



Montana Department of
ENVIRONMENTAL QUALITY

Brian Schweitzer, Governor

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January 25, 2011

Frank Trocki
Montana State University-Northern
BioEnergy Center
300 13th Street West
P.O. Box 7751
Havre, MT 59501

Dear Mr. Trocki:

The Department of Environmental Quality (Department) has made its decision on the Montana Air Quality Permit application for the Montana State University-Northern. The application was given permit number 4610-00. The Department's decision may be appealed to the Board of Environmental Review (Board). A request for hearing must be filed by February 9, 2011. This permit shall become final on February 10, 2011, 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) 444-9741

Jenny O'Mara
Environmental Engineer
Air Resources Management Bureau
(406) 444-1452

VW:JO
Enclosure

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

FINAL ENVIRONMENTAL ASSESSMENT (EA)

Issued To: BioEnergy Center
40 E. Broadway
Butte, MT 59701

Montana Air Quality Permit Number: #4610-00

Preliminary Determination Issued: 12/22/2010

Department Decision Issued: 1/25/2011

Permit Final:

1. *Legal Description of Site:* The BioEnergy Center is located within the Montana State University-Northern's campus in Section 8, Township 32 North, Range 16 East in Hill County, Montana.
2. *Description of Project:* The BioEnergy Center operates five laboratories in two buildings located with the College of Technical Sciences (COT) at Montana State University-Northern's Havre Campus. At the Applied Technology Center, the BioEnergy Center would operate an oil analysis lab, fuel chemistry lab, wet chemistry lab and dynamometers as part of the performance lab facilities.
3. *Objectives of Project:* The BioEnergy Center would operate a heavy duty engine performance testing facility. The primary purpose of the BioEnergy Center would be emission testing on fuels, and new engine enhancement technology for the reduction of emission and increased engine performance on a variety of test engines ranging from 5 hp engines up to 515 hp engines.
4. *Alternatives Considered:* In addition to the proposed action, the Department also considered the "no action" alternative. The "no action" alternative would deny the issuance of the air quality preconstruction permit to the proposed facility. However, the Department does not consider the "no action" alternative to be appropriate. 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 #4610-00.
6. *Regulatory Effects on Private Property:* The Department considered alternatives to the conditions imposed in this permit as part of the permit development. The Department determined that the permit conditions would be reasonably necessary to ensure compliance with applicable requirements and demonstrate compliance with those requirements and would 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.

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

Impacts to terrestrial and aquatic life and habitats from construction and operation of this facility would be minor because of the relatively small portion of land that would be occupied. The facility would be located within MSU-Northern an institutional facility. It would be highly unlikely that terrestrials such as livestock, deer, elk, moose, and rodents would use the general area near the facility. Additionally, there are no known wetlands listed for the project site. Any construction would result in very little impact, if any, on the terrestrial and aquatic life and habitats because there would be minimal disturbance and any disturbance would be temporary and of short duration. It would be unlikely that there would be any additional impacts as a result of this project. Therefore, the Department believes that the proposed project would cause minor impacts to the area and overall, the impacts from this project to terrestrial and aquatic life and habitats would be minor.

B. Water Quality, Quantity, and Distribution

There are no surface water bodies on the site and the nearest surface water body would be Beaver Creek, which would be located north of the proposed facility (approximately 1 mile). Wastewater from the facility and Campus would be discharged to the City of Havre's sewer system. The BioEnergy Center would also be connected to a community water system. Overall, the facility employs few people and the amount of water for consumptive and non-consumptive use would be minimal. As proposed, there would be minor additional impacts as a result of this project on the water distribution, wastewater or the quality of water. Therefore, the proposed permit would result in minor impacts to water quality, quantity, and distribution in the area.

C. Geology and Soil Quality, Stability, and Moisture

Impacts to the geology and soil quality, stability, and moisture from this facility would be minor because the permit would impact a relatively small portion of land and the amount of resulting deposition of the air emissions would be small. Approximately ¼ acre or less would be disturbed for the physical construction of the facility. The project would be located within MSU-Northern's Campus.

There are no known unique geologic or physical features at the site. The soil stability in the immediate vicinity would be impacted by construction activities, but disturbances would be temporary. The proposed permit would not discharge any material to the soil. Installing the equipment would result in minimal impact on geology and soil quality, stability and moisture because the construction would be temporary and of short duration. Overall, the Department believes there would be minor impacts to geology, soil quality, stability, and moisture.

