# APPROVED RESOURCE MANAGEMENT PLAN AMENDMENT

## INTRODUCTION

The purpose of this document is to amend the RMPs by analyzing federal CBNG phased development in accordance with the U.S. District Court's directive for supplementing the BLM 2003 Final Montana Statewide Oil and Gas EIS and Proposed Amendment of the Powder River and Billings RMPs (Statewide Document).

In 2003, the BLM and the state of Montana jointly prepared the Statewide Document. The Statewide Document consisted of an analysis of the environmental impacts associated with the exploration and development of oil and gas resources, including CBNG in the Powder River and Billings RMP areas. The BLM ROD for the Statewide Document was approved on April 30, 2003 (USDI BLM, 2003g).

As a result of lawsuits filed against BLM's ROD, the U.S. District Court issued orders, dated February 25, 2005, and April 5, 2005, that required BLM to prepare an SEIS to evaluate a phased development alternative for CBNG production. The U.S. District Court also advised the BLM to include the proposed Tongue River Railroad in the cumulative impact analysis and analyze the effectiveness of water well mitigation agreements. This FSEIS provides additional information and analyses regarding the topics identified by the U.S. District Court. Additionally, this FSEIS updates the Statewide Document with new information and reflects any changes in policies, regulations, or activities since that document was approved.

Several federal agencies, sovereign tribal governments, and state agencies, as well as local county governments, were involved in the development and preparation of this FSEIS. Cooperating agencies include the Bureau of Indian Affairs, Department of Energy, EPA, U.S. Army Corps of Engineers, MDEQ, MBOGC, and the following counties: Big Horn, Carbon, Golden Valley, Musselshell, Powder River, Rosebud, Treasure, and Yellowstone. The Crow Tribe of Indians and the Lower Brule Sioux Tribe signed Memoranda of Understanding with BLM to participate as cooperating agencies. The Northern Cheyenne Tribe also helped to prepare the FSEIS.

The planning area for the ROD applies to BLM administered lands and minerals in the Powder River and Billings RMP areas (Map 1-1). The Powder River RMP Area encompasses the southeastern corner of Montana, including Powder River and Treasure counties, and portions of Big Horn, Carter, Custer, and Rosebud counties (approximately 1,080,675 acres of federally managed surface and 4,103,700 acres of federal mineral estate). The Billings RMP Area comprises the south-central portion of Montana consisting of Carbon, Golden Valley, Musselshell, Stillwater, Sweet Grass, Wheatland, and Yellowstone counties and the remaining portion of Big Horn County (approximately 425,336 acres of federally managed surface and 906,084 acres of federal mineral estate).

In May 2001, the President's National Energy Policy Development Group issued recommendations for developing and implementing a comprehensive long-term strategy to promote dependable, affordable, and environmentally sound energy for the future. At the same time the President issued Executive Order 13212, "Actions to Expedite Energy-Related Projects" in which agencies are ordered to "...take other actions as necessary to accelerate the completion of such projects, while maintaining safety, public health, and environmental protections."

The FLPMA [43 USC 1701.102 (a) (7)] directs BLM to manage public lands "in a manner which recognizes the Nation's need for domestic sources of minerals, food, timber and fiber from the public lands including implementation of the Mining and Minerals Policy Act of 1970 (84 Stat. 1876, 30 U.S.C. 21a) as it pertains to the public lands…"

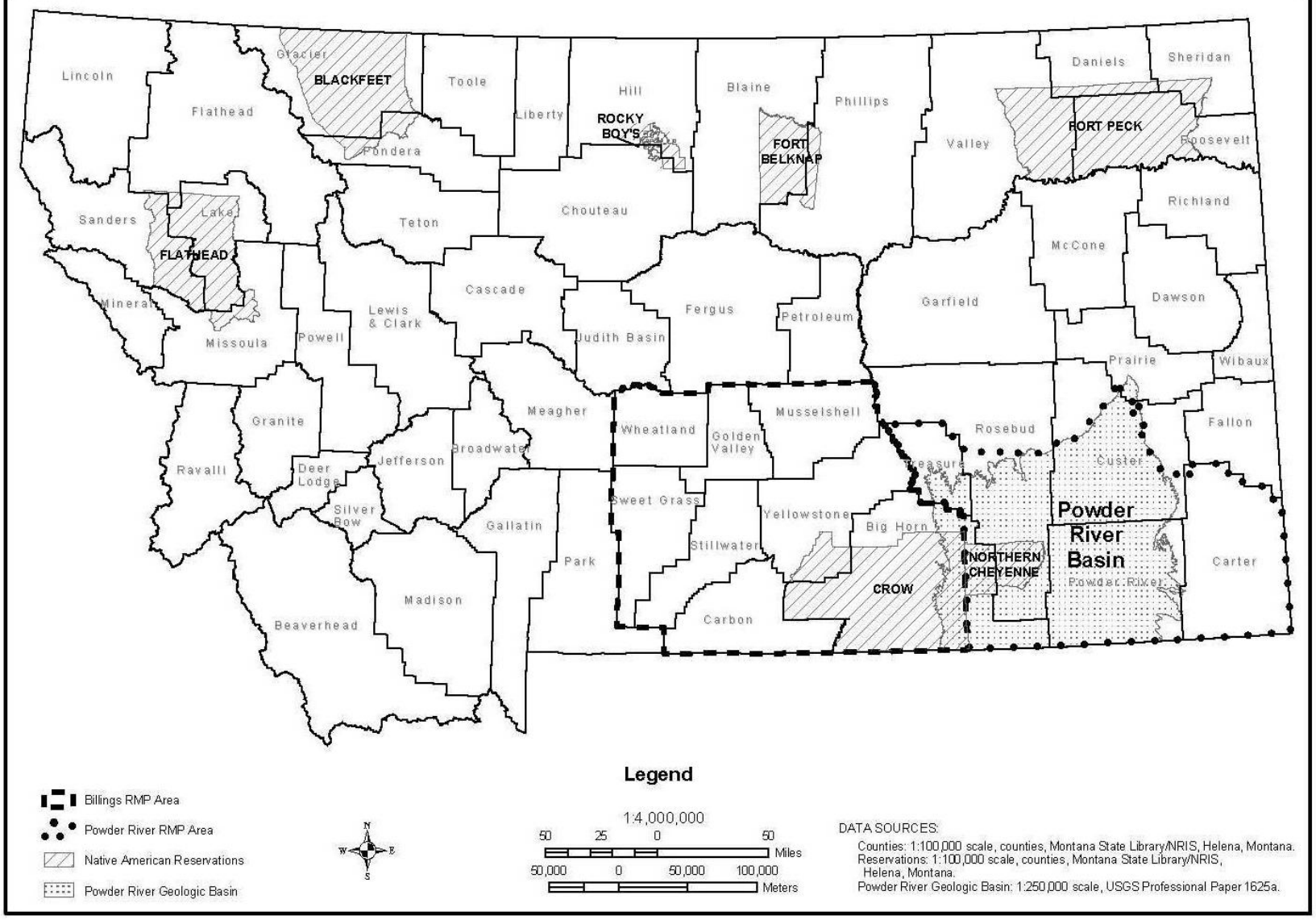
The use of public lands and federal mineral estate for the development of reliable domestic sources of energy is consistent with the recommendations of the Energy Policy Development Group, Executive Order 13212, and FLPMA. The FSEIS was used to analyze options for BLM to change its planning decision by considering oil and gas management options, including mitigating measures, that will help address the environmental and social impacts related to CBNG activities.

## ISSUES

### Issues Identified for the Statewide Document

This section presents planning issues identified through the public scoping process held in January 2000 and the BLM and state planning activities. The issues raised were in relation to

**Map 1-1: Planning Area - Billings and Powder River RMP Areas**



CBNG development and were included in the initial Statewide Document.

## Air Quality and Climate

- Reduction in visibility as a result of emission increases impacting the Northern Cheyenne Indian Reservation Class I area
- Air quality impacts from oil- and gas-related activities
- Dust and emissions associated with road and drill pad construction, drilling operations, production, and compression
- Creation or release of harmful gases (hydrogen sulfide) and venting
- Consistency with the air quality model currently being developed for the Powder River EIS through the BLM Buffalo Field Office, Wyoming
- Release of greenhouse gases and effect on global warming
- Changes in ambient air quality and how this relates to objectives for minimizing regional haze based on the "Regional Haze Rule"
- Changes in climate associated with CBNG development

## Cultural Resources

- Avoidance of direct and indirect disturbances to cultural resources may precipitate the development of targeted inventory and evaluation strategies in the planning stages of field development
- Impacts on the qualities of a cultural resource site affecting its eligibility for the National Register of Historic Places
- Increased access for oil and gas exploration and development may result in inadvertent, indirect, and cumulative effects to cultural resources
- Identification of specific districts or localities in which oil and gas development may be incompatible with existing cultural values
- Identification of areas of critical environmental concern

## Geology and Minerals

- Re-establish hydrologic balance and functionality after CBNG development so that adjacent or nearby coal companies can recover their bonds and determine effects on aquifer reconstruction in coal mine areas
- Discharge of CBNG-produced waters could affect new coal mines if entering the mine permit boundaries
- Effects on oil and gas development from other resource protection measures
- Loss of methane resource because of venting from coal mines
- Drainage of methane from federal minerals from offsetting state and private wells
- Quantity of methane recovered
- Effect of over-pumping CBNG water on gas recovery
- Subsurface coal fires
- Potential loss of coal production due to CBNG development

## Hazardous Materials and Waste Management

- Use of hazardous materials and potential for misuse as a part of CBNG development

## Hydrology

### *Groundwater*

- Produced water quality and appropriate beneficial reuses
- Drawdown of aquifers and drying up of natural springs due to CBNG production
- Appropriate water management alternatives
- Water quality impacts
- Water rights conflicts
- Changes in pumping rate and cumulative drawdown due to CBNG development
- Impacts on down- and up-gradient water resources in both confined and unconfined aquifers
- Long-term effects of CBNG pumping on aquifer recharge and groundwater resources
- Effects on DNRC established Powder River Basin Controlled Groundwater Area
- Shallow (Class V) and deep (Class II) injection of produced water opportunities

### *Surface Water*

- Effect of high sodium adsorption ratio (SAR) and increased flow rates on eroding stream channels
- Impacts on water quality from produced water
- Impacts on biota from water quality changes
- Montana Pollutant Discharge Elimination System (MPDES) discharge analysis for CBNG-produced waters
- Cumulative impacts on water quality and quantity
- Impacts on irrigated cropland
- Indian Trust Resources and Native American Concerns
- Unique Native American concerns and social impact on Native Americans
- The effects of discharged water on agriculture, fishing, hunting, and gathering of native and sacred plants as they relate to traditional values held by the tribes
- Protection of Indian trust assets with regard to resource drainage and reduction of usable assets
- Water quality preservation agreement with the Northern Cheyenne
- Effects to reservation Prevention of Significant Deterioration Class I area classification and nonattainment area
- Impacts on sites with traditional cultural importance to Native Americans in areas on and adjoining the reservations
- Increased use of public facilities and services on reservations
- Cultural and socioeconomic impacts on tribal members associated with CBNG development

