

# APPLICATION FOR CERTIFICATE OF SITE COMPATIBILITY

Montana-Dakota Utilities Co.

88 MW natural gas simple cycle combustion turbine  
Morton County, ND

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Prepared For:

Montana-Dakota Utilities Co.

Prepared By:

Kadrmass, Lee & Jackson

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Montana-Dakota Utilities Co., a Division of MDU  
Resources Group, Inc.

Kadrmass  
Lee &  
Jackson

Engineers Surveyors  
Planners

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*Skip Skattum* ..... 38  
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## 1. INTRODUCTION

Montana-Dakota Utilities Co., a Division of MDU Resources Group, Inc. (Montana-Dakota), is submitting this application for a Certificate of Site Compatibility (Certificate) from the North Dakota Public Service Commission (PSC) to construct an 88 megawatt (MW) natural gas simple cycle combustion turbine (SCCT). The project is proposed to be located on R.M. Heskett Station (Heskett Station) property, owned by Montana-Dakota, north of Mandan, North Dakota. Please refer to [Figure A-1. Project Area](#) in [Appendix A, Figures](#).

Construction for this project is anticipated to begin in 2013 with a commercial operation date no later than the first quarter of 2015.

The project also includes modification of a short radial 115 kilovolt (kV) transmission line to provide interconnection of the SCCT with the high-voltage electric grid and an approximate 24-mile natural gas pipeline to supply fuel to the SCCT. The pipeline is the responsibility of Montana-Dakota and will be permitted and constructed separately from the SCCT project proposed in this application.

Montana-Dakota is based in Bismarck, North Dakota. The company operates electric generation and transmission facilities and provides retail natural gas and electric service to customers in Montana, North Dakota, South Dakota and Wyoming. Montana-Dakota strives to be a good steward to the environment by minimizing waste and maximizing resources, supporting environmental laws and regulations based on sound science and cost-effective technology and complying with or exceeding all applicable environmental laws, regulations and permit requirements. Please refer to Montana-Dakota's Environmental Policy located in [Appendix F, Environmental Policy](#).

### 1.1. Compliance with the Energy Conversion and Transmission Facility Siting Act Chapter 49-22

The North Dakota *Energy Conversion and Transmission Facility Siting Act* requires an Application to be submitted for a Certificate of Site Compatibility demonstrating that the project meets the criteria established in North Dakota Century Code (NDCC) 49-22. According to NDCC 49-22-02, energy conversion facilities are to be sited with consideration given to environmental preservation and an efficient use of resources.

Montana-Dakota has disclosed information in this application as required by the *North Dakota Energy Conversion and Transmission Facility Siting Act*. Exclusion and avoidance areas, along with policy criteria, were considered during the selection of the site and are discussed further in this application. These regulations will continue to be considered through design of the project. Information regarding project design, need for the project, siting and potential impacts has been included in this document to allow a thorough understanding of the project and to aid in review by the PSC, regulatory agencies and the public. The table below provides a summary of information included in this application and the section of the document in which each is addressed. Please refer to [Table 1. Certificate Completion Checklist](#).

**Table 1. Certificate Completion Checklist**

STATE AUTHORITY	DESCRIPTION	SECTION
Chapter 49-22	PSC Guideline: Energy Conversion and Transmission Facility Siting	1.1
<b>Section A Description</b>		
1.	Type: Describe the type of energy conversion facility proposed and provide a diagram of the major process system or a flow diagram.	1.0, 4.0
2.	Product: Describe in general terms and technical terms the products to be produced at the proposed facility.	1.3.2
3.	Size and Design: Provide the following description of the production capacity and design.	
a.	Gross design capacity (average)	1.3.2
b.	Net design capacity (average)	1.3.2
c.	Estimated thermal efficiency of the energy conversion process and the assumptions upon which the estimate is based.	—
d.	The number of acres that the proposed facility will occupy;	1.3.1
e.	One (1) copy of all design data reports separate from the application.	Appendix B
4.	Time Schedule: Provide the anticipated time schedule for the accomplishment of the following;	1.4
a.	Certificate of Site Compatibility;	1.4
b.	Land acquisition complete;	—
c.	Construction start date;	1.4
d.	Construction complete;	1.4
e.	Test operations;	1.4
f.	Commercial production date;	1.4
g.	100% capacity factor;	—
h.	Any expansion or additions.	—
<b>Section B Studies</b>		
	Provide a copy of any evaluative studies or assessments of the environmental impact of the proposed facility submitted to any federal, regional, state, or local authority.	Appendix E
<b>Section C Need for Facility</b>		
1.	An analysis of the need for the proposed facility based on present projected demand for the product or products to be produced by the proposed facility, including the most recent system studies supporting the analysis of the need.	2.1
2.	A description of any feasible alternative methods of serving the area.	2.2
3.	A statement justifying any deviations from the Ten-Year Plan which the proposed facility may present.	2.3
<b>Section D Location</b>		
1.	Select a project area, which includes the proposed facility site, of sufficient size to enable the PSC to evaluate the factors addressed in Section 49-22-09, NDCC.	1.2, 1.3.1
2.	Discuss the utility's policies and commitments to limit the environmental impact of its facilities, including copies of board resolutions and management directives.	1.0, Appendix F
3.	Identify and map the criteria that lead to the proposed facility location within the project area.	Section 3, PSC Case No. PU-11-158, Appendix A
4.	Discuss in detail the relative value of each criteria and how the proposed facility location was selected giving consideration to all criteria.	2.1

STATE AUTHORITY	DESCRIPTION	SECTION
5.	The criteria to be evaluated shall include at a minimum all of the following which are within the project area:	
a.	Exclusion areas;	3.1
b.	Avoidance areas;	3.2
c.	Selection criteria;	3.3
d.	Policy criteria;	3.4
e.	Design and construction limitations; and	3.5
f.	Economic considerations	3.6
6.	Discuss the mitigation measures that will be taken to minimize adverse impacts which result from the locations, construction, and operation of the proposed facility.	Section 7
7.	List the qualifications of the people in various disciplines that contributed to the facility site location study.	Section 11
8.	Maps	Appendix A
a.	Map the criteria within the project area showing the proposed facility location. Several different criteria may be shown on each map, depending on the map scale and the density and nature of the criteria. Minimum map scale shall be ½ inch = 1 mile. All maps shall be at the same scale unless otherwise specified.	Appendix A
b.	Furnish one Mylar map, separate from the application, of the same scale as the criteria maps and showing the same basic features as the criteria maps, including the project area but not the proposed facility location.	N/A
<b><i>NDCC 49-22-09 Factors to be considered in evaluating applications and the design of sites, corridors, and routes.</i></b>		
1.	Available research and investigations relating to the effects of the location, construction, and operation of the proposed facility on public health and welfare, natural resources, and the environment.	Section 7
2.	The effects of new energy conversion and transmission technologies and systems designed to minimize adverse environmental effects.	Section 7
3.	The potential for beneficial uses of waste energy from a proposed energy conversion facility.	—
4.	Adverse direct and indirect environmental effects which cannot be avoided should the proposed site or route be designed.	Section 7
5.	Alternatives to the proposed site, corridor, or route which are developed during the hearing process and which minimize adverse effects.	2.2, Section 7
6.	Irreversible and irretrievable commitments of natural resources should the proposed site, corridor, or route be designed.	7.19
7.	The direct and indirect economic impacts of the proposed facility.	3.6, 7.9
8.	Existing plans of the state, local government, and private entities for other developments at or in the vicinity of the proposed site, corridor, or route.	—
9.	The effect of the proposed site or route on existing scenic areas, historic sites and structures, and paleontological or archaeological sites.	7.7, 7.8
10.	The effect of the proposed site or route on areas which are unique because of biological wealth or because they are habitats for rare and endangered species.	7.15, 7.16
11.	Problems raised by federal agencies, other state agencies, and local entities.	Section 7

## 1.2. Flexibility in Siting

Montana-Dakota analyzed locations for the proposed 88 MW SCCT. Site evaluation criteria included the inter-connection to the transmission system, availability of natural gas and water supply and environmental permitting, along with other items.

As the SCCT would be fueled by natural gas, it was important to evaluate potential sites that could be connected to a natural gas pipeline system. The existing Northern Border Pipeline system offers consistent transportation and purchase options for natural gas, which eliminates the need for additional fuel supply options. Montana-Dakota is a member of the Midwest Independent Transmission System Operator (MISO), so potential sites were also selected based on proximity to electric transmission resources within the footprint of MISO territory. Siting the facility within this area reduces transmission network upgrade costs and transmission network system impacts, including short circuit, instability and power flow issues.

Water supply was another important factor in siting decisions. Combustion turbines can require water for inlet air cooling and for nitrogen oxide emissions control. Locations were identified in which water could be obtained from wells, rivers, regional pipelines or municipal and rural systems.

Environmental permitting and other environmental factors were considered during the siting process. Montana-Dakota made a preliminary determination that there are no fatal flaws in permitting the turbine at each of the locations proposed by their study; however, additional permits would be required before construction can begin. Topography, access road needs and potential routing for transmission lines and pipelines were also taken into consideration during the siting process.

Based on the criteria listed above, potential sites were narrowed to three sites for final evaluation. Cost estimates and other criteria were evaluated for proposed sites near Linton, Mandan, and Richardton. Based on the final evaluation, Montana-Dakota proposed to locate the SCCT at a site in Mandan on the Company's Heskett Station property. Please refer to Montana-Dakota's 2011 Integrated Resource Plan, PSC Case No. PU-11-158 for the site study.

## 1.3. Project Summary

### 1.3.1. Proposed Site

The project area is comprised of an approximately 14.9-acre portion of property currently owned by Montana-Dakota. The proposed site is adjacent to the Heskett Station, in Morton County, North Dakota. The area consists of relatively flat grassland. Please refer to [Figure A-1. Project Area](#), located in [Appendix A, Figures](#).

### 1.3.2. Projected Output

The proposed facility would be capable of producing 88 MW of power at average, ambient, site-specific conditions.

### 1.4. Project Schedule

Provided all pre-construction permits and approvals, financial closing and equipment deliveries have been obtained, construction of the proposed project is anticipated to begin in the second quarter of 2013 and commercial operation to begin no later than the first quarter of 2015.

The proposed project schedule is as follows:

Task	Date
Plant planning, engineering and permitting	August 2011 – March 2013
Plant construction start, testing, commissioning, testing and startup	April 2013 – No later than the first quarter of 2015
Project commercially available	No later than the first quarter of 2015

### 1.5. Project Ownership

Montana-Dakota would develop, construct and operate the proposed 88 MW SCCT facility.

## 2. NEED FOR FACILITY

### 2.1. Need Analysis

Montana-Dakota used an econometric model to forecast future electricity needs. Econometric models use a set of equations to establish a causal relationship between dependent and independent variables. In this instance, electric energy consumption (dependent variable) is related to factors influencing electricity use (independent variable), such as income, price of electricity and weather. Regression analysis or other statistical analysis types were then used to establish the relationship. Variables used in Montana-Dakota's forecasting effort included:

- ▲ Residential price of electricity
- ▲ Small commercial and industrial price of electricity
- ▲ Large commercial and industrial price of electricity
- ▲ Residential price of alternative fuel (natural gas)
- ▲ Commercial price of alternative fuel (natural gas)
- ▲ Personal income per capita
- ▲ Personal income
- ▲ Heating degree days for Bismarck, North Dakota
- ▲ Cooling degree days for Bismarck, North Dakota
- ▲ Population
- ▲ Number of Households

- ▲ Employment
- ▲ Persons per household
- ▲ Total retail sales
- ▲ Temperature at the time of peak [electricity use] for Bismarck, North Dakota; Williston, North Dakota; and Miles City, Montana

Five forecasting methods were used to create a 20-year electric load forecast for Montana-Dakota's Integrated System, which includes Montana-Dakota service territories in Montana, North Dakota, and South Dakota: sales; peak demand; sales and demand; forecast uncertainty; and allocations. Each forecast method was taken into consideration to determine future electricity needs. Montana-Dakota projects annual energy demand will grow at an average annual rate of 3.2 percent for the next five years (2011 – 2016) and at an average annual rate of 2.1 percent through 2030. Peak<sup>1</sup> energy demand is forecast to grow at an annual average rate of 2.7 percent for the next five years and at an average annual rate of 1.8 percent through 2030.

Montana-Dakota also conducted a supply-side analysis to identify what resources should be added to Montana-Dakota's generating system to meet electricity demand. The Electric Generation Expansion Analysis System version 9.02, a computer model created by the Electric Power Research Institute, was used to analyze several scenarios of resource expansion. Supply-side alternatives that were analyzed using this method include:

- ▲ Combustion turbine
- ▲ Combined cycle
- ▲ Coal
- ▲ Wind (self-built)
- ▲ Purchased capacity
- ▲ Wind (purchased energy)
- ▲ Demand response program
- ▲ Big Stone Air Quality Control System
- ▲ New purchased capacity

Based on the various analyses, Montana-Dakota identified a series of actions to meet their project demand. One action identified by these efforts is the project proposed in this application, an 88 MW SCCT. Complete details of the various analyses used by Montana-Dakota are available in Montana-Dakota's 2011 Integrated Resource Plan, PSC Case No. PU-11-158. The PSC issued a Certificate of Public Convenience (Certificate No. 5474) for the 88 MW SCCT in Case No. PU-11-396.

<sup>1</sup> These percentages are consistent with the 2011 IRP; however, due to increasing energy needs, the annual growth percentage rate is expected to be higher than previously forecast.

## 2.2. Alternatives

Two alternatives were analyzed in the siting analysis regarding construction of the proposed SCCT. Under Alternative A (No Build), the project would not be constructed and there would be no impacts to the surrounding environment. Under Alternative B (Build), the SCCT would be constructed and options regarding the turbine and associated infrastructure (not including the natural gas pipeline) will be analyzed to minimize impacts.

- ▲ Alternative A (No Build): Under the no build alternative, the PSC would not authorize the development of the proposed SCCT. There would be no environmental impacts associated with Alternative A; however, Montana-Dakota and their customers would not benefit from the 88 MW SCCT which would allow them to meet projected energy demands.
- ▲ Alternative B (Build): Under the build alternative, the proposed 88 MW SCCT would be constructed within the project area identified on current Montana-Dakota property adjacent to the Heskett Station. The final location of all project components under the build alternative would be selected to avoid or minimize environmental impacts associated with the construction and operation of the project. Any impacts that cannot be avoided or minimized shall be mitigated as necessary.

## 2.3. Ten Year Plan

The 88 MW SCCT is consistent with the July 2011 Montana-Dakota Ten Year Plan for North Dakota Electric Properties. A copy of the ten year plan is on file with the PSC as Case No. PU-11-503.

## 3. SITE SELECTION CRITERIA

### 3.1. Exclusion Areas<sup>2</sup>

Per Section 69-06-08-01 of the North Dakota Administrative Code, certain geographical areas shall be excluded from energy facility siting consideration. In addition, a buffer zone shall be implemented around these areas to protect their integrity. Please refer to [Table 2. Summary of Exclusion Areas](#).

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<sup>2</sup> As defined in North Dakota Administrative Code 69-06-08-01, exclusion criteria are defined as "criteria that remove areas from consideration for energy conversion facility sites and transmission facility routes." Exclusion areas are composed of these limiting criteria.

**Table 2. Summary of Exclusion Areas**

EXCLUSION AREA	PRESENT WITHIN PROJECT SITE	PROPOSED BUFFER	SECTION ADDRESSED
Designated or registered national areas; parks; memorial parks; historic sites and landmarks; natural landmarks; historic districts; monuments; wilderness areas; wildlife areas; wild, scenic, or recreational rivers; wildlife refuges; and grasslands.	None	N/A	7.5, 7.8
Designated or registered state areas; parks; forests; forest management lands; historic sites; monuments; historical markers; archaeological sites; grasslands; wild, scenic, or recreational rivers; game refuges; game management areas; management areas; and nature preserves.	None	N/A	7.7, 7.8
County parks and recreation areas; municipal parks; parks owned or administered by other governmental subdivisions; hardwood draws; and enrolled woodlands.	None	N/A	7.8
Prime farmland and unique farmland, as defined by the land inventory and monitoring division of the Soil Conservation Service, United States Department of Agriculture in 7 CFR part 657; provided, however, that if the PSC finds that the prime farmland and unique farmland that will be removed from use for the life of the facility is of such small acreage as to be of negligible impact on agricultural productions, such exclusion shall not apply.	Present	The project site does contain land classified as Farmland of Statewide Importance; however the USDA NRCS stated that the land is not protected under FPPA; no buffer is proposed.	7.9
Irrigated land.	None	N/A	7.9
Areas critical to threatened or endangered animal or plant species.	None	N/A	7.16
Areas where animal or plant species that are unique or rare to this state will be irreversibly damaged.	None	N/A	7.16

**3.2. Avoidance Areas<sup>3</sup>**

Per section 69-06-08-01 of the North Dakota Administrative Code, certain geographical areas shall not be approved for use as energy conservation facilities unless the applicant shows that, under the circumstances, there is no reasonable alternative. In determining whether an avoidance area should be designated for a facility, the PSC may consider the following: the proposed management of adverse impacts; the orderly siting of facilities; system reliability and integrity; the efficient use of resources; and alternative sites. In addition, a buffer zone shall be implemented around these areas to protect their integrity. Please refer to **Table 3. Summary of Avoidance Areas.**

<sup>3</sup> As defined in North Dakota Administrative Code 69-06-01-01, avoidance criteria are defined as “criteria that remove areas from consideration for energy conversion facility sites and transmission facility routes unless it is shown that under the circumstances there are no reasonable alternatives.” Avoidance areas are composed of these limiting criteria.

**Table 3. Summary of Avoidance Areas**

<b>AVOIDANCE AREA</b>	<b>PRESENT WITHIN PROJECT SITE</b>	<b>PROPOSED BUFFER</b>	<b>SECTION ADDRESSED</b>
Historical resources which are not designated as exclusion areas.	None	N/A	7.7
Areas within the city limits of a city or the boundaries of a military installation.	None	N/A	7.1
Areas within known floodplains as defined by the geographical boundaries of the 100-year flood.	None	N/A	7.12
Areas that are geologically unstable.	None	N/A	7.11
Woodlands and wetlands.	None	N/A	7.13, 7.14
Areas of recreational significance which are not designated as exclusion areas.	None	N/A	7.8

These parameters reflect the minimum efforts made to date by Montana-Dakota in the project's design; the final site design may include greater setbacks and additional measures than identified above.

### **3.3. Selection Criteria<sup>4</sup>**

Per section 69-06-08-01-3 of the North Dakota Administrative Code, a site shall be approved in an area only when it is demonstrated to the PSC by the applicant that any significant adverse effects resulting from the location, construction and operation of the facility in that area, as they relate to the following, will be at an acceptable minimum, or that those effects will be managed and maintained at an acceptable minimum. Exclusion and avoidance areas, along with selection criteria described in the below section, were evaluated and taken into account when determining the project area. Please refer to [Table 4. Summary of Selection Criteria](#).

<sup>4</sup> As defined in North Dakota Administrative Code 69-06-01-01, selection criteria is defined as "criteria" that guide and govern the selection of energy conversion facility sites and transmission facility corridors and routes in order to minimize adverse human and environmental impact after the exclusion and avoidance criteria have been applied.

