEC does not require the preparation of a plan amendment and is exempt from NEPA.

As determined in the analysis, no interim management was determined to be needed for the six areas in order to maintain the relevance or importance criteria considerations. It was determined that the existing lease stipulations, COA and programmatic mitigation would provide adequate mitigation. However, when APDs are received that encompass these areas, mitigation measures will be re-evaluated and/or additional site-specific mitigation would be implemented to ensure protection of values for meeting the relevance and importance criteria.

## **Operations on Spilt Estate Lands**

The BLM, under FLPMA, must identify how the federal mineral estate will be managed, including identification of lease stipulations. To meet the consistency requirements of FLPMA, the same standards used for environmental protection of Federal surface are also applied to the federal mineral portion of split estate lands (private surface underlain by federal minerals).

The impacts to surface resources and surface uses from BLM-authorized mineral development must be considered not only on BLM administered public lands but also on split-estate lands.

The BLM also has the authority and responsibility to impose restrictions deriving from applicable law and regulation; implement stipulations developed through the Land Use Planning process; enforce lease terms and provisions of on-shore orders and take reasonable measures to avoid or minimize adverse environmental impacts that may result from federally authorized lease activities regardless of surface ownership.

The analysis documented in the FEIS and the decisions made in this ROD are pertinent to all Federal oil and gas lease lands, including split estate, and are subject to all applicable statutes. This includes all of the identified mitigation and Standard COA in the ROD. It is important to understand that BLM only imposes mitigation and COA on the Companies as a result of site-specific environmental

analyses of APDs, PODs, and SNs. These measures are not applied to dictate to the surface owner how to manage his or her property, but are only applied to the Company to ensure environmentally sound oil and gas development in conformance with BLM's statutory responsibilities. BLM specialists consult with private landowners on split-estate situations during the APD, POD, and SN review and approval process to ensure their involvement. Private landowner views, in addition to the effect that implementing possible mitigation and COA might have on the use of their surface, are always carefully considered by BLM in the approval of split-estate federal lease actions.

BLM cannot approve APDs, PODs, or subsequent SNs on federal leases until all applicable federal statutory requirements have been met. In some instances, a COA may be applied to meet a statutory requirement.

### **Interagency Work Groups**

The BLM and WDEQ will work with the Montana Department of Environmental Quality, EPA, National Park Service, FS, and other federal, state, and tribal authorities to establish interagency working group(s) for CBM development in the PRB. The working group(s) will be responsible for guiding and designing the monitoring to validate the accepted mitigation measures and to ensure each agency's actions achieve compliance with applicable air and water quality standards across jurisdictional boundaries. In order to ensure consistency, the interagency work group will also coordinate with other work groups established to address CBM development in Montana.

The interagency working group(s) will, of necessity, depend upon the regulatory and management policies of the WDEQ as the agency with air and water quality primacy. Each agency within the working group(s) will maintain their regulatory authorities throughout the process.

### **Management Considerations**

The FEIS fully complies with BLM's multiple use mission while considering and providing for responsible development of important oil and gas resources as described in FLPMA.

The FEIS considers the use and/or protection of the full extent of the resources managed by BLM, including important energy and natural resources available in the planning area. While the plan amendments support the development of oil and gas resources, they also include the application of mitigation measures to minimize or avoid impacts to resources or land uses from oil and gas activities and prevent unnecessary or undue degradation. In addition to the mitigation measures included in the plan amendments, lease stipulations may be applied to protect critical resource values. Other protective measures may be required at the APD stage to mitigate site-specific impacts when not inconsistent with lease rights granted or specific provisions of the lease.

The decision to approve the plan amendments for the Buffalo and Platte River RMPs takes into account statutory, legal, and national policy considerations. The analysis in the DEIS and FEIS was based on evaluation of the planning areas for

oil and gas development and the identification of sensitive natural and cultural resources. The FEIS evaluated the effects of surface disturbance on these resources, and identified protective measures for consideration on a case-by-case basis to avoid or reduce impacts on important land uses and other resource values. The constraints placed on oil and gas development were reviewed in light of resource protection and where possible, major conflicts were resolved to provide a balance between protection of sensitive resources and sound practices for development of oil and gas resources. The decision also was based on input provided by and received from the public, industry, as well as other federal and state agencies. Through the review process many practicable methods to reduce environmental harm, without being overly restrictive to oil and gas exploration and development, were incorporated into these plan amendments.

