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Final Environmental Impact Statement for the Mandan, Hidatsa, and Arikara Nation's Proposed Clean Fuels Refinery Project

Final Environmental Impact Statement for the Mandan, Hidatsa, and Arikara Nation's Proposed Clean Fuels Refinery Project

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Abstract

The Three Affiliated Tribes (TAT) representing the Mandan, Hidatsa, and Arikara Nation (MHA Nation) is a sovereign Indian nation with inherent powers of self-government. The MHA Nation has requested that United States Department of the Interior (DOI)-Bureau of Indian Affairs (BIA) accept 468.39 acres of land into trust status for the Tribes. This land is located within the Fort Berthold Indian Reservation boundaries. The land proposed to be taken into trust is located in the northeast corner of the Fort Berthold Indian Reservation along the south side of North Dakota Highway 23, about 2 miles west of the turnoff to Makoti, North Dakota in Sections 19 and 20 of Township 152 North, Range 87 West.

The MHA Nation proposes to construct and operate a new 13,000 barrel (bbl) of production per day clean fuels refinery and grow hay for buffalo on the Fort Berthold Indian Reservation located near Makoti, North Dakota. The MHA Nation would own the refinery. The proposed facility would refine synthetic crude oil from Canada into gasoline and diesel fuels. The MHA Nation has also applied to the U. S. Environmental Protection Agency (EPA) for a Clean Water Act (CWA), National Pollutant Discharge Elimination System (NPDES) wastewater discharge permit for the refinery. The refinery would be considered a “new source” under the NPDES permit regulations.

Preface

This document follows the format established in the National Environmental Policy Act's (NEPA) regulations (Title 40 Code of Federal Regulations (CFR) Parts 1500 to 1508). The following paragraphs outline information contained in the chapters and appendices so readers may find the areas of interest without having to read the entire document.

- **Summary:** contains a short, simple discussion to provide the reader and the decision makers with a sketch of the more important aspects of the Environmental Impact Statement (EIS). The reader can obtain additional, more detailed information from the text of the EIS.
- **Chapter 1** — Purpose and Need: identifies and describes the purpose of and need for the proposed action, decisions to be made by the agencies, their roles and responsibilities, the NEPA process, and other permits required.
- **Chapter 2** — Public Participation, Issue Identification, and Alternatives: describes the public participation process, including the scoping and issue identification processes, the Proposed Action, the significant or key issues associated with the Proposed Action, and alternatives, including the no action alternative. The agencies developed action alternatives that meet the purpose and need in response to one or more of the key issues. Alternatives considered but eliminated from detailed consideration are identified along with the rationale for excluding them from the analysis. This chapter also provides a comparative analysis of the environmental effects of the alternatives to provide a clear basis of choice among options for the decision maker and the public.
- **Chapter 3** — Affected Environment: describes the present condition of the environment that would be affected by implementation of the proposed action or any action alternative.
- **Chapter 4** — Environmental Consequences: describes the probable direct, indirect, and cumulative effects to the human environment that would result from implementing the Proposed Action or alternatives. The discussion also addresses the short-term uses versus long-term productivity, unavoidable impacts, and irreversible or irretrievable impacts. Mitigation measures for the proposed project are identified.
- **Chapter 5** — Consultation with Others: identifies the agencies, companies, and organizations consulted, as well as the cooperating agencies.
- **Chapter 6** — Preparers and Contributors: identifies the people involved in research for, writing, and internal review of the Draft EIS.
- **Chapter 7** — Distribution and Review of the Draft EIS: lists the agencies, organizations, and individuals who received a copy of the Draft EIS.
- **Chapter 8** — Glossary: describes the technical terms used in the Draft EIS.
- **Chapter 9** — References Cited: lists the references cited in the Draft EIS.
- **Index:** contains cross references and identifies the pages where key topics can be found.
- **Appendices:** contain technical and non-technical information that is important to full comprehension of the NEPA analysis, but that was too long to be included in the

primary chapters. Appendices D and E include new information developed since the Draft EIS (DEIS).

- **Technical Reports:** contain technical information associated with air emissions, hazardous waste, wetlands, water resources, etc. These reports are not in the Final EIS (FEIS); however, the reports are included on the CD-ROM enclosed with the FEIS document. The reports are also available online or upon request.

Acronyms and Abbreviations

23B	Williams-Zahl Loams (3–6% slopes)
24C	Williams-Zahl Loams (6–9% slopes)
24E	Zahl-Williams Loams
49B	Manning Sandy Loam
54E	Wabek Loam
AADT	Annual Average Daily Traffic
ABTU	Aggressive Biological Treatment Unit
AMSL	Above Mean Sea Level
API	American Petroleum Institute
APLIC	Avian Power Line Interaction Committee
AQRV	Air Quality Related Values
ATSDR	Agency for Toxic Substances and Disease Registry
BART	Best Available Retrofit Technology
bbl	Barrels
BIA	U.S. Department of Interior, Bureau of Indian Affairs
BMP	Best Management Practices
BoB	Bowbells-Tonka Loams
BPSD	barrels per stream day
C5+	Pentanes
CAA	Clean Air Act
CEQ	Council on Environmental Quality
CFR	Code of Federal Regulations
cfs	cubic feet per second
CO	Carbon Monoxide
C.P.R.	Canadian Pacific Railway
CWA	Clean Water Act
DAF	Dissolved Air Flotation
DEA	Diethanolamine
DEIS	Draft Environmental Impact Statement
DIB	Deisobutanizer
DOI	Department of the Interior
EIS	Environmental Impact Statement
EJ	Environmental Justice
EPA	U.S. Environmental Protection Agency
ESA	Endangered Species Act
FAA	Federal Aviation Administration
FAC	Facultative
FACU	Facultative Upland
FACW	Facultative Wetland
FAR	Federal Acquisition Regulations
FWS	U. S. Fish and Wildlife Service
gpm	gallons per minute
FEIS	Final Environmental Impact Statement
FIP	Federal Implementation Plan
FRP	Facility Response Plan
gpd	gallons per day
H_2S	Hydrogen Sulfide
HAPET	Habitat and Population Evaluation Team
HAP	Hazardous Air Pollutants
HC	Hydrocarbon
HF	Hamerly Loam
HMTA	Hazardous Materials Transportation Act
HWCP	Hazardous Waste Contingency Plan
HWMU	Hazardous Waste Management Unit
iC4	Isobutane
iC4=	Isobutylene
iC8	Iso-octane
iC8=	Iso-octene
IHS	Indian Health Services
IPCC	Intergovernmental Panel on Climate Control
IRA	Indian Reorganization Act of 1934
LP	Liquefied Petroleum
LQG	Large Quantity Generator
LTU	Land Treatment Unit
LW	Lostwood Wilderness
MCL	Maximum Contaminant Level
MDU	Montana Dakota Utilities
mg/L	milligrams per liter
MHA Nation	Mandan, Hidatsa, and Arikara Nation
MMSCFD	million standard cubic feet per day
MOU	Memorandum of Understanding
MStP &SSM	Minneapolis, St. Paul, and Sault Ste. Marie
MW	megawatt
NAAQS	National Ambient Air Quality Standards

