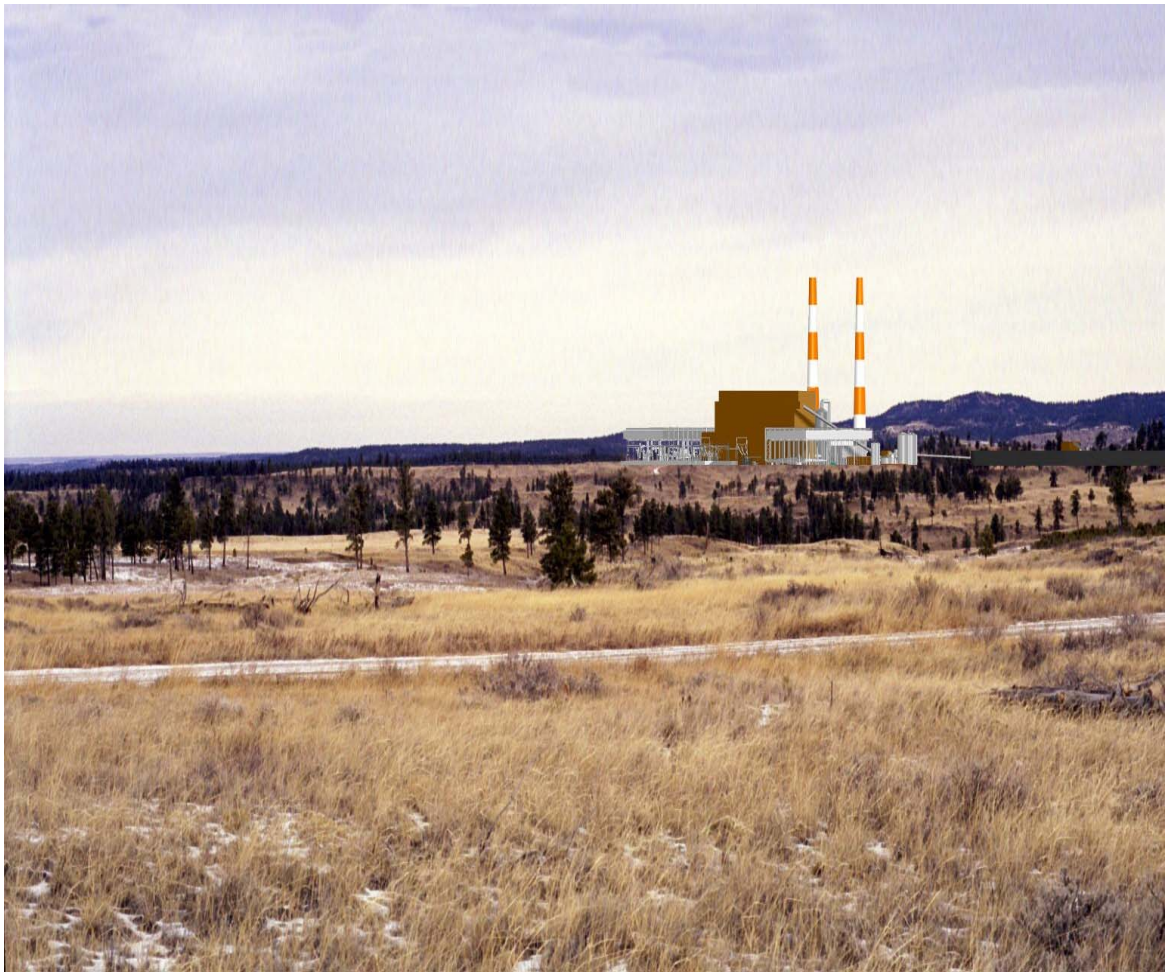
State of Montana
Department of Environmental Quality
Permitting and Compliance Division January 2003

Roundup Power Project

Final Environmental Impact Statement



Montana Department of
ENVIRONMENTAL QUALITY

Judy Martz, Governor

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January 2003

Dear Reader:

Enclosed is the Final Environmental Impact Statement (EIS) for the proposed Roundup Power Project. The Final EIS adopts the Draft EIS as a part of the final, responds to public comments, and provides substantive changes, which amend the Draft EIS in response to public comments.

About 100 copies of the Draft EIS were distributed in November 2002 for a 30-day comment period. During the comment period, the Department of Environmental Quality (DEQ) held a public hearing in Roundup to receive oral and written comments on the Draft EIS. In addition to oral testimony, DEQ received 80 letters, about 500 post cards, and more than 1200 e-mails commenting on the Draft EIS. All comments were reviewed and considered in preparing the Final EIS. Comments that provided new data, questioned facts or analysis, or raised questions or issues bearing directly on the alternatives or environmental analysis have been given responses in this Final EIS. Comments expressing personal opinions were considered but have received no direct response.

DEQ has selected the Proposed Action as modified by the Landfill Alternative as the preferred alternative. The final decision will be made in the Record of Decision that will be released no sooner than 15 days from the issuance of this Final EIS.

DEQ appreciates the public's involvement in preparing this Final EIS. Additional copies are available upon request while the supply lasts. The Draft and Final EISs are also posted on DEQ's web site at www.deq.state.mt.us. A copy of the Record of Decision will be sent to everyone who receives the Final EIS.

Sincerely,

Jan P. Sensibaugh
Director

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CHAPTER 1
INTRODUCTION

This Final Environmental Impact Statement (FEIS), prepared by the Montana Department of Environmental Quality (DEQ), adopts the Roundup Power Project Draft EIS (DEIS), November 18, 2002, as the FEIS with modifications contained in this document.

The FEIS contains a summary of major conclusions and supporting information from the DEIS including the agency's recommendation (Section 2.0), a list of all sources of written and oral comments received during the public comment period on the DEIS (Section 3.0), the agency's responses to substantive comments which includes a summary of the comments received and disposition of the issues involved (Section 4.0), and a description of modifications and corrected errors to the DEIS (Section 5.0). The decision to issue or deny an Air Quality permit for the Roundup Power Project (Project) and rationale for this decision will be included in the Record of Decision (ROD) to be made public no sooner than 15 days after the FEIS release to the public.

1.1 Public Participation

One of the prime objectives under Montana Environmental Policy Act (MEPA) is to involve the public through each step of the decision-making process. This is accomplished by (1) seeking preliminary comments on the purpose and benefits for the pending action and potential issues of concern, (2) requesting and evaluating public comments about the environmental review, and (3) informing the public of the final decision and the justification for that decision in the form of a Record of Decision after review of the FEIS.

The DEIS was issued for public comment November 18, 2002. To seek comments from the public on the DEIS, the DEQ conducted a public hearing on Thursday, December 5, 2002 in Roundup, Montana.

The location for the meeting was selected based on the area likely to experience the greatest impacts from the Project.

During the 30-day public comment period for the DEIS, comments were also submitted to the DEQ in writing. All substantive comments received during the public comment period have been reproduced with DEQ responses in Section 4.0 of this FEIS. Sources of public comments are listed in Section 3.0 with associated comment identification numbers.

CHAPTER 2
SUMMARY

This summary presents a condensed version of information contained in the DEIS for the Project with modifications subsequent to the public comment period. Two alternatives to components of the Proposed Action, in addition to a No-Action Alternative were analyzed in the DEIS. If interested in more detailed information, please refer to the DEIS. The FEIS and the DEIS can be obtained from the DEQ web site at http://www.deq.state.mt.us or, while supplies last, by contacting:

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2.1 The MEPA Process for the Roundup Power Project

The Project is a proposed coal-fired electric generation plant located on private property about 35 miles north of Billings and 13 miles south-southeast of Roundup, Montana. A map of the Project Area is shown in Figure 2-1. The Bull Mountain Development Company (Proponent) submitted an application for an air quality permit to the DEQ on January 14, 2002. The application, which had to meet the requirements of the Clean Air Act of Montana (75-2-101 et seq., MCA and ARM 17.8.701 et seq.), was found to be adequate on July 22, 2002. This started a mandatory 180-day time frame for the environmental review under the MEPA. The purpose of the Proposed Action is to permit activities that provide additional electricity to meet increasing demand for power within the western United States.

Procedures governing the EIS analysis process in Montana are defined in administrative rules implementing the MEPA. This law requires an EIS to be prepared if any action taken by the State of Montana may significantly affect the quality of the human environment (as defined in MEPA). The EIS was written to meet the requirements of MEPA and the administrative rules implementing MEPA.

The Montana DEQ is the lead agency and is responsible for completing an EIS before issuing the Final Air Quality Permit (75-1-201, MCA).

The scope of the EIS includes actions, alternatives, and analyses necessary for the DEQ to make decisions regarding permits or approvals for the Proponent to construct and operate the Project. Permitting decisions will be based on the environmental effects and consequences relative to legal standards as documented in the EIS, along with other information presented during agency decision-making processes.

2.2 Proposed Action

The Proponent has submitted an application to the DEQ for an air quality permit. The Project is designed to be a mine-mouth generating facility using coal from the existing Bull Mountains Mine (Mine) adjacent to the Project. To meet its coal supply needs, the Project Proponent has entered into contractual agreements with the Mine to purchase approximately 2.7 million tons of coal per year. Coal would be delivered from the Mine to the Generation Plant by a 4,000-foot-conveyor system.

The Project would be built specifically to burn coal. The mine-mouth fuel source of the Project is intended to provide stable pricing and reliability for base load power assisting utilities in more reliably serving industrial, commercial, and residential customers.

Two electric generating units, each with a pulverized coal-fired boiler and a steam turbine generator, are proposed. Each unit would be designed to generate a nominal 390 megawatts (MW) gross (350MW net) electrical capacity year-round on a 24-hour-per-day basis, except during planned maintenance periods and occasional repair outages when one unit would normally remain operating. Four to six groundwater wells, approximately 8,500 feet deep, are proposed as the Project's water supply.

A new 161 kilovolt (kV) transmission system (i.e., three circuits), approximately 28.2 miles long, would be built from the Generation Plant to NorthWestern Energy's Broadview Substation, interconnecting with the northwest transmission network. Power generated by this facility would be sold to all classes of electricity consumers (residential, municipal, cooperative, commercial, and industrial customers). The route for the transmission lines would be within or immediately adjacent to the Mine's rail corridor.

Air pollution emissions, wastewater discharges, solid waste disposal, and other significant aspects of the Project would comply with applicable permits and environmental requirements.

2.3 Issues of Concern

Before preparation of the DEIS, DEQ invited the participation of affected federal, state, and local government agencies, Indian tribes, the Project sponsors, and interested persons and groups to discuss issues, concerns, and opportunities, and to help identify the scope of the DEIS. During this scoping process DEQ also identified possible alternatives to the Project.

On April 4, 2002, a public scoping meeting was held by the DEQ in the City of Roundup to identify issues and concerns. Comments were also accepted by mail. In addition, the Project Proponent has sought public participation by making three presentations to the Legislature's Transition Advisory Committee, by participating in the Governor's Conference on Economic Development on March 7, 2002, in Billings, and by making a presentation to the executive board of the Big Sky Economic Development Authority in Billings.

The issues of concern raised during the public and agency scoping process include:

Socioeconomic Effects

- Impacts on schools, law enforcement, and other public services due to in-migration of Generation Plant workers.
- Changes in social setting and attitudes due to in-migration of Generation Plant workers, impacts associated with increased traffic, and infrastructure impacts.

Air Quality

- Impacts due to pollution emissions during Generation Plant operation.
- Global climate impacts due to greenhouse gas emissions during Generation Plant operation.
- Cumulative visibility impacts.

Water Resources

- Impacts on surface water or groundwater quality due to solid waste disposal and other Generation Plant activities.
- Impacts on groundwater levels and supplies due to withdrawals during Generation Plant operation.

Noise

- Disturbance of nearby residents by noise from Generation Plant construction and operation.

Infrastructure

- Adequacy of existing transmission system to carry the Generation Plant output.

DEQ Regulatory Actions and Response

- Evaluation/regulation for combined impacts of the Generation Plant and other industrial developments in the region
- Monitoring of the Generation Plant construction process, including depth of groundwater wells, and response to Generation Plant emissions exceedances of permitted levels
- Accidents during Generation Plant operations and issues involving the proposed landfill

2.4 Alternatives Considered and Eliminated

The Project Proponent identified numerous alternatives to the Project, including:

- Fuel Sources

- Water Supplies
- Cooling Systems
- Combustion Systems
- Solid Waste Systems
- Wastewater Discharge Systems
- Emission Control Systems
- Generation Sites

The alternatives described in this section were eliminated from further consideration because they did not meet the stated purpose for the Project or were found to be economically unreasonable. A summary comparison of the alternatives considered and eliminated is provided in Table 2-1.

2.5 Alternatives Analyzed in Detail in the DEIS

There are two alternatives to components of the Project:

- Landfill Alternative – Alternative to in-mine waste disposal from the Generation Plant.
- 230kV Transmission System – Alternative transmission voltage for interconnection into the transmission grid of the western United States at Broadview Substation.

In addition, a No-Action Alternative was analyzed in detail.

Landfill Alternative

Over the life of the Project, construction and operation of additional landfill cells on the Generation Plant site is proposed as an alternative to moving most of the solid waste to the Mine for disposal. The landfill would be a state-of-the-art facility designed with two cells, providing 60 acres for solid waste storage. The disposal area would be lined for the protection of groundwater and provided with a leachate collection system not to exceed 10 acres to remove leachate and storm water that collects on top of the lining.

230kV Transmission System Alternative

Each generating unit would be designed to generate nominally 390MW gross (350MW net) electrical capacity year round on a 24-hour per day basis. As an alternative to the three circuits of 161kV transmission lines from the Generation Plant to the Broadview Substation, two single-circuit 230kV lines on wood pole H-frame structures in the same corridor as the Project would be constructed. This would require a different transformer and associated equipment to support connection to a higher voltage transmission line. Equipment and construction would be similar to the 161kV Transmission System. Constructing the 230kV Transmission System Alternative would need a certificate under the Montana Major Facility Siting Act.

NorthWestern Energy's Broadview Substation is connected to the transmission grid in the northwest and coordinated by the Western Electricity Coordinating Council (WECC). Improvements are planned for the system to allow approximately 500MW to flow west towards Bonneville Power Administration's (BPA) Garrison Substation and approximately 200MW to flow south to PacifiCorp's Yellowtail Substation. Both transmission providers will perform studies to identify necessary upgrades to support this flow.

No-Action Alternative

Under the No-Action alternative, the Generation Plant and the 161kV Transmission System to the Broadview Substation would not be constructed. The State of Montana would not issue the Final Air Permit for the Project. The purpose and need for the Project would not be met under the No-Action Alternative.

2.6 Expected Impacts From the Alternatives

Affected Environment

The Project would be located approximately 35 miles north of Billings and 13 miles south-southeast of the City of Roundup. The affected environment considered for the Generation Plant Study Area encompassed all of the land in Section 15, Township 6 North, Range 26 East in Musselshell County, Montana. Approximately 208 acres would be devoted to the Generation Plant. The Landfill Alternative would occupy an additional 70 acres of land adjacent to the Generation Plant. The proposed Transmission System and 230kV Alternative would be approximately 28 miles in length, crossing Musselshell and Yellowstone Counties from the Generation Plant to Broadview Substation to the west.

The air quality in the Project Study Area (Generation Plant and Transmission System) is well within the applicable ambient air quality standards for all criteria pollutants. The Generation Plant would be located along the crest of the drainage divide between the Musselshell and Yellowstone rivers. There are no surface water bodies within the Generation Plant Study Area. There are two main aquifers: the shallow sandstone aquifers and the Madison aquifer, which is the proposed water source for the Project.

From on-site soils and vegetation surveys, it has been determined that there are no identified wetland resources within the Generation Plant Study Area. No federal or state-listed plant or wildlife species of concern are known to occur within the vicinity of the Project. The Bull Mountains surrounding the Project support a good diversity of wildlife. Many of these species, particularly non-game species, could occur at least seasonally on or adjacent to the Project site.

A total of 65 cultural resources have been identified within the area of potential effect for the Project. Overall, the Project site contains visual resources such as Signal Mountain and the Bull Mountains. Foothills, ephemeral drainages, riparian vegetation, annual grasslands, and large expanses of ponderosa pine influence the natural visual setting. Human built features include: U.S. Highway 87, dispersed rural residential housing and agricultural fields along with grazing areas. No BLM or U.S. Forest Service (FS) lands occur within or near the Project site.

Environmental Consequences

Where potential impacts to a resource were identified, an evaluation was conducted to determine if one or more actions would be effective in avoiding or reducing (e.g. intensity and/or duration) the potential impact.

Proposed Action

The Project was assessed for compliance with Montana Ambient Air Quality Standards (MAAQS) and the National Ambient Air Quality Standards (NAAQS), and Prevention of Significant Deterioration (PSD) increment levels as part of the air resources analysis. The area of impact included surrounding Class I areas (Yellowstone National Park, UL Bend Wilderness Area, North Absaroka Wilderness Area, and Northern Cheyenne Indian Reservation). The Project, by itself, was above the PSD modeling significance levels.

The Generation Plant would directly impact approximately 208 acres of mostly grass/shrubland habitat with some ponderosa pine. Due to the widespread, common nature of this habitat, and because no federally-listed threatened and endangered species are known to occur in these areas, the loss to wildlife habitat, cattle grazing and agricultural practices would result in a low impact to these resources.

Impacts to groundwater from in-mine storage of waste is unknown. More studies would be required to assess impacts. Zero discharge would cause low impacts on groundwater resources from wastewater ponds and a solid waste landfill.

Soil erosion impacts would be low due to control of runoff from the Generation Plant.

Archaeological sites within three miles of the Generation Plant site would be impacted, of which eight are considered visually sensitive. The Generation Plant chimneys would visually impact residents and travelers.

Full economic benefits realized from implementation of the Project may include tax benefits to Musselshell County and the State of Montana. Jobs would also be a benefit during construction and during the life of the Project.

Portions of a 28.2-mile long and 300-foot wide right-of-way would result in ground disturbance caused by transmission structures and access roads associated with the Project. The transmission right-of-way would remain available for wildlife habitat, cattle grazing and agricultural practices. Due to the widespread, common nature of this habitat, and because no federally-listed threatened and endangered species are known to occur in these areas, the loss to wildlife habitat, cattle grazing and agricultural practices would result in a low impact to these resources.

If cultural or paleontological resources are discovered during Project construction and cannot be avoided, recovery of these resources would ensure no irreversible and irretrievable loss to cultural resources. Visual impacts would occur at road crossings and from scattered residences along the transmission line corridor.

The Project operations would result in the consumption of approximately 8,000 tons of coal per day from the adjacent Mine, which would be irreversibly replaced by the generation of electricity. The loss of these coal reserves would be offset by the benefit of electricity generation by the Project.

Landfill Alternative

Approximately 70 additional acres would be disturbed to develop the waste disposal landfill and associated ditches and access road. Impacts would be similar to Proposed Action with minor soil erosion caused by the transport of waste from the Generation Plant to the expanded landfill site.

The Landfill Alternative would have no impacts on threatened and endangered species. The expansion of the landfill would be more noticeable than the Proposed Action, but would result in only low visual resource impacts. As with the Proposed Action, socioeconomic benefits would result from construction jobs, taxes for government agencies and social services, and long-term jobs from operation and maintenance of the facility.

230kV Transmission System Alternative

The 230kV alternative would require fewer circuits and larger conductors, taller poles but wider spans between poles, and different hardware than a lower voltage system to transport the Project's 750MW. During construction, existing roads would be used where feasible but some new roads and upgrades to existing roads would likely be needed. Ground disturbance on the right-of-way would result in permanent loss of acreage for the pole footings and any new access roads. Temporary disturbance at work areas could be returned to pre-project use following construction. No impacts would result to threatened and endangered species.

As with the Proposed Action, socioeconomic benefits would result from construction jobs, taxes for government agencies and social services, and improved transmission infrastructure.

Visual impacts would occur at road crossings and from scattered residences along the transmission line corridor.

Cumulative Impacts

Cumulative impacts result from the incremental impact of the Project when added to other past and present actions and future actions under state review.

Residential and Commercial Development

Currently residential and commercial developments are few in the Generation Plant and Transmission System study areas and surrounding Musselshell and Yellowstone counties. Eight rural residences are located within a mile of the Generation Plant. The City of Roundup, located approximately 13 miles to the north of the Generation Plant, is the closest urban development.

According to county records, no new residential developments are currently planned for these study areas. However, given the amount of recent residential development, and the amount of land in these study areas that is subdivided, it is reasonable to assume that a small level of development would occur in the future.

The nearest commercial establishment is the Brandin' Iron Saloon, which is located along U.S. Route 87, approximately two miles north-northwest of the Project study area. A convenience store and a log furniture store are proposed along U.S Route 87, approximately

two miles northwest of the Project study area. Other plans for the area include a recreational vehicle park and golf course.

Industrial Development

The PM Mine, an underground coal mining operation, was located partially in Section 14, east of the Project study area. The PM Mine ceased operation in the 1990s, but the Bull Mountains Mine No. 1 plans to resume mining of the same area. No new coal mines or other industrial developments are known to be proposed for the Generation Plant or Transmission System study areas.

Infrastructure Development

Roads

Portions of U.S. Route 87 between Roundup and Billings were upgraded during the 1990s. The only known proposed future upgrades are the construction of acceleration-deceleration lanes where Old Divide Road (the proposed access road to the Generation Plant and associated facilities) intersects Route 87.

Transmission

The major backbone of the Montana transmission system is the two 500kV lines that run east to west across the state and through the Broadview Substation (the Project connection point). The 500kV lines connect to the BPA system at Garrison Substation, west of Broadview Substation. Additionally, 230kV transmission connects Broadview Substation to the PacifiCorp system at Yellowtail Substation southwest of the Transmission System Study Area.

According to BPA, major transmission improvements to the BPA system are planned. These improvements would include substation upgrades and transmission line additions between Montana and the Pacific Northwest.

The transmission lines from the Project would be inside or immediately adjacent to the existing railroad right-of-way for the Mine railroad to Broadview Substation, where the lines would connect to the NorthWestern Energy system. No additional land would be disturbed.

2.7 Agency-Preferred Alternative

The DEQ Preferred Alternative is the Proposed Action, with the addition of the Landfill Alternative for long-term solid waste disposal instead of long-term disposal in the Mine. In this alternative, solid waste would be stored in landfill cells adjacent to the Generation Plant site for the life of the Project.

The alternative of disposing waste in the off-site landfill is preferred over the Proposed Action of long-term disposal of waste in the adjacent Mine, because it would result in the least impacts to environmental resources. The uncertainties associated with in-mine storage of waste make the Proposed Action a higher risk for causing impacts and possible contamination to soils, water bearing geological zones, and groundwater resources. In comparison, the use of lined and monitored landfill cells would minimize the risk of these

impacts in the future. More information is needed to fully understand impacts from in-mine storage. Therefore, the Landfill Alternative is preferred.

With the construction and operation of the Proposed Action or the two alternatives (i.e., Landfill and 230kV Transmission), all resource areas, with the exception of fisheries, would experience some adverse environmental impacts (refer to Table 2-2). Impacts that would result to vegetation and wildlife would include the loss of approximately 208 acres of grass/shrubland habitat for the Proposed Action or the action alternatives. However, this habitat is common and widespread in this portion of Montana, so impacts would be low. No federally-listed or state sensitive species are known to exist in the Project study areas.

Air quality impacts were not a factor in selecting the Preferred Alternative, as impacts would not be measurably different under the Proposed Action or with selection of either of the action alternatives. Air resources were identified as having the highest Project-related impacts with most impacts ranging from low to moderate. A high impact to three Class 1 Areas (i.e., Yellowstone National Park, North Absaroka Wilderness Area, and Northern Cheyenne Reservation) was identified from Project operations impairing visibility in these areas during specific periods of time each year.

Finally, the socioeconomic benefits of preferring the Proposed Action and the Landfill Alternative (i.e., the Preferred Alternative), as well as the benefits of adding the base load generation at this location and using the proposed fuel source, would outweigh the potential environmental consequences of constructing and operating the Project as the Preferred Alternative.

DEQ's preference for this alternative could change in response to public comments on the DEIS, new information, or analysis completed as part of this FEIS.

Recommended Mitigation

Mitigation measures cannot be required by DEQ without a request from the Project Proponent that they be placed in a permit (75-1-201(5)(a) and (5)(b), MCA). The Project Proponent may request that any or all of the mitigation measures that pertain to expected impacts from their proposed activities be placed in the permits. In those instances when the Proponent chooses not to include a mitigation measure in a state permit, the Project Proponent may decide to perform the proposed mitigation voluntarily.

Construction and Maintenance Access

CM-1 All construction vehicle movement outside the 300 foot-wide easement would normally be restricted to predesignated access as negotiated with the landowner, contractor-acquired access, or public roads. Construction activities for the transmission lines would be restricted to and confined within the predefined limits.

CM-2 Roads would be built at right angles to the streams and drainages to the extent practicable.

CM-3 Culverts or rock crossings would be installed where needed.

CM-4 Existing roads would be utilized for construction where feasible.

CM-5 No paint or permanent discoloring agents would be applied to rocks or vegetation to indicate limits of survey or construction activity.

CM-6 Prior to construction, all supervisory construction personnel would be instructed on the protection of important cultural, paleontological, and ecological resources.

Air Quality

AQ-1 Suggested design and operation mitigation measures include

- Coal cleaning and/or coal preparation
- NOx control
- Carbon sequestration, such as planting trees

Earth Resources

ER-1 A Landfill Management Plan would be developed to address potential environmental impacts from proposed waste disposal.

Water Resources

WTR-1 Alternate water supplies may be necessary for a small number of wells that are proven to be directly influenced by reduction of recharge due to the plant construction.

WTR-2 Installation of groundwater monitoring wells in the vicinity of the landfill area would serve to identify groundwater impacts from leachate releases. Groundwater monitoring wells should be installed prior to startup of landfill operation in order to establish baseline conditions. A minimum of three groundwater monitoring wells would be required to characterize groundwater quality and flow direction beneath the landfill area.

Waste and Cleanup

WC-1 No equipment would be refueled or greased within 100 feet of a wetland or perennial stream. In addition, fuels, oils, lubricants, herbicides, or other potentially hazardous materials would not be stored within 300 feet of a wetland or perennial stream.

WC-2 A spill prevention plan would be developed that addresses containment and cleanup of spills affecting surface waters.

Botanical Resources and Wetlands

BW-1 Existing vegetation would only be cleared from areas scheduled for immediate construction work and only for the width needed for active construction activities.

BW-2 All reseeding mixtures used for reclamation would be certified weed-free.

BW-3 Effective soil erosion control and reseeding of disturbed areas not required for permanent access for the transmission line would be implemented to encourage revegetation.

BW-4 Transmission line structures would be located to span streams and drainages.

Wildlife Resources

WR-1 Harassment of wildlife would not be permitted at any time during Project construction activities.

WR-2 Construction timing would be altered in specific identified areas where sharp-tailed and sage grouse leks are identified.

WR-3 Install raptor diverters on transmission structures in specific identified locations to discourage raptor roosting and potential raptor predation on certain terrestrial species (e.g., sage grouse on strutting grounds).

Cultural Resources

CR-1 Each cultural resource potentially affected by the proposed action should be more completely documented and evaluated so that a formal determination of National Register eligibility can be made by the State Historical Preservation Office (SHPO).

CR-2 An assessment of effects should be performed if a cultural resource is determined eligible to the National Register.

CR-3 Adverse effects should be avoided by Project redesign, if feasible, if a considerable cultural resource would be affected by ground disturbance.

CR-4 Appropriate mitigations measures, including data recovery, should be implemented following consultation with the Montana SHPO, Native American tribes, and other interested parties if a National Register-eligible resource cannot be avoided through Project redesign.

Visual Resources

VR-1 No paint or permanent discoloring agents would be applied to rocks or vegetation to indicate limits of survey or construction activity.

VR-2 Wood poles or dulled metal surfaces would be used for the transmission line to reduce visual contrast.

VR-3 In construction areas where ground disturbance would be substantial or where recontouring would be required, surface restoration would occur as required by the landowner. The method of restoration could consist of loosening the soil surface, replacing rocks or plants removed during transmission line construction, reseeding, mulching, installing cross drains for erosion control, placing water bars in the road, and filling unnecessary ditches.

VR-4 To minimize ground disturbance over the transmission line route and/or reduce scarring (visual contrast) of the landscape, the alignment of any new access roads or

cross-country route would follow the landform contours in designated areas where practicable.

VR-5 Non-specular conductors would be used to reduce visual contrast.

VR-6 Where possible the edges of clearings in forested lands or tree groves would be feathered to avoid abrupt, straight lines.

VR-7 Baffled strobe lights would be installed on Project chimneys to direct light upward rather than outward if strobe lighting is determined to be required by the Federal Aviation Administration (FAA).

Noise

N-1 Careful evaluation of specifications and design selection of typical low-noise design options, equipment specifications, building and wall designs, and enclosure constructions would be made during the design process to ensure that the Generation Plant noise is not excessive.

N-2 The Proponent would implement noise control measures at the Generation Plant, such as silencers for decreasing noise generated during boiler steam blowout for plant start-up and maintenance.

N-3 If measured noise levels exceed L_{dn} 55 dBA at the sensitive receptors, then additional noise control measures would be installed, as necessary, to avoid adverse impacts on the sensitive receptors.

Land Use and Safety

LS-1 Existing improvements, such as fences and gates, would be repaired or replaced to their condition prior to disturbance or as agreed to with the landowner, if they are damaged or destroyed by transmission line construction activities.

LS-2 Temporary gates would be installed only with the permission of the landowner and would be restored to original condition prior to disturbance following transmission line construction.

LS-3 All existing roads would be left in a condition equal to or better than their condition prior to the construction of the transmission line.

LS-4 All new access not required for operations and maintenance of the transmission line would be closed using the most effective and least environmentally damaging methods appropriate to that area with concurrence of the landowner.

LS-5 The Project would comply with any FAA requirements regarding public safety.

LS-6 Warning signs and flag-persons would be used at all roadway crossings during transmission line construction for all state, federal, county, and local roads and highways.

LS-7 To prevent problems with livestock during the transmission line construction, all fences and gates would remain closed at all times throughout construction unless specified otherwise by the agency manager or landowner.

LS-8 The Proponent and the construction contractors would coordinate activities with property owners to ensure continued access across the transmission line right-of-way for the use of property by the property owner.