Impacts identified for the preferred alternative are acceptable for the following reasons: 1) as the nation's largest land manager, the Department of the Interior, through the BLM, plays a major role in implementing the National Energy Policy developed by President Bush; 2) the National Energy Policy promotes the production of reliable, affordable and environmentally clean energy; 3) among the Nation's most pressing concerns is to reduce our reliance on foreign oil and gas while protecting the environment; 4) BLM-administered lands contain world-class energy and mineral resources, vital to the National interest; 5) the vast energy and mineral resources under BLM's jurisdiction places the agency in the key role of ensuring that our country has an adequate supply of energy necessary for the safety and security of our families, our communities and our Nation; 6) CBM is available on public lands and BLM has a multiple use mission under FLPMA; 7) the preferred alternative is an environmentally sound alternative; and 8) the approved alternative complies with laws and regulations.

In addition, the decision to allow development as described in the selected alternative facilitates protection of the financial interest of the United States by preventing drainage of federal minerals.

Based on the amount of public interest in air and water quality issues the following management considerations were additional factors in the decision.

## **Air Quality**

For Alternative 1, (natural gas fired compression engines) the analysis documents that the benefits to air quality and visibility from electrifying half or all of the booster compressors is negligible and would be insufficient to justify the additional costs of requiring the Companies to use electric booster compressors. Additionally, construction of new power generation sources to provide electricity to these compressors and associated distribution lines would be required. Also, the Companies would build relatively few booster compressors on surface owned by the federal government and BLM does not have the ability to require electrification of compressors constructed off federal surface. The State of Wyoming is responsible for permitting the compressors. The need for electrical compression as a condition of approval is best developed based on a case by case review of the emissions permit applications to be issued by the WDEQ. Choosing this option does not preclude the WDEQ from requiring the use of electric compression if determined to be necessary during its permitting process. This gives the WDEQ

maximum flexibility to permit facilities in the most economical way that complies with applicable national and state air quality standards.

## **Water Quality**

Although implementation of Alternative 2A for water may disturb more land and cost more than Alternative 1, BLM selected Alternative 2A with the emphasis on infiltration of produced water because Alternative 2A involves separate water management strategies for each sub-watershed that align with Wyoming Department of Environmental Quality's (WDEQ) current approach to permitting; the water management plans required under Alternative 2A would minimize the volume of water that reaches the main-stems in the sub-watersheds of the Little Powder River, Powder River, and Tongue River, reducing the potential for adverse effects on the water quality in the sub-basins most sensitive to potential changes in water quality, and most heavily used by irrigators; Alternative 2A would maximize local beneficial use of the produced water rather than discharging the water downstream where the state and surface owners get no benefit from this resource; Alternative 2A maximizes infiltration and storage of the produced water into the shallow aquifers of Wyoming, rather than having this resource pumped into surface waters that leave the state. This infiltration also would help with deeper aquifer recharge in the PRB; Alternative 2A encourages treatment of produced water, where feasible and practicable.

## **Summary**

Because the benefits to the nation from development of oil and gas resources in the PRB are substantial, and can be developed through careful planning, coordination and consultation with federal and state agencies and tribes and in an environmentally sensitive manner, amending the RMPs as described above will best balance the need for energy with environmental protection.

## **Mitigation Measures Accepted for Implementation**

The mitigation measures adopted for implementation are described in detail in Appendix A. These mitigation measures, as identified to date, represent all practicable means to avoid or minimize environmental harm from the approved alternative. Some of the mitigation measures identified in Chapter 4 of the FEIS, in the Standard COA (Appendix C of the FEIS), Programmatic Mitigation Measures Brought Forward (FEIS Appendix M) and in the Water Management Plan FEIS Appendix I, have been revised. This was done, based on comments in protest and comment letters received on the FEIS, and to help clarify requirements and eliminate ambiguity. Some measures shown in the mitigation section of Chapter 4 of the FEIS were determined to be monitoring and have been moved to Appendix E of the ROD.

The Companies shall implement all the standard Conditions of Approval (COA) and programmatic mitigation measures as determined applicable, for surface disturbing activities. These COA and mitigation measures are found in Appendix A.