## Lands and Realty

- Construction effects from drilling, roads, pipelines, and water disposal facilities
- Infrastructure needed to accommodate CBNG development would require numerous road, power line, and pipeline ROWs

## Livestock Grazing

- Impacts on grazing lands from discharge of high salinity water
- Effects on livestock and ranching operations from the increased availability of water
- Displacement of grazing lands from the development of CBNG well pads and loss of natural forage
- Change in vegetative communities to more salt-tolerant species that are generally not preferred by livestock

## Paleontological Resources

- Impacts from vandalism and unpermitted collectors as a result of increased access to remote areas
- Impacts on paleontological localities from oil and gas development

## Recreation

- Effects on hiking, hunting, and other recreational activities from CBNG development
- Displacement and disturbance of wildlife and habitat will affect hunting, hiking, and other recreational activities

## Social and Economic Values

- Increased levels of background noise and what noise mitigation would be conducted
- Impacts on social service agencies and local economics from increased population
- Decreased land values
- Escalated real estate prices
- Agricultural job loss
- Economic effect on local communities, including potential increased wage income, lower unemployment, increased local business, and potential costs of a "boom and bust" scenario
- Cost to residents from potential CBNG production affects on springs, livestock watering, and domestic water
- Social structure impacts through direct impacts on the local economy
- Revenue associated with the amount of methane recovered
- Tax revenue to local, state, and federal entities
- Effects on local economies and lifestyle from royalties to the state and federal government

- Royalties to local landowners who own mineral rights and surface disturbance payments to landowners who do not own mineral rights
- Lack of royalties or tax revenues available for Tribes from non-Indian oil and gas leases.
- Benefits from more abundant clean energy
- Effect from Wyoming CBNG development (cumulative)
- Economics of mitigation strategies
- Socioeconomic effect from lowering the water table
- Quantity of economical oil and gas resources and market implications
- Effects to agricultural productivity from sodium adsorption ratio (SAR) levels
- Effects to agriculture from air, soil, and water contamination
- Private surface owner notification prior to work
- Mechanism needed for land owner input on drilling, and leasing and mineral estate issues

## Environmental Justice

- Make distributive justice analysis part of the public comment and decision process
- Northern Cheyenne Tribal Government's reliance on operator lease fees from tribal ranchers and irrigators operating on private and reservation lands

## Soils

- High sodium effects: dispersion of soil colloids, reduced water infiltration, vegetative composition and population changes, mud pits and bogs, change in crop production yields, and changes in crops grown because of salinity tolerance levels
- Effects on soils from surface discharge flow changes: erosion on stream banks and in ephemeral drainages if these are the discharge points (increased erosion where dispersion occurs)
- Effects on irrigated soils: changes in salt content in soil profile, changes in salt composition, saline seeps downgradient from irrigated soils, dispersion of soil colloids (reduction of soil permeability and increased erosion), and changes to micro-organism populations and composition
- Development effects: disturbance during drilling at pads (exposure to wind and water erosion), and road development (loss of soil used to develop road beds, and packing soil in undeveloped roads, leading to wind erosion)
- Effects on irrigation and crop management practices: addition of additional water for leaching fraction, potential for water logging soils, modification of irrigation systems, change in cropping equipment, and effects on crops
- Effects from land subsidence and disturbance

## Vegetation

- Effect of surface discharge of high sodium or SAR water on native vegetation species that are salt intolerant, as well as on streamside vegetation
- Change in vegetative communities to more salt-tolerant species
- Loss of surface vegetation from construction
- Invasion of exotic and noxious plant species in disturbed areas
- Loss of plant productivity from development
- Protection of grasslands within the Powder River Basin
- Agricultural land withdrawal for CBNG production

## Special Status Species

- Mitigation measures or avoidance needed to manage and protect candidate and sensitive species
- Loss of threatened and endangered species from development

## Visual Resource Management

- Visual degradation from construction of production facilities, roads, powerlines, and pipelines
- Visual pollution

## Wilderness Study Areas

- Effects on wilderness study areas from CBNG exploration and development

## Wildlife

- Impacts from infrastructure development, including powerlines, and increased human disturbance on wildlife habitat availability, quality and integrity,

escape habitat, and management plans of Montana Fish, Wildlife and Parks ( MFWP)

- Fragmentation of wildlife habitat
- Effects from water availability, quality, and quantity
- Loss of animals from hazards to the habitat, such as vehicles, equipment, and increased human access
- Effects on major waterways, such as the Tongue and Powder rivers, and to aquatic ecosystems, including fisheries
- Effect on migration patterns
- Change in vegetative communities to species that are generally not preferred by wildlife
- Effects from increased noise levels

## Issues Identified for the SEIS

The following issues were identified during the public scoping process held in August and September 2005. The issues raised were in relation to CBNG phased development. These issues have been expressed in the form of questions.

## Air Quality/Climate

- How will air quality, including visibility, be protected and mitigated, especially when considering all existing and proposed sources within the region? Concerns include general air quality, visibility, and potential adverse effects to public health from cumulative emissions of fine particles and fine particle precursors.
- How will air quality, including visibility, be protected within the Northern Cheyenne Indian Reservation airshed and other Class I airsheds?
- How will impacts on water chemistry be prevented in high altitude lakes with little acid neutralizing capacity?
- How will potential for fires from the migration of methane be avoided?
- What additional impacts will the Tongue River Railroad have on regional air quality?

## Cultural Resources

- How will culturally important springs and other traditional cultural properties be affected and protected? These include all traditional cultural properties identified by the Northern Cheyenne Tribe as important such as the Rosebud and Wolf Mountains Battlefield sites and Northern Cheyenne Homestead sites in the Tongue River Valley.
- What traditional cultural properties in the RMP areas may be affected by CBNG development, and how will they be managed?

## Native American Concerns

- How will unique environmental, social, economic, and cultural impacts to Native Americans be addressed by phased development?
- How will phased development provide an economic base to benefit tribal members, while not leading to another boom-and-bust cycle?
- How will subsistence hunting, fishing, and gathering be affected and protected?
- How will phased development help BLM to fulfill its Native American treaty trust obligations?
- How will phased development provide protection to tribal reserved water rights?
- How will phased development include coordination and consultation with tribal representatives?

## Oil and Gas

- How will phased development be structured to address the national supply and demand situation and reduce U.S. dependence on foreign energy resources?
- How will RMP or landscape-scale effects be addressed by phased development?
- How will lease stipulations be used to mitigate for effects from phased development?
- How will phased development be structured to minimize infrastructure development (to reduce both costs and impacts), including coordination with neighboring landowners?
- How will reclamation and restoration be addressed by phased development?

## Phased Development

- How will phased development be planned to account for and protect other resources?

- How will resource impacts from development and other CBNG activities be evaluated and addressed throughout the implementation of phased development?
- How will phased development minimize fluctuations in populations, air quality impacts, overburdening of infrastructure and services, and increases in secondary development?
- How will drainage of federal gas resources and impacts to federal lessees be addressed or affected by phased development?

## Socioeconomics

- How will social and cultural changes be addressed by phased development? Specific concerns include infrastructure and service costs borne by state, local, and tribal governments, increased population, social pathologies (crime, alcoholism, drug use, etc.), and environmental exploitation.
- How will revenues (income lessees and state and local taxes) be affected by phased development, and how will these effects differ for reservation and off-reservation communities?
- How will phased development affect jobs, job security, local economy, and farming and ranching activities, and how will these effects differ for reservation and off-reservation communities?

## Vegetation

- How will phased development address impacts to and reclamation of sagebrush steppe and grassland ecosystems?
- How will phased development account for the relatively slow vegetative response to changes in groundwater or surface water characteristics?
- How will phased development address the spread of non-native species in affected areas?
- How will phased development affect medicinal and ceremonial native plants important to Native Americans?

## Water Resources

- How will produced water be managed by phased development?
- How will groundwater impacts be addressed by phased development? Concerns include groundwater drawdown in area or neighboring aquifers, effects on drinking water and stock watering wells, natural springs, and approved water rights.
- How will phased development address surface water effects and mitigation? Concerns include the consequences of changing surface water quality and transforming ephemeral or intermittent streams into perennial water bodies.
- How will effects from development outside the Planning Area be addressed by phased development?
- How will water well mitigation agreements mitigate the effects of aquifer drawdown and methane migration?
- How will phased development affect surface and groundwater quality?
- What phased development implementation strategy or strategies will be included (e.g., restrictions on location [specific area or coal seam], timing, or number of wells)?
- Will more than one phased development alternative be addressed in the FSEIS?
- How will phased development reduce impacts, improve mitigation options, or protect multiple-use of resources?

## Wildlife

- How will phased development address impacts on wildlife (particularly fish and other aquatic species) and habitat from changes to water quality?
- How will phased development address impacts (both site-specific and at the RMP, landscape, or ecosystem scale) on terrestrial wildlife species (and associated habitats), including song birds, burrowing owls, and bald eagles, but especially sage-grouse and prairie dogs? Particular concerns included habitat fragmentation and cumulative effects from development outside the Planning Area (especially the Wyoming Powder River Basin) and the ability to assign and quantify impacts from various anthropogenic influences.
- How will phased development address potential effects on big game and other subsistence wildlife populations relative to tribal hunting and fishing rights?

- How will phased development affect ESA-listed or potentially listed species?

## Issues or Alternatives Considered But Not Analyzed in Detail

The issues and alternatives below were considered but were not analyzed in detail because of technical, legal, or other constraints.

## Leasing

BLM oil and gas leasing decisions and lease stipulations, including those applicable to CBNG, were previously analyzed in the BLM 1992 *Final Oil and Gas RMP/EIS Amendment* (BLM 1992). Those decisions were approved in the project's ROD published in February 1994. During that process, the public was invited and encouraged to participate. Analyzing new federal lease decisions, such as closing federal areas of oil and gas estate in the Powder River and Billings RMP areas, are therefore beyond the scope of this plan. The existing lease stipulations approved in the 1994 ROD continue to be applicable to all CBNG development and have been included in Table MIN-5 of the FSEIS Minerals Appendix. CBNG is part of the oil and gas estate. Existing oil and gas leases include the right to explore and develop CBNG. Issuing separate leases for conventional oil and gas and separate leases for CBNG would require a regulatory change.