Table 4. Summary of Selection Criteria

SELECTION CRITERIA	POTENTIAL ADVERSE EFFECT FROM PROJECT	SECTION ADDRESSED
<i>The impact upon agriculture:</i>		
(1) Agricultural production	No cultivated fields would be impacted; no adverse impacts to agricultural production are expected due to SCCT construction.	7.9
(2) Family farms and ranches	No adverse impacts are expected to family farms and ranches.	N/A
(3) Land which the owner demonstrates has soil, topography, drainage, and an available water supply that cause the land to be economically suitable for irrigation	No adverse impacts are anticipated.	N/A
(4) Surface drainage patterns and ground water flow patterns	No adverse impacts are anticipated to surface drainage or groundwater flow patterns.	7.11, 7.12
(5) The agricultural quality of the cropland	No adverse impacts are anticipated.	7.9
<i>The impact upon the availability and adequacy of:</i>		
(1) Law enforcement	No adverse impacts are anticipated.	N/A
(2) School systems and education programs	No adverse impacts to school systems and education programs are anticipated.	7.5
(3) Governmental services and facilities	No adverse impacts to government services and facilities are anticipated.	N/A
(4) General and mental health care facilities	No adverse impacts to general and mental health care facilities are anticipated.	7.5
(5) Recreational programs and facilities	No adverse impacts to recreational programs and facilities are anticipated.	7.8
(6) Transportation facilities and networks	An increase in truck traffic during construction activities is expected. During facility operations no adverse impacts are anticipated.	7.5
(7) Retail service facilities	No adverse impacts are anticipated to retail service facilities.	—
(8) Utility services	No adverse impacts are anticipated to utility services.	7.4
<i>The impact upon:</i>		
(1) Local institutions	No adverse impacts to local institutions are anticipated.	7.4
(2) Noise-sensitive land uses	No adverse impacts to noise-sensitive land uses are anticipated.	7.6
(3) Rural residences and businesses	No adverse impacts to rural residences or businesses are anticipated.	7.6
(4) Aquifers	No aquifers occur within the project area; therefore, no adverse impacts to aquifers are anticipated.	7.11
(5) Human health and safety	No adverse impacts to human health and safety are anticipated.	7.5
(6) Animal health and safety	No adverse impacts to animal health and safety are anticipated. However, if threatened or endangered species are identified during construction, USFWS would be contacted immediately.	7.15, 7.16
(7) Plant life	Temporary and permanent vegetation impacts would occur during construction. Approximately 14.9 acres of mixed-grass prairie would be temporarily impacted and 5.5 acres permanently impacted by the project.	7.14

SELECTION CRITERIA	POTENTIAL ADVERSE EFFECT FROM PROJECT	SECTION ADDRESSED
(8) Temporary and permanent housing	No adverse impacts to temporary and permanent housing are anticipated.	N/A
(9) Temporary and permanent skilled and unskilled labor	Short-term economic benefits may occur to temporary and permanent skilled and unskilled labor during construction. No long-term adverse impacts are anticipated.	3.6
<i>The cumulative effects of the location of the facility in relation to existing and planned facilities and other industrial development.</i>		
Cumulative effects	No effects anticipated. The project would be located in an area where similar equipment exists and would comply with local ordinances.	7.17

### 3.4. Policy Criteria<sup>5</sup>

Per section 69-06-08-01 of the North Dakota Administrative Code, the PSC may give preference to an applicant that will maximize benefits through the adoption of up to 13 criteria related to the applicant’s policies and practices (the PSC may also require the adoption of such policies and practices). The table below identifies those 13 criteria and describes whether and how the applicant’s policies and practices are consistent with these policy criteria. Please refer to **Table 5. Summary of Policy Criteria**. In addition, the PSC may also give preference to an applicant that will maximize interstate benefits.

**Table 5. Summary of Policy Criteria**

POLICY CRITERIA	APPLICANT’S POLICIES AND PRACTICES	SECTION ADDRESSED
Recycling of the conversion byproducts and effluents	None	N/A
Energy conservation through location, process, and design	The proposed project has been designed to maximize energy conversion where available.	1.3
Training and utilization of available labor in this state for the general and specialized skills required	The proposed project is anticipated to create approximately 50 temporary construction/skilled labor jobs and 2 long-term jobs; local construction companies would be provided the opportunity to bid or subcontract on portions of the project.	3.6
Use of a primary energy source or raw material located within the state	None.	N/A
Nonrelocation of residents	No relocation of residences is anticipated.	N/A
The dedication of an area adjacent to the facility to land uses such as recreation, agriculture, or wildlife management	The proposed project is not anticipated to impact adjacent land uses and no dedication of adjacent areas is planned.	N/A
Economies of construction and operation	Temporary construction jobs would be created, as well as two permanent jobs. All project phases would be bid out, giving local contractors the opportunity to bid for the project.	3.6, 7.2
Secondary uses of appropriate associated facilities for recreation and the enhancement of wildlife	None	N/A

<sup>5</sup> As defined in North Dakota Administrative Code 69-06-08-01 policy criteria is defined as “criteria” that guide and govern the selection of energy conversion facility sites and transmission facility corridors and routes in order to maximize benefits during the construction and operation of a facility.

POLICY CRITERIA	APPLICANT'S POLICIES AND PRACTICES	SECTION ADDRESSED
Use of citizen coordinating committees	None	N/A
A commitment of a portion of the energy produced for use in this state	Power produced from the SCCT would be distributed as outlined in MISO regulations to assist in meeting Montana-Dakota's generation requirements for its integrated service territory including ND customers.	PSC Case No. PU-11-158 and PU-11-395
Labor relations	No impacts to labor relations are anticipated.	N/A
The coordination of facilities	The proposed facility would be sited by the existing Heskett Station to reduce land use impacts and increase proximity to resources that could be shared between the SCCT and Heskett Station.	PSC Case No. PU-11-395; Section 4
Monitoring of impacts	Best Management Practices would be in place wherever possible.	7.0

### 3.5. Design and Construction Limitations

In addition to the design and construction limitations associated with avoidance and exclusion areas as previously discussed, additional limitations were considered while choosing a location for the proposed SCCT. These limitations included the site's proximity to water supply, proximity to natural gas supply and environmental considerations.

### 3.6. Economic Considerations

The addition of the 88 MW SCCT would allow Montana-Dakota to meet future electricity demands while taking customer impacts, such as electrical prices and reliability of service, into consideration. Economic benefits may occur to temporary skilled and unskilled labor during construction; approximately 50 temporary jobs would be created during construction. In addition, two incremental, permanent jobs would be created at the Heskett Station with the addition of the SCCT.

## 4. GENERAL DESCRIPTION OF PROPOSED FACILITY

### 4.1. Simple Cycle Combustion Turbine Technology

Simple-cycle combustion turbines are primarily used to supply capacity and a limited amount of energy, as they are generally fueled by natural gas or fuel oil, which is more costly than coal. The turbine specifically proposed is a General Electric (GE) PG7121(EA) frame-type combustion turbine packaged power plant (7EA) designed to produce 88 MW of gross power output at average ambient site-specific conditions. The turbine would be fueled by natural gas.

A combustion turbine is an internal combustion engine and the primary components are a rotating compressor, a combustion chamber, a rotating downstream turbine and an exhaust system. Ambient air is compressed in the compressor section. Fuel is then mixed with the compressed air and ignited in the combustor/combustion chamber. The combustion byproducts (exhaust gases) from the combustion chamber are routed downstream

to the turbine. The high volume and velocity of the exhaust gases expand into the turbine and drive the turbine blades to generate mechanical power. An electric generator converts the mechanical power produced from the turbine to electrical power, which is then supplied to the high-voltage electric grid by Montana-Dakota.

#### 4.2. Layout of the Facility

The components of a SCCT include a compressor, combustor, power turbine and generator. For this SCCT, the inlet system would have an 8-foot silencer and the exhaust discharge stack would be 58 feet above the existing ground elevation. Please refer to [Figure 1. SCCT Diagram](#). Potential facility layouts are located in [Appendix A, Figures](#).

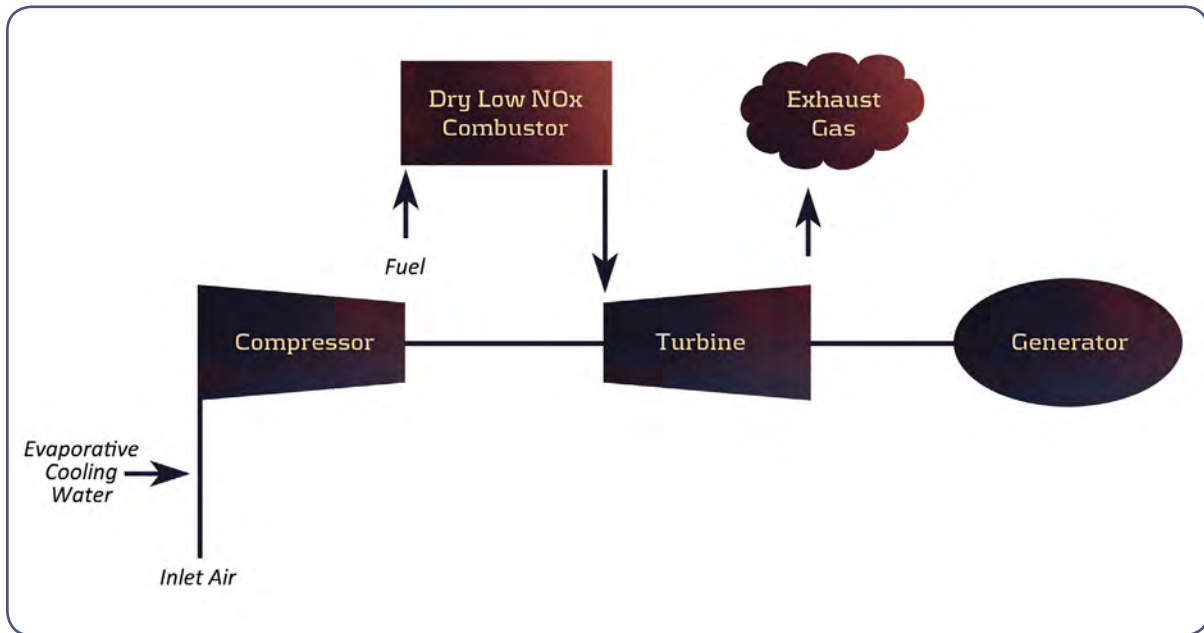


Figure 1. SCCT Diagram

#### 4.3. Associated Facilities

In addition to the equipment associated with the SCCT itself, a multi-purpose Service Building would be constructed near the SCCT to house a secondary control room, a maintenance shop, a parts warehouse, an electrical switchgear room, and space for other service-related equipment. A reserve water tank may also be located on-site near the Service Building.

An Onsite Wastewater Treatment System (OWTS), which would include a septic tank and leach field, would be installed for the SCCT. The OWTS would serve the Service Building and would be designed per the Morton County Custer Health District regulations and North Dakota Administrative Code 62-03.1-03 for Private Sewage Disposal Systems.

A description of the facilities required for the electrical interconnection can be found in Section 6.1.3.

The SCCT would be fueled by natural gas, which would require the construction of a 24-mile natural gas pipeline that would interconnect with the Northern Border Pipeline. A natural gas metering station would be constructed on the SCCT site, and may include a natural gas fired line heater and a natural gas conditioning and regulation

skid. The natural gas pipeline will be permitted under a separate application to the PSC and constructed/operated by Montana-Dakota.

#### **4.4. Land Rights**

Montana-Dakota currently owns the property that includes the proposed project area.

## **5. PROPOSED SITE**

### **5.1. Identification of Project Site**

The proposed site was chosen based on a number of selection criteria, including proximity to transmission lines, natural gas and water supply, and environmental permitting. As described in [Section 1.2. Flexibility in Siting](#), three sites were selected for final evaluation, with the proposed site being located in Mandan, North Dakota.

## **6. ENGINEERING AND OPERATIONAL DESIGN ANALYSIS**

This section provides an overall summary of the proposed project, including project layout and associated facilities, turbine components, electrical systems, construction and operation and maintenance schedules.

### **6.1. Project Layout and Associated Facilities**

#### **6.1.1. Description of Simple-Cycle Combustion Turbine**

A combustion turbine is an internal combustion engine and the primary components are a rotating compressor, a combustion chamber, a rotating downstream turbine and an exhaust system. Ambient air is compressed in the compressor section. Fuel is then mixed with the compressed air and ignited in the combustor/combustion chamber. The combustion byproducts (exhaust gases) from the combustion chamber are routed downstream to the turbine. The high volume and velocity of the exhaust gases expand into the turbine and drive the turbine blades to generate mechanical power. An electric generator converts the mechanical power produced from the turbine to electrical power, which is then supplied to the high-voltage electric grid by Montana-Dakota. For additional facility descriptions, please see [Section 4.3. Associated Facilities](#) and reference the proposed site layout plans located in [Appendix A, Figures](#).

#### **6.1.2. Lightning Protection**

The highest structure associated with the SCCT is the exhaust stack. It is anticipated that lightning arrestors would be utilized for this structure.

#### **6.1.3. Description of Electrical Interconnection**

A generator step-up (GSU) transformer and associated breakers, disconnects, relays, metering devices, dead-end structures, and non-segregated bus ducts would be employed for the electrical interconnection. An existing

short (approximately 500 feet) radial 115 kV overhead transmission line from the SCCT site to the Heskett Station switchyard would be modified to become the SCCT interconnect.

## **6.2. Construction Management**

Montana-Dakota would provide a project manager to oversee all contractors and construction activities.

## **6.3. Foundation Design**

Based on the geotechnical characteristics of the proposed site location, over-excavations and/or pier foundations may be required.

## **6.4. Civil Works**

Civil works associated with the SCCT would include excavation, foundations, underground conduit and duct banks, backfill, grading and landscaping.

## **6.5. Commissioning**

A commissioning team would perform all aspects typical for final checkout and commercial acceptance of a combustion turbine power plant.

## **6.6. Project Operation and Maintenance**

### **6.6.1. Maintenance Schedule**

A SCCT utilized in a peaking application (such as the one proposed in this application) typically has flexibility for scheduling minor annual maintenance outages at different times of the year to coordinate best with the Independent System Operator (ISO) requirements. Minor maintenance outages can typically be completed during an 8- to 10-hour shift. Major inspections, such as combustion inspections, hot gas path inspections and major overhauls, are planned in advance and are based on original equipment manufacturer (OEM) guidelines for factored startups and operating hours.

### **6.6.2. General Maintenance Duties**

Based on the proposed OEM guidelines, general maintenance would include: servicing the battery system, changing filters, checking oil and coolant levels, cleaning relays, checking device calibrations and performing periodic test runs.

### **6.6.3. Operations and Maintenance Facility**

The existing main control room and shop facility at the Heskett Station would be utilized for SCCT operation. In addition, a secondary control room and shop facility would be housed in a new Service Building to be constructed near the SCCT equipment.

## 6.7. Decommissioning and Restoration

At which time the SCCT is no longer needed, Montana-Dakota would evaluate removal of facilities and equipment and restoration of the site to pre-construction conditions.

## 7. ENVIRONMENTAL ANALYSIS

This section describes the existing conditions within the project area. The existing conditions, or affected environment, are the baseline conditions that may be affected by the proposed project. This section discusses the direct environmental impacts of each project alternative. Indirect impacts are identified in the resource discussions where applicable. Mitigation measures, such as Best Management Practices (BMPs), which would avoid, minimize or mitigate impacts, are discussed where appropriate.

In order to allow for flexibility in final siting and implementation of further avoidance and/or minimization measures, three SCCT sites were analyzed. Impacts discussed in the following sections are related to the Mandan site, which was chosen by Montana-Dakota as the preferred site.

### 7.1. Description of Environmental Setting

The proposed site is located on land currently owned by Montana-Dakota, adjacent to the Heskett Station, near Mandan, North Dakota. The proposed site is north of 38<sup>th</sup> Street Northwest and east of Highway 1806. The Missouri River is located approximately 0.3 miles to the east. The city of Mandan is south of the proposed project site, while the city of Bismarck is to the east, across the Missouri River.

### 7.2. Demographics

The proposed site is located near the City of Mandan, Morton County, North Dakota. The 2010 Census reported that the total population of Morton County was 27,471, with 18,331 people in Mandan. Median household income was \$53,054 in 2009. Additionally, 10.1 percent of the county was below the poverty level.

#### 7.2.1. Demographics Impacts/Mitigation

Alternative A (No Build): Alternative A would not affect the demographics of Morton County, North Dakota.

Alternative B (Build): The proposed project would result in a reliable, stable, low cost, generation supply resource to serve Montana-Dakota customers in Morton County and its integrated electric system. It is not anticipated that the project would alter long-term population trends. In addition, the project would create approximately 50 temporary jobs during construction and 2 permanent jobs at the Heskett Station, all of which would benefit the local economy. No mitigation is required.

### 7.3. Land Use

The project area is located near the city of Mandan, North Dakota. The property for the proposed project area is located on land currently owned by Montana-Dakota and adjacent to the Heskett Station. The area is predominantly grassland, according to the USDA's National Agricultural Statistics Service (NASS) land classifications. Please refer to *Figure 2, Land Use* in *Appendix A, Figures*.<sup>6</sup>

<sup>6</sup> This figure was created using USDA's NASS data.

### 7.3.1. Land Use Impacts/Mitigation

Alternative A (No Build): Alternative A would not impact land use.

Alternative B (Build): Construction of the project would result in approximately 14.9 acres from the proposed site to be temporarily converted from its current state, with 5.5 acres of permanent conversion, to the SCCT and associated facilities. Temporary land conversion associated with construction staging areas would cease following construction and would be returned to pre-construction land uses. It is not anticipated that the conversion of existing land use would result in a trend toward modification of existing land use patterns. Conflicts with the existing development plans of state, local or private entities within the project area are not anticipated as the project avoids developed areas. Adverse impacts to land use are not anticipated; therefore, no mitigation is proposed.

## 7.4. Air Quality

The *Clean Air Act*, as amended, requires the EPA to establish air quality standards for pollutants considered harmful to public health and the environment by setting limits on emission levels of various types of air pollutants. In addition, the NDDH has established state air quality standards which must be as stringent as (but may be more stringent than) federal standards.

Montana-Dakota submitted an *Application for a PSD Permit to Construct a Simple Cycle Combustion Turbine at R. M. Heskett Station* (Air Permit Application) to the NDDH on May 4, 2012 for the proposed SCCT. In addition, an Acid Rain Permit was submitted to the NDDH. Air emissions calculations, Best Available Control Technology (BACT) reviews for emissions, air modeling results and regulatory applicability of the SCCT project are addressed in detail in the permit application. Since initial submittal, the NDDH has requested additional information from Montana-Dakota in order to deem the permit application complete. Montana-Dakota has provided additional information to the NDDH and will provide an updated or supplemented Air Permit Application to the NDDH in the near future.

