Montana Department of
ENVIRONMENTAL QUALITY
Brian Schweitzer, Governor
P. O. Box 200901 Helena, MT 59620-0901 (406) 444-2544 Website: www.deq.mt.gov

June 30, 2009

Mr. Dan Dunlap
Rocky Mountain Power, LLC
Hardin Generating Station
2575 Park Lane, Suite 200
Lafayette, CO 80026

Dear Mr. Dunlap:

The Department of Environmental Quality (Department) has made its decision on the Montana Air Quality Permit application for Rocky Mountain Power, LLC – Hardin Generating Station. The application was given permit number3185-05. The Department's decision may be appealed to the Board of Environmental Review (Board). A request for hearing must be filed by July 15, 2009. This permit shall become final on July 16, 2009, unless the Board orders a stay on the permit.

Procedures for Appeal: Any person jointly or severally adversely affected by the final action may request a hearing before the Board. Any appeal must be filed before the final date stated above. The request for a hearing shall contain an affidavit setting forth the grounds for the request. Any hearing will be held under the provisions of the Montana Administrative Procedures Act. Submit requests for a hearing in triplicate to: Chairman, Board of Environmental Review, P.O. Box 200901, Helena, Montana 59620.

Conditions: See attached.

For the Department,

Vickie Walsh
Air Permitting Program Supervisor
Air Resources Management Bureau
(406) 444-3490

Paul Skubinna
Environmental Engineer
Air Resources Management Bureau
(406) 444-6711

VW:PS
Enclosures

DEPARTMENT OF ENVIRONMENTAL QUALITY
Permitting and Compliance Division
Air Resources Management Bureau
P.O. Box 200901, Helena, Montana 59620
(406) 444-3490

FINAL ENVIRONMENTAL ASSESSMENT (EA)

Issued To: Rocky Mountain Power, LLC.
Hardin Generating Station
2575 Park Lane, Suite 200
Lafayette, CO 80026

Air Quality Permit Number: 3185-05

Preliminary Determination Issued: May 26, 2009
Department Decision Issued: June 30, 2009
Permit Final:

1. *Legal Description of Site*: The facility is located in the Northwest ¼ of Section 12, Township 1 South, Range 33 East, in Big Horn County, Montana.

2. *Description of Project*: RMP operates a pulverized coal fired steam electric power generation facility known as the Hardin Generating Station, located near Hardin Montana. The proposed action is to modify existing MAQP # 3185 to authorize operation of a mercury control system including an activated carbon/sorbent handling system, storage silo and associated bin vent. The proposed project would result operation of one new emitting unit, the storage silo bin vent. Controlled emissions resulting from the proposed storage silo bin vent include particulate matter. .

3. *Objectives of Project*: The objectives of the project are to provide additional control of mercury emissions from the plant by incorporating Hg emission limitations into the existing permit in accordance with emission standards existing at ARM 17.8.771. Also the permit modification establishes a BACT-based permit limit developed upon the reasonable performance of the installed Hg control and monitoring system during the Demonstration and Optimization Period required by the Settlement Agreement. The project would result in an approximate order of magnitude reduction in allowable mercury emissions from the PC Boiler and new particulate emissions from operation of mercury control system ancillary processes.

4. *Alternatives Considered*: In addition to the proposed action, the Department also considered the "no-action" alternative. The "no-action" alternative would deny issuance of the air quality preconstruction permit to the proposed facility. However, the Department does not consider the "no-action" alternative to be appropriate because RMP demonstrated compliance with all applicable rules and regulations as required for MAQP issuance. Therefore, the "no-action" alternative was eliminated from further consideration.

5. *A Listing of Mitigation, Stipulations, and Other Controls*: A list of enforceable conditions, including a BACT analysis, would be included in MAQP #3185-05.

6. *Regulatory Effects on Private Property*: The Department considered alternatives to the conditions imposed in this MAQP as part of the MAQP development. The Department determined that the MAQP conditions are reasonably necessary to ensure compliance with applicable requirements and demonstrate compliance with those requirements and do not unduly restrict private property rights.

7. The following table summarizes the potential physical and biological effects of the proposed project on the human environment. The "no-action" alternative was discussed previously.