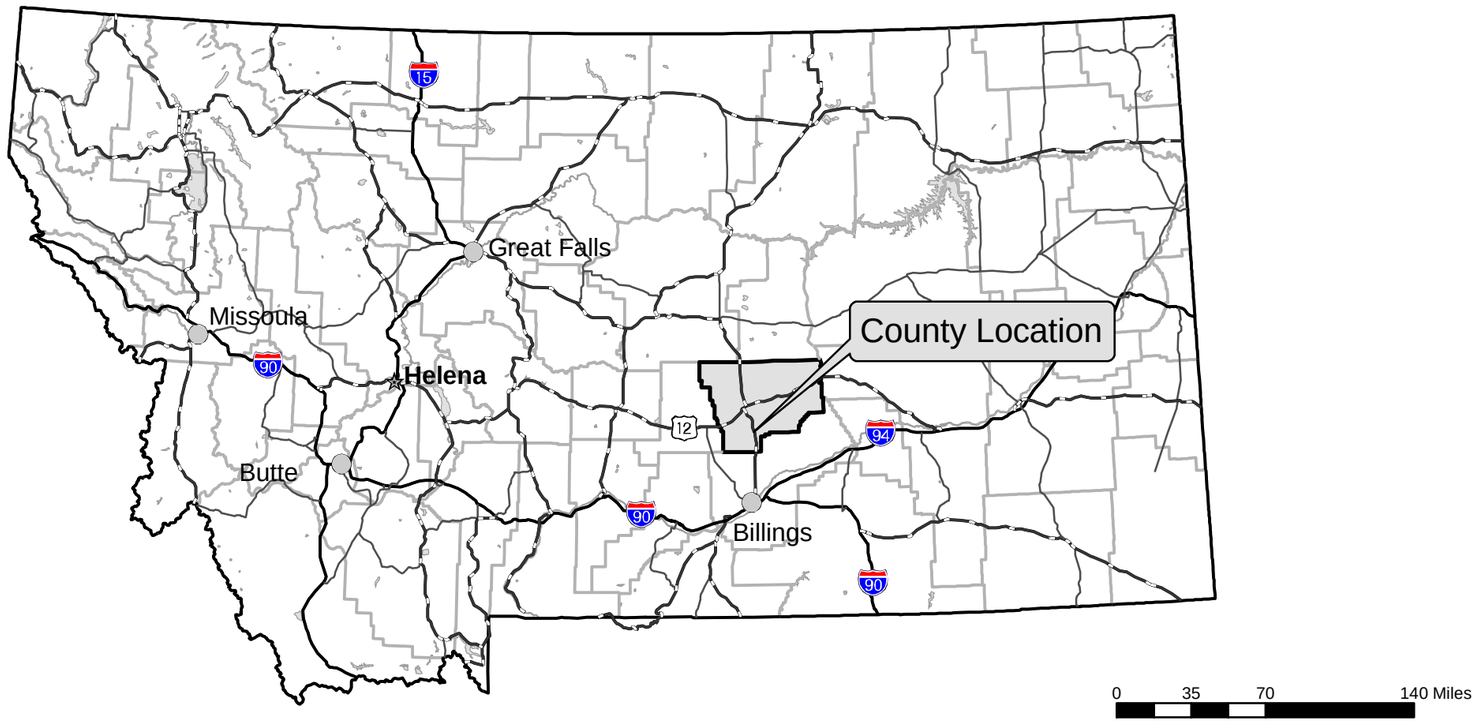
LS-9 Harassment of livestock would not be permitted at any time during Project construction activities.

Figure 2-1

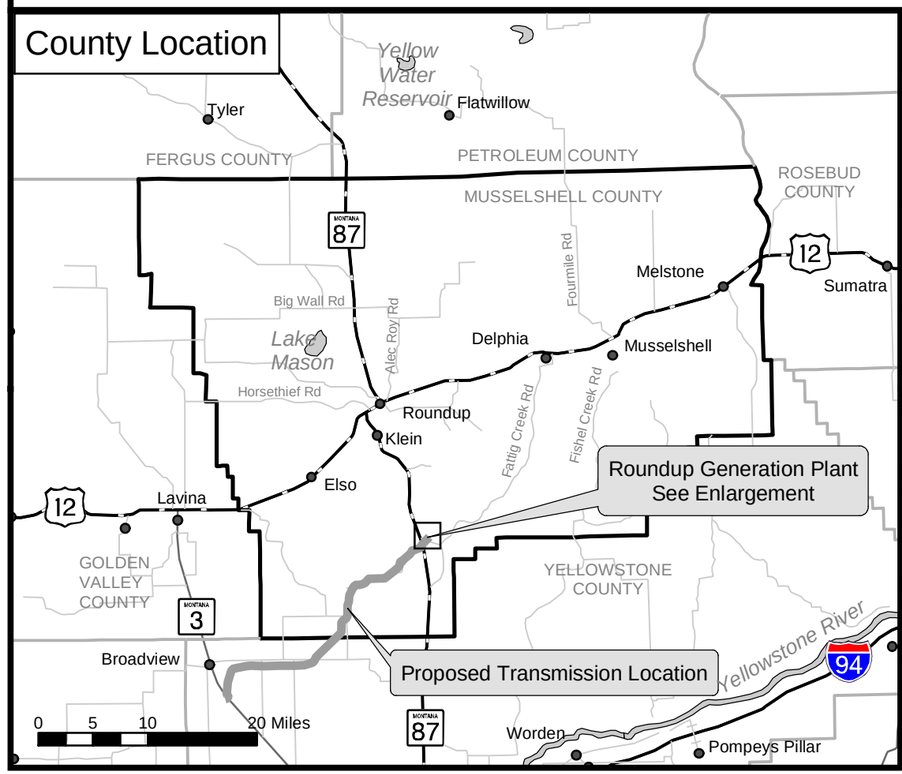
Vicinity Map

Roundup Power Project FEIS

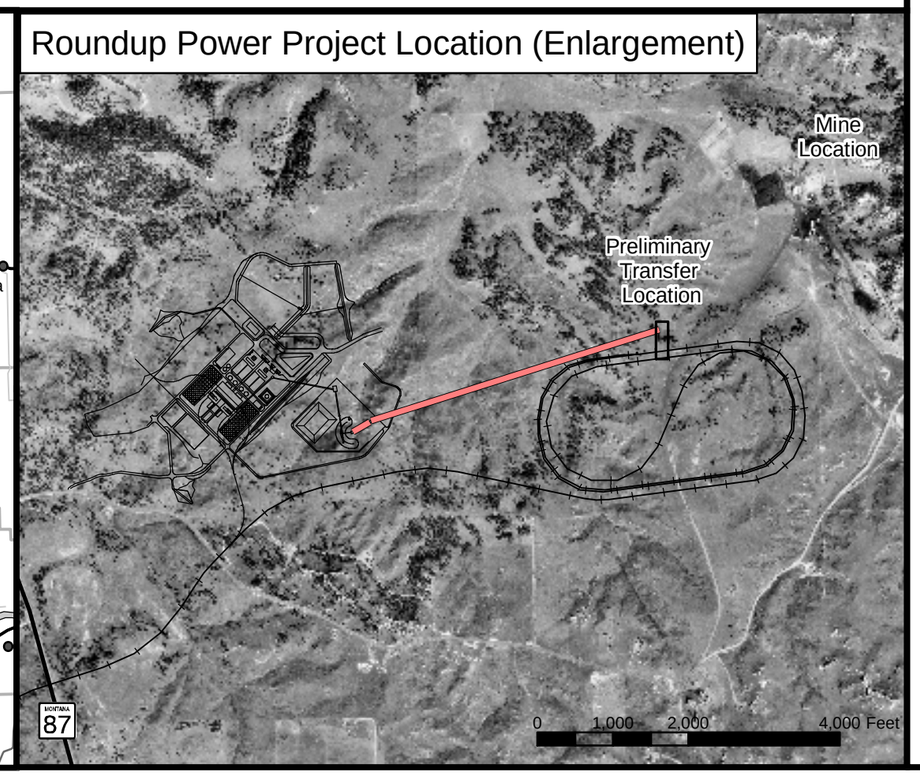
State Location



County Location



Roundup Power Project Location (Enlargement)



Legend

- Preliminary Transfer Location
- Towns
- Cities
- State Capital
- Conveyor Location
- Proposed Transmission
- Interstate Highway
- U.S. Highway
- State Highway
- County Road
- Proposed Railroad
- County Line
- Lake / Stream

Montana Department of Environmental Quality

N W E S

Power Engineers

W:\Env_Roundup\Apps\General_location.mxd

13122502_GenLoc_Rev2_010803_AAA

Table 2-1 Summary of Alternatives Considered But Eliminated

Screening Criteria	Energy Sources & Conveyance					Power Plant Processes									Waste Stream Treatment & Disposal					
	Alternative Fuel Sources					Alternative Water Sources			Cooling Systems	Alternative Combustion Systems				Generation Sites	Alternative Pollution Control and Solid Waste Treatment			Alternative Solid Waste Disposal Methods		
	Lower Sulfur Coal	Synthetic Fuels (e.g., shale oil, tar sands, etc.)	Coal Bed Methane	Gases	Fuel Cells	Yellowstone River	Musselshell River	Shallow Aquifers	Wet Cooling	Stoker	IGCC	Alternative Boiler Types	Gas Turbines / Combined Cycle		Ash & Wet FGD	Wet FGD	Separate Bottom Ash from Waste	Waste Rock Landfill	Off-Site Landfill for Life of Project	On-Site Landfill for Life of Project
Technical	Technically feasible, however coal-fired powerplants are designed to burn specific coal. Therefore, not technically feasible using the current design.	Technically feasible, but would not be feasible under current design. It is doubtful that the source could not solely support proposed load	Technically feasible, but would not be feasible under current design. Source may not be available as fuel supply after 2008	Technically feasible, but not feasible under the current design. There are many gas facilities planned throughout the country competing for limited supplies of gas.	Techically feasible, however not feasible under current design and for this size facility. Design is totally different and tied to gas or hydrogen.	Technically feasible - a pipeline could be constructed and water rights may be available.	Technically feasible, although there is not likely enough water consistently available from the Musselshell to make it a reasonable alternative water source.	Technically feasible, although not enough water is likely available from the shallow acquifer to make it aq reasonable water source.	Technically feasible, although this would increase the amount of water needed and would result in additional water resource impacts.	Technically feasible, but not practical economically.	Technically feasible.	Cyclone and CFB boilers would be used to burn higher sulfur coal and use smaller boilers. Three CFB units would be needed. Solid waste would increase.	Technically feasible in one of many different configurations being used around the country.	Other sites are not feasible in order to utilize Bull Mountain coal.	Dewatering and treating.	Waste streams would have to be separated and treated	Process would include keeping bottom ash separate from the fly ash and flu gas wastes. Disposal would be segregated.	Would need to modify Waste Rock Repository to accommodate and isolate Ash Lens	Would require additional permits.	Would likely be difficult to accommodate waste disposal on-site for the life of the project due to limited space available.
Logistics	Cost would be much higher to transport coal from other mines.	There are no conveyances available for fuel supply.	There are no conveyances available for fuel supply.	There are no conveyances available for fuel supply.	There are no conveyances available for fuel supply.	Require pipelines, pump stations, and easements	Require pipelines, pump stations, and easements	Would require additional wells. Woulddrawdown local wells in the area	Would require different design and increase water use.	Would require completely new facility design. This system would burn more coal for same MW output.	Would require completely new facilty design.	Would require completely new facility design. This system would burn more coal for same MW output.	Would require completely new facility design. No gas lines are within the area that could supply the fuel requirements. Facility would burn more gas for same MW output.	The handling logistics of transporting coal to another site would make the plan uneconomical and therefore infeasible.	Would require adding slurry pipeline and pumps.	Would require adding slurry pipeline and pumps.	Would not affect air emissions. Would require separate handling and segregated disposal, thus increasing costs.	Would need to truck at least 20 loads of ash to waste rock area per day.	TSDF construction.	TSDF construction.
Economics	Ecomonics of the facility dependent upon an abundant supply of coal in the immediate vicinity as a mine-mouth project	Ecomonics of the facility rely upon an abundant supply in the immediate vicinity, of which there are none.	Ecomonics of the facility rely upon an abundant supply in the immediate vicinity, of which there are none.	Ecomonics of the facility rely upon an abundant supply in the immediate vicinity, of which there are none.	Ecomonics of the facility are infeasible and cost prohibitive.	Would be much more expensive and would likely result in the costs being prohibitive.	Would be more expensive due to conveyance costs. Also, insufficient supplies of water would be available.	May or may not be more expensive, but supply is not likely to be sufficient.	Cost of additional water could increase costs.	More reasonable cost s but could not meet the expected outputs	No data, but costs per MW output would be expected to substantially increase.	No cost analyses were performed for these types of designs.	No cost analyses were performed for these types of designs	Other generation sites would not be as cost effective as a mine-mouth concept, and would therefore be infeasible.	Most economical, but water supply is an issue for this project.	Most economical, but water supply is an issue for this project.	Additional handling and segregated disposal would likely be somewhat more expensive.	Assume costs are similar or somewhat higher because of additional logistics to coordinate waste rock and solid waste disposal.	Would be more expensive because of handling and transportation costs.	Would likely be more expensive for special design and handling to accommodate the solid waste on-site in limited space.
Regulatory Considerations	No expected changes in regulation except that new emission rates would have to be calculated and modeled	No expected changes in regulation except that new emission rates would have to be calculated and modeled	No expected changes in regulation except that new emission rates would have to be calculated and modeled	No expected changes in regulation except that new emission rates would have to be calculated and modeled	No regulations.	Would require water right acquistion.	Would require water right acquisition (e.g., purchase from irrigators).	Would require water right acquistion. Also, insufficient supplies would likely be available on a consistent basis.	Fugitive PM10 emissions from wet cooling towers would have to be calculated and included in modeling analysis.	No expected changes in regulation except that new emission rates would have to be calculated and modeled	No expected changes in regulation except that new emission rates would have to be calculated and modeled	No expected changes in regulation except that new emission rates would have to be calculated and modeled	No expected changes in regulation except that new emission rates would have to be calculated and modeled	Regulatory requirements could be somewhat different to accommodate transport of coal and water.	Air permit would need to be modified.	Air permit would need to be modified.	Solid waste permit would need to be modified to accommodate logistics and handling with waste rock.	Would have to modify permit to accommodate this type of disposal.	TSDF permit.	Would have to permit expanded facility to accommodate off-site disposal.
Potential Resource Impacts	Similar to Proposed Action	Similar to Proposed Action	Similar to Proposed Action	Similar to Proposed Action	Water Resource impacts. Air impacts would be minimized or eliminated.	Additional impacts to water resources, fisheries, and other resources from a pipeline.	Additional impacts to water resources, fisheries, and other resources from a pipeline.	Would likely result in impacts to wetlands and water resources, and could affect well production in the area.	Additional impacts to water quality and quantity.	Additional air, solids and water resource impacts would likely result.	Additional air, solids and water resource impacts would likely result.	Air emissions would likely be higher and solid wastes would be increased.	Similar to Proposed Action after air quality mitigation.	More impacts would result to air quality because of transportation costs for the fuel.	Solid waste treatment would be more difficult and would result in more impacts to water quality and quanitity.	Solid waste treatment would be more difficult and would result in more impacts to water quality and quanitity.	Likely would result in similar impacts as the Proposed Action.	Would increase size of Waste Rock Repository	Could aggravate exposure to groundwater impacts	Solid waste off-site would result in slightly higher environmental impacts, although waste stream not expected to have measurable effect on groundwater resources.
Reasonable/ Feasible	Not reasonable because of fuel transportation costs, increased cost of logistics, and would not meet the purpose and need for the Proposed Action.	Not economically feasible and would not meet the stated purpose and need for the Proposed Action.	Not economically feasible and would not meet the stated purpose and need for the Proposed Action.	Not economically feasible and would not meet the stated purpose and need for the Proposed Action.	Not economically feasible and would not meet the stated purpose and need for the Proposed Action.	Not reasonable because increased costs of pipeline and treatment would make the project infeasible.	Not reasonable because of increased costs of pipeline and treatment, and insufficient water supplies available.	Not reasonable because of insufficient water supplies available.	Common design, but increase in water usage would result in higher construction and operation costs and increased water resources impacts. Alternative is not reasonable.	Not reasonable because increased costs would make the project infeasible, thus not meeting the stated purpose and need.	Not reasonable because increased costs would make the project infeasible, thus not meeting the stated purpose and need.	Not reasonable because these boiler types are designed for different fuel not available at this location.	Not reasonable because turbines are designed for different fuel and since adequate supplies of gas are not available, this alternative is not feasible.	Would not reasonably meet the purpose and need for the Proposed Action because increased costs would make the project infeasible.	Not reasonable since this technology would require additional water and would result in higher impacts to water resources.	Not reasonable since this technology would require additional water and would result in higher impacts to water resources.	Additional handling and segregated disposal would likely be somewhat more expensive, and was eliminated from further consideration because of increased costs and handling with no benefit.	Not a reasonable alternative because additional logistics and costs with no benefit, and is considered and eliminated.	Is not reasonable because increased costs would result in no benefit.	Not reasonable because of space limitations.

Table 2-2 Alternatives Comparison Summary

		Proposed Action	Waste Disposal Alternatives		Transmission System Alternatives		No Action
			Proposed Action - Waste Disposal in Mine After 10 Years	Alternative - Expand Landfill After 10 Years (Preferred Alternative)	Proposed Action - 3 Circuits of 161kV Transmission	Alternative - Double Circuit 230kV Transmission Line	
		Roundup Power Project, as proposed	More information would be required for in-mine storage of waste ash with long-wall coal mining method.	Designed same as Proposed Action landfill; 3 times larger landfill area	161kV would require more circuits, shorter poles and shorter spans between poles than a higher voltage system to transport 750MW	230kV would require fewer circuits and larger conductors, taller poles but wider spans between poles, and different hardware than a lower voltage system to transport 750MW	Generation facility would not be constructed or operated. Transmission System and Waste Storage proposed action or alternatives would not be constructed and operated.
Resource Impacts	**Ground Disturbance**	208 acres of ground disturbance.	208 acres of ground disturbance	Additional ~70 acres would be disturbed to develop the waste disposal landfill and the road	Use existing roads; would need some new roads and upgrades to existing roads pending railroad spur construction; Ground disturbance on right-of-way (300 feet x 28 miles) for structures and access roads; most disturbance temporary.	Use existing roads; would need some new roads and upgrades to existing roads pending railroad spur construction; fewer circuits than lower voltage would require less labor and materials; Ground disturbance on right-of-way (300 feet x 28 miles) for structures and access roads; most disturbance temporary; Less ground disturbance because of fewer	Ground disturbance resulting from constructing and operating the generating facility and transmission lines would not occur.
	Water Resource	Impacts to ground water from in-mine storage of waste unknown; more studies would be required to assess impacts; zero discharge minimizes impacts on ground water resources from wastewater ponds and solid waste landfill	Impacts unknown and will require additional investigation, however could include elevated concentrations of TDS and metals and impacts to spring and well production.	Similar to Proposed Action.	Impacts would occur from access road construction, maintenance activities, and clearing of right-of-way, structure and work areas. Crosses several ephemeral drainages. No perennial streams crossed. Crosses the Hay Basin lakebed.	Similar to Proposed Action.	Water Resource impacts resulting from construction and operation of the generating facility and transmission lines would not occur.
	Earth Resources	Soil erosion impacts would be minimal due to control of runoff from the generation site.	Minor soil erosion would result from transport of waste from generating facility to mine site.	Minor soil erosion would result from transport of waste from generating facility to expanded landfill site.	Minor displacement of earth materials. Direct impacts to soils from access roads, and clearing of right-of-way, structure locations and work areas.	Similar to the Proposed Action; slightly less because of fewer expected structures.	Earth Resource impacts resulting from construction and operation of the generating facility and transmission lines would not occur.
	Biological and Wetland	Loss of ~207 acres of grass/shrubland for wildlife habitat, grazing and agriculture; no impacts to T&E species	No impacts to T&E species	Expanding the landfill would result in additional ~70 acres habitat loss. No impacts to T&E species	No impacts to T&E species	No impacts to T&E species	Biological impacts resulting from construction and operation of the generating facility and transmission lines would not occur.
	Cultural Resource	Archaeological site within the plant site would be impacted. 51 cultural resources within 3 miles of the 574-foot chimneys, of which 8 are considered visually sensitive.	Solid waste disposal haul road and conveyor belt could potentially affect a prehistoric lithic scatter.	Could have greater impacts than Proposed Action due to greater ground disturbance.	Three cultural resources identified within or near transmission route.	Similar to the Proposed Action, however the potential to disturb undiscovered resources may be slightly lower due to increased span length.	Cultural Resource impacts resulting from construction and operation of the generating facility and transmission lines would not occur.
	Visual	Visual impacts to residents and travelers from chimneys.	Low to non-identifiable impacts.	The expansion of the landfill would be more noticeable than the Proposed Action, but would result in only low visual resource impacts.	Visual impacts at road crossings and from scattered residences resulting from transmission lines.	Similar to the Proposed Action - Visual impacts at road crossings and from scattered residences resulting from transmission lines.	Visual impacts of constructing and operating the generating facility and transmission lines would not occur.
	Land Use	Conversion of currently available grazing and agricultural land to heavy industrial use. Recreation use at the plant site would be permanently lost.	Conversion of currently available grazing and agricultural land to heavy industrial use. Recreation use would be permanently lost.	Similar to the Proposed Action.	Crossing of non-irrigated cropland, livestock grazing land, and CRP land.	Similar to the Proposed Action.	Existing land uses would continue. No impacts to land uses from the generating facility and transmission lines would occur.
	Socioeconomic Benefits	Full economic benefits realized from implementation of the Proposed Action, including tax benefits to Musselshell County and the State of Montana, jobs created during construction and during the life of the project to operate and maintain the generating facility and to mine the coal.	Socioeconomic benefits would result from construction jobs, taxes for government agencies and social services, and long-term jobs from operation and maintenance of the facility.	Similar to the Proposed Waste Disposal - Socioeconomic benefits would result from construction jobs, taxes for government agencies and social services, and long-term jobs from operation and maintenance of the facility.	Socioeconomic benefits would result from construction jobs, taxes for government agencies and social services, and long-term jobs from operation and maintenance of the facility.	Similar to the Proposed Transmission Line System - Socioeconomic benefits would result from construction jobs, taxes for government agencies and social services, and long-term jobs from operation and maintenance of the facility.	Musselshell County and the State of Montana would not gain the tax benefits, jobs, and other socioeconomic benefits from operating the generation facility and transmission line, and would not gain the jobs and economic benefits from operating the Bull Mountain Mine to support the fuel needs of the generating facility.

CHAPTER 3
SOURCES OF DEIS COMMENTS

Table 3-1 Comments from Local, State and Federal Agencies and Tribes

Comment Source	Comment Numbers
Local, State and Federal Agencies and Tribes ***(Refer to Appendix A for agency and Tribe letters)***	
Alan Olson – Representative State House of Representatives	8, 106
Charles E. Matthews Process Manager, Network Planning Bonneville Power Administration	142, 143
Dan Martin, Planner Program & Policy Analysis Bureau Rail, Transit & planning Division Montana Department of Transportation	102, 103
Don Codding Air Resource Division Nation Park Service	1, 2, 3, 4, 5, 12, 13, 19, 33, 39, 79, 80
Geri Small, President Northern Cheyenne Tribe Administration	14, 18, 32, 42, 51, 87, 88
James E. Reno, Commissioner Yellowstone County Commissioners	31, 93
Kirby Danielson Subdivision & Planning Musselshell County	94, 95, 96, 97, 98, 99, 100, 101
Richard R. Long U.S. EPA Region VIII	24, 25, 30, 37, 38, 47, 48, 49, 50, 53, 61, 62, 63, 64, 65, 66, 67
Stan Wilmoth, Ph.D. State Archaeologist/Deputy, SHPO State Historic Preservation Office	108, 109, 110, 111

Table 3-2 Comments from Private Citizens and Organizations

Comment Source	Comment Numbers *These comments are summarized from repeated topics.
Private Citizens and Organizations	
Al Mills	Thank you for your remarks
Alan W. Bridwell	17*
Alen Stoll	Thank you for your remarks
Anita Joessmann	Thank you for your remarks
Anne G. Charter, BMLOA Chair Bull Mountain Landowners Association	23, 46, 60
Ann Haggett	85*
Barbara Arms	91, 105
Barbara Yoder	17*
Berklee B. Cudmore	Thank you for your remarks
Beslanowitch	138
Bette Lowery	57
Beverly M. and Robert C. Falsted	Thank you for your remarks
Bob Stocker	Thank you for your remarks
Bonnie E. Miller	17*
Carissa Hill	Thank you for your remarks
Carol Guzman-Aspevig & Clyde Aspevig	Thank you for your remarks
Carrie Atiyeh Kowalski Environmental Defense	10, 11, 16, 22, 26, 36, 40, 41, 44, 45, 54, 52, 55, 59, 91, 82, 83, 84, 85*, 107*, 113, 114, 115, 116, 117, 123, 124, 125, 126, 127, 128, 129, 130, 131, 132, 133, 134, 135, 136, 137, 139, 140
Cecil Deming	Thank you for your remarks
Chancie Myers	Thank you for your remarks
Charlotte Trolinger	17*, 85*, 107*
Christine Caramanica	Thank you for your remarks
Christopher Lish	6, 107*
Conrad E. Wickstrom	17*
Curtis & Los Cannell	7
Curtis Hahn	17*
Danny F. Siemers	Thank you for your remarks
Dean Ruscoe	107*

Comment Source	Comment Numbers *These comments are summarized from repeated topics.
Private Citizens and Organizations	
Delores A. Poe	17*
Dennis Campbell	Thank you for your remarks
Dennis O'Reilly	Thank you for your remarks
Don Seyfert	Thank you for your remarks
Donna Luehrmann	17*
EJ Harpham	Thank you for your remarks
Elaine Rippey	Thank you for your remarks
Elizabeth Miles	Thank you for your remarks
Elizabeth Robinson	17*
Ellen Pfister	29, 43, 118, 119, 121
Emily Metzgar	17*
Eric Guidry Energy Project Staff Attorney Land and Water Fund of the Rockies	10, 11, 16, 22, 26, 36, 40, 41, 44, 45, 54, 52, 55, 59, 91, 82, 83, 84, 85*, 107*, 113, 114, 115, 116, 117, 123, 124, 125, 126, 127, 128, 129, 130, 131, 132, 133, 134, 135, 136, 137, 139, 140
Eran Holmes	Thank you for your remarks
Fred Bardelli	Thank you for your remarks
G. Todd Baugh	Thank you for your remarks
Garrett Sawyer	17*
Gavin Kramer	Thank you for your remarks
George Holton	Thank you for your remarks
Gray Harris	27
Gregory Wilhelmi	Thank you for your remarks
Group of Citizens of Montana: Patricia Borneman; Sandy Shull; Bruce H. Kershaw; Neil L. Perry; Brian Cooper; John R. Wulsin; Thomas G. Keith; Bill Borneman; Brenda Lochinton; Colette Strizils; Stanley A. Derensing; Irene N. Lee; Joseph Walden	107*
Harry Hardy	17*
Henry Dykema	17*
Herb Fobes	Thank you for your remarks
Hope Sieck Associate Program Director Greater Yellowstone Coalition	10, 11, 16, 22, 26, 36, 40, 41, 44, 45, 54, 52, 55, 59, 91, 82, 83, 84, 85*, 107*, 113, 114, 115, 116, 117, 123, 124, 125, 126, 127, 128, 129, 130, 131, 132, 133

Comment Source	Comment Numbers *These comments are summarized from repeated topics.
Private Citizens and Organizations	
Greater Yellowstone Coalition	134, 135, 136, 137, 139, 140
J. McKiely	Thank you for your remarks
James Barnett	Thank you for your remarks
James D. Greene & Martha A. Vogt	85*
James H. Meyers	Thank you for your remarks
Jean Vaira	Thank you for your remarks
Jeffrey J. Smith	Thank you for your remarks
Jerry Fraser	9, 92
Jim & Marge O'Toole	122, 133, 141
Jim Emerson	Thank you for your remarks
Jim Mckowin	Thank you for your remarks
Joan Ryshavy	Thank you for your remarks
Joanne Bernard	Thank you for your remarks
Jocelyn G. Elson-Riggins, Ph.D.	17*
Joel G. Vignere	107*
John and Kathy Pritchard	Thank you for your remarks
John C. Hain	Thank you for your remarks
John L. Delano	Thank you for your remarks
Jonathan Lotz	17*
Judy Reed	Thank you for your remarks
Julie Bolcer	Thank you for your remarks
Kathie A. Bailey	Thank you for your remarks
Kelly Corley Yellowstone Valley Citizen's Council	11, 17*, 23, 24, 31, 37, 61, 133, 135, 137
Kenneth M. Nevel	17*
Kip Gjerde	28, 112
Kip Drobish Raven Ridge Farm	Thank you for your remarks
Laine McNeil	Thank you for your remarks
Lavinia and Frank Reno	Thank you for your remarks
Lisa Discoe	85*
Lori Henderson	85*

Comment Source	Comment Numbers *These comments are summarized from repeated topics.
Private Citizens and Organizations	
Lorraine Kuntz	17*
Mack Cole	Thank you for your remarks
Margaret J. Leverton	Thank you for your remarks
Marian Lacklen	Thank you for your remarks
Mark E. Juedman	85*
Marshal Compton	17*, 107*
Martin S. Cohen	Thank you for your remarks
Mary Brower	Thank you for your remarks
Michael Ford	85*
Mike Eiselein	Thank you for your remarks
Mike Lulay	Thank you for your remarks
Mike May	17*
Mike Yochim	Thank you for your remarks
Mr. & Mrs. Donald D. Snow	17*
Mr. Donald G. Knauss	Thank you for your remarks
Ms. Linda M Bonacci	Thank you for your remarks
Ms. Sue Dickenson	85*
Nick Golder	Thank you for your remarks
Patrick Judge Energy Policy Director MEIC	10, 11, 16, 22, 26, 36, 40, 41, 44, 45, 54, 52, 55, 59, 91, 82, 83, 84, 85*, 107*, 113, 114, 115, 116, 117, 123, 124, 125, 126, 127, 128, 129, 130, 131, 132, 133, 134, 135, 136, 137, 139, 140
Paul Edwards	Thank you for your remarks
Paul S. Kent & Bill Kent	85*
Peter Zadis	17*, 107*
Philip F. Richmond	Thank you for your remarks
Ramona Clark	17*
Robert Oset	Thank you for your remarks
Roberta Frasca	Thank you for your remarks
Roger and Susan Sherman	107*
Ronni E. O'Neil	85*
Sara Toubman	85*

Comment Source	Comment Numbers *These comments are summarized from repeated topics.
Private Citizens and Organizations	
Shirley Wolters	Thank you for your remarks
Sonja Indreland	Thank you for your remarks
Stan Everson	Thank you for your remarks
Steve and Judy Bayless	Thank you for your remarks
Steve Marquardt	107*
Terry Prichard & Nancy Mertz	17*
Terry Ross (CEED) Center for Energy & Economic Development	15
Tom McKerlick	Thank you for your remarks
Tony Jewett Senior Director, Northern Rockies Region National Parks Conservation Association	10, 11, 16, 22, 26, 36, 40, 41, 44, 45, 54, 52, 55, 59, 91, 82, 83, 84, 85*, 107*, 113, 114, 115, 116, 117, 123, 124, 125, 126, 127, 128, 129, 130, 131, 132, 133, 134, 135, 136, 137, 139, 140
Vern O Rich	Thank you for your remarks
Vickie Patton Senior Attorney Environmental Defense	10, 11, 16, 22, 26, 36, 40, 41, 44, 45, 54, 52, 55, 59, 91, 82, 83, 84, 85*, 107*, 113, 114, 115, 116, 117, 123, 124, 125, 126, 127, 128, 129, 130, 131, 132, 133, 134, 135, 136, 137, 139, 140
Wade Sikorski, Ph.D.	56
Wendy Malmid	107*
Wilbur Wood	17*, 34, 35, 58, 85*, 86
William B. Hall	17*