Criteria pollutants tracked under US EPA's National Ambient Air Quality Standards (NAAQS) in the *Clean Air Act* include sulfur dioxide (SO<sub>2</sub>), particulate matter (PM), nitrogen dioxide (NO<sub>2</sub>), ozone (O<sub>3</sub>), lead (Pb) and carbon monoxide (CO). The NDDH operates a network of Ambient Air Quality Monitoring (AAQM) stations that monitor for NAAQS compliance. The nearest AAQM station to the proposed project is located in Bismarck, North Dakota (Bismarck Residential 380150003), measuring SO<sub>2</sub>, NO<sub>2</sub>, O<sub>3</sub>, particulate matter of less than 2.5 microns (PM<sub>2.5</sub>), particulate matter of less than 10 microns (PM<sub>10</sub>) and meteorological data. The federal and state air quality standards for these pollutants are summarized in [\*\*\*Table 6. Federal and State Air Quality Standards and Reported Data for Bismarck Residential AAQM\*\*\*](#), along with the most recent AAQM data from the Bismarck Residential monitor as provided in the *North Dakota Air Quality Monitoring Data Summary 2010*.

**Table 6. Federal and State Air Quality Standards and Reported Data for Bismarck Residential AAQM**

POLLUTANT	AVERAGING PERIOD	EPA AIR QUALITY STANDARD		NDDH AIR QUALITY STANDARD		BISMARCK RESIDENTIAL 2010 REPORTED DATA	
		µg/m <sup>3</sup>	PARTS PER MILLION	µg/m <sup>3</sup>	PARTS PER MILLION	µg/m <sup>3</sup>	PARTS PER MILLION
SO <sub>2</sub>	1-hour	196	0.075	196	0.075	—	0.058
	24-Hour	365	0.14	260	0.099	—	0.009
PM <sub>10</sub>	24-Hour	150	—	150	—	46	—
	Annual Mean	50	—	50	—	13.9	—
PM <sub>2.5</sub>	24-Hour	35	—	35	—	20.1	—
	Weighted Annual Mean	15	—	15	—	7.65	—
NO <sub>2</sub>	1-hour	188	0.100	188	0.100	—	0.045
	Annual Mean	100	0.053	100	0.053	—	0.038
CO*	1-Hour	40,000	35	40,000	35	—	—
	8-Hour	10,000	9	10,000	9	—	—
Pb*	3-Month	0.15	—	0.15	—	—	—
O <sub>3</sub>	8-Hour	147	0.075	147	0.075	—	0.063

\*Pollutant not measured at the Bismarck Residential AAQM.

North Dakota was one of thirteen states in 2009 that met standards for all criteria pollutants. The state also met standards for fine particulates and the eight-hour ozone standards established by the US EPA (NDDH, 2010).

The proposed SCCT would combust only natural gas fuel and would be equipped with GE’s newest inherently low mono-nitrogen oxides (NO<sub>x</sub>) formation combustion technology referred to as “dry low NO<sub>x</sub>” (DLN). The SCCT is designed to supply peak demand power requirements and is expected to be permitted to operate up to 7,350 hours annually. Additionally, the SCCT is designed as an independent peaking unit and other significant emissions unit additions to Heskett Station are not required for installation and operation of the SCCT, with the exception of the associated natural gas pipeline and fuel line heater, which are considered insignificant emission sources under the Title V program.

After the SCCT commences operation at Heskett Station, the Heskett Station Title V permit would be amended accordingly to include the permit limits, reporting, recordkeeping and compliance monitoring requirements for the SCCT. Please see the Air Permit Application for detailed information on these requirements.

The combustion emissions, in tons per year (tpy), associated with the SCCT are summarized in **Table 7. Summary of Project Emissions Increase**. Detailed explanation of emissions calculations are provided in the Air Permit Application. The emissions summarized in **Table 7** serve as the basis for conducting ambient impacts analyses and BACT reviews. The SCCT emissions increase for each pollutant emitted in appreciable quantities is compared to the significant emission rates (SERs) in 40 CFR 52.21(b)(23) to determine if the SCCT is a major modification to Heskett Station.

**Table 7. Summary of Project Emissions Increase**

	CO	NO <sub>x</sub>	PM	PM <sub>10</sub>	PM <sub>2.5</sub>	SO <sub>2</sub>	VOC	CO <sub>2</sub> e
Project Increase (tpy)	235.4	159.7	24.4	24.4	24.4	18.4	8.4	413,198
PSD SER (tpy)	100	40	25	15	10	40	40	75,000

#### 7.4.1. Air Quality Impacts/Mitigation

Alternative A (No Build): Alternative A would not result in air quality impacts.

Alternative B (Build): In summary, installation and operation of the SCCT would result in an increase in emissions of CO, NO<sub>x</sub>, PM<sub>10</sub>, PM<sub>2.5</sub> and greenhouse gases as CO<sub>2</sub>e, however, the SCCT would not pose a risk to the health and welfare of human populations, wildlife, soils or vegetation in the area. Analyses discussed below and in the Air Permit Application have demonstrated that the SCCT would have an insignificant impact on the NAAQS, and potential hazardous air pollutants emitted from the SCCT would be below North Dakota Department of Health levels of concern.

The SCCT would result in an increase in emissions of CO, NO<sub>x</sub>, PM<sub>10</sub>, PM<sub>2.5</sub> and greenhouse gases as CO<sub>2</sub>e that exceeds the corresponding SER thresholds for a major modification to an existing major stationary source. Specifically, the CO threshold of 100 tpy, the NO<sub>x</sub> threshold of 40 tpy, the PM<sub>10</sub> threshold of 15 tpy, and the PM<sub>2.5</sub> threshold of 10 tpy, and the carbon dioxide equivalent (CO<sub>2</sub>e) measurement threshold for GHGs of 75,000 tpy triggers the provisions of a major modification under the Prevention of Significant Deterioration (PSD) rules. As such, a BACT analysis was conducted for CO, NO<sub>x</sub>, PM<sub>10</sub>, PM<sub>2.5</sub>, and GHGs for the SCCT Project and emissions limits were proposed for these pollutants. Emission increases of all other criteria pollutants (i.e., SO<sub>2</sub>) do not exceed their respective SERs for this project.

Also, NAAQS analyses were considered for significant emissions of CO, NO<sub>x</sub>, PM<sub>10</sub>, and PM<sub>2.5</sub>. Since there is no NAAQS established for CO<sub>2</sub>e, no NAAQS review was required for CO<sub>2</sub>e.

##### NAAQS Analysis

It was determined that the pollutant emissions requiring NAAQS analysis for the SCCT were limited to NO<sub>2</sub> emissions for the 1-hr NO<sub>2</sub> NAAQS, as discussed in the Air Permit Application. The other significant pollutant emissions of NO<sub>2</sub> (for the annual standard), CO, PM<sub>10</sub> and PM<sub>2.5</sub> were determined through initial calculations or modeling to contribute insignificantly to ambient concentrations. Since the NO<sub>2</sub> emissions for the 1-hr NAAQS from the SCCT were shown through preliminary modeling to be potentially significant, cumulative modeling was conducted which included modeling emissions from nearby sources per the requirements of the *Clean Air Act*. Cumulative modeling showed that combined impacts of the SCCT with other sources in the area would result in a 1-hr NO<sub>2</sub> ambient concentration of 109 ug/m<sup>3</sup>, occurring on higher terrain to the southwest of the SCCT. This concentration was the highest predicted per the modeling protocol and is well below the 1-hr NO<sub>2</sub> NAAQS of 188 ug/m<sup>3</sup>.

##### State Air Toxics Analysis

An analysis was required for potential emissions of hazardous air pollutants (HAP) from the SCCT and existing Heskett Station coal-fired units. The facility-wide potential to emit for HAP was calculated to be less than the 25 tons per year for all combined HAP and less than 10 tons per year for any individual HAP. Thus, Heskett Station would remain an area source of HAP emissions with the addition of the SCCT.

An analysis was completed to determine whether HAP emissions from the proposed SCCT would pose a concern to public health. The North Dakota state air toxics policy was used to determine the health-related risks represented by proposed new HAP emissions. In order to determine compliance with the NDDH *Policy for the Control of Hazardous Air Pollutant Emissions in North Dakota*, a tiered analysis was completed and includes dispersion modeling to be used to determine the maximum off-property, ground-level ambient concentration of each HAP emitted.

Montana-Dakota conducted Tier I analysis using NDDH's state air toxics policy, resulting in a calculated total Maximum Individual Carcinogenic Risk (MICR) and Hazard Index that were over the established thresholds; therefore, all HAPs were required to be analyzed using the Tier II approach. Through the Tier II analysis, Montana-Dakota demonstrated with modeling that the MICR of all HAP emitted by the SCCT, in aggregate, is 0.015 E-06, which is less than the NDDH *Policy for the Control of Hazardous Air Pollutant Emissions in North Dakota* threshold of 1.0 E-06. In addition, the Hazard Index value calculated for the SCCT HAP emissions, in aggregate, was 0.064, less than the allowable Hazard Index of 1.0 for a new source.

The MICR and the Hazard Index values were below the respective thresholds for each chemical category; therefore, the proposed SCCT is in compliance with the NDDH air toxics policy and no mitigation for state-level standards is required.

#### *BACT Reviews*

BACT reviews were completed for CO, NO<sub>x</sub>, PM<sub>10</sub>, PM<sub>2.5</sub> and GHGs as CO<sub>2</sub>e since the SCCT's potential emissions of each of these pollutants surpassed the respective PSD SER thresholds as shown in [Table 7](#). Individual pollutant BACT reviews included consideration of the feasible and available control technologies for each respective pollutant. Control technologies were ranked by overall control efficiency and cost effectiveness to determine the appropriate technology that would be the most appropriate BACT for the pollutant. Other considerations in the BACT review included the energy and environmental impacts for each of the control options. [Table 8. BACT Determinations by Pollutant](#) shows the BACT determinations for each pollutant and proposed mitigation measures.

**Table 8. BACT Determinations by Pollutant**

POLLUTANT	BACT TECHNOLOGY PROPOSED
PM <sub>10</sub>	Good combustion practices, the inherent low particulate formation of natural gas, and the low sulfur content of the natural gas
PM <sub>2.5</sub>	Good combustion practices, the inherent low particulate formation of natural gas, and the low sulfur content of the natural gas
NO <sub>x</sub>	Dry Low NOX (DLN) combustion technology
CO	Good combustion practices
CO <sub>2</sub> e	Highly energy efficient GE 7EA combustion turbine technology

## 7.5. Public Services

### *Electrical Services*

Electrical service in the project area is provided by Montana-Dakota. Several overhead transmission lines are currently located within the project area. Please refer to [Figure A-3. Electric Transmission Lines](#) in [Appendix A, Figures](#), for a map of electric transmission lines in the vicinity of the project area.

### *Local Services*

The project area is located near the City of Mandan, in Morton County, North Dakota. The city provides sewer and water services, as well as many recreational opportunities including two golf courses and parks. Triumph Healthcare, located in Mandan, is the closest facility providing medical services. The facility is a 41-bed, critical care center. St. Alexius Medical Center and Medcenter One are also hospitals located in the neighboring city of Bismarck. Local medical services also include dental, chiropractic, veterinary, and nursing home/assisted living facilities. Several public elementary, middle, and high schools are also located in Mandan, along with two private elementary schools.

Midcontinent Communications and CenturyLink provide residential telephone, internet and/or cable services around the area. No responses from other utilities were received during the scoping mailing; however, it is likely that other utilities could be present in the area.

### *Roads*

Major roadways near the project area include ND Highway 1806 approximately 0.7 miles to the west and Interstate 94 approximately 1.8 miles to the south. Other roadways in the project area include 38<sup>th</sup> Avenue North-west and 38<sup>th</sup> Street. Please refer to [Figure A-4. Transportation](#) in [Appendix A, Figures](#).

### *Traffic*

Traffic counts have not been conducted for roadways within the project area; however, traffic counts have been completed for surrounding roadways. Based on the North Dakota Department of Transportation's (NDDOT) 2009 Traffic Volume Map, it is estimated that daily traffic for ND Highway 1806 west of the project area is 3,465 vehicles per day. Most of the traffic loads on the roadways to the project area can be attributed to vehicles visiting the Heskett Station or the Tesoro Petroleum Refinery.

### *Water Supply*

The main use of water associated with the SCCT is for evaporative cooling which is expected to be used periodically in the summer months. The water supply for the SCCT would either be shared with the Heskett Station water intake system, which is supplied directly from the Missouri River, or would come from the local rural/municipal water system. Small amounts of water would also be needed for sanitary use at the SCCT Service Building.

### 7.5.1. Public Service Impacts/Mitigation

#### *Electrical Services*

Alternative A (No Build): Alternative A would not provide the additional capacity Montana-Dakota forecasts will be needed in the future; therefore electrical supply may not be reliable if new methods to meet this demand are not implemented.

Alternative B (Build): Alternative B would provide additional capacity to Montana-Dakota for their customers, ensuring reliable electrical supply. No mitigation is required.

*Local Services*

Alternative A (No Build): Alternative A would not impact local services.

Alternative B (Build): Impacts to local services in and around the project area are not anticipated as a result of Alternative B. No mitigation is required.

*Roads*

Alternative A (No Build): Alternative A would not impact roads.

Alternative B (Build): Alternative B would not require the construction of additional off-site roads. Existing roads at the Heskett Station would be utilized to access the proposed SCCT; several new on-site roads would also be constructed. A temporary increase in size and type of vehicles using roads to the project site would occur during construction of the SCCT, but would cease once construction was complete. Haul road permits would be acquired where required. No mitigation is required.

*Traffic*

Alternative A (No Build): Alternative A would not impact traffic.

Alternative B (Build): It is anticipated that an increase in traffic would occur during construction of the SCCT, but that it would return to previous levels once construction was completed. Additional traffic would be expected from workers, large trucks delivering equipment and maintenance vehicles. Traffic related to maintenance and operation of the SCCT is expected to be minor. The temporary increase in traffic is not expected to be at a volume that would alter travel patterns in the area. Permits for transportation of large equipment would be required from the North Dakota Department of Transportation prior to construction and would be the responsibility of the contractor. Mitigation would not be required.

*Water Supply*

Alternative A (No Build): Alternative A would not impact water supply.

Alternative B (Build): Alternative B would consist of either connecting the SCCT to the existing Heskett Station water treatment system, or connecting to the existing rural/municipal water system for the SCCT's evaporative cooling needs. Other withdrawals associated with the SCCT, utilizing the same water sources as above, are expected to be minimal, mainly associated with sanitary use at the SCCT Service Building.

Montana-Dakota was granted a water appropriations permit, Water License No. 463 and priority date of November 19, 1952, to divert and appropriate water for industrial purposes from the Missouri River. This permit limits beneficial use of Missouri River water to 55,000 gallons per minute. Heskett Station has used a maximum of approximately 51,000 gallons of water per minute in the past with the majority used for non-contact cooling purposes. If the SCCT is connected to the existing Heskett Station's water treatment system, no additional withdrawal from the Missouri River is expected since the treatment system water comes from the cooling water discharged back to the river. However, consumptive water use could increase over existing levels at the Heskett Station because additional water is removed from the cooling water discharge to provide evaporative cooling needs for the SCCT. Any increase in consumptive water use would be conducted in accordance with Montana-Dakota's existing water appropriations permit limits.

If water is taken from a rural/municipal water system, additional water may be withdrawn from wells or a water body to meet the consumptive water needs of the SCCT.

Either option would result in an increase of consumptive water use from wells or water bodies. However, due to the small amount of increase in consumptive use projected for the SCCT, minimal impacts to water supply are anticipated and no mitigation is proposed.

## 7.6. Human Health and Safety

### *Hazardous Materials/Hazardous Waste*

The *Resource Conservation and Recovery Act (RCRA)*, as amended by the Hazardous and Solid Waste Amendments of 1984, requires all generators, transporters, treaters, storers and disposers of hazardous waste to provide information about their activities to state environmental agencies. A search using the EPA's EnviroMapper shows that two locations within one mile of the proposed project location report hazardous waste activity through the RCRA: the Montana-Dakota Heskett Station and the Tesoro Mandan Refinery. Heskett Station is licensed as a Conditionally Exempt Small Quantity Generator (CESQG) of hazardous wastes. A site with CESQG status generates hazardous wastes in small quantities. Generally, this means generating 220 pounds or less per month of hazardous wastes and not accumulating more than 2,200 pounds of hazardous waste at any one time. EnviroMapper shows that both entities also report toxic chemical information through the Toxics Release Inventory (TRI) and the *Toxic Substances Control Act* of 1976.

### *Security*

Existing security measures at the site include a fence around the perimeter of the property, locked gates and a check-in system for visitors.

### 7.6.1. Human Health and Safety Impacts/Mitigation

#### *Hazardous Materials/Hazardous Waste*

Alternative A (No Build): Alternative A would have no impacts on hazardous materials.

Alternative B (Build): The SCCT may use very small quantities of hazardous materials and may then generate very small quantities of hazardous waste periodically. Due to the small amounts of hazardous waste that may be generated at the SCCT, the materials can be managed under the current CESQG status at Heskett Station. No additional hazardous waste permitting is anticipated. Mitigation for hazardous waste generation for the SCCT entails minimization of hazardous materials use and proper management and disposal of these materials.

#### *Security*

Alternative A (No Build): Alternative A would have no impacts to the security of the area or the existing Heskett Station.

Alternative B (Build): Existing security measures at the site would be maintained and utilized for the SCCT. Additional security measures may be utilized based on the North American Electric Reliability Corporation (NERC) requirements. Because of the planned security measures, no impacts to security are expected and no mitigation is proposed.

## 7.7. Noise

A sound assessment was conducted by KLJ on October 26-28, 2011. Results from this assessment can be found in [Appendix E, Noise Assessment](#). During the field assessment, two sites were monitored for a 24-hour period to establish baseline conditions. Measurements were also taken at two additional sample points to identify potential impacts.

### 7.7.1. Noise Impacts/Mitigation

Alternative A (No Build): Alternative A would not result in noise impacts.

Alternative B (Build): Baseline conditions recorded within the project area indicate that the area is currently in compliance with the city of Mandan's Ordinance No. 1090, which sets sound level limits for certain zoned areas.

Predicted noise levels resulting from the proposed SCCT would not cause a perceptible increase in the existing sound levels measured. No mitigation for noise impacts would be required, though noise levels would be taken into consideration in the SCCT design.

### **7.8. Cultural Resources**

A Class III Cultural Resource Survey was conducted by KLJ on September 19, 2011. No new cultural resource sites were found. The North Dakota State Historic Preservation Office (ND SHPO) concurred with a *No Historic Properties Affected* determination on September 16, 2011. This correspondence can be found in [Appendix C, Letters and Responses](#). No impacts to cultural resources are expected; therefore, no mitigation is required. If cultural resources were encountered during construction, work would be stopped and ND SHPO would be contacted for instructions on how to proceed.

### **7.9. Recreational Resources**

Numerous recreational opportunities exist around the proposed project site. Two golf courses are located in Mandan; the 9-hole Mandan Municipal Golf Course and the 18-hole Prairie West Golf Course. The city of Mandan also has a water park, archery range, aquatic center, community gardens and plentiful parks and trails. In addition, Morton County maintains numerous parks, dams, lakes and other recreational areas: Heskett Power Plant Public Fishing Stairway is located in close proximity to the proposed project site; the Missouri River Natural Area and Trailhead is south of the proposed project site and includes 157 acres of trails, fishing access and preserved woodland.

Additional recreation opportunities exist across the river from the proposed project site in Bismarck. The Bismarck Parks and Recreation Department offers access to three golf courses, a racquet and fitness center, aquatic facilities and an extensive system of parks and trails. Two semi-private golf courses are also located in Burleigh County.

