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

PRELIMINARY DETERMINATION
ON PERMIT APPLICATION

Date of Mailing: December 10, 2010

Name of Applicant: CHS Inc.

Source: Laurel Refinery

Proposed Action: The Department of Environmental Quality (Department) proposes to issue a permit, with conditions, to the above-named applicant. The application was assigned Permit Application Number 1821-23.

Proposed Conditions: See attached.

Public Comment: Any member of the public desiring to comment must submit such comments in writing to the Air Resources Management Bureau (Bureau) of the Department at the above address. Comments may address the Department's analysis and determination, or the information submitted in the application. In order to be considered, comments on this Preliminary Determination are due by December 27, 2010. Copies of the application and the Department's analysis may be inspected at the Bureau's office in Helena. For more information, you may contact the Department.

Departmental Action: The Department intends to make a decision on the application after expiration of the Public Comment period described above. A copy of the decision may be obtained at the above address. The permit shall become final on the date stated in the Department's Decision on this permit, unless an appeal is filed with the Board of Environmental Review (Board).

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 by the date stated in the Department's Decision on this permit. 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, MT 59620.

For the Department,

Vickie Walsh
Air Permitting Program Supervisor
Air Resources Management Bureau
(406) 444-9741

Skye Hatten, P.E.
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VW: SH
Enclosures

DEPARTMENT OF ENVIRONMENTAL QUALITY
Permitting and Compliance Division
Air Resources Management Bureau
1520 East Sixth Avenue
P.O. Box 200901, Helena, Montana 59620-0901
(406) 444-3490

DRAFT ENVIRONMENTAL ASSESSMENT (EA)

Issued For: CHS Inc.
Laurel Refinery
P.O. Box 909
Laurel, MT 59044-0909

Permit Number: 1821-23

Preliminary Determination on Permit Issued: 12/10/10
Department Decision Issued:
Permit Final:

1. *Legal Description of Site*: South ½, Section 16, Township 2 South, Range 24 East in Yellowstone County.

2. *Description of Project*: On November 1, 2010, the Department received an application from CHS requesting a modification to MAQP #1821-22.

   In this application, CHS proposes to convert the existing Hydrodesulfurization (HDS) Unit into a Mild Hydrocracker. Capacities of the existing 100 Unit Hydrogen Plant and the Zone D Sulfur Recovery and Tail Gas Treatment Units (SRU/TGTU) will be increased, the existing feed heater in the FCC Unit will be replaced and a rate-limiting pressure safety valve (PSV) in the Naphtha Hydrotreating Unit (NHT) will be replaced. Collectively, these modifications are referred to as the "Mild Hydrocracker Project."

   The application also includes information related to an additional project that will be completed at the refinery concurrent with the projects discussed above. The project involves adding the flexibility to recover additional Burner Fuel, rather than Diesel Fuel, within the existing Ultra Low Sulfur Diesel (ULSD) unit. The feed rate to the ULSD Unit will not increase with this project. This project is referred to as the "ULSD Burner Fuel Project."

   In addition to the aforementioned projects, CHS requested the Department to incorporate several administrative changes.

3. *Objectives of Project*: The primary purpose of this permitting action (converting the existing HDS Unit into a Mild Hydrocracker) will be to produce an increased volume of higher quality diesel fuel by utilizing more hydrogen to convert gasoil into diesel.

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 MAQP to the proposed facility. However, the Department does not consider the "no-action" alternative to be appropriate because CHS demonstrated compliance with all applicable rules and regulations as required for permit issuance. Therefore, the "no-action" alternative was eliminated from further consideration.

5. *A listing of mitigation, stipulations and other controls*: A list of enforceable permit conditions

and a complete permit analysis, including a BACT determination, would be contained in MAQP #1821-23.