nC4	Normal Butane
NDDH	North Dakota Department of Health
NDDOT	North Dakota Department of Transportation
NDSWC	North Dakota State Water Commission
NEPA	National Environmental Policy Act
NESHAP	National Emission Standards for HAPs
NH^3	Ammonia
NHT	Naphtha Hydrotreater
NO_2	Nitrogen Dioxide
NOI	Notice of Intent
NOx	Oxides of Nitrogen
NPDES	National Pollutant Discharge Elimination System
NSPS	New Source Performance Standards
NSR	New Source Review
NWI	National Wetland Inventory
OBL	Obligate
ODEQ	Oregon Department of Environmental Quality
OSHA	Occupational Safety and Health Administration
PA	Parnell Silty Clay Loam
PCB	Polychlorinated Biphenyls
PGA	Peak Ground Acceleration
PLS	Pure Live Seed
$PM_{2.5}$	Particulate Matter less than 2.5 micrometers in diameter
PM_{10}	Particulate Matter less than 10 micrometers in diameter
PNA	Polynuclear Aromatics
PPR	Prairie Pothole Region
PSA	Pressure Swing Adsorption
PSD	Prevention of Significant Deterioration
RCRA	Resource Conservation and Recovery Act
RfC	Chronic Reference Concentration
ROD	Record of Decision
ROW	Right-of-Way
SAR	Sodium Adsorption Ratio
SDWA	Safe Drinking Water Act
SHPO	State Historic Preservation Officer
SMR	Steam Methane Reformer
SO_2	Sulfur Dioxide
SPCC	Spill Prevention, Control, and Countermeasure
SQG	Small Quantity Generator
SRP	Sulfur Recovery Plant
SWPPP	Storm Water Pollution Prevention Plan
SWMU	Solid Waste Management Unit, RCRA definition
SWS	Sour Water Stripper
TAT	Three Affiliated Tribes
TDS	Total Dissolved Solids
TIH	Toxic-by-Inhalation
TMDL	Total Maximum Daily Load
TPO	Tribal Preservation Officer
TRNP	Theodore Roosevelt National Park
TSD	Treatment, Storage, and Disposal
UIC	Underground Injection Control
USACE	U.S. Army Corps of Engineers
U.S.C.	U.S. Code
USGS	U.S. Geological Survey
UST	Underground Storage Tank
VOC	Volatile Organic Compound
W1B	Williams Loam (4–6% slopes)
W1C	Williams Loam (3–6% slopes)
WRP	Water Recycle Plant
WWTP	Wastewater Treatment Plant
WWTU	Waste Water Treatment Unit, RCRA definition
ZmC	Zahl-Max Loams
$\mu g/m^3$	micrograms per cubic meter

Summary

The Three Affiliated Tribes (TAT) (Mandan, Hidatsa, and Arikara Nation [MHA Nation]) propose to construct and operate a new 13,000 barrels (bbl) per day clean fuels refinery and grow hay for buffalo on the Fort Berthold Indian Reservation (Reservation) located near Makoti, North Dakota. The MHA Nation would own the refinery. The proposed facility would refine synthetic crude oil from Canada into gasoline and diesel fuels.

On February 5, 2003, the MHA Nation voted to purchase the land for the proposed refinery and for additional forage crops. The MHA Nation purchased 468.39 acres to be used for economic development to benefit its members. The refinery would be sited on 190 acres of the property and the remaining agricultural acreage would be used to grow hay for buffalo on the Reservation. The buffalo would not be located at the site. The proposed location is in the northeast corner of the Reservation and Ward County. Following the purchase of the property, the MHA Nation requested that the United States Department of the Interior (DOI)-Bureau of Indian Affairs (BIA) accept the property into trust status. The MHA Nation has also applied to the United States Environmental Protection Agency (EPA) for a Clean Water Act (CWA) wastewater discharge permit for the refinery.

As a general matter, federal agencies, such as BIA and EPA, must comply with the National Environmental Policy Act (NEPA), including preparation of an environmental impact statement (EIS) before undertaking any major federal actions that may have a significant effect on the human environment. As Co-Lead agencies, the BIA and EPA have prepared this EIS to analyze the environmental impacts of the following federal decisions:

- Whether the BIA should accept the 468.39 acre parcel into trust for the purposes of the MHA Nation's proposal to construct and operate a clean fuels petroleum refinery and to produce buffalo forage;
- Whether EPA should issue a CWA National Pollutant Discharge Elimination System (NPDES) permit for the process water discharges associated with operation of the proposed refinery.

The MHA Nation is assisting with the preparation of the EIS as a Cooperating Sovereign Nation. The U.S. Army Corps of Engineers (USACE) is a cooperating agency in the preparation of the EIS. The USACE may also use the EIS in deciding whether to issue a Section 404 permit under the CWA for construction of the refinery. The purpose of this document is to inform the public and government agencies about the potential environmental impacts of the proposed project and alternatives. The EIS also includes mitigation measures and identifies the environmental regulations that would apply to the facility.