Table 3-3 Comments from Project Proponent

Project Proponent - Thank you for your remarks	
Steven T. Wade Browning, Kaleczyc, Berry & Hoven, P.C. Bull Mountain Development Corp., LLC	20, 21, 68, 68, 70, 71, 72, 73, 74, 75, 76, 77, 78, 89, 90, 104

Table 3-4 Comments from Roundup Power Project Public Hearing

Oral Testimony from Public Hearing Dec 5, 2002 - Thank you for your remarks	
Alan Evans	Kelly Gebhardt
Bart Erickson	Mack Cole
Charles Heath	Michael Lange
Don Codding	Monty Sealey
Gary Mjolsness	Paul Tarmann
Gregory Wilhelm	Philip Richmond
Herb Fobes	Ray Frasca
Joe Dickey	Victor De Maio
John Ligget	

Table 3-5 Comments from Draft Permit Comment Period

Publics and Agencies who commented on Draft Air Permit prior to DEIS	
Wilbur Wood	34, 35, 58, 86
Beslanowitch	138
Eric Guidry Energy Project Staff Attorney Land and Water Fund of the Rockies	52, 59, 81-83, 139-140
Vicki Patton Environmental Defense	52, 59, 81-83, 139-140
Patrick Judge Energy Policy Director MEIC	52, 59, 81-83, 139-140
Steven T. Wade Browning, Kaleczyc, Berry & Hoven, P.C. Bull Mountain Development Corp., LLC	68-78
Don Codding Air Resource Division Nation Park Service	19, 33, 39, 79-80
Geri Small, President Northern Cheyenne Tribe Administration	18, 32, 51

Table 3-6 Comments from Private Citizens via Email

Private Citizens sent via E-mail - Thank you for your remarks		
Adam de Yong	Adam Hill	Adam Miller
Adam Savett	Adriana Francois	Alan Seegert
Alanna Louin	Alex Herrera	Alexandra Miles
Alexia Dorsch	Alexis Kenyon	Alice Bartholomew
Alice Benham	Alice Neuhauser	Alison McDowell
Allen Altman	Allen Church	Allison Shurr
Amanda Petel	Amanda Poverchuk	Amie Osowski
Amy Brzeczek	Amy Corley	Amy R. Prisco
Amy Schneider	Ana Velasco	Andrea Diephuis
Andrew Freeman	Andrew H. Card, Jr.	Andy Lynn
Angela Burbage	Angela Hemingway	Angela Jackson
Angela Thompson	Angie Grosland	Angus Morrison
Ann Hamilton & Ron Stirling	Ann Marie Kotlik	Ann R. Jacobson
Annemarie Fitzell	Annette Hagerty	Annette Johnson
Anthony DiLemme	Anthony Donnici	Anthony Nieter
Antony DiGiovanni	Archbishop Sergius	Art Zernis
Audna Lang	August & Judith Mirabella	Azel Beckner
Barbara A. McClain	Barbara Erb	Barbara Hayward
Barbara Schaeffer	Barbara Yoder	Barre Simmons
Barry Allison	BC Hall	Becky Maller
Becky Russell	Benjamin Coulter	Benjamin Daniel
Berklee B. Cudmore	Bernie Sierelson	Bert Smith
Beth Brown	Bethani Goste	Betsy Robinson
Betty Abel	Betty J. Van Wicklen	Betty Jean Herner
Betty Lowery	Betty Martin	Betty Stephens
Beverly Ackerman	Beverly Drucker	Billie Whittaker
Bob Knapp	Bob Thompson	Bonnie New
Brad Hutcheson	Brain Stewart	Brandy Hinkle
Brenda Lehman	Brenda Planchon	Brent Rowley
Brian Bockhahn	Brian Coan	Brian Lutenegger
Brian Scott	Brian Thomas	Bridgit Roeth
Brooke Livingston	Bruce Acciavatti	Bruce K. Mafarlane

Private Citizens sent via E-mail - Thank you for your remarks		
Bryan Roosien	Bryan Strickland	Bud Corely
Burt Culver	C. B. Pearson	Caitlin O'Reilly
Candace Dias	Carissa Hill	Carl Clark
Carla Burgess	Carla Winterbottom	Carlos Moreno
Carlton Swisher	Carol Blumenthal	Carol Liberatore
Carol Linning	Carol Oster	Carol Pridgeon
Carol Sulanke	Carolyn Bourassa	Carolyn Ganus
Carolyn Miller	Carolyn Mullin	Carrie Atiyeh Kowalski
Casper Nicca	Catherine Knollmeyer	Cathy Arnett
Cathy Burleson	Cedar Stanistreet	Celeste Shitama
Celine Nahas	Chad Fordham	Charlene Root
Charles Ferris	Charlotte Alexandre	Charmaine Oakley
Cheri Downen	Cheryl Owens	Cheryl Thacker
Chris Henderson	Chris Norbury	Chris Palmer
Christina Wilkins	Christopher Lish	Christopher Lukachko
Christopher Mull	Christy Carosella	Christy George
CJ Dupont	Claire Langone	Claire Mikalson
Clarissa Confer	Clark Andelin	Clark Andelin
Clyde Everton	Clyde Remmers	Colette Corwin
Connie Adamski	Connie Boitano	Conrad E. Wickstrom
Constance Chambers	Constance L. Everitt	Corinne Ebinger
Courtney Gartin	Craig Beach	Craig Colistra
Craig Conn	Crystal Booth	Cyndi Torelli
Cynthia Ortiz	Cyrstal Cain	D Scott
D.A.A195 Randall	Dale & Sheree Kesler	Dan and Janet Blair
Dana Palka	Dana Steeples	Dana Suechting
Dana Wullenwaber	Daniel Hawley	Danny Dillow
Darlene Wolf	Dave Easterday	Dave Trochlell
David & Diane Sonneville	David & Nike Stevens	David Anderson
David Byman	David DesRochers	David Koltz
David Lien	David Mills	David Nuckols
David Roederer	David Smith	David Thompson
David Wick	David Wright	David Yingling
Dawn Powell	Dean Griffin	Dean Ruscoe

Private Citizens sent via E-mail - Thank you for your remarks		
Deanna Gerwin	Deanna Wenstrup	Deb Klein
Debbie Feldman	Debbie Gibbs-Halm	Debra Burns
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CHAPTER 4
COMMENTS AND RESPONSES ON THE DEIS

Air Visibility

1. A significant reduction in visibility would hinder the benefits and enjoyment of visitors to Yellowstone National Park and UL Bend WA . . . Visibility impacts from the RPP alone would cause a significant change in extinction that would hinder the benefits and enjoyment of visitors to Yellowstone National Park and UL Bend WA on the days those impacts occur. The emissions from RPP would significantly contribute to the more frequent and severe cumulative visibility impacts that occur at both Yellowstone National Park and UL Bend WA.

   Response:

   DEQ agrees that a significant reduction in visibility would be unacceptable. However, the question remains as to whether or not the Project would cause a significant reduction in visibility. Currently, DEQ is analyzing the case-by-case analysis of the days of impact, the FLAG guidance document, and the applicable federal and state rules to determine whether or not the Project may cause or contribute to an adverse impact to Class I areas. A case-by-case analysis was submitted by the Project Proponent to more closely analyze the days that the model predicted an impact. The analysis takes into consideration the actual weather occurrences for the days that indicate visibility impacts greater than 5%. By rule, the Department may not issue a final air quality permit if impairment may result. However, DEQ may issue a final air quality permit if DEQ determines that the visibility analysis does not demonstrate that an adverse impact on visibility will result. DEQ's final decision on the visibility issue will be described in the ROD and will affect DEQ's decision to either issue or deny the Project a final air quality permit.

2. RPP and the MT DEQ have raised the issue as to whether RPP's contribution to the adverse cumulative visibility impacts are "significant" A review of the modeling outputs for the 1990 RPP-only and for the 1990 cumulative visibility impacts was done by the NPS/FWS (National Park Service/US Fish and Wildlife Service) to examine this issue. The results demonstrate that RPP's contributions on days in which the cumulative impacts exceed 10% at Yellowstone National Park and UL Bend WA are indeed significant. For instance, on Day #15 at receptor #33, the cumulative change in extinction is 12.24%. On that same day and at the same receptor, the change in extinction caused by RPP alone is 6.77% or 55% of the total cumulative visibility impact. On Day #16 at receptor #33, the cumulative change in extinction is 14.32%. The extinction caused by RPP alone on this date and receptor is 6.33%, representing 44% of the cumulative visibility impact. Similarly, for UL Bend WA on day #46 at receptor #351, RPP's contribution was 8.41% of the total 29.18% change in extinction (29%). Our review of both the 1990 and 1992 results shows many additional instances when RPP represents a significant percentage of a cumulative

change in extinction that is greater than 10% change in extinction at Yellowstone National Park and UL Bend WA.

Response:

See response to Comment #1.

3. This determination must be made on a case-by-case basis taking into account the geographic extent intensity, duration, frequency and time of visibility impairments and how these factors correlate with (1) times of visitor use of the Class I area, and (2) the frequency and timing of natural conditions that reduce visibility.

Response:

See response to Comment #1.

4. The Administrative Rules of Montana also give a similar definition, stating that "adverse impact on visibility means visibility impairment which the department determines does or is likely to interfere with the management, protection, preservation, or enjoyment of the visual experience of visitors within a federal Class I area.

Response:

See response to Comment #1.

5. With respect to the relationship of visibility impact and time of visitor use of the Class I areas, Yellowstone National Park and UL Bend WA are both open to visitor use 24 hours a day, year-round. Thus visitation can and does occur at any time. There were nearly three million recreational visits to Yellowstone National Park during 2001. For many visitors this is a once-in-a-lifetime experience, and the NPS and FWS are greatly concerned that the experience of each and every visitor not be interfered with by adverse visibility impairment on any day(s) in which visitation occurs. Regarding natural conditions that reduce visibility, RPP has stated that the 1990 impact that is greater than 10% occurs during a snowstorm and that a park visitor 1) would not be out in the elements to view the scenery with any expectation of seeing vast distances and 2) the natural background impairment of the snowstorm would far outweigh the impact of RPP (October 21, 2002, letter to D. Walsh, MT DEQ, from J.W. Dickey). This argument is flawed because it assumes that the snowstorm would be occurring throughout the entire 1.1 million hectare area of Yellowstone National Park, and would affect all visitors present in the park at that time. Further, it is unlikely that this weather condition would persist throughout the entire period that is modeled.

Response:

The FLAG document describes that the determination on visibility impact should take into consideration, on a case-by-case basis, the geographic extent, intensity, duration, frequency and time of visibility impairments, and how these factors correlate with (1) times of visitor use of the Class I area, and (2) the frequency and timing of the natural conditions that reduce visibility. DEQ will take this guidance statement into consideration when determining the magnitude of the Project impact on visibility.

6. The National Park Service modeled visibility impacts for the park, which as a Class I airshed is supposed to have the cleanest air in the nation. Their analysis of the cumulative effect of Roundup with other nearby polluting sources demonstrates a reduction of over 10 percent visibility on 24 days annually–an enormous number in the scope of impacts within Class I airsheds. The Billings Gazette recently reported the National Park Service, U.S. Fish and Wildlife Service, and U.S. Forest Service have expressed concern about the potential for pollution from the plant causing visibility problems at Yellowstone National Park, UL Bend National Wildlife Refuge in north-central Montana, and in the North Absaroka Wilderness Area.

   Response:

   The FLMs have expressed great concern with impacts from the Project at the Class I areas. DEQ takes the NPS concerns seriously; however, a case-by-case analysis of the days that indicated visibility impacts greater than 5% from the Project indicates that the severity of the initial modeling results may have been overestimated. DEQ has yet to determine if the Project may cause or contribute to an adverse impact at any of the Class I areas and is currently analyzing the case-by-case analysis submitted to DEQ by the Project Proponent. See response to Comment #1 for further information.

7. According to the National Parks Conservation Association, the cumulative effect of the Roundup Power Project along with other nearby sources of pollution demonstrates a reduction of over 10% visibility on 24 days annually. Additionally, the cumulative impacts to visibility at Yellowstone National Park from the proposed Roundup Power Project and other nearby sources is 39 days greater than the five percent reduction and 24 days greater than the 10 percent reduction. Because of the nearby Class I air sheds, including Yellowstone National Park, we feel this is unacceptable and must be addressed.

   Response:

   See responses to Comments #1 and #6.

8. As for the visibility concerns of the Federal Land Managers addressed on pages 4-103 and Appendix B-4, B-7, I have to question why the Federal Land Managers's would include air quality data from sources that no longer exist such as the Anaconda Smelter.

   Response:

   Such a question is more appropriately answered by the FLMs. However, DEQ intends to make a determination on the appropriate scenario for conducting the cumulative visibility analysis (as the analyses are described in Appendix B of the DEIS). The decision made by DEQ will be consistent with the applicable air quality rules.

9. The Cumulative Visibility Analysis results should not be based upon emission data of major sources, with no decrease adjustment, from the PSD baseline data of 1975. Either a more recent baseline year should be used or both increase and decrease adjustments should be included. The modeling assesses air quality impacts by doing a "cumulative" visibility analysis. If one or more of the major sources no longer exists,

their emissions should not be included in the baseline, because of the effect on "cumulative" results. The visibility analysis would likely not show nearly as many days of 5% or more Class I exceedences.

Response:

See response to Comment #8.

10. Roundup will have an adverse impact on visibility at Yellowstone National Park, and the UL Bend WA and North Absaroka Wilderness Areas. The state may not issue the air quality permit until these adverse effects are addressed. Montana has a Legal Duty to Consider the Cumulative Visibility Effects of Roundup in Conjunction with Other Emitting and Expected Pollution Sources.

Response:

See responses to Comments #1 and #6.

11. The Federal Land Managers' Modeling Analysis Documents Roundup's Adverse Visibility Impact, and Roundup's Alternative Visibility Analysis Reproduced Under DEIS Scenario Nos. 1 and 3 Are Seriously Flawed.

Response:

DEQ does not believe that any of the three visibility modeling scenarios are necessarily flawed. The FLAG document does not recommend a specific modeling protocol to determine the cumulative visibility impacts; therefore, the three different scenarios were examined. Each if the three scenarios has its own merits. Also see response to Comment # 6.

12. The Federal Land Managers finding of an adverse impact is based upon a demonstration that the current or predicted deterioration of air quality will diminish the area's national significance, impair the structure and functioning of the area's ecosystem, or impair the quality of the visitor experience in the area. Modeling results presented in the RPP PSD application and in the DEIS (based on 1990 data) show one day exceeding a 10% change in extinction and seven days greater than 5% change in visibility extinction at Yellowstone National Park. Four days exceed a 5% change in extinction at UL Bend WA. Further modeling by RPP and NPS/FWS using 1992 data show two days at Yellowstone National Park and four days at UL Bend WA exceeding a 10% change in extinction. Thirteen and sixteen days exceed 5% change in extinction at Yellowstone National Park and UL Bend WA, respectively. The results of the cumulative visibility analysis (both 1990 and 1992 data) indicate that the RPP would be a significant contributing source to adverse visibility impacts at Yellowstone National Park and UL Bend WA. The values represented in all analyses (whether RPP-only or cumulative) predict impacts that would be perceptible to visitors at Yellowstone National Park and UL Bend WA, and would violate two of the three adverse impact criteria cited above (i.e., impair the visitor's experience and diminish the area's national significance).

Response:

The analysis conducted up to the issuance of the DEIS did not include a specific case-by-case analysis of the days of impact shown by CALPUFF. Since the DEIS, the Project Proponent has submitted a case-by-case analysis of the days in question. See responses to Comments #1 and #6.

13. The NPS and FWS have concluded that Roundup Power Project alone would cause an adverse impact to visibility at Yellowstone National Park and UL Bend WA, and contribute significantly to a cumulative adverse impact on visibility at Yellowstone National Park and UL Bend WA. This finding is clearly supported by language found in the Clean Air Act, Code of Federal Regulations, Administrative Rules of Montana and in the enabling legislation that established Yellowstone National Park. Therefore, we ask that the MT DEQ not grant a final PSD permit to RPP until our adverse impact concerns are adequately addressed.

    Response:

    See responses to Comments #1 and #6.

14. . . . The tribe believes, too, that up to date modeling with current sources be done to show the cumulative effects that impact the Northern Cheyenne Reservations.

    Response:

    Up-to-date modeling was performed to determine the impacts to the Northern Cheyenne lands. The results are contained in Appendix B of the DEIS.

15. In this case, the applicant and the Department have demonstrated compliance with all of the applicable NAAQS and PSD increments. The NPS/FWS have not demonstrated that the proposed facility will have an adverse impact on an AQRV. Further, no Federal Land Managers demonstration has been submitted that provides proof not merely of a speculative risk of harm, but of demonstrable harm to an AQRV caused by the pollution from the proposed new source. In the absence of utilizing that lawful and available approach, the NPS/FWS should not be allowed to require continuous assessments and studies using questionable, non-peer reviewed and non-regulatory criteria such as those contained in the FLAG documents.

    Response:

    See responses to Comments #1 and #6.

16. MDEQ did not examine mitigating Roundup's adverse impacts on Class I areas through emission offsets at Colstrip or Other Area Pollution Sources as recommend by EPA.

    Response:

    DEQ has yet to determine whether or not the Project may cause or contribute to adverse impacts on visibility in the surrounding Class I areas. DEQ does not have the authority in this permitting action to require emission offsets at Colstrip Units 3 and 4, which were permitted by the EPA, or other area pollution sources. If there is a problem with other emission sources, the appropriate course of action would be for the FLMs to certify visibility

impairment. By certifying such impairment to EPA, other programs could be used to rectify problems created by existing sources.

17. ...I am particularly concerned about the impact of this proposed power plant on the air quality around Yellowstone National Park, a Class I airshed.

Response:

The Project would not cause or contribute to a violation of any ambient air quality standard in or near Yellowstone National Park. However, DEQ is analyzing whether the Project may cause or contribute to an adverse impact on visibility within Yellowstone. See response to Comment #1.

18. Visibility is another issue that needs to be addressed (on the Northern Cheyenne Reservation). Nitrogen dioxide greatly impairs visibility with the brown haze associated with it.

Response:

The visibility impacts from the proposed Project on the Northern Cheyenne lands were presented in the DEIS. Case-by-case factors may also influence the days of modeled impact for the Northern Cheyenne lands. The Project Proponent was required to conduct Class I visibility modeling for the nearby mandatory federal Class I areas, as required by Montana's rules. Since the Northern Cheyenne Reservation is not a mandatory federal Class I area, the Class I visibility modeling was not required as part of the New Source Review permitting process. However, as part of the EIS process, the Project Proponent was required to address impacts from the Project and cumulative impacts of the Project with other nearby sources on the Northern Cheyenne Reservation. The modeled impacts on the Northern Cheyenne lands were presented for informational purposes, but according to the regulations, cannot be used to accept or reject a permit application or to dictate permit conditions.

19. A cumulative analysis of visibility impacts is necessary.

Response:

A cumulative Class I visibility analysis was submitted to DEQ and the FLMs. The analysis was discussed by the FLMs, DEQ, and the Proponent. The information from this analysis has been included in the EIS.

20. Although the coal-fired power plant emissions would be higher from an existing plant, or roughly the same from a new plant at another location, additional emissions would result from the transportation necessary to ship the coal to its user. Additional emissions would result from the diesel-powered trains hauling the coal out of Montana. Pollutants from rail transport have been estimated for the approximately 214 trains per year that would be necessary to haul the 2.7 million tons of coal out of state. We have estimated that exporting the coal to the Montana border then burning it at a similar new facility would result in total criteria pollutants of 111% of the Project's total pollutants, and NOx emissions. Similar emission increases would occur for all other emission products.

Response:

The DEIS did not evaluate the impacts of burning Bull Mountain coal in other locations or for other projects. The objective of this Project is to combust the Bull Mountain coal at the Project facility, not at another facility. Conducting an analysis of the impacts from combusting coal at another location is outside the scope of this Project. The impacts from transporting coal to other areas were assessed in the Bull Mountain EIS (1992).

21. The visibility analysis results for Roundup Power Project impacts (Table 4-10) showed nine days of greater than 5% impact in Yellowstone National Park, based on CALPUFF modeling using 1990 meteorological data. Review of IMPROVE monitoring data from Yellowstone for 1990 (direct measurement of light extinction), which was used to determine the background conditions in the CALPUFF model, reveals that on six of the nine specific days for which Roundup impacts were predicted, 12 or more hours of visibility data were considered "invalid" by the NPS due to occurrence of precipitation and/or very high relative humidity. On two additional >5% impact days, six or more hours of data were considered to be invalid because of natural meteorological conditions. The invalid days included the day of highest predicted impact, when 18 of the 24 hours reported precipitation. Similar results were found for 1992 CALPUFF modeling results; out of 15 days of modeled 5% or greater impact, actual Yellowstone visibility was considered to be impacted by natural conditions for nine or more hours on 12 days. These comparisons support the assertion that actual impacts to visibility will not occur on most of the days of model-predicted visibility degradation. . . .

Response:

See responses to Comments #1 and #6.

Modeling

22. The modeling analysis for Roundup is technically flawed. Roundup Failed to Include All Appropriate Sources in its Class I Modeling Analyses for Increments and Visibility Impacts Such as the Massive Oil and Gas Development Planned for Montana and Wyoming, and the YELP Facility. Roundup did not include all appropriate sources in its Class I modeling analysis for increments and visibility impacts. It appears that the modeling analysis did not consider the massive oil and gas development planned for Montana and Wyoming. Roundup also failed to include SO_2 emissions from the Yellowstone Energy Limited Partnership (YELP) facility and other sources listed in Table B-1 of Appendix B. Specifically, Table B-1 lists the increment consuming SO_2 emissions of the YELP facility as zero, as well as for "Williston Basin, EB" and "Colorado Inter., EB."

Response:

DEQ does not agree that the modeling analysis is technically flawed. The Proponent did in fact include all of the increment-consuming sources in its Class I Modeling Analyses for Increments and Visibility. The YELP facility does not consume increment. When YELP was permitted, SO_2 offsets were obtained

from the Billings Exxon Refinery. Also, the Williston Basin, EB and Colorado Inter, EB facilities are compressor stations with negligible SO_2 emissions. Thus, DEQ believes all increment-consuming sources have been appropriately included in the analyses.

While it is correct that the modeling analysis did not consider the massive oil and gas development planned for Montana and Wyoming, it would not have been appropriate to require analyses based on future development that may or may not occur. The Coal Bed Methane programmatic EIS under the BLM's lead has included emissions from the proposed Project along with other recently permitted facilities. The Project Proponent is not required to include speculative development plans in their modeling analysis.

23. The EIS should include a detailed discussion of power plant air pollution's impact on human health and agricultural productivity. It should also include an economic analysis of the value of full enforcement of "Best Available Control Technology (BACT)" requirements.

Response:

The EIS does include an analysis on human health by showing that the ambient impacts from the Project's air emissions would be below the National Ambient Air Quality Standards (NAAQS) and the Montana Ambient Air Quality Standards (MAAQS). The NAAQS/MAAQS are set at levels that are intended to protect human health and the environment, with a margin of safety. The AQRV analysis in the EIS shows the impacts from air emissions (gaseous and trace metals) on sensitive species of plants, animals and soils. (See Section 4.2 of DEIS.)

The BACT analysis that was provided by the Proponent in the air quality permit application and reviewed by DEQ includes an economic evaluation of all proposed pollution control equipment. The Proponent has included additional economic evaluations in response to requests by DEQ for additional information needed for BACT determinations. For instances where the top control technology was proposed and selected, a cost per ton of reduction was not necessarily figured because it did not factor into the BACT decision.

All final BACT determinations summarized in the DEIS were completed using the top-down method outlined in the EPA New Source Review Manual. This method uses economic evaluations, collateral environmental damage assessments, and other appropriate criteria for determining BACT.

24. a) In the draft EIS, cumulative modeled impacts predict that the 3-hour and 24-hour SO2 Class I increments are exceeded in the NCIR Class I area (see Table B-2 of the draft EIS). Under our stated policies, if the Project's modeled contribution is significant, then it would appear that the permit should not be issued without further control or offsets. See 40 CFR 51.166(k); pages C.52 and C.53 of EPA's October 1990 New Source Review Workshop Manual; EPA's July 5, 1998Memorandum from Gerald A. Emison, Director, OAQPS, to Thomas J. Maslany, entitled: "Air Quality Analysis for Prevention of Significant Deterioration (PSD)."

b) Presently, our regulations establish no set values for significant impacts on Class I increment, and to our knowledge, the Montana SIP does not establish values for significance for such impacts either. In concluding in the draft EIS that the Roundup Project would not be a significant contributor to increment exceedances in the NCIR Class I area, it appears that the State has assumed that Class I significance levels EPA proposed in 1996 as part of the NSR reforms proposal (published in the Federal Register on July 23, 1996 - 61 FR 38250) are appropriate. It would be helpful if you could confirm that this is the approach you are using and your basis for concluding that these values represent an appropriate significance threshold for evaluating impacts on Class I increment.

Response:

a) The predicted 3-hour and 24-hour SO2 Class I increments are exceeded in the NCIR Class I area as a result of Colstrip Units 3 and 4. The Project does not cause or contribute to a violation of the Class I increments. As stated on page C.52 of EPA's October 1990 New Source Review Workshop Manual, "The source will not be considered to cause or contribute to a violation if its own impact is not significant at any violating receptor at the time of each predicted violation." The Project Proponent has made this demonstration through the cumulative Class I increment analysis.

b) DEQ has not established any set values for significant impacts on Class I increment nor does the Montana SIP establish values for significant impact. By policy, DEQ uses the 40 CFR 51, Appendix S, values to determine significance (i.e., whether sources locating in unclassifiable areas would cause or contribute to a violation). Because the Project emissions would be above the Appendix S significance levels, a cumulative Class I increment analysis was performed to ensure that the Class I increments would not be violated as a result of the Project. The modeling showed that the Project would not cause or contribute to any Class I increment violation. The EPA-proposed, but not adopted, PSD significance levels are 4% of the Class I increments.

25 In addition, we note that the modeled values for the Project are just under the significance levels for Class I increment used in the draft EIS. Under the circumstances, we believe it is important to carefully verify these modeled values and to correct any deficiencies in the modeling. For example, it appears that the predicted increment exceedances were based on the CALPUFF model being used for all sources near and far to the Class I area. This is not the correct regulatory approach for sources near the Class I area. Rather, the correct regulatory modeling approach would be to use CALPUFF for sources greater than 50 kilometers from the Class I area and ISC for sources less than 50 kilometers from the Class I area. Also, as we describe in greater detail elsewhere in this letter, it appears you may have underestimated emissions from the auxiliary boilers and other sources in your modeling, and we are unable to determine whether modeled values for the main boilers represent worst-case emissions on a 3-hour and 24-hour basis.

Response:

DEQ believes the correct approach for modeling all sources was used. While Colstrip Units 3 and 4 and Rocky Mountain Power are within 50 km of the Class

I areas, all of the other sources are not, including the Project. It was concluded that the cumulative impact modeling results would be most valid if all modeling was performed with the same model, rather than mixing model results from two different models. Therefore, CALPUFF was the model of choice. Furthermore, DEQ already knows the violations on the NCIR border occur by modeling only Colstrip Units 3 and 4 using the ISC model. DEQ believes using CALPUFF is the correct approach.

26. The air quality permit for Roundup must be denied unless the source mitigates the violations of the SO_2 increment at the Northern Cheyenne Class I area.

Response:

See response to Comment #16.

27. The draft EIS admits that estimated SO_2 impacts for the Project "exceed PSD modeling significance levels" (p. 4-15), and estimated cumulative impacts "are above the PSD modeling significance levels" (p. 4-101). The conclusion that no impacts would be felt further than 8.1 miles away from the project is hogwash:

Response:

The DEIS did not state that no impacts would occur further away than 8.1 miles. Table 4-9 states that the radius of impact for the PSD modeling significance level of 5 $\mu g/m^3$ extends to 8.1 miles from the facility. Table 4-9 lists the distance, in miles, to the farthest point (i.e., receptor) at which the radius of impact level of 5 $\mu g/m^3$ for the 24-hour averaging period is reached.

28. While I could reasonably live with 'Low' impact severity, I can not accept 'Moderate' and 'High' impact severities to Montana's air resources as indicated on Table 4-18. The project needs to be reformulated such that all impact severities are 'Low'. The resulting alternative should then be adopted as the DEQ Preferred Alternative.

Response:

Table 4-18 was developed to summarize the potential impacts to air resources from the proposed action and the alternatives. Impact severity was defined as Low, Moderate and High. Low impacts indicated that the Project's modeled emissions were below screening thresholds, while Moderate indicated that the modeled emissions were above the screening thresholds. High indicated that the modeled emissions were near the standards. The standards were not exceeded in any case but the impact severity table was developed to show how close the modeled emissions were to the ambient standards or Class I/II increments. DEQ does not have the authority to deny an air quality permit based upon emissions that would be within lawful limits.

29. According to the EIS, there is an area 8.5 miles in radius from the RPP that will suffer a higher deposition of pollutants. See Exhibit "B" attached hereto. I would like to see a lot more detailed discussion of what we who live within that radius or own land within it can expect as affects to us.

Response:

The 8.1-mile reference is used to identify how far the radius of impact for the PSD modeling significance level of 5 μg/m3 for a 24-hour period extends from the facility. People living within the area or owning land will be impacted by the Project to some degree. However, the modeling has demonstrated that all ambient standards would be met. The ambient standards are set to be protective of human health and the environment.

30. In Table 5-7 (page 50 of the permit application) and Table 4-38 (page 4-99 of the draft EIS), it does not appear that the flare emission limits from the Billings/Laurel sources were considered in the NAAQS/MAAQS modeling; the limits shown appear to be only the limits from the Billings/Laurel SO_2 State Implementation plan (SIP). The flare limits must be considered in the NAAQS/MAAQS modeling.

Response:

The flare emissions were erroneously left out of the model. These limits are 150 lb/3-hr each for Montana Sulphur, Exxon, Cenex, and Conoco. Because the flare limits for Billings/Laurel are not included in the SIP submitted to EPA but are state-only enforceable limits, they were inadvertently left out of the model. The emissions entered into the model were 33,311 lb/3-hr; thus, the total emissions were underestimated by 600 lb/3-hr or 1.8%. However, this fact makes little difference in the final outcome of the modeling. For instance the 1-hour high-second-high modeled concentration is 480 $\mu g/m^3$, the background concentration is 41.6 $\mu g/m^3$ for a total concentration of 522 $\mu g/m^3$. Assuming the modeled results were scaled to account for this omission the difference would be negligible at less than 3 $\mu g/m^3$. The one-hour MAAQS is 1300 $\mu g/m^3$.