The purpose of the SEIS was to amend the RMPs by analyzing federal CBNG phased development in accordance with the U.S. District Court's directive for supplementing the BLM 2003 Final Montana Statewide Oil and Gas EIS and Proposed Amendment of the Powder River and Billings RMPs (Statewide Document). The SEIS analyzed alternatives including different levels of producing CBNG wells between the low range in Alternative A to the high range in alternatives E, F and H. The SEIS also analyzed different mitigation measures or restrictions that BLM can impose as requirements with approved permits. In addition, Alternatives F, G and H allowed analysis of phased mechanisms that BLM can use to affect the pace and place of CBNG development on federal leases, as well as the density and intensity of cumulative CBNG development. Mitigation measures and a process to evaluate projects to determine if restrictions are necessary to alter the pace or place of federal development are included in alternatives F, G and H (the Preferred Alternative). The evaluation would be conducted during the permit review process and during the production phase.

## Bonding

Establishing bond amounts specifically for CBNG development activities that cover the full cost of CBNG development was not analyzed in detail. The MBOGC and BLM regulations set minimum amounts of bonding required before approving drilling permits. The regulations allow agencies to raise the bond amount required depending on such factors as the number and type of wells, type and amount of reclamation necessary and operator history. Bond increases cannot exceed the total of estimated costs of plugging and reclamation for reclamation bonds, or the amount of uncollected royalties due and monies owed because of outstanding violations for lease bonds.

## Omega Alternative

The Omega Alternative to drill a large-diameter well through the coals and from the base of that shaft to directionally drill upward into the various coal seams in a circular pattern is an experimental technology not yet proven for CBNG. If this technology becomes viable for CBNG extraction in the future, further consideration would be given to it.

## Alternate Sources of Energy

The purpose of the FSEIS was to consider federal CBNG phased development. Considering alternate sources of energy such as wind power and fuel cells was therefore beyond the scope of the FSEIS.

## Re-Injection of Produced Water into the Same Aquifer Alternative

Re-injection of produced formation water is an accepted practice in conventional oil fields, but its use in CBNG fields would be counterproductive if the produced water was re-injected or could migrate into the CBNG producing formation. In conventional oil fields, operators have re-injected produced water since the 1920s to help maintain reservoir energy and to increase ultimate production efficiency, or to move oil preferentially to producing wells. When produced water is re-injected, original reservoir pressures are maintained; this can significantly increase the percentage of original oil in place that is produced before the field's economic limit is reached (Thomas et al. 1987). Re-injection can also sweep oil out of the reservoir toward producing wells in a waterflood, also increasing production efficiency. In these scenarios, water production is neither desired nor absolutely necessary; it is a nuisance that can be minimized with standard engineering practice. In the history of many

oil fields, oil is produced water-free for months or even years before water is seen in producing wells.

In CBNG production, formation water must be produced before reservoir pressures are sufficiently reduced for the adsorbed methane to be liberated. Water production is unavoidable and pre-requisite to CBNG production. As water is produced from the coal seam, the pressure in the seam is reduced. Research by the BLM's Casper, Wyoming, Field Office suggests that methane production begins after 20 percent of the virgin reservoir pressure is depleted; significant production does not begin until 40 percent of the pressure is depleted (Crockett and Meyer 2001). Work by Jones et al. (1992) corroborates this relationship. If methane production is directly related to depletion of reservoir pressure, then re-injection of produced water within the confines of the CBNG field will directly result in the decrease of methane production. Re-injection of CBNG-produced water into the producing formation is not a reasonable option for management of produced water. When and if this technology becomes viable, a more detailed analysis would be conducted for further consideration.

It would be reasonable to inject produced water into non-productive coal seams that were geologically separated from the CBNG field. Separation could be the result of faulting or erosion, isolating coals in the injection area even from stratigraphically equivalent productive coal seams in the CBNG field. Under Alternative B the injection of produced water into either non-productive coal seams or aquifers with water of lesser quality is analyzed. This type of injection results in preservation of the produced water resource, whether of high or low quality. The permit process could mitigate impacts to groundwater so that the quality of the injected water is matched to the quality of the formation water in the prospective injection zone.

Recently there have been discussions suggesting the mandatory injection of all CBNG-produced water. In fact, a petition was forwarded to the Montana Board of Environmental Review for consideration of this topic. In preparation of this board debate, a report entitled the "Potential Effects to Ground Water Systems Resulting from Subsurface Injection of CBM Production Water" was drafted by the Montana Bureau of Mines and Geology (Wheaton and Reddish 2005). The report states that, overall, the approach of injecting water into Fort Union Formation aquifers of the Powder River Basin has not been widely tested. Areas where favorable conditions exist appear to be limited to approximately 9 percent of the total area. Mandating injection does not mean it is technically feasible, regardless of economics. In some areas that have suitable aquifers, injection may be technically and economically feasible, as well as a means of conserving the water resource. Injection cannot, however, be regarded as appropriate in all settings. Further, mandated injection may force the use of the deeper Madison Group geologic formation that has water of lower quality than the CBNG produced water. If CBNG produced water was injected into the Madison formation, the quality of the water might make it unsuitable for beneficial uses without treatment.

## Phased Development (other than Alternatives F, G and H)

Comments received during the public scoping period varied substantially in their interpretation of what constitutes "phased development." While BLM has analyzed phased development under alternatives F, G and H, several proposed elements of phasing were not analyzed in detail. Those proposed elements and BLM's rationale for not analyzing them in detail are addressed below.

> *Fully develop one area while resting others. Subsequent development occurs as earlier areas are completed and restored.*

While BLM could authorize development for one watershed or specific area at a time, the purpose would be defeated by state and private development occurring in all areas or specific areas, which is not controlled by BLM actions. In the FSEIS, Table Min-1 in the Minerals Appendix indicates that more than one half of the wells projected in the Reasonably Foreseeable Development scenario would be state approved (9700 state approved to 8400 federal approved). The BLM does not control the approval or drilling of the state and private wells. This is illustrated by the number of state and private wells that have been drilled while the BLM was preparing the Statewide Plan (BLM 2003) and the SEIS (as of January 2008, approximately 950 CBNG wells have been developed under state authorization in Big Horn County, the most active CBNG county in the planning area). In addition, BLM has contacted the MBOGC in regard to CBNG management. They state:

> "The Board of Oil and Gas has no underlying statutory authority to direct the development of oil and gas resources; those resources are managed by their owners. The Board does have a statutory mandate to prevent the drilling of unnecessary wells, prevent economic and physical waste, and protect the correlative rights of competing mineral owners by establishing well location and set-back rules, and reservoir

spacing rules. We do not envision the implementation of a management technique that would be less protective of competing property rights and more likely to result in waste of natural gas, and the drilling of unnecessary wells."

Based on the projection of the number and location of wells, the mixed mineral ownership, and the statutory authority of the Montana Board of Oil and Gas Conservation it is reasonable to assume that development of state and private wells would not conform to specific areas identified for the development of federal wells. Therefore, it is not reasonable to fully develop one area while resting others followed by subsequent development in other specific areas when initial development areas are completed, because limiting state and private development to specific areas is not achievable.

*Areas where CBNG development cannot avoid creating significant environmental impacts should be identified and closed to leasing. Those areas that require lease stipulations in order to reduce environmental impacts to an acceptable level should also be identified.*

The rationale for not analyzing oil and gas leasing is provided in this section (see "Leasing" above). The Preferred Alternative (H) uses adaptive management to help prevent significant effects. The Monitoring Plan in the ROD Appendix C identifies resources to be monitored and BLM's management options should a threshold be met.

*Consider a phased development alternative that allows for the development of only certain coal seams at a time. When the initial zones have been depleted, produced water from other coal seams, developed in subsequent development phases could be re-injected into these depleted coal seams by converting the original wells into reinjection wells.*

The rationale for not analyzing reinjecting produced water into the same aquifer is addressed in this section (see "Re-Injection of Produced Water into the Same Aquifer" above.

*Stop issuing drilling permits during construction phases of other projects to reduce the effects of impacts associated with the other projects.*

Much of the development occurring in Montana occurs in a phased manner. Practical constraints, especially infrastructure to get the product out and state and federal permitting requirements all dictate industry's proposed development occur in phases.

# PLANNING CRITERIA

## Introduction

Planning criteria are the constraints or ground rules used by the BLM to guide and direct the development of the RMP. Planning criteria guide the resource specialists in the collection and use of inventory information, and in analyzing the management situation, defining and analyzing the alternatives, and selecting the Preferred Alternative. Planning criteria have been developed for the SEIS. They ensure that the plan is tailored to the identified issues, and unnecessary data collection and analyses are avoided. Planning criteria are based on applicable laws and regulations; agency guidance; and results of consultation and coordination with the public, other federal, state, and local agencies, and Native American tribes.

## Overall Considerations

1. The FSEIS supplements the Statewide Document. As a supplement to the Statewide Document, the FSEIS references the *Oil and Gas Final EIS and Proposed Amendment of the Billings, Powder River and South Dakota RMPs, Wyodak Coal Bed Methane Project Final EIS*, and *Board of Oil and Gas Conservation Oil and Gas Drilling and Production in Montana EIS.*
2. The FSEIS is in compliance with the FLPMA, NEPA, and all other applicable laws.
3. The FSEIS incorporates the requirements of BLM Handbook H-1624-1, *Planning for Fluid Minerals*, when considering a phased development alternative.
4. The format for the FSEIS follows the format from the Statewide Document.
5. The FSEIS has been prepared by an interdisciplinary team with specialists for recreation, fisheries, economics, sociology, archaeology, air quality, wildlife, hydrology, botany, soils, realty, minerals, and range management.
6. The Planning Area for BLM is the BLM-administered oil and gas estate in Wheatland, Golden Valley, Musselshell, Sweet Grass, Stillwater, Yellowstone, Carbon, Big Horn, Treasure, Powder River, and portions of Carter, Custer, and Rosebud counties. The Planning Area excludes those

lands administered by other agencies (for example, Forest Service or Indian reservations).