#### **7.9.1. Recreational Resources Impacts/Mitigation**

Alternative A (No Build): Alternative A would not impact recreational resources in the area.

Alternative B (Build): Impacts to recreational resources from construction of the proposed SCCT would be visual in nature. Users of the Heskett Power Plant Public Fishing Stairway may be able to view the SCCT. However, because of the existing Heskett Station and Tesoro Petroleum Refinery, the SCCT would marginally increase the visual impacts of the area. Noise related impacts are also not anticipated to affect recreational resources in the area because of the SCCT's close proximity to the aforementioned industrial facilities. No mitigation is required for the minor impacts.

### **7.10. Land-Based Economics**

The proposed project site is located on land that is currently owned by Montana-Dakota. The United States Department of Agriculture (USDA) Web Soil Survey identified the area as being classified as farmland of statewide importance under the *Farmland Protection Policy Act* (FPPA). However, in a letter dated September 30, 2011, the USDA Natural Resource Conservation Service stated that the land is not protected under FPPA as no federal funding or actions are associated with the proposed project.

### 7.10.1. Land-Based Economics Impacts/Mitigation

Alternative A (No Build): Alternative A would not impact land-based economics.

Alternative B (Build): Alternative B would permanently convert grassland into industrial-use land. Currently, the grassland is not used for any revenue-generating purpose and is not irrigated. The conversion to the SCCT site would not adversely impact land-based economics; no mitigation is required.

## 7.11. Soils

Three soil types were identified using the USDA's Web Soil Survey at the proposed project site: Temvik-Wilton silt loams, Mandan-Linton silt loams and Linton-Mandan silt loams. Loamy soils are a broad textural class of soils that contain a mixture of sand, silt and clay particles. While most soils contain some mixture of these three particles, an ideal loam exhibits the properties of sand, silt, and clay in approximately equal proportions (not equal amounts). The presence of clay in a soil has a greater influence on a soil than the presence of silt or sand; therefore, a soil name can include the modifier "clay" with as little as 20 percent clay, while a soil must contain at least 40 percent sand or 45 percent silt in order to contain those respective modifiers in its name. The soils identified at the proposed project site are silt loams of medium texture. All three soil types identified are also classified as farmland of statewide importance.

### 7.11.1. Soils Impacts/Mitigation

Alternative A (No Build): Alternative A would have no impact on soils.

Alternative B (Build): Impacts to soils associated with the project are not expected to be significant. Soil impacts would be localized and BMPs would be implemented to minimize these impacts. Surface disturbance caused by construction of the SCCT and associated infrastructure would result in the soil surface becoming more prone to wind and water erosion. Another soil resource issue is soil compaction, which can occur by use of heavy equipment. Silt and clay soils are especially susceptible to this. BMPs may include the use of erosion and sediment control during and after construction, segregating topsoil from subsurface materials, reseeding of disturbed areas, use of construction equipment appropriately sized to the scope and scale of the project, ensuring access road grades fit closely with the natural terrain and maintaining proper drainage.

Given the low levels of air emissions associated with the SCCT, no adverse impacts are expected to result to soils in the region or in the immediate vicinity of Heskett Station.

Correspondence with NRCS indicated that the *Farmland Protection Policy Act* does not apply to this project; please see letter dated September 30, 2011 in [Appendix C, Letters and Responses](#). No adverse impacts to soils are expected and no mitigation would be required.

## 7.12. Geologic and Groundwater Resources

As identified by the United States Geological Survey Northern Prairie Wildlife Research Center, the proposed project location is in an ecoregion defined as the River Breaks. This region is made up of broken terraces and uplands surrounding the Missouri River. The surface material and bedrock is generally soft and easily erodible strata, such as tertiary sandstone and shale.

Correspondence dated October 7, 2011, with the ND State Water Commission did not identify any concerns with groundwater resources. Please see the letter located in [Appendix C, Letters and Responses](#).

### 7.12.1. Geologic and Groundwater Resources Impacts/Mitigation

Alternative A (No Build): Alternative A would not impact geologic and groundwater resources.

Alternative B (Build): 105 groundwater wells were identified within a one mile radius of the project area; 68 are monitoring wells, 30 are domestic wells, 3 are test holes, 2 are industrial wells and 2 are of unknown use. No wells were located with the proposed project area. Please see *Figure A-5. Groundwater Resources* in *Appendix A, Figures*. No impacts are expected to result for the construction or operation of the SCCT. Therefore, no mitigation is required.

## 7.13. Surface Water and Floodplain Resources

The proposed project location is in close proximity to the Missouri River. It is located in Floodplain Zone X as identified by the Federal Emergency Management Agency, meaning there is a 0.2 percent chance of an annual flood, one percent annual chance of a flood with average depths of less than one foot or with drainage areas less than one square mile or an area protected by levees from the one percent annual chance flood. Correspondence with the North Dakota State Water Commission confirmed that the proposed project would not impact floodplain areas.

The project area is also located in the Painted Woods-Square Butte Creek Watershed. Runoff from the project site would flow overland into the Missouri River. Please refer to *Figure A-6. Surface Waters* in *Appendix A, Figures*.

### 7.13.1. Surface Water and Floodplain Resources Impacts/Mitigation

Alternative A (No Build): Alternative A would not impact surface water or floodplain resources.

Alternative B (Build): Best managements practices would be utilized during construction to prevent erosion and control sediment in runoff, including, but not limited to, silt fences and straw waddles. Alternative B would not impact surface water or floodplain resources; no mitigation is required beyond the use of erosion prevention and sediment controls measures.

## 7.14. Wetlands

Wetlands are defined in both the 1977 Executive Order 11990, Protection of Wetlands, and in Section 404 of the *Clean Water Act* of 1986, as those areas that are inundated by surface or ground water with a frequency to support and, under normal circumstances, do or would support a prevalence of vegetation or aquatic life that requires saturated or seasonally saturated soil conditions for growth and reproduction.

A field wetland delineation was conducted on September 19, 2011. No wetlands were identified in the project area.

### 7.14.1. Wetlands Impacts/Mitigation

Alternative A (No Build): Alternative A would not impact wetlands.

Alternative B (Build): As no wetlands were located within the project area, Alternative B would not impact wetlands and no mitigation is required.

### 7.15. Vegetation

The project area consists of mixed grass prairie dominated by native plants. Vegetation of the mixed grass prairie consists mainly of wheatgrass (*Agropyron cristatum* and *Pascopyrum smithii*), bluestem (*Andropogon gerardii* and *Schizachyrium scoparium*), and needlegrass (*Achnatherum sp.*), with tall grass prairie mainly comprised of bluestem. Please refer to [Figure 2. Project Area Vegetation](#).



*Figure 2. Project Area Vegetation*

#### 7.15.1. Vegetation Impacts/Mitigation

Alternative A (No Build): Alternative A would not impact vegetation.

Alternative B (Build): Temporary and permanent vegetation impacts would occur during construction of the proposed project. Approximately 14.9 acres of mixed-grass prairie would be disturbed during construction of the SCCT, with approximately 5.5 acres permanently converted to the proposed SCCT. Following construction, the site would be regraded and contoured to facilitate drainage away from all onsite structures. All disturbed areas inside the fence line of the SCCT would be resurfaced with crushed rock aggregate and/or paved with concrete. All other temporarily disturbed areas would be re-vegetated with an NRCS approved seed mixture in a manner consistent with the surrounding vegetation.

Given the low levels of air emissions associated with the SCCT, no adverse impacts are expected to result to vegetation in the region or in the immediate vicinity of Heskett Station.

## 7.16. Wildlife

The proposed project is located in the central flyway of North America. As such, this area is used as resting grounds for many birds on their spring and fall migrations, as well as nesting and breeding grounds for many waterfowl species. Numerous mammals also inhabit this region, including white tail deer, rabbits, shrews, pocket gophers, coyote, beavers, bats and muskrat.

Protection is provided for the bald and golden eagle, as well as other migratory birds, through the *Bald and Golden Eagle Protection Act* (BGEPA) and the *Migratory Bird Treaty Act* (MBTA). The BGEPA of 1940, 16 U.S.C. 668–668d, as amended, was written with the intent to protect and preserve bald and golden eagles, both of which are treated as species of concern within the Department of the Interior. The MBTA (916 U.S.C. 703–711) regulates impacts to these species such as direct mortality, habitat degradation, and/or displacement of individual birds. The MBTA defines taking to include by any means or in any manner, any attempt at hunting, pursuing, wounding, killing, possessing, or transporting any migratory bird, nest, egg, or part thereof, except when specifically permitted by regulations. The BGEPA affords additional protection to all bald and golden eagles. Under the BGEPA, take includes to pursue, shoot, shoot at, poison, wound, kill, capture, trap, collect, molest, or disturb, wherein “disturb” means to agitate or bother a bald or golden eagle to the degree that interferes with or interrupts normal breeding, feeding, or sheltering habits, causing injury, death, or nest abandonment.

### 7.16.1. Wildlife Impacts/Mitigation

Alternative A (No Build): Alternative A would not impact wildlife.

Alternative B (Build): Ground clearing activities associated with construction of the SCCT and associated facilities may impact habitat for ground dwelling mammals and other wildlife species. While wildlife may use the project area for breeding and feeding, they are anticipated to adapt to changing conditions and continue to thrive. No mitigation measures are required for ground-dwelling animals.

Overhead, electric, transmission lines and associated facilities, such as substations, present collision and electrocution hazards for avian species. It is recommended that during design, the *Avian Protection Plan Guidelines*, a joint document prepared by The Edison Electric Institute’s Avian Power Line Interaction Committee (APLIC) and the USFWS, and *Suggested Practices for Avian Protection on Power Lines: The State of the Art in 2006*, also prepared by APLIC, be consulted to help prevent fatalities to any threatened or endangered avian species, along with other migratory birds. Electrical substation avian-safe design focuses on providing birds a safer place to land or discouraging them from landing at all. The equipment associated with the SCCT would be designed, constructed and maintained to minimize avian mortality.

The project area does provide habitat for golden eagles and is near bald eagle habitat. However, based on data gathered by the North Dakota Game and Fish Department (NDGFD) and Dr. Anne Marguerite Coyle of Dickinson State University, the nearest recorded eagle nest is located approximately 18 miles southwest of the project area. Because the Heskett Station is already operating in the area, it is unlikely that eagles or other migratory birds would nest in the area. The addition of the SCCT would make the area even less attractive to nesting birds. Furthermore, the threat of migratory bird collisions is expected to be very minimal due to the limited amount of overhead structures required for the SCCT project. No mitigation measures are required.

## 7.17. Rare and Unique Natural Resources

### 7.17.1. Threatened and Endangered Species

The proposed project site was evaluated to determine the potential for occurrences of federally-listed threatened, endangered and candidate species. As of February 2012, the United States Fish and Wildlife Service (USFWS) has listed the whooping crane, least tern, pallid sturgeon, black-footed ferret and gray wolf as endangered in Morton County; the piping plover as threatened; and the Sprague's pipit as a candidate species. Habitat requirements and other information regarding the listed species are discussed below.

#### *Whooping Crane (Grus americana)*

The whooping crane is the tallest bird in North America. In the United States, this species ranges through the Midwest and Rocky Mountain regions from North Dakota south to Texas and east into Colorado. Whooping cranes migrate through North Dakota along a band running from the south central to the northwest parts of the state. They use shallow, seasonally and semi-permanently flooded palustrine (marshy) wetlands for roosting and various cropland and emergent wetlands for feeding. During migration, whooping cranes are often recorded in riverine habitats, including the Missouri River. Currently, three wild populations of whooping cranes exist, yielding a total species population of about 383. Of these flocks, only one is self-sustaining.

#### *Interior Least Tern (Sterna antillarum)*

The interior least tern nests along inland rivers. The interior least tern is found in isolated areas along the Missouri, Mississippi, Ohio, Red, and Rio Grande Rivers. In North Dakota, it is sighted along the Missouri River during the summer nesting season. The interior least tern nests in sandbars or barren beaches, preferably in the middle of a river for increased safety while nesting. These birds nest close together, using safety in numbers to scare away predators.

#### *Pallid Sturgeon (Scaphirhynchus albus)*

The pallid sturgeon is known to exist in the Yellowstone, Missouri, middle and lower Mississippi and Atchafalaya Rivers, and seasonally in some tributaries. In North Dakota, the pallid sturgeon is found principally in the Missouri River and upstream of Lake Sakakawea in the Yellowstone River. Dating to prehistoric times, the pallid sturgeon has become well adapted to living close to the bottom of silty river systems. According to the USFWS, its preferred habitat includes "a diversity of water depths and velocities formed by braided river channels, sand bars, sand flats, and gravel bars" (2010, September 20). Weighing up to 80 pounds, pallid sturgeons are long lived, with individuals possibly reaching 50 years of age.

#### *Black-footed Ferret (Mustela nigripes)*

The black-footed ferret historically could be found throughout the Rocky Mountains and Great Plains. In North Dakota, the black-footed ferret may potentially be present within prairie dog towns. However, this species has not been confirmed in North Dakota for nearly 30 years and is presumed to be extirpated. Its preferred habitat includes areas around prairie dog towns, as it relies on prairie dogs for food and lives in prairie dog burrows. Black-footed ferrets require at least an 80-acre prairie dog town to survive.

#### *Gray Wolf (Canis lupus)*

The gray wolf is the largest wild canine species in North America. It is found throughout northern Canada, Alaska and the forested areas of Northern Michigan, Minnesota and Wisconsin and has been re-introduced to Yellowstone National Park in Wyoming. While the gray wolf is not common in North Dakota, occasionally individual wolves do pass through the state. Historically, its preferred habitat includes biomes such as boreal forest, temperate deciduous forest, and temperate grassland. Gray wolves live in packs of up to 21 members, although some individuals will roam alone.

*Piping Plover (Charadrius melodus)*

The piping plover is a small, migratory shorebird. Historically, piping plovers could be found throughout the Atlantic Coast, Northern Great Plains and the Great Lakes. Drastically reduced, sparse populations presently occur throughout this historic range. In North Dakota, breeding and nesting sites can be found along the Missouri River. Preferred habitat for the piping plover includes riverine sandbars, gravel beaches, alkali areas of wetlands and flat, sandy beaches with little vegetation. The USFWS has identified critical habitat for the piping plover on the Missouri River system. Critical habitat includes reservoir reaches composed of sparsely vegetated shoreline beaches, peninsulas, islands composed of sand, gravel, or shale and their interface with water bodies.

*Sprague's Pipit (Anthus spragueii)*

The Sprague's pipit is a small songbird found in prairie areas throughout the Northern Great Plains. Preferred habitat includes rolling, upland mixed-grass prairie habitat with high plant species diversity. The Sprague's pipit breeds in habitat with minimal human disturbance.

**7.17.2. Rare and Sensitive Species**

The North Dakota Natural Heritage biological conservation database was reviewed by the North Dakota Parks and Recreation Department for plant and animal species of concern or significant ecological communities within a one-mile radius of the proposed project location. No species of concern were identified in the project area. Several significant ecological communities were identified within the 1-mile radius: Western floodplain forest, western wheatgrass prairie; cottonwood-green ash floodplain forest; Buffaloberry shrubland; and buckbrush shrubland. In addition to animal species protected under the *Endangered Species Act*, the Blue Sucker and paddlefish were identified as animal species of concern. The Blue Sucker prefers swift currents of large rivers, feeding on insects and is considered an indicator species because of its habitat requirements. Paddlefish have a long, paddle-like snout and are blue-grey in color. They can live to be 30 years of age and prefer to feed in large, open waters of rivers and lakes. Paddlefish population numbers have been falling since the early 1900's, when development along rivers increased, altering paddlefish habitat. The species has been lost from four states and Canada, and it is listed as endangered, threatened, or a species of concern in 11 additional states.

**7.17.3. Rare and Unique Natural Resources Impacts/Mitigation***Threatened and Endangered Species*

Alternative A (No Build): Alternative A would have no effect on threatened or endangered species.

Alternative B (Build): Potential habitat for the piping plover can be found approximately 0.3 miles away from the project site along the banks of the Missouri River. Habitat for other listed species, including the Whooping Crane, was not located in the project area or in proximity close enough to be affected by the proposed project. In addition, in a letter dated October 20, 2011, the USFWS indicated that the project would have no significant impact on fish or wildlife resources. Please refer to the letter in [Appendix C, Letters and Responses](#). No adverse impacts are expected to result to threatened and endangered species as a result of Alternative B and no mitigation measures are required. If threatened or endangered species are identified during construction, USFWS would be contacted immediately.

*Rare and Sensitive Species*

Alternative A (No Build): Alternative A would have no effect on rare or sensitive species.

Alternative B (Build): Potential habitat for the Blue Sucker and paddlefish is located approximately 0.3 miles away from the project location in the Missouri River. As previously stated, in a letter dated October 20, 2011, the USFWS indicated that the project would have no significant impact on fish or wildlife resources. Please refer to the letter in [Appendix C, Letters and Responses](#). No adverse impacts are expected to result to rare and sensitive species as a result of Alternative B and no mitigation measures are required.

**7.18. Summary of Impacts**

The following table provides a summary of impacts and proposed mitigation measures for both alternatives as discussed in greater detail in previous sections.

*Table 9. Summary of Impacts*

RESOURCE	ALTERNATIVE A	ALTERNATIVE B	PROPOSED MITIGATION
<b>Demographics</b>	No impacts	No long-term changes to demographics are anticipated	No mitigation is proposed
<b>Land Use</b>	No impacts	Temporary disturbance of approximately 14.9 acres and permanent conversion of approximately 5.5 acres of land in project area	No mitigation is proposed
<b>Air Quality</b>	No impacts	No NAAQS impacts or North Dakota state air toxics policy impacts	BACT technologies proposed to minimize air emissions
<b>Public Services</b>	Additional electrical capacity needs may not be met.	Additional electrical capacity needs would be met, ensuring consistent electric supply	No mitigation is proposed
<b>Human Health and Safety</b>	No impacts	Small quantities of hazardous materials would be used and generated	Minimization of hazardous materials use and proper management and disposal of these materials
<b>Noise</b>	No impacts	Noise levels would not cause a perceptible increase in the existing sound levels measured and would remain in compliance with the City of Mandan's Ordinance No. 1090	No mitigation for noise impacts would be required, though noise levels would be taken into consideration in the SCCT design.
<b>Cultural Resources</b>	No impacts	ND SHPO concurred with a "No Historic Properties Affected" determination	No mitigation is proposed
<b>Recreational Resources</b>	No impacts	No adverse impacts anticipated	No mitigation is proposed
<b>Land Based Economics</b>	No impacts	No impacts to land based economics anticipated.	No mitigation is proposed
<b>Soils</b>	No impacts	May cause soil surface to become more prone to wind and water erosion and may result in soil compaction	Erosion prevention and sediment control during and after construction, segregation of topsoil, and reseedling
<b>Geologic and Groundwater Impacts</b>	No impacts	No adverse impacts anticipated	No mitigation is proposed

RESOURCE		ALTERNATIVE A	ALTERNATIVE B	PROPOSED MITIGATION
Surface Water and Floodplain Resources		No impacts	No adverse impacts anticipated	Use of BMPs such as silt fence and straw wattles during construction
Wetlands		No impacts	No impacts anticipated	No mitigation is proposed.
Vegetation		No impacts	A total of 14.9 acres of vegetation impacts would occur during construction. Approximately 9.4 acres of native mixed-grass prairie would be temporarily impacted and 5.5 acres of permanent conversion from prairie to the SCCT.	Following construction, temporarily disturbed areas would be re-vegetated with an NRCS-approved seed mixture
Wildlife		No impacts	Possible impacts to avian species	<i>Avian Protection Plan Guidelines</i> would be applied to overhead transmission line and substation construction as appropriate to minimize avian mortality
Rare and Unique Resources	Threatened and Endangered Species	No impacts	No impacts	If threatened or endangered species are identified during construction, USFWS would be contacted immediately
	Rare and Sensitive Species	No impacts	No impacts	No mitigation is proposed

**7.19. Irreversible and Irrecoverable Commitment of Natural Resources**

As with any construction project, certain irreversible and irretrievable commitments of natural resources, manpower, materials and fiscal resources are required. Fossil fuels, labor and construction materials would be expended to complete the project. Additionally, labor and natural resources would be used in the fabrication and preparation of construction materials, such as concrete, aggregate and steel. These materials are generally not retrievable. However, they are not in short supply, and their use would not have an adverse effect on the availability of these resources. Any construction would require a one-time expenditure of funds, which are not retrievable. However, the anticipated benefits would balance the irretrievable commitment of resources caused by the construction of the build alternative. By constructing the build alternative, Montana-Dakota would be able to efficiently meet the electricity demands of their customers.