## **Standard Conditions of Approval**

Standard COA are those measures that apply to all oil and gas development. These COA are applied to APDs, and SNs when they are not specifically addressed in those plans by the Companies. There are standard COA that apply only to CBM activities and others that apply to both conventional oil and gas and CBM activities. They are addressed separately in Appendix A, A-4. New mitigation measures in FEIS Chapter 4 were included in this section if they were determined to be Standard COA.

## **Programmatic Mitigation**

Programmatic mitigation measures are those determined through analysis that may be appropriate to apply at the time of APD, SN, and ROW approval if site-specific conditions warrant. The FEIS, Appendix M, shows programmatic mitigation measures that were brought forward from previous NEPA documents relative to CBM development. As stated in Appendix M, “any new mitigation resulting from analysis in this EIS will be disclosed in the Record of Decision and will be added or will replace or revise the mitigation measures already identified in Appendix M. Adopted programmatic mitigation measures are shown in Appendix A, A-5. These mitigation measures can be applied by BLM, as determined necessary, following the site-specific NEPA on APD, POD, SN, or ROW, as COA and will be in addition to stipulations applied at the time of lease issuance and any Standard COA.

It is important to note that site-specific mitigation measures are also developed by the BLM authorized officer, as needed, on a case-by-case basis at the onsite inspection to address special, unanticipated issues not addressed by a programmatic mitigation or Standard COA (e.g., erosive soils, steep slopes, proximity to existing improvements, etc.).

## **Mitigation Measures Not Included in the RMP Amendments and the Rationale for Not Including Them**

These mitigation measures were included in the FEIS as additional actions that could reduce the impacts of CBM operation on certain resource values. These mitigation measures were not accepted for incorporation into the RMPs for a variety of reasons as outlined in Appendix G.

## **Monitoring**

This section describes the monitoring that will be conducted during implementation of the approved RMP amendment.

### **Land Use Plan Monitoring**

Land use plan monitoring will be conducted by BLM. BLM will monitor the plan to 1)ensure compliance with decisions; 2)measure the effectiveness or success of decisions; and 3)evaluate the validity of decisions.

## Mitigation, Monitoring, and Reporting Plan

Resource condition monitoring is conducted to ensure the effectiveness of mitigation measures and whether or not the mitigating measures and COA are achieving desired outcomes for resource conditions. Information gathered from this monitoring will guide mid-course corrections in adapting to the inevitable changes that will occur because of the new information. A comprehensive monitoring program has been outlined and will be further developed and implemented in accordance with the guidelines provided in Appendix D (FEIS) and incorporated into the ROD as Appendix E. The MMRP process will function as an oversight working group(s) for the implementation, monitoring, and enforcement programs adopted for the PRB to assure that the decisions and required measures are carried out; to inform cooperating agencies on progress in carrying out mitigation measures; and to make available to the public the results of relevant monitoring. This MMRP process is provided for under the Council of Environmental Quality Regulations 40 CFR 1505.2(c); 1505.3.

The MMRP process will involve the participation of technical agency personnel (for example, the USFWS, FS, National Park Service, EPA, WDEQ [Air Quality and Water Quality Divisions], Wyoming State Engineers Office, and others as necessary).

Specific monitoring plans that will be developed by the technical agency groups are:

- Ø Air Quality
- Ø Water – to include ground water, surface water, wetlands, and riparian
- Ø Wildlife
- Ø Aquatics
- Ø Surface disturbance/revegetation/noxious weed spread

Soil gas probe monitoring will continue and results will be documented annually.

All GIS information will be posted and available to the public at <http://www.cbmclearinghouse.info>. These electronic coverages will be updated as new information is obtained.

## Public Involvement

The public was provided with three specific opportunities for involvement in the analytical and decision-making process. These opportunities included scoping for the NEPA analysis, review of the DEIS, and protesting of the FEIS. The following sections discuss each opportunity.

### Scoping

The BLM first informed the public of its intent to conduct an environmental impact analysis of oil and gas development in the PRB during May and June 2000. In May, the agency prepared and mailed 900 copies of a Scoping Letter that so-

licited comments to assist the BLM in identifying the specific issues and concerns the agency should address in the analysis and should document in the EIS.

On June 21, 2000, formal scoping for the analysis began with publication in the *Federal Register* of a Notice of Intent (NOI) to prepare an EIS. BLM published additional notices in the *Federal Register* to correct mistakes in the first NOI and to invite the public's participation in the analysis and potential amendments to the RMPs for Buffalo and Platte River.