7. The analysis area is any land that may be affected, regardless of ownership.
8. Data acquisition consists of projecting and compiling existing data, supplemented with data collected and acquired via research conducted since the Statewide Document was issued, data not available for the Statewide Document analyses, and appropriate literature search.
9. The SEIS considers and analyzes the effects from CBNG phased development; the cumulative effects from CBNG production, including from the proposed Tongue River Railroad; and a discussion on how private water well mitigation agreements will help alleviate the impacts from groundwater drawdown and methane migration.
10. The alternatives chosen will be economically and technically feasible. Those alternatives, or components of those alternatives, found not to be economically or technically feasible or viable will be dropped from or modified for consideration in the range of alternatives.
11. Scoping for the FSEIS helped define phased development, and the alternative(s) chosen are reasonable, achievable, and measurable. The theme for the alternative(s) considered follows those in the Statewide Document. Those alternatives, or components of those alternatives, found not to be reasonable, achievable, and/or measurable have been considered and dropped from further analysis.
12. Assumptions for the analyses, including the reasonably foreseeable development scenario and the reasonably foreseeable future actions from the Statewide Document are carried forward in the FSEIS. Cumulative projects evaluated are carried forward with one known exception: the discussion was modified to include the cumulative effects from the proposed Tongue River Railroad.
13. The management and mitigation measures instituted since the Statewide Document ROD was signed are carried forward as features of the phased development alternatives in the FSEIS.
14. Native American consultation and coordination with the Crow and Northern Cheyenne Indian tribes located within the Planning Area as well as the Lower Brule Sioux Tribe have taken place in accordance with BLM Handbook 8120 (USDI BLM, 2004c) *Guidelines for Conducting Tribal Consultations*. The intent of consultation and coordination is to ensure that tribal needs, and those of any other affected tribes, are considered and that BLM fulfills its trust responsibilities. Consultation is government-to-government between BLM and the tribes.
15. Interagency consultation occurs as necessary to comply with regulations, rules, and BLM policy.
16. New decisions in the ROD that are based on the FSEIS are intended to be compatible with existing plans and policies of adjacent local, state, tribal, and federal agencies, as long as the adjacent jurisdictional decisions conform with the legal mandates for management of public lands.
17. Any new decision or new mitigation measures required by the FSEIS must be enforceable, reasonable, achievable, and measurable and have to lend themselves to monitoring.
18. Current management guidance will be expanded to reflect recent resource regulations and guidelines pertaining to oil and gas operations.
19. To the extent practicable, this document will be consistent with adjoining Forest Service lands and leases.
20. Decisions will comply with Rangeland Health Standards.
21. A biological assessment will be prepared based on the preferred alternative and submitted to the FWS.

## WHAT'S BEING AMENDED IN THE POWDER RIVER AND BILLINGS RMPs

### General Management

The BLM has responsibility for managing the federally owned oil and gas estate. After lease issuance, oil and gas operations may occur with an approved permit. The operator must file an Application for Permit to Drill (APD) or Sundry Notice that must comply with (1) lease

stipulations; (2) onshore oil and gas orders; and (3) regulations and laws. Upon application approval, the proposed drilling and associated operations can begin. The steps required to obtain approval to drill and conduct surface operations are summarized in Appendix A of the 1992 Final Oil and Gas RMP/EIS Amendment and in the Minerals Appendix of the BLM's Big Dry RMP (USDI BLM, 1995).

Oil and gas operators on federal leases must submit certification that a surface use agreement has been reached with surface owners of split estate lands. These are lands involving private surface overlying federal minerals.

BLM does not consider an APD or sundry notice complete until the federal lessee or operator has certified that an agreement with the surface owner exists, and the lessee or operator complies with Onshore Oil and Gas Order 1 (USDI BLM, 2007). Compliance with Onshore Oil and Gas Order 1 requires the federal mineral lessee or operator to enter into good-faith negotiations with the private surface owner to reach an agreement for protection of surface resources and reclamation of disturbed areas, or payment in lieu thereof, to compensate the surface owner for loss of crops or grazing and damages to tangible improvements, if any. If such an agreement between the surface owner and lessee or operator cannot be reached, a bond is required to protect against covered damages in the absence of an agreement.

The Stockraising Homestead Act of December 29, 1916 (43 U.S.C. 299) and regulations at 43 CFR 3814.1(c) clearly limit covered damages to grazing and associated tangible improvements. Onshore Oil and Gas Order 1 states that compensation is based on the law that reserved the mineral estate. It also states the amount of such a bond must be a minimum of $1,000 and be sufficient to: 1) pay for loss or damages; or 2) otherwise comply with the provisions of the law that reserved the mineral estate.

Under requirements of the Clean Air Act (CAA) and the FLPMA, any activity the BLM authorizes (including oil and gas development) must comply with all applicable local, state, tribal and federal air quality laws, regulations, standards, increments and implementation plans. Therefore, land use authorizations will specify that operating conditions (i.e., air pollutant emissions limits, control measures, effective stack heights, etc.) must be consistent with the applicable air regulatory agency's requirements.

Current regulations set minimum amounts (financial) of bonding required. BLM may require an increase to any bond (43 CFR 3104.5b), whenever it is determined the operator poses a risk due to factors including, but not limited to, the number and type of wells, type and amount of reclamation necessary and operator history. The increase in bond amount can be to any level BLM specifies, but it cannot exceed the total amount of uncollected royalties due, monies owed because of outstanding violations and estimated well plugging and reclamation costs.

CBNG development has the potential to impact groundwater by decreasing the pressure within the coal aquifers (drawdown). As such, it is the subject of Montana Code Annotated 82-11-175, which was enacted by the Montana Legislature in 2003 and the Montana Board of Oil and Gas Conservation (MBOGC) Order 99-99 (as revised by MBOGC Order 151-2008). This order describes the authorities that pertain to CBNG development. A copy of the order is included as an appendix to the Water Resources Technical Report (ALL 2001b). The order outlines water rights issues, mitigation, monitoring plans and jurisdiction.

Montana Code Annotated 82-11-175 requires that CBNG operators offer a reasonable mitigation agreement to each appropriator of water who holds an appropriation right or a permit to appropriate groundwater. This requirement is in effect if the point of diversion is within 1 mile of the CBNG well, or 0.5 mile of a water source that is adversely affected by the coal bed natural gas well.

Mitigation agreements must address the reduction or loss of water resources and must provide for prompt supplementation or replacement of water from any natural spring or water well adversely affected by the coal bed natural gas well.

For development of federal minerals, BLM will require operators to certify that water well mitigation agreements for the proposed federal wells have been offered in accordance with Montana Code Annotated 81-22-175. These water mitigation agreements will also have to contain language addressing how an operator will respond to water wells being rendered unusable or unsafe due to methane migration and how health- and safety-related impacts will be monitored and mitigated.

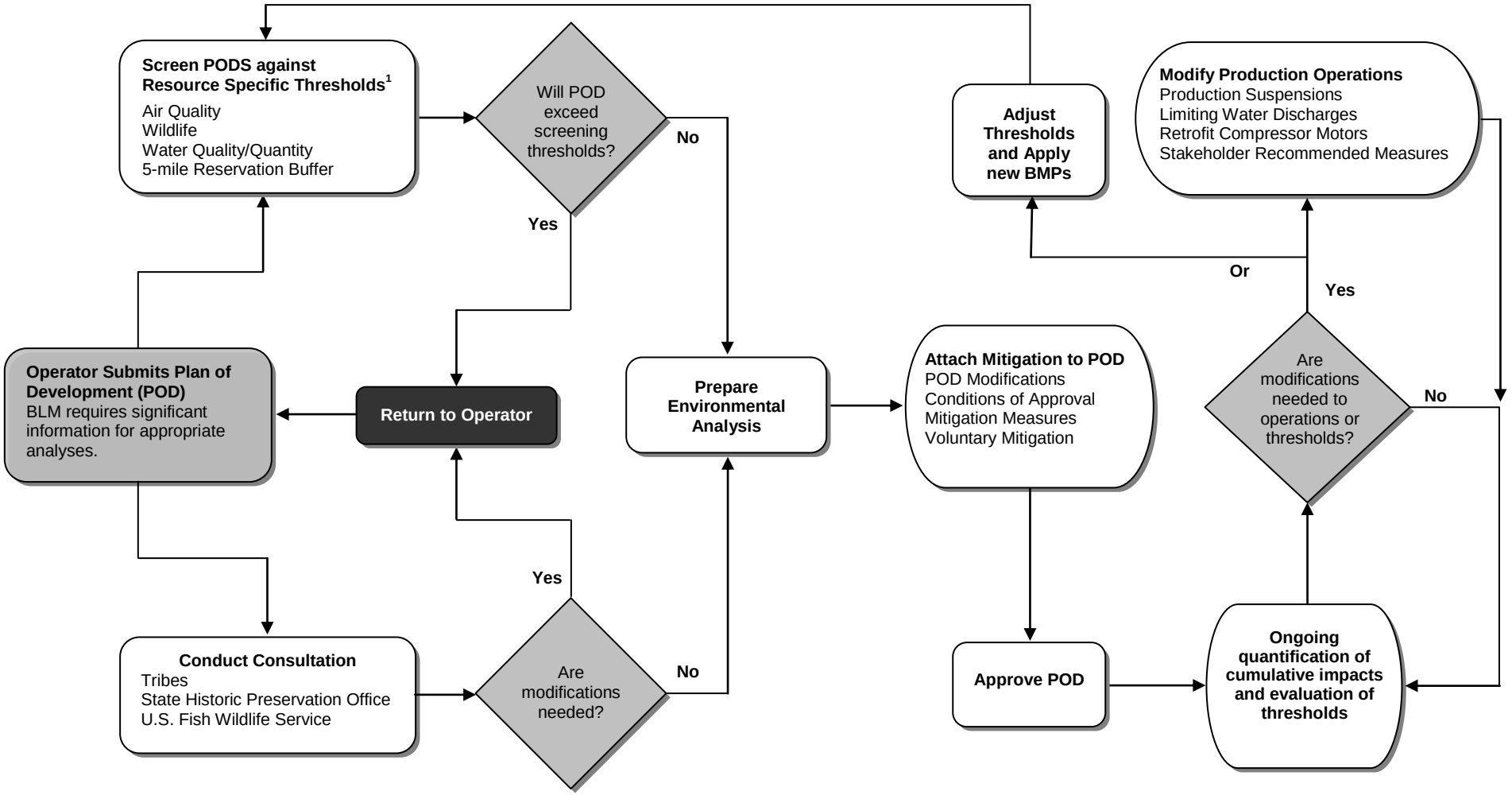
The existing lease stipulations approved in the 1994 ROD continue to be applicable to all CBNG development and have been included in Table MIN-5 of the FSEIS Minerals Appendix.

## APPROVED ALTERNATIVE H MANAGEMENT

Development in the Billings and Powder River RMP areas will be done in a phased manner through restrictions and mitigation imposed by BLM.

Figure 1 illustrates the process BLM will follow when reviewing PODs. This process involves reviewing the POD, making a permit decision, monitoring and assessing

**FIGURE 1 - Decision Flow Chart**




[1] Thresholds are displayed in Appendix C.

impacts and adjusting operations, implementing mitigation measures and reviewing thresholds. As part of the POD review, evaluation screens for water, wildlife, Native American concerns and air will be applied. Thresholds will be adjusted when monitoring data justifies a change (e.g. see "sage-grouse" in the ROD Appendix C and the WMPP in the ROD Appendix A.)

