

## Montana SEIS

### Chapter 1 – Purpose & Need:

New language on page 1-1 needs to be reviewed by attorneys.

- 1) Prepare SEIS and evaluate a phased development alternative.
- 2) Include Tongue River RR.
- 3) Effectiveness of water well mitigation agreements.

Update information or policies, monitoring data.

#### Purpose & Need:

Direct, indirect, and cumulative environmental and social impacts of phased development.

### Chapter 2 – Alternatives:

#### Alternatives considered but not analyzed in detail:

##### Sage Grouse page 2-3:

“Alternatives F and H, described below, would meet the objectives of a No Development in Sage Grouse Habitat alternatives by restricting development in these areas”.

##### Comment:

*BLM's preferred alternative "H" adopts the onerous provisions of the no development of CBNG in crucial sage-grouse habitat.*

##### Sage Grouse page 2-4:

“To meet the objectives, BLM would work closely with the CBNG operators, private surface owners, academia, USGS and Montana Fish, Wildlife and Parks to identify BMPs and alternative development schemes to avoid displacing sage-grouse from crucial habitat areas.”

##### Comment:

*BLM should also be working with industry wildlife experts and should develop decision criteria on when to implement alternative development schemes.*

#### Water Mitigation Agreements, page 2-6:

Current water well mitigation agreements, under statute 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. The preferred alternative “H” will also require language on how the operator will respond

to water wells being rendered unusable or unsafe due to methane mitigation, and how health and safety related impacts would be monitored and mitigated.

Comment:

*Need to be aware of this additional requirement and draft language that meets BLM's needs and is feasible for operator to implement.*

Management Actions Specific to Each Alternative, page 2-7:

Alternative H, adaptive management would be applied to sage-grouse habitat that would adopt new BMPs, and work with the State to universally apply BMPs to protect sage-grouse habitat.

Comment:

*Montana Board of Oil and Gas Conservation does not have statutory authority to impose wildlife restrictions on APDs. Additionally, BMPs are supposed to be voluntary and BLM should be working with CBNG operators and surface owner on the voluntary application of BMPs where the species is present.*

Alternative H – Preferred Alternative – Multiple Screens, page 2-20:

Alternative H has three key components:

- 1) A phased development approach would be implemented where CBNG proposal would be reviewed against four filters or screens to determine if the proposal needs to be modified.
- 2) Provides for extensive requirements that an operator must meet when submitting a Plan of Development (POD).
- 3) Mitigation measures and subsequent modifications to existing operations, would be considered and applied to each POD as appropriate.

Comment:

*BLM does not provide any indication of when they would apply modifications to a POD. Is BLM going to apply modifications during permitting, construction or after development has commenced? The CBNG operator does not have any long term certainty as to whether their operations are compliant or not. BLM should provide to the reader decision criteria so we know how the filters or screens would be implemented on a site-specific basis.*

Water Screen, page 2-20:

If surface water monitoring indicates permitted levels of CBNG discharge have the potential to cause water quality standards to be exceeded, no future untreated discharge of CBNG water would be allowed from federal wells unless the regional surface water monitoring stations above and below the proposed discharge are active.

Comment:

*Alternative "H" does not address whether the operator is compliant with their MPDES permit. This screen adds another bureaucratic layer to water discharge. While BLM will argue that onshore order 7 provides them with the authority to control discharge of produced water, only the Clean Water Act can delegate authority to control surface*

*discharge of produced water. BLM is trying to usurp Montana's authority to implement the Clean Water Act.*

**Wildlife Screen, page 2-21:**

To help protect wildlife species that rely either seasonally or fully on crucial habitats (mule deer, sage-grouse, and migratory song birds), the BLM would limit the amount of disturbance in such crucial habitat (e.g. crucial brood rearing/breeding/wintering habitat) where federal mineral ownership occurs. This includes split-estate lands.

Federal CBNG development in crucial habitat areas would be allowed under the following conditions:

- 1) Surface disturbance will not exceed 20% of the crucial habitat area(s) over the next 20 years and
- 2) Monitoring data does not indicate a downward population trend, or if a downward trend exists, the trend can be confidently attributed to other factors (severe winters, fire, etc.), and the affected populations are likely to recover from these other factors.