Summary — Alternatives Analyzed in the EIS

The EIS analyzes the combined environmental impact of the project proponent's proposed construction action (Alternative 1) and the proponent's proposed effluent discharge action (Alternative A). The remaining construction alternatives (Alternatives 2-5) and effluent discharge alternatives (Alternatives B, C & D) are discussed in comparison to the combined Alternatives 1 and A analysis for each resource area or issue analyzed in the EIS. The alternatives are summarized below:

Proponent's Proposed Actions

- Alternatives 1 and A referred to as the "Proposed Actions" include the MHA Nation's proposal that BIA accept the land into trust for the petroleum refinery and buffalo forage, and that EPA issue an NPDES permit for effluent discharges associated with operation of the refinery.

Construction Alternatives

- Alternative 2 – Accept the land into trust without construction of the proposed refinery;
- Alternative 3 – (DOI Preferred Alternative) Construction of the proposed refinery without accepting the land into trust;
- Alternative 4 – Modification of Alternative 1 proposal was developed to reduce impacts to wetlands and revise the design of the proposed refinery to reduce regulatory requirements under the Resource Conservation and Recovery Act (RCRA) (hazardous waste control law); and
- Alternative 5 – No action.

Effluent Discharge Alternatives

- Alternative A – (EPA Preferred Alternative) Discharge of effluent through an NPDES permit;
- Alternative B – Partial discharge of effluent through an NPDES permit and partial discharge of effluent through irrigation;
- Alternative C – Effluent discharge to an Underground Injection Control (UIC) Class I well; and;
- Alternative D – No action. Under this alternative, EPA would not issue any permits for the discharge of effluents from the proposed refinery.

Agencies' Preferred Alternatives

On the basis of the analysis documented in the EIS, the comments received during the public comment period on the DEIS, and other record documents, the DOI and EPA have selected preferred alternatives for the agencies' respective actions. It should be noted that the decision to build and operate the refinery rests with the MHA Nation.

DOI

The DOI[1] has identified its preferred alternative as Alternative 3. In Alternative 3, DOI would not place the land into trust status and the refinery could be constructed by the Tribes. DOI recommends that the design of the refinery, if constructed, be modified consistent with Alternative 4. The construction and operation of the proposed oil refinery does not depend on the land being held in trust by the United States.

[1] On April 3, 2008, the Assistant Secretary for Indian Affairs at the Department of Interior assumed the lead for the decision to approve or reject the Three Affiliated Tribes' application for placement of lands in trust for a clean fuels refinery. The application for placement of lands in trust was made to the BIA, Great Plain Region.

As discussed in this FEIS, it is anticipated that there would be spills and leaks of refinery products, and that over time it is expected that there would be some contamination of soil and ground water immediately underneath the refinery site. It is DOI policy to minimize the potential liability of the Department and its bureaus by acquiring real property that is not contaminated. See 602 Departmental Manual 2 (4). The Alternative that is most consistent with this policy is Alternative 3.

EPA

The MHA Nation will be deciding whether to build and operate the refinery. If the proposed refinery is constructed, EPA has identified its process water discharge preferred alternative as Alternative A, the issuance of an NPDES permit for effluent discharges associated with the refinery.

If the refinery is constructed, EPA recommends implementation of the modified refinery design as described under Alternative 4. Alternative 4 was developed to reduce impacts to wetlands and to utilize tanks instead of surface impoundments for wastewater collection and treatment. EPA also recommends that the mitigation measures developed for Alternative 4, including ground water monitoring and financial assurance, be implemented by the Tribes.

Upon completion of the wait period for this EIS, the Agencies will issue their final decisions. Each agency will prepare a Record of Decision (ROD), specifying the Agencies' respective decisions, the alternatives considered, and stating whether all practical means to avoid or minimize environmental harm from the alternative selected have been adopted or why such measures were not adopted. The RODs can be issued no sooner than 30 days following the publication of the Notice of Availability of the FEIS in the *Federal Register*.

Public Involvement and Areas of Concern

In September 2003, the MHA Nation held a series of informational meetings throughout the Reservation to describe the Tribes' Proposed Actions and answer questions. Formal scoping for the NEPA analysis of the proposed refinery began on November 7, 2003 with the publication of the Notice of Intent (NOI) to prepare an EIS in the *Federal Register*. Comments and issues identified in the scoping process were compiled in a draft scoping report and made available to the public for review and comment on October 1, 2004. A public hearing was also held on November 9, 2004 to solicit public comment on the draft scoping report and any additional concerns regarding the environmental review of the proposed refinery.

On June 29, 2006, BIA and EPA announced the availability of the DEIS and the start of the public comment period. BIA and EPA held seven public hearings on the DEIS in Twin Buttes, White Shield, Parshall, Mandaree, New Town, and Makoti, North Dakota between July 31 and August 5, 2006. The public comment period closed on September 14, 2006. During the public comment period, BIA and EPA received 31 letters and 20 comment cards. Sixty-five people testified at the seven public hearings on the DEIS. Some of the main issues raised during the public comment period include concerns regarding: air quality, human health, environmental performance of the proposed refinery, funding for cleanup, and regulatory requirements for environmental monitoring and performance.

The Agencies response to comments is provided as Appendix E of the Final EIS (FEIS). Individual comment letters and public testimony are included in the FEIS on CD-ROM as Appendix F. Paper copies of the information are available upon request.

Environmental Issues Summary

This EIS analyzes the environmental impacts associated with the construction, operation and closure of the proposed MHA Nation refinery and production of buffalo forage. The EIS identifies the environmental impacts that are likely to occur as a result of the project. Mitigation measures have been developed, as described in the EIS, to reduce, control or eliminate many environmental impacts. The facility will also require several permits which will further limit environmental impacts.

The refinery construction alternatives, Alternatives 1, 3 and 4, would be combined with one or more of the wastewater disposal Alternatives A, B or C. Facilities that would be common to all of the refinery construction alternatives are: a tank farm to store synthetic crude and refinery products, the refining units, a loading area for trucks and railcars, a wastewater treatment plant (WWTP), fire water storage ponds, an administration building, a synthetic crude pipeline from the refinery site to an existing pipeline several miles north of the proposed site, natural gas pipeline and power line. With regard to the non-construction alternatives, Alternatives 2 and 5, the environmental impact would be the same as the existing conditions. The lands would remain in agricultural use.