31. The predominant wind direction for this region is from the Southwest. The possible decrease in visibility to Yellowstone National Park is misrepresented.

Response:

Even though the predominant wind direction is from the southwest, visibility impacts are calculated on a 24-hour average. Therefore, the predominant wind direction has little effect when calculating maximum daily visibility impacts. As long as the wind direction is toward Yellowstone National Park during any 24-hr period (i.e., midnight to midnight), visibility impacts can occur at Yellowstone National Park.

32. The Northern Cheyenne Indian Reservation is a redesignated Class I airshed. According to our wind data the prevailing winds are from the northwest. There are over twenty years of air quality data on the reservation. The site of the power plant is approximately 100 miles to the northwest of the reservation. Any impacts from this source, such as sulfur dioxide and nitrogen dioxide, would impact the increment concerning the Class I status.

Response:

The Proponent conducted air-modeling analyses to identify the potential impacts from the Project on the air quality at the Northern Cheyenne Reservation. The analyses were conducted to identify the potential impacts at

the Northern Cheyenne boundary. DEQ has used the information to describe potential impacts in the DEIS.

33. A cumulative SO_2 increment analysis is necessary.

Response:

A cumulative Class I SO_2 increment analysis has been submitted and discussed by the Federal Land Managers, DEQ, and the Proponent. The information from this analysis has been included in the DEIS.

34. We already have a local problem when one considers cumulative effects from emissions from the nearby petroleum and other refineries in Laurel, Billings, and Lockwood, just 35 miles to the south.

Response:

The applicable air quality rules and regulations require that the Proponent consider emissions from other sources in the modeling analyses. The Proponent conducted the analyses (including other emitting sources as appropriate), and DEQ reviewed the analyses to determine the accuracy and adequacy of the modeling that were conducted. Based on the modeling impacts from the Project and other nearby sources, the proposed Project would comply with the applicable air quality rules, regulations, and standards as required for permit issuance.

35. The Department needs to consider the cumulative effects (from all of the new and proposed power plants in Montana) of carbon dioxide and other greenhouse gases and pollutants and particulates that are inevitably released into Montana skies.

Response:

Only emissions from the recently permitted Rocky Mountain Generation facility were included in the cumulative modeling analysis. Other recently permitted sources, such as Montana First Megawatts Plant, Silver Bow Generation Plant, and Thompson River Cogeneration Plant, were not included in the cumulative modeling analysis because they are all located at distances greater than 200 km from the Project. DEQ determined that the impacts from sources this far away would not be significant. Furthermore, carbon dioxide and other greenhouse gases are not regulated air pollutants under the federal or state regulations, so cumulative effects from carbon dioxide were not analyzed.

Short-Term Emission Rates

36. Roundup Failed to Model Maximum Short-Term Emission Rates for SO_2.

Response:

Maximum short-term emission rates for SO_2 were modeled for all short-term modeling analyses (i.e., ambient standards, PSD increments, and AQRV). DEQ will include short-term SO_2 emission limits in the final air quality permit, if one is issued. All final decisions will be provided in the ROD.

37. Currently the draft permit only contains SO_2 emission limitations on a 30-day rolling average. This approach may be acceptable only if modeling for protection of the short-term NAAQS and PSD increments was based on worst-case hourly SO_2 emissions, rather than on the 30-day emission limitations in the draft permit. Based on the information we've received, we cannot tell whether worst-case hourly conditions were modeled. Table 4-8 (page 4-13) of the draft EIS indicates the hourly lb/hr limits and annual lb/hr limits were modeled. The document does not clearly explain what the hourly lb/hr limits are based on; there are no such limits in the draft permit. For example, are these levels based on the source's maximum potential to emit?

    At a minimum, we believe that the permit action should either establish short-term emission limits in the permit itself, or justify that worst-case hourly SO_2 emission limits have been modeled for protection of short-term NAAQS and PSD increments. Our preference would be that the permit itself include the worst-case modeled hourly SO_2 emission limits, in addition to the 30-day BACT limits.

    Response:

    See response to Comment #36.

38. The NO_x emission limits in the draft permit are expressed on a rolling 30-day average, but we do not see this as an issue for protection of NAAQS and PSD increments, because of the NO_x NAAQS and increment are annual averages. However, we do support the comment that the National Park Services made in its August 27, 2002 letter to Dan Walsh, that an equivalent 24-hour limit be set for NO_x to control short-term impacts upon visibility.

    Response:

    Maximum short-term emission rates for NOx were modeled for all short-term modeling analyses (i.e., ambient standards, PSD increments, and AQRV). DEQ will include short-term NOx emission limits in the final air quality permit, if one is issued.

39. The Preliminary Determination on Permit Application does not set a limit on boiler heat input (except for tons of coal per year), nor are there any short-term emission limits for various pollutants. There are no limits at all for H_2SO_4. The lack of short-term (e.g., 3-hr and 24-hr) limits is especially problematic because the applicant has proposed to "overfire" the boilers for short periods, thus resulting in abnormally high emissions. These higher emission rates increase the possibility that AQRVs at Yellowstone NP and UL Bend WA could be adversely impacted. Therefore, we ask that MT DEQ include short-term limits for all pollutants in the final permit. It is also important that these rates correspond to those modeled in the air quality permit impact analysis.

    Response:

    Maximum short-term emission rates for SO_2 were modeled for all short-term modeling analyses (i.e., ambient standards, PSD increments, and AQRV). DEQ will include short-term SO_2 and NOx emission limits in the final air quality

permit, if one is issued. DEQ will review the need to include a limit on boiler heat input.

DEQ is currently discussing the applicability of an H_2SO_4 limit. If DEQ decides to establish a limit for H_2SO_4, the limit will be included in the final air quality permit, if one is issued. Such a decision will be based upon what other recently permitted similar sources have been required to do.

Meteorological Data

40. Use of Billings Meteorological Data Without Consideration of Local Data Is Technically Flawed.

Response:

The Proponent consulted with DEQ prior to conducting any modeling. DEQ agreed that Billings' meteorological data would be considered representative. The EPA New Source Review workshop manual states that site-specific meteorological data is preferred for air quality modeling analyses if one or more years of quality assured data are available. However, if at least one year of site-specific data is not available, five years of meteorological data from the nearest National Weather Service station can be used in the modeling analysis.

41. Roundup Failed to Use the Most Recent Five Years of Meteorological Data.

Response:

The Proponent used five years of surface meteorological data (1987-1991) collected at the Billings International Airport National Weather Station and the corresponding upper air data collected at the Great Falls International Airport National Weather Station. These five years of data represent the most readily available processed data and were approved by DEQ.

42. Page 4-5, 4.2.1: Paragraph number 4 and 5: Acid rain has been known to form miles downwind of a coal fired power plant. We have over twenty years of met data on the Northern Cheyenne Reservation. The prevailing winds are from the west, northwest and north, therefore the reservation would be impacted from RPP.

Response:

Although not performed for the Northern Cheyenne Indian Reservation, acid deposition from nitrogen and sulfur compounds was calculated for the UL Bend WA, Yellowstone National Park, North Absaroka WA, and numerous areas in the Beartooth Wilderness near Yellowstone National Park. Only the receptor at the UL Bend WA showed acid deposition slightly above the Data Analysis Thresholds (DAT) established by the Federal Land Managers. (See Table 4.12 of the DEIS.) The data supplied in the DEIS indicates that the acid deposition from the Project, which includes wet "acid rain" and dry deposition, would not greatly impact the Northern Cheyenne Indian Reservation.

43. A little more recent weather data is in order for both Billings and RPP. See Exhibit "A-1" for an indicator map of where pollution from the RPP will enter the Yellowstone Valley according to the Mine wind rose.

Response:

Even if more recent weather data or onsite data (assuming it is PSD modeling-worthy) are used in the PSD modeling analysis, maximum 3-hour and 24-hour impact values will probably not significantly change. Annual impacts based on a different predominant wind direction will shift with the wind direction, but the annual model-predicted impacts in the Yellowstone Valley are quite low and shifts in predominant wind directions will not cause significantly larger impacts in the Yellowstone Valley.

Best Available Control Technology (BACT)

44. Federal and state clean air laws, and MEPA require Montana to consider available methods - including IGCC - to lower airborne contaminants from Roundup. IGCC is available and must be considered in the BACT Analysis.

Response:

DEQ has followed all federal regulations, state regulations, and EPA-recommended guidance in the evaluation of BACT. Even though evaluating other types of power facilities is out of scope for a BACT analysis, DEQ has examined IGCC facilities. Based on information submitted by the Project Proponent and research by DEQ, DEQ determined that IGCC is not a viable option for the Project.

45 The proposed SO_2 and PM emission limits for Roundup fail to meet Wyoming's recent BACT determination for the WYGEN 2 facility.

Response:

When the draft air quality permit and DEIS were issued, the WYGEN 2 facility had not yet been permitted. Now that WYGEN2 has been permitted, DEQ will consider the determination made for WYGEN2 in the BACT determination. The final determinations on this issue will be described in the ROD and in a final air quality permit, if one is issued.

46. Montana should follow the lead of other states by rejecting the applicants' pulverized coal plant design and directing them to evaluate an Integrated Gasification Combined Cycle alternative under the "Best Available Control Technology (BACT) national standard.

Response:

See response to Comment #44.

47. The draft permit specifies 0.015 lb/MMBtu as BACT, based on use of a baghouse. We believe 0.012 lb/MMBtu or lower should be specified as BACT. A BACT determination of 0.012 was recently made by the Wyoming DEQ for the WYGEN2 project, a 500MW PC-fired boiler to be constructed by Black Hills Corporation. Wyoming's determination was based on use of a baghouse with membrane-type bags (e.g., Gortex).

Response:

See response to Comment #45.

48. BACT in terms of lb/MMBtu. The draft permit specifies 0.12 lb/MMBtu (on a 30-day rolling average) as BACT, based on use of a dry SO_2 scrubber and assuming 94% control efficiency and worst-case coal sulfur content (equivalent to 1.90 lb/MMBtu as the scrubber inlet). We [EPA] believe a much tighter lb/MMBtu limit should be specified as BACT, for the following reasons: . . .

Response:

DEQ has followed all federal regulations and state regulations in the evaluation of BACT. DEQ is continuing to analyze other recently permitted similar sources as part of the ultimate BACT determination. The final BACT determination will be consistent with the applicable air quality rules. DEQ's final decision will be described in the ROD.

49. BACT in terms of control efficiency. A minimum required SO_2 scrubber efficiency should be included in the permit, to ensure proper operation and maintenance of the scrubber, and to ensure that SO_2 emissions are minimized at all times, regardless of the sulfur content in the coal. Because of the severe visibility impacts identified by the Federal land manager, we believe the permit should specify scrubber efficiency in the range of 94% to 96% (on a 30-day rolling average), with compliance to be demonstrated via SO_2, CEMS at the scrubber inlet and outlet. We note that 40CFR 60.47a(b)(I) already requires inlet and outlet CEMS. We consider 96% efficiency achievable based in part on BACT determinations by other states (mentioned above), and on vendor literature from Babcock and Wilcox (a manufacturer of large PC-fired boilers and control equipment; see www.babcock.com), which indicates that even higher SO_2 control efficiencies of 96% to 98% can be achieved with dry scrubbers, even where low-sulfur western coal is used.

Response:

DEQ is continuing to review the BACT analysis. Emission control efficiency requirements are typically not the result of BACT analyses. However, DEQ will review this suggestion in the context of the BACT determination. The final BACT determination will be consistent with the applicable air quality rules and recently permitted similar sources. The visibility impacts identified by the FLMs are a separate issue than BACT. The visibility issue cannot be used to establish the BACT determination. See response to Comment #48.

50. The draft permit specifies 0.07 lb/MMBtu (on a 30-day rolling average) as BACT, based on combined use of low- NO_x burners (LNB), selective catalytic reduction (SCR) at 80% control efficiency, and overfire air (OFA). The Montana DEQ's discussion of available control technologies of NO_x fails to mention ultra-low- NO_x, burners (ULNB). Vendor literature from Babcock and Wilcox (see www.babcock.com) indicates that the ULNB, in conjunction with 90% efficient SCR, could achieve NO_x emission rates in the range of 0.015 to 0.025 lb/MMBtu.

Response:

DEQ has followed all federal regulations and state regulations in the evaluation of BACT. DEQ is continuing to review the NOx BACT analysis. DEQ's final decisions will be described in the ROD.

51. It is very important that BACT be implement in the operation of RPP.

Response:

DEQ has reviewed the BACT analysis that was submitted by the Proponent. In addition, DEQ has 1) researched other BACT determinations made throughout the nation, 2) reviewed current BACT proposals in other areas, and 3) discussed BACT proposals with other state and federal agencies. As required by rule, the BACT determinations were made taking into consideration energy, environmental, and economic impacts and other costs. Based upon this BACT review, DEQ determined that the BACT conditions contained in the Preliminary Determination were appropriate. Since the issuance of the preliminary determination, other BACT determinations have been made. DEQ is currently reviewing the BACT determinations. The final BACT determinations will be discussed in the ROD.

52. BACT Determination

a. MTDEQ's Preliminary Determination for the Roundup Power Project Fails to Satisfy the Core Requirements of a BACT Determination

Response:

DEQ disagrees with the assertion that the preliminary determination fails to satisfy the core requirements of a BACT analysis. DEQ believes that the analysis conducted for the preliminary determination completely satisfies the core requirements of a BACT analysis.

b. IGCC is a Well-Established Technology with Significant Emission Reductions Benefits that must be Considered as Part of the BACT Analysis.

Response:

The governing air quality regulations and supporting policy/guidance make it clear that BACT determinations are not a basis for redefining a project. Requiring the Proponent to install IGCC as part of the BACT determination would clearly redefine the Project. The appropriate control technologies were analyzed for the Project.

c. Circulating Fluidized Bed Combustion is a Well-Established Technology with Significant Emissions Reductions Benefits that Must be Considered as Part of the BACT Analysis

Response:

The administrative record shows that DEQ not only considered circulating fluidized bed (CFB) boilers, but DEQ requested more information on this issue from the Proponent. Based on information submitted by the Proponent to DEQ and research by DEQ, DEQ determined that CFB boilers did not constitute BACT.

d. The Proposed SO_2 Emission Limitation Does Not Reflect BACT

Response:

DEQ is continuing to review the SO_2 BACT determination. Additional BACT information has become available since the preliminary determination was issued. DEQ's final BACT determination will be described in the ROD.

e. The BACT Analysis Fails to Adequately Consider Circulating Dry Scrubber Technology

Response:

Circulating Dry Scrubber (CDS) technology was adequately analyzed as part of the SO_2 BACT analysis. The Project's initial air quality permit application included an evaluation of the CDS technology. DEQ requested more information on CDS technology from the Proponent. Based on this information and DEQ research, DEQ determined that CDS technology does not constitute BACT

f. The Draft Permit Fails to Impose an Emission Limitation Representative of BACT for Sulfuric Acid Mist

Response:

DEQ is currently considering a sulfuric acid mist limit for the Project. Any final decisions will be included in the final air quality permit, if one is issued.

g. The Proposed PM_{10} Emission Limit Does Not Reflect BACT.

Response:

DEQ is currently considering revising the PM_{10} emission limit for the Project. Any final decisions will be included in the final air quality permit, if one is issued.

h. MTDEQ Has Failed to Specify a Visible Emission Limitation Representative of BACT

Response:

DEQ does not believe a 5% opacity limit is necessary or constitutes BACT. The definition of BACT in the state regulations allows the establishment of a visible emission limit in lieu of an emission limit if necessary. The definition does not indicate that a visible emission limit must be established as part of the BACT determination. The opacity limit of 20% will remain in the final air quality permit, if one is issued.

Maximum Achievable Control Technology (MACT)

53. The project is subject to case-by-case MACT pursuant to section 122(g) of the Clean Air Act. However, Montana DEQ did not establish case-by-case MACT limits or follow the procedures specified in the Administrative Rules of Montana (ARM)) 17.8.342 or 40 CFR §63.43(c) Review options, (f) Administrative procedures for

review of the Notice of MACT Approval (g) Notice of MACT Approval and (h) Opportunity for public comment on the Notice of the MACT Approval.1

Response:

DEQ concurs that the Project is subject to case-by-case MACT requirements under state and federal regulations. The procedures for completing a case-by-case MACT given in ARM 17.8.342 and 40 CFR 63.43 will be followed in completing a MACT determination (notice of approval or disapproval) prior to beginning actual construction of the Project or in conjunction with issuance of the final air quality pre-construction permit.

54. MDEQ must establish emission limitations for mercury and other HAPS to be discharged from the Roundup Power Plant as required by federal and state law.

Response:

DEQ is responsible for implementing requirements for control of hazardous air pollutants (HAPs) from new major sources of HAPs, as described in the response to Comment #53. ARM 17.8.342 stipulates that a new major source of HAPs must obtain a notice of MACT (maximum achievable control technology) approval prior to beginning actual construction. The MACT determination for newly constructed major sources is governed by requirements in 40 CFR 63.43; the determination results in a MACT emission limitation or requirement which shall not be less stringent than the emission control which is achieved in practice by the best controlled similar source.

A specific design, equipment, work practice or operational standard, or a combination thereof may be substituted for an emissions limit if DEQ specifically determines that it is not feasible to prescribe or enforce an emission limitation under the criteria set forth in section 112(h)(2) of the Federal Clean Air Act [40 CFR 63.43(d)(3)].

55. Mercury has serious, adverse impacts on public health and the environment. MDEQ must establish rigorous Hg emission limitations for Roundup to ensure protection of public health and the environment.

Response:

See response to Comment #54.

56. An increase in mercury exposure across all of southeastern Montana is unacceptable to me.

Response:

See response to Comment #54.

57. What of mercury byproducts?

Response:

When coal is burned in a boiler, mercury is converted to elemental mercury vapor (Hg0) in the high temperature regions of combustion devices. As the flue gas cools, Hg0 is oxidized to ionic mercury (Hg++). In coal-fired combustors, Hg0 may be oxidized to mercuric oxide (HgO), mercuric sulfate ($HgSO_4$),

mercuric chloride ($Hg\ Cl_2$), or some other mercury compound (EPA-600/R-00-083). Hg0, $Hg\ Cl_2$, and HgO can adhere to porous solids such as fly ash, powdered activated carbon, and calcium-based acid gas sorbents for subsequent collection in a particulate matter control device.

Once in the atmosphere, mercury exists in either the elemental vapor or ionic form (EPA-600/R-00-083). Most of the mercury in the atmosphere is elemental mercury vapor and inorganic mercury; most of the mercury in water, soil, plants and animals is inorganic and organic mercury (primarily methylmercury) (EPA-823-F-01-011).

Methylmercury is the most common organic form of mercury and is easily absorbed into the living tissue of aquatic organisms and is not easily eliminated. Therefore, it accumulates in predators. The degree to which mercury is transformed into methylmercury and transferred up the food chain through bioaccumulation depends on many site-specific factors (such as water chemistry and the complexity of the food web) through processes that are not completely understood (EPA–823-F-01-001). Methylmercury is highly toxic to mammals, including people, and causes a number of adverse effects. EPA has established a criterion of 0.3 mg methylmercury/kg in fish tissue that should not be exceeded to protect the health of consumers of noncommercial freshwater/estuarine fish. EPA has developed a quantitative model relating air deposition of mercury to accumulation of methylmercury in fish. EPA is also developing procedures to translate methylmercury concentrations in fish to total mercury concentrations in ambient surface water.

58. Mercury emissions were not addressed at all.

Response:

See response to Comment #57.

59. The draft Roundup permit fails to include MACT emission limitations.

1. Roundup's Permit Application Fails to Adequately Address Case-By-Case MACT Application Requirements

Response:

See response to Comment #53.

2. The Mercury MACT Emission Limit for Roundup Should Be Based on Ninety Percent Reduction Achievable with Activated Carbon Injection

Response:

See responses to Comments #53 and #54.

Draft Air Quality Permitting Issues

60. The EIS and air pollution permitting process should be suspended pending demonstration by the applicant of serious intention to commence construction with 12 months of permitting.

Response:

Federal PSD regulations state that a facility must commence construction within 18 months of the final permit being issued or BACT would have to be reevaluated before construction can commence. Currently, the Preliminary Determination of the Project air quality permit states that the Project Proponent must commence construction within 3 years. However, DEQ may change this requirement to 18 months. Any final decisions will be in the ROD, and if issued, the final air quality permit.

61. EPA has not approved into the SIP the de minimis permitting provisions mentions in section II.C.2. We believe section II.C.2 should be removed from the permit.

Response:

State regulations allow for de minimis changes. The regulations apply to sources applying for an air quality permit in Montana.

62. The draft permit only requires a stack test once every five years for NOx and SO_2 emissions from the auxiliary boilers. We do not believe this is adequate to demonstrate continuous compliance with the emission limitations in lbs/hr. For SO_2, the permit should also require record keeping for sulfur content in the fuel oil burned, the quantity of fuel oil burned per hour, and the resulting SO_2 emission rate in lb/hr. For NOx, the permit should require annual stack tests, unless test results are sufficiently below the emission limitation that test frequency can be reduced to once every five years.

Response:

DEQ is examining the testing schedules and record keeping requirements contained in the draft air quality permit. DEQ's internal testing guidance and the use of CEMS will affect the ultimate decision on testing frequency. DEQ's final decisions will be discussed in the ROD and in the final air quality permit, if issued.

63. We have several questions with respect to the PM_{10}, SOx and NOx emission calculations on pages 23 and 24 of the draft permit and the provisions in sections II.A.13 through 17 and 19.

1) First, section II.A.16 limits diesel consumption of the two auxiliary boilers to 5,438,400 gallons per rolling 12-month period and section II.A.17 limits the combined hours of operation of the two auxiliary boilers to 3,300 hours per rolling 12-month period. If you divide total oil consumed by total hours of operation (5,438,400/3,300) you would consume 1,648 gallons/hr. Yet the calculations on pages 23 and 24 assume that 823 gals/hr of oil are used. The calculations on pages 23 and 24 of the draft permit and the emission calculations for the auxiliary boilers in Appendix B2 of the permit application seem to imply that the fuel oil consumption for auxiliary boilers will be around 2,766,000 or 2,716,000 gallons year, respectively. We question whether the limit in section II.A.16 was developed in error. If not, we question why 823 gal/hr was used in calculations on pages 23 and 24.

2) Second, the limit in section II.A.13 is not consistent with the calculations on pages 23 and 24 of the draft permit. The calculations in the draft permit indicated that emissions would be 64.61 lbs of SO_2/yr, yet section II.A.13 has a limit of 6.46 lbs of SO_2/hr. It appears that the limit in section II.A.13 is incorrect. The permit application also appears to indicate that 6.47 lbs of SO_2/hr was used in the permit modeling.

3) Third, the limit in section II.A.19 is not consistent with the calculations on pages 23 and 24 of the permit. Section II.A.19 indicates that the sulfur content of the No. 2 fuel oil used in the auxiliary boilers shall not exceed 0.05%, yet the calculations on pages 23 and 24 indicate that the sulfur content on the fuel oil is 0.5%. Perry's Chemical Engineer's Handbook indicates that No. 2 fuel oil contains 0.5% sulfur (see 1984 edition, pages 9-10 to 9-???). We question whether the limit in section II.A.19 is correct. We also believe that section II.A.19 should be rewritten to make it clear that only No. 2 fuel oil or better can be burned in the auxiliary boilers. Finally, we note that the permit limit for sulfur content in fuel oil needs to be at least as stringent as the 1 lb of sulfur per mmBTU fired limit required by ARM 17.8.322(4).

Response:

The request for corrections to the Preliminary Determination of the Project air quality permit will be examined by DEQ. If warranted, the changes will be made in the final air quality permit, if issued.

64. Section III.H of the permit indicates that construction must begin within 3 years of permit issuance and proceed with due diligence until the project is completed or the permit revoked. We believe this is an unreasonably long period of time before construction must begin. BACT could change considerably in three years; accordingly, our PSD regulations (40 CFR 52.21(r)(2)) provide:

Approval to construct shall become invalid if construction is not commenced within 18 months after receipt of such approval, if construction is discontinued for a period of 18 months or more, or if construction is not completed within a reasonable time. The Administrator may extend the 18-month period upon a satisfactory showing that an extension is justified. This provision does not apply to the time period between construction of the approved phases of a phased construction project; each phase must commence construction within 18 months of the projected and approved commencement date.

Response:

See response to Comment #60.

65. Although the Montana SIP does not appear to contain an equivalent provision, it does contain ARM 17.8.819, "Control Technology Review," which corresponds to our 40 CFR 51.166(j). Subsection (4) of ARM 17.8.819 provides that for phased construction projects, the determination of BACT must be reviewed and modified as appropriate "at the latest reasonable time which occurs no later than 18 months prior to commencement of construction of each independent phase of the project. At such time, the owner or operator of the applicable stationary source may be required to demonstrate the adequacy of any previous determination of BACT for the source."

This makes clear the maximum length of time a BACT determination should be considered valid is 18 months, and although the Roundup Project has not been labeled a phased construction project, we believe the permit must include a term, consistent with ARM 17.8.819(4), requiring review of and potential revision to BACT if construction does not begin within 18 months. In the alternative, the permit should be revised to require that construction begin within 18 months.

Response:

See response to Comment #60.

66. The draft permit does not provide a method for monitoring compliance with the VOC emission limit in section II.A.10.

Response:

State regulations do not require preconstruction permits to have monitoring compliance plans for all regulated air pollutants; however, the Title V operating permit, if issued, will address VOC methods for monitoring compliance.

67. The draft permit does not indicate how the DEQ determined that the 10 to 12-year-old PM-10 ambient data represent the year preceding the receipt of the application. We believe the DEQ should provide an explanation as to why the data represents the year preceding the receipt of the application, or require that ambient PM-10 data be collected that represents such timeframe.

Response:

The Project Proponent consulted with DEQ prior to submitting the air quality permit application. Since there have been no significant additional sources constructed or operating in the Project area since the PM_{10} data were collected, DEQ agreed that 12-year old PM_{10} ambient data represented baseline ambient data and was appropriate to use as ambient pre-monitoring data.

68. The Preliminary Determination cover letter correctly describes the total generating capacity of the two main boilers as "nominal 180-megawatt (MW)." However, several locations in the Permit and the Permit Analysis refer to each boiler simply as a "390-MW PC Boiler." Part 1.A of the Permit Analysis refers to " Two steam turbine-generators rated at 390-megawatt (MMW) gross electrical output each." To avoid confusion and to maintain consistency, it would be best to insert the word "nominal" at each of these locations, or simply refer to each "main boiler." As shown in the spreadsheets included in Appendix B of the permit application, each of the main boilers is capable of generating more than 390 MW when operating in the "valves wide open and 5% overpressure" mode.

Response:

DEQ agrees with this comment and will update the final air quality permit if one is issued.

69. In Section I.B, the plant location is described as "just east of Old Divide Road." It should say "north."

Response:

DEQ agrees with this comment and will update the final air quality permit, if one is issued.

70. In Section II.A, Condition 5 abbreviates "million British Thermal Units" as "mmBtu." However, all other parts of the Permit Analysis use "MMBtu." To avoid confusion, "MMBtu" should be used in Condition 5.

Response:

DEQ agrees with this comment and will update the final air quality permit, if one is issued

71. In Section II.A, Conditions 6 through 10 provide lb/hr emission limits for the main boilers, but the values were calculated using 3,737 MMBtu/hr, which is the maximum annual average heat input. As shown in the permit application and explained in our response to DEQ's 2/27/02 request for additional information, each boiler will be capable of operating at 4,013 MMBtu/hr (in the "valves wide open and 5% overpressure" mode). Since the boilers probably will operate in this mode for some periods of time, the lb/hr emission limits should be based on 4,013 MMBtu/hr. The correct values are shown in bold font below. In addition, we have added tons/yr emission limits based on the maximum annual heat input (3,737 MMBtu/hr x 8,760 hr/year = 32,736,120 MMBtu)….

Response:

DEQ agrees that the short-term emission limits should be based upon 4013 MMBtu/hr. DEQ will update the final air quality permit to use this value, if the air permit is issued.

72. In Section II.A, Condition 16 limits the combined diesel oil consumption of the two auxiliary boilers to "5,438,400 gallons per rolling 12-month period." The correct value should be "2,719,200" gallons (based on 824 gallons/hr and 3,300 hours/year total for both boilers).

Response:

DEQ agrees with this comment and will update the final air quality permit, if one is issued.

73. In Section II.B, Conditions 1, 2, and 3 require that emission testing of each main boiler "shall continue on an annual basis" after completion of the initial compliance tests. Annual emission testing is unnecessary for NOX and SO_2, because these pollutants will be continuously monitored. In addition, we believe the standard period of emission testing is every 5 years. We recommend changing Conditions 1, 2, and 3 to require emission testing every 5 years or as requested by the Department after successful completion of the initial compliance tests.

Response:

DEQ is examining the testing schedules and record keeping requirements contained in the draft air quality permit. DEQ's internal testing guidance and

the use of CEMS will affect the ultimate decision on testing frequency. DEQ's final decisions will be discussed in the ROD and the final air quality permit, if one is issued.

74. In Section II.D, Condition 2 requires continuous emission monitoring in accordance with several regulations, including 40 CFR Part 60, Subpart Db. This reference is not correct. For the Roundup project, only the auxiliary boilers are subject to Subpart Db, and the auxiliary boilers are not required to have (and will not have) continuous emission monitors.

Response:

The intention of this permit condition is to identify the subparts that apply to units at the facility, not to impose a condition that is not already required by the New Source Performance Standards (NSPS). DEQ will add text to the final air quality permit, if one is issued, to clarify the intention of the permit condition.

75. In Part II.C, the third and fourth paragraphs under Item 7 say that "Roundup Power is an affected facility" under 40 CFR 60, Subpart Da and Subpart Db. These paragraphs should be revised to clarify that only the main boilers are affected facilities under Subpart Da (which defines an "affected facility" as a steam generating unit that is used to generate electricity) and only the auxiliary boilers are affected facilities under Subpart Db (which defines an "affected facility" as a steam generating unit that is not subject to Subpart Da).

Response:

DEQ will add language to the final air quality permit, if one is issued, to clarify the applicability of the NSPS subparts (Subpart Da and Subpart Db) to the Project.

76. In Part II.C, the fifth paragraph under Item 7 says that "Roundup Power is an affected facility" under 40 CFR Part 60, Subpart Y. This paragraph should be revised to clarify that only the coal handling equipment is an affected facility under Subpart Y.

Response:

DEQ will add language to the final air quality permit, if one is issued, to clarify the applicability of the NSPS Subpart Y to the Project.

77. In Part II.H, Item 2.a contains a list of pollutants for which Roundup has a PTE greater than 100 tons/year. Carbon monoxide (CO) should be added to this list, and VOCs should be deleted.

Response:

DEQ agrees with this comment and will update the final air quality permit, if one is issued.