D. Vegetation Cover, Quantity, and Quality

The proposed project would result in minor impacts on the vegetative cover, quantity, and quality in the immediate area because only a small amount of property would be disturbed and the resulting deposition from air emissions would be relatively small. Approximately 1/4 acre of land would be impacted by the construction and operation of the BioEnergy Center; however a much smaller footprint would be disturbed as a result of this permit.

The project site would be located in an institutional area with vegetation surrounding the buildings for aesthetical purposes. There are no known endangered or threatened plant species at the project site. This permit would result in minimal disturbance to the land and the disturbances would be temporary. Most of the newly disturbed areas would be restored to their previous status after installation of equipment. The corresponding deposition of the air pollutants on the surrounding vegetation would also be minor. Therefore, the proposed project would result in minor impacts on the vegetative cover, quantity, and quality.

E. Aesthetics

Impacts to the aesthetics of the area from this modification would be minor because the land use surrounding the project area is a college campus. The ATC and ATC East Buildings (BioEnergy Center) would be located on the south end of the MSU-Northern Campus. The Northern Montana Hospital, Northern Montana Care Center and the Sletten Cancer Center are located nearby. There is also a residential area located within 800 meters of the BioEnergy Center.

The ATC Building would house a small engine test dynamometer capable of testing 4 - 5 engines with each engine capacity rated at 5-15 hp, a water brake engine test dynamometer with a loaded capacity of 1000 hp. However, the BioEnergy Center requested a federally enforceable limit on the water break engine test dynamometer to limit the engine capacity on this dynamometer (up to 475 hp). The ATC-East building would be equipped with an AC dynamometer with a loaded a capacity of up to 550 hp, three boilers for heating the facility, a 50 gallon biodiesel reactor, an oil seed press lab, three 200 gallon biodiesel storage tanks, and a glycerin storage tank. Most of the equipment would be located indoors and would not change the aesthetics of the surroundings.

Visible emissions from the facility would be limited to 20% opacity. There would not be an increase in odors with the change of equipment. The proposed change could result in some additional noise during construction. The area would receive very little increase in vehicle use as a result of the proposed project. Most vehicles would use the existing roads in the area on route to the roads established as part of the campus. Obviously during construction of the facility, there might be a noticeable increase; however, it would be temporary.

Impacts to the aesthetics of the area from the project would be minor because of these other industrial and commercial structures located nearby, and the relatively low visibility and minimal noise from the facility. Odor would be negligible and visible emissions would be limited to less than 20% opacity. Therefore, the Department believes that aesthetics in the area would only experience minor impacts.

F. Air Quality

The Department determined, based on the allowable emissions this facility may emit, that the impacts from this permitting action will be minor. The Department believes it will not cause or contribute to a violation of any ambient air quality standard.

The air quality classification of the immediate area is “Unclassifiable/Attainment” for all pollutants (40 CFR Part 81.327). For this permit action, the Department ran some preliminary modeling to demonstrate compliance with the NAAQS/MAAQs. This facility is considered minor for all pollutants and none of the pollutants exceed the modeling threshold that would require air dispersion modeling with the exception of NO_x. The Department based modeling using emission factors from EPA non-road diesel emission standards for Tier 2 and Tier 3 engines. The modeling was based on the permit application list of specific engines and design capacities that are currently used at the BioEnergy. The results of the air dispersion modeling showed that in order to demonstrate compliance with the NAAQS/MAAQs, the facility would need to increase the stack height on both the ATC building and the ATC-East building. The MAQP would be conditioned with stack height limitations. Given this, the Department determined that there would be minor impacts to air quality.

G. Unique, Endangered, Fragile, or Limited Environmental Resources

In an effort to assess any potential impacts to any unique endangered, fragile, or limited environmental resources, the Department contacted the Montana National Heritage Program (MNHP). Search results concluded there are five known animal species of concern located within three miles of the facility. The search area, in this case, is defined by the township and range of the proposed site, with an additional one-mile buffer. The MNHP concluded that the sensitive species of concern include the Chestnut-collared Longspur, Pearl Dace and Sauger. Other species of concern include the Northern Redbelly Dace and the Iowa Darter. Of these species, only the Chestnut-collared Longspur would be expected to potentially locate near the current site location.