The potential environmental impacts associated with the refinery are expected to vary depending upon the construction alternative selected for the refinery and the selected effluent discharge alternative. A brief discussion of the types of environmental impact is analyzed in the EIS is summarized below.

Ground water, Soils and Spills

- Ground water occurs beneath the refinery site. Ground water is in the underlying material called “till” which was deposited by glaciers in an approximately 100-foot thick layer. Ground water generally moves slowly in till layers due to low permeability. Depth to water in the till aquifer typically ranges from 5-15 feet. Ground water in the till appears to flow toward the southwest at about 0.4 to 2.4 ft/year. Ground water also occurs in the Ft. Union Formation, which underlies the till and the Fox Hills Formation which underlies the Ft. Union Formation.
- It is anticipated that there would be spills and leaks at the proposed refinery facility. Almost all refineries and other petrochemical facilities such as gas stations eventually have spills and leaks. The majority of spills and leaks would be completely contained within the facility and would not impact the environment. However, over time, it is expected that there would be some contamination of soils and ground water immediately underneath the refinery site due to leaks and spills. The contamination would remain generally within the refinery site unless a major spill occurred or a series of spills and leaks occurred over time.
- Areas within the refinery storing synthetic crude or refinery products would be required to be lined and have secondary containment (e.g., berms) to hold the entire contents of storage tanks. Areas with a high potential for spills such as the loading area for trucks and railcars would also be paved and curbed which should contain most spills.

- Due to the shallow depths to water, ground water resources in proximity to the refinery could be affected by leaks and spills. Adverse impacts to ground water withdrawn by individual well users and public supply systems are not anticipated, except for the well that was at the existing farmhouse. Since the DEIS was published, that well has been decommissioned. Other individual wells are not anticipated to be impacted because of the relatively low permeability of the till underlying the refinery site. The next closest farmstead is 1/3 of a mile from the proposed refinery site.
- Communities in the area such as Makoti and Plaza located three and five miles from the proposed refinery, respectively, use ground water as a source of drinking water. However, these communities use either the Fox Hills-Hell Creek or buried valley aquifers. Water quality in these aquifers are not expected to be impacted by the proposed facility because the buried valley aquifers do not occur in the vicinity of the refinery and the depth to the top of the Fox Hills –Hell Creek aquifer is more than 1,000 feet beneath the proposed refinery location. If the alternative for wastewater disposal through an underground injection well is selected (Alternative C), the injection zone would be required to be below any aquifer that could be used for drinking water.
- Water supply for the refinery would be from a combination of sources including the Fox Hills-Hell Creek aquifer, recycled water from the refinery and run-off collected from the site. If the refinery uses the Fox Hills-Hell Creek aquifer for the majority of its water supply, there may be localized draw down in the aquifer.

Surface Water

- The site is located in the headwaters of a small unnamed tributary of the East Fork of Shell Creek which is tributary to Lake Sakakawea. With regard to effluent discharge Alternatives A and B, stormwater and treated wastewater from the refinery would be discharged at the surface. For Alternative C, only stormwater would be discharged at the surface and process water would be discharged through an underground injection well.
- The proposed refinery construction alternatives would need surface water discharge permits (NPDES) for stormwater discharges and depending on the effluent discharge alternative selected, for wastewater discharges. EPA will be using this EIS to assess the environmental impact of EPA's future decision to issue or not issue a surface water discharge permit to the proposed refinery. Treated wastewater discharges from the facility would cause minor changes in existing water quality. The proposed NPDES permit would require that wastewater discharges be protective of aquatic life, drinking water, agriculture and wildlife uses. No NPDES permits would be needed for the non-construction alternatives and water quality would remain the same as existing conditions.
- Construction and operation of the proposed refinery would change the quantity and flow pattern of the drainage from the site. The paving/hardening of the refinery site would increase runoff and reduce infiltration. If the refinery collects most of the runoff for use as water supply, there would be less water flow from the site for the majority of storm events.

Solid and Hazardous Waste

- The proposed refinery would operate as a large quantity generator (LQG) of hazardous waste under the Resource Conservation Recovery Act (RCRA). The facility, through the RCRA generator regulations, would be required to transport the waste to approved hazardous waste facilities for the treatment and disposal of the waste. Many of the waste streams from refineries are specifically listed under the RCRA regulations as hazardous wastes.
- All refinery construction alternatives, except for the combination of Alternatives 4 and A, could also be a Treatment Storage and Disposal (TSD) Facility under RCRA. The facility would likely or potentially need to obtain a TSD permit from EPA for any of these alternatives. The TSD permit includes requirements for monitoring, financial assurance, inspections and facility closure plans.
- With regard to solid waste, the facility would be required to comply with EPA "Criteria for Classification of Solid Waste Disposal Facilities and Practices" at 40 Code of Federal Regulations (CFR) Part 257, as appropriate.

Vegetation, Wetlands

- The portion of the site that would be used for the proposed refinery would be changed from an agricultural to industrial use.
- Both jurisdictional and non-jurisdictional wetlands exist on the proposed refinery site. Jurisdictional wetlands are those wetlands which are considered to be waters of the U.S. for purposes of the CWA. Non-jurisdictional wetlands are waters that are not subject to CWA jurisdiction.
- The USACE determined one wetland, which covers 11.7 acres in the northwest corner of the site, to be subject to CWA jurisdiction. According to the initial site plan (Alternative 1), 0.5 acres of the jurisdictional wetland would be filled by the proposed refinery. An alternative site plan (Alternative 4) has been developed in part to reduce filling of jurisdictional wetlands to 0.1 acres. A CWA Section 404 permit for the discharge of dredged or fill material would be needed from the USACE prior to construction.
- The jurisdictional wetland would be impacted by the proposed refinery. Changes in the quality and quantity of water flowing into this wetland would change the hydrology and vegetation in the wetland.
- Non-jurisdictional wetlands would also be impacted during construction of the refinery.
- Any filling of wetlands would be mitigated by the creation or restoration of additional wetlands.