		Major	Moderate	Minor	None	Unknown	Comments Included
A	Terrestrial and Aquatic Life and Habitats			✓			Yes
B	Water Quality, Quantity, and Distribution			✓			Yes
C	Geology and Soil Quality, Stability and Moisture			✓			Yes
D	Vegetation Cover, Quantity, and Quality			✓			Yes
E	Aesthetics				✓		Yes
F	Air Quality			✓			Yes
G	Unique Endangered, Fragile, or Limited Environmental Resources				✓		Yes
H	Demands on Environmental Resource of Water, Air and Energy			✓			Yes
I	Historical and Archaeological Sites				✓		Yes
J	Cumulative and Secondary Impacts			✓			Yes

SUMMARY OF COMMENTS ON POTENTIAL PHYSICAL AND BIOLOGICAL EFFECTS: The following comments have been prepared by the Department.

A. Terrestrial and Aquatic Life and Habitats

There would be no impacts to terrestrial and aquatic life and habitats due to facility construction from the proposed project. The RMP facility is an existing facility and all construction associated with this project has already been conducted to comply with the requirements of the Settlement Agreement. Therefore no construction activities that would disturb terrestrial or aquatic habitats is required.

Aquatic life and terrestrial habitats would realize a minor impact from the proposed project due to operation of the mercury control system because minor increases in particulate emissions would result from operation of the activated carbon storage silo that may result in some aerial deposition of particulate matter. Conversely, positive impacts to local and regional aquatic life and terrestrial habitats may be realized due to the reduction of Hg emissions from the plant that may result in a decrease in aerial deposition of mercury.

B. Water Quality, Quantity and Distribution

The proposed project would result in minor impacts to water quality, quantity, and distribution in the area because particulate emission increases from the project would be negligible but may results in additional aerial deposition particulate. Similarly local and regional water quality may improve from this project due to the decrease in allowed mercury emissions that may result in a decrease of mercury deposition in waterways local and regional waterways.

The proposed project does not include any changes in the amount of water drawn from the Bighorn River and no change to the method of water discharged from the facility. There would continue to be no direct discharge to the waters of the state of Montana. Therefore there would be no impacts to the quantity or distribution of water due to the proposed project.

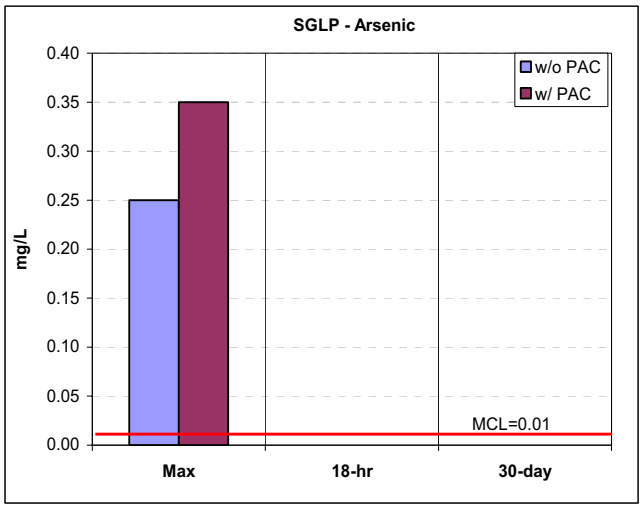
Operation of mercury control system would result in an increase in mercury, and may result in an increase in bromide, some other halogen(s), and other metal and metalloid content in the ash that is captured by the particulate control device for the PC Boiler. Ash from the facility is disposed of in a designated cell of the off-site licensed Class II landfill for the City of Hardin. The Class II landfill holds license #348 with the Department. Class II landfills are required to be designed with environmental pollution controls including mitigations for groundwater seepage and contamination. RMP provided an analysis and leachability studies performed on the ash from the Hardin Generating Station to quantify the potential groundwater impacts due to ash leaching in its application materials, as follows.