However, this facility would be located within a college campus so it would be unlikely that the Chestnut-collared Longspur would nest or breed near the campus. The other species of concerns are located outside of the area of concern. Therefore, the Department believes there would be minor impacts to any unique, endangered, fragile, or limited environmental resources in the area.

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

As described in Section 7.B of this EA, impacts to the water resource would be minor. The proposed permit would not directly discharge any material to the surface or ground water in the area other than a minor amount of stormwater runoff. However, the campus which would include the BioEnergy Center would be connected to City services. As described in Section 7.F of this EA, the impact on the air resource in the area of the facility would be minor.

During construction, there would be minor energy impacts however, impacts would be temporary. Given the fact that the primary purpose of the facility would be emission testing on fuels, along with new engine enhancement technology for the reduction of emission and increased engine performance on a variety of test engines ranging from 5 hp engines up to 515 hp engines the impacts associated with the facility may provide a benefit to other industrial sources in the long term.

The project would result in minor changes of air quality and dispersion would be minimal. Energy use would be minimized due to the operational limitations placed on the facility. Therefore, the Department believes the project would result in minor impacts to demands on environmental resources of water, air, and energy.

I. Historical and Archaeological Sites

The Department previously contacted the Montana Historical Society – State Historic Preservation Office (SHPO) in an effort to identify any historical, archaeological, or paleontological sites or findings near the proposed project. According to SHPO any structure over 50 years of age would be considered historic and would potentially eligible for listing on the National Register of Historic Places. For any structures over 50 years old that would be altered, SHPO generally recommends that they be contacted for a determination of eligibility; however SHPO further states, that as long as there is no disturbance or alteration to structures over 50 years of age then there is a low likelihood that cultural properties would be impacted. At this time, SHPO believes that a cultural resource inventory is unwarranted.

Therefore, the Department believes that there would be minimal impact to cultural properties. However, if buildings older than 50 years old are altered or cultural materials are inadvertently discovered during this project, MSU-Northern should contact SHPO to investigate.

J. Cumulative and Secondary Impacts

Overall, the cumulative and secondary impacts from this project on the physical and biological aspects of the human environment would be minor. The proposed equipment would locate within an established college campus and amongst other institutional buildings. Because the majority of the buildings are already constructed and most of the equipment would be located within buildings, the proposed permit would result in minimal and temporary changes. The overall impact due to the project would be minor. Therefore, the Department believes that impacts to Air Quality would be minor.

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

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

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

- A. Social Structures and Mores
- B. Cultural Uniqueness and Diversity

The proposed permit would not cause a disruption to any native or traditional lifestyles or communities (social structures or mores, or cultural uniqueness and diversity) in the area because the land use proposal would not be out of place given the institutional and commercial land use of the surrounding area. The surrounding area includes a hospital and care centers in addition to the college campus. The project would not cause additional impact to social structures or mores because these activities are consistent with the proposed permit and would be located in an area that would have similar characteristics. Therefore, the Department believes there would be minor, if any, disturbance to social structures and mores, and cultural diversity.

- C. Local and State Tax Base and Tax Revenue

The project would have a minor effect on the local and state tax base and tax revenue because there are currently three full time employees, one part-time employee and two part-time student workers. However, as a result of the project the BioEnergy Center would hire 6 additional employees. Additionally, the BioEnergy Center received grant money to fund a portion of the project. Given the minimal amount of employees and the minimal amount of taxes or tax revenue generated from the project, the Department believes this project would have minor effects to the local and state tax base and tax revenue

D. Agricultural or Industrial Production

The impacts to agricultural and industrial production in the area from this permit would occur on such a small amount of land, the impact from the air emissions on the land would be small, and the amount of electricity produced to assist other activities would be relatively small. The proposed equipment would be located on approximately ¼ of an acre within a college campus. The project would not remove any existing land from agricultural production but could add to other research and educational opportunities in the area.

The BioEnergy Center would not only test engines but would also be equipped with an oilseed pressing lab and a biodiesel plant located in the ATC-East building. This project would use Montana grown oilseed such as, canola, safflower, flax, camelina and mustard seed. These presses operating at maximum capacity would be capable of 3 tons of seed per week. Because the primary purpose of the BioEnergy Center would be research and testing, the Department believes the project would not cause negative impacts to agricultural and industrial production.

