Montana Department of
ENVIRONMENTAL QUALITY

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January 25, 2013

Daniel Ulmen – Facilities Operation Manager
Montana State University-Northern
Bio-Energy Center
300 13th Street West
P.O. Box 7751
Havre, MT 59501

Dear Mr. Ulmen:

Montana Air Quality Permit #4610-01 is deemed final as of January 25, 2013, by the Department of Environmental Quality (Department). This permit is for an engine performance testing facility. All conditions of the Department's Decision remain the same. Enclosed is a copy of your permit with the final date indicated.

For the Department,

Julie Merkel
Air Permitting Supervisor
Air Resources Management Bureau
(406) 444-3626

Ed Warner
Environmental Engineer
Air Resources Management Bureau
(406) 444-2467

JM:EW
Enclosure

DEPARTMENT OF ENVIRONMENTAL QUALITY
Permitting and Compliance Division
Air Resources Management Bureau
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FINAL ENVIRONMENTAL ASSESSMENT (EA)

Issued To: Montana State University – Northern
Bio-Energy Center
300 13th Street West
P.O. Box 7751
Havre, Montana 59501

Montana Air Quality Permit (MAQP) Number: #4610-01

Preliminary Determination Issued: 12/24/12
Department Decision Issued: 1/09/13
Permit Final:

1. *Legal Description of Site*: The Montana State University – Northern's Bio-Energy Center (Bio-Energy 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 Bio-Energy Center proposed reduced annual hours for the various dynamometers in order to bring the facility's maximum potential nitrogen oxide (NO_x) emissions to below the Montana Department of Environmental Quality – Air Resources Management Bureau's (Department) threshold for requiring a quantitative demonstration of compliance with ambient air quality standards. By reducing the potential NO_x emissions to below this level, the Department could justify removing the minimum exhaust stack height requirements for the dynamometers. The Department modified some permit conditions to more closely reflect the maximum design capacities of the dynamometers and also to expand the list of approved fuels to include straight vegetable oil (SVO). The permit condition listing the approved fuels has also been modified to allow for the use of other fuels if the Bio-Energy Center first obtains written approval from the Department. This would grant the Bio-Energy Center the flexibility to potentially use fuels that are not explicitly listed without first having to modify the MAQP. The Bio-Energy Center application also included a list of additional natural gas-fired equipment that is in use throughout the campus.

3. *Objectives of Project*: The Bio-Energy Center is an education and research facility. The projected actual usage of the dynamometers was for far fewer hours per year than originally permitted for; therefore, the Bio-Energy Center would be willing to accept further restrictions in allowable operating hours in order to reduce the potential impact to the ambient air quality. By reducing this potential impact, the Department could justify removing the minimum exhaust stack height requirements for the dynamometers. This relieves the Bio-Energy Center from the financial burden of modifying the buildings and exhaust systems.

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 #4610-01.

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
B. Water Quality, Quantity, and Distribution
C. Geology and Soil Quality, Stability, and Moisture
D. Vegetation Cover, Quantity, and Quality
E. Aesthetics

The current permitting action allows for the use of SVO as a fuel which does represent an increase in the NO_x emission rate versus using diesel or biodiesel. However, the net impact from this permitting action is a decrease in annual emissions from all pollutants due to a decrease in annual hours of allowable operation for the dynamometers. While there are additional natural gas-fired emitting units that have been incorporated into the MAQP during this action, these units are all existing units that were in place prior to the Bio-Energy Center receiving an air quality permit. Therefore, the Department believes that the proposed project would have no impact to terrestrial and aquatic life and habitats; water quality, quantity, and distribution; geology and soil quality, stability and moisture; vegetation cover, quantity, and quality; or aesthetics.

F. Air Quality

The current permitting action allows for the use of SVO as a fuel which does represent an increase in the NO_x emission rate versus using diesel or biodiesel. However, the net impact from this permitting action is a decrease in annual emissions from all pollutants due to a decrease in

annual hours of allowable operation for the dynamometers. While there are additional natural gas-fired emitting units that have been incorporated into the MAQP during this action, these units are all existing units that were in place prior to the Bio-Energy Center receiving an air quality permit. While the overall annual decrease in potential emissions represents no negative impact to air quality, there is a possibility for a slight increase in short term emissions when burning SVO due to its combustion characteristics. Therefore, the Department believes that the proposed project represents a minor impact on 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) during the initial issuance of MAQP #4610-00. Search results concluded there are five known animal species of concern located within three miles of the facility at that time. 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. The current permitting action results in a decrease in potential annual emissions from the facility. Therefore, the Department believes there would be no impacts to any unique, endangered, fragile, or limited environmental resources in the area.

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

The current permitting action results in a decrease in potential annual emissions from the facility due to the reduction in allowable hours of operation. There are no proposed changes to water or energy resources; however, the Bio-Energy Center would be allowed to burn SVO in the engines which results in an increase in the NO_x emission rate versus using diesel or biodiesel. Therefore, the Department believes there would be a minor impact to the environmental resource of air.

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 no 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 current permitting action allows for the use of SVO as a fuel which does represent an increase in the NO_x emission rate versus using diesel or biodiesel. However, the net impact from this permitting action is a decrease in annual emissions from all pollutants due to a decrease in annual hours of allowable operation for the dynamometers. While there are additional natural gas-fired emitting units that have been incorporated into the MAQP during this action, these units are all existing units that were in place prior to the Bio-Energy Center receiving an air quality permit. The overall impact due to the permitting action 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 permitting action 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 there are no proposed changes to the nature of operations at the Bio-Energy Center. 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 no disturbance to social structures and mores, and cultural diversity.

C. Local and State Tax Base and Tax Revenue

The current permitting action would not impact the local and state tax base and tax revenue because there are no proposed changes to the nature of operations at the Bio-Energy Center.

D. Agricultural or Industrial Production

The current permitting action would not impact agricultural or industrial production because there are no proposed changes to the nature of operations at the Bio-Energy Center.

E. Human Health

As described in Section 7.F of the EA, the impacts from this project on human health would be minor because there is the possibility for a slight increase in short term emissions when burning SVO due to its combustion characteristics. MAQP #4610-01 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

No significant recreational or wilderness activities exist near or within the Bio-Energy 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 Bio-Energy 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 no impact to recreational and wilderness activities.

G. Quantity and Distribution of Employment

The current permitting action would not impact the quantity and distribution of employment because there are no proposed changes to the nature of operations at the Bio-Energy Center.

H. Distribution of Population

The current permitting action would not impact the distribution of population because there are no proposed changes to the nature of operations at the Bio-Energy Center.

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. The Bio-Energy 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 no perceivable impacts to the surrounding area. The current permitting action would not impact the industrial and commercial activity because there are no proposed changes to the nature of operations at the Bio-Energy Center.

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 #4610-01 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 it represents only a minor change in potential impacts to human health. There are no proposed changes in the nature of operations at the Bio-Energy Center. Overall, the Bio-Energy 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 rate increase that could result from this permit would be minimal and the annual impact would be a decrease in allowable emissions. Therefore, the Department believes that it 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 the current permitting action 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: Ed Warner
Date: December 10, 2012