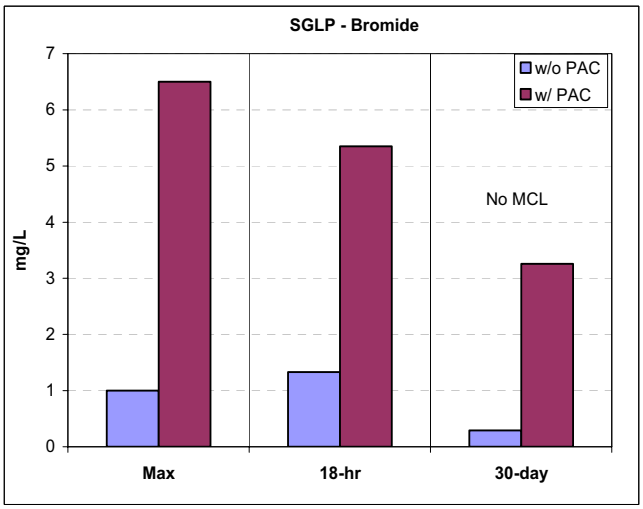
Based on analyses done as part of previous industry testing, sorbents used in mercury control are stable from the standpoint of leachability. These analyses were conducted on ash samples collected during the testing phases to determine the stability of mercury. For example, at a previous DOE test site similar in configuration to Hardin, two leaching procedures were used: Method 1311, Toxicity Characteristic Leaching Procedure (TCLP) and the Synthetic Groundwater Leaching Procedure (SGLP). The TCLP procedure measures metal mobility in a sanitary landfill. The SGLP procedure was developed by Hasset at EERC to better simulate the pH of groundwater to determine if mercury will leach from the samples under conditions designed to simulate actual field conditions. This testing, as well as thermal desorption tests to determine the thermal stability of the samples in air, showed mercury to be stable in the ash containing activated carbon.

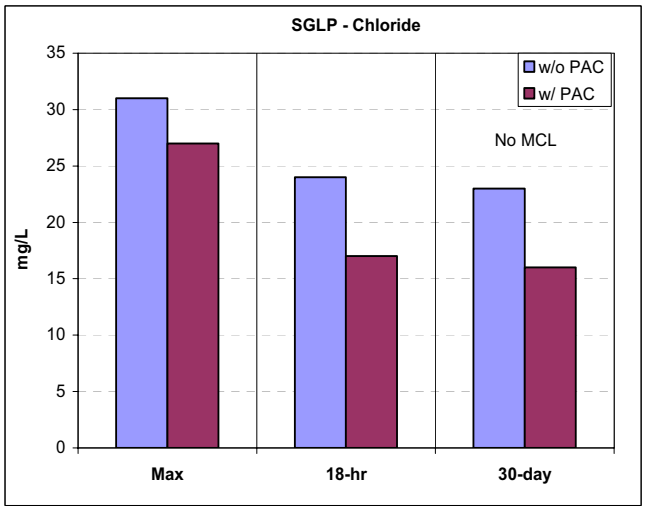
These results have also been shown on ash collected from Hardin. Ash sample from baseline and long-term tests were analyzed by the SGLP for mercury and other trace constituent stability. In the SGLP, samples are diluted 20:1 (liquid to solid ratio) and then agitated end-over-end. Samples are extracted after 18-hr and 20-days and analyzed for trace constituents. Hydration reactions that can take days or weeks to complete often incorporate trace toxins so that the 30-day concentration of these species is often lower than the 18-hr concentration.

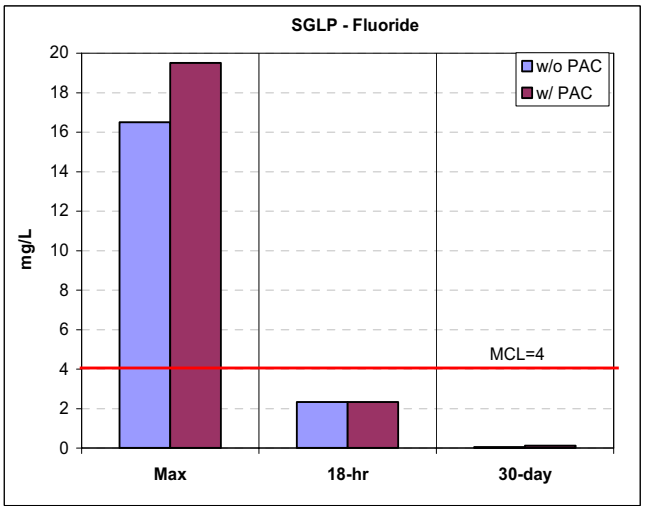
An SGLP was conducted on a baseline (no ACI) ash sample and a sample collected after months of ACI with a brominated AC. Trace materials, including bromide, chloride, fluoride, arsenic, selenium, and mercury, were measured after 18-hr and 30-days of agitation. The maximum theoretical concentration for the leachate, which assuming all of the mass of the pollutant within the ash samples was instaneously dissolved in one liter of water, was also calculated, based on the ash mass pollutant per mass ash analysis. The reported maximum concentration does not represent likely geochemical leachate processes at near neutral pH aquifer conditions, nor would the compacted pore space of the collected ash samples be equivalent to one liter. Therefore it is not representative of the maximum achievable concentration of potential ground water pollution resulting from landfill leachate. This information is presented, in part, to enable evaluation of the percentage of the available pollutant in the ash sample that dissolved at the given time increments during the SGLP test.