As described in Section 7.F of the EA, the air quality impacts from this facility are minor, and the resulting deposition of the pollutants from the project would consequently also be minor. Therefore, the Department has determined that the impacts to Agricultural or Industrial Production would be minor.

E. Human Health

As described in Section 7.F of the EA, the impacts from this project on human health would be minor because the impact from the air emissions would be greatly dispersed before reaching an elevation where humans were exposed. The emissions from this project are minimal. Additionally, this area would rarely have the same population frequent the area and because of this, the impacts to human health would be minimal. MAQP #4610-00 would be conditioned to ensure that the facility would be operated in compliance with all applicable rules and standards. Therefore, the Department would expect minor effects to human health.

F. Access to and Quality of Recreational and Wilderness Activities

The proposed changes would result in small or no impacts on the access to and quality of recreational wilderness activities. The air emissions from the facility would disperse before impacting any recreational areas.

No significant recreational or wilderness activities exist near or within the BioEnergy Center property boundaries and all recreational activities would remain available. Based on the information submitted (see Section 7.F of the EA) and the distance between and direction from the recreational sites and the BioEnergy Center facility, there would not be any noticeable impacts. This project would not cause denial of access and would not impact wilderness activities, therefore, the Department determined that this facility would have minor impact to recreational and wilderness activities.

G. Quantity and Distribution of Employment

There would be a minor effect on the employment of the area from this project because it would result in a few construction-related employment opportunities, and approximately 6-10 jobs. As such, any effects would be minor but positive in the area. Therefore, the Department determined that this action would not negatively impact the quantity and distribution of employment in the area and would have minor impacts, if any.

H. Distribution of Population

The project would not affect the normal population distribution in the area because the permit would result in few new jobs. The facility's operation would result in approximately 6 new positions. However, neither the 6 positions created as a result of facility, nor the numerous temporary construction-related positions would likely affect the distribution of population in the area. Therefore, the Department believes that the distribution of population would not be affected.

I. Demands of Government Services

Demands on government services from this facility would be minor because once the appropriate permits are in place, there would be little additional need for government services other than compliance assistance. There may be a minor increase in traffic on existing roads in the area during construction, but for the normal operation of the facility traffic increases would be minimal. BioEnergy Center continues to work with all affected local and state agencies to alleviate any additional demands on Government Services. Therefore, the Department believes the demands on Government Services would be minor.

J. Industrial and Commercial Activity

The area both currently and historically has been primarily used for institutional purposes. This project fits within this category. The proposed changes would have minor additional impacts to the surrounding area. The project would cause a minor increase in industrial activity in the area during construction. However, given the fact that the area is predominantly commercial or institutional, the Department believes that effects to industrial and commercial activity would be minor.

K. Locally Adopted Environmental Plans and Goals

The Department is not aware of any locally adopted environmental plans or goals that would be affected by the proposed facility. MAQP #4610-00 would be issued to protect air quality.

L. Cumulative and Secondary Impacts

Overall, the cumulative and secondary impacts from this project on the social and economic aspects of the human environment would be minor because few employment opportunities may result, state and local taxes might be generated from the facility but little change would result from the permit. Overall, the BioEnergy Center project would result in additional jobs for the area. As described in Section 8.G of this EA, the facility would employ approximately 6-10 full-time people. The emissions' increase that would result from this permit would be minimal and therefore would result in few cumulative or secondary impacts.

Recommendation: An Environmental Impact Statement (EIS) is not required.

If an EIS is not required, explain why the EA is an appropriate level of analysis: All potential effects resulting from construction and operation of the proposed facility are minor, therefore, an EIS is not required. In addition, the source would be applying the Best Available Control Technology and the analysis indicates compliance with all applicable air quality rules and regulations.

Other groups or agencies contacted or which may have overlapping jurisdiction: Department of Environmental Quality – Permitting and Compliance Division (Air Resources Management Bureau); Montana Natural Heritage Program; and State Historic Preservation Office (Montana Historical Society).

Individuals or groups contributing to this EA: Department of Environmental Quality (Air Resources Management Bureau and Water Quality Bureau) Montana Natural Heritage Program, and State Historic Preservation Office (Montana Historical Society).

EA Prepared By: Jenny O'Mara

Date: December 15, 2010