BLM also sent a news release to more than 60 media outlets (newspapers, radio stations, and television stations) in Wyoming and Montana. This news release announced the intent of the agencies to prepare an EIS and identified times and locations for the public meetings. Additionally, several newspapers prepared stories on the project.

In addition to the publications and mailings, the agencies held four public meetings to discuss the proposal and receive comments from the public. The first meeting was held in Sheridan, Wyoming, on June 6, 2000. The second and third meetings were held on June 7, 2000 in Buffalo, Wyoming, and on 8 June 2000 in Gillette, Wyoming. The final meeting was held in Douglas, Wyoming, on June 12, 2000. The proposal was described and participants were provided the opportunity to ask questions and submit comments at all meetings.

Finally, BLM has kept the public informed of the status of the analysis through a periodic newsletter and a project-specific web site ([www.prb-eis.org](http://www.prb-eis.org)). BLM also included project information on its Wyoming web site.

## **Review of the DEIS**

In mid-January 2002, the DEIS was distributed to the public. The distribution list included the agencies, companies, organizations, and individuals that had expressed an interest in the project during scoping. It also included several agencies and elected officials to whom BLM commonly send EISs.

The DEIS was available for public review and comment from January 18, 2002, through May 15, 2002. The BLM encouraged reviewers to submit written comments on the document during this period. In addition, the BLM held public meetings on the draft EIS on 18 through 21 March 2002, to provide the public with the opportunity to submit verbal and written comments in person.

Reviewers of the DEIS submitted a variety of comments. Most of the comments were contained in 17,940 letters. However, 28 individuals provided verbal comments at the public meetings. Overall, the comments focused on the issues identified in the DEIS and the NEPA process. FEIS Appendix S contains a summary of the comments received on the DEIS and the BLM responses to those comments.

In response to the comments, BLM made a variety of changes throughout the document. The discussion of the alternatives in Chapter 2 was revised to address errors in some calculations, update information in response to WDEQ's changes in its procedures for permitting disposal of water produced from CBM wells, and to expand and clarify information on the alternatives. For example, a graph showing the cumulative number of CBM wells producing by year was added and

WDEQ revised the distributions of methods for handling water produced from CBM wells. Certain assumptions changed to reflect conditions more accurately. The cumulative analysis for air and surface water was coordinated with BLM Montana and cooperators and was combined for this EIS and the Statewide Montana EIS. Discussion of the affected environment in Chapter 3 was expanded to provide at least some of the additional information requested in the comments, particularly the description of biological resources. Throughout Chapter 4, the discussion of environmental consequences was revised and expanded to provide a clearer perception of the likely effects of the alternatives. Because of the variety of changes made throughout the document in response to comments, BLM printed the EIS in its entirety rather than printing it as an abbreviated FEIS.

## **Protest Period**

Any person who participated in the planning process and had an interest which may be adversely affected could protest. A protest could only raise those issues which were submitted for the record during the planning process. The protest had to be filed within 30 days from the date the EPA published the Notice of Availability of the FEIS for the PRB Oil and Gas Project and Proposed Plan Amendments in the Federal Register. The protest period began on January 17, 2003 and closed on February 18, 2003.

### **Issue Summary/Main Issues**

The following is a summary of the protest issues raised in the protest letters received by the Director:

**Impacts not properly assessed:** The following impacts were stated as not being properly addressed; air and water quality, ranchers, split estate owners, infiltration ponds, wildlife (sage grouse, prairie dogs, big game), recreation, Fortification Creek WSA, noxious weeds, fire, noise, socio-economics, habitat fragmentation, cumulative effects, T&E species, irrigation uses, outfitters, West Nile Virus, tax base.

**Impact assessment methodology flawed:** Protestors cited the following elements as assessment methodology flaws; faulty assumptions, impact analysis deferred to APD stage, did not consider phased development, new and innovative technologies and directional drilling, scope of analysis too broad.

**Document inadequate:** Protestors felt the document was inadequate because; no "hard look" was taken, a DEIS supplement was not prepared, the range of alternatives and purpose and need was too narrow, changes to preferred alternative occurred, BLM failed to look at leasing and effects on other RMP decisions, of a conflict of interest in employing a NEPA contractor who also does work for companies, there was insufficient time to comment, the document was misleading, agency and public comments were not considered.