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 are reasonably necessary to ensure compliance with applicable requirements and to 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
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:

This permitting action could have a minor effect on terrestrial and aquatic life and habitats, as the proposed project would include installation of two new emission units (H-102 Reformer Heater, FCCU Charge Heater). Additional emissions are anticipated with a modification to the Zone D SRU/TGTU and emissions attributed to fugitive emission components associated with the equipment and piping being installed with the Mild Hydrocracker Project. Impacts to terrestrial and aquatic life and habitats may occur as a result of these increased emissions. However, the emissions increases per project fall below significance levels identified within the rules associated with PSD. Additionally, the permitting action would result in the incorporation of the most current facility and emissions information available. The overall emissions would remain within the facility-wide emissions caps established in MAQP #1821-05 in 2000. Further, the project would ultimately take place on industrial property that has already been disturbed. Therefore, only minor impacts to terrestrial and aquatic life and habitats are anticipated.

B. Water Quality, Quantity, and Distribution:

While deposition of pollutants would occur, the Department determined that any impacts from deposition of pollutants would be minor. Furthermore, this action would not result in a change in the quality or quantity of ground water. There also would not be any changes in drainage patterns or new discharges associated with this project. Therefore, minor impacts to water quality, quantity, and/or distribution are anticipated.

C. Geology and Soil Quality, Stability, and Moisture:

The proposed project constitutes of installation and/or replacement of emission sources on the same existing industrial site. Therefore, no additional disturbance would be created as a result of the proposed project. While deposition of pollutants would occur, the Department determined that any impacts from deposition of pollutants would be minor. Additionally, no unique geologic or physical features would be disturbed. Overall, we believe that any impact to the geology and soil quality, stability, and moisture would be minor.

D. Vegetation Cover, Quantity, and Quality:

The proposed project would affect an existing, industrial property that has already been disturbed. No additional vegetation on the site would be disturbed for the project. However, possible increases in actual emissions of NO_x, SO_2, VOC, PM/PM_{10}, and CO from historical emission levels may result in minor impacts to the diversity, productivity, or abundance of plant species in the surrounding areas. Overall, any impacts to vegetation cover, quantity, and quality would be minor.

E. Aesthetics:

The proposed modification to the facility would be constructed in the area that has previously been disturbed and would not result in any additional disturbance. Therefore, no impacts to aesthetics are anticipated.

F. Air Quality:

The proposed project would include increases of NO_x, SO_2, VOC, PM/PM_{10}, and CO emissions. However, the per project emissions do not exceed "significance" threshold levels as outlined in the rules associated with PSD. CHS would be required to maintain compliance with the Billings/Laurel SO_2 State Implementation Plan (SIP), current permit conditions, and state and federal ambient air quality standards. Additionally, modeled levels of pollutants for the proposed project show compliance with the NAAQS and the MAAQS. While deposition of pollutants is anticipated, the Department has determined that any air quality impacts as a result of the deposition would be minor.

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

The Department, in an effort to assess any potential impacts to any unique endangered, fragile, or limited environmental resources in the initial proposed area of operation (South ½, Section 16, Township 2 South, Range 24 East in Yellowstone County), contacted the Natural Resource Information System – Montana Natural Heritage Program. Search results concluded there are seven species of concern within the area. The search area, in this case, is defined by the section, township, and range of the proposed site, with an additional 1-mile buffer. The known specie of concern includes the Yellowstone Cutthroat Trout (Sensitive).

This permitting action is not expected to have any impacts to terrestrial and aquatic life and/or their habitat; therefore, it is unlikely that unique, rare, threatened, or endangered

species would experience any impacts. The project would occur at a previously disturbed industrial site, within allowable levels of emissions. However, there is a minor increase in potential air emissions, as described in Section 7.F. of this permit, which may have a minor impact on the surrounding area.

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

As described in Section 7.B of this EA, this permitting action would have little or no effect on the environmental resource of water as there would be no discharges to groundwater or surface water associated with this permitting action.

As described in Section 7.F of this EA, the impact on the air resource in the area of the facility would be minor because the facility would be required to maintain compliance with other limitations affecting the overall emissions from the facility.

A minor impact to the energy resource is expected during the construction process involved with the proposed project; however, this impact is temporary. Additional energy consumption as a result of new equipment installation is expected to be minimal by scale. Overall, the impact to the energy resource would be minor.

I. Historical and Archaeological Sites:

In an effort to identify any historical and archaeological sites near the proposed project area for previous projects, the Department contacted the Montana Historical Society, State Historic Preservation Office (SHPO). According to SHPO records, there have been a few previously recorded sites within the designated search locales. In addition to the sites there have been a few previously conducted cultural resource inventories done in the areas. The project would occur within the boundaries of a previously disturbed industrial site. There is a low likelihood cultural properties will be impacted; therefore, any impacts to historical and archeological would be considered minor.