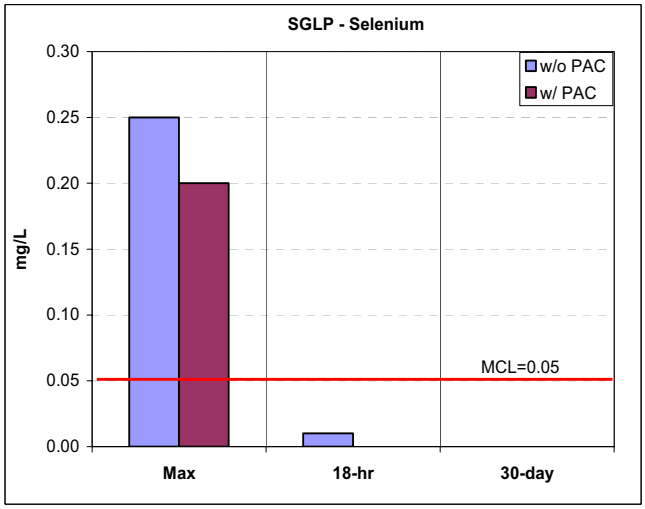
The following figure shows the SGLP results for Hardin; the leachate concentrations for the six species are compared to EPA's maximum containment level (MCL - red line) for drinking water, except for chloride and bromide that have no MCL. MCL levels are much stricter than the RCRA leaching values for sanitary landfills. In all cases, the leachate concentrations are below the MCL. The figure also shows that, although the use of a brominated AC increases the mercury concentration in the waste ash, the mercury does not leach from the sample.