**Comment:**

*Crucial habitat is not defined. For a multiple use agency, BLM is making wildlife habitat preservation a higher priority over its obligations to protect and develop the oil and gas estate. Defined monitoring data does not include drought.*

In crucial habitat areas, surface disturbance shall be defined as follows:

- 1) Direct surface disturbance associated with wells, associated infrastructure, including well access roads; the area of removed vegetation to bare soil, or vegetation covered by fill. The access roads would be subject to no more than one vehicle trip per day after completion of the wells, and the wildlife species in which this habitat has been designated as crucial typically do not avoid these access roads.
- 2) Direct surface disturbance on main arterial access roads will be the area of removed vegetation plus a corridor of 200 meters on both sides of these main roads. The total corridor width is 400 meters, and corresponds to the distance from these roads that mule deer and other species will avoid due to high traffic. High traffic volume is defined as more than 12 vehicle trips per day.

**Comment:**

*Stipulation does not provide flexibility in road use such as during construction versus during the production phase. Also, BLM does not account for well maintenance activities such as workovers or the pulling of pumps. BLM's statements about what wildlife will avoid and not avoid are not substantiated by any technical reference. Main arterial roads are not defined. It appears that BLM is trying to define arterial roads as roads that have a high traffic volume of 12 vehicles per day. So basically if you have a road that sees a vehicle every 2 hours during a 24 hour day, it is considered by BLM as a high traffic road.*

In crucial sage-grouse habitat areas identified during the initial stage of planning prior to POD approval, BLM would apply adaptive management to meet the following objectives:

Maintain the connectivity of sage-grouse habitat within the PRB and adjacent regions.

Maintain source populations of sage-grouse within the PRB to allow for genetic diversity and repopulation of the areas from which they may have displaced due to CBNG development.

To meet these objectives, BLM would work closely with the CBNG operators, private surface owners, academia, USFWS and Montana Fish, Wildlife and Parks to identify BMPs and alternative development schemes to avoid displacing sage-grouse from crucial habitat areas. Monitoring will play a key role in identifying effective BMPs and alternative development schemes.

Comment:

*How is a CBNG operator going to prove that its operation will maintain the connectivity of sage-grouse habitat within the PRB and adjacent regions? Adjacent regions are not identified. BLM is putting the burden on CBNG operators to prove a negative. How are we to prove that our operation will not cause a temporary displacement? Where is the data that shows displacement as being detrimental to the species? BLM does not discuss or analyze the proposed sage-grouse stipulation on workforce, local tax and royalty revenue and the overall impact on providing natural gas in a time of high demand. BLM should be forced to prepare a Statement of Energy Effects as per Executive Order dated May 18, 2001.*

BLM has identified the characteristics of crucial winter sage-grouse habitat in the PRB. There is ongoing research to identify crucial brood-rearing and nesting habitat areas.

Comment:

*BLM fails to mention that the tool that was used to identify the characteristics of crucial winter sage-grouse habitat has not been ground truth.*

BLM would also work with the Montana Board of Oil and Gas Conservation to apply successful BMPs to all private and state CBNG development within the crucial habitat areas.

Comment:

*Montana Board of Oil and Gas Conservation does not have statutory authority to impose wildlife restrictions on APDs. Additionally, BMPs are supposed to be voluntary and BLM should be working with CBNG operators and surface owner on the voluntary application of BMPs where the species is present.*

BLM recognizes that maintaining source populations within the PRB is dependent on many other factors related to CBNG development. These factors include wildfire, agricultural practices and West Nile Virus.

Comment:

*BLM fails to mention drought.*

Native American Screen, page 2-21 & 22:

For proposed federal CBNG development within 5 miles of the Northern Cheyenne and Crow Indian Reservations, the BLM, in consultation with the tribes, would require site-specific groundwater and air analyses. These analyses would be submitted as part of the operator's POD submissions. The operator's analyses must demonstrate that the overall POD would be protective of Indian Trust Assets (groundwater and CBNG) and air quality. If the analyses indicate unacceptable levels of impairment to these resources would occur and could not be mitigated, the BLM would not approve the APDs.

Comment:

*BLM does not provide any data on how 5 mile buffer was determined. The CBNG operator must prove a negative. BLM does not acknowledge pre-existing lease rights. Denial of permit may be viewed as a federal taking. Will BLM buy back leases that operators cannot develop because they can't prove that drainage of groundwater or CBNG will not occur? BLM is shifting its fiduciary responsibilities to the CBNG operator.*

Air Quality Impact Screen, page 2-22:

If observed effects and modeled impacts completed for the annual review by MDEQ show state or federal regulatory standards would be exceeded, the BLM would require additional mitigation measures on development.