**Other:** Other issues that were raised included; existing leases are not valid, WOC IBLA case not considered, inadequate reclamation practices and bonding, mitigation inadequate, new mitigation measures unfounded, inadequate inventories, monitoring plans not described, inadequate management of ACECs.

## Protest Resolution

The resolution of protests is the responsibility of the Assistant Director for Renewable Resources of the BLM whose decision is the final decision of the Department of the Interior. The Assistant Director received 132 protest letters. Of these 132 letters, 23 were determined to have standing by previously participating in the planning process. The Assistant Director also received approximately 400 facsimiles and 18,000 e-mails. The BLM did not consider a fax letter or an e-mail a valid protest because they did not meet the filing requirements.

Letters from protestors whom BLM determined to have standing were reviewed and protest issues and comments were identified. Each of the protest issues were responded to and those responses were included in return letters to each protestor. The Assistant Director also sent return letters to those who sent protest letters but were determined not to have standing. Letters that identified comments rather than protest issues also will be sent a letter of response after issuance of this ROD.

In addition to the letters, facsimiles, and e-mails received by the Assistant Director, the BFO also received a variety of comments. These comments were submitted in 22 letters, 1,005 comment cards, and more 600 e-mails in support of the preferred alternative. Substantive comments from these letters were considered in the decision.

Because of the reviews of the protest letters, one additional mitigation measure has been included relative to West Nile Virus.

- Ø The BLM will consult with appropriate state and county agencies regarding West Nile Virus. If determined to be necessary, a condition of approval would be applied at the time of APD approval to control for mosquitoes where CBM discharge waters that become stagnant.

The Assistant Director has determined that approval of the proposed plan amendment is consistent with the BLM's policy guidance, is based upon valid and complete information and complies with applicable laws, regulations, policies, and planning procedures.

## Consistency with Applicable Policies, Plans, and Programs

The BLM's planning regulations require that the RMPs be "consistent with officially approved or adopted resource related plans, and the policies and programs contained therein, of other federal agencies, state local, and tribal governments, so long as the guidance and resource management plans are also consistent with the purposes, policies, and programs of federal law, and regulations applicable to public lands..." (43 CFR 1610.3-2).

Throughout the process, several consultation meetings regarding the proposal were held with interested tribes attending. Federal, state, and local agencies were requested to review the amendment and to inform the BLM of any inconsistencies. The agencies and tribes did not identify any inconsistencies with other re-

source related plans. Alternative 2A is fully consistent with all applicable policies, plans and programs of other federal agencies, state, local, and tribal governments. If it is determined through monitoring or other means that such policies, plans, or programs are not being met, this decision will be modified to bring it into compliance. Of special concern is how the plan amendments will meet the applicable federal, state and tribal air and water quality requirements. The procedures for satisfying the air and water quality requirements are described in the following section.

## **Roles, Responsibilities, and Regulatory Process**

### **State of Wyoming**

#### ***Air Quality***

Air pollution impacts are limited by state, tribal, and federal regulations, standards, and implementation plans established under the Clean Air Act (CAA) and administered by the applicable air quality regulatory agencies (including the WDEQ – Air Quality Division [WDEQ-AQD] or the U.S. Environmental Protection Agency [EPA]). Although not applicable to the development alternatives, the Departments of Environmental Quality for Montana, South Dakota, and Nebraska have similar jurisdiction over potential air pollutant emission sources in their respective states, which can have a cumulative impact with WDEQ-AQD approved sources. Air quality regulations require proposed new, or modified existing air pollutant emission sources (including coal bed methane [CBM] compression facilities) to undergo a permitting review before their construction can begin. Therefore, the applicable air quality regulatory agencies have the primary authority and responsibility to review permit applications and to require emission permits, fees, and control devices prior to construction and/or operation. The U.S. Congress (through the CAA Section 116) also authorized local, state, and tribal air quality regulatory agencies to establish air pollution control requirements more (but not less) stringent than federal requirements. Additional site-specific air quality analysis would be performed, and additional emission control measures (including a BACT analysis and determination) may be required by the applicable air quality regulatory agencies to ensure protection of air quality.

The WDEQ has delegated responsibilities to enforce the federal Clean Air Act that requires the State to operate an approved ambient air quality monitoring network for the purpose of evaluating compliance with the NAAQS, to report air quality monitoring information to EPA, and to prepare plans for controlling air pollution.