Wildlife, Threatened and Endangered Species

- The United States Fish and Wildlife Service (FWS) expressed concerns about potential effects to the threatened piping plover and endangered whooping cranes from landing on open water areas in the refinery wastewater treatment facilities or colliding with overhead power lines. Mitigation measures have been developed to discourage birds from using ponds within the refinery site, including adding netting to prevent birds from landing in open tanks or ponds with oily wastewater and placing cobbles on the side

slopes of the constructed ponds to discourage plovers from nesting. Electrical transmission lines would be constructed to minimize collision and electrocution risks to birds

Transportation

- The refinery would increase traffic on local roads and on the rail line. With the shipment of refinery products, there would be an increased probability of petroleum products spills along the pipeline corridor, transportation corridors and the rail line.

Air Quality

- Air emissions from the refinery would be minor. Potential air emissions have been modeled; demonstrating that the proposed facility would not cause any exceedances of the National Ambient Air Quality Standards (NAAQS) or Prevention of Significant Deterioration (PSD) increments. At this time, EPA has determined that no Clean Air Act (CAA) PSD pre-construction permit would be required for the facility because the total quantity of air pollutants emitted throughout the year by the refinery are less than the regulatory threshold. The requirement for the refinery to apply for an operating permit within 12 months of commencing operation was triggered by the promulgation of News Source Performance Standards -- 40 CFR Part 60, Subpart GGGa on November 16, 2007.

Human Health

- With proper operation of the refinery, potential impacts to human health are anticipated to be negligible to the general public. Pollutants or materials which would be of concern to public health would be contained within the refinery, treated to nontoxic levels or disposed of at approved hazardous waste facilities.
- During the operation of the proposed clean fuels refinery, releases of various chemicals and hazardous materials during refinery operations are the most significant concern for impacts to human health. Transporting, handling, storing, and disposing of chemicals and hazardous materials inherently pose a risk of a release to soil, ground water, air, surface water, and sediment. Numerous regulatory programs would be implemented at the proposed facility to prevent or control potential releases such as the emergency response planning, oil spill response planning and containment measures, NPDES permits, RCRA, and Occupational Safety and Health Administration (OSHA) requirements.
- In the remote event of a catastrophic spill or fire, there could be emissions from the facility that would be of concern to public health in the immediate area of the refinery; however, there are currently no residences or businesses located in the immediate area of the refinery site that would remain occupied once refinery operations commenced.
- The air modeling analyses show that the potential impacts of hazardous air pollutants (HAP) would be below levels of concern to human health through both direct inhalation and food chain pathways outside of the proposed refinery site process area.
- Epidemiological and toxicological studies, as discussed in Chapter 4 of the EIS, did not observe any increases in health effects for people living near petroleum refineries. One

occupational health study observed increased rates for one type of cancer for workers in the petrochemical industry.

Environmental Justice, Socioeconomics

- EJ concerns that are raised in the EIS include many of the issues addressed above, such as air pollution emissions, discharge of pollutants into surface waters and ground water, and hazardous waste generation. The EIS also addresses socioeconomic effects of constructing and operating a new refinery.
- Economic benefits associated with the refinery could increase the quality of life for members of the MHA Nation. However, negative effects to the quality of life could be experienced by the communities surrounding the facility due to increases in highway traffic, noise, and light pollution during construction and operation of the facility.

Major Revisions to the EIS

This section lists the major revisions to the EIS. For more information regarding additional changes to the FEIS, please see the response to comments in Appendix E.

- Identification of the "preferred" alternatives.
- Revised information on air quality impacts and additional information regarding New Source Performance Standards (NSPS) requirements. See the revised sections on Air Quality in Chapters 3 and 4 and the revised air technical report available on the enclosed CD-ROM, on the FEIS website, or upon request. Please also see the information on air in the response to comments (Appendix E).
- Additional human health information analyzed regarding potential impacts from petroleum refineries and human health in general project area. See the revised section on Human Health in Chapter 4, Agency for Toxic Substances and Disease Registry (ATSDR) correspondence in Appendix D and the ATSDR and Qualitative and Quantitative Human Health Risk Assessment Technical Reports. Please also see the information on human health in the response to comments (Appendix E).
- Revised EJ Analysis, 2007 technical report available on the FEIS CD-ROM, EPA's website, or upon request.

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Chapter 1 — Purpose and Need

On February 5, 2003; the Three Affiliated Tribes (TAT) (Mandan, Hidatsa, Arikara Nation [MHA Nation]) voted to purchase three tracts of land on the Fort Berthold Indian Reservation in North Dakota. These tracts, which are in the northeast corner of the Reservation and in Ward County (Figure 1-1) include:

- the NW ¼ of Section 20, Township 152 North, Range 87 West (Tract 1);
- the North ½ of Section 19, Township 152 North, Range 87 West (Tract 2); and
- Outlot 1 in the NE ¼ of Section 19, Township 152 North, Range 87 West (Tract 3).

Taken together as a single parcel, these tracts encompass 468.39 acres after existing easements are considered. Following the purchase, the MHA Nation requested that United States Department of the Interior (DOI)-Bureau of Indian Affairs (BIA) accept the tracts into trust status (Resolution 03–020 dated March 17, 2003). The Indian Reorganization Act of 1934 (IRA) authorizes the Secretary of the Interior to hold land for Indian Tribes and individual Indians in trust.

The MHA Nation proposes to construct, operate, and maintain a clean fuels refinery on 190 acres of the 468.39-acre parcel. The MHA Nation would own the refinery. The MHA Nation would grow hay on the remaining acreage. This would reduce the costs of purchasing hay for buffalo from other sources.

1.1 Purpose and Need for the Proposed Action

The purpose to which the federal agencies are responding is the MHA Nation's proposal that BIA accept 468.39 acres of fee land into trust for the purposes of constructing and operating a clean fuels petroleum refinery and producing buffalo forage on the Fort Berthold Indian Reservation. The need is to facilitate Tribal self-determination and economic development. The BIA, the Environmental Protection Agency (EPA) and the U.S. Army Corps of Engineers (USACE) each have federal agency decisions to make based upon this EIS. BIA will decide whether to approve the Tribes' request that BIA accept the 468.39 acres of land into trust for the purposes of constructing and operating the clean fuels refinery and for producing buffalo forage. EPA will decide whether to approve the Tribes' application for a Clean Water Act (CWA) NPDES permit for process water discharges associated with operation of the proposed refinery. USACE will decide whether to issue a CWA Section 404 permit for the discharge of dredge and fill materials into waters of the United States (U.S.), associated with the construction of the proposed refinery.