78. In Part IV, several numerical values in the "emissions inventory" are incorrect… correct values are shown in bold font below….

Response:

DEQ will review the emission inventory and update the inventory as appropriate for the final permit, should a final permit be issued.

79. We appreciate MT DEQ's concern regarding collateral impacts of wet (versus dry) scrubbing. However, given the need to further reduce SO_2 emissions due to their impact upon Yellowstone NP and UL Bend WA, we believe that wet scrubbing (with addition of a wet ESP to control acid mist) should remain a viable option. Even if the dry scrubber option becomes the final determination for this project, we believe that dry scrubbing technology can achieve lower emission than the 0.12 lb/mmBtu rate proposed.

Response:

DEQ still believes that, upon consideration of the collateral environmental impacts (arid region and need for deep water wells), the appropriate BACT determination is the dry scrubber that was required in the preliminary determination. However, DEQ is still considering the ultimate BACT determination. DEQ's final decision will be described in the ROD.

80. We (NPS) continue to believe that the RPP has the potential to create adverse impacts to visibility at Yellowstone NP and UL Bend WA, if allowed to operate under the conditions outlined in the Preliminary Determination on Permit Application. We (NPS) reiterate the need to reduce emissions from the proposed Roundup facility, in order to reduce or eliminate potential impacts to AQRVs at Yellowstone NP and UL Bend WA.

Response:

See responses to Comments #1 - #19.

81. Roundup failed to conduct one year of preapplication ambient monitoring.

Response:

Based upon the results of the ambient SO_2 monitoring conducted by the Proponent, DEQ determined that 4 months of monitoring was adequate to establish the background SO_2 concentrations in the area. However, DEQ expects that the Proponent will collect one year of data. Because the Proponent satisfied state requirements, DEQ has no authority to require the Proponent to collect additional ambient SO_2 data. Therefore, the permit does not contain a condition requiring the Proponent to collect the additional ambient SO_2 data. Furthermore, based on internal DEQ guidance, the Proponent is not subject to preconstruction permit monitoring requirements.

DEQ accepted the PM_{10} data collected by the mine as satisfying the pre-application monitoring requirements for PM_{10}.

82. Key conditions of the draft permit fail to comply with federal and state regulations.

1. Condition II.D.1 fails to require continuous inlet and outlet SO_2 monitoring pursuant to the requirement of 40 CFR § 60.47a(b)(1).

Response:

The Project is subject to the provisions of the applicable New Source Performance Standards (NSPS). Because Condition II.D.1 of the permit does not reiterate the provisions of a particular NSPS does not void the requirements of the particular NSPS.

2. Condition III.H of the draft construction permit provides that construction must begin within three years of permit issuance. This is in direct conflict with ARM 17.8.731 of the EPA-approved SIP which states that the permit may contain a provision that the permit will expire unless construction is commenced by the date specified in the permit *which in no event may be less than one year after the permit is issued*. Thus, the permit must include a condition that it will expire if construction is not commenced within one year of issuance of the permit, and no extension for commencing construction should be granted without a reanalysis of best available control technology (BACT).

Response:

The rule cited in the comment does not state that the permit shall expire if construction has not commenced within 1 year. One year is the minimum time that DEQ may identify for construction to commence. DEQ does not believe that a 1-year time frame is appropriate in this case.

However, DEQ is currently considering revising the preliminary determination to reflect that if the facility does not commence construction within 18 months of permit issuance, a new BACT analysis will be required before construction can commence. Any final decisions will be reflected in the final air quality permit, if one is issued. See response to Comment #60.

3. Condition II.C.2 of the permit is based on a state provision in ARM 17.8.705(1)(r) that allows for "*de minimis* exemptions" from construction permitting requirements which have not yet been approved by EPA as part of the SIP. Thus, this provision must be deleted from the construction permit, or this permit will allow violations of the EPA-approved SIP. Instead, a provision must be added requiring *any* change that would increase potential emissions of the source to require a construction permit from the MTDEQ prior to commencement of construction on the change.

Response:

See response to Comment #61.

4. The permit must state the maximum hourly capacity of the boilers as a condition of the permit, since it was relied on in determining the short-term emissions rates for the air quality modeling analysis.

Response:

DEQ does not believe that a permit condition is necessary regarding the maximum hourly capacity of the boilers. Furthermore, monitoring compliance with such a condition would be extremely difficult. DEQ believes that the other conditions in the permit will protect the analyses done for the permit

application. However, DEQ will take this suggestion into consideration for the final permit application decision.

83. The permit fails to include a practically enforceable emission limit for VOCs.

Response:

See response to Comment #66.

Greenhouse Gases

84 Carbon sequestration is a viable measure that should be seriously considered to mitigate the harmful GHG discharges from Roundup.

Response:

No existing federal or state regulations require the mitigation (e.g., carbon sequestration) of GHG discharges from the Project . Therefore, DEQ has no authority to mandate GHG mitigation.

85. ...This plant will significantly increase Montana's contribution to the problem of global warming by releasing 8.2 million tons of carbon dioxide per year. Any increase - particularly an increase of that magnitude - is unacceptable, particularly when alternative sources of energy are available....

Response:

See response to Comment #84

86. Carbon dioxide did not appear to be addressed by the power plant information.

Response:

See response to Comment #84. Carbon dioxide was, however, discussed in the DEIS. Please see page 4-20 of the DEIS for the Greenhouse Gas Estimates.

Draft EIS Issues

87. Page 3-4, 3.2.3: Add, "The town of Lame Deer, MT, PM_{10} non-attainment area, is located (down wind) southeast of RPP.

Response:

Comment has been noted, and the sentence will be added to that paragraph.

88. Page 4-16, 4.2.1: Paragraph number 2: change the last sentence to read: "The closest federal non-mandatory Class I area is the Northern Cheyenne Reservation (NCR), located 130 (81miles) km southeast of the site."

Response:

Comment has been noted and the sentence will be edited to read as the comment states. Also, similar language will be used in other areas in the DEIS where the Northern Cheyenne Indian Reservation is stated (e.g., Page 3.9, Section 3.3.2: Paragraph number 3).

89. Table 4-6 should be corrected to state "482 lb/hr SO_2, 24-hour basis" instead of 448.4.

Response:

Comment noted. Document will reflect this change

90. Page 4-17, 1st Full paragraph. It should be explained that the 10% change calculation is relative to the Federal Land Manager's pristine background values for Class I areas in the Western United States.

Response:

Comment noted. Document will reflect this change

Land Use / Socioeconomics

91. . . . proposed direction of the railroad associated with the Power Project.. . .Old Divide Road, on the northern most end is .9 to 1.0 mile from the road to the house, Cole road. Cole Road is not labeled, in spite of the fact that there is mention of 8 residences, nearby....". Exactly how near is very cryptically avoided.. . . Simply enough, the project report, (draft), could easily have included the state mile markers, but again, this minimal information is not included.

Response:

Road will be labeled.

92. On page 3-77, under Social Well-being, it is states "Roundup residents tend to favor new coal development, whereas the ranchers and Bull Mountain "mini-farmers" are perceived by Roundup residents to oppose it." Residents from the Bull Mountains have showed up in substantial numbers to support this proposed project at the Roundup Scoping Session and other public meetings related to the proposed project and the EIS. That perceived opposition has mostly disappeared.

Response:

During the public hearing on the DEIS held December 5, 2002, in Roundup, 15 of the 17 persons giving oral testimony (ranging from legislators to private citizens) supported the Project. The other two persons had reservations but were not totally opposed to the Project.

93. Lack of full consideration for the Positive economic impact the project would have to this region

Response:

Analysis of the Census Bureau's reports from the 1992 and 1997 Censuses of Government ("Local Government Finances for Individual County Areas by State: 1991-92 and 1996-97") show a general deterioration in fiscal health for the county and other local jurisdictions of Musselshell County. After converting account balances to constant value dollars and dividing by the respective years' populations, per capita levels of revenues from county sources (mainly property taxes) and expenditures on most public services declined in real terms. On the revenue side, transfers from the federal and state governments slightly offset

declines in locally-generated revenues, leading to a 7.3% increase in real per capita total revenues between FY 1992 and FY 1997 – this despite a 16.2% decrease in locally-generated taxes and other revenues over the five-year period. Expenditures in all categories except education declined in per capita terms, most in double-digit percentages. Per capita educational expenditures increased by only 2.3%.

The general downturn in the national economy since 1999-2000 undoubtedly has affected fiscal conditions in Montana and Musselshell County. Documentation of the extent of the impact from the U.S. Census Bureau will not be available until the 2002 Census of Governments has been compiled and published. But it is safe to say that the ability of local governments to meet demands for services has been severely constrained by limitations on local revenue sources. The lack of a strong economic base in Musselshell County is the primary factor, which would be significantly alleviated by the construction and operation of the Project and Bull Mountain Mine.

94. Once tax revenues increase, we can deal with these issues appropriately. When you couple the impact of the mine construction and power plant construction, we will have some significant impact quickly and these will be before new revenues begin. Since paragraph 4.12.1 rightfully acknowledges the perspective of both projects, the rest of the document should do so also.

Response:

This is a cash flow issue. Under state law (15-24-3005, MCA), local governmental units and school districts have the authority to impose an in-lieu-of-tax impact fee on new electrical generation projects located within their jurisdictions to compensate for the 10-year exemption from property taxes granted to qualifying facilities as of May 2001 (15-24-3001 and –3002, MCA). Affected local jurisdictions can share a fee not exceeding 0.75% of the Project's construction cost during the first two years of construction, rising to 1.0% (maximum) in the subsequent four years, and then declining to no more than 0.8% over the final four years. On that basis, the projected $440 million cost of the Project would yield a maximum of $38.5 million in impact fees over the first 10 years of the Project (after which local property taxes would become applicable). Refer to Table 4-1, below.

Table 4-1 Local Electrical Generation Facility Impact Fee for Local Governmental Units and School Districts

Year	Impact Fee Basis (%)	Annual Impact Fee ($ million)
1	0.75%	$3.300
2	0.75%	$3.300
3	1.00%	$4.400
4	1.00%	$4.400
5	1.00%	$4.400
6	1.00%	$4.400

Year	Impact Fee Basis (%)	Annual Impact Fee ($ million)
7	0.80%	$3.520
8	0.80%	$3.520
9	0.80%	$3.520
10	0.80%	$3.520
Total Fee (maximum)		**$38.280**

Total Projected Construction Cost ($ 440 million)

Source: Montana Code Annotated Sec. 15-24-3001, et seq.

These revenues would help to mitigate the additional costs of local public services arising from constructing and operating the power plant over the first 10 years.

95. Page 3-75, section on health and safety. The sections on law enforcement and fire were not coordinated with the proper department officials, . . .

Response:

The following contacts were made with Musselshell County authorities Rosalie Mercardo, dispatcher; Mark Shoup, Highway Patrol; and Chuck Poulos commissary manager; personal communication, January 22, 2002. Gary Thomas, City Hall; personal communication, January 22, 2002. Ron Solberg, Director of Ambulance Services; personal communication, January 22, 2002.

96. This affects the conclusions in section 4.12.8 because of incomplete information. The County Sheriff, and County Fire Chief who chairs the County Fire Council, were not consulted.

Response:

See response #95.

97. Paragraph 4.1.1, page 4-1 discusses mitigation that may be required and mitigation that may be recommended as a condition for permitting. The draft EIS does not make any recommendations for any matter related to emergency services, nor does it discuss who or how these services are to be provided. The assumption seems to be that the county can absorb these impacts. They are not negligible during the construction phase due to lack of funding, and they will be significant to law, fire, ambulance, and roads. If mitigation of these cannot be required, they must be stridently sought by us.

Response:

Plant constructors and operators would be responsible for providing standard on-site fire protection and first aid for worker injuries. This Project would during construction however, increase the need for emergency services due to an increase in personnel and traffic on site. Because these services are paid for through local taxes, mitigation would not be required.

98. Paragraph 4.12.6, page 4-91. There is no mention of impacts to county and local roads during the construction phases of the mine or power plants.

Response:

Average daily traffic volumes on U.S. Route 87 in the vicinity of Old Divide Road are moderate. According to the Montana Department of Transportation, ADT levels between the Yellowstone County line and the town of Klein averaged 2,322 vehicles per day in 1999 (latest data available), dropping to 1,627 VPD north of Roundup. East-west traffic levels on U.S. Route 12 averaged 509 VPD east of Roundup and 2,930 VPD west of town. No data were available for county-maintained roads, but levels on Old Divide Road are believed to be low, since it mainly serves rural residents. Construction traffic for the Project and Bull Mountain Mine would add to traffic levels in the vicinity of the Project, but in view of the close proximity of the Projects to where Old Divide Road joins U.S. Route 87, it is unlikely that local residents would be much affected by Project-related traffic. Traffic management measures like lane striping and shoulder widening would probably suffice.

99. Paragraph 4.12.8, page 4-93. Musselshell County has had and continues to have a high crime rate associated with our poor economic conditions. The data used to suggest a low crime rate for 1999 was a known aberration due to faulty reporting. A short time prior to 1999 we had the highest crime in the state, and using 1999 data misrepresents our current crime statistics.

Response:

Crime rates can be correlated to poverty. Because the Project is expected to increase employment and provide a specific economic boost, however, the crime rate more likely would be reduced. Because the Project would increase the population in the county, this could place additional requirements on emergency services and law enforcement; however the improved economic conditions resulting from the new payrolls and Project procurement spending should significantly improve local economic conditions, which should help reduce crimes.

Plant constructors and operators would be responsible for providing standard on-site fire protection and first aid for worker injuries. This Project would during construction however, increase the need for emergency services due to an increase in personnel and traffic on site. Because these services are paid for through local taxes, mitigation would not be required.

100. The consultation section does not list any consultation with local officials. Nowhere in the document was Disaster and Emergency Services referenced or consulted.

Response:

See response to Comment #96.

101. In the reference section, land use portion, county subdivisions and planning is the source for the facts-at-a-glance document.

Response:

Comment noted. Reference section will reflect the following source of the facts-at-a-glance document, Musselshell County, Montana County Subdivisions and Planning.

102. The meaning or intent of the third sentence in the first paragraph on page 3-74 that begins "The Montana Department of Transportation does not attempt to justify. . ." is not clear. A better explanation of what is intended should be provided or the sentence deleted.

Response:

Sentence will be removed.

103. In the second paragraph on page 3-74 US Route 87 and US Route 12 are referred to as SR 87 and SR 12. If this SR is identifying the roadways as "State Routes" it is incorrect. They are both US Routes.

Response:

Comment noted. Document will reflect these changes.

104. Section 4.12.4 is confusing. While the property tax amount, $26.4 million seems correct, the tax is over a larger base than $440 million. It should also be pointed out that in previous discussions with Musselshell County, a number of services not currently in place will need to be either created or procured (i.e. fire/emergency services, road improvements, etc.). The Project has discussed these with the County and has offered to advance pay some tax payments if these funds are used for the above purposes.

Response:

DEQ concurs with this comment. The Project Proponent has agreed to advance pay some tax payments. This will help alleviate the cash flow issues addressed in comments 93 and 94.

Groundwater

105. What if my well drains into this so-called Madison aquifer, and when the mining operations use thousands of gallons of that water, my water is lost to the deeper level? Will I be faced with "proving I had water before the mine opened, or proving it is the mine's fault that my source is gone?"

Response:

Local users probably obtain water from wells screened in the Fort Union Formation. The Project will obtain water from the Madison Formation. Based on the hydrogeologic properties of the strata between the Fort Union Formation and the Madison Aquifer, which is approximately 7,900 feet deep at the site, it is unlikely that the two aquifers are connected. These two aquifer systems are separated by thousands of feet of silt and clay that act as confining layers. These confining layers inhibit the movement of water between the aquifers. In addition, available data indicate a strong upward vertical gradient in the Madison Aquifer. The vertical gradient in the Madison Aquifer causes water

levels in wells drilled into this limestone formation to rise thousands of feet above the upper contact of the formation at 7,900 feet below the ground surface. The proposed pumping rates for water used by the mine from the Madison Aquifer should not affect the upward vertical gradient. The combination of a strong upward vertical gradient and confining layers separating the aquifers make it virtually impossible for the water resource in the Fort Union Formation to be lost to the Madison Aquifer.

106. Potential impacts to residents in the area from withdrawal of water from Madison formation would be virtually non-existent with a properly constructed well casing program. Casing, cemented back to surface, set through reasonably accessible ground water zones would protect the various aquifers in the Tongue River member of the Fort Union Formation from contamination, either from Madison Formation water due to artesian flow or contamination due to communication from other water sands or coal seams. Additional casing would be run to approximate total well depth and cemented, not necessarily to surface, to protect not only the well bore, but also to prevent mixing of other aquifers. Generally, this is standard practice in wells such as these.

Response:

Thank you for your comment.

Merchant Plant

107. . . . This permit should be denied on other grounds as well. Being classified a "merchant plant" by the state will make it exempt from regulation by the Public Services Commission, which assures that all the power will be sent out of state, rather than servicing the needs of Montanans. . . .

Response:

The Project Proponent has stated that the proposed Project is not a merchant power plant. The Project Proponent intends to market shares of ownership of the Project to utilities that will want to own its electrical output. The owners of the Project will determine where they market the power, and the owners and the market economy will determine the price for the power. Nothing more specific is available, and to make more specific statements would be speculative.

Cultural

108. p. 1-7 It is at this point incorrect to state that the SHPO is reviewing the project under section 106 of the NHPA as no responsible federal agency is identified. SHPO normally consults with DEQ or other state agencies under the Montana Antiquities Act and/or MEPA.

Response:

In Table 1-1, under Permit/Approval, the Montana State Historic Preservation Office provides consultation; there is no permit. Also, under Authority, the

reference to the National Historic Preservation Act should be changed to the Montana Antiquities Act; Montana Environmental Policy Act.

109. p. 2-40 Again reference to section 106 of the NHPA is misleading unless this becomes a federal undertaking. We agree with generic mitigation of impacts to cultural resources as proposed under CR-1, -2, -3 and -4 (however we find the reference to section 106 technically misleading).

Response:

Under CR-2, "in accordance with Section 106 of the NHPA" will be deleted.

110. p. 4-52 Again, since we have not seen the cultural resource reports we are unable to comment other than to agree that areas not inventoried (i.e., groundwater well/pipeline, disposal haul road and conveyor routes) may contain important unknown cultural resources.

Response:

Various consultants performed the cultural resource inventories used for describing the affected environment. All reports referenced in the Draft EIS and inventory forms for all known cultural resources are in the files of the Montana SHPO. No additional systematic surveys and no additional site recording were performed in preparing the Draft EIS.

111. Whether or not we are requested to provide comment on specific site significance, effects or mitigation we believe it would be appropriate that the cultural resource reports prepared for this project be submitted to our office for inclusion in the statewide inventory; see M.C.A.22-3-423.

Response:

See response # 110

Purpose & Need

112. The report states on Page 2-21, that "the potential purchasers of electricity generated by the Project are power distributors (i.e., utilities) and commercial owners in Montana and the western United States." By adding an explanation of the loads anticipated to be served along with the energy & capacity to be supplied to each will not only make the purpose and need more clear but will also aid the reader in understanding the need for and financial feasibility of the transmission line, which is also unclear.

Response:

The Project owners are in the north portion of the Western Electricity Coordinating Council. Each is an equity owner of their share as a base load component of their generation supply mix. Each has identified their generation needs for 2006 and beyond and the Project is intended to be an integral part of their supply portfolio.

Their generation needs are the result of a combination of load growth and cancellation or reduction of existing contracts. Each may also have other generation projects to make up the remaining portion of their supply portfolio. However, the Project is a low cost project and is intended to provide a reliable base load component to each of the owners.

Data from the Pacific Northwest Utilities Conference Committee's (PNUCC) regional forecast in November 2002 show a regional shortfall of just over 4000 MW in 2005-6 and 4738 MW in 2006-7. The Project is intended to serve some of the utilities represented in this study. A similar situation exists for all other utilities in the north portion of the Western Electricity Coordinating Council. The PNUCC has 55 public and private utility and direct served industry members.

The Bonneville Power Administration has notified numerous utilities and direct served industrial customers of cancellations or reductions in existing contracts. Bonneville Power Administration has also notified customers that it will expect utilities to make their own arrangements for load growth rather than Bonneville Power Administration buying power on the market or arranging for power contracts to serve those utilities.

113. The Roundup Power Plant will produce energy that the state of Montana does not in fact demand. In establishing the need for the plant, MDEQ makes no mention of Montana-specific supply and demand statistics. By comparison, the Energy Subcommittee of the interim legislative Environmental Quality Council recently released its report, "Understanding Electricity in Montana" (December 2002) that documents the actual power generation supply and demand data in Montana. According to the data tables contained in that report (and prepared by MDEQ), it appears that Montana has little, if any, need for additional power generation. Table E6 indicates that in the year 2000, Montana consumed a total of 14,569 million kilowatt hours of electricity, which is equivalent to 1663 aMW. Table E2 indicates that Montana produces, on average, 3,177 aMW. In other words, Montana already produces nearly twice as much electricity as it consumes. While it is true that much of that power is owned by out-of-state utilities and the federal government, it is also true that many Montana utilities have significant access to (and contracts for) federal power at extremely competitive preference rates. In the absence of the formal "needs analysis" formerly required by the Major Facility Siting Act, MDEQ lacks a reasoned basis for asserting a need for this facility -- especially a state or local need.

Response:

DEQ agrees that there may not be a need for the Project. The owners of the Project have indicated that they can market much of the output of the Project within Montana, that the cost of the power will be competitive, and that transmission would be available in the future to sell additional capacity to out-of-state customers. It will be up to the ultimate owners of the Project to use the Project's capacity within their service territory or sell some of that capacity into the open marketplace. The provisions of the DEIS that discuss the need for the Project should have been stated in terms of the potential benefits of the Project. Those provisions have been stricken and replaced in the FEIS. While the Project may provide needed generation for in-state and out of-state consumers, and may

result in more competition and lower prices, the owners of the Project would determine where they market the power, and the owners and the market economy will determine the price for that power.

114. Even if Montana's load did increase 260 MW, recently permitted facilities such as NorthWestern (150 MW), Hardin (113 MW), Basin Creek (96 MW), and Thompson River Cogen (13 MW) could easily meet any such need.

Response:

This may be correct. However, it cannot be assumed that any particular plant, especially a recently permitted plant, will be on line at any given time. Across the country permitted projects have been put on hold or cancelled.

115. The DEIS suggests that there are continuing, new electrical generation needs in light of the retirement of aging units. But if the power from this facility is in fact meant to serve as replacement power from existing Montana generators, the Final EIS should include a decommissioning timeline for those facilities.

Response:

DEQ agrees that any timeline for decommissioning of aging power generation facilities is speculative. The DEIS should have stated that power generated by the Project could help meet any increased demand resulting from any retirement of older generating units that may occur in the future.

116. To the extent that this facility is meant to serve a regional or national need as opposed to a Montana need, MDEQ should address the results of recent 2002 studies by RAND and by the Tellus Institute. The Tellus report projected an increase in regional demand of 5,830 aMW (from 21,345 aMW in the year 2000 to 27,742 aMW in 2020). The report concluded that the region could meet all of this new demand (as well as some replacement power) with a combination of cost-effective conservation (3,542 aMW) and new, cost-competitive wind, biomass, and geothermal resources (9,954 aMW). These resources have no direct emissions of air pollutants, and provide the benchmark for comparison when speaking of "clean" resources. The transition to a clean energy future does not, and cannot imply the use of traditional coal-based power generation. MDEQ's characterization of the Roundup power plant as "clean" generation simply cannot be taken seriously.

Response:

DEQ agrees that conservation and alternative energy sources could meet some or all of the projected increase in power demand and would provide air quality benefits compared to a new efficient coal-fired plant. However, Project would meet the requirements of the Clean Air Act, and would utilize state of the art emission reduction technology.

117. We are also concerned that MDEQ unreasonably overestimates demand growth in justifying this facility. Load growth projections contained in section 1.3 of the DEIS seem wildly over-exaggerated. That we would see a 30% increase in demand (from 120,000 MW in 2001 to 165,000 MW in 2010) does not comport with either historical trends or other forecasting sources. For example, the Northwest Power

Planning Council's "Medium Case Consumption Forecast" estimates a 13.7% increase over a similar period - from 20,442 aMW in 2000 to 23,234 aMW in 2010. DEQ should also take into consideration the large, already-permitted fleet of power plants that came as a response to the 2000-2001 power crisis. Predictions of future supply shortages, when they are made, are not based on an absence of permitted power plants, but rather on the financing and other economic challenges these plants face.

Response:

DEQ disagrees that the sources cited in the DEIS are not legitimate. The historical peak demand for the 2001 calendar year was 125,000 MW. The data sited encompasses the entire Western Electricity Coordinating Council (WECC). This data reflects the coordinated plans of the WECC organization as of January 1, 2002. DEQ does agree that the Project faces other challenges if the Project is permitted, including financing and economics.

Ash/Waste

118. The proponents of RPP have proposed an interesting fly ash disposal solution. DEQ is correct in preferring the plant site storage alternative. However, what happens when the 30 years are up? The life of the plant is estimated at 40 years on page 4.20. That would indicate a need for fly ash disposal for at least 40 years.

Response:

The fly ash storage facility plan specifies design of on-site storage for 10 years capacity in two cells. The preferred alternative specifies design of additional cells for placement of fly ash waste for the anticipated life of the plant, an additional 30 years.

119. Does DEQ have the authority to make RPP accept DEQ's preferred alternative for waste disposal? If so, under what law or regulation?

Response:

DEQ prefers this alternative because DEQ believes that it would cause less environmental impact; however, DEQ does not have the authority to require the Project Proponent to accept alternative waste disposal. The Project Proponent would have to voluntarily implement that option.

Visual Impacts

120. On page 4-60, the report indicates that the visual impacts of the two 574-foot Project chimneys and the 250-foot high boiler buildings which sit on top of a major drainage divide are 'moderate'. I believe that the impacts are going to be much more severe than 'moderate', e.g., the infrastructure, strobes and hot exhaust gases will stick out of the landscape like Rudolph's nose and will destroy much of what tourists come here for.

Response:

The proposed Generation Plant is sited atop a drainage divide for two intermittent creeks (Rehder and Halfbreed Creeks) in the area (see section 3.3, Water Resources in DEIS). Rolling hills, foothills and mountains surround the proposed Generation Plant site. Refer to figure 2-1 to see the neighboring Bull Mountain buttes that surround the proposed Generation Plant site. Clear, unobstructed views of the Project facilities would be limited only to the local area as discussed on pages 3-43 and 4-60 of the DEIS.

The visual impacts were considered moderate overall because views of the Project would occur to some degree in the middle ground distance zone, while most Project views would occur in background distance zone. Refer to tables 4-23 and 4-24 in the DEIS for the impact assessment process followed by a discussion thereafter on impact levels.

Scenic views that attract tourists occur approximately 116 miles to the southwest at Yellowstone National Park. Scenic highways generally do not occur in the Project study area and therefore the number of tourists focused on scenic views in or near the Project study area would be expected to be low. Recreational near the proposed Generation Plant site includes dispersed outdoor activities such as hunting and horseback riding (see page 3-57 of DEIS). These activities are not generally dependant upon pristine landscapes or areas of high scenic quality. In addition, for these recreational pursuits to occur, landowner permission must first occur, as most land near the Proposed Generation plant is privately owned. The nearest public recreation facilities (including a golf course, tennis courts, and swimming pool) are within the City of Roundup, more than 13 miles from the proposed Generation Plant, (see pages 3-57 and 3-58 of the DEIS).

121. From the top of Dunn Mountains are visible the Little Wolf Mountains, the Wolf Mountains, the Big Horn Mountains, The Pryor Mountains, the Beartooth Mountains, the Crazy Mountains, and the Snowy Mountains. I suspect that if RPP operates, we will say goodbye to the Wolfs and the Little Wolfs, It is a lovely view.

Response:

There is no conclusive evidence to suggest that the view would be lost. The top of the proposed Generation Plant chimneys would not obstruct any views from Dunn Mountain. The Little Wolf Mountains and the Wolf Mountains would both remain visible from Dunn Mountain if the Project were constructed. The top of the Project's chimneys would occur approximately 181 feet below the elevation found at the top of Dunn Mountain. The Project would also be located approximately 4.25 miles away from Dunn Mountain. Any viewpoints located on Dunn Mountain are not developed and do not contain residences, public roads, or parks. Any views of the Project from Dunn Mountain would occur from dispersed recreationists while on horseback or hunting, refer to section 3.11, Land Use in the DEIS.

Atmospheric haze that may occur as a result of the Project that would be seen from viewpoints nearby (Dunn Mountain) would not occur any higher than opacity limits set forth in the air quality permit. Since there were no Class I PSD areas or integral vistas within 50 km per Montana State regulations, a plume blight analysis was not performed nor statutorily required, refer to section 3.2, Air Resources in the DEIS.

Vegetation

122. Statements on Pp. 4-39 (see 4.5.2) concerning p.pine are incomplete.

Response:

This is covered on page 4-19 & 20; Section 4.22.

Fish & Wildlife

123. "The states, territories, and Native American tribes have primary responsibility for protecting residents from the health risks of eating Mercury contaminated fish and wildlife."

Response:

There is no conclusive evidence that the Project would have mercury emissions with serious, adverse impacts on public health and the environment. Mercury deposition has always occurred naturally within the regions streams, lakes, rivers and the human body is able to adapt to the mercury found in the natural environment. Much of the mercury in Northwestern fish originates from natural deposits in rocks and soils, with some influence from historic mining practices (Oregon's Fish Advisories for Methylmercury).

Mercury releases from power plants may influence the amount of methylmercury in freshwater fish living in some U.S. lakes and streams. Health risks from power plants depend largely on how much those plants influence the amount of methylmercury in fish that people eat. In several case studies sponsored by EPRI, independent researchers found that the amount of methylmercury in lake fish that might come from nearby power plants was well below the amount that EPA says people may take into their bodies without harming their health (Colorado Mining Association, Health Risk Profiles-Mercury). At freshwater lakes and rivers known to be contaminated with mercury, many states post "fish advisories" telling fishermen how many and which kinds of fish their families can safely eat.

Role of the Project Proponent in Preparing the DEIS

124. Finally, as a general comment, we strongly object to the State allowing the company to write major portions of its own environmental review. The language found in Section 1.3.1, for example, is taken nearly verbatim from the language submitted by the company in its "EIS Support Document" submitted in May of 2002.

Response:

Your comment is noted. DEQ can use any legitimate source of information that might be available when preparing an EIS. This information often includes that provided by the Proponent, especially information contained in the permit application.

Montana Constitution

125. The Roundup Power Project does not comply with the Montana state constitution. We believe similar issues are raised with the permitting of this facility, which poses even greater adverse environmental impacts than earlier proposals. To address this core legal responsibility, MDEQ must explain whether the justification quoted above is meant to satisfy the "compelling state interest" test. If so, we respectfully request specific information as to what formula the Department has devised to determine an acceptable tradeoff between environmental degradation and economic benefit.