In addition, under both the Federal Land Policy and Management Act (FLPMA) and CAA, BLM cannot authorize any activity that does not comply with all applicable local, state, tribal, and federal air quality laws, statutes, regulations, standards, and implementation plans.

The extensive air quality model includes an up-to-date inventory of existing monitoring data for the region, a concise record of pertinent weather information for future analysis, and an up-to-date emission inventory for sources permitted

since 1994 within the entire modeling domain (Air Quality Impact Assessment Technical Support Document (Argonne 2002)). The Wyoming BLM committed to work cooperatively with the National Park Service in a memorandum and with the U.S. Forest Service in a letter, both dated December 20, 2002, to address concerns regarding air quality impacts. The Montana BLM also intends to work cooperatively with both the National Park Service and the US Forest Service during implementation of this plan amendment.

### **Water Quality**

The WDEQ has responsibility under the federal Clean Water Act to monitor and assess the quality of Wyoming surface waters for pollutants, to prepare plans to control pollution, to assess water quality conditions and trends, to report them to EPA and Congress, and to identify impaired or threatened stream segments and lakes. Furthermore, the State administers a program for the prevention, abatement, and control of water pollution by issuing National Pollutant Discharge Elimination System (NPDES) permits.

Limits in NPDES permits or significance determinations will be set so that water quality standards of the receiving waters are not exceeded.

When site-specific CBM development proposals are submitted to BLM, the operator must include a Water Management Plan that describes how produced water would be managed to meet State water quality requirements. Operators are responsible for obtaining any necessary permits from WDEQ for management, treatment, or discharge of produced water.

The NPDES permitting process will be used by WDEQ to analyze discharges at the project level for CBM activities and to develop necessary permit conditions. Operations that would violate State water quality requirements will not be permitted by BLM or the State.

### **BLM**

The BLM has primary responsibility for managing the federally owned oil and gas estate. After lease issuance, operations may be conducted consistent with an approved permit. Proposed drilling and associated activities must be approved before beginning operations. The operator must file an APD, POD or Sundry Notice that must be approved according to (1) lease stipulations; (2) onshore oil and gas orders; and (3) regulations and laws. All actions must also conform or be consistent with the Buffalo and Platte River RMPs. The steps required to obtain approval to drill and conduct surface operations are as follows.

BLM will require that CBM projects be submitted as a POD. A POD is a group of wells and their supporting infrastructure (such as roads, pipelines, power lines, water discharge points, booster stations, and compressor stations) for a geographic area or sub-watershed. The POD helps the operators develop a logical, economical, environmentally-sound CBM project that the BLM can efficiently process and approve.

Before drilling an oil or gas well on federal minerals, a Notice of Staking (NOS) APD or POD must be filed by the lessee or operator for approval with the appro-

priate BLM office. The operator may file a NOS to notify BLM that a proposed well site has been staked and signals the need for a site inspection. Filing of a NOS starts the required 30 day public posting period. A NOS is not accepted for CBM PODs.

An APD or POD must be submitted following submission of the NOS. The APD or POD includes the proposed drilling and surface use plans, maps, statement of bond coverage, operator statements of certification, and, if CBM development, a water management plan. An APD can be submitted without filing an NOS, and posting of the APD or POD begins the 30-day public posting period.

As part of the APD or POD processing, BLM conducts a site inspection, reviews the APD or POD for completeness and accuracy, and conducts an environmental analysis of the proposal which is documented in the appropriate NEPA document. When the proposed action is on split estate, BLM invites the surface owner to attend the site inspection and provide information or requirements which can be used in the environmental analysis. BLM approves the APD or POD after completion of the environmental analysis and determining that the APD or POD requirements have been fulfilled.

The operator is required to demonstrate that a surface use agreement was offered to the surface owner to protect against losses or that an adequate bond has been secured.

These approved applications/plans will serve as the Operator's field operations guide, a copy of which will be kept on-site and in the office of the Operator. The applications/plans are as follows:

- Ø Application for Permit to Drill/Plan of Development,
- Ø Right-of-way Application, and
- Ø Cultural Clearance Reports (Class I/III).

BLM Buffalo Field Office (BFO) has prepared a CBM-APD and POD preparation guidebook designed to help operators with their submittal of PODs. This guidebook will be available at the BFO and CFO and on the BLM BFO web site, <http://www.wy.blm.gov/bfo/index.htm>.