1.2 NEPA Process and Decision Making

As a general matter, Federal agencies, such as BIA and EPA, must comply with the NEPA before approving any major federal actions that may have a significant effect on the human environment. BIA's decision on the MHA Nation's request that BIA accept the lands into trust for purposes of the proposed project and EPA's issuance of a new source NPDES permit constitute such major federal actions. BIA is the federal agency with the primary responsibility for administering trust lands and, as such, it must ensure the NEPA process is conducted for MHA Nation's request to accept the tracts into trust status.

As the initial lead federal agency for conducting the NEPA analysis, BIA invited others to participate in the NEPA process. After reviewing the MHA Nation's proposal, jurisdictional

concerns, and potential effects, BIA invited the EPA, FWS, Indian Health Services (IHS), USACE and the MHA Nation to participate in the NEPA analysis.

EPA initially decided to participate as a cooperating agency because of its authority for permitting specific aspects of the clean fuels refinery project. As the process moved forward, BIA asked EPA to reconsider and become a joint lead. EPA directly implements its federal environmental protection programs on the Fort Berthold Indian Reservation. Under the CWA, EPA has the authority to issue an NPDES permit to the facility for the process water discharges from the operation of the refinery. The MHA Nation has submitted an NPDES permit application to EPA for the process water discharges. EPA's issuance of the NPDES surface discharge permit to this facility is a "major federal action significantly affecting the quality of the human environment." Since EPA has determined the facility is a "new source" under the CWA, EPA's issuance of the NPDES permit for a new source discharging process water invokes NEPA. In addition to the NPDES process water permit, EPA also has the authority to issue any applicable stormwater permits to the facility for stormwater construction and operation discharges into waters of the United States (U.S.).

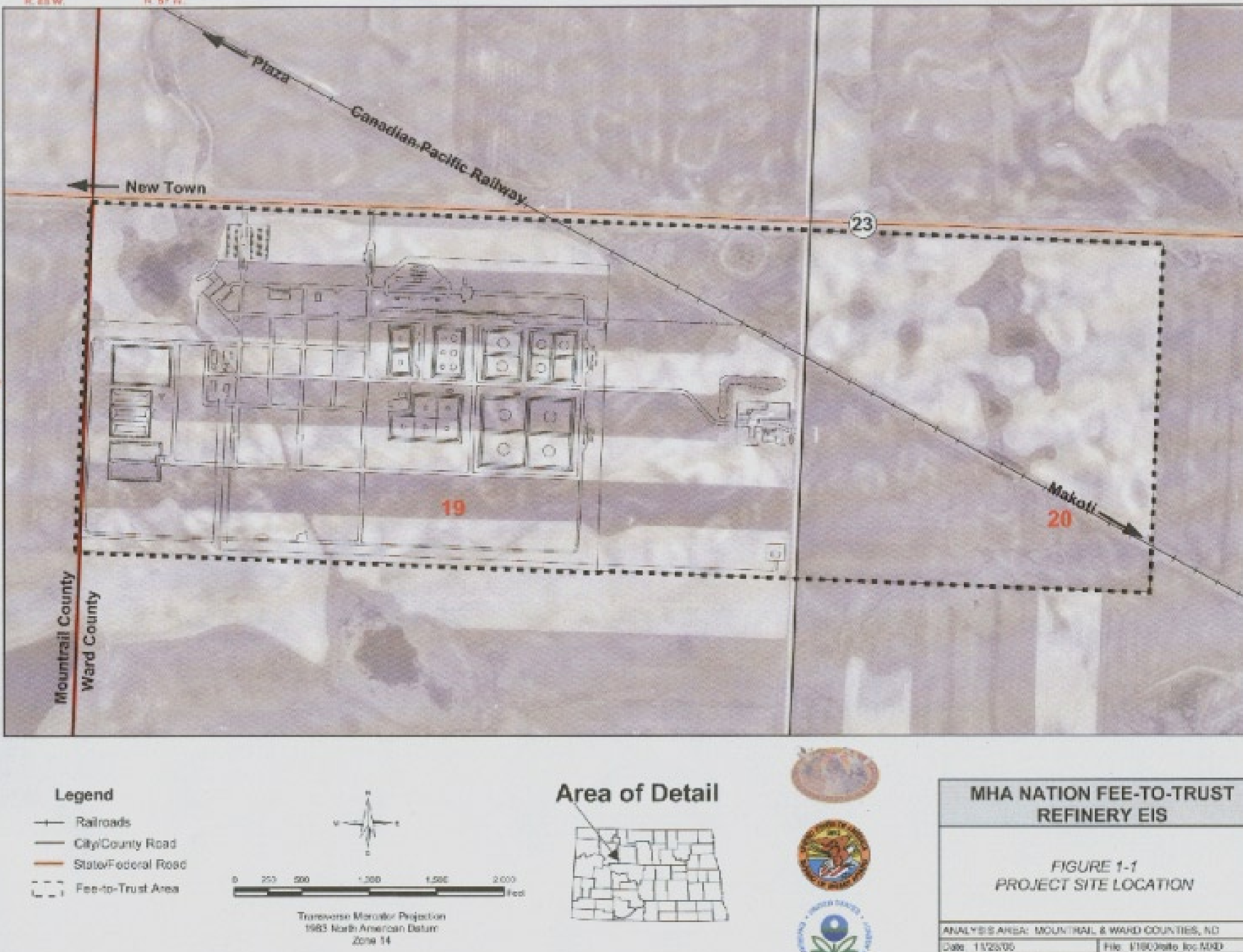
Under the Clean Air Act (CAA), EPA is responsible for permitting major sources of air pollution. However, at this time EPA has determined that the facility does not require a CAA Prevention of Significant Deterioration (PSD) permit for construction of a new major source of air pollution or a CAA Part 71 permit to regulate air emissions while the refinery is operating. Some units of the refinery would however be subject to NSPS under the CAA.