Response:

District Court Judge Jeffrey Sherlock recently rejected the argument of the Montana Environmental Information Center (MEIC) that DEQ was required to deny an air quality permit for another proposed power plant based upon the Constitutional right to a clean and healthful environment, even though the plant would comply with applicable air quality statutes and rules. Judge Sherlock ruled that DEQ is required to faithfully execute the air quality statutes and rules of Montana, unless it has been demonstrated that those laws are unconstitutional. MEIC has not demonstrated this.

Article IX, Section 1(2), of the Montana Constitution, provides that the Montana Legislature shall provide for the administration and enforcement of the duty of the state and each person to maintain and improve a clean and healthful environment. Article IX, Section 1(3) further provides that the Legislature shall provide adequate remedies for the protection of the environment. The Montana Legislature has provided for protection of the state's environment through acts such as the Clean Air Act of Montana. Under Montana law, acts of the Legislature are presumed to be constitutional, and a person challenging the constitutionality of a legislative act has the burden of proving beyond a reasonable doubt that the act is unconstitutional. Unless determined in court to be unconstitutional, DEQ must presume that the Clean Air Act meets constitutional requirements and must implement that act in response to an application for an air quality permit. If DEQ determines that the application for an air quality permit for the Project demonstrates that the Project can be expected to meet the air quality standards adopted by administrative rule under the Clean Air Act, the Montana Constitution does not provide a legal basis for DEQ to base its decision on the permit, instead, upon the suggested balancing of environmental degradation and economic benefit.

The Clean Air Act does not provide DEQ with authority to deny an air quality permit when the proposed Project can be expected to comply with air quality requirements. Further, Section 75-1-201(5)(a), MCA, of the Montana Environmental Policy Act (MEPA), expressly prohibits DEQ denying or conditioning a permit based upon DEQ's review of the application under MEPA. Consideration of environmental impacts beyond review for compliance with applicable requirements and consideration of the economic benefits of a proposed Project are MEPA considerations that, by law, DEQ may not rely upon in making its decision on the permit application.

126. That MDEQ is unable to require mitigation to "avoid, reduce, or eliminate potential impacts" makes the consideration of Montana's Constitutional duty "to maintain and improve a clean and healthful environment" even more relevant. If the Department cannot require sufficient mitigation of impacts including, but not limited to, those identified in the DEIS to fulfill this Constitutional duty, than it must instead select the No-Action alternative.

Response:

DEQ has authority to require mitigation measures necessary to ensure compliance with the air quality standards adopted under the Clean Air Act of Montana. These measures become enforceable conditions of any air quality permit that is issued. As discussed above in the response to Comment No. 125, DEQ is prohibited by law from imposing requirements beyond those needed to comply with the standards adopted under the Clean Air Act. Impacts unrelated to compliance with air quality requirements do not provide legal authority to select the "no action" alternative.

Alternative Fuel

127. For the purposes of this document, the Final EIS should at a minimum acknowledge the risk associated with the proposed design in light of future environmental regulation. The EIS should also note the drawback of a proposal that would decrease the diversity of Montana's energy mix.

Response:

The Project would meet the requirements of the Clean Air Act and all relevant, applicable and appropriate requirements. Several energy alternatives were evaluated and the Proposed Action was determined to provide a balance of a solid, reliable, and economically feasible energy source for Montana.

128. The DEIS must also thoroughly evaluate the use of lower sulfur coal including coal blending to satisfy BACT and MEPA requirements.

Response:

The DEIS considered and dismissed further evaluation of other coal and other fuel sources. DEQ believes that the analysis is adequate. Refer to page 2-42, Section 2.3.1, of the DEIS. All conditions are satisfied.

Alternative Technologies

129. Integrated Gasification Combined Cycle's (IGCC) Environmental Performance is Superior to other Technologies for Generating Electricity from Coal.

Response:

Comments were adequately addressed on page 2-45 Section 2.3.4.

130. IGCC is Economically Competitive with other Technologies for Generating Electricity from Coal.

Response:

See Response #129.

131. IGCC is Not Redefining the Source.

Response:

It is redefining the facility and is out of scope both for an in-depth BACT and EIS analysis.

132. MDEQ Failed to Consider Cost-effective Energy Efficiency and Renewable Energy Alternatives.

Response:

The DEIS identified reasonable alternatives to key elements of the Proposed Action, as well as a wide range of other alternatives. DEQ believes the DEIS adequately identified, treated, evaluated, and compared alternatives.

Alternatives / Mitigation

133. The DEIS fails to examine all viable alternatives and mitigation strategies.

Response:

The DEIS identified reasonable alternatives to key elements of the Proposed Action, as well as a wide range of other alternatives. DEQ believes the DEIS adequately identified, treated, evaluated, and compared alternatives. DEQ believes that reasonable mitigation strategies were identified, and is limited by Montana statute from imposing mitigation other than is required under permits issued by the State of Montana.

Alternative Voltages

134. The proposed alternative for transmission is flawed. The use of a 161 kV transmission lines to transmit 750 MW simply does not conform to best engineering practices.

Response:

Both the 161kV and 230kV transmission systems were shown to accommodate the transmission of 750MW of power. Environmental impacts would be very similar with either system.

135. Throughout the DEIS, MDEQ refers to major improvements that are planned to the BPA transmission system (including both "substation upgrades and transmission line additions between Montana and the Pacific Northwest"). Pages ES-4 and 2-21 describe plans to upgrade the transmission systems to allow an additional 500 MW to flow west toward the Garrison Substation, and an additional 200 MW to flow south toward PacifiCorp's Yellowtail Substation. Yet much more information is needed to completely understand such developments.

Response:

DEQ agrees that additional work may be required on the transmission system to accommodate the capacity requirements of the Project. However, at this time there is not enough known about how much capacity would be required on any particular transmission system because DEQ is not aware that there are any contracts in place for power transactions.

136. To ensure a meaningful public process, MDEQ must provide more specific information regarding these proposals, and documentation as to where additional information can be found. There are a number of critical questions that are not addressed. In particular, when will the additional transmission capacity be available? Who will pay for it? What guarantee is there that Roundup will acquire contract rights to that additional capacity (with other already-permitted proposals ahead in the queue)? Will these upgrades alone be sufficient to allow for the transmission of power to major out-of-state load centers to the west and the south (or are additional upgrades needed to actually move the power out-of-state)?

Response:

DEQ is not aware of a specific date that the transmission capacity would become available. The specific transmission paths needed would depend on the contracts that the Project Proponent would be able to negotiate with potential purchasers of power. This is dependent on the Project being approved and cannot be predetermined. Transmission line improvements would be paid for by those parties benefiting from any specific improvements that may be required. If the Project Proponent or its contract partners are capable of paying for the improvements, this would be implied as the guarantee of transmission access regardless of the queue. Since there is no way to predict the transmission improvements that might be required until the contracts are signed, and again, this would be pursued by the owner if the Project is approved.

Eminent Domain

137. "Eminent domain seizures could be at risk of court challenges if a landowner were to convince the court the public purposes of the line were speculative."

Response:

Transmission owners, who would have the right of eminent domain, would likely provide transmission access.

Miscellaneous Issues

138. Please note our concerns about the Bull Mountain Power Plant and mine. The effect on the fragile environment previously impaired by the loss of forest in a 1984 fire and years of drought would seem risky to us. Health issues relating to emissions are extremely important to us.

Response:

In both cases (the mine and the power plant), DEQ required that the applicant conduct analyses to make sure that the air emissions from the proposed sources

would not cause or contribute to concentrations of criteria pollutants that would exceed the NAAQS or the MAAQS. These standards were established at levels that are protective of human health and the environment. The governing rules and regulations for permitting sources of air emissions require that the source conduct certain analyses. Based upon the results of the analyses, DEQ determines whether the proposed source would comply with the governing rules, regulations, and standards.

139. MTDEQ's Permit Proceeding Violates Core PSD Requirements by Precluding Meaningful Public Participation

Response:

The public comment period for the Project was not severely limited. In fact, the opportunity for public comment for the Project initial permit application was quite long. The Proponent submitted the air quality permit application in January of 2002. The public could begin reviewing and commenting on the permit application starting at the date of the submittal. After DEQ's review of that permit application and subsequent deficiency notices and responses, DEQ issued a preliminary determination on August 12, 2002. DEQ initially requested that the comments on the PD be submitted by August 27, 2002. The PD was also attached to the DEIS. Comments on the DEIS were due by December 18, 2002. Based upon these dates, the public had approximately 8 months to comment on the permit application prior to issuance of the PD and approximately 4 months to comment on the PD.

140. MTDEQ Has Failed to Comply With the Public Review Procedures of the EPA-Approved SIP

Response:

The PD for a permit can be issued prior to issuance of a DEIS. In fact, such an approach actually allows the public more time to review the document than if DEQ were to withhold the PD until issuance of the DEIS.

141. Why is this EIS not being done by an appropriate Federal agency under NEPA instead of the Montana DEQ?

Response:

No federal agency has jurisdiction, and no federal permits are needed. DEQ is the sole permitting authority, so the EIS was prepared pursuant to MEPA.

142. On the Roundup Power Project DEIS is in Section 2.4.2, 230kV Transmission System Alternative, page 2-53, second paragraph. The last sentence states, "Studies performed by both transmission providers have identified upgrades that are proposed and underway to support this flow." I suggest the following alternative. "Studies will be performed by both transmission providers to identify necessary upgrades to support this flow."

Response:

Comment noted. The document will reflect this change.

143. In the section titled Infrastructure Development, Transmission, Page 4-98, second paragraph. This paragraph states, "According to BPA, major transmission improvements to the BPA system are planned. These improvements would include substation upgrades and transmission line additions between Montana and the Pacific Northwest." I suggest the following alternative. "BPAT has a current project to increase the West-of-Hatwai cutplane capacity in Washington. However, this does not provide increased capacity from Montana to the Northwest. In order to provide service to the Roundup Power Project major facility additions will be required. This could potentially include substation upgrades and/or transmission line additions. Studies will be done in queue order based on BPAT's long-term transmission request queue to determine the improvements needed."

Response:

Comment noted. The document will reflect this change.

CHAPTER 5
MODIFICATIONS AND CORRECTIONS TO THE DEIS

Page ES-1, Change heading "Purpose and Need for the Action" to "Benefits of the Action."

Page ES-1, replace the last paragraph beginning "The primary needs for the Project…" with the following paragraph:

> The primary purposes of the Project are to serve population growth and load growth and provide new base load electrical generation. Population and electrical demand growth, together with the retirement of older, less efficient electrical generating units, has created a demand for new and cleaner generation sources. The Project would fill a portion of this demand.

Page ES-2, replace the 1st paragraph beginning "The Project would be built specifically …" with the following paragraph:

> The Project would be built specifically to burn coal. The mine-mouth fuel source of the Project is intended to provide stable pricing and reliability for base load power assisting utilities in more reliably serving industrial, commercial, and residential customers.

Page ES-2, replace the 2nd paragraph beginning "The Project would also increase …" with the following paragraph:

> The Project would increase the opportunity for competition in the regional energy market by increasing the total amount of electricity that could be transmitted reliably within the grid. Competition in the power marketplace is a means in a market economy to keep power pricing in line with customer demand. According to the Proponent, some of the electricity could be consumed by industrial, commercial, and residential customers in Montana. NorthWestern Energy currently is evaluating the interconnection of the Project with their transmission system at the Broadview Substation.

Page ES-5, delete the 1st paragraph beginning "Finally, the socioeconomic benefits…"

Page 1-1, Section 1.3, change heading "Purpose and Need for the Action" to "Benefits of the Action."

Page 1-2, 1st paragraph, change 1st sentence to "The Project would provide a new source of electricity in a region where energy supplies may not be keeping up with the growth of demand."

Page 1-2, end of 1st paragraph, change last two sentences to: "That population and electrical demand growth, together with any retirement of older, less efficient, electrical generating units could require the continued development of new generation sources, along with energy conservation. The Project would fill a portion of need for additional generation."

Page 1-2, 2nd paragraph, change last 2 sentences to "While the demand for electricity has weakened somewhat since the economic downturn starting in late 2000, the demand for

power may continue its upward trend following economic recovery. This Project fits into the expected future economic growth and need for new sources of economical power."

Page 1-5, 1st paragraph, change 2nd sentence to "The mine-mouth fuel source of the Project could provide stable pricing and reliability for base load power that may be needed by the utilities to reliably serve industrial, commercial, and residential customers."

Page 1-5, Section 1.3.1, 1st paragraph, change 1st sentence to "A benefit of the Project could be a stable, reliable, low-cost supply of electricity in a region that has had uncertain supply and prices in recent years."

Page 1-5, Section 1.3.1, 3rd paragraph, change 2nd sentence to "Montana would receive the investment, the tax-base increases, and the jobs that would be created by the construction, long-term operation of the facility, and the support systems and economic development."

Page 1-7, Section 1.4, Table 1-1, delete "Section 106 of the National Historic Preservation Act" under the Permit/Approval heading. Under Authority heading, change "National Historic Preservation Act" to "Montana Antiquities Act and Montana Environmental Policy Act."

Page 2-40, Section 2.2.5, Cultural Resources subsection, CR-2, delete the phrase "in accordance with Section 106 of the NHPA."

Page 2-53, Section 2.4.2, second paragraph, replace the sentence beginning "Studies performed by both transmission providers…" with "Studies will be performed by both transmission providers to identify necessary upgrades to support this flow."

Page 2-55, delete 3rd full paragraph "Finally, the socioeconomic benefits…"

Page 3-4, Section 3.2.3, add the following sentence after the last sentence: "The town of Lame Deer, MT, a non-attainment area for PM_{10}, is located southeast (downwind) of the Project."

Page 3-55, Figure 3-7 Land Use, add label for Cole Road. See attached map at the end of this section.

Page 3-74, Transportation subsection, first paragraph, delete the third sentence that begins "The Montana Department of Transportation does not attempt to justify. . ."

Page 3-74, Transportation subsection, second paragraph and bulleted text, change SR 87 and SR 12 to US Route 87 and US Route 12, respectively.

Page 4-10, Section 4.2.2, Table 4-6, replace the Proposed Emission Limit for SO_2 of "448.4 (30-day rolling average)" with "482 lb/hr (24-hour basis)".

Page 4-16, Section 4.2.1, paragraph number 2, replace the last sentence to read: "The closest federal non-mandatory Class I area is the Northern Cheyenne Reservation (NCR), located 130 (81miles) km southeast of the site."

Page 4-17, 1st Full paragraph, add the following sentence to the end of that paragraph: "The 10% change calculation is relative to the FLM's pristine background values for Class I areas in the Western United States."

Page 4-98, Infrastructure Development Section, second paragraph, replace the paragraph beginning, "According to BPA, major transmission improvements..." with the following paragraph:

> BPA has a current project to increase capacity in Washington. However, this does not provide increased capacity from Montana to the Northwest. In order to provide service to the Roundup Power Project major facility additions will be required. This could potentially include substation upgrades and/or transmission line additions. Studies will be done in queue order based on BPA's long-term transmission request queue to determine the improvements needed.

Page 7-2, Air Resources Section, add the following references:

> Dickey, J. W. Bull Mountain Development Co., LLC. 2002. Letter to Mr. Dan Walsh at MDEQ, December 30, 2002.
>
> Lorenzen, Diane, Lorenzen Engineering, Inc. 2002. Memo to Dan Walsh at MDEQ, November 21, 2002.
>
> Manson, Craig, Assistant Secretary for Fish and Wildlife, U.S. Fish and Wildlife Service, United States Department of the Interior. 2002. Letter to Ms. Jan Sensibaugh, Director of MDEQ, December 18, 2002.

Page 7-9, Land Use Section, Change author of Fact Sheet: Facts At-A-Glance to "Musselshell County, Montana County Subdivisions and Planning."

Page 8-2, add the following acronym and definitions:

> **CALPUFF –** modeling system proposed by the EPA as the refined modeling tool for analyzing long-range (beyond 50 kilometers) transport of pollutants and their impacts on Federal Class I areas.

Page 8-3, add the following acronyms and definitions:

> **FLAG –** Federal Land Managers AQRV Work Group. An interagency workgroup whose objective is to achieve greater consistency in the procedures Federal Land Managers use in identifying and evaluating AQRVs (air quality related values).
>
> **FLM** – Federal Land Managers.

Page 8-5, add the following acronym and definition:

> **IMPROVE** - Interagency Monitoring of Protected Visual Environments Program. Includes representatives from the NPS, FS, BLM, FWS, EPA and regional-state organizations. Activities include research on all aspects of the visibility issue.

Page B-7, Appendix B, replace the paragraph preceding Table B-6 with the following paragraph:

> Impacts determined in the Scenario #2 cumulative visibility modeling conducted by the FLM are given in Table B-6 and Table B-6.1 using 1990 and 1992 meteorological data, respectively. Also included in these two tables are visibility impacts from the Project only. The FLM modeling included the facilities listed in Table B-1 (seven other PSD sources and the Project) in the CALPUFF modeling analysis.

Page B-7, Appendix B, replace Table B-6 with the following updated modeling results table:

Table B-6 Visibility Impacts from the FLM 1990 Modeling Analysis

The Project Visibility Impacts (without other PSD sources)			
Class I Area	**Change in Light Extinction (Days >5%)**	**Change in Light Extinction (Days >10%)**	**Maximum Change in Light Extinction (%)**
Yellowstone NP	7	1	12.72%
UL Bend WA	4	0	8.41%
North Absaroka WA	3	0	9.11%
Northern Cheyenne	36	11	38.27%
Cumulative Visibility Impacts (the Project with 7 other PSD Sources)			
Class I Area	**Change in Light Extinction (Days >5%)**	**Change in Light Extinction (Days >10%)**	**Maximum Change in Light Extinction (%)**
Yellowstone NP	39	26	119.28%
UL Bend WA	50	29	156.50%
North Absaroka WA	35	22	126.83%
Northern Cheyenne	259	224	637.43%

Source: National Park Service and US Fish and Wildlife Service, Dec. 18, [2002].
Note: CALPUFF modeling with 1990 meteorological data and maximum RH of 98%.

Page B-7, Appendix B, add the following table of new modeling results conducted by the FLM after the revised Table B-6:

Table B-6.1 Visibility Impacts from the FLM 1992 Modeling Analysis

The Project Visibility Impacts (without other PSD sources)			
Class I Area	**Change in Light Extinction (Days >5%)**	**Change in Light Extinction (Days >10%)**	**Maximum Change in Light Extinction (%)**
Yellowstone NP	13	2	15.41%
UL Bend WA	16	4	28.06%
North Absaroka WA	10	1	14.53%
Northern Cheyenne	32	11	46.87%

Cumulative Visibility Impacts (the Project with 7 other PSD Sources)

Class I Area	Change in Light Extinction (Days >5%)	Change in Light Extinction (Days >10%)	Maximum Change in Light Extinction (%)
Yellowstone NP	32	20	83.67%
UL Bend WA	64	41	150.30%
North Absaroka WA	31	21	85.61%
Northern Cheyenne	286	255	971.98 %

Source: National Park Service and US Fish and Wildlife Service, Dec. 18, 2002.
Note: CALPUFF modeling with 1992 meteorological data and maximum RH of 98%.

Page B-12, Appendix B, insert at the end of the last paragraph the following two sections (Modeling Summary and Case by Case Analysis) including tables B-11 and B-12:

Modeling Summary

After the DEIS was published on November 18, 2002, the Proponent submitted CALPUFF modeling results to the DEQ and NPS for visibility impacts from the Project. (Lorenzen, November 21, 2002) The NPS had requested that the Proponent submit additional years of visibility modeling results. The Proponent had originally submitted 1992 visibility impact results to DEQ, but the Proponent had used seasonal relative humidity (RH) factors [F(RH)]. The NPS disagreed with using seasonal F(RH) data and requested that the Proponent use hourly RH data collected in Yellowstone National Park.

The NPS used the data supplied to them by the Proponent to run 1992 visibility impacts. The NPS submitted CALPUFF 1992 modeling results in an attachment to a letter from the Department of Interior (DOI). (Manson, December 18, 2002)

Table B-11 summarizes both the Proponent and NPS CALPUFF visibility modeling results that have been submitted covering the Project individually, or in a cumulative analysis. This table includes predicted visibility results previously provided in the DEIS and the 1992 visibility impacts submitted to DEQ after the DEIS was published.

The modeling results from the NPS and the Proponent showed similar impacts from the Project, by itself. The cumulative results from the NPS and the Proponent are very different as their modeling protocols for a cumulative analysis differ significantly.

Table B-11 Comparison of Modeling Results from the Proponent and NPS for Class I Area Visibility Impacts

Modeling Scenario	**Parameters**	**Scenario #1**		**Scenario #2**		**Scenario #3**
Modeling Analysis		**Proponent [a]**	**Proponent [c]**	**NPS**	**NPS**	**Proponent [b]**
Met Data Year		**1990**	**1992**	**1990**	**1992**	**1990**
Emissions						
Main Power Boiler (lbs/hr)	NO_X	281	281	281	281	281
	SO_2	471	471	471	471	471
	SO_4	25	25	25	25	25
	PM_{10}	60	60	60	60	60
Fugitives and Baghouses (lbs/hr)	PM_{10}	3.7	3.7	3.7	3.7	3.7
Class I Increment						
All Class I Areas	NO_X	< Increment	--	< Increment	--	--
	SO_2	< Increment	--	< Increment	--	--
	PM_{10}	< Increment	--	< Increment	--	--
Class I Visibility (Proponent Only Analysis)						
Yellowstone	>5%	9	15	7	13	--
	>10%	1	2	1	2	--
	Max	13.0	16.5	12.7	15.4	--
UL Bend	>5%	4	12	4	16	--
	>10%	0	3	0	4	--
	Max	7.9	20.6	8.4	28.1	--
NAWA	>5%	6	13	3	10	--
	>10%	1	2	0	1	--
	Max	11.1	14.9	9.1	14.5	--
NCIR	>5%	38	--	36	32	--
	>10%	15	--	11	11	--
	Max	41.0	--	38.3	46.9	--
Class I Visibility (Cumulative Analysis)						
Yellowstone	>5%	15	--	39	32	5
	>10%	3 [d]	--	26	20	4 [f, g]

Modeling Scenario	Parameters	Scenario #1		Scenario #2		Scenario #3
Modeling Analysis		Proponent [a]	Proponent [c]	NPS	NPS	Proponent [b]
Met Data Year		1990	1992	1990	1992	1990
	Max	14.7	--	119.3	83.6	15.7
UL Bend	>5%	5	--	50	64	6
	>10%	0	--	29	41	5 [g]
	Max	9.9	--	149.5	150.3	117.7
NAWA	>5%	12	--	35	31	3
	>10%	2 [e]	--	22	21	3 [d]
	Max	13.7	--	125.8	85.6	18.51
NCIR	>5%	--	--	259	286	--
	>10%	--	--	224	255	--
	Max	--	--	618.4	972.0	--

Notes:

[a] The Proponent used a 1996 Baseline Date for including sources in the cumulative analysis.

[b] The Proponent used a 1975 Baseline Date for including sources and included negative emissions in the cumulative analysis.

[c] Calculated with hourly RH data but excluded faulty Yellowstone RH values.

[d] Significant on at least two of the three days at the same receptors that have impacts above 10% change in light extinction.

[e] Significant on both days and at the same receptors that have impacts above 10% change in light extinction.

[f] Significant on at least two of the four days but not at the same receptors that have impacts above 10% change in light extinction.

[g] Based on modeling results provided by the Proponent, Project significance levels could not be determined.

Case-by-Case Analysis

Due to the predicted high visibility impacts (>10%) from the Project, the Project Proponent felt that the NPS should perform a case-by-case analysis for each of the impacted days to provide further information about specific adverse impacts to any of the Class I areas. The Project Proponent felt that the NPS representing the DOI did not follow its own guidelines in the FLAG Phase I Report (12/2000) by performing a case-by-case analysis before reaching a decision of adverse impact on the Class I areas.

The Assistant Secretary of the US Fish and Wildlife Service, on behalf of the DOI and the NPS, submitted a letter finding the Project would cause an adverse impact on Yellowstone National Park and UL Bend WA (Manson, December 18, 2002). A case-by-case analysis was not submitted as part of this letter.

In response to the finding that the Project had an adverse impact, the Project Proponent prepared and submitted to the DEQ a case-by-case analysis on the daily

impacts of the Project to Yellowstone National Park that were greater than 5% change in light extinction (Dickey, December 30, 2002).

The Proponent has claimed that the high impacts that have occurred in the Class I areas have occurred on days with high humidity. Therefore, natural conditions (i.e., precipitation, fog, etc.) resulting from high humidity interfered with the natural background visibility and caused greater changes in light extinction than the impacts from the Project.

A day-to-day analysis has been carried out for the specific days in 1990 and 1992 on which CALPUFF modeling indicated visibility impacts to Yellowstone National Park, due to the Project alone, in excess of 5% change in light extinction. Relevant data for these days are shown in Table B-12.

The analysis utilized the most recent CALPUFF model results as submitted to DEQ and the NPS (Lorenzen, November, 21, 2002) for the Project. These modeling results are nearly similar to those obtained by the NPS. Since details of the NPS modeling were unavailable to the Proponent, all analysis was based on the Project modeling. Time periods analyzed are consistent with those used for the CALPUFF modeling.

The first column of Table B-11 shows natural background visibility for Yellowstone National Park per FLAG data, taking account of the mean daily relative humidity (RH) factor [F(RH)] as incorporated in CALPUFF meteorological data. The second column lists the modified visual range when model-predicted light extinction due to the Project is added to natural background. The percent change in light extinction (compared to theoretical natural conditions) due to the Project, as predicted by CALPUFF, is given in the third column.

Measured visibility at the Yellowstone National Park IMPROVE (Interagency Monitoring of Protected Visual Environments Program) monitoring station is shown in Column 4. The tabulated values of visual range correspond to the 24-hour average measured light extinction for the day. The following column shows the percentage change in light extinction (compared to actual measured extinction) due to the model-predicted Project impact for each day.

The last three columns of Table B-12 summarize information from the IMPROVE monitoring site as provided in data reports. Light extinction data are noted as "interference" if extinction values are very high or change rapidly from hour-to-hour, or if site-specific RH exceeds 90%. This classification is intended to indicate that the measured light extinction was likely affected by natural visibility impairment (fog, precipitation, clouds). The number of hours of interference is listed in the table, as well as the number of hours each day that the measured light extinction was 100 per 10^{-6} meters (Mm^{-1}) or greater, and the site RH was greater than 90%. A background light extinction (b_{ext}) value of 100 Mm^{-1} is taken as an arbitrary but conservative indicator of significant natural visibility impairment.

Table B-12 Modeled and Measured Yellowstone Visibility Data (Days with Predicted Impacts Greater than 5% Change in Light Extinction)

Date	Natural Background Visual Range (km)	Visual Range with Roundup (km)	% Change in b_{ext}	Measured Back-ground (km)	% Change in b_{ext}	# of Inter-ference Hours	# of Hours with b_{ext} > 100	# of Hours RH > 90
1990 Impacts								
01/15/90	205	189	8.22	12	0.47	24	17	5
01/16/90	202	191	5.66	17	0.48	22	9	4
03/05/90	241	214	12.86	10	0.56	22	18	16
03/23/90	245	231	5.81	15	0.34	18	15	0
04/05/90	253	239	6.03	153	3.65	0	0	0
07/19/90	251	237	5.59	96	2.13	9	1	3
07/20/90	241	220	9.63	75	3.00	11	3	2
09/28/90	249	233	7.14	91	2.61	7	0	7
10/06/90	238	226	5.31	14	0.32	19	10	14
1992 Impacts								
03/05/92	242	228	5.72	92	2.17	14	0	8
03/08/92	228	214	6.83	58	1.74	8	2	5
03/18/92	224	204	9.86	18	0.78	13	8	12
04/11/92	220	204	7.97	54	1.95	15	4	14
05/21/92	207	197	5.11	116	2.86	19	0	7
06/15/92	202	189	7.16	23	0.80	24	17	23
07/20/92	239	222	7.60	43	1.37	16	6	13
07/21/92	215	200	7.45	116	4.04	20	1	13
07/22/92	226	213	5.94	69	1.82	11	2	10
08/23/92	236	214	10.31	86	3.78	13	1	7
08/24/92	238	205	16.45	123	8.47	5	1	4
08/25/92	242	225	7.57	142	4.45	4	0	4
10/15/92	221	206	6.91	23	0.71	15	5	10
12/03/92	243	232	5.01	38	0.77	11	5	0
12/12/92	203	192	5.57	65	1.79	8	1	5

Source: Dickey, LLC, December 30, 2002.