**8. PUBLIC COORDINATION**

Montana-Dakota presented and discussed the proposed SCCT at the October 11, 2011 Morton County Commission meeting. In addition, the PSC will hold a public hearing in conjunction with the approval of this application. Public notice of the meeting will be given by advertisement in local newspapers or as directed by the PSC. At this time, a public hearing has not been scheduled.

## 9. AGENCY COORDINATION

To initiate early communication and coordination, a scoping package was sent to federal, tribal, state, and local agencies and other interested parties on September 14, 2011. This scoping package included information on the project and a project location map. At the end of the 30-day comment period, 12 responses were received. These comments have been referenced and incorporated where appropriate within the document. Please refer to [Appendix D, Scoping Package](#) for the scoping letter and mailing list. Copies of the 12 responses are provided in [Appendix C, Letters and Responses](#) and a summary of the agency comments is provided in [Section 11.11](#).

On September 1, 2011, Montana-Dakota and KLJ presented at the Interagency Committee Meeting (ICM) in Bismarck. The project was introduced and discussed with the attendees. The goal of this meeting was to initiate early agency consultation and to identify any key issues of concern. The agencies that attended this meeting included: Federal Highway Administration, NDDOT, NDGFD, North Dakota State Water Commission, US Army Corps of Engineers, and USFWS.

### 9.1. Summary of Commenting Agencies

The following provides a list of agencies that provided comments during the project scoping process.

Jurisdiction	Agency
Federal	US Department of Agriculture, Natural Resources Conservation Service
	US Department of Defense Army Corps of Engineers — North Dakota Regulatory Office
	US Department of Defense Army Corps of Engineers — Omaha District
	US Department of the Interior, Bureau of Indian Affairs
	US Fish and Wildlife Service
State	Job Service of North Dakota
	North Dakota Department of Commerce
	North Dakota Department of Health
	North Dakota Department of Transportation
	North Dakota Parks and Recreation Department
	North Dakota State Water Commission
	State Historical Society of North Dakota

## 10. IDENTIFICATION OF POTENTIAL PERMITS/APPROVALS

The following permits may be required prior to construction:

- ▲ *Acid Rain Permit – ND Department of Health*
- ▲ *Building Permit – City of Mandan*
- ▲ *Certificate of Site Compatibility – Public Service Commission*
- ▲ *Driveway/Entrance Permit – City of Mandan*
- ▲ *Electrical Permit – North Dakota Electrical Board*

- ▲ *Morton County Transportation Permit – Morton County*
- ▲ *National Pollutant Discharge Elimination System Permit – General Construction Stormwater Discharge Permit NDR10-0000 – ND Department of Health*
- ▲ *National Pollutant Discharge Elimination System Permit – Update current Heskett Station General Industrial Stormwater Permit NDR05-0000 – ND Department of Health*
- ▲ *National Pollutant Discharge Elimination System Permit (ND0000264) – Advance notice to ND Department of Health indicating planned changes*
- ▲ *Overweight-Overheight Permit – North Dakota Highway Patrol*
- ▲ *Prevention of Significant Deterioration Permit to Construct (Air Emissions Permit) – ND Department of Health*
- ▲ *Septic System Permit – Custer District Health Unit*
- ▲ *Stormwater Permit/Stormwater Management Plan (SWMP) – City of Mandan*
- ▲ *Title V Air Emissions Operating Permit – Update current Heskett Station Title V Air Emissions Operating Permit T5-F76001 – ND Department of Health*

## 11. FACTORS CONSIDERED

To aid the North Dakota Public Service Commission in the evaluation and designation of sites, the *North Dakota Energy Conversion and Transmission Facility Siting Act* lists 11 factors to consider. They are discussed in the following sections.

### 11.1. Public Health and Welfare, Natural Resources, and the Environment

*Section 7. Environmental Analysis*, discusses and discloses the research and investigations regarding the effects of the project on public health and welfare, natural resources, and the environment. Impacts and mitigation measures are summarized in *Section 7.17. Rare and Unique Natural Resources*.

### 11.2. Technologies to Minimize Adverse Environmental Effects

The project would be designed using the best available technology at the time of design and construction. These technologies include the latest version of the OEM's dry low NO<sub>x</sub> combustion system, an acoustic barrier wall around the generator and acoustic silencing in the exhaust system. Good combustion practices would be followed to minimize emissions of CO, PM<sub>10</sub> and PM<sub>2.5</sub>. Also, CO<sub>2</sub>e emissions are minimized by installing a highly efficient combustion turbine technology. The techniques outlined in the *Avian Protection Plan Guidelines* would also be followed for design, construction and maintenance of the transmission lines and associated facilities.

### **11.3. Potential for Beneficial Uses of Waste Energy**

Waste energy would be created during the operation of the SCCT. A combined cycle combustion turbine would more effectively use any waste energy. However, based on Montana-Dakota's 2011 IRP (Case No. PU-11-158) a combined cycle combustion turbine technology was not the option chosen to meet the peaking capacity needs forecasted for Montana-Dakota. In the future, if resource modeling shows that a combined cycle would fit Montana-Dakota's needs, the SCCT could be considered for conversion.

### **11.4. Unavoidable Adverse Environmental Effects**

Adverse environmental effects have been minimized to the greatest extent practicable through the use of avoidance and exclusionary areas and other methods. The permanent conversion of approximately 5.5 acres of land and alteration of the visual landscape through construction of the SCCT is unavoidable. In addition, an increase in the noise is unavoidable, but would be minimized to meet local noise regulations.

### **11.5. Alternatives to the Proposed Site**

Sites near Linton, Mandan and Richardton, North Dakota were chosen for final evaluation of costs and other criteria. In addition to the PSC siting regulations, other evaluation criteria included interconnection to the electric transmission system, availability of natural gas and water supply, and environmental permitting.

Montana-Dakota ran several model cases to forecast the need and determine the size for the SCCT. After review of the evaluation criteria and forecasts, Montana-Dakota chose the site near Mandan as the site that best fit the evaluation criteria and which had the least environmental impacts.

### **11.6. Irreversible and Irretrievable Commitment of Natural Resources**

As with any construction project, certain irreversible and irretrievable commitments of natural resources, manpower, materials and fiscal resources are required. Fossil fuels, labor and construction materials would be expended to complete the project. Additionally, labor and natural resources would be used in the fabrication and preparation of construction materials, such as concrete, aggregate and steel. These materials are generally not retrievable. However, they are not in short supply, and their use would not have an adverse effect on the availability of these resources. Any construction would require a one-time expenditure of funds, which are not retrievable. However, the anticipated benefits would balance the irretrievable commitment of resources caused by the construction of the build alternative. By constructing the build alternative, Montana-Dakota would be able to provide the necessary electrical capacity to their customers.

### **11.7. Direct and Indirect Economic Impacts**

Direct economic impacts would result from the addition of several temporary construction jobs to the local economy when the SCCT is being constructed. Two permanent jobs are also expected to result from the SCCT's construction and operation. The project may also indirectly benefit economies in surrounding communities due to the temporary construction jobs and increased spending at local businesses.

### **11.8. Existing Development Plans of the State, Local, Government and Private Entities at or in the Vicinity of the Site**

There are no known development plans that would conflict with the project. Montana-Dakota is aware of the Northern Bridge Corridor Study project and potential routes for this project are not in conflict with the proposed SCCT. The project would comply with county and township zoning ordinances, as applicable; therefore, no conflicts are anticipated.

### **11.9. Effect of Site on Cultural Resources**

As discussed in [Section 7.8. Cultural Resources](#), KLJ conducted a Class III Cultural Resource Inventory and identified no previously or newly recorded sites. The ND SHPO concurred with a finding of *No Historic Properties Affected*.

### **11.10. Effect of Site on Biological Resources**

As discussed in [Sections 7.15 through 7.17](#), the proposed project has few long-term impacts to biological resources. Coordination with USFWS and NDGF indicated they do not see any impacts to sensitive species. Any temporary ground disturbance would be reclaimed after construction, reducing the amount of disturbance to ground-dwelling animals.

### **11.11. Agency Comments**

A scoping package was distributed to local, state, and federal agencies and other interested parties on September 14, 2011. At the end of the 30-day comment period, 12 responses were received. Copies of response letters received are provided [Appendix C, Letters and Responses](#).

The following sections summarize these responses.

#### **11.11.1. Department of the Army Corps of Engineers, North Dakota Regulatory Office**

The Missouri River is considered navigable waters and qualifies for regulation under Section 10 of the *Rivers and Harbors Act*. The USACE, North Dakota Regulatory Office enclosed a copy of the Nationwide Permit 12 which authorizes activities for the construction of utility lines under Section 404 of the *Clean Water Act*. They stated, however, if any of the seven criteria listed in Nationwide Permit 12 are met, a pre-construction notification must be submitted.

#### **11.11.2. Department of the Army, Corps of Engineers, Omaha District**

The USACE, Omaha District Office, recommends coordinating with the EPA regarding groundwater resources and the NDGF on potential impacts to fisheries. The USACE stated that the project does not appear to be located within Corps owned or operated lands. All floodplain information should be coordinated with the Federal Emergency Management Agency. They also stated that any dredge or fill material placed in waters of the United States would require authorization under Section 404 of the *Clean Water Act*.

#### **11.11.3. United States Department of Agriculture, Natural Resources Conservation Service**

As the project has no federal funding or actions, the FPPA does not apply and no further action is needed.

#### **11.11.4. United States Department of the Interior, Bureau of Indian Affairs**

The Bureau of Indian Affairs (BIA) had no environmental objections and also found that the proposed project would not affect cultural resources on Tribal or individual landholdings of which they are responsible.

#### **11.11.5. United States Department of the Interior, Fish and Wildlife Service, Ecological Services, North Dakota Field Office**

The US DOI determined the proposed project would have no significant impact on fish and wildlife resources. In addition, no endangered or threatened species are known to occupy the project area. If project design plans change, they request the plans are submitted for further review.

#### **11.11.6. Job Service North Dakota**

Job Service of North Dakota provided no comments and stated that no applicable permits are required.

#### **11.11.7. North Dakota Department of Commerce**

The ND Department of Commerce gave the proposed project clearance under the North Dakota Federal Program Review System.

#### **11.11.8. North Dakota Department of Health**

The North Dakota Department of Health believes the environmental impacts from the proposed project would be minor and controllable. They request that all measures be taken to fight fugitive dust during construction, all measures be taken to reduce noise during construction and that all measures be taken to minimize harm to water bodies. If construction will disturb over one acre, a permit to discharge storm water must be obtained.

#### **11.11.9. North Dakota Department of Transportation**

The NDDOT determined that the proposed project should have no adverse effect on NDDOT highways. If work needs to be done on highway right-of-ways, appropriate permits must be obtained by Montana-Dakota.

#### **11.11.10. North Dakota Parks and Recreation**

North Dakota Parks and Recreation observed that several occurrences of animal species and ecological communities that are on the North Dakota Natural Heritage biological conservation database are located adjacent to the project area. They recommend that any impacted areas be re-vegetated with native plant species.

#### 11.11.11. North Dakota State Water Commission

The proposed project would have no impact to floodplains and no other concerns are associated with the project that affects the North Dakota State Water Commission.

#### 11.11.12. State Historical Society of North Dakota

ND SHPO would concur with a *No Historic Properties Affected* determination for the proposed project if consulted by a federal agency.

#### 11.11.13. Parties Solicited With no Response Received

Of the 61 parties solicited, 49 did not respond. Please refer to [Appendix D, Scoping Package](#) for a comprehensive list of solicited parties.

## 12. QUALIFICATIONS OF CONTRIBUTORS TO SITING STUDY

### *Jennifer Harty*

Jennifer Harty leads the Cultural Resources Workgroup at KLJ. Additionally, she works as principal investigator and project manager on cultural resource inventory, testing, and mitigation projects, engages Native American Tribes in open dialog when the project calls for it, and provides recommendations to clients and lead agencies on cultural resource eligibility and management. Jennifer's background in Northern Plains and Midwest archaeology provides KLJ the necessary local and regional expertise to successfully complete a wide variety of projects. Jennifer prepares, reviews, and submits reports to clients and lead agencies detailing work results conducted for the Section 106 process and for local and state permitting processes. As part of the reporting process, Jennifer provides clients and agencies with recommendations for site potential and potential impacts on known and undocumented historic properties. She is fully permitted across the Northern Plains, and is qualified to be permitted in adjacent administrative districts.

### *Skip Skattum*

Skip holds a BA degree in Education from the University of North Dakota and an Associate of Applied Science degree in Geographic Information Systems from the Alexandria Technical School. Skip has 11 years of experience working with a variety of clients on environmental documentation including mapping, modeling and impact quantification. He has managed GIS projects involving the securing of funds, project implementation, project design and management. Skip has also had extensive training in noise modeling with TNM and has been trained in CadnaA noise modeling; he has worked on noise-related projects in Fargo, Grand Forks, Bismarck, Rapid City and Dickinson.

### *Kayla Torgerson*

Kayla is an environmental planner and has been with KLJ since receiving her MS in Natural Resources Science and Management from the University of Minnesota in June 2010. She has experience writing various NEPA documents, as well as other state and federal environmental permitting documents, including several PCRs. She has managed coordination among several agencies throughout project development. Prior to working at KLJ, she worked for six years as a civil engineering technician on municipal civil engineering projects. She also has a BS in Mathematics from the University of Mary.

*Jennifer Turnbow*

Jennifer Turnbow is the director of environmental services at KLJ. She has a BS in Environmental Science from the University of Idaho. She has provided environmental planning and documentation for projects throughout the region for the last nine years. She has extensive experience with the major permitting processes, NEPA process and documentation, and public and agency coordination. Jennifer's main focus includes environmental work and public involvement on energy and transportation projects. Prior to joining KLJ, she worked for the University of Idaho for four years in the Idaho Cooperative Fish and Wildlife Research Unit assisting in the evaluation of physiological changes of migrating juvenile Chinook salmonids (*Oncorhynchus tshawytscha*) and effects on performance and survival throughout the Snake and Columbia Rivers. Also, she assisted with sampling of juvenile Chinook salmon for fish-transportation barge holds and collection of tissue and blood samples under permitting guidelines of the Endangered Species Act of 1973.

*Grady Wolf*

Grady was awarded a BS in Natural Resource Management from North Dakota State University. He has ten years of experience in land and water management, including wetland delineations, biological and ecological field studies and holistic management plans for agricultural lands. Grady has coordinated efforts for securing funding, acquiring permits, and completed mitigation plans for projects through state and federal agencies, and managed the projects during implementation. He has experience with range and watershed management and conducting biological and botanical assessments, including threatened and endangered species surveys. Grady also is experienced in NEPA documentation, permitting, and authoring numerous environmental documents.

*Abbie Krebsbach*

Abbie was awarded a BS in Chemical Engineering from the University of North Dakota, Grand Forks, North Dakota. She is the Environmental Manager at Montana-Dakota Utilities Co. Abbie has eight years of experience at Montana-Dakota Utilities Co. in waste disposal, water discharge, air emissions and natural resources environmental permitting, compliance, auditing, and training. She also worked as an Environmental Engineer for the North Dakota Department of Health, Environmental Health Section – Division of Water Quality for two years administering industrial and municipal facility National Pollutant Discharge Elimination System program wastewater discharge permits and conducting compliance inspections.

*Alan Welte*

Alan holds a BS degree in Mechanical Engineering from the North Dakota State University. He has 29 years of experience in a variety of electric generation positions including 9 years in engineering, 12 years as a Station Manager, and 8 years in his current position of Generation Manager where he is has overall responsibility for Montana-Dakota's electric generation facilities. Alan has been involved in power plant operation and maintenance, plant performance, project design and management, and new generation resource planning and development.