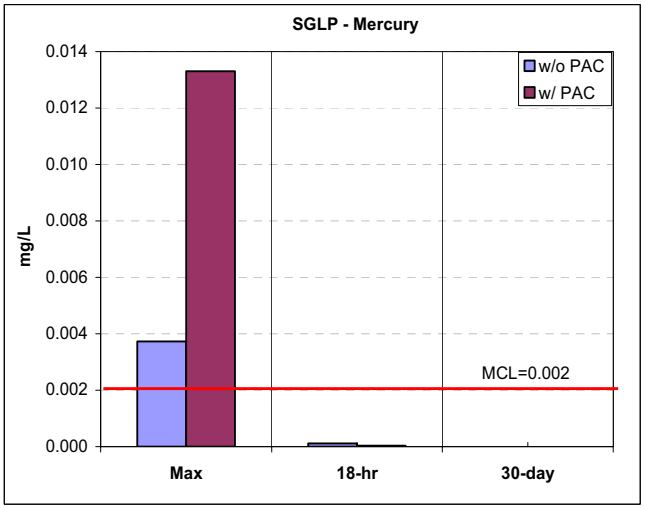










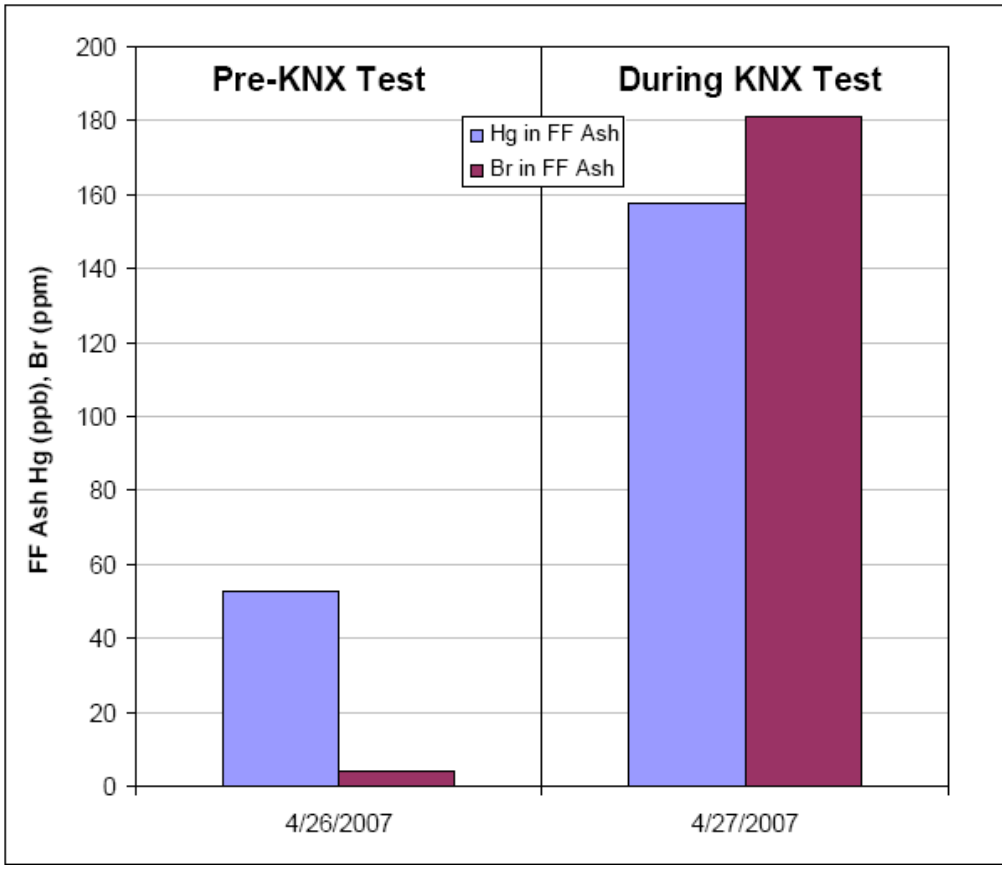


Based on the analysis and data provided above and the fact that the ash will be disposed of in a licensed Class II landfill, which inherently includes designed controls to minimize environmental impacts and pollution, the Department concludes that no, or minor impacts to ground water or surface water quality would result due to contaminants leaching from the disposed ash.

C. Geology and Soil Quality, Stability and Moisture

The impacts to the geology and soil quality, stability, and moisture from this facility would be minor because the proposed project would not change the footprint of the facility as it was previously permitted. Soil stability would not be impacted by the proposed project because the activated carbon storage silo and handling equipment has already been constructed as a condition of the Settlement Agreement. The facility would continue to not discharge any material directly to the soil in the immediate area. Some of the air emissions from the activated carbon storage silo may deposit on local soils, but that deposition would result in only a minor impact to local areas because of the air dispersion characteristics of the area (see Section 7.F of this EA).

Operation of mercury control system would result in an increase in mercury and may result in an increase in bromide, other halogen(s), metals or metalloid content in the ash that is captured by the particulate control device for the PC boiler and removed from the facility. The figure below typifies the increase in these parameters.



However, ash from the facility is disposed of in a designated cell of an existing off-site Class II landfill licensed by the City of Hardin. Class II landfills are required to be designed with environmental pollution controls. The Class II landfill holds license #348 with the Department. Therefore, no, or minor impacts to soil quality is expected associated with disposal of ash from the proposed project.

D. Vegetation Cover, Quantity, and Quality

The proposed project would result in minor impacts on the vegetative cover and quantity in the immediate area because the proposed project would not change the footprint of the facility as it was previously permitted. No new construction is proposed and the amount of resulting

deposition of the air emissions from operation of the new emitting unit would be relatively small. Vegetative quality in the area may improve as the project would result in a decrease in Hg emission that may be bio-accumulated in vegetation and passed up the food chain.

E. Aesthetics

There would be no impacts to the aesthetics of the area from the proposed project because the facility is an existing facility the appearance of the plant would not change as part of the proposed project. In addition, noise and odors would remain the same as currently exist.