If slower development rates (fewer wells approved and drilled each year) result from the use of these screens, the overall time required for extraction of the CBNG resources may be extended. If monitoring data indicate impacts to resources are being mitigated, the pace of development may continue or increase.

## Screens to be Applied

Four evaluation screens will be used when reviewing proposals to identify impacts, develop mitigation measures and guide the decision making process.

## Water Screen

BLM recognizes the MDEQ has the lead role in managing water resources. BLM will coordinate all water monitoring efforts with MDEQ. While Onshore Order 7 reinforces BLM's approval authority for produced water disposal, it does not provide BLM with primacy for the management of water within the State of Montana. Therefore, BLM will apply the water quality screen in close coordination and under the lead of MDEQ. Close coordination will avoid duplication of effort and ensure each agency fulfills its roles relative to resource management.

If proposed untreated discharges within a watershed are projected to exceed 10 percent of the 7Q10 flow, BLM will coordinate with MDEQ to prepare an annual cumulative surface water monitoring report for that watershed. The 7Q10 is a statistical measure for the lowest flow expected for a continuous 7-day period in 10 years. This report will incorporate the U.S. Geological Survey and Discharge Monitoring Report data, and other acceptable data collected within that watershed and evaluate the data against the applicable surface water quality standards. The United States Geological Survey collects data on a wide variety of parameters and Discharge Monitoring Reports are required for discharges to surface waters under MPDES permits. MDEQ determines the parameters reported in Discharge Monitoring Reports. If the results of analysis indicate CBNG discharges have the potential to cause exceedances of surface water quality standards, BLM will coordinate with MDEQ to develop appropriate mitigation measures to prevent exceedances.

In addition, if surface water monitoring indicates permitted levels of CBNG discharge would have a potential to cause water quality standards to be exceeded, no future untreated discharge of CBNG water will be allowed from federal wells unless the regional surface water monitoring stations above and below the proposed discharge are active. If CBNG discharges cause surface water quality standards or land health standards (i.e., excessive erosion) to be exceeded, even if discharges do not exceed the 10 percent of 7Q10 threshold, no additional CBNG discharges will be allowed from federal wells upstream of the exceedances. Previously approved water management plans will be modified if monitoring indicates unacceptable impacts are occurring. Surface water monitoring requirements are detailed in the ROD Appendix C.

## Wildlife Screen

To meet the objectives of conserving wildlife habitat and the sagebrush steppe/mixed grass prairie complex in the FSEIS planning area, BLM will implement adaptive management based on available science and monitoring information. BLM will require BMP measures and alternative development schemes as permit COAs. See the WMPP in the ROD Appendix A for the current list of specific COAs and BMPs. BLM will work with CBNG operators, surface owners, Native American tribes, the FWS and MFWP to identify any additional protection measures necessary. On split estate lands, BLM recognizes that achieving the objectives of this alternative will require cooperation with surface owners.

## All Wildlife Species

Data on potentially impacted wildlife habitat will be provided before, or in association with, the operator's POD. The POD will clearly identify how development activities will be designed to minimize impacts to wildlife habitat and maintain wildlife populations within the proposed POD area.

To help protect wildlife species that rely seasonally or year-long on crucial habitats (e.g., mule deer, pronghorns, sage-grouse, other sagebrush obligates), BLM will manage disturbance in such crucial habitats (e.g., crucial brood rearing, breeding and wintering habitat) where federal mineral ownership occurs. Crucial habitat for additional species, particularly Tier 1 species identified in the Montana Comprehensive Fish and Wildlife Strategy (MFWP, 2005d), may be identified and existing crucial habitats may be modified based on additional habitat monitoring surveys, wildlife population surveys and other information provided by industry, BLM and MFWP. With more information, the crucial areas may be modified or new areas identified. If crucial habitats are

identified for species not presently addressed in this plan, additional environmental analysis and planning may be necessary.

Monitoring is described in the WMPP (including the defined methodology, responsibility and frequency). To use adaptive management and make meaningful determinations on the impact of development on wildlife habitat, up to 10 years of monitoring may be needed (see ROD appendices A and C). If science and monitoring indicate changes in development practices are warranted, these changes will be coordinated with MFWP.

BLM's management actions will be designed to affect the location and timing, as well as the density and intensity, of CBNG activities. Management may be modified if science and/or monitoring data indicate a change in

wildlife species populations within crucial habitats on or adjacent to POD areas. For example, authorizations will not be given, or the pace of development will be restricted, in crucial habitat areas that approach or exceed population change thresholds. Other examples of management actions BLM could impose include reducing the number of seasonal and/or yearlong authorized vehicle trips in existing areas of development, securing road access to limit vehicles not associated with development, and modifying reclamation requirements for disturbed sites. If the population trend is downward, but has not yet reached the threshold, interim changes in management could occur. Similarly, if populations remain consistent with adjacent trend areas or increase, development may be less restricted, or the pace of development could be increased. Other factors such as wildfire, agricultural practices, recreational activities, and disease will also be considered in determining the management for crucial habitat areas.

For mule deer and pronghorn habitat, the following thresholds will be used to initiate change:

- A 30 percent or more decline (based on MFWP adaptive harvest thresholds) in mule deer or pronghorn populations over a 3-year period relative to baseline and/or adjacent populations. Similarly, if populations remained consistent with adjacent trend areas or increase, development may be less restricted.

These population thresholds, as well as population thresholds for other species, may be modified or established prior to POD approval based on relevant science, as well as suggestions from agency partners, such as MFWP and FWS.

## Sage-Grouse Habitat

The general approach described in the All Wildlife Species section will also apply to sage-grouse habitat. Additionally, BLM will manage sage-grouse habitat to meet the following objectives:

- Maintain the connectivity of habitats.
- Manage habitat to maintain healthy sage grouse populations to serve as source populations.
- In crucial habitat areas, maintain sage-grouse habitat so that population trends follow the general magnitude of decline or increase on control leks. Changes in management of future development will occur if male attendance on leks within two miles of CBNG development declines by 25 percent over a 5-year increment. Changes may also be made if lesser declines occur in a period of less than 5 years, when compared with predetermined control leks. Management actions will include not authorizing or limiting the number of federal well sites, roads, and infrastructure and not authorizing or restricting the timing of operations conducted on federal leases. Similarly, if populations remain comparable with the control leks or increase over a 5-year monitoring period, management of development may be modified to be less restrictive, or the pace of development may be increased.

These thresholds could be further refined before POD approval based on monitoring, relevant science, as well as suggestions from agency partners such as MFWP and FWS.

When development is proposed within crucial sage-grouse habitat, BLM will rely on science, professional judgment and monitoring data to determine the acceptable level of disturbance.

The objectives for crucial sage-grouse habitat will be to maintain sage-grouse populations on the northern end of the Powder River Basin, permit genetic exchange with other populations, and ensure source populations will remain available for areas where sage-grouse may have been reduced or displaced due to CBNG development or other factors.

Sage-grouse habitat (leks, nesting, brood rearing and wintering) outside the crucial sage-grouse habitat boundaries will be managed to maintain connectivity by reducing habitat fragmentation. Management will focus on minimizing disturbance on seasonal habitats. BMPs will be used to minimize surface disturbance and these measures may be the basis for COAs. If management actions, COAs and/or BMPs are insufficient or overly restrictive, BLM will make the needed changes in order to maintain sage-grouse populations. Science and monitoring data will provide the basis for formulating

alternative development scenarios and decisions will be coordinated with MFWP.

To meet the objectives for sage-grouse habitat management, PODs will have to demonstrate specific actions to conserve sage-grouse. Actual placement of wells will depend on the operator's ability to outline a strategy where effects to sage-grouse will be minimized and where sage-grouse will not be displaced from any of the crucial habitat as a result of these actions. The following examples illustrate the types of measures that should be developed and included in the PODs:

- Within 1 mile of a lek, surface disturbance proposals will be sited to meet objectives for sage-grouse habitat management, including: avoid the loss of sagebrush, especially in linear routes (roads, flowlines and buried powerlines); avoid installation of perching structures; and keep noise disturbance levels at leks to less than 10 decibels above background noise on active leks. Special attention will be paid to proposals that will result in increased human presence, opportunities for increased predation, or loss of nesting and brood rearing habitat and function. This will not necessarily translate into no development within 1 mile of a lek, but will suggest special attention should be paid to features resulting in increased human presence, opportunities for increased predation, and loss of nesting and brood rearing habitat and function.
- Proposals for storage ponds or produced water discharge into vegetated drainages in summer sage-grouse habitat will be designed to minimize the potential for outbreaks of West Nile Virus.
- The operator will be required to map and avoid seasonal habitats when proposing placement of infrastructure.

Crucial habitat areas have been identified in only a portion of the ROD planning area. BLM will continue to identify crucial habitat areas as necessary. New areas will be managed per this section. As research and monitoring continue, BLM and partners may develop new COAs and BMPs to supplement those already contained in the WMPP and other BLM publications.

## Native American Concerns Screen

The Crow and Northern Cheyenne tribes consider groundwater and air to be critical resources for their tribal health and welfare. Tribal CBNG is an Indian trust asset. Groundwater is used on the reservations for stock watering and drinking water supplies. The tribes highly value air resources, as well. In response to these concerns, BLM will require federal lease operators to protect groundwater, CBNG, and air quality.

As development proceeds, BLM will monitor the effects to air, water and other resources of concern to the Native American tribes. BLM will approve additional APDs only if available monitoring and evaluation of new proposals indicate effects will not exceed state or federal regulatory standards and are not substantially greater than those anticipated in the FSEIS (see Table MON-1 in the ROD Appendix C.)

For proposed federal CBNG development within 5 miles of the Northern Cheyenne and Crow reservations, BLM, in consultation with the tribes, will require site-specific groundwater and air analyses (see ROD Appendix B – "Northern Cheyenne Mitigation" for details). These analyses will be submitted as part of the operator's POD submissions. The operator's analyses must demonstrate that development associated with the proposed POD will be protective of Indian trust assets (groundwater and CBNG) and air quality. BLM could disapprove additional CBNG APDs if available monitoring and modeling of new proposals indicate effects that violate state or federal regulatory standards. In such cases BLM will first consider mitigation measures that will reduce impacts so that actions will comply with such standards. If implementation-level analyses, conducted in coordination with the State of Montana, indicate that unacceptable levels of impairment to these resources will occur and could not be mitigated, BLM could disapprove the APDs. Unacceptable levels of impairment to the resources will be determined by BLM in consultation with the affected tribe(s), as appropriate. BLM may require operator(s) to install groundwater monitoring wells and air monitoring stations between the development area and the reservations to confirm the initial findings of the analyses. Modeling and monitoring groundwater will also provide critical data to determine if CBNG or other resources are being affected.