J. Cumulative and Secondary Impacts:

The proposed action would include increases of NO_x, SO_2, VOC, PM/PM_{10}, and CO emissions; however, cumulative and secondary impacts from this action are anticipated to be minor as the emissions do not exceed “significance” threshold levels on a per project basis as outlined in the rules associated with PSD. Additionally, as described in Section 7.F of this EA, the impact on the air resource in the area of the facility would be minor because the facility would be required to maintain compliance with other limitations affecting the overall emissions from the facility. Any cumulative or secondary impacts as a result of this project are considered to be minor and overall emissions will remain within the facility-wide emissions caps established in MAQP #1821-05 in 2000.

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
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				X		Yes

	Production						
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 ECONOMIC AND SOCIAL EFFECTS: The following comments have been prepared by the Department:

A. Social Structures and Mores:

The proposed project would not cause a disruption to any native or traditional lifestyles or communities (social structures or mores) in the area because the project would be constructed at a previously disturbed industrial site. The proposed project would not change the nature of the site.

B. Cultural Uniqueness and Diversity:

The proposed project would not cause a change in the cultural uniqueness and diversity of the area because the land is currently used as a petroleum refinery; therefore, the land use would not be changing. The use of the surrounding area would not change as a result of this project.

C. Local and State Tax Base and Tax Revenue:

The refinery's overall capacity would not change as a result of the permitting action. In addition, no new employees would be needed for this project. Therefore, no impacts to the local and state tax base and tax revenue are anticipated from this project.

D. Agricultural or Industrial Production:

The permitting action would not result in a reduction of available acreage or productivity of any agricultural land; therefore, agricultural production would not be affected. The refinery's overall capacity would not change as a result of the permitting action. Therefore, industrial production would not be affected.

E. Human Health:

As described in Section 7.F of this EA, the impacts from this facility on human health would be minor because the emissions from the facility would increase, but not significantly from prior levels. The air quality permit for this 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 not have an impact on recreational or wilderness activities because the site is far removed from recreational and wilderness areas or access routes. The action would not result in any changes in access to and quality of recreational and wilderness activities.

G. Quantity and Distribution of Employment:

No change in the number of employees currently onsite would be anticipated as a result of the proposed project. Therefore, the action would not have any impacts to the quantity and distribution of employment at the facility.

H. Distribution of Population:

This permitting action does not involve any significant physical or operational change that would affect the location, distribution, density, or growth rate of the human population. The distribution of population would not change as a result of this action.

I. Demands of Government Services:

The demands on government services would experience a minor impact. The primary demand on government services would be the acquisition of the appropriate permits by the facility and compliance verification with those permits.

J. Industrial and Commercial Activity:

The refinery's overall capacity would not change as a result of the proposed permitting action. Therefore, no impacts on industrial activity at CHS would be expected. Industrial and commercial activity in the neighboring area is not anticipated to be affected by issuing MAQP #1821-23.

K. Locally Adopted Environmental Plans and Goals:

This permitting action would not affect any locally adopted environmental plans or goals. CHS must continue to comply with the SIP and FIP and associated stipulations for the Billings/Laurel area. The Department is not aware of any locally adopted environmental plans and goals that would be impacted by this action.

L. Cumulative and Secondary Impacts:

Overall, any cumulative and secondary impacts from this project on the social and economic aspects of the human environment would be minor. The project is associated with an existing facility and would not change the culture or character of the area. Additionally, overall emissions will remain within the facility-wide emissions caps established in MAQP #1821-05 in 2000.

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 this permitting action would be minor; therefore, an EIS is not required. In addition, the source would be applying BACT and the analysis indicates compliance with all applicable air quality rules and regulations.

Other groups or agencies contacted or which may have overlapping jurisdiction: None.

Individuals or groups contributing to this EA: Department of Environmental Quality, Permitting and Compliance Division - Air Resources Management Bureau.

EA Prepared By: Skye Hatten
Date: November 30, 2010