EPA has determined EPA's Underground Injection Control (UIC) program would apply to the refinery and an UIC permit would be needed if the refinery uses a septic system and leach field. Depending upon how wastewater would be discharged from the facility, the refinery may need a Class I UIC permit. The drinking (potable) water system at the facility would be considered a public water system and would be regulated by EPA under the Safe Drinking Water Act (SDWA). Depending on whether the facility uses underground storage tanks subject to the Underground Storage Tank (UST) requirements, the refinery may be regulated by EPA under the UST requirements.

Depending on how hazardous wastes will be handled and stored at the proposed facility, the refinery may need a RCRA hazardous waste permit from EPA (Treatment Storage and Disposal permit). All alternatives, except 4 and A would need this RCRA permit. The potential hazardous waste permit and the UIC permits do not invoke NEPA for EPA; however, information about the permit programs is included in the EIS.

BIA asked the MHA Nation to participate as a cooperating sovereign nation because of its local expertise and unique status. The MHA Nation has specific expertise in several areas that are important to the NEPA analysis, including cultural resources and socioeconomics. Additionally, the MHA Nation is a sovereign nation with which BIA and EPA have a federal trust relationship.

BIA asked the FWS to participate as a cooperating agency. While the FWS declined to participate as a cooperating agency, the FWS did agree to provide information and data where it could and review documents. BIA and EPA determined whether the actions they authorize, fund or carry out in connection with this project may affect federally listed threatened or endangered species or the designated critical habitat of such species. BIA and EPA determined that actions will either have no effect or may affect but will not adversely affect such species or critical habitat in consultation with the FWS as appropriate under the Endanged Species Act (ESA).



MHA NATION FEE-TO-TRUST REFINERY EIS

FIGURE 1-1
PROJECT SITE LOCATION

ANALYSIS AREA: MOUNTRAIL & WARD COUNTIES, ND

Date: 11/28/06	File: I/1603site loc.MXD
Drawn By: MSH	PDF: Figure 1-1.pdf

In response to the comments submitted on the October 1, 2004 draft version of the EIS scoping report, BIA asked IHS to participate in the NEPA process as a cooperating agency. IHS declined to participate as a cooperating agency. While IHS declined participating as a cooperating agency, it did agree to provide information and data where it could and review documents.

BIA asked the USACE to participate as a cooperating agency because of its authority under the CWA for permitting the discharge of dredged or fill material into all waters of the U.S., including wetlands. USACE has determined a wetlands swale and wetlands on the northwestern boundary of the project site are waters of the U.S. subject to USACE regulatory authority under CWA Section 404. The proposed project may include dredge and fill of the wetlands swale. With this determination, the MHA Nation would have to obtain a CWA Section 404 permit from USACE before any dredging and filling of the wetlands swale could occur. No dredge or fill activities are proposed for the wetlands located on the northwestern boundary of the project area.

BIA, EPA, USACE, and the MHA Nation entered into an agreement (Memorandum of Understanding [MOU]) to facilitate completion of the NEPA process and preparation of the EIS. This MOU defines each party's roles and responsibilities for preparing documents, reviewing documents, and coordinating decision making with regard to the EIS. Ultimately, both BIA and EPA intend to make decisions about the MHA Nation's proposal using the results of the NEPA analysis.

This document provides BIA and EPA with information upon which to base final decisions that consider factors relevant to the proposal. Scoping issues and concerns raised by the public and agencies drove the development of alternatives and the focus of the EIS. This EIS documents (1) the analysis of effects on human health and the environment that could result from implementation of the proposed action or alternatives to that action and (2) the development of environmental protection measures needed to reduce or eliminate environmental consequences.

Finally, this EIS is not a decision document. It discloses the process used to analyze the potential environmental consequences of implementing the proposal and alternatives to the proposed action. BIA's and EPA's decision about the proposed project will be contained in separate ROD.

1.3 Decisions to be Made Based on this NEPA Analysis

As noted above, BIA, EPA, and USACE will make separate decisions based on this NEPA analysis. BIA's decision will be documented in a ROD signed by the, Assistant Secretary of Indian Affairs, Department of Interior. The ROD will indicate any mitigation measures enforceable by BIA that need to be adopted. The BIA will consider the ROD when deciding whether to accept the 468.39 acres into trust status for the MHA Nation. In addition to the ROD, the Secretary of the Interior, or designee, must consider the existence of statutory authority, need for the additional land, purpose for the land, the impact on the State and its political subdivisions resulting from the removal of the land from the tax rolls, jurisdictional problems and potential conflicts of land use that may arise, and whether BIA is equipped to discharge the additional responsibilities resulting from acquisition of the land in trust status (25 CFR Section 151.10). The ROD and the decision on the MHA Nation's request to accept land in trust will be final for the DOI; because the Assistant Secretary – Indian Affairs will be making the determination. In the Draft EIS (DEIS), the decision was to be made by BIA with appeal rights as mandated in 25 CFR Part 2.

EPA's decision whether to issue the NPDES process water permit for the refinery will be documented in a ROD signed by EPA Region 8's Regional Administrator. EPA will issue any applicable permits for storm water (construction) and UIC and may issue a permit for RCRA

hazardous waste. Permits typically delineate the maximum allowable emissions or discharges of pollution from the regulated facility, monitoring, recordkeeping, reporting, and pollution control/mitigation requirements. 40 CFR 124.19 sets forth the permit appeal process for NPDES, RCRA and UIC permits.

The USACE will use this EIS in determining whether to issue any necessary CWA Section 404 permits for the discharge of dredged or fill material into waters of the U.S., including wetlands. The USACE will issue any such permits only after compliance with the USACE regulations (33 CFR Part 320 et seq) and the CWA 404(b)(1) Guidelines (40 C.*Federal Register* 230, et seq). 33 CFR Part 331 sets forth the CWA Section 404 permit appeal process.

1.4 Authorizing Actions

A variety of permitting actions would be required to implement any of the action alternatives. Table 1–1 lists the major permits, approvals, and consultations that may be required for the acceptance of land into trust in support of the proposed refinery or which may be required at some time in the future. The list is subject to change, depending on requirements for any alternative selected by the decision makers.