F. Air Quality

The proposed project would decrease allowable Hg emissions from the facility approximately an order of magnitude from previously permitted levels. These decreases would likely improve air quality. The project would also negligibly increase allowable particulate emissions from the facility by 0.000199 tpy. The proposed minor increase in particulate emissions would not be expected to have a significant impact on local or regional air quality, because previous air quality impact analyses have determined atmospheric dispersion in this area is good, no applicable standard or increment would be violated, and the proposed increase in emissions is relatively minor compared to those previously analyzed.

G. Unique Endangered, Fragile, or Limited Environmental Resources

There would be no impacts to unique, endangered or fragile environmental resources in the area from the proposed project, because the facility is an existing facility and no new construction is proposed.

In addition, the proposed project would have no impact on limited, non-renewable resources because the amount of coal and natural gas required by the facility would not change from previously analyzed levels.

H. Demands on Environmental Resource of Water, Air and Energy

As described in Section 7.B of this EA, cumulative impacts to the water resource would not change as a result of the proposed action. Therefore, there would be no impacts to the demands on the environmental resource of water from the proposed project.

As described in Section 7.F of this EA, the impact on the air resource in the area from the modification would be minor because of the amount of the proposed increase in particulate would be negligible and the project would result in a decrease in mercury emissions. There may be minor impacts on energy resources as operation of new equipment may result in a minor increase in parasitic electricity load on the plant.

I. Historical and Archaeological Sites

There would be no impacts on historical and archaeological sites because the proposed project would take place at an existing facility and would not disturb any ground.

J. Cumulative and Secondary Impacts

Overall, the cumulative impacts from the proposed project on the physical and biological aspects of the human environment would be minor. No new construction would be required for the project and no significant increase in air emissions would result from the project.

8. The following table summarizes the potential economic and social effects of the proposed project on the human environment. The "no-action" alternative was discussed previously.

		Major	Moderate	Minor	None	Unknown	Comments Included
A	Social Structures and Mores				✓		Yes
B	Cultural Uniqueness and Diversity				✓		Yes
C	Local and State Tax Base and Tax Revenue				✓		Yes
D	Agricultural or Industrial Production			✓			Yes
E	Human Health			✓			Yes
F	Access to and Quality of Recreational and Wilderness Activities				✓		Yes
G	Quantity and Distribution of Employment				✓		Yes
H	Distribution of Population				✓		Yes
I	Demands for Government Services			✓			Yes
J	Industrial and Commercial Activity				✓		Yes
K	Locally Adopted Environmental Plans and Goals				✓		Yes
L	Cumulative and Secondary Impacts				✓		Yes

SUMMARY OF COMMENTS ON POTENTIAL ECONOMIC AND SOCIAL EFFECTS: The following comments have been prepared by the Department.

A. Social Structures and Mores

The proposed project at the existing RMP facility would not cause a disruption to any native or traditional lifestyles or communities (social structures or mores); the proposed project would not change the nature or use of the site. The proposed project would be consistent with the permitted RMP facility and the former and current use of the larger area surrounding the facility (the former Holly Sugar processing plant and the current Cenex bulk storage facility). The proposed project would not affect the greater surrounding area (predominately agricultural and/or associated with the outskirts of the City of Hardin).

B. Cultural Uniqueness and Diversity

The proposed project would not cause a change in the cultural uniqueness and diversity of the area because no physical changes are proposed at the site that was previously used for industrial activity (the Holly Sugar processing plant), and a Cenex bulk storage facility currently operates directly south of the proposed site.

As described in Section 7.F of this EA, the proposed project would not cause or contribute to a violation of ambient air quality standards. Therefore, unique cultures nearby (including the Tribe of Crow Indians and the Northern Cheyenne Tribe) would not be affected by this project. Therefore, the proposed project would cause no change in the cultural uniqueness and diversity of the area.

C. Local and State Tax Base and Tax Revenue

The proposed project would have no effect on the state tax base and tax revenue because it would not change the amount of taxes owed by the RMP facility and would not create additional employment opportunities with RMP or surrounding businesses.

D. Agricultural or Industrial Production

The impacts to agricultural and industrial production in the area from the proposed project would be minor because no physical alterations or additions would occur and the resulting deposition from air emissions would be minor.