BLM will consult with affected tribes on individual PODs to identify areas of religious and cultural concern and/or traditional cultural properties. Special consideration will be provided when the operator's proposed actions are near identified traditional cultural properties such as the Rosebud Battlefield, the Wolf Mountain Battlefield, Weatherman Draw, and Sacrifice Cliff. Consultation could result in the development of mitigation measures which offset impacts to traditional cultural properties and/or places of religious or cultural concern.

## Air Quality Impact Screen

MDEQ has permitting authority over emission sources. The Environmental Protection Agency (EPA) has permitting authority in the adjacent areas of Indian Country. BLM will conduct an annual review of available monitoring data collected in designated Class I areas (Northern Cheyenne Reservation) and federally mandated Class I areas (wilderness areas) within the Montana portion of the Powder River Basin.

In addition, MDEQ has agreed to complete an annual cumulative air quality impact model to track air quality impacts of CBNG development, including relevant CBNG development in Wyoming. The MDEQ will use the current EPA-approved method depending on the size of the area being analyzed, such as AERMOD or CALPUFF. The MDEQ requires all major sources (>25 tons/year) and all oxides of nitrogen emitting sources, in counties which make up the CBNG development area, to perform near-field air quality modeling. An evaluation of potential cumulative effects for each proposed air quality permit is also required (see description of Additional Air Quality Modeling Studies in Chapter 3 of the FSEIS).

If observed effects and modeled impacts completed for the annual review by MDEQ show state or federal regulatory standards or applicable thresholds for air quality related values will be exceeded, BLM will require additional mitigation measures on development. BLM could disapprove additional CBNG APDs if available monitoring and air modeling of new proposals indicate effects that violate state or federal regulatory standards. In such cases BLM will first consider mitigation measures that will reduce impacts so that actions will comply with such standards.

To minimize potential air impacts from CBNG operations, the number of wells connected to each compressor will be maximized and natural-gas-fired or electrical compressors or generators will be required. When compressors or generators are located close to noise sensitive areas (such as occupied residences or sage grouse strutting grounds), a maximum noise level of 50 decibels measured 0.25 miles from the compressor will be required, except at sage-grouse leks. At sage-grouse leks, no more than 10 decibels above background measured at the lek will be required.

To reduce dust, operators of federal leases will have to post and enforce speed limits for their employees and contractors. Operators will work with local government to use dust suppression techniques on roads.

Given the potential for the level of development to vary, BLM and MDEQ will perform additional visibility modeling to better assess the visibility impacts as development proceeds (e.g., when exploration programs help define the limits of development within the Montana portion of the Powder River Basin). The potential for project wells to impact visibility is due to emissions of sulfur dioxide and oxides of nitrogen from compressor engines. The total potential for emissions of oxides of nitrogen from compressor engines is based on horsepower requirements, which for the high-end development scenario of 18,225 project wells drilled will be 297,680 horsepower. The visibility modeling will be performed when horsepower requirements for CBNG wells in the Montana portion of the Powder River Basin exceed 133,956. Current modeling results indicate 0 days of visibility impacts will occur on the Class I Northern Cheyenne area up to a horsepower level of 148,840. BLM has selected 90% of this value as the visibility screening threshold to ensure appropriate actions can be taken in time to mitigate visibility impacts, if needed. The Class I Northern Cheyenne area was selected as the "trigger Class I area" due to its proximity to the CBNG development, and the sensitivity to CBNG development of this Class I area when compared to other Class I areas in the region.

The visibility modeling effort will provide an updated prediction for future impacts, and assumptions will be verified or modified to properly characterize actual conditions and technological changes. The conditions that may change or become more certain as development proceeds include:

- the total number and type of wells (type – single zone completion vs. multi-zone or commingled completions);
- the pace of development;
- Best Available Control Technology and the effect on compressor emission rates;
- compressor locations;
- Compressor to well ratios; and
- limits of high development potential.

If the subsequent modeling work indicates unacceptable impacts will occur at a future point in the Powder River Basin development, the modeling work will then include mitigation scenarios that will investigate mitigation measures. Mitigation efforts will focus on compressor motors and the extent of operating compressors because it appears that gas-fired compressor motors account for approximately 90% of the overall project emissions and visibility impacts.

## STANDARD OPERATING PROCEDURES AND BEST MANAGEMENT PRACTICES

BMPs will be used, as appropriate, in CBNG development. BMP guidance is found in the Western Governors' Association April 2006 "Coal Bed Methane Best Management Practices," the "Surface Operating Standards for Oil and Gas Exploration and Development, Fourth Edition" (Gold Book) and BLM's national web site at http://www.blm.gov/bmp. The EPA has also developed BMPs for the prevention of methane emissions. These are known as the Gas STAR BMPs. The Gas STAR BMP guidance is found at http://www.epa.gov/gasstar.

In addition to applying BMPs, CBNG operators will submit a project POD outlining the proposed development of an area when requesting CBNG well densities greater than one well per 640 acres. The project POD will be drafted in consultation with the affected tribes, affected surface owner(s), and permitting agencies.

### POD Requirements

The operator is responsible for submitting a complete project POD consisting of the following. See the POD Manual (BLM 2003f) online at http://www.blm.gov/mt/st/en/fo/miles_city_field_office/cbng.html for a full description of each POD component.

- Master Drilling Plan
- Master Surface Use Plan
- Water Management Plan with evaluation of water management options
- Cultural Resource Inventory Plan or completed inventory
- Wildlife Monitoring and Mitigation Plan
- Reclamation Plan for surface disturbance
- Digital project maps depicting all infrastructure installations necessary for the project, etc.
- APD (Form 3160-3) for each federal well
- List of all permitting agencies involved
- Certification of surface use agreements
- Certification that water well mitigation agreements have been offered
- A cover letter naming the project area and requesting approval
- A list of all known existing wells in the project area, including monitoring wells
- A list of all potentially affected surface owners within the project area
- Any additional information required by the rules of MBOGC

Individual well APDs (those located at one well per 640 acres) will be accepted and processed without a project POD in accordance with requirements of Onshore Order 1. A project POD will be required before processing and approving APDs for multiple wells from an operator in the same geographic area. BLM will complete processing the project POD and individual APDs once they are technically and administratively complete and have met all BLM requirements.

The operator is responsible for implementing the approved PODs and individual well APDs.

On-site inspections will be conducted at the proposed federal well sites and associated infrastructure before any ground-disturbing actions are approved.

PODs that include development within the crucial sage-grouse habitat areas must include information that clearly demonstrates how the proposal will not displace sage-grouse from this habitat. This information will be based on recent research and science, monitoring data, and may also include alternative development schemes within these habitat areas.

### Wells and Well Pads

CBNG well spacing rules are set by the MBOGC on state and private lands. The process for spacing on federal lands is described in a Memorandum of Understanding between BLM and MBOGC. The MBOGC, however, has no authority on Indian lands. A well pad may contain multiple wells (one well per coal seam), or a single well could produce from multiple seams. Wells may be directionally or vertically drilled, depending on the surface location and desired bottomhole location.

### Coal Mines

There will be no buffer zone excluding CBNG production around active coal mines (BLM, 2006). BLM advocates the extraction of oil and gas resource, including methane, before mining and promotes the development of multiple mineral resources.

### Roads, Pipelines and Other Infrastructure

Corridors are required for placement of roads, pipelines, and utility lines in a common area of disturbance, wherever possible. Proposed roads, pipeline routes and utility line routes, will be located to follow existing routes, or areas of previous surface disturbance, or to minimize disturbance to important habitats, where possible. In the POD, the operator will also address how the surface owner, BLM, and adjacent oil and gas operators and

infrastructure companies were consulted for input into the location of roads, pipelines, and utility line routes.

There will be minimal road construction. Before approving a road, the operator, surface landowner, BLM and adjacent landowners and gas leaseholders will coordinate long-term planning for roads in the area. Discussions with affected parties will take place to help meet the transportation corridor requirement to minimize new roads.

Low-voltage (440-v) distribution powerlines will be buried. The authorized officer will approve above-ground, low-voltage distribution powerlines only if the operator can demonstrate it will not be feasible or will be impractical to bury them (technically impossible, etc.). The authorized officer can approve proposed high-voltage, aerial powerlines by application. All aerial powerlines will be constructed according to the Avian Power Line Interaction Committee (APLIC) Guidelines, 2006.

## Produced Water Management

A water management plan will be required for exploratory wells and for each project POD. The water management plan will be submitted with the APD(s). The water management plan must comply with all federal, state and local laws and regulations, including the CAA, the Montana Water Quality Act, and Onshore Order 7. The water management plan must be prepared in accordance with the Miles City CBNG POD Guidebook. The basic elements of a water management plan include the following:

- Water quality data for the produced water
- A copy of any needed discharge or injection permit(s) or applications for such permits
- Applications for unlined impoundments proposed as part of the Water Management Plan that must demonstrate that the infiltration of water will not degrade the quality of surface or subsurface waters in the area (Onshore Oil and Gas Order Number 7, Section III.D.2.)
- A water balance projection showing the anticipated rate of water production over time, the proposed water management practices (preferably beneficial uses) and the amount of water that will be managed by each of the practices over time

The operator will have to list the water management options available and provide a brief rationale for using or not using each method. At a minimum, the following will have to be addressed: injection; treatment; surface discharge; the use of infiltration, storage, or evaporation pits or reservoirs; and beneficial uses, such as wildlife and livestock watering, dust control and managed irrigation.

## Wildlife Monitoring Program and Mitigation Measures

On BLM-administered lands, impacts to wildlife will be monitored and addressed following procedures in the WMPP, in addition to applying mitigating measures that are part of the standard APD review and approval process. Impacts to wildlife, including those species on public lands and adjacent to reservations, will be monitored and addressed in accordance with the WMPP (see ROD Appendix A).