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## Figures



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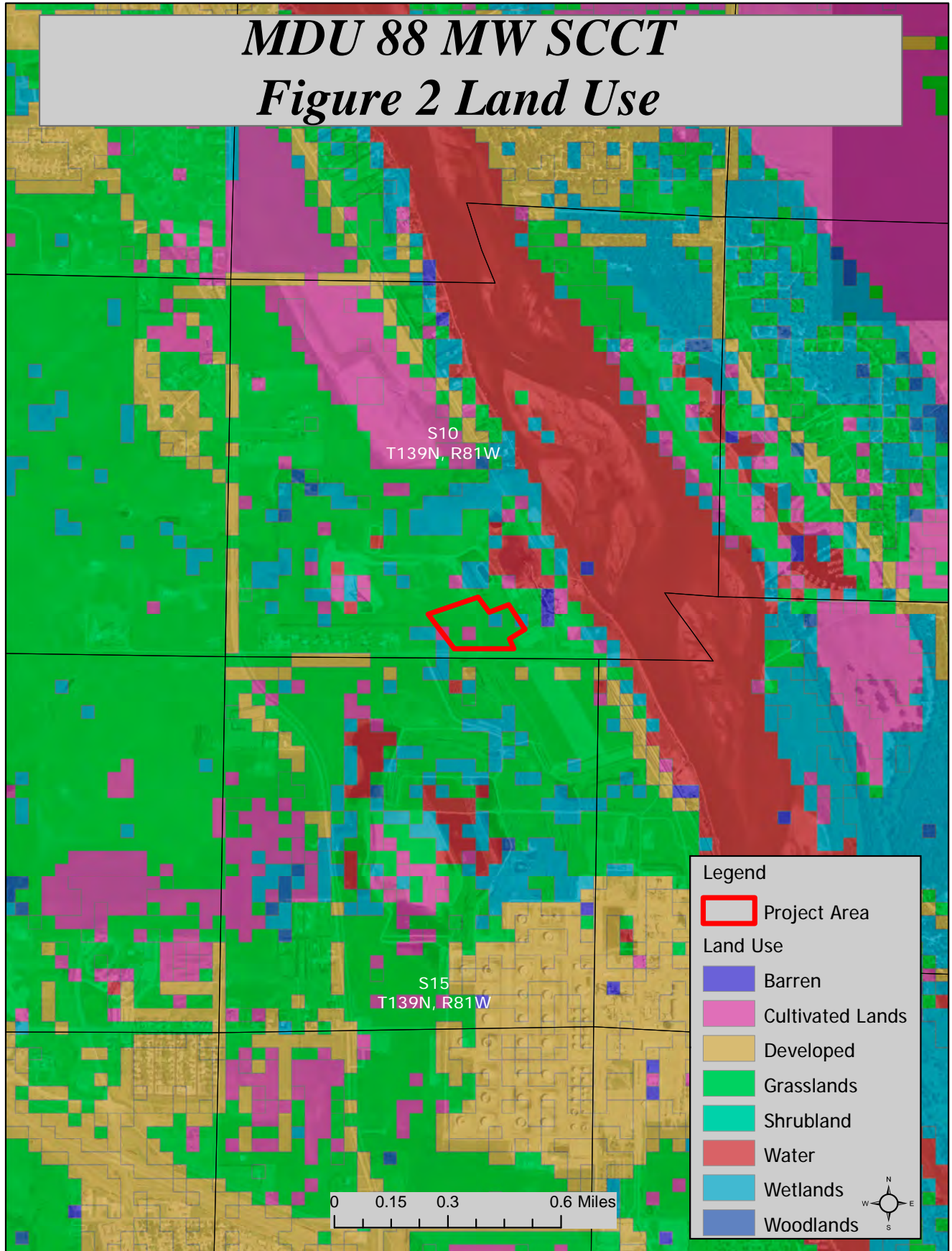


Figure A-2. Land Use

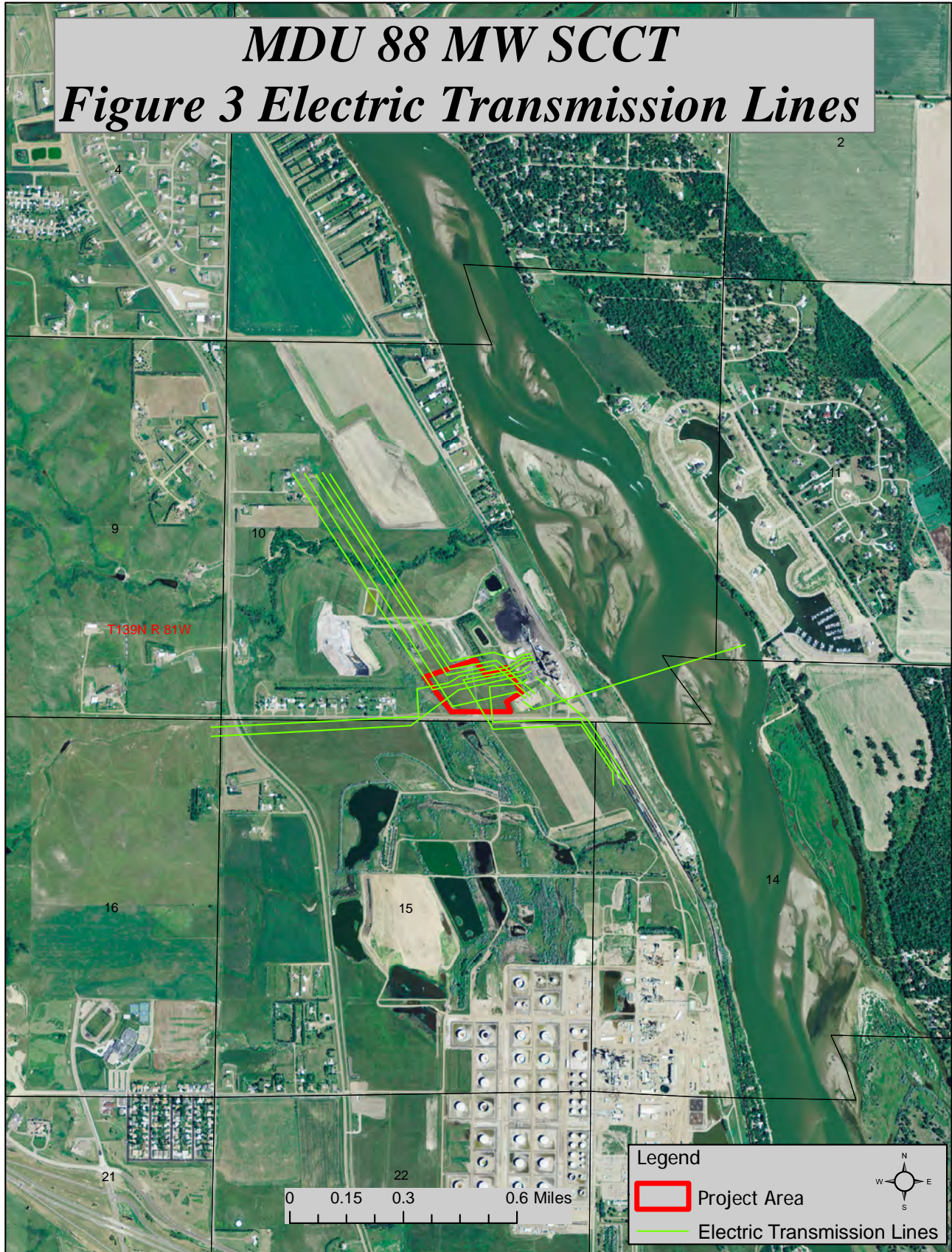


Figure A-3. Electric Transmission Lines



Figure A-4. Transportation



Figure A-5. Groundwater Resources

# MDU 88 MW SCCT

## Figure 6 Surface Waters

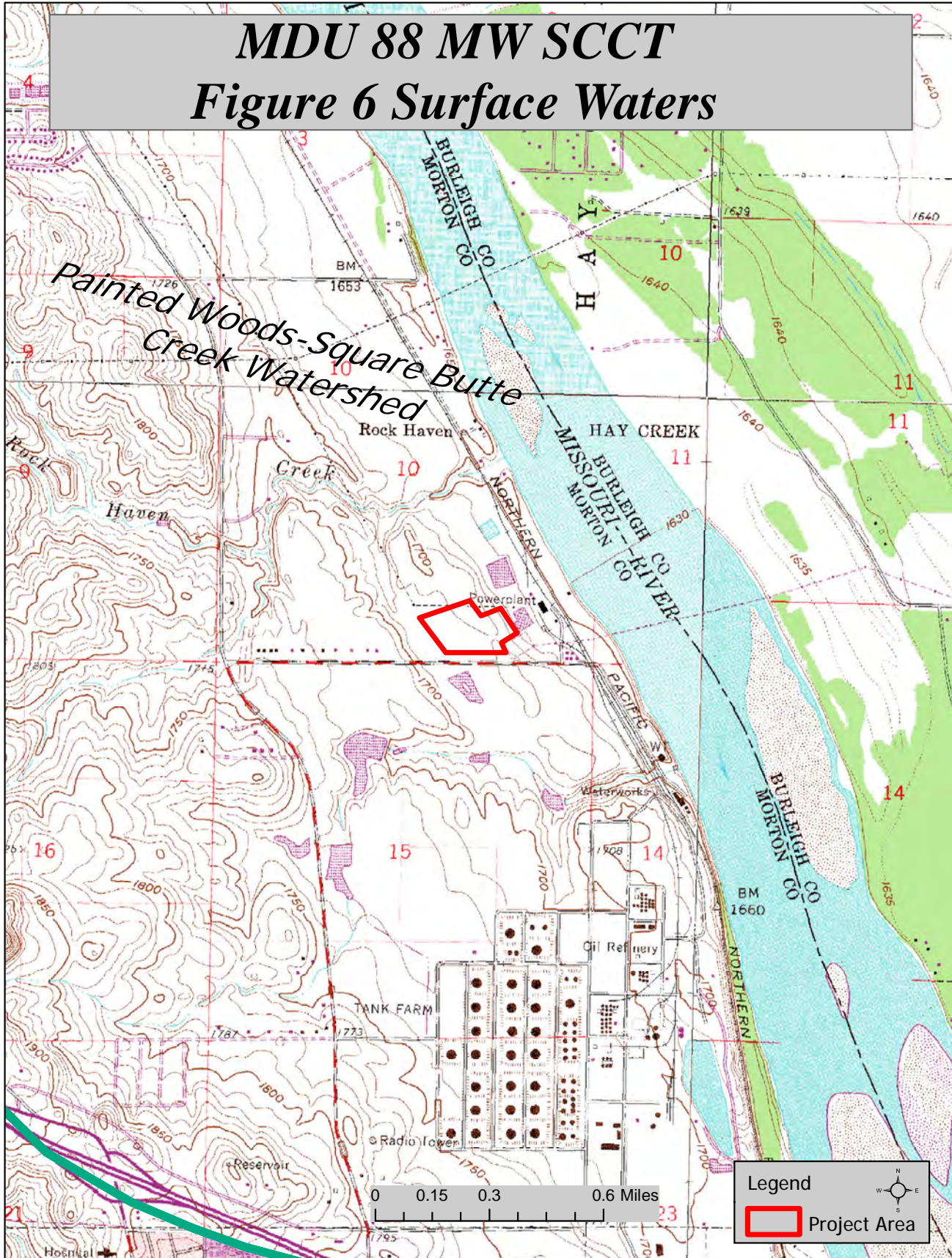


Figure A-6. Surface Waters

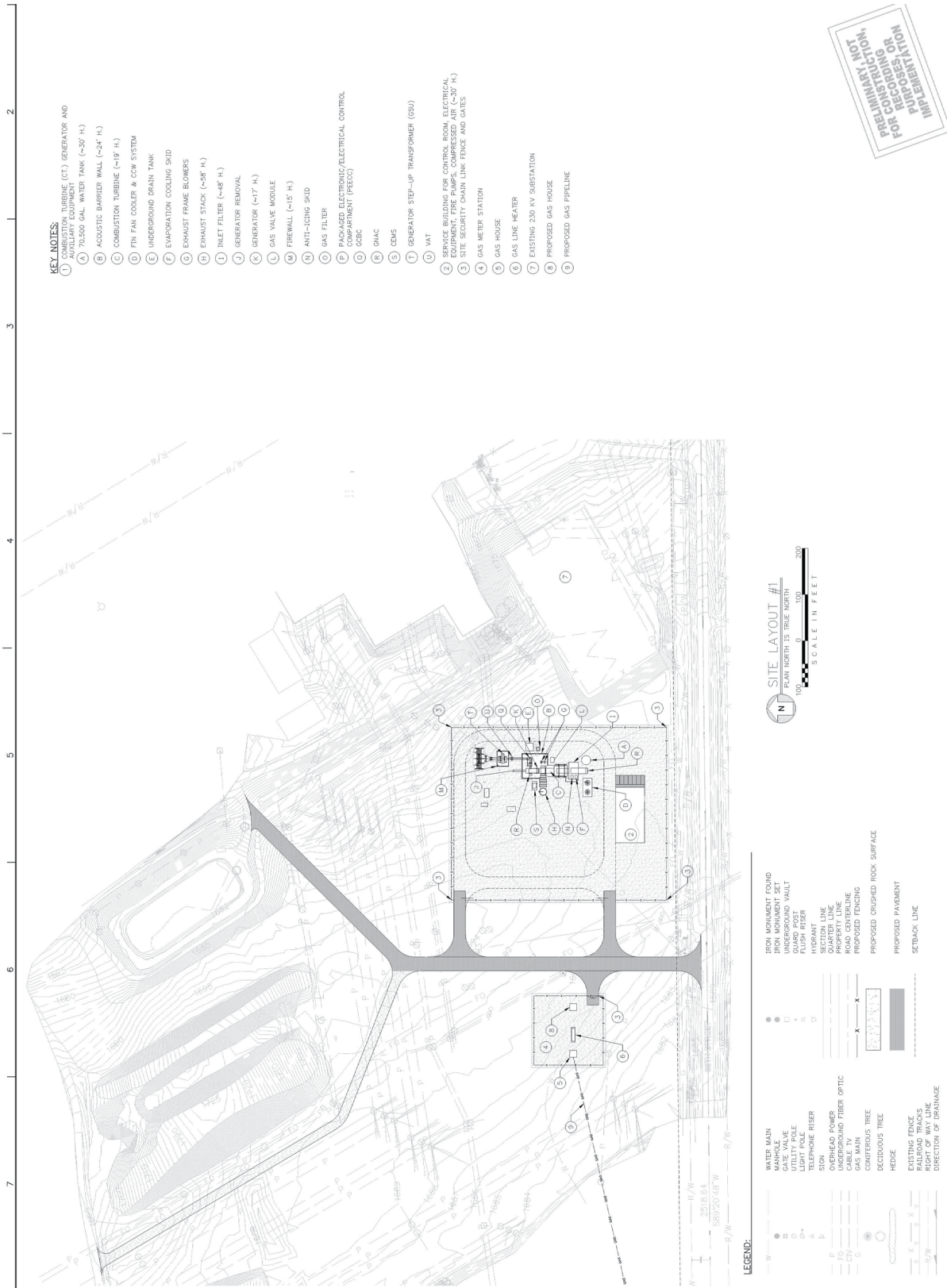


Figure A-7. Layout Diagram #1

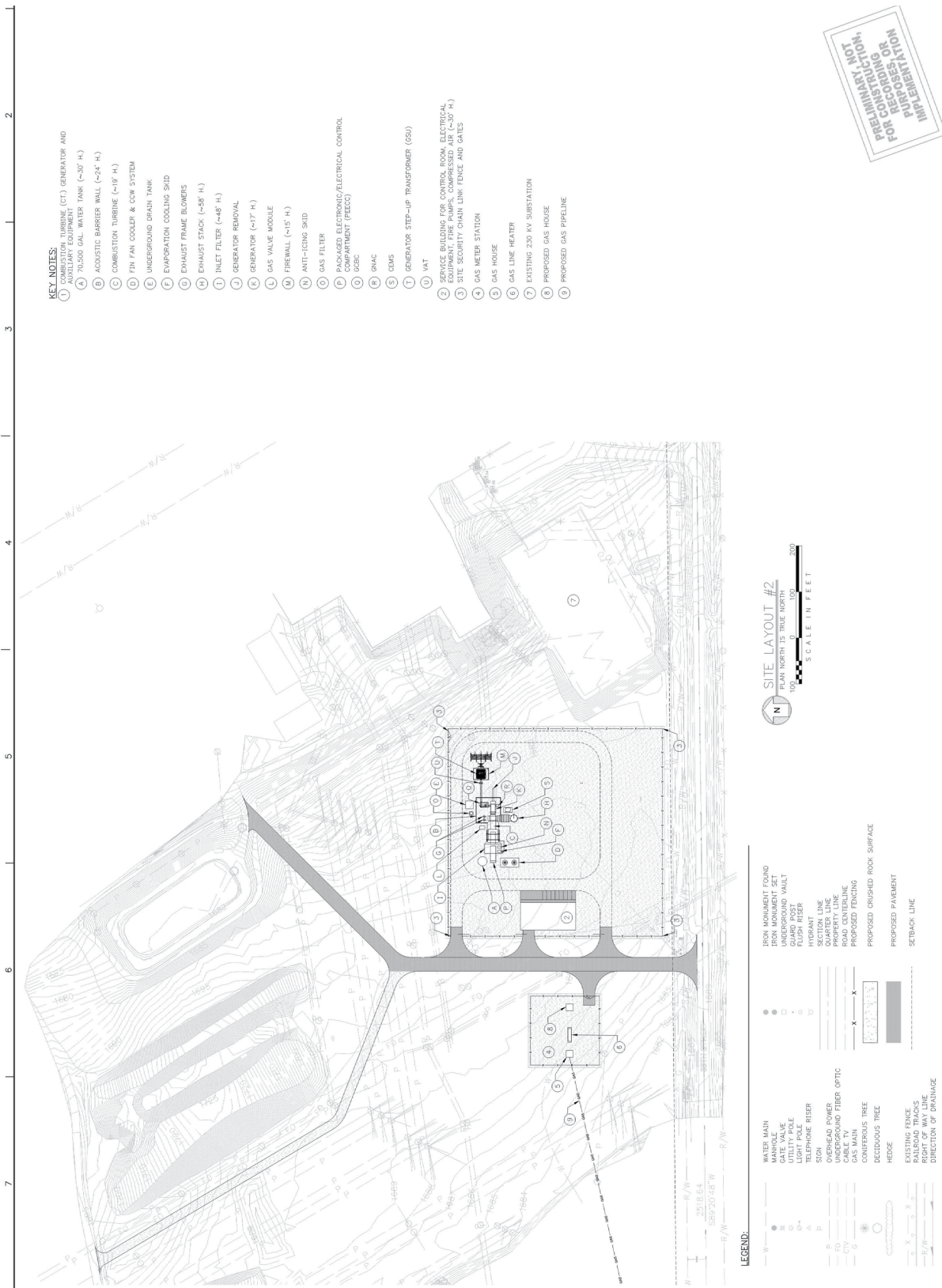


Figure A-8. Layout Diagram #2

# APPENDIX B

## Design Data

**DESIGN DATA**

<i>Gas Turbine</i>	
Model	General Electric PG7121EA (7EA)
Type	Heavy Duty
Stages	Three
Configuration	Single shaft, three bearings
Operating Speed	3600 rpm
Primary Fuel	Natural Gas
Combustion Type	DLN (Dry Low NOx) Combustor System
Number of Combustion Chambers	10
Starting Means	Electric Motor
Air Filtration	Self-Cleaning
Inlet Air Cooling	Evaporative Cooler
Exhaust System	Exhaust Plenum with Wing, Cowl, Expansion Joint, and 58 ft. Stack
<i>Compressor</i>	
Type	Axial flow
Stages	17
Ratio	12.8 (ISO, base load)
<i>Generator</i>	
Type	General Electric 7A6
Cooling	Totally Enclosed Water-to-Air Cooled (TEWAC)
Frequency	60 Hz
Power Factor Leading	0.95
Power Factor Lagging	0.85
KVA	104,750
KW	89,037
Operating Speed	3600 rpm
Rated Voltage	13,800 Volts
Line Current	4382 Amps
<i>Cooling System</i>	
Cooling System	Closed Cooling Water System
<i>Transmission Interconnect Equipment</i>	
Generator Step Up Transformer (Generator Owner)	75/100/124.5-139.4 MVA, ONAN/ONAF/ONAF 55-65°C, 115KV to 13.8KV
Transmission Line Tap (Transmission Owner)	Line tap from Heskett 115 kV Switchyard to Line termination Structure
Other Equipment	Circuit breaker, Manual Operated Switch, Line relaying, Fiber optics

# APPENDIX C

## Letters and Responses



REPLY TO  
ATTENTION OF

DEPARTMENT OF THE ARMY  
CORPS OF ENGINEERS, OMAHA DISTRICT  
NORTH DAKOTA REGULATORY OFFICE  
1513 SOUTH 12<sup>TH</sup> STREET  
BISMARCK ND 58504-6640

September 21, 2011

RECEIVED  
SEP 22 2011

North Dakota Regulatory Office

Kadmas, Lee & Jackson, Inc.  
Attn: Jennifer Turnbow, Project Manager  
128 Soo Line Drive  
PO Box 1157  
Bismarck, North Dakota 58502-1157

Dear Ms. Turnbow:

This is in response to your letter on behalf of the Montana-Dakota Utilities Co., received September 15, 2011, requesting Department of the Army (DA), US Army Corps of Engineers (Corps) comments regarding the development of an 88 megawatt natural gas fired simple-cycle combustion turbine in Morton County, North Dakota.