The RMP plant site is next to a Cenex bulk storage facility and the old Holly Sugar processing plant. Therefore, the area is accustomed to industrial use.

As described in Section 7.F of the EA, the cumulative air quality impacts from this facility would be minor. However, because of the negligible changes is proposed emissions, the resulting deposition of the pollutants from the RMP facility would be minor. Overall this indicates that the impacts from the proposed modification on agricultural or industrial production would be minor.

E. Human Health

As described in Section 7.F of the EA, the impacts from this proposed project on human health would be minor increases in particulate would be greatly dispersed before humans would be exposed and the project would decrease mercury emissions. The project would not cause or contribute to a violation of the MAAQS or NAAQS. The MAQP for the facility would incorporate conditions to ensure that the facility would be operated in compliance with all applicable rules and standards. These rules and standards are designed to be protective of human health.

F. Access to and Quality of Recreational and Wilderness Activities

The proposed project would result in only a minor impact on the access to and quality of recreational and wilderness activities because the air emissions from the facility would be required to be in compliance with the NAAQS and MAAQS and would disperse before impacting the recreational areas. The recreational activities in the area are approximately ¼ to 1½ miles away. Furthermore, the RMP site is located on land previously used as an industrial site. The land use would not change. The property will continue to be private. No recreational or wilderness activities exist within the RMP property boundaries. The RMP facility would have no impact on the access to and quality of wilderness activities.

G. Quantity and Distribution of Employment

There would be no effect on the employment of the area from the proposed project because no new employees would be hired as a result of the proposed project.

H. Distribution of Population

The proposed project would have no effect on the normal population distribution in the area above the positions previously associated with the facility.

I. Demands for Government Services

Demands on government services from the proposed project would be minor because the facility would require some, but not extensive, government services. RMP would be a tax paying entity for both state and local tax bases.

The acquisition of the MAQP and compliance verification with the MAQP as well as any other state issued permits would also require minor services from the government.

J. Industrial and Commercial Activity

The proposed project would represent no change in industrial activity in the area. The proposed project would only change emission limits associated with periods of PC-Boiler and would establish permit conditions for the operation of the activated carbon/sorbent storage silo. The facility, under ideal conditions, would operate 24 hours a day and 7 days per week generating electricity. Other industrial activity in the area includes the Cenex bulk storage facility, just south of the RMP site.

K. Locally Adopted Environmental Plans and Goals

The nearest nonattainment areas with respect to air quality are the Laurel SO_2 Nonattainment Area and associated SO_2 state implementation plan area (including Billings, approximately 45 miles to the west) and the Lame Deer PM_{10} Nonattainment Area (approximately 46 miles to the east). Based on the negligible changes to in air quality from the proposed project would not significantly impact either of those nonattainment areas and therefore, would have no effect on any locally adopted environmental goals and plans associated with those two areas.

The Department is unaware of any other locally adopted environmental plans and goals that would be affected by the proposed project at the RMP facility.

L. Cumulative and Secondary Impacts

Overall, the cumulative and secondary impacts from the proposed project on the social and economic aspects of the human environment would be minor because the project would occur on the previously permitted RMP site, would not affect cultural and social values or recreational opportunities, would require minimal government resources, and would not increase employment above what was previously associated with the RMP facility. In addition, the proposed project would have only a minor impact on human health.

Recommendation: No Environmental Impact Statement (EIS) is required.

If an EIS is not required, explain why the EA is an appropriate level of analysis: The current permitting action is for a modification at the existing RMP facility. MAQP #3185-05 includes conditions and limitations to ensure the facility will operate in compliance with all applicable rules and regulations. In addition, there are no significant impacts associated with this proposal.

Other groups or agencies contacted or which may have overlapping jurisdiction: Montana Historical Society – State Historic Preservation Office, Natural Resource Information System - Montana Natural Heritage Program, Montana Department of Revenue

Individuals or groups contributing to this EA: Department of Environmental Quality (Air Resources Management Bureau; Waste and Underground Tank Management Bureau; and Water Protection Bureau), Montana Historical Society – State Historic Preservation Office; Natural Resource Information System - Montana Natural Heritage Program; Department of Revenue

EA prepared by: Paul Skubinna
Date: May 18, 2009