Conclusions and Observations from the Case-by-Case Analysis

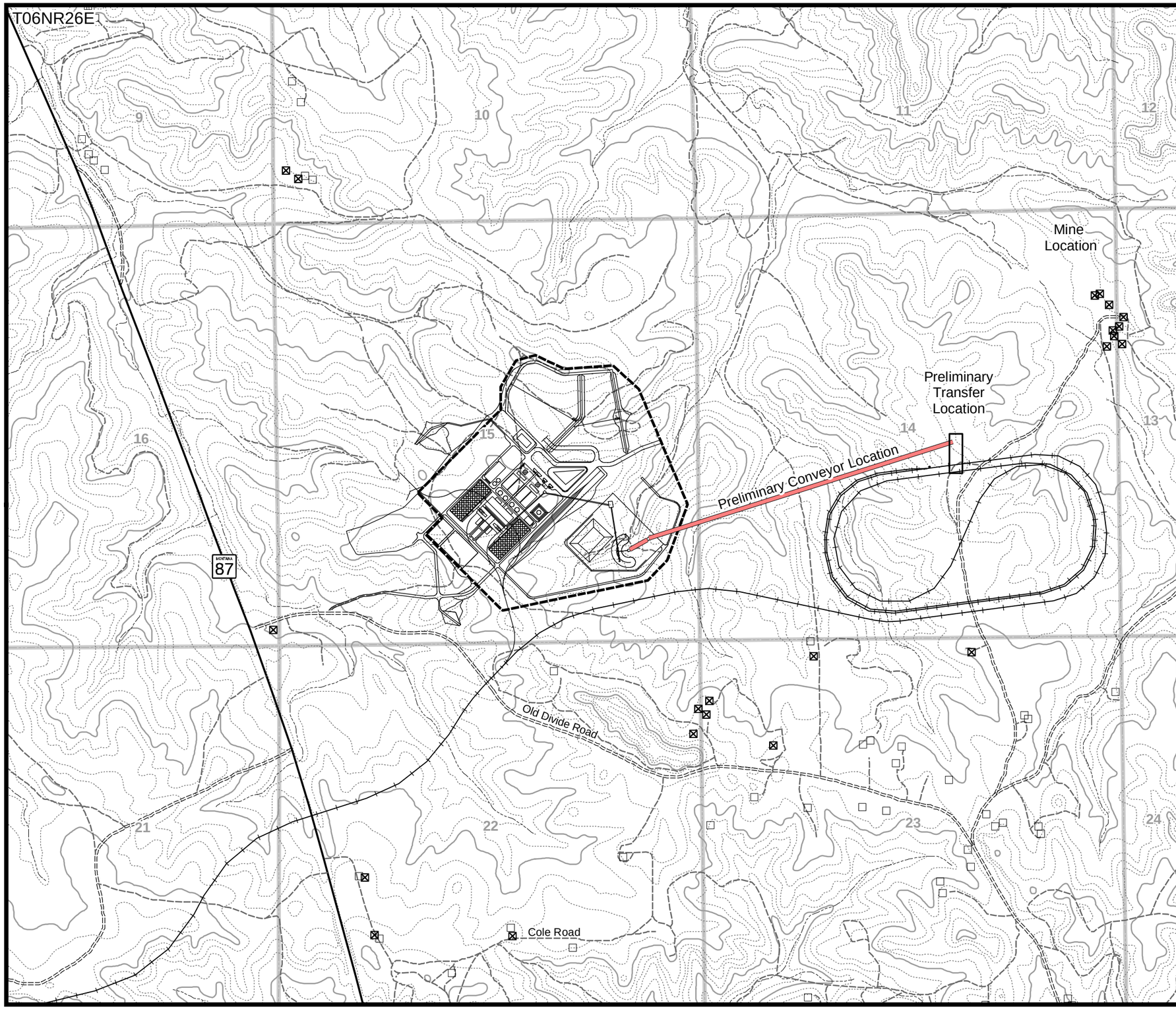
The Proponent believes that the U.S. Assistant Secretary for FWS has made an adverse impact decision without sufficient information by not completing a case-by-case analysis. The Proponent provided the following conclusions and observations from a case-by-case analysis supporting their position that no adverse impact occurs at Yellowstone National Park from the Project (Dickey, December 30, 2002):

- On the vast majority of days of predicted Project impact, actual visibility at the Yellowstone National Park IMPROVE site was highly impacted by natural weather conditions, with many hours of the day classified as "interference."
- When the model-predicted light extinction for the Project is compared to actual visibility, the percent change in light extinction was less than 5% on 23 of the 24 days. The single day with >5% impact (8/24/92) had only 5 hours of indicated weather interference, but the daily F(RH) value corresponds to RH of 84%, indicative of extensive low cloudiness on an August day. The occurrence of regional clouds and precipitation on this day was confirmed by reference to synoptic weather maps.
- The overall results strongly support the Proponent's assertion that days of potential Project impact at Yellowstone National Park are highly correlated with the occurrence of precipitation and generally adverse weather conditions that cause natural visibility impairment. This conclusion follows from the association of the Project impacts with northeasterly winds and a synoptic weather situation marked by low pressure to the south of Yellowstone National Park.
- For the 24 days listed in Table B-11, the mean F(RH) was 4.373, implying an RH of 89%. This further supports the indication that predicted Project impacts are highly correlated with natural conditions of fog, precipitation, and clouds.
- There is no indication of Project impacts during days of clear, high visibility conditions when actual impacts would be discernible by park visitors. Therefore, the modeled light extinction changes do not represent a significant impact (adverse effect) on viewing conditions due to Project emissions.
- Similar case-by-case analyses could not be provided for the UL Bend and North Absaroka wilderness areas because no IMPROVE data is available for these Class I areas. However, the Proponent noted that on the highest visibility impact day (11/18/92) for the UL Bend WA, the daily F(RH) corresponded to an RH greater than 94%, based on Glasgow, Montana surface data. The two other days with predicted impacts greater than 10% at the UL Bend WA had nighttime RH values of 80% or higher. Thus, the predicted visibility impacts are again a direct result of high RH when natural visibility impairment in valley locations such as UL Bend WA is likely (Dickey, December 30, 2002).

Figure 3-7

Land Use

Roundup Power Project FEIS



Legend

- Residence
- Non-Residential Structure
- Preliminary Transfer Location
- Fence Line
- Proposed Railroad
- State Highway
- Local Road
- Dirt Road
- Section Line
- River / Stream

1" : 1,250'

0 625 1,250 2,500 Feet

N W E S

Montana Department of Environmental Quality

Power Engineers

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13122502_Landuse_Rev2_010603_AAA

Appendix A
Letters from Local, State and Federal Agencies and Tribes

The Big Sky Country

MONTANA HOUSE OF REPRESENTATIVES

REPRESENTATIVE ALAN OLSON
HOUSE DISTRICT 8

COMMITTEES:
EDUCATION
STATE ADMINISTRATION
FEDERAL, ENERGY, TELECOMMUNICATIONS

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HELENA ADDRESS:
PO BOX 200400
HELENA, MONTANA 59620-0400
PHONE: (406) 444-4800

HOME ADDRESS:
18 HALFBREED CREEK ROAD
ROUNDUP, MONTANA 59072
PHONE: (406) 323-3341

December 18, 2002

Mr. Greg Hallsten
P.O. Box 200901
Helena, Montana 59620-0901

Dear Mr. Hallsten,

I am writing to comment on the Draft Environmental Impact Statement for the proposed Roundup Power Project.

First of all I would like to thank you and the others involved in drafting the document for the hours spent in ensuring the public and government agencies have a reasonable document to work with in determining the impacts of the Roundup Power Project.

The first concern I would like to address is the impact on water resources. The draft document is accurate in its description on the aquifers in the area. Potential impacts to residents in the area from withdrawal of water from the Madison formation would be virtually non-existent with a properly constructed well casing program. Casing, cemented back to surface, set through reasonably accessible ground water zones would protect the various aquifers in the Tongue River member of the Fort Union Formation from contamination, either from Madison Formation water due to artesian flow or contamination due to communication from other water sands or coal seams. Additional casing would be run to approximate total well depth and cemented, not necessarily to surface, to protect not only the well bore but also to prevent mixing of other aquifers. Generally, this is standard practice in wells such as these.

On page 3-77 of the document it states there is a "perception" residents of the Bull Mountain Community, mini-farmers, are opposed to coal development. During the scoping meeting and the public hearing on December 5th, numerous residents of the Bull Mountains came forward and testified in favor of this project. I do not recall any verbal opposition at either of these public meetings from residents of the Bull Mountains. I too am a part of the Bull Mountain Community. Discussions with my neighbors have generated total support for this project.

As for visibility concerns of the Federal Land Managers addressed on pages 4-103 and Appendix B-4, B-7, I have to question why the FLMs would include air quality data from sources that no longer exist such as the Anaconda smelter. How would operations such as Colstrip, non-existent Anaconda smelter, and the Roundup project, all affect Yellowstone Park at the same time? Is there an air model on the impacts of the annual fires in Yellowstone and surrounding area, and if so how does that compare to the projected loss of visibility from the Roundup project? With Colstrip to the east and Roundup to the northeast of Yellowstone Park, what weather patterns associated with flow in the parks direction lead to a loss in visibility, as east winds are generally associated with inclement weather?

There is no doubt this project will have an impact on the environment. Every day, every one affects the environment. Every new car, subdivision, agriculture operation, cottage business, and tourist has an impact on the environment. The positive economic impacts associated with this project amount to a compelling state interest. The lack of good paying jobs and the inability to raise revenue for local and state government programs due to the decline of tax base and tax payers make this an issue of compelling state interest.

Once again, thank you for your time and efforts on this project.

Sincerely,

Alan Olson

Department of Energy

Bonneville Power Administration
P.O. Box 61409
Vancouver, WA 98666-1409

TRANSMISSION BUSINESS LINE

January 3, 2003

In reply refer to: TOP/PPO2-2

Mr. Greg Hallsten
Montana Department of Environmental Quality
P.O. Box 200901
Helena, MT 59620-0901

Dear Mr. Hallsten:

I am writing in regards to the Roundup Power Project Draft Environmental Impact Statement (DEIS). Although formal comments were due by December 18, 2002, I understand we are still able to submit comments to this report.

The Roundup Power Project developer has requested transmission service from the Bonneville Power Administration Transmission (BPAT) through the Open Access Transmission Tariff process. This secures their position in BPAT's long-term transmission request queue. The general process is as follows:

1. Long-term firm transmission service is requested.
2. If the transmission provider determines a System Impact Study (SIS) is required an SIS agreement is executed. The SIS is a general study to identify any system constraints and the general scope of network upgrades required to provide the requested firm transmission service.
3. When the SIS is completed and if the requestor decides to move forward a System Facility Study (SFS) agreement is executed. The SFS is a more detailed study to determine specific facility additions, upgrades, and/or remedial action schemes required to provide the requested firm transmission service. This includes estimated cost and construction schedule.
4. When the SFS is completed and the requestor decides to move forward, a Construction Agreement is executed, pending completion of any required environmental studies and analyses.
5. Upon completion of the SFS and any required construction and environmental analyses, a transmission service agreement will be offered to the requesting entity.

This process is described in more detail in BPAT's Open Access Transmission Tariff. Since there are several transmission requests ahead of the Roundup Power Project in BPAT's long-term transmission request queue, and requests must be considered in queue order, the SIS is expected to be completed in the fourth quarter of 2003. After the SIS is completed it is estimated the SFS could take an additional 4-6 months depending on the scope of network upgrades identified.

The first comment on the Roundup Power Project DEIS is in Section 2.4.2, 230kV Transmission System Alternative, page 2-53, second paragraph. The last sentence states, "Studies performed by both transmission providers have identified upgrades that are proposed and underway to support this flow." I suggest the following alternative. "Studies will be performed by both transmission providers to identify necessary upgrades to support this flow."

The second comment is in the section titled Infrastructure Development, Transmission, Page 4-98, second paragraph. This paragraph states, "According to BPA, major transmission improvements to the BPA system are planned. These improvements would include substation upgrades and transmission line additions between Montana and the Pacific Northwest." I suggest the following alternative. "BPAT has a current project to increase the West-of-Hatwai cutplane capacity in Washington. However, this does not provide increased capacity from Montana to the Northwest. In order to provide service to the Roundup Power Project major facility additions will be required. This could potentially include substation upgrades and/or transmission line additions. Studies will be done in queue order based on BPAT's long-term transmission request queue to determine the improvements needed."

If you have any questions or comments, please call me at (360) 619-6668.

Sincerely,

Charles E. Matthews
Process Manager, Network Planning

Montana Department of Transportation
2701 Prospect Avenue
PO Box 201001
Helena MT 59620-1001

David A. Galt, Director
Judy Martz, Governor

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MT DEPT. OF ENV. QUALITY
PERMITTING & COMPLIANCE DIV.

November 22, 2002

Greg Hallsten
Montana Department of Environmental Quality
P.O. Box 200901
Helena, Montana 59620-0901

Subject: Roundup Power Project-Draft Environmental Impact Statement

Greg,
We have reviewed primarily transportation issues in the subject document and have the following comments:

- The meaning or intent of the third sentence in the first paragraph on page 3-74 that begins "The Montana Department of Transportation does not attempt to justify…" is not clear. A better explanation of what is intended should be provided or the sentence deleted.

- Additionally, in the second paragraph on page 3-74 US Route 87and US Route 12 are referred to as SR 87 and SR 12. If this SR is identifying the roadways as "State Routes" it is incorrect. They are both US Routes.

If you have any questions please contact me at (406) 444-6303. Thanks

Dan Martin

Dan Martin, Planner
Program & Policy Analysis Bureau
Rail, Transit and Planning Division

copies: Patricia Saindon, Administrator, Rail, Transit and Planning Division
Bruce Barrett, Administrator, Billings District
Sandra Straehl, Program and Policy Analysis Bureau Chief

United States Department of the Interior

OFFICE OF THE SECRETARY
Washington, D.C. 20240

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DEQ
DIRECTOR'S OFFICE

December 18, 2002

Ms. Jan Sensibaugh
Director, Montana Department of Environmental Quality
P.O. Box 200901
Helena, MT 59620-0901

Dear Ms. Sensibaugh:

The National Park Service (NPS) and U.S. Fish and Wildlife Service (FWS) have been participating in the Clean Air Act (CAA) "Prevention of Significant Deterioration" (PSD) permit review for the construction and operation of the Roundup Power Project (RPP) since January 2002.

The proposed RPP would be a 780 Megawatt, coal-fired, electric generating station located approximately 180 km northeast of Yellowstone National Park (NP) and 122 km south of UL Bend Wilderness Area (WA). Under the Clean Air Act, both Yellowstone NP (administered by the NPS) and UL Bend WA (administered by the FWS) are designated as "Class I" air quality areas. The CAA gives Federal Land Managers an affirmative responsibility to protect air quality related values (including visibility) of these areas, and to consider whether any major emitting facilities will have an adverse impact on such values 42 USC 7475(d)(2)(B). We have concluded that if constructed and operated under the conditions outlined in your Preliminary Determination and draft permit, RPP's proposed emissions – when analyzed alone and in combination with existing emissions in the area – could cause perceptible visibility impairment at Yellowstone NP and UL Bend WA. Based on our analysis, we believe emissions from RPP will have an adverse impact on park air quality related values, and we ask the MT DEQ, pursuant to 42 USC 7475(d)(2)(C)(ii) to consider our concerns on the record in making a determination. Enclosed are detailed comments that support our adverse impact finding.

RPP is a modern, well-planned facility. It will be cleaner than nearly all of its predecessors. The adverse impact comes from the fact that RPP will contribute to concentrations which cause an adverse effect at Yellowstone NP and UL Bend WA, two Class I areas. We would welcome the opportunity to discuss this and other approaches with you and other environmental regulators in the region, as well as with permit applicants and other interested stakeholders, as you deem appropriate. Perhaps we could first explore a full range of options and discuss possible approaches with you and your staff, before we begin a more formal multi-stakeholder approach. We recently proposed a similar approach regarding a permit action in the State of Wyoming.

In closing, in the spirit of Secretary Norton's "Four C's" process of "consultation, cooperation, communication, all in the service of conservation," we solicit your help in resolving our concerns about the RPP project and fulfilling our mutual obligations under the Clean Air Act to protect the air quality in these special areas for the enjoyment of future generations. By working together we are hopeful that we can protect the visibility at Yellowstone NP and UL Bend WA. If there are any questions regarding this matter, please contact Christine Shaver of the NPS Air Resources Division at (303) 969-2074, or Sandra Silva of the FWS Air Quality Branch at (303) 969-2814.

Sincerely,

Craig Manson
Assistant Secretary for Fish and Wildlife
Fish and Wildlife and Parks

Enclosure

cc:

Richard Long
U.S. Environmental Protection Agency
Mail Code HP-AR
999 18th St., Suite 300
Denver, Colorado 80202-2466

Jay Littlewolf
Air Quality Division
Northern Cheyenne Tribe
P.O. Box 128
Lame Deer, Montana 59043

Ann Acheson
USDA Forest Service, Region 1
P.O. Box 7669
Missoula, Montana 59807

Determination of Adverse Impact to Visibility at Yellowstone National Park and UL Bend Wilderness Area for the Roundup Power Project
by
U.S. Department of the Interior
December 2, 2002

Background

Roundup Power is proposing to construct a new power plant consisting of two, 390 Megawatt, pulverized coal-fired boilers. The proposed facility would be located next to the Bull Mountains Coal Mine in south-central Montana in Musselshell County, near the town of Roundup. This location is approximately 122 km south of UL Bend Wilderness Area (WA) and 180 km northeast of Yellowstone National Park (NP), Class I air quality areas administered by the U.S. Fish and Wildlife Service (FWS) and the National Park Service (NPS), respectively. This project would result in Prevention of Significant Deterioration (PSD) significant increases in emissions of nitrogen oxides (NO_X), sulfur dioxide (SO_2), particulate matter (PM_{10}), volatile organic compounds (VOC), and carbon monoxide (CO). Emissions (in tons per year – TPY) are summarized below.

POLLUTANT	EMISSIONS (TPY)
NO_X	2329
SO_2	3939
PM_{10}	512
VOC	99
CO	4917

The NPS Air Resources Division and the FWS Air Quality Branch received the PSD permit application for the Roundup Power Project (RPP) in January 2002. On February 19, 2002, a Technical Analysis outlining the comments of both NPS and FWS offices was jointly submitted to the Montana Department of Environmental Quality (MT DEQ). This Technical Analysis presented comments and recommendations regarding Best Available Control Technology (BACT) and the air quality modeling analysis submitted with the RPP PSD application. Due to errors discovered with data used in the air quality modeling, a revised air quality analysis was submitted by RPP on April 22, 2002. After reviewing the results, a second comment letter was sent to MT DEQ by NPS and FWS on May 6, 2002. In this letter, we notified MT DEQ that based upon the results in the air quality analysis, the RPP facility had the potential to have an adverse impact to visibility at Yellowstone NP and UL Bend WA.

On August 12, 2002, MT DEQ released the *Preliminary Determination on Permit Application* for the Roundup Power Project. Using the emission rates outlined in this draft permit and the 1990 meteorological data supplied by RPP, we performed additional modeling to assess potential impacts at Yellowstone NP and UL Bend WA, if RPP operated under the conditions outlined in the draft permit. Our results again indicated that potential adverse visibility impacts might occur from RPP's emissions alone, and when RPP's emissions are combined with other PSD sources in the area. On August 27 we sent a third comment letter to MT DEQ that repeated our concern that potential adverse impacts could occur at Yellowstone NP and UL Bend WA. We again requested that RPP conduct additional modeling with an additional year of meteorological data (1992) to better define the impacts at these areas.

On October 28, RPP submitted the SO_2 increment analysis and the cumulative visibility analysis that we requested in our previous letters. The results indicate that the SO_2 increment will not be violated at Yellowstone NP or UL Bend WA, and we agreed with these results. However, in conducting the cumulative visibility analysis with the 1990 data, RPP used a modeling methodology we do not consider valid. This approach is considered invalid because it excludes several large sources, including many that RPP included in the SO_2 increment analysis. We conducted a separate modeling analysis using the correct number of sources. This modeling found an extremely high number of days when there would be perceptible visibility impacts, and shows that RPP would be a significantly contributing source on those days. These modeling results and concerns were again presented in a fourth letter to MT DEQ on November 6, 2002.

On November 18, MT DEQ released the Draft Environmental Impact Statement (DEIS) for this project. The DEIS presents multiple modeling results that have been submitted by both RPP and NPS/FWS. NPS/FWS modeling results submitted in our November 6, 2002, letter to MT DEQ were presented in Scenario 2 (Table B-6) of the DEIS. On December 2, 2002, the NPS/FWS discovered a small modeling error associated with these results. The NPS/FWS modeling results calculated visibility impacts from hour 1 to hour 0 in the modeling post-processor instead of from hour 0 to hour 23. This results in small changes in predicted impacts. The new results are presented below in Tables 1 and 2. The results also confirm our concern that RPP in combination with other PSD sources in the area would adversely impact visibility at both Yellowstone NP and UL Bend WA. Please note that the North Absaroka and Northern Cheyenne Class I areas are not administered by the Department of the Interior. However, we have included these areas in our modeling analyses for completeness.

Table 1 – RPP only

Results of December 2, 2002, NPS/FWS modeling for the proposed Roundup Power Plant. Should replace those presented in November 6, 2002, letter to MT DEQ and published as Table B-6 in RPP Draft Environmental Impact Statement.

RPP VISIBILITY IMPACT by NPS/FWS with STATE PROPOSED EMISSION LIMITS- **1990** Meteorological Data with f(RH) Max = 98%			
Area	Days > 5% Change in Extinction	Days >10% Change in Extinction	Maximum Change in Extinction
Yellowstone NP	**7**	**1**	**12.72 %**
UL Bend WA	**4**	**0**	**8.41%**
North Absaroka WA	3	0	9.11 %
Northern Cheyenne	36	11	38.27%

Table 2 – Cumulative Sources

Results of December 2, 2002, NPS/FWS cumulative visibility modeling for the proposed Roundup Power Plant and 7 PSD sources. Should replace those presented in November 6, 2002, letter to MT DEQ and published as Table B-6 in RPP Draft Environmental Impact Statement.

RPP with STATE PROPOSED EMISSION LIMITS + 7 PSD SOURCES VISIBILITY IMPACT by NPS/FWS – **1990** Meteorological Data with f(RH) Max = 98%			
Area	Days > 5% Change in Extinction	Days >10% Change in Extinction	Maximum Change in Extinction
Yellowstone NP	**39**	**26**	**119.28 %**
UL Bend WA	**50**	**29**	**149.50%**
North Absaroka WA	35	22	125.83 %
Northern Cheyenne	259	224	618.43%

As noted in Tables 1 and 2, these analyses were based on 1990 meteorological data. Following publication of the DEIS, additional modeling of RPP-only impacts using 1992 meteorological data was submitted by RPP (November 21, 2002, letter to D. Walsh, MT DEQ, from D. Lorenzen). The NPS and FWS were unable to replicate the RPP results exactly, but the results are very similar. RPP did not submit a cumulative visibility analysis using 1992 data, so the NPS/FWS performed this analysis using the source inventory supplied by RPP for the 1990 analysis. The NPS/FWS results using the 1992 data are presented below in Tables 3 and 4.

Table 3 – RPP only

Results of NPS/FWS modeling for the proposed Roundup Power Plant using 1992 data.

RPP VISIBILITY IMPACT by NPS/FWS with STATE PROPOSED EMISSION LIMITS- **1992** Meteorological Data with f(RH) Max = 98%			
AREA	Days > 5% Change in Extinction	Days >10% Change in Extinction	Maximum Change in Extinction
Yellowstone NP	**13**	**2**	**15.41%**
UL Bend WA	**16**	**4**	**28.06%**
North Absaroka WA	10	1	14.53%
Northern Cheyenne	32	11	46.87%

Table 4 – Cumulative Sources

Results of NPS/FWS cumulative visibility modeling for the proposed Roundup Power Plant and 7 PSD sources using 1992 data.

RPP with STATE PROPOSED EMISSION LIMITS + 7 PSD SOURCES VISIBILITY IMPACT by NPS/FWS - **1992** Meteorological Data with f(RH) Max = 98%			
AREA	Days > 5% Change in Extinction	Days >10% Change in Extinction	Maximum Change in Extinction
Yellowstone NP	**32**	**20**	**83.67%**
UL Bend WA	**64**	**41**	**150.30%**
North Absaroka WA	31	21	85.61%
Northern Cheyenne	286	255	971.98%

Discussion of Modeling Results and Air Quality Impacts

A 10% change in extinction is the generally accepted level that would be perceptible to the casual observer. A 5% change could be perceptible for a particular scene under special visibility conditions.

During this review process, both RPP and NPS/FWS have submitted numerous modeling results. While the magnitude of visibility impacts vary slightly, the general trend is that RPP alone would cause perceptible visibility impacts at Yellowstone NP and UL Bend WA. This is shown in Tables 1 and 3. In the November 6, 2002, letter to MT DEQ, the NPS and FWS stated that based on the results of the 1990 RPP-only analysis, the FWS would not consider the impacts caused by RPP alone to be adverse, but that additional modeling may produce different results. Based upon the results now available for the 1992 analysis (Table 3), the impacts from RPP alone would also have an adverse impact on visibility at UL Bend WA.

These RPP-only modeling results also trigger a cumulative visibility analysis for both Class I areas. These cumulative impacts (Tables 2 and 4) are severe in both frequency and magnitude, and constitute an adverse impact at both areas. Moreover, RPP would be a significant contributor to these impacts. These results indicate that RPP has not met the demonstration required under the Administrative Rules of Montana, which require the owner or operator to demonstrate that the RPP "...will not **cause or contribute to** adverse impact on visibility within any federal Class I area or the department will not issue a permit." (17.8.1106(1)) (emphasis added).

The 1992 results presented in Tables 3 and 4 demonstrate that the 1990 impacts (Tables 1 and 2) are not isolated events, and the RPP would continue to cause and contribute to adverse visibility impacts over time. These results further confirm the NPS/FWS finding that the RPP project

would cause and significantly contribute to adverse visibility impacts and cumulative visibility impacts at Yellowstone NP and UL Bend WA.

RPP and the MT DEQ have raised the issue as to whether RPP's contribution to the adverse cumulative visibility impacts are "significant." A review of the modeling outputs for the 1990 RPP-only and for the 1990 cumulative visibility impacts was done by the NPS/FWS to examine this issue. The results demonstrate that RPP's contributions on days in which the cumulative visibility impacts exceed 10% at Yellowstone NP and UL Bend WA are indeed significant. For instance, on Day #15 at receptor #33, the cumulative change in extinction is 12.24%. On that same day and at the same receptor, the change in extinction caused by RPP alone is 6.77%, or 55% of the total cumulative visibility impact. On Day #16 at receptor #33, the cumulative change in extinction is 14.32%. The extinction caused by RPP alone on this date and receptor is 6.33%, representing 44% of the cumulative visibility impact. Similarly, for UL Bend WA, on day #46 at receptor #351, RPP's contribution was 8.41% of the total 29.18% change in extinction (29%). Our review of both the 1990 and 1992 results shows many additional instances when RPP represents a significant percentage of a cumulative change in extinction that is greater than 10% change in extinction at Yellowstone NP and UL Bend WA.

Adverse Impact Demonstration

Under the regulations promulgated for visibility protection (40 CFR §51.301) visibility impairment is defined as "...any humanly perceptible change in visibility (visual range, contrast, coloration) from that which would have existed under natural conditions." The threshold for perceptibility, where a just noticeable change occurs in the scene, has been found to correspond to a change in extinction as low as 2% under ideal conditions. A change in extinction will evoke a just noticeable change in most landscape, and FLMs consider a change in extinction greater than 10% to be unacceptable, unless there is mitigation.

In 1872, the enabling legislation that established Yellowstone NP as the world's first national park states that the Yellowstone NP

> "...is hereby reserved and withdrawn from settlement, occupancy or sale under the laws of the United States, and dedicated and set apart as a public park or pleasuring-ground for the benefit and enjoyment of the people." (17 Stat. 32)

Scenery and visibility play a critical role in the quality of visitor experience, and visitors to national parks and wildernesses list the ability to view unobscured views as a significant part of a satisfying experience. The enjoyment and appreciation of Yellowstone NP and UL Bend WA are linked to the ability of visitors to view the scenery clearly. A significant reduction in visibility would hinder the benefits and enjoyment of visitors to Yellowstone NP and UL Bend WA, as well as diminish the national significance of these majestic landscapes. Air pollution currently impairs visibility to some degree in every national park and refuge, increasing the importance of preventing additional impairment. Visibility impacts from the RPP alone would cause a significant change in extinction that would hinder the benefits and enjoyment of visitors to Yellowstone NP and UL Bend WA on the days those impacts occur. The emissions from RPP would also significantly contribute to the more frequent and severe cumulative visibility impacts that occur at both Yellowstone NP and UL Bend WA.

The Federal Land Manager considers impacts to air quality related values such as visibility to be adverse if such impacts would impair the quality of the visitor experience or diminish the area's national significance. This is consistent with the Code of Federal Regulations (CFR) which defines an adverse impact on visibility as "visibility impairment which interferes with the management, protection, preservation, or enjoyment of a visitor's visual experience of a Federal Class I area. This determination must be made on a case-by-case basis taking into account the geographic extent, intensity, duration, frequency, and time of visibility impairments, and how these factors correlate with (1) times of visitor use of the Class I area, and (2) the frequency and timing of natural conditions that reduce visibility." (40 CFR §51.300, et seq. §52.57)

The Administrative Rules of Montana also give a similar definition, stating that "adverse impact on visibility means visibility impairment which the department determines does or is likely to interfere with the management, protection, preservation, or enjoyment of the visual experience of visitors within a federal Class I area. The determination must be made on a case-by-case basis taking into account the geographic extent, intensity, duration, frequency, and time of visibility impairment, and how these factors correlate with times of visitor use of the federal Class I area, and the frequency and occurrence of natural conditions that reduce visibility" (17.8.1101(2)). These definitions support our position that perceptible visibility impacts of the frequency and magnitude of those predicted for RPP are indeed adverse.

With respect to the relationship of visibility impacts and times of visitor use of the Class I areas, Yellowstone NP and UL Bend WA are both open to visitor use 24 hours a day, year-round. Thus visitation can and does occur at any time. There were nearly three million recreational visits to Yellowstone NP during 2001. For many visitors this is a once-in-a-lifetime experience, and the NPS and FWS are greatly concerned that the experience of each and every visitor not be interfered with by adverse visibility impairment on any day(s) in which visitation occurs. Regarding natural conditions that reduce visibility, RPP has stated that the 1990 impact that is greater than 10% occurs during a snowstorm and that a park visitor 1) would not be out in the elements to view the scenery with any expectation of seeing vast distances and 2) the natural background impairment of the snowstorm would far outweigh the impact of RPP (October 21, 2002, letter to D. Walsh, MT DEQ, from J.W. Dickey). This argument is flawed because it assumes that the snowstorm would be occurring throughout the entire 1.1 million hectare area of Yellowstone NP, and would affect all visitors present in the park at that time. Further, it is unlikely that this weather condition would persist throughout the entire period that is modeled.

Congress recognized the importance of visibility in national parks and wilderness areas when it amended the Clean Air Act (CAA) in 1977 and established a national goal of preventing any future visibility impairment, and remedying any existing visibility impairment due to human-caused air pollution in areas such as Yellowstone NP and UL Bend WA. The CAA directs that the FLMs identify and protect air quality related values, including visibility. In the case of the CAA, the FLM gleans additional insight from a passage in Senate Report No. 95-127, 95th Congress, 1st Session, 1977 which states,

> "The Federal Land Manager holds a powerful tool. He is required to protect Federal lands from deterioration of an established values, even when Class I [increments] are not

exceeded. ...While the general scope of the Federal Government's activities in preventing significant deterioration has been carefully limited, the FLM should assume an aggressive role in protecting the air quality values of land areas under their jurisdiction. In cases of doubt the land manager should err on the side of protecting the air quality-related values for future generations."

Conclusions

We have stated our concern about potential impacts resulting from the RPP facility in four comment letters to MT DEQ. Three of these letters clearly identify the potential for adverse impacts at Yellowstone NP and UL Bend WA. Attempts have been made in two conference calls and in numerous informal communications to resolve issues with RPP and MT DEQ. Modeling analyses submitted by both RPP and the NPS/FWS have repeatedly indicated that RPP will have an adverse impact on visibility at Yellowstone NP and UL Bend WA. The RPP would also significantly contribute to adverse cumulative visibility impacts at both Yellowstone NP and UL Bend WA. These adverse impacts from RPP have been repeatedly demonstrated in the many modeling analyses presented as part of the ongoing PSD and EIS process.

The FLM finding of an adverse impact is based upon a demonstration that the current or predicted deterioration of air quality will diminish the area's national significance, impair the structure and functioning of the area's ecosystem, or impair the quality of the visitor experience in the area. Modeling results presented in the RPP PSD application and in the DEIS (based on 1990 data) show one day exceeding a 10% change in extinction and seven days greater than 5% change in visibility extinction at Yellowstone NP. Four days exceed a 5% change in extinction at UL Bend WA. Further modeling by RPP and NPS/FWS using 1992 data shows two days at Yellowstone NP and four days at UL Bend WA exceeding a 10% change in extinction. Thirteen and 16 days exceed 5% change in extinction at Yellowstone NP and UL Bend WA, respectively. The results of the cumulative visibility analysis (both 1990 and 1992 data) indicate that the RPP would be a significant contributing source to adverse visibility impacts at Yellowstone NP and UL Bend WA. The values represented in all analyses (whether RPP-only or cumulative) predict impacts that would be perceptible to visitors at Yellowstone NP and UL Bend WA, and would violate two of the three adverse impact criteria cited above (i.e., impair the visitor's experience and diminish the area's national significance).