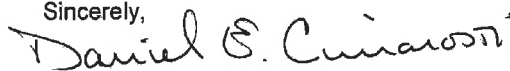
Corps regulatory offices administer Section 10 of the Rivers and Harbors Act and Section 404 of the Clean Water Act. Section 10 of the Rivers and Harbors Act regulates work in, over or under navigable waters. The Missouri River (Lake Sakakawea) is considered navigable waters. Section 404 of the Clean Water Act regulates the discharge of dredge or fill material (temporarily or permanently) in waters of the United States. Waters of the United States may include, but are not limited to, rivers, streams, ditches, coulees, lakes, ponds, and their adjacent wetlands. Fill material include, but is not limited to, rock, sand, soil, clay, plastics, construction debris, wood chips, overburden from mines or other excavation activities and materials used to create any structure or infrastructure in the waters of the United States.

Nationwide Permit 12 authorizes activities for the construction of utility lines. A copy of this nationwide permit and conditions is enclosed. **The nationwide permit and conditions are submitted only for informational purposes and in no way is it, or this letter, to confirm that your activity complies with the nationwide permit and conditions.** As explained within Nationwide Permit 12, the permittee is required to submit a pre-construction notification to the Corps of Engineers prior to construction if any of seven criteria are met.

If your proposal requires review by the Corps in accordance with Section 10 of the Rivers and Harbors Act or Section 404 of the Clean Water Act, please complete and submit the enclosed Corps of Engineers permit application to the U. S. Army Corps of Engineers, North Dakota Regulatory Office, 1513 South 12<sup>th</sup> Street, Bismarck, North Dakota 58504.

If we can be of further assistance or should you have any questions regarding our program, please do not hesitate to contact this office by letter or phone at (701) 255-0015.

Sincerely,

A handwritten signature in black ink that reads "Daniel E. Cimarosti". The signature is written in a cursive style with a large initial 'D'.

Daniel E. Cimarosti  
Regulatory Program Manager  
North Dakota

Enclosures  
ENG Form 4345  
Fact Sheet NWP 12

**Instructions for Preparing a  
Department of the Army Permit Application**

**Blocks 1 through 4.** To be completed by Corps of Engineers.

**Block 5. Applicant's Name.** Enter the name and the E-mail address of the responsible party or parties. If the responsible party is an agency, company, corporation, or other organization, indicate the name of the organization and responsible officer and title. If more than one party is associated with the application, please attach a sheet with the necessary information marked Block 5.

**Block 6. Address of Applicant.** Please provide the full address of the party or parties responsible for the application. If more space is needed, attach an extra sheet of paper marked Block 6.

**Block 7. Applicant Telephone Number(s).** Please provide the number where you can usually be reached during normal business hours.

**Blocks 8 through 11.** To be completed, if you choose to have an agent.

**Block 8. Authorized Agent's Name and Title.** Indicate name of individual or agency, designated by you, to represent you in this process. An agent can be an attorney, builder, contractor, engineer, or any other person or organization. Note: An agent is not required.

**Blocks 9 and 10. Agent's Address and Telephone Number.** Please provide the complete mailing address of the agent, along with the telephone number where he / she can be reached during normal business hours.

**Block 11. Statement of Authorization.** To be completed by applicant, if an agent is to be employed.

**Block 12. Proposed Project Name or Title.** Please provide name identifying the proposed project, e.g., Landmark Plaza, Burned Hills Subdivision, or Edsall Commercial Center.

**Block 13. Name of Waterbody.** Please provide the name of any stream, lake, marsh, or other waterway to be directly impacted by the activity. If it is a minor (no name) stream, identify the waterbody the minor stream enters.

**Block 14. Proposed Project Street Address.** If the proposed project is located at a site having a street address (not a box number), please enter it here.

**Block 15. Location of Proposed Project.** Enter the latitude and longitude of where the proposed project is located. If more space is required, please attach a sheet with the necessary information marked Block 15.

**Block 16. Other Location Descriptions.** If available, provide the Tax Parcel Identification number of the site, Section, Township, and Range of the site (if known), and / or local Municipality that the site is located in.

**Block 17. Directions to the Site.** Provide directions to the site from a known location or landmark. Include highway and street numbers as well as names. Also provide distances from known locations and any other information that would assist in locating the site. You may also provide description of the proposed project location, such as lot numbers, tract numbers, or you may choose to locate the proposed project site from a known point (such as the right descending bank of Smith Creek, one mile downstream from the Highway 14 bridge). If a large river or stream, include the river mile of the proposed project site if known

**Block 18. Nature of Activity.** Describe the overall activity or project. Give appropriate dimensions of structures such as wing walls, dikes (identify the materials to be used in construction, as well as the methods by which the work is to be done), or excavations (length, width, and height). Indicate whether discharge of dredged or fill material is involved. Also, identify any structure to be constructed on a fill, piles, or float-supported platforms.

The written descriptions and illustrations are an important part of the application. Please describe, in detail, what you wish to do. If more space is needed, attach an extra sheet of paper marked Block 18.

**Block 19. Proposed Project Purpose.** Describe the purpose and need for the proposed project. What will it be used for and why? Also include a brief description of any related activities to be developed as the result of the proposed project. Give the approximate dates you plan to both begin and complete all work.

**Block 20. Reasons for Discharge.** If the activity involves the discharge of dredged and/or fill material into a wetland or other waterbody, including the temporary placement of material, explain the specific purpose of the placement of the material (such as erosion control).

**Block 21. Types of Material Being Discharged and the Amount of Each Type in Cubic Yards.** Describe the material to be discharged and amount of each material to be discharged within Corps jurisdiction. Please be sure this description will agree with your illustrations. Discharge material includes: rock, sand, clay, concrete, etc.

**Block 22. Surface Areas of Wetlands or Other Waters Filled.** Describe the area to be filled at each location. Specifically identify the surface areas, or part thereof, to be filled. Also include the means by which the discharge is to be done (backhoe, dragline, etc.). If dredged material is to be discharged on an upland site, identify the site and the steps to be taken (if necessary) to prevent runoff from the dredged material back into a waterbody. If more space is needed, attach an extra sheet of paper marked Block 22.

**Block 23. Description of Avoidance, Minimization, and Compensation.** Provide a brief explanation describing how impacts to waters of the United States are being avoided and minimized on the project site. Also provide a brief description of how impacts to waters of the United States will be compensated for, or a brief statement explaining why compensatory mitigation should not be required for those impacts.

**Block 24. Is Any Portion of the Work Already Complete?** Provide any background on any part of the proposed project already completed. Describe the area already developed, structures completed, any dredged or fill material already discharged, the type of material, volume in cubic yards, acres filled, if a wetland or other waterbody (in acres or square feet). If the work was done under an existing Corps permit, identify the authorization, if possible.

**Block 25. Names and Addresses of Adjoining Property Owners, Lessees, etc., Whose Property Adjoins the Project Site.** List complete names and full mailing addresses of the adjacent property owners (public and private) lessees, etc., whose property adjoins the waterbody or aquatic site where the work is being proposed so that they may be notified of the proposed activity (usually by public notice). If more space is needed, attach an extra sheet of paper marked Block 24.

Information regarding adjacent landowners is usually available through the office of the tax assessor in the county or counties where the project is to be developed.

**Block 26. Information about Approvals or Denials by Other Agencies.** You may need the approval of other federal, state, or local agencies for your project. Identify any applications you have submitted and the status, if any (approved or denied) of each application. You need not have obtained all other permits before applying for a Corps permit.

**Block 27. Signature of Applicant or Agent.** The application must be signed by the owner or other authorized party (agent). This signature shall be an affirmation that the party applying for the permit possesses the requisite property rights to undertake the activity applied for (including compliance with special conditions, mitigation, etc.).

## DRAWINGS AND ILLUSTRATIONS

### General Information.

Three types of illustrations are needed to properly depict the work to be undertaken. These illustrations or drawings are identified as a Vicinity Map, a Plan View or a Typical Cross-Section Map. Identify each illustration with a figure or attachment number.

Please submit one original, or good quality copy, of all drawings on 8½ x11 inch plain white paper (electronic media may be substituted). Use the fewest number of sheets necessary for your drawings or illustrations.

Each illustration should identify the project, the applicant, and the type of illustration (vicinity map, plan view, or cross-section). **While illustrations need not be professional (many small, private project illustrations are prepared by hand), they should be clear, accurate, and contain all necessary information.**

<b>U.S. ARMY CORPS OF ENGINEERS</b> <b>APPLICATION FOR DEPARTMENT OF THE ARMY PERMIT</b> <i>(33 CFR 325)</i>		OMB APPROVAL NO. 0710-0003 EXPIRES: 31 AUGUST 2012	
Public reporting for this collection of information is estimated to average 11 hours per response, including the time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. Send comments regarding this burden estimate or any other aspect of the collection of information, including suggestions for reducing this burden, to Department of Defense, Washington Headquarters, Executive Services and Communications Directorate, Information Management Division and to the Office of Management and Budget, Paperwork Reduction Project (0710-0003). Respondents should be aware that notwithstanding any other provision of law, no person shall be subject to any penalty for failing to comply with a collection of information if it does not display a currently valid OMB control number. Please DO NOT RETURN your form to either of those addresses. Completed applications must be submitted to the District Engineer having jurisdiction over the location of the proposed activity.			
PRIVACY ACT STATEMENT			
Authorities: Rivers and Harbors Act, Section 10, 33 USC 403; Clean Water Act, Section 404, 33 USC 1344; Marine Protection, Research, and Sanctuaries Act, Section 103, 33 USC 1413; Regulatory Programs of the Corps of Engineers; Final Rule 33 CFR 320-332. Principal Purpose: Information provided on this form will be used in evaluating the application for a permit. Routine Uses: This information may be shared with the Department of Justice and other federal, state, and local government agencies, and the public and may be made available as part of a public notice as required by Federal law. Submission of requested information is voluntary, however, if information is not provided the permit application cannot be evaluated nor can a permit be issued. One set of original drawings or good reproducible copies which show the location and character of the proposed activity must be attached to this application (see sample drawings and/or instructions) and be submitted to the District Engineer having jurisdiction over the location of the proposed activity. An application that is not completed in full will be returned.			
(ITEMS 1 THRU 4 TO BE FILLED BY THE CORPS)			
1. APPLICATION NO.	2. FIELD OFFICE CODE	3. DATE RECEIVED	4. DATE APPLICATION COMPLETE
(ITEMS BELOW TO BE FILLED BY APPLICANT)			
5. APPLICANT'S NAME		8. AUTHORIZED AGENT'S NAME AND TITLE (agent is not required)	
First -                      Middle -                      Last -	First -                      Middle -                      Last -		
Company -		Company -	
E-mail Address -		E-mail Address -	
6. APPLICANT'S ADDRESS:		9. AGENT'S ADDRESS:	
Address-		Address-	
City -	State -	Zip -	Country -
7. APPLICANT'S PHONE NOS. w/AREA CODE		10. AGENTS PHONE NOS. w/AREA CODE	
a. Residence	b. Business	a. Residence	b. Business
c. Fax		c. Fax	
STATEMENT OF AUTHORIZATION			
11. I hereby authorize, _____ to act in my behalf as my agent in the processing of this application and to furnish, upon request, supplemental information in support of this permit application.			
_____ SIGNATURE OF APPLICANT		_____ DATE	
NAME, LOCATION, AND DESCRIPTION OF PROJECT OR ACTIVITY			
12. PROJECT NAME OR TITLE (see instructions)			
13. NAME OF WATERBODY, IF KNOWN (if applicable)		14. PROJECT STREET ADDRESS (if applicable)	
		Address	
15. LOCATION OF PROJECT			
Latitude: °N	Longitude: °W	City -	State-                      Zip-
16. OTHER LOCATION DESCRIPTIONS, IF KNOWN (see instructions)			
State Tax Parcel ID		Municipality	
Section -	Township -	Range -	

17. DIRECTIONS TO THE SITE

18. Nature of Activity (Description of project, include all features)

19. Project Purpose (Describe the reason or purpose of the project, see instructions)

**USE BLOCKS 20-23 IF DREDGED AND/OR FILL MATERIAL IS TO BE DISCHARGED**

20. Reason(s) for Discharge

21. Type(s) of Material Being Discharged and the Amount of Each Type in Cubic Yards:

Type	Type	Type
Amount in Cubic Yards	Amount in Cubic Yards	Amount in Cubic Yards

22. Surface Area in Acres of Wetlands or Other Waters Filled (see instructions)

Acres  
or  
Linear Feet

23. Description of Avoidance, Minimization, and Compensation (see instructions)

24. Is Any Portion of the Work Already Complete?  Yes  No IF YES, DESCRIBE THE COMPLETED WORK

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25. Addresses of Adjoining Property Owners, Lessees, Etc., Whose Property Adjoins the Waterbody (if more than can be entered here, please attach a supplemental list)

a. Address-

City - State - Zip -

b. Address-

City - State - Zip -

c. Address-

City - State - Zip -

d. Address-

City - State - Zip -

e. Address-

City - State - Zip -

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26. List of Other Certificates or Approvals/Denials received from other Federal, State, or Local Agencies for Work Described in This Application.

AGENCY	TYPE APPROVAL*	IDENTIFICATION NUMBER	DATE APPLIED	DATE APPROVED	DATE DENIED

\* Would include but is not restricted to zoning, building, and flood plain permits

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27. Application is hereby made for permit or permits to authorize the work described in this application. I certify that this information in this application is complete and accurate. I further certify that I possess the authority to undertake the work described herein or am acting as the duly authorized agent of the applicant.

\_\_\_\_\_ DATE \_\_\_\_\_ DATE

SIGNATURE OF APPLICANT SIGNATURE OF AGENT

The Application must be signed by the person who desires to undertake the proposed activity (applicant) or it may be signed by a duly authorized agent if the statement in block 11 has been filled out and signed.

18 U.S.C. Section 1001 provides that: Whoever, in any manner within the jurisdiction of any department or agency of the United States knowingly and willfully falsifies, conceals, or covers up any trick, scheme, or disguises a material fact or makes any false, fictitious or fraudulent statements or representations or makes or uses any false writing or document knowing same to contain any false, fictitious or fraudulent statements or entry, shall be fined not more than \$10,000 or imprisoned not more than five years or both.

ENG FORM 4345, OCT 2010

**FACT SHEET  
NATIONWIDE PERMIT 12  
(2007)**

**UTILITY LINE ACTIVITIES.** Activities required for the construction, maintenance, repair, and removal of utility lines and associated facilities in waters of the United States, provided the activity does not result in the loss of greater than 1/2 acre of waters of the United States.

**Utility lines:** This NWP authorizes the construction, maintenance, or repair of utility lines, including outfall and intake structures, and the associated excavation, backfill, or bedding for the utility lines, in all waters of the United States, provided there is no change in pre-construction contours. A "utility line" is defined as any pipe or pipeline for the transportation of any gaseous, liquid, liquescent, or slurry substance, for any purpose, and any cable, line, or wire for the transmission for any purpose of electrical energy, telephone, and telegraph messages, and radio and television communication. The term "utility line" does not include activities that drain a water of the United States, such as drainage tile or french drains, but it does apply to pipes conveying drainage from another area.

Material resulting from trench excavation may be temporarily sidecast into waters of the United States for no more than three months, provided the material is not placed in such a manner that it is dispersed by currents or other forces. The district engineer may extend the period of temporary side casting for no more than a total of 180 days, where appropriate. In wetlands, the top 6 to 12 inches of the trench should normally be backfilled with topsoil from the trench. The trench cannot be constructed or backfilled in such a manner as to drain waters of the United States (e.g., backfilling with extensive gravel layers, creating a french drain effect). Any exposed slopes and stream banks must be stabilized immediately upon completion of the utility line crossing of each waterbody.

**Utility line substations:** This NWP authorizes the construction, maintenance, or expansion of substation facilities associated with a power line or utility line in non-tidal waters of the United States, provided the activity, in combination with all other activities included in one single and complete project, does not result in the loss of greater than 1/2 acre of waters of the United States. This NWP does not authorize discharges into non-tidal wetlands adjacent to tidal waters of the United States to construct, maintain, or expand substation facilities.

**Foundations for overhead utility line towers, poles, and anchors:** This NWP authorizes the construction or maintenance of foundations for overhead utility line towers, poles, and anchors in all waters of the United States, provided the foundations are the minimum size necessary and separate footings for each tower leg (rather than a larger single pad) are used where feasible.

**Access roads:** This NWP authorizes the construction of access roads for the construction and maintenance of utility lines, including overhead power lines and utility line substations, in non-tidal waters of the United States, provided the total discharge from a single and complete project does not cause the loss of greater than 1/2-acre of non-tidal waters of the United States. This NWP does not authorize discharges into non-tidal wetlands adjacent to tidal waters for access roads. Access roads must be the minimum width necessary (see Note 2, below). Access roads must be constructed so that the length of the road minimizes any adverse effects on waters of the United States and must be as near as possible to pre-construction contours and elevations (e.g., at grade corduroy roads or geotextile/gravel roads). Access roads constructed above pre-construction contours and elevations in waters of the United States must be properly bridged or culverted to maintain surface flows.

This NWP may authorize utility lines in or affecting navigable waters of the United States even if there is no associated discharge of dredged or fill material (See 33 CFR Part 322). Overhead utility lines constructed over section 10 waters and utility lines that are routed in or

under section 10 waters without a discharge of dredged or fill material require a section 10 permit.

This NWP also authorizes temporary structures, fills, and work necessary to conduct the utility line activity. Appropriate measures must be taken to maintain normal downstream flows and minimize flooding to the maximum extent practicable, when temporary structures, work, and discharges, including cofferdams, are necessary for construction activities, access fills, or dewatering of construction sites. Temporary fills must consist of materials, and be placed in a manner, that will not be eroded by expected high flows. Temporary fills must be removed in their entirety and the affected areas returned to pre-construction elevations. The areas affected by temporary fills must be revegetated, as appropriate.

**Notification:** The permittee must submit a pre-construction notification to the district engineer prior to commencing the activity if any of the following criteria are met: (1) the activity involves mechanized land clearing in a forested wetland for the utility line right-of-way; (2) a section 10 permit is required; (3) the utility line in waters of the United States, excluding overhead lines, exceeds 500 feet; (4) the utility line is placed within a jurisdictional area (i.e., water of the United States), and it runs parallel to a stream bed that is within that jurisdictional area; (5) discharges that result in the loss of greater than 1/10-acre of waters of the United States; (6) permanent access roads are constructed above grade in waters of the United States for a distance of more than 500 feet; or (7) permanent access roads are constructed in waters of the United States with impervious materials. (Sections 10 and 404)

**Note 1:** Where the proposed utility line is constructed or installed in navigable waters of the United States (i.e., section 10 waters), copies of the pre-construction notification and NWP verification will be sent by the Corps to the National Oceanic and Atmospheric Administration (NOAA), National Ocean Service (NOS), for charting the utility line to protect navigation.

**Note 2:** Access roads used for both construction and maintenance may be authorized, provided they meet the terms and conditions of this NWP. Access roads used solely for construction of the utility line must be removed upon completion of the work, accordance with the requirements for temporary fills.