## Bald Eagles

- If a dead or injured bald eagle is located during construction or operation, the FWS Montana Field Office (406-449-5225) or the Billings Suboffice (406-247-7366) and the Service's Law Enforcement Office (406-247-7355) must be notified within 24 hours or by the end of the next working day.
- The WMPP (ROD Appendix A) of the Powder River and Billings RMPs will be implemented.
- Surveys for active bald eagle nests and winter roost sites will be conducted before APD approval. Surveys will be conducted within a 1.0 mile radius of proposed development for bald eagles and their nests and within a 1-mile radius for roosts. If the proposed CBNG site is found to be within a nesting or winter foraging area, CBNG related activities will be halted until the nest is no longer active or until winter has passed and the foraging eagles have migrated.
- The BLM leasing stipulations pertaining to bald eagles will apply and be implemented. This includes no surface occupancy within 0.5 mile of nests active within the past 7 years and within 0.5 mile of roost sites.
- Raptor inventories including bald eagles, will be conducted over the entire CBNG project area every 5 years by BLM, MFWP, or by a BLM-approved biologist.
- Nest productivity surveys will be conducted by BLM or a BLM-approved biologist in areas with one or more well locations per section and within 1 mile of the project area. Active nests within 1 mile of project-related disturbance areas will be monitored between March 1 and mid-July to determine nesting success (i.e., number of nestlings or fledglings per nest).
- A seasonal, minimum-disturbance-free buffer zone of 0.5 mile will be established for all bald eagle

nest sites (February 15 to August 15). These spatial and timing restrictions may be adjusted based on site-specific criteria with written approval from FWS.

- Signing, speed limits, or speed bumps will be placed on all project access roads to reduce mortality caused by vehicle traffic.

## Mountain Plover

- If a dead or injured mountain plover is located during construction or operation, the FWS Montana Field Office (406- 449-5225) or the Billings Suboffice (406-247-7367) and the Service's Law Enforcement Office (406-247- 7355) must be notified within 24 hours or by the end of the next working day.
- Per FWS, listing the mountain plover under the Endangered Species Act (ESA) is not warranted at this time. BLM will continue monitoring to help prevent the need to list the bird in the future.
- FWS will provide operators and BLM with educational material illustrating and describing the mountain plover, its habitat needs, life history, threats and gas development activities that may lead to the incidental taking of eggs, chicks, or adults. These materials will be provided with the requirement they be posted in common areas, circulated in a memorandum, and discussed among employees and service providers.
- BLM will determine the acreage of occupied black-tailed and white-tailed prairie dog habitat within suitable mountain plover habitat on federally managed surface and mineral estate lands. Further, a reasonable effort should be made to estimate the actual impacts, including habitat loss, that CBNG development will have on occupied black-tailed and white-tailed prairie dog acres within suitable mountain plover habitat over the entire project area. The BLM, FWS and cooperators will develop a survey protocol that may include prioritization of subsets of the project area to be analyzed.
- In areas of suitable mountain plover habitat, surveys will be conducted by BLM or by a BLM-approved biologist using the FWS protocol at a specific project area, plus a 0.5 mile buffer. Efforts will be made to identify mountain plover nesting areas not subject to CBNG development to be used as reference sites. Comparisons will be made of the trends in mountain plover nesting occupancy between these reference areas and areas experiencing CBNG development.
- Surveys for nesting mountain plovers will be conducted by appropriately trained personnel if ground-disturbing activities are anticipated to occur between April 10 and July 10. A disturbance-free buffer zone of 0.25-mile will be established around all mountain plover nesting locations between April 1 and July 31.
- No ground-disturbing activities will occur in suitable nesting habitat before surveys are conducted in compliance with FWS's Mountain Plover Survey Guidelines (FWS 2002c or more recent version, FSEIS Wildlife Appendix and Biological Assessment), regardless of the timing of the disturbance. The amount and nature of ground-disturbing activity must be limited in identified mountain plover nesting areas to avoid the abandonment of these areas.

## Sage-grouse

- A BLM, MFWP or a BLM-approved biologist will conduct sage-grouse lek inventories over the CBNG project area with high potential for development every five years. Surveys of different areas may occur during different years, with the high potential CBNG project areas surveyed at least every five years. Inventories and protocol will be consistent with the *Montana Sage Grouse Conservation Plan*, coordinated by the BLM and MFWP. In areas of development, aerial or ground inventories will be conducted annually on affected sections, two mile buffers, and selected undeveloped reference areas. Surveys may be conducted aerially or on the ground, as deemed appropriate by the BLM and MFWP. Operator may provide financial assistance.
- Reference leks are leks located in similar habitat and within close proximity to areas currently being developed. These "reference leks" will be identified by BLM and MFWP.
- Aerial or ground surveys will be used for determining lek locations. A BLM, MFWP or a BLM-approved biologist will monitor sage-grouse lek attendance within two miles of areas of development, such that all leks on these areas are surveyed annually. Data collected during these surveys will be recorded on BLM and MFWP approved data sheets and entered into the approved database. The number of males/lek in areas of development will be compared to reference leks.
- Sage-grouse winter use surveys of suitable winter habitat within two miles of a project area will be coordinated by the BLM and conducted

from November through February as deemed appropriate by these agencies. Results will be provided in interim and/or annual reports. Historical information of winter sage-grouse locations will be useful in focusing efforts in areas suspected of providing winter habitat.

### Big Game

- Elk, mule deer, white-tailed deer and pronghorn are the common big game species that occur within parts or all of the CBNG planning area. Annual big game seasonal habitat use data will be collected and made available to operators, tribes and landowners. Big game use of seasonal habitats is highly dependent upon a combination of environmental factors including terrain, forage quality, and snow depth. Therefore, it is difficult to attribute changes in habitat use to a single factor. Comparisons in trends between big game seasonal habitat reference areas and seasonal habitats associated with CBNG development may provide some insight into the response of big game to CBNG development.

## CONSISTENCY WITH APPLICABLE POLICIES, PLANS AND PROGRAMS

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

Federal, state and local agencies and tribal councils were requested to review the SEIS and to inform the BLM of any inconsistencies.

The Governor of Montana responded to BLM via a letter dated December 22, 2008. The State identified "areas of potential conflict" between the FSEIS and the State of Montana's policies and procedures. BLM's response and the ROD clarify how the areas of concern are addressed.

Based on these reviews, it is concluded that Alternative H is fully consistent with all applicable policies, plans and programs of other federal agencies, state and local governments and tribes. 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.

### Achieving Air and Water Quality Program Requirements

Oil and gas, including CBNG, exploration and development on BLM-managed lands must comply with the federal and state Clean Air and Clean Water acts. Responsibility for permitting and enforcement of the federal Clean Air and Clean Water acts has been delegated to the MDEQ. In addition, the state has its own air quality and water quality protective requirements.

Review and approval of CBNG APDs, or PODs, by BLM will be coordinated with the MDEQ in order to ensure that operating requirements needed to comply with any air and water quality standards are implemented. BLM will also work with the MBOGC, EPA, tribes, and other surface management agencies to address concerns over impacts to air and water quality in their respective jurisdictions.

### Interagency Work Group (IWG)

The BLM will continue to work with the EPA, National Park Service, Forest Service, and other federal, state, and tribal authorities via the IWG for CBNG development in the Powder River Basin. The working group is responsible for developing and recommending the monitoring and mitigation measures needed for each agency to ensure its actions achieve compliance with applicable air and water quality standards across jurisdictional boundaries. In order to ensure consistency, the IWG will also coordinate with other work groups established to address CBNG development in Wyoming.

The IWG will, of necessity, depend on the regulatory and management policies of the MDEQ as the agency with air and water quality primacy. Each agency within the working group will maintain its regulatory authorities throughout the process.

## ROLES, RESPONSIBILITIES AND REGULATORY PROCESS

Several federal agencies, sovereign tribal governments, and state agencies, as well as local county governments, were involved in the development and preparation of the FSEIS. Cooperating agencies include the Bureau of Indian Affairs, Department of Energy, EPA, U.S. Army Corps of Engineers, MDEQ, MBOGC, and the following counties: Big Horn, Carbon, Golden Valley, Musselshell, Powder River, Rosebud, Treasure, and Yellowstone. The Crow Tribe of Indians and the Lower Brule Sioux Tribe signed Memoranda of Understanding with BLM to participate

as cooperating agencies. The Northern Cheyenne Tribe also helped to prepare the SEIS. BLM has the responsibility and the authority for preparation of the SEIS.

The cooperating agencies' and collaborators' roles were to participate in the review process of all technical reports and the preliminary draft and final SEIS. These agencies and tribal governments also attended numerous meetings both public and project-specific to discuss and enumerate concerns and comments.

The BLM's authority and decisions, related to oil and gas development in the planning area are limited to the agency's stewardship, resource conservation, and resource protection responsibilities for federal lands and minerals. As conservator of the federal surface and mineral estate, the BLM has responsibility for ensuring that the federal mineral resource is conserved (not wasted) and is developed in a safe and environmentally sound manner.

Drilling oil and gas exploration and production wells on lands where mineral rights are administered by the federal government must be conducted under an approved APD issued by the BLM. In considering whether to approve applications for a permit to drill and other lease activities, the BLM must consider the possible impacts from typical exploration and development activities, and cumulative environmental effects, to ensure compliance with NEPA. The SEIS, in combination with the Statewide Document, was prepared to meet those requirements. As part of the permit process, BLM requires that adequate bond coverage is in place prior to approval of drilling activity on federal minerals.

Much of the planning area contains lands known as "split estate." These are lands where the surface ownership is different from the mineral ownership. Management of federal oil and gas on these lands is somewhat different from management on lands where both surface and mineral ownership are federal. On split estate lands where surface ownership is private, and BLM administers the minerals, BLM places necessary restrictions and requirements on permitted activities and works in cooperation with the surface owner. BLM has established policies for the management of federal oil and gas resources under the following statutes: FLPMA, NEPA, National Historic Preservation Act, and ESA (see BLM 1992, under "Split Estate" for more information).

Regulatory areas where the BLM has shared responsibilities or consultation requirements with other federal or state agencies include the following:

- Oil and gas drilling—FLPMA of 1976, 43 U.S.C. 1701 *et seq*. as amended (Public Law 94-579), and the Mineral Leasing Act of 1920, as amended, (Public Law 93-153). This is a shared responsibility with the MBOGC.
- Activities that would impact waters of the U.S. from the discharge of produced waters—BLM must comply with the Clean Water Act as provided by Sections 313 (33 U.S.C. 1323) and 401 (33 U.S.C. 1341). The National Pollutant Discharge Elimination System permits and 401 certifications are issued by the State of Montana for actions involving the discharge of water from point sources on non-Indian lands. For actions involving the discharge of water from point sources, BLM works with MDEQ on private and public lands, and with EPA on Indian lands. The BLM will not allow for the discharge of produced waters until approval is given by the state or EPA.
- Activities disturbing more than 1 acre (stormwater permitting)— The lessees must comply with Section 402 of the Clean Water Act, and with the Montana Water Quality Act (Administrative Rules of Montana, Title 17, Chapter 30, Subchapter 11). For actions involving the disturbance of more than 1 acre, BLM works with MDEQ on private and public lands, and with EPA on Indian lands. The BLM will not allow for the discharge of produced waters until approval is given by the state or EPA.
- Activities that would impact waters of the U.S. from the placement of fill materials—The U.S. Army Corps of Engineers has the responsibility in Montana for dredge and fill permits associated with CBNG activities under Section 404, General Permit No. 404. This covers activities that impact waters of the U.S. as a result of placing fill in either waters of the U.S. or jurisdictional wetlands. See 33 CFR Part 320 and 40 CFR Part 230–Section 404(b)(1) Guidelines for the Specification or Disposal Sites for Dredged and Fill Materials.
- Special status species of plants or animals—ESA, U.S.C. 1531 et seq. This is a shared responsibility with the FWS and MFWP.
- Cultural or historical resources—National Historic Preservation Act, 16 U.S.C. 470. BLM is required to consult with the Montana State Historic Preservation Office and Advisory Council on Historic Preservation in accordance with regulations found at 36 CFR 800 or through alternative procedures as specified through Programmatic Agreements. The BLM in Montana operates under a National Programmatic Agreement and a state-wide Protocol to meet its

requirements under the National Historic Preservation Act.