Comment:

*Does this stipulation apply to new, proposed development or existing operations? BLM does not describe what additional migration measures are. Decision criteria are not explained to the reader. BLM does not have statutory authority to enforce the Clean Air Act. BLM does not make any reference to the CBNG operator being compliant with air quality rules established by the Montana DEQ.*

When compressors or generators are located in proximity to noise sensitive areas (such as occupied dwellings or sage-grouse strutting grounds), a maximum noise level of 50 decibels measured 0.25 mile from the compressor would be required.

Comment:

*There is not empirical data demonstrating the necessity of the 50 decibels on sage-grouse.*

POD Requirements, page 2-24:

Digital project maps depicting all infrastructure installations necessary for the project, etc.

Comment:

*BLM should clarify that digital includes .pdf files of the proposed infrastructure.*

PODs that include development within the crucial sage-grouse habitat areas shall include information that clearly demonstrates the proposal will not displace sage-grouse from crucial habitat areas.

Comment:

*The CBNG operator must prove a negative upon POD submittal. May require CBNG operator to have years of sage-grouse data prior to submittal of POD. Stipulation is unwarranted and onerous because preliminary research which is the foundation of this stipulation has not been finalized and peer reviewed.*

Roads, Pipelines, and other Infrastructure, page 2-24:

Corridors would be required for the placement of roads, pipelines, and utility lines in a common area of disturbance wherever possible... In the POD, the operator would 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.

Comment:

*Mandated use of transportation corridors could easily infringe on operator/surface owner agreement. Besides statutory concerns under the Endangered Species Act and Historical Preservation Act; the agreement reached between the operator and surface owner should prevail on the location of infrastructure. This is an example of regulatory creep. Requiring an operator to consult with adjacent oil and gas operators as to the location of transportation corridors can lead to additional delays. The adjacent operator may not want to develop their leasehold at the same pace as the project proponent. The adjacent operator could use this stipulation as leverage to slow another operator's development.*

Prior to approving a road, the operator, landowner, the BLM, adjacent landowners, and adjacent gas leaseholders would coordinate long-term planning for roads in the area.

Comment:

*What type of road is BLM referring? Again, having the requirement to coordinate with adjacent landowners and operators may lead to unnecessary delays. This stipulation should be deleted in its entirety because it places an unreasonable burden on the project proponent to work with others that don't share the same commercial concerns.*

Low voltage (440-v) distribution powerlines would be buried. The authorized officer (AO) could approve proposed high voltage, aerial power lines by application. The AO could approve above-ground, low-voltage if the operator could demonstrate that it would not be feasible or it would be impracticable to bury them (economic issues, technically impossible, etc).

Comment:

*BLM is mandating the use of buried powerlines. What about surface owner desires? This stipulation may cause lower level BLM employees to require the unreasonable use of underground power. BLM should delete this stipulation in its entirety and maintain its current practice of requiring underground power where it is necessary for resource protection.*

Produced Water Management, page 2-25:

At a minimum, 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 land application must be addressed.

*Comment:*

*BLM does not list managed irrigation as water management tool.*

Wildlife Monitoring Program & Mitigation Measures, pages 2-25 – 2-26:

Sage Grouse, page 2-26:

Sage-grouse surveys would continue within the PRB, and focus on the crucial habitat areas to ensure these areas incorporate complete life cycle habitat for sage grouse. As development schemes are identified and approved, ongoing monitoring would be conducted to ensure development is not displacing sage-grouse to the point that a sustainable population is not maintained in these crucial habitat areas.

*Comment:*

*The displacement criteria for sage-grouse are inconsistent. On page 2-21, BLM makes the requirement that no displacement can occur. On page 2-26, BLM now states that monitoring should take place to “ensure development is not displacing sage-grouse to the point that a sustainable population is not maintained”. Which is it? Also, note that BLM wants to protect sage-grouse life cycle habitat.*

Comparison of Alternatives, page 2-26:

Geology & Minerals, page 2-39:

*Comment:*

*BLM does acknowledge that alternative “H” will have the “potential mineral drainage between federal/estate minerals, and state/fee/tribal developments depending on site-specific conditions, which is the same as Alternative B, (Resource Protection Alternative).*

**Chapter 3: Affected Environment:**

Additional Air Quality Modeling Studies, Page 3-3:

*Comment:* *Need air expert to review.*

MDEQ Cumulative Model, page 3-4:

*Comment:*

*BLM references Deer Creek North and Pond Creek PODs in the cumulative impact model. Roger Kotschegarow should review for WBI Holdings.*

Geology and Minerals, page 3-14:

*Comment:*

*BLM does not advise the reader that the Wyoming portion of the Powder River Basin is the 3<sup>rd</sup> largest producing natural gas field in the United States according to the Energy Information Agency.*

Geologic Hazards, page 3-28 & 3-29:

Comment:

*Need geologist to look at discussion on methane seepage, migration and venting.*

Methane Seepage Study, page 3-30:

Comment:

*Need to get copy or latest information on Wyoming BLM Methane Seepage Study.*

Reports of Montana Methane Seepage, page 3-30:

Montana Department of Fish, Wildlife, and Parks reports increased methane production in two water wells on the Tongue River Reservoir State Park as well increased seepage under the reservoir.

Comment:

*BLM only refers to the FWP in this discussion. Have operators been approached about this issue? What data is available and how does the FWP know that there is increased seepage under the reservoir. BLM does not explain the outcropping of coals within the reservoir.*

Methane Seepage and the Use of Water Mitigation Agreements, pages 3-30 & 3-31:

The agreement, however, did not necessarily indicate that anything would be done to mitigate or eliminate impacts related to methane gas creating either a safety or environmental hazard.

Comment:

*CBNG operators should be aware that BLM wants methane migration addressed in Water Mitigation Agreements.*

Hydrological Resources, page 3-32:

Surface Water, page 3-32:

Electrical conductivity (EC) and sodium adsorption ratio (SAR) are primary constituents of concern with CBNG discharges (MDEQ 2003); therefore, the surface water analysis in this document will focus on these parameters.

Comment:

*SAR is not a constituent it's a ratio. BLM does not provide the reader with a complete list and map showing the USGS monitoring stations along the Tongue River.*

CBNG Discharges in Montana:

Comment:

*BLM does not advise the reader of the size of the Tongue River Reservoir ( $\pm 70,000$  acre feet) or tries to correlate the quantity of CBNG discharges to total flow within the Tongue River.*

Groundwater, page 3-41:

Comment: *Need hydrologist to review.*

Observed CBNG Related Groundwater Drawdown, page 3-45:

Comment: *Need hydrologist to review.*

Page 3-49: MBMG's Draft 2005 Groundwater report also indicates drawdown associated with CBNG development appears to be causing a slight increase in the volume of water drawn from the Tongue River Reservoir to the Upper Dietz coal seam. This coal seam sub-crops in the reservoir, so the reservoir has historically recharged it. Assuming the faults in this area function as flow barriers, and regional aquifer characteristics can be applied, the volume of water being drawn from the reservoir can be estimated using Darcy's Law (Fetter 1994).

Comment: *Need hydrologist to review.*

Existing Wells & Springs, page 3-50:

Furthermore, it is unlikely that CBNG production would impact springs, because if subsurface coal seams were in direct contact w/surface springs, water and methane gas would have long ago leaked to the surface, leaving the coal seam depleted.

Comment:

*Need to verify if this conclusion is carried over to Environmental Consequenses.*

Water Management page 3-52:

BLM lists "Managed Irrigation" as a water management option.

Comment:

*BLM does not list managed irrigation on page 2-25 in its discussion on Produced Water Management as an option; however, they do include land application".*

Industrial Uses, page 3-54:

Another potential industrial use of CBNG produced water is at electric generating power plants, which have a considerable need for cooling water.

Comment:

*There are not any electrical power plants using CBNG produced water within the SEIS area. This statement is not applicable to the current Affected Environment.*

Social & Economical Values, page 3-90:

Comment:

*BLM does not spend any time discussing the truth economic benefits of oil and gas (including CBNG) development in Chapter 3. They do offer broad discussion on overall employment, unemployment, tax and royalty revenue but, they do not provide any specific discussion of relative to the current CBNG development. Montana Petroleum Association should provide BLM with a copy of the Economic Study conducted by Montana State*

*University at Billings. BLM does provide any discussion on the growing national demand for natural gas and the contribution that the Montana portion of Powder River Basin could make to overall demand. BLM advises the reader on the Executive Order 12898 "Federal Actions to Address Environmental Justice in Minority and Low-Income Populations"; however, they do not advise the reader on the Executive Order that requires agencies to do an analysis on "Actions Concerning Regulations That Significantly Affect Energy Supply, Distribution, or Use."*

Employment, Page 3-95:

Comment:

*BLM does not provide any data on people employed by CBNG development in Montana. There is not a discussion on the various types of employment (e.g. company and contractors).*

Vegetation, page 3-108:

Noxious Weeds, page 3-109:

Comment: *Need reclamation expert to review.*

Wildlife, page 3-113:

Birds – Sage-grouse, page 3-119:

Comment:

*BLM does not reference "Greater Sage-Grouse Lek Counts (2000-2006) in and around Fidelity Exploration & Production Company's Coalbed Natural Gas Development Areas in Big Horn County, Montana and Sheridan County, Wyoming" report prepared by Hayden-Wing Associates dated September 2006. BLM also does not mention Montana Fish, Wildlife and Parks doubling of the sage-grouse bag limit for 2006. Fidelity will submit a copy with its comments. BLM should have sage-grouse listed under "Upland Game Birds" instead of under "State Species of Special Concern." BLM does not advise the reader that the sage-grouse is a game bird. BLM should also discuss sage-grouse observations that have been documented at the Cedar Creek Anticline.*

Results indicate average male high counts from 2002 to 2004 were lower than those from 1999 to 2001, (Table 3-41). Maximum male count data from both CBNG and undeveloped areas have not been collected for comparison.

Comment:

*Fidelity has been collecting the data in and around its areas since 2000. BLM needs to advise the reader of the Hayden-Wing report referenced above and amend this statement accordingly.*

West Nile Virus, page 3-122:

The low rates of West Nile virus-related mortality and the low seroprevalence (<10 percent) suggests that West Nile virus impacts may be limited by low rates of exposure to the virus

rather than to high levels of resistance (B. Walker, e-mail communication, December 1, 2005).

Comment:

*This section need to be reviewed by an expert for accuracy. This section describes several WNV studies taking place. Do any of the studies include non-CBNG reservoirs or impoundments? BLM does not provide a discussion of the region-wide WNV epidemic that has taken place throughout several non-CBNG development areas in Wyoming, Colorado, Montana and Idaho. While this section mentions a WNV study near Roundup, Montana, BLM does not inform the reader that CBNG development is not taking place in this area.*

Ongoing Sage-grouse habitat and Oil & Gas Research, page 3-123:

In 2006, Naugle utilizing satellite imagery identified priority habitats for sage-grouse in the PRB. This information identified areas of high value sage-grouse habitat. This mapping utilized several components including, roughness, sagebrush coverage (height/abundance), and distance from conifers. In general, suitable long term sage-grouse habitat must contain a minimum of 1000 contiguous acres of sage brush and located a minimum of 400 meters from visible conifers.

Comment:

*BLM fails to advise the reader the accuracy of the satellite imagery used and that the data still needs to be ground truth.*

Much of the recent research conducted by Holloran and Naugle, et al. focuses on the impact of CBNG development on male sage-grouse attendance on strutting grounds.

Comment:

*Holloran did not do any research on CBNG development. Matt Holloran's work was in Southwest Wyoming.*

Wildlife Surveys and Monitoring Since the Statewide Document, page 3-126:

Ongoing Sage-grouse Studies, page 3-126:

Comment:

*BLM fails to list HWA sage-grouse report referenced above.*

Fidelity Exploration & Production Company Montana 2002-2003, Drilling Area, Baseline Wildlife Inventory, page 3-126:

Comment:

*BLM does not include the sage-grouse data that was also collected.*

Fidelity Exploration & Production Company Proposed Coal Creek POD, Big Horn County, Baseline Wildlife Inventory, page 3-127:

Comment:

*BLM does not include the sage-grouse data that was also collected.*

Aquatic Resources, page 3-132:

Powder River RMP Area, page 3-134 – 3-136:

Page 3-135: Fish sampling in a number of Tongue River tributaries suggests fish in Squirrel Creek have a substantial potential to be affected by CBNG development, primarily from impoundments located within intermittent and ephemeral draws that flow into the creek (BLM 2005.d). However, the stream has not been assessed to the extent needed to identify the specific causes of habitat changes between sampling sites located upstream and downstream of CBNG development facilities.

Comment:

*It appears by this statement that BLM is using speculation to describe the Affected Environment. It also should be noted that there are not any CBNG impoundments located within the intermittent and ephemeral draws that flow into the creek. Ben Parkhurst should review this section.*

Page 3-136: Another site showing a substantial decrease in species over time was Sarpy Creek. This site showed a decrease from five species historically to one species (fathead minnow) in 2003 and 2005 (MFWP 2006).

Comment:

*BLM fails to inform the reader that there are not any CBNG discharges into Sarpy Creek nor any CBNG impoundments within the vicinity of Sarpy Creek.*