The NPS and FWS have concluded that RPP alone would cause an adverse impact to visibility at Yellowstone NP and UL Bend WA, and contribute significantly to a cumulative adverse impact on visibility at Yellowstone NP and UL Bend WA. This finding is clearly supported by language found in the Clean Air Act, Code of Federal Regulations, the Administrative Rules of Montana, and in the enabling legislation that established Yellowstone National Park. Therefore, we ask that the MT DEQ not grant a final PSD permit to RPP until our adverse impact concerns are adequately addressed.

-WOHEHIV-
The Morning Star

NORTHERN CHEYENNE TRIBE
ADMINISTRATION

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-WOHEHIV-
The Morning Star

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DEC 1 9 2002
DEQ
DIRECTOR'S OFFICE

Montana Department of Environmental Quality
P.O. Box 200901
Helena, Montana 59620-0901

Re: Comments on the Draft Environmental Impact Statement for the proposed Roundup Power Project

Dear Mr. Greg Hallstein

Thank you for the opportunity to make comments on the Draft EIS:

1. Page 3-4, 3.2.3: Add, "The town of Lame Deer, MT, PM10 non-attainment area, is located (down wind) southeast of the RPP."

2. Pages 4-4 to 4-5, 4.2.1: The Northern Cheyenne Tribe is alarmed at the potential visibility impacts from RPP, especially the cumulative effects from the combined sources of Colstrip 1,2,3 and 4 and the potential developments of coalbed methane on the Crow reservation. The tribe has been in contact with the NPS and FWS, Chris Shaver and Sandra Silva, about these visibility issues. The tribe believes, too, that up to date modeling with current sources be done to show the cumulative effects that impact the Northern Cheyenne Reservation.

3. Page 4-5, 4.2.1: Paragraph number 4 and 5: Acid rain has been known to form miles downwind of a coal fired power plant. We have over twenty years of met data on the Northern Cheyenne Reservation. The prevailing winds are from the west, northwest and north, therefore the reservation would be impacted from RPP.

4. Page 4-16, 4.2.1: Paragraph number 2: Change the last sentence to read: "The closest **federal non-mandatory** Class I area is the Northern Cheyenne Reservation (NCR), located 130 (81) km southeast of the site."

5. The Northern Cheyenne Air Quality Division received this EIS on December 12, 2002. The comments were due within one week(Dec. 18). Due to the limited time line to review this EIS other environmental professionals did not have sufficient time to make comments. The environmental staff will need to be involved in the formal determination regarding adverse impacts.

For any question on these comments please contact Jay Littlewolf at 406-477-6506.

Sincerely,

Geri Small

Geri Small, President
Northern Cheyenne Tribe

cc: Northern Cheyenne Tribal Council
Dick Long, EPA, Region VIII
Monica Morales, EPA, Region VIII
Jay Littlewolf, Air Quality, NCT

Yellowstone County

COMMISSIONERS
(406) 256-2701
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P.O. Box 35000
Billings, MT 59107-5000
commission@co.yellowstone.mt.us

December 9, 2002

RECEIVED

DEC 1 0 2002

MT DEPT. OF ENV. QUALITY
PERMITTING & COMPLIANCE DIV.

Mr. Greg Hallsten
Montana Department of Environmental Quality
P.O. Box 200901
Helena, Montana 59620-0901

Dear Mr. Hallsten:

The purpose of this letter is to **support** the construction and operation of the proposed 700-megawatt coal-fired power plant south of Roundup in Musselshell County. A review of the draft EIS would indicate two deficiencies in the study: 1. Lack of full consideration for the **positive economic impact** the project would have to this region. 2. The predominate **wind direction** for this region is from the **Southwest.** The possible decrease in visibility to Yellowstone National Park is misrepresented.

As a Yellowstone County Commissioner, I ask that you issue the necessary permits required for the construction and operation of this much-needed project.

Sincerely,

James E. Reno, Commissioner

Cc: Musselshell County Commissioners
Joe Gerbase, Attorney

17 December 2002

From: Subdivisions and Planning

Subject: Comments on Roundup Power Project Draft EIS

To: Montana Department of Environmental Quality
Attn: Greg Hallsten
PO Box 200901
Helena, MT 59620-0901

Dear Mr Hallsten,

Overall the draft EIS for the proposed Roundup power plant is good and reaches the proper conclusion that the project should go forward and be granted the air quality permit. However, the draft understates the county government's ability to provide increased emergency services during the construction phase and also understates short-term road impacts.

It is not my intention to provide bullets for those who oppose this project, but to have the document properly recognize that there will be short-term impacts. The following issues should be more fully addressed in the EIS and are referenced by paragraph and page numbers:

1. Page 3-66, section on taxes: This section should put into perspective the overall financial health of the county in relation to the reduction of taxable valuation since 1986. The county has been forced to reduce or eliminate many services during this period and this significantly affects our ability to provide increased services to these projects during the construction phase. Once tax revenues increase, we can deal with these issues appropriately. When you couple the impact of the mine construction and power plant construction, we will have some significant impacts quickly, and these will be before new revenues begin. Since paragraph 4.12.1 rightfully acknowledges the perspective of both projects, the rest of the document should do so also.

2. Page 3-75, section on health and safety: The sections on law enforcement and fire were not coordinated with the proper department officials, and this affects the conclusions in

section 4.12.8 because of incomplete information. The County Sheriff, and County Fire Chief who chairs the County Fire Council, were not consulted.

3. Paragraph 4.1.1, page 4-1 discusses mitigation that may be required and mitigation that may be recommended as a condition for permitting. The draft EIS does not make any recommendations for any matter related to emergency services, nor does it discuss who or how these services are to be provided. The assumption seems to be that the county can absorb these impacts. They are not negligible during the construction phase due to lack of funding, and they will be significant to law, fire, ambulance, and roads. If mitigation of these cannot be required, they must be stridently sought by us. Understating the short-term impacts does not assist this process.

4. Paragraph 4.12.6, page 4-91. There is no mention of impacts to county and local roads during the construction phases of the mine or power plants.

5. Paragraph 4.12.8, page 4-93. Musselshell County has had and continues to have a high crime rate associated with our poor economic conditions. The data used to suggest a low crime rate for 1999 was a known aberration due to faulty reporting. A short time prior to 1999 we had the highest crime rate in the state, and using 1999 data misrepresents our current crime statistics. Our current law enforcement department is underfunded and understaffed. Any increase in crime will have serious impacts to the department's capabilities and this was acknowledged on page 3-75 but not here or the following impact tables on page 4-96. Although the County fire department is properly trained and staffed and has significant capabilities, they are located a long way from the proposed site. Other area fire agencies are not properly staffed, trained, nor equipped to handle any increase in demands for services from new development or from the power plant or mine requirements. (There is no discussion in the EIS of how these services would be provided at the sites.) The County is in the process of developing a strategic fire plan to address the current and future deficiencies and has taken steps to improve services, but we recognize our present limitations. On page 3-75, it is recognized that our ambulance service is already at the limits of providing services. Section 4.12.8 fails to follow up and make any statement about this issue.

6. Table 4-37: The section on traffic fails to recognize impact to county and local roads during construction, before revenues increase. The section on law fails to recognize that any increase, particularly during the construction phase, would be a significant adverse impact. The section on ambulance is also understated during the construction phase. The impacts would be severe for the ambulance service during construction with 800 workers in a high-risk environment. The impact to fire services would be moderate to severe permanently. The ability of the county fire department to provide structural protection is already limited and any additional development will further stress this system. Although the mine operators have stated they will handle fire, every major event at either site will involve local government services for law, fire, and EMS and we expect this to be so for the power plants.

7. Paragraph 4.12.11, second section, draws the wrong conclusions as discussed above.

8. Page 4-106 section on socioeconomic cumulative impacts is again understated as discussed above. Providing adequate emergency services to the community and to these projects is essential for the success of the projects, and our emergency services community has impacts that need more discussion in the EIS.

9. The consultation section does not list any consultation with local officials. No where in the document was Disaster and Emergency Services referenced or consulted.

10. In the reference section, land use portion, county subdivisions and planning is the source for the facts at-a glance document.

Sincerely,

Kirby Danielson
Subdivisions and Planning

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
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MT DEPT. OF ENV. QUALITY
PERMITTING & COMPLIANCE DIV.

Ref: 8P-AR

DEC 18 2002

Steve Welch, Director
Permitting and Compliance Division
Montana Department of Environmental Quality
P.O. Box 200901
Helena, Montana 59620-0901

Dear Mr. Welch:

I am writing to provide comments on the Preliminary Determination on the Roundup Power Project (Permit #3182-00) (draft permit). I understand that you are accepting comments on the draft permit through December 18, 2002. We believe there are several issues that should be addressed and provisions of the draft permit that should be revised before the permit is issued in final form. The enclosure to this letter specifically discusses concerns we have with the draft permit.

With respect to the draft permit our major concerns are with Best Available Control Technology (BACT) and Case-By-Case Maximum Available Control Technology (MACT). Specifically, we believe that lower BACT levels should be established for SO2, NOx and particulates and that the Case-By-Case MACT requirements have not been met. The BACT and MACT concerns, as well as other concerns with the draft permit, are addressed in the enclosure to this letter. We believe the draft permit should be revised to address the enclosed concerns before it is issued in final form.

Please contact me at (303) 312-6005 if you have any questions regarding this letter.

Sincerely,

Richard R. Long, Director
Air and Radiation Program

Enclosures
cc: John Wardell, 8MO
Geri Small, President, Northern Cheyenne Tribe
Jay Little Wolf, Air Program Manager, Northern Cheyenne Tribe

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EPA COMMENTS ON DRAFT MONTANA PSD PERMIT
FOR ROUNDUP POWER PROJECT

BEST AVAILABLE CONTROL TECHNOLOGY (BACT)

The comments below pertain to each of the two 390-MW pulverized coal (PC) fired boilers.

1. Particulate:

The draft permit specifies 0.015 lb/MMBtu as BACT, based on use of a baghouse. We believe 0.012 lb/MMBtu or lower should be specified as BACT. A BACT determination of 0.012 was recently made by the Wyoming DEQ for the WYGEN2 project, a 500-MW PC-fired boiler to be constructed by Black Hills Corporation. Wyoming's determination was based on use of a baghouse with membrane-type bags (e.g, Goretex).

2. Sulfur dioxide:

a. BACT in terms of lb/MMBtu. The draft permit specifies 0.12 lb/MMBtu (on a 30-day rolling average) as BACT, based on use of a dry SO_2 scrubber and assuming 94% control efficiency and worst-case coal sulfur content (equivalent to 1.90 lb/MMBtu at the scrubber inlet). We believe a much tighter lb/MMBtu limit should be specified as BACT, for the following reasons:

(i) Typical coal sulfur content is much less than worst-case. In its BACT analysis, the Montana DEQ apparently accepted the permit applicant's use of worst-case coal sulfur content as the basis for the proposed SO_2 emission limit of 0.12 lb/MMBtu, without any comparative analysis with available coal at lower sulfur content. (Reference: revised permit application to Montana DEQ dated April 11, 2002, page 1.). While use of the worst-case coal scenario might be appropriate for establishing a short-term (3-hour or 24-hour) SO2 emission limit, we consider it inappropriate for establishing a 30-day average emission limit, especially considering that coal blending can be used at minimal additional cost (and is routinely used in the power plant industry) to eliminate or reduce the effect of coal sulfur 'spikes.'

Since the Montana DEQ's BACT analysis does not indicate what the typical coal sulfur content would be for the Roundup project, we have independently examined coal sulfur content data available from various organizations, such as the Wyoming Geologic Survey and the Energy Information Administration website (http://www.eia.doe.gov/cneaf/electricity/cq/cq.pdf). From these data, it appears to us that typical coal sulfur content in Montana is probably less than half of the worst-case coal sulfur content used by the permit applicant. Based on typical coal sulfur content, 94% to 96% scrubber efficiency (see further discussion below) and coal blending, we believe an SO_2 emission rate in the range of 0.04 to 0.06 lb/MMBtu could routinely be achieved on a 30-day average.

(ii) Actual SO2 emission rates at other power plants. Emissions data on EPA's acid rain program website (www.epa.gov/airmarkets) for years 2000 through 2001 reveal that several PSD-permitted power plant boilers in this region (for example, Bonanza 1, Intermountain Power 1 and 2, Rawhide 1, Hunter 3 and Colstrip 3 and 4) routinely achieve below 0.10 lb/MMBtu for SO_2, on a 30-day average. In fact, Bonanza, Intermountain Power and Hunter 3 routinely achieve below 0.080 lb/MMBtu on a 30-day average, despite the fact that the SO_2 scrubbers at these boilers were constructed many years ago.

(iii) BACT determinations for similar projects. BACT determinations by other states in this region are further evidence that an emission rate much lower than the 0.12 lb/MMBtu proposed by Montana DEQ can be achieved. For example, a BACT determination of 0.10 lb/MMBtu (on a 30-day rolling average) and 96% control efficiency was made by the Wyoming DEQ for the WYGEN2 project (based on use of a semi-dry SO_2 scrubber). Also, a BACT determination of 0.10 lb/MMBtu (on a 30-day rolling average) was made by the Utah DEQ for Hunter Unit #3, a 495-MW PC-fired boiler operated by Pacificorp (based on use of a wet SO_2 scrubber). Also, a BACT determination of 96% control efficiency was made by the State of New Mexico for the Mustang power project.

(iv) Visibility impacts Severe visibility impacts identified by the Federal Land Managers may necessitate a tighter emission limit in lb/MMBtu than would otherwise be necessary.

b. BACT in terms of control efficiency. A minimum required SO_2 scrubber efficiency should be included in the permit, to ensure proper operation and maintenance of the scrubber, and to ensure that SO_2 emissions are minimized at all times, regardless of the sulfur content in the coal. Because of the severe visibility impacts identified by the Federal Land Managers, we believe the permit should specify scrubber efficiency in the range of 94% to 96% (on a 30-day rolling average), with compliance to be demonstrated via SO_2 CEMS at the scrubber inlet and outlet. We note that 40 CFR 60.47a(b)(1) already requires inlet and outlet CEMS. We consider 96% efficiency achievable based in part on BACT determinations by other states (mentioned above), and on vendor literature from Babcock and Wilcox (a manufacturer of large PC-fired boilers and control equipment; see www.babcock.com), which indicates that even higher SO_2 control efficiencies of 96% to 98% can be achieved with dry scrubbers, even where low-sulfur western coal is used.

3. Nitrogen oxides.

The draft permit specifies 0.07 lb/MMBtu (on a 30-day rolling average) as BACT, based on combined use of low-NO_x burners (LNB), selective catalytic reduction (SCR) at 80% control efficiency, and overfire air (OFA). The Montana DEQ's discussion of available control technologies for NO_x fails to mention ultra-low-NO_x-burners (ULNB). Vendor literature from Babcock and Wilcox (see www.babcock.com) indicates that ULNB, in conjunction with 90% efficient SCR, could achieve NO_x emission rates in the range of 0.015 to 0.025 lb/MMBtu.

ULNB combined with SCR is currently available. For example, it has been installed at the Hawthorn plant in Kansas City. ULNB is important to consider because we believe there are potential NO_x-related visibility issues with the draft permit for Roundup project (as discussed elsewhere in this letter). These issues may necessitate a more stringent NO_x emission limitation than would otherwise be necessary. Also, we believe SCR can achieve better than 80% control. We note that the State of New Mexico made a BACT determination for the Mustang power project with a 93% efficient SCR.

CASE BY-CASE MAXIMUM AVAILABLE CONTROL TECHNOLOGY (MACT)

The project is subject to case-by-case MACT pursuant to section 112(g) of the Clean Air Act. However, Montana DEQ did not establish case-by-case MACT limits or follow the procedures specified in the Administrative Rules of Montana (ARM) 17.8.342 or 40 CFR §63.43(c) *Review options*, (f) *Administrative procedures for review of the Notice of MACT Approval*, (g) *Notice of MACT Approval* and (h) *Opportunity for public comment on the Notice of MACT Approval.*[1]

1. The draft permit does not contain a case-by-case MACT determination for the Project.

2. Montana DEQ must issue a Notice of MACT Approval with the initial case-by-case MACT determination as described in §63.43(g). The permit may serve as the Notice of MACT Approval or a separate and independent Notice of MACT Approval may be issued according to §63.43(c)(2).

3. The minimum public comment period for a Notice of MACT Approval as required by §63.43(h)(1)(ii) is 30 days.

4. The case-by-case MACT determination must contain information specified in §63.43(g) *Notice of MACT Approval* such as, but not limited to:
   a. MACT emission limitations,
   b. notification, operation and maintenance, performance testing, monitoring, reporting and record keeping,
   c. compliance certifications, and
   d. other terms and conditions necessary to ensure Federal enforceability of the MACT emission limitation.

5. The Permit must include all applicable requirements from Part 63 subpart A, as required by §63.43(c)(4).

6. Construction on the Project is prohibited until Montana DEQ has issued a final and effective case-by-case MACT determination as required by §63.42(c).

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[1]Although the permit analysis at page 6 indicates that case-by-case MACT applies to the main boilers, nowhere does the draft permit specify MACT limits.

7. The Permit must be revised to include a case-by-case MACT determination in accordance with ARM 17.8.342 and 40 CFR part 63, subpart B, §63.40 through 63.44.

INCREMENT IMPACT AT NORTHERN CHEYENNE INDIAN RESERVATION (NCIR) CLASS I AREA

In the draft EIS, cumulative modeled impacts predict that the 3-hr and 24-hr SO2 Class I increments are exceeded in the NCIR Class I area (see Table B-2 of the draft EIS). Under our stated policies, if the Project's modeled contribution is significant, then it would appear that the permit should not be issued without further control or offsets. See 40 CFR 51.166(k); pages C.52 and C.53 of EPA's October 1990 New Source Review Workshop Manual; EPA's July 5, 1988 Memorandum from Gerald A. Emison, Director, OAQPS, to Thomas J. Maslany, entitled "Air Quality Analysis for Prevention of Significant Deterioration (PSD)."

Presently, our regulations establish no set values for significance for impacts on Class I increment, and to our knowledge, the Montana SIP does not establish values for significance for such impacts either. In concluding in the draft EIS that the Roundup Project would not be a significant contributor to increment exceedances in the NCIR Class I area, it appears that the State has assumed that Class I significance levels EPA proposed in 1996 as part of the NSR reforms proposal (published in the Federal Register on July 23, 1996 - 61 FR 38250) are appropriate. It would be helpful if you could confirm that this is the approach you are using and your basis for concluding that these values represent an appropriate significance threshold for evaluating impacts on Class I increment.

In addition, we note that the modeled values for the Project are just under the significance levels for Class I increment used in the draft EIS. Under the circumstances, we believe it is important to carefully verify these modeled values and to correct any deficiencies in the modeling. For example, it appears that the predicted increment exceedances were based on the CALPUFF model being used for all sources near and far to the Class I area. This is not the correct regulatory approach for sources near the Class I area. Rather, the correct regulatory modeling approach would be to use CALPUFF for sources greater than 50 kilometers from the Class I area and ISC for sources less than 50 kilometers from the Class I area. Also, as we describe in greater detail elsewhere in this letter, it appears you may have underestimated emissions from the auxiliary boilers and other sources in your modeling, and we are unable to determine whether modeled values for the main boilers represent worst-case emissions on a 3-hour and 24-hour basis.

Even if issuance of the permit is appropriate without further conditions, the apparent Class I increment violation would need to be addressed through reduction of emissions from other sources that contribute to the problem. In this regard, 40 CFR 51.166(a)(3) requires a SIP to be revised if the State or EPA determines that an applicable increment is being violated. Under this regulatory provision, the plan must be revised within 60 days of such a finding by the

State or notification by EPA, or by such later date as prescribed by the Administrator after consultation with the State.

VISIBILITY

EPA Region 8 supports the letter of August 27, 2002 from Christine Shaver of the National Park Service and Sandra Silva of the US Fish and Wildlife Service to the Montana Department of Environmental Quality. This letter outlines the concerns these Federal Land Managers (FLMs) have regarding the incremental visibility impacts resulting from the air emissions from the Roundup Power Project. The analysis performed by the FLMs demonstrates significant impacts from sulfur dioxide and nitrogen oxides on many PSD Class I areas surrounding the plant, including Yellowstone National Park, UL Bend Wilderness Area, North Absaroka Wilderness, and Northern Cheyenne Indian Reservation (NCIR).

SHORT-TERM EMISSION LIMITS

Generally, the PSD regulations require short-term emission limits to ensure protection of the applicable national ambient air quality standard (NAAQS) and PSD increments. Specifically, the PSD regulations clearly require that the application of BACT be at least as stringent as any applicable standard of performance under 40 CFR Part 60. However, this should not be taken to supercede any additional limitations as needed to enable the source to demonstate compliance with the NAAQS and PSD increments. See enclosed November 24, 1986 memorandum from Gerald A. Emison, Director, Office of Air Quality Planning and Standards, to David Kee, Director, Air Management Division, Region V, regarding "Need for Short-term Best Available Control Technology (BACT) Analysis for the Proposed William A. Zimmer Power Plant.

Currently the draft permit only contains SO2 emission limitations on a 30-day rolling average. This approach may be acceptable <u>only</u> if modeling for protection of the short-term NAAQS and PSD increments was based on worst-case hourly SO_2 emissions, rather than on the 30-day emission limitations in the draft permit. Based on the information we've reviewed, we cannot tell whether worst case hourly conditions were modeled. Table 4-8 (page 4-13) of the draft EIS indicates that hourly lb/hr limits and annual lb/hr limits were modeled. The document does not clearly explain what the hourly lb/hr limits are based on; there are no such limits in the draft permit. For example, are these levels based on the source's maximum potential to emit?

At a minimum, we believe that the permit action should either establish short-term emission limits in the permit itself, or justify that worst-case hourly SO2 emission limits have been modeled for protection of short-term NAAQS and PSD increments. Our preference would be that the permit itself include the worst-case modeled hourly SO2 emission limits, in addition to the 30-day BACT limits.

Our concern about short-term emission limits does not apply to the particulate matter or carbon monoxide emission limits because for these pollutants the draft permit levels are in terms

of lbs/hr averaged over the period of a stack test (typically about 3 hours), rather than on a 30-day rolling average.

The NOx emission limits in the draft permit are expressed on a rolling 30-day average, but we do not see this as an issue for protection of NAAQS and PSD increment, because the NOx NAAQS and increment are annual averages. However, we do support the comment that the National Park Service made in its August 27, 2002 letter to Dan Walsh, that an equivalent 24-hr limit be set for NOx to control short-term impacts upon visibility.

AUXILIARY BOILERS

1. The draft permit only requires a stack test once every five years for NO_x and SO_2 emissions from the auxiliary boilers. We do not believe this is adequate to demonstrate continuous compliance with the emission limitations in lbs/hr. For SO2, the permit should also require recordkeeping for sulfur content in the fuel oil burned, the quantity of fuel oil burned per hour, and the resulting SO2 emission rate in lb/hr. For NOx, the permit should require annual stack tests, unless test results are sufficiently below the emission limitation that test frequency can be reduced to once every five years.

2. We have several questions with respect to the PM10, SOx and NOx emission calculations on pages 23 and 24 of the draft permit and the provisions in sections II.A.13 through 17 and 19.

First, section II.A.16 limits diesel consumption of the two auxiliary boilers to 5,438,400 gallons per rolling 12-month period and section II.A.17 limits the combined hours of operation of the two auxiliary boilers to 3,300 hours per rolling 12-month period. If you divide total oil consumed by total hours of operation (5,438,400/3,300) you would consume 1,648 gal/hr. Yet the calculations on pages 23 and 24 assume that 823 gals/hr of oil are used. The calculations on pages 23 and 24 of the draft permit and the emission calculations for the auxiliary boilers in Appendix B[2] of the permit application seem to imply that the fuel oil consumption for all auxiliary boilers will be around 2,766,000 or 2,716,000 gallons year, respectively. We question whether the limit in section II.A.16 was developed in error. If not, we question why 823 gal/hr was used in calculations on pages 23 and 24.

Second, the limit in section II.A.13 is not consistent with the calculations on pages 23 and 24 of the draft permit. The calculations in the draft permit indicate that emissions will be 64.61 lbs of SO2/hr, yet section II.A.13 has a limit of 6.46 lbs of SO2/hr. It appears that the limit in section II.A.13 is incorrect. This potential error impacts the modeling. Table 4-8 on page 4-14 of the draft EIS indicates that a limit of 6.47 lbs of SO2/hr was used in the modeling for each of the auxiliary boilers. The permit application also appears to indicate that 6.47 lbs of SO2/hr was used in the permit modeling.

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[2]We were looking at the revised table dated 3/5/02 that was in Tab 2 of the March 8, 2002 letter from Nicole Wentz to Dan Walsh.

Third, the limit in section II.A.19 is not consistent with the calculations on pages 23 and 24 of the permit. Section II.A.19 indicates that the sulfur content of the No. 2 fuel oil used in the auxiliary boilers shall not exceed 0.05%, yet the calculations on pages 23 and 24 indicate that the sulfur content of the fuel oil is 0.5%. Perry's Chemical Engineer's Handbook indicates that No. 2 fuel oil contains 0.5% sulfur (see 1984 edition, pages 9-10 to 9-11). We question whether the limit in section II.A.19 is correct. We also believe that section II.A.19 should be rewritten to make it clear that only No. 2 fuel oil or better can be burned in the auxiliary boilers. Finally, we note that the permit limit for sulfur content in fuel oil needs to be at least as stringent as the 1 lb of sulfur per mmBTU fired limit required by ARM 17.8.322(4).

MISCELLANEOUS CONCERNS

1. The permit should make it clear whether compliance with lb/hr limits for SO2 and NOx at the PC fired boilers is to be determined via: (a) periodic stack tests, or (b) a combination of CEMS for flow and for pollutant concentration in the stack. EPA recommends (b), especially since the CEMS's are required for other purposes anyway.

2. There is no emission limit for sulfuric acid mist. We believe there should be an emission limit for sulfuric acid mist and a compliance monitoring method (EPA Method 8).

3. Section III.H of the permit indicates that construction must begin within 3 years of permit issuance and proceed with due diligence until the project is complete or the permit revoked. We believe this is an unreasonably long period of time before construction must begin. BACT could change considerably in three years; accordingly, our PSD regulations (40 CFR 52.21(r)(2)) provide:

> Approval to construct shall become invalid if construction is not commenced within 18 months after receipt of such approval, if construction is discontinued for a period of 18 months or more, or if construction is not completed within a reasonable time. The Administrator may extend the 18-month period upon a satisfactory showing that an extension is justified. This provision does not apply to the time period between construction of the approved phases of a phased construction project; each phase must commence construction within 18 months of the projected and approved commencement date.

Although the Montana SIP does not appear to contain an equivalent provision, it does contain ARM 17.8.819, "Control Technology Review," which corresponds to our 40 CFR 51.166(j). Subsection (4) of ARM 17.8.819 provides that for phased construction projects, the determination of BACT must be reviewed and modified as appropriate "at the latest reasonable time which occurs no later than 18 months prior to commencement of construction of each independent phase of the project. At such time, the owner or operator of the applicable stationary source may be required to demonstrate the adequacy of any previous determination of BACT for the source." This makes clear that the maximum length of time a BACT determination should be

considered valid is 18 months, and although the Roundup Project has not been labeled a phased construction project, we believe the permit must include a term, consistent with ARM 17.8.819(4), requiring review of and potential revision to BACT if construction does not begin within 18 months. In the alternative, the permit should be revised to require that construction begin within 18 months.

4. In Table 5-7 (page 50 of the permit application) and Table 4-38 (page 4-99 of the draft EIS), it does not appear that the flare emission limits from the Billings/Laurel sources were considered in the NAAQS/MAAQS modeling; the limits shown appear to be only the limits from the Billings/Laurel SO2 State Implementation Plan (SIP). The flare limits must be considered in the NAAQS/MAAQS modeling.

5. The draft permit does not provide a method for monitoring compliance with the VOC emission limit in section II.A.10.

6. The draft permit does not indicate how the DEQ determined that the 10 to 12-year-old PM-10 ambient data represent the year preceding the receipt of the application. We believe the DEQ should provide an explanation as to why the data represent the year preceding the receipt of the application, or require that ambient PM-10 data be collected that represents such timeframe.

7. EPA has not approved into the SIP the de minimis permitting provisions mentioned in section II.C.2. We believe section II.C.2 should be removed from the permit.

MONTANA HISTORICAL SOCIETY

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Thursday, December 12, 2002

ATTN: Greg Hallsten
DEQ
POB 200901
Helena MT 59620

RECEIVED
DEC 13 2002
MT DEPT. OF ENV. QUALITY
PERMITTING & COMPLIANCE DIV.

RE: DEIS Roundup Power Project

Dear Mr. Hallsten:

Thank you for providing us a copy of the above referenced document for our review. We are able to provide only brief generic comment since we have not received copies of the relevant cultural resource reports referenced on page 7-6.

p.1-7 It is at this point incorrect to state that the SHPO is reviewing the project under section 106 of the NHPA as no responsible federal agency is identified. SHPO normally consults with DEQ or other state agencies under the Montana Antiquities Act and/or MEPA.

p.2-40 Again reference to section 106 of the NHPA is misleading unless this becomes a federal undertaking. We agree with generic mitigation of impacts to cultural resources as proposed under CR-1, -2, -3 and 4 (however we find the reference to section 106 technically misleading).

p.3-36 We have not seen the current cultural resource inventories so we cannot comment on the inventory section of this document, or possible effects to particular resources whose location and nature is unknown to us.

p.4-52 Again, since we have not seen the cultural resource reports we are unable to comment other that to agree that areas not inventoried (i.e. groundwater well/pipeline, disposal haul road and conveyor routes) may contain important unknown cultural resources.

p.5-3 The correct relationship among the NHPA , MEPA and SHPO is stated here.

Whether or not we are requested to provide comment on specific site significance, effects or mitigation we believe it would be appropriate that the cultural resource reports prepared for this project be submitted to our office for inclusion in the statewide inventory; see M.C.A.22-3-423.

STATE HISTORIC PRESERVATION OFFICE ◆ 1410 8th Ave ◆ P.O. Box 201202 ◆ Helena, MT 59620-1202
◆ (406) 444-7715 ◆ FAX (406) 444-6575

We would be more than happy to provide more detailed comment or opinion regarding site eligibility, effects or mitigation to DEQ, or the proponent, as desired, once we have the referenced reports.

Sincerely,

Stan Wilmoth, Ph.D.
State Archaeologist/Deputy, SHPO

NEW FILE DEQ Roundup Power