- Air Quality Impacts—The CAA (42 U.S.C. 7401 *et seq.*) as amended, requires that BLM comply with all applicable local, state, and federal air quality laws, regulations, standards, increments, and implementation plans regarding property under its jurisdiction or activities in which it engages (42 U.S.C. 7418). Local, state, and tribal requirements may be more (but not less) stringent than federal requirements. The implementation of federal requirements for non-reservation lands in Montana is delegated to the MDEQ. EPA regulates air quality on Indian reservations in Montana. The BLM meets its obligations under the CAA by requiring operators on federal leases to obtain all applicable emissions permits and to comply with all applicable air quality regulations, implementation plans, and standards. See also 43 U.S.C. 1732(c).
- Surface water diversions, stream channel modifications, construction of new reservoirs, reservoir supply, or dam modifications to existing reservoirs, Montana Dam Safety Act, 85-15-207 (dams greater than 50 acre-feet). This is a shared responsibility with the Montana Department of Natural Resources and Conservation, Water Resources.
- Oil and gas well spacing—Memorandum of Understanding between BLM and the MBOGC concerning Oil and Gas Well Spacing/Well Location Jurisdiction, and the Montana Oil and Gas Conservation Act, Statute 82-11-201, Establishment of Well Spacing Units. This is a shared responsibility with the MBOGC.
- Consultation with Tribal Governments—Under Executive Order 13175, BLM will provide a meaningful opportunity for input by tribal officials where the action would have tribal implications. The Executive Order reflects the federal government's trust responsibility to federally recognized Indian tribes. Pursuant to this trust responsibility, the federal government establishes regular and meaningful consultation and collaboration with tribes on a government-to-government basis when federal activities may affect Indian tribes.

# STATE OF MONTANA

## Air Quality Program

The MDEQ has delegated responsibilities under the federal CAA that requires the state to operate an approved ambient air quality monitoring network for the purpose of evaluating compliance with the National Ambient Air Quality Standards, to report air quality monitoring information to EPA, and to prepare plans for controlling air pollution. Under the CAA of Montana, the state is required to provide a coordinated statewide program of air pollution prevention, abatement and control.

## Regulatory Processes

For Prevention of Significant Deterioration of air quality, modeled and monitored results for particulate matter less than 10 microns in diameter and nitrogen dioxide will be evaluated against the Class I and Class II increments to determine if additional mitigation is required.

When specific locations and operation requirements for gas compression facilities associated with CBNG development are determined, permit applications will be submitted to MDEQ. At that time, additional site-specific air quality analyses may be performed, such as Best Available Control Technology analyses and Prevention of Significant Deterioration increment analysis.

The air quality permitting process will be used by MDEQ to analyze emission sources at the project level for CBNG activities and to develop necessary mitigating measures. BLM will require operators to obtain all necessary state air quality permits for lease operations on BLM-administered lands.

BLM will take appropriate enforcement action against operators upon finding a violation of an approved federal APD or Sundry Notice. MDEQ, however, will have the responsibility of enforcing its regulations and terms of its permits.

## State Agreements and Policies

The air quality monitoring and analysis will be conducted across the Powder River Basin. The IWG will be the forum to determine the need for specific agreements between the states of Wyoming and Montana, EPA and the tribes, to facilitate regional monitoring, analysis and mitigation.

The BLM will participate in the IWG to consider management options over time in response to new air information. This process will include development of monitoring plans to track regional cumulative impacts to air quality and the establishment of programmatic mitigation at predetermined action levels, as determined appropriate by the state and EPA.

## Water Quality Program

### State Roles and Responsibilities

The MDEQ has the responsibility under the federal Clean Water Act and the Montana Water Quality Act to monitor and assess the quality of Montana surface waters for pollutants, to prepare plans to control pollution, to assess water quality conditions and trends, to report then to EPA and Congress, and to identify impaired or threatened stream segments and lakes. Furthermore, the state administers a program for prevention, abatement, and control of water pollution by issuing MPDES permits.

The Montana Board of Environmental Review (Board) adopted standards for electrical conductivity and sodium adsorption ratio for Powder River Basin streams in 2003. On March 23, 2006 the Board amended portions of ARM 17.30.670, the electrical conductivity and sodium adsorption ratio standards pertaining to the non-degradation category. This ruling changed electrical conductivity and sodium adsorption ratio to "harmful parameters", which modified the non-degradation non-significance criteria. Both of these revisions were subsequently approved by the EPA. Therefore they have Clean Water Act standing and water management strategies approved by the Wyoming Department of Environmental Quality are subject to these standards at the state line.

In accordance with Section 303(d) of the federal Clean Water Act the MDEQ has prepared a list of impaired or threatened waters. This "303(d)" list identified lakes, rivers and streams that are not meeting water quality standards and establishes priorities for Total Maximum Daily Load (TMDL) development. The surface waters likely to be affected by CBNG development are located in the state's Tongue, Powder and Rosebud TMDL planning areas. The TMDLs for these areas are underway.

### Regulatory Processes

When site-specific CBNG 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 MDEQ for management, treatment, or discharge of produced water.

The MPDES permitting process will be used by MDEQ to analyze discharges at the project level for CBNG activities and to develop necessary permit conditions. Operations that would violate state water quality requirements will not be permitted by BLM. BLM will require operators to obtain all necessary state water quality permits or authorizations, reviews in lieu of permit when one is not required, or certifications for federal lease operations. These state permits or authorizations, reviews and certifications will provide documentation of compliance with state water quality requirements.

### State Agreements and Policies

The IWG is the forum to determine the need for specific agreements between the states, the tribes, EPA and the surface management agencies to facilitate regional monitoring, analysis and mitigation. The IWG will also review existing agreements and make recommendations regarding their continuation or revision. While BLM will participate in the IWG, the development of a final agreement between Wyoming and Montana is primarily a state function.

The BLM will participate in the IWG to consider management options in response to new water quality information. This process will include development of monitoring plans to track regional cumulative impacts to water quality and the establishment of programmatic mitigation at predetermined action levels as determined appropriate by the state and EPA. BLM will also participate in the IWG to address development of TMDLs for the state's Tongue and Powder rivers and Rosebud Creek TMDL planning areas.

## BLM

### Steps to Obtain Approval to Drill

The BLM has 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 or Sundry Notice that complies with (1) lease stipulations; (2) onshore oil and gas orders; and (3) regulations and laws. All actions must also be consistent with the Powder River and Billings RMPs, unless requiring such consistency would causes a breach of existing lease rights. In such a case, an amendment to the RMP(s) will be necessary. The steps required to obtain approval to drill and conduct surface operations are as follows:

- Before drilling an oil or gas well on federal minerals, a Notice of Staking or APD must be filed by the lessee or operator for approval with the appropriate BLM office. The Notice of Staking notifies BLM that a proposed well site

has been staked and signals the need for a site inspection. Filing of the Notice of Staking starts the required 30 day public posting period.

- An APD must be submitted following submission of the Notice of Staking. The APD includes the proposed drilling and surface use plans, maps, statement of bond coverage, operator statements of certification, and a water management plan.

An APD can be submitted without filing a Notice of Staking, in which case the posting of the APD begins the 30 day public posting period.

During the 30 day public posting period, BLM conducts a site inspection, reviews the APD for completeness and accuracy, and conducts an environmental analysis of the proposal including coordination with other applicable permitting agencies.

When the proposed action is on privately owned surface, BLM invites the surface owner to attend the site inspection and to provide information or requirements that can be used in the environmental analysis. BLM's review also includes coordination with the MBOGC to determine if the proposed well location conforms to state well spacing rules or if a spacing exception needs to be approved by MBOGC. BLM notifies the State Historic Preservation Office about the results of cultural and historic resource surveys conducted for the proposal. BLM also consults with other state agencies, such as MDEQ, if actions proposed in the APD would require permits issued by MDEQ. BLM processes the APD after completion of the environmental analysis and evaluating if the APD 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.

Before approving full-field development of CBNG on federal minerals, a POD must be filed by the lessee or operator for approval with the appropriate BLM office. BLM will work with other agencies that have authority for permitting proposed activities in the review of the POD. BLM and MBOGC will develop procedures to coordinate the review and approval of PODs that involve federal, state and private minerals.

The POD must depict the proposed location of well sites, access roads and production facilities. The POD must include a water management plan, a wildlife monitoring and mitigation plan and cultural resource inventory plan along with an APD for each proposed federal well which will be posted for the 30 day public review period. The water management plan will be approved in consultation with the affected surface owner. See the discussion on the POD review process under “Decision” at the beginning of the ROD.

If the proposed action may affect Tribal resources, BLM will consult with the Tribe. BLM will consult with MBOGC about well spacing rules during the POD review process. BLM will also consult with MBOGC if the operator proposes disposal of produced water into pits under the jurisdiction of MBOGC, needs a UIC permit issued by MBOGC and when an operator needs to offer a mitigation agreement in accordance with MBOGC Order 151-2008 and Montana Code Annotated 82-11-175. If the operator needs a UIC permit issued by EPA, BLM will consult with EPA during the POD review process.

BLM will consult and coordinate with MDEQ when air emissions and water discharge or land application permits issued by MDEQ are needed. BLM will also consult with DNRC when a permit is needed for beneficial use of groundwater and surface water. Coordination will also occur with County Weed Districts to ensure proposed weed control plans comply with laws and regulations. BLM will make decisions for the APDs after completion of the environmental analysis and evaluating if the APD requirements have been fulfilled, and will make decisions for the POD activities for which BLM has authority after completion of the environmental analysis process and evaluating if the POD requirements have been fulfilled.

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