Table 1-1 Major Permits, Approvals, and Consultations Potentially Required for the Clean Fuels Refinery Project

Issuing Agency/Permit Approval Name	Nature of Regulatory Action	Applicable Project Component
Federal Permits, Approvals, and Authorizing Actions		
U.S. Bureau of Indian Affairs		
Indian Reorganization Act of 1934.	Authorizes the Secretary of the Interior to hold land for Indian Tribes and individual Indians in trust.	The 468.39-acre parcel in Sections 19 and 20 of Township 52 North, Range 87 West after considering existing easements.
U.S. Environmental Protection Agency		
Clean Air Act – New Source Review (NSR) Preconstruction Air Permit.	Controls emissions from new or modified sources.	Sources of air emissions (excluding air toxic pollutants listed under Section 112) that emit 100 tons/year or more, if the source belongs to a list of 28 specific categories, or any other source type which emits 250 tons/year or more.
Clean Air Act – Title V Operating Permit.	CAA requires all major sources of air emissions to obtain a permit that applies to day-to-day operation of the facility.	Sources of air emissions that emit 100 tons/year or more of a criteria pollutant, or 10 tons/year of an HAP, or more than 25 tons/year of any combination of hazardous pollutants.
Clean Air Act –New Source Performance Standards (NSPS)	CAA requires new and modified industrial facilities to comply with performance standards for certain stationary sources of air emissions.	Stationary sources regulated under the NSPS include: flares, boilers, refinery fuel gas combustion units, storage tanks, seals, valves, drains, etc. NSPS requirements typically include testing, monitoring and recordkeeping.
Clean Water Act – National Pollutant Discharge Elimination System – Permit for Point Source Discharges – Process Water.	Authorizes point source discharges of pollutants to waters of the U.S. in accordance with effluent guidelines, water quality standards, monitoring requirements, and other conditions as set by EPA.	Facilities with proposed process water discharges associated with an industrial activity.
Clean Water Act – 401 Certifications for Section 402 NPDES process water permit and Section 404 permit.	State or Federal certification that Federal licensing or permitting activity complies with CWA requirements.	All CWA 404 (Dredge and Fill) and 402 (NPDES) permits require 401 Certification prior to issuance of the permit.
Clean Water Act – National Pollutant Discharge Elimination System – Construction General Permit.	Authorizes discharge of storm water pollutants associated with construction.	Construction activities that disturb 5 or more acres of land.
Clean Water Act – Oil Pollution Act - Facility Response Plan (FRP)	The Oil Pollution Act requires certain facilities that store and use oil to prepare FRPs and submit them to EPA in order to ensure adequate response mechanisms are in place to respond to worst case oil spills.	Storage and use of oil requires preparation of FRPs for certain facilities prior to operation to provide measures to respond to oil spills that could reach navigable waters.
Clean Water Act – Oil Pollution Act – Spill Prevention Control Countermeasure Plan (SPCC)	The Oil Pollution Act requires certain facilities that store and use oil to prepare SPCC plans and retain them at the facilities to ensure facilities put in containment and other measures to avoid oil spills that could reach navigable waters.	Storage and use of oil requires preparation of SPCC plans prior to operation to provide measures to avoid oil spills that could reach navigable waters.
Safe Drinking Water Act – Public Water Supply System Program.	National health-based standards for drinking water to protect against both naturally occurring and man-made	Public water system.

Table 1-1 Major Permits, Approvals, and Consultations Potentially Required for the Clean Fuels Refinery Project

Issuing Agency/Permit Approval Name	Nature of Regulatory Action	Applicable Project Component
	contaminants.	
Safe Drinking Water Act – UIC Permit for Septic System.	Authorizes discharges of sanitary wastes into or above shallow ground water from a system that has the capacity to serve 20 or more people per day.	Septic system and leach field.
Safe Drinking Water Act – UIC Permit for Injection (Alt. C).	Authorizes use of Class I injection well for disposal of hazardous or non-hazardous industrial waste below the lowermost underground source of drinking water, under 40 CFR Part 146 Subpart G.	Underground injection of industrial waste.
Resource Conservation and Recovery Act – Treatment, Storage, and Disposal (TSD) Permit.	Design, monitoring, and closure requirements for TSD units.	Applies if the facility stores hazardous waste more than 90 days, treats hazardous waste, or has disposal facilities for hazardous waste.
Resource Conservation and Recovery Act – Hazardous Waste Generator.	Regulations for storing, treating, and disposing of hazardous waste.	RCRA listed and characteristic hazardous waste.
Resource Conservation and Recovery Act – Solid Waste Management.	The facility must comply with federal regulations at 40 CFR 257 "Criteria for Classification of Solid Waste Disposal Facilities and Practices."	Land disposal of non-hazardous solid waste from the facility.
Resource Conservation and Recovery Act – Subtitle I – Underground Storage Tanks (UST).	Technical standards and corrective action requirements for owners and operators of underground storage tanks	Underground storage tanks.
U.S. Fish and Wildlife Service		
ESA compliance (Section 7).	Protects federally listed threatened or endangered species and their designated critical habitats.	Any project activity that potentially affects species listed as or proposed for listing as threatened or endangered, and/or their designated critical habitats.
Migratory Bird Treaty Act.	Protects migratory birds.	All federally funded, permitted, or authorized activities.
Bald Eagle Protection Act.	Protects bald and golden eagles.	All federally funded, permitted, or authorized activities.
Advisory Council on Historic Preservation		
National Historic Preservation Act – Cultural Resource Compliance (Section 106).	Protects cultural and historic resources. Coordinated with the Tribal Preservation Office (TPO) and North Dakota State Historic Preservation Officer (SHPO).	Any federal undertakings with potential to affect cultural resources.
U.S. Department of Defense, Army Corps of Engineers		
Permit to Discharge Dredged or Fill Material (Section 404 Permit).	Authorizes discharge of dredged or fill material in waters of the U.S., including jurisdictional wetlands.	Activities involving discharge of dredged or fill materials into waters of the U.S.
U.S. Department of Transportation		
Construction and operation of natural gas pipelines.	Prescribes minimum safety requirements for pipeline facilities and the transportation of gas, including pipeline facilities.	New natural gas pipeline construction.