**Note 3:** Pipes or pipelines used to transport gaseous, liquid, liquescent, or slurry substances over navigable waters of the United States are considered to be bridges, not utility lines, and may require a permit from the U.S. Coast Guard pursuant to Section 9 of the Rivers and Harbors Act of 1899. However, any discharges of dredged or fill material into waters of the United States associated with such pipelines will require a section 404 permit (see NWP 15).

**General Conditions:** To qualify for NWP authorization, the prospective permittee must comply with the following general conditions, as appropriate, in addition to any regional or case-specific conditions imposed by the division engineer or district engineer.

**1. Navigation.** (a) No activity may cause more than a minimal adverse effect on navigation.

(b) Any safety lights and signals prescribed by the U.S. Coast Guard, through regulations or otherwise, must be installed and maintained at the permittee's expense on authorized facilities in navigable waters of the United States.

(c) The permittee understands and agrees that, if future operations by the United States require the removal, relocation, or other alteration, of the structure or work herein authorized, or if, in the opinion of the Secretary of the Army or his authorized representative, said structure or work shall cause unreasonable obstruction to the free navigation of the navigable waters, the permittee will be required, upon due notice from the Corps of Engineers, to remove, relocate, or alter the structural work or obstructions caused thereby, without expense to the United States. No claim shall be made against the United States on account of any such removal or alteration.

**2. Aquatic Life Movements.** No activity may substantially disrupt the necessary life cycle movements of those species of aquatic life indigenous to the waterbody, including those species that normally migrate through the area, unless the activity's primary purpose is to impound water. Culverts placed in streams must be installed to maintain low flow conditions.

**3. Spawning Areas.** Activities in spawning areas during spawning seasons must be avoided to the maximum extent practicable. Activities that result in the physical destruction (e.g., through excavation, fill, or downstream smothering by substantial turbidity) of an important spawning area are not authorized.

**4. Migratory Bird Breeding Areas.** Activities in waters of the United States that serve as breeding areas for migratory birds must be avoided to the maximum extent practicable.

**5. Shellfish Beds.** No activity may occur in areas of concentrated shellfish populations, unless the activity is directly related to a shellfish harvesting activity authorized by NWPs 4 and 48.

**6. Suitable Material.** No activity may use unsuitable material (e.g., trash, debris, car bodies, asphalt, etc.). Material used for construction or discharged must be free from toxic pollutants in toxic amounts (see Section 307 of the Clean Water Act).

**7. Water Supply Intakes.** No activity may occur in the proximity of a public water supply intake, except where the activity is for the repair or improvement of public water supply intake structures or adjacent bank stabilization.

**8. Adverse Effects From Impoundments.** If the activity creates an impoundment of water, adverse effects to the aquatic system due to accelerating the passage of water, and/or restricting its flow must be minimized to the maximum extent practicable.

**9. Management of Water Flows.** To the maximum extent practicable, the pre-construction course, condition, capacity, and location of open waters must be maintained for each activity, including stream channelization and storm water management activities, except as provided below. The activity must be constructed to withstand expected high flows. The activity must not restrict or impede the passage of normal or high flows, unless the primary purpose of the activity is to impound water or manage high flows. The activity may alter the pre-construction course, condition, capacity, and location of open waters if it benefits the aquatic environment (e.g., stream restoration or relocation activities).

**10. Fills Within 100-Year Floodplains.** The activity must comply with applicable FEMA-approved state or local floodplain management requirements.

**11. Equipment.** Heavy equipment working in wetlands or mudflats must be placed on mats, or other measures must be taken to minimize soil disturbance.

**12. Soil Erosion and Sediment Controls.** Appropriate soil erosion and sediment controls must be used and maintained in effective operating condition during construction, and all exposed soil and other fills, as well as any work below the ordinary high water mark or high tide line, must be permanently stabilized at the earliest practicable date. Permittees are encouraged to perform work within waters of the United States during periods of low-flow or no-flow.

**13. Removal of Temporary Fills.** Temporary fills must be removed in their entirety and the affected areas returned to pre-construction elevations. The affected areas must be revegetated, as appropriate.

**14. Proper Maintenance.** Any authorized structure or fill shall be properly maintained, including maintenance to ensure public safety.

**15. Wild and Scenic Rivers.** No activity may occur in a component of the National Wild and Scenic River System, or in a river officially designated by Congress as a "study river" for possible inclusion in the system while the river is in an official study status, unless the appropriate Federal agency with direct management responsibility for such river, has determined in writing that the proposed activity will not adversely affect the Wild and Scenic River designation or study status. Information on Wild and Scenic Rivers may be obtained from the appropriate Federal land management agency in the area (e.g., National Park Service, U.S. Forest Service, Bureau of Land Management, U.S. Fish and Wildlife Service).

**16. Tribal Rights.** No activity or its operation may impair reserved tribal rights, including, but not limited to, reserved water rights and treaty fishing and hunting rights.

**17. Endangered Species.** (a) No activity is authorized under any NWP which is likely to jeopardize the continued existence of a threatened or endangered species or a species proposed for such designation, as identified under the Federal Endangered Species Act (ESA), or which will destroy or adversely modify the critical habitat of such species. No activity is authorized under any NWP which "may affect" a listed species or critical habitat, unless Section 7 consultation addressing the effects of the proposed activity has been completed.

(b) Federal agencies should follow their own procedures for complying with the requirements of the ESA. Federal permittees must provide the district engineer with the appropriate documentation to demonstrate compliance with those requirements.

(c) Non-federal permittees shall notify the district engineer if any listed species or designated critical habitat might be affected or is in the vicinity of the project, or if the project is located in designated critical habitat, and shall not begin work on the activity until notified by the district engineer that the requirements of the ESA have been satisfied and that the activity is authorized. For activities that might affect Federally-listed endangered or threatened species or designated critical habitat, the pre-construction notification must include the name(s) of the endangered or threatened species that may be affected by the proposed work or that utilize the designated critical habitat that may be affected by the proposed work. The district engineer will determine whether the proposed activity "may affect" or will have "no effect" to listed species and designated critical habitat and will notify the non-Federal applicant of the Corps' determination within 45 days of receipt of a complete pre-construction notification. In cases where the non-Federal applicant has identified listed species or critical habitat that might be affected or is in the vicinity of the project, and has so notified the Corps, the applicant shall not begin work until the Corps has provided notification the proposed activities will have "no effect" on listed species or critical habitat, or until Section 7 consultation has been completed.

(d) As a result of formal or informal consultation with the FWS or NMFS the district engineer may add species-specific regional endangered species conditions to the NWPs.

(e) Authorization of an activity by a NWP does not authorize the "take" of a threatened or endangered species as defined under the ESA. In the absence of separate authorization (e.g., an ESA Section 10 Permit, a Biological Opinion with "incidental take" provisions, etc.) from the U.S. FWS or the NMFS, both lethal and non-lethal "takes" of protected species are in violation of the ESA. Information on the location of threatened and endangered species and their critical

habitat can be obtained directly from the offices of the U.S. FWS and NMFS or their world wide Web pages at <http://www.fws.gov/> and <http://www.noaa.gov/fisheries.html> respectively.

**18. Historic Properties.** (a) In cases where the district engineer determines that the activity may affect properties listed, or eligible for listing, in the National Register of Historic Places, the activity is not authorized, until the requirements of Section 106 of the National Historic Preservation Act (NHPA) have been satisfied.

(b) Federal permittees should follow their own procedures for complying with the requirements of Section 106 of the National Historic Preservation Act. Federal permittees must provide the district engineer with the appropriate documentation to demonstrate compliance with those requirements.

(c) Non-federal permittees must submit a pre-construction notification to the district engineer if the authorized activity may have the potential to cause effects to any historic properties listed, determined to be eligible for listing on, or potentially eligible for listing on the National Register of Historic Places, including previously unidentified properties. For such activities, the pre-construction notification must state which historic properties may be affected by the proposed work or include a vicinity map indicating the location of the historic properties or the potential for the presence of historic properties. Assistance regarding information on the location of or potential for the presence of historic resources can be sought from the State Historic Preservation Officer or Tribal Historic Preservation Officer, as appropriate, and the National Register of Historic Places (see 33 CFR 330.4(g)). The district engineer shall make a reasonable and good faith effort to carry out appropriate identification efforts, which may include background research, consultation, oral history interviews, sample field investigation, and field survey. Based on the information submitted and these efforts, the district engineer shall determine whether the proposed activity has the potential to cause an effect on the historic properties. Where the non-Federal applicant has identified historic properties which the activity may have the potential to cause effects and so notified the Corps, the non-Federal applicant shall not begin the activity until notified by the district engineer either that the activity has no potential to cause effects or that consultation under Section 106 of the NHPA has been completed.

(d) The district engineer will notify the prospective permittee within 45 days of receipt of a complete pre-construction notification whether NHPA Section 106 consultation is required. Section 106 consultation is not required when the Corps determines that the activity does not have the potential to cause effects on historic properties (see 36 CFR §800.3(a)). If NHPA section 106 consultation is required and will occur, the district engineer will notify the non-Federal applicant that he or she cannot begin work until Section 106 consultation is completed.

(e) Prospective permittees should be aware that section 110k of the NHPA (16 U.S.C. 470h-2(k)) prevents the Corps from granting a permit or other assistance to an applicant who, with intent to avoid the requirements of Section 106 of the NHPA, has intentionally significantly adversely affected a historic property to which the permit would relate, or having legal power to prevent it, allowed such significant adverse effect to occur, unless the Corps, after consultation with the Advisory Council on Historic Preservation (ACHP), determines that circumstances justify granting such assistance despite the adverse effect created or permitted by the applicant. If circumstances justify granting the assistance, the Corps is required to notify the ACHP and provide documentation specifying the circumstances, explaining the degree of damage to the integrity of any historic properties affected, and proposed mitigation. This documentation must include any views obtained from the applicant, SHPO/THPO, appropriate Indian tribes if the undertaking occurs on or affects historic properties on tribal lands or affects properties of interest to those tribes, and other parties known to have a legitimate interest in the impacts to the permitted activity on historic properties.

**19. Designated Critical Resource Waters.** Critical resource waters include, NOAA-designated marine sanctuaries, National Estuarine Research Reserves, state natural heritage sites, and outstanding national resource waters or other waters officially designated by a state as having particular environmental or ecological significance and identified by the district engineer after notice and opportunity for public comment. The district engineer may also designate additional critical resource waters after notice and opportunity for comment.

(a) Discharges of dredged or fill material into waters of the United States are not authorized by NWPs 7, 12, 14, 16, 17, 21, 29, 31, 35, 39, 40, 42, 43, 44, 49, and 50 for any activity within, or directly affecting, critical resource waters, including wetlands adjacent to such waters.

(b) For NWPs 3, 8, 10, 13, 15, 18, 19, 22, 23, 25, 27, 28, 30, 33, 34, 36, 37, and 38, notification is required in accordance with general condition 27, for any activity proposed in the designated critical resource waters including wetlands adjacent to those waters. The district engineer may authorize activities under these NWPs only after it is determined that the impacts to the critical resource waters will be no more than minimal.

**20. Mitigation.** The district engineer will consider the following factors when determining appropriate and practicable mitigation necessary to ensure that adverse effects on the aquatic environment are minimal:

(a) The activity must be designed and constructed to avoid and minimize adverse effects, both temporary and permanent, to waters of the United States to the maximum extent practicable at the project site (i.e., on site).

(b) Mitigation in all its forms (avoiding, minimizing, rectifying, reducing, or compensating) will be required to the extent necessary to ensure that the adverse effects to the aquatic environment are minimal.

(c) Compensatory mitigation at a minimum one-for-one ratio will be required for all wetland losses that exceed 1/10 acre and require pre-construction notification, unless the district engineer determines in writing that some other form of mitigation would be more environmentally appropriate and provides a project-specific waiver of this requirement. For wetland losses of 1/10 acre or less that require pre-construction notification, the district engineer may determine on a case-by-case basis that compensatory mitigation is required to ensure that the activity results in minimal adverse effects on the aquatic environment. Since the likelihood of success is greater and the impacts to potentially valuable uplands are reduced, wetland restoration should be the first compensatory mitigation option considered.

(d) For losses of streams or other open waters that require pre-construction notification, the district engineer may require compensatory mitigation, such as stream restoration, to ensure that the activity results in minimal adverse effects on the aquatic environment.

(e) Compensatory mitigation will not be used to increase the acreage losses allowed by the acreage limits of the NWPs. For example, if an NWP has an acreage limit of 1/2 acre, it cannot be used to authorize any project resulting in the loss of greater than 1/2 acre of waters of the United States, even if compensatory mitigation is provided that replaces or restores some of the lost waters. However, compensatory mitigation can and should be used, as necessary, to ensure that a project already meeting the established acreage limits also satisfies the minimal impact requirement associated with the NWPs.

(f) Compensatory mitigation plans for projects in or near streams or other open waters will normally include a requirement for the establishment, maintenance, and legal protection (e.g., conservation easements) of riparian areas next to open waters. In some cases, riparian areas may be the only compensatory mitigation required. Riparian areas should consist of native species. The width of the required riparian area will address documented water quality or aquatic habitat loss concerns. Normally, the riparian area will be 25 to 50 feet wide on each side of the stream, but the district engineer may require slightly wider riparian areas to address

documented water quality or habitat loss concerns. Where both wetlands and open waters exist on the project site, the district engineer will determine the appropriate compensatory mitigation (e.g., riparian areas and/or wetlands compensation) based on what is best for the aquatic environment on a watershed basis. In cases where riparian areas are determined to be the most appropriate form of compensatory mitigation, the district engineer may waive or reduce the requirement to provide wetland compensatory mitigation for wetland losses.

(g) Permittees may propose the use of mitigation banks, in-lieu fee arrangements or separate activity-specific compensatory mitigation. In all cases, the mitigation provisions will specify the party responsible for accomplishing and/or complying with the mitigation plan.

(h) Where certain functions and services of waters of the United States are permanently adversely affected, such as the conversion of a forested or scrub-shrub wetland to a herbaceous wetland in a permanently maintained utility line right-of-way, mitigation may be required to reduce the adverse effects of the project to the minimal level.

**21. Water Quality.** Where States and authorized Tribes, or EPA where applicable, have not previously certified compliance of an NWP with CWA Section 401, individual 401 Water Quality Certification must be obtained or waived (see 33 CFR 330.4(c)). The district engineer or State or Tribe may require additional water quality management measures to ensure that the authorized activity does not result in more than minimal degradation of water quality. *Specifically in North Dakota, the North Dakota Department of Health has denied certification for projects under this Nationwide Permit proposed to cross all classified rivers, tributaries and lakes; individual certification for project in these waterways must be obtained by the project proponent prior to authorization under this Nationwide Permit. For utility line crossings of all other waters, the Department of Health has issued water quality certification provided the attached Construction and Environmental Disturbance Requirements are followed.*

**22. Coastal Zone Management.** *Not Applicable.*

**23. Regional and Case-By-Case Conditions.** The activity must comply with any regional conditions that may have been added by the Division Engineer (see 33 CFR 330.4(e)) and with any case specific conditions added by the Corps or by the state, Indian Tribe, or U.S. EPA in its section 401 Water Quality Certification, or by the state in its Coastal Zone Management Act consistency determination.

**24. Use of Multiple Nationwide Permits.** The use of more than one NWP for a single and complete project is prohibited, except when the acreage loss of waters of the United States authorized by the NWPs does not exceed the acreage limit of the NWP with the highest specified acreage limit. For example, if a road crossing over tidal waters is constructed under NWP 14, with associated bank stabilization authorized by NWP 13, the maximum acreage loss of waters of the United States for the total project cannot exceed 1/3-acre.

**25. Transfer of Nationwide Permit Verifications.** If the permittee sells the property associated with a nationwide permit verification, the permittee may transfer the nationwide permit verification to the new owner by submitting a letter to the appropriate Corps district office to validate the transfer. A copy of the nationwide permit verification must be attached to the letter, and the letter must contain the following statement and signature:  
 "When the structures or work authorized by this nationwide permit are still in existence at the time the property is transferred, the terms and conditions of this nationwide permit, including any special conditions, will continue to be binding on the new owner(s) of the property. To validate the transfer of this nationwide permit and the associated liabilities associated with compliance with its terms and conditions, have the transferee sign and date below."

---

(Transferee)

---

(Date)

**26. Compliance Certification.** Each permittee who received a NWP verification from the Corps must submit a signed certification regarding the completed work and any required mitigation. The certification form must be forwarded by the Corps with the NWP verification letter and will include:

- (a) A statement that the authorized work was done in accordance with the NWP authorization, including any general or specific conditions;
- (b) A statement that any required mitigation was completed in accordance with the permit conditions; and
- (c) The signature of the permittee certifying the completion of the work and mitigation.

**27. Pre-Construction Notification.** See attached pages.

**28. Single and Complete Project.** The activity must be a single and complete project. The same NWP cannot be used more than once for the same single and complete project.

**Further Information**

- 1. District Engineers have authority to determine if an activity complies with the terms and conditions of an NWP.
- 2. NWPs do not obviate the need to obtain other federal, state, or local permits, approvals, or authorizations required by law.
- 3. NWPs do not grant any property rights or exclusive privileges.
- 4. NWPs do not authorize any injury to the property or rights of others.
- 5. NWPs do not authorize interference with any existing or proposed Federal project.

**General Condition 27. Pre-Construction Notification.**

(a) Timing. Where required by the terms of the NWP, the prospective permittee must notify the district engineer by submitting a pre-construction notification (PCN) as early as possible. The district engineer must determine if the PCN is complete within 30 calendar days of the date of receipt and, as a general rule, will request additional information necessary to make the PCN complete only once. However, if the prospective permittee does not provide all of the requested information, then the district engineer will notify the prospective permittee that the PCN is still incomplete and the PCN review process will not commence until all of the requested information has been received by the district engineer. The prospective permittee shall not begin the activity until either:

- (1) He or she is notified in writing by the district engineer that the activity may proceed under the NWP with any special conditions imposed by the district or division engineer; or
- (2) Forty five calendar days have passed from the district engineer's receipt of the complete PCN and the prospective permittee has not received written notice from the district or division engineer. However, if the permittee was required to notify the Corps pursuant to general condition 17 that listed species or critical habitat might be affected or in the vicinity of the project, or to notify the Corps pursuant to general condition 18 that the activity may have the potential to cause effects to historic properties, the permittee cannot begin the activity until receiving written notification from the Corps that is "no effect" on listed species or "no potential to cause effects" on historic properties, or that any consultation required under Section 7 of the Endangered Species Act (see 33 CFR 330.4(f)) and/or Section 106 of the National Historic Preservation (see 33 CFR 330.4(g)) is completed. Also, work cannot begin under NWPs 21, 49, or 50 until the permittee has received written approval from the Corps. If the proposed activity requires a written waiver to exceed specified limits of an NWP, the permittee cannot begin the activity until the district engineer issues the waiver. If the district or division engineer notifies the permittee in writing that an individual permit is required within 45 calendar days of receipt of a complete PCN, the permittee cannot begin the activity until an individual permit has been obtained. Subsequently, the permittee's right to proceed under the NWP may be modified, suspended, or revoked only in accordance with the procedure set forth in 33 CFR 330.5(d)(2).

(b) Contents of Pre-Construction Notification: The PCN must be in writing and include the following information:

- (1) Name, address and telephone numbers of the prospective permittee;
- (2) Location of the proposed project;
- (3) A description of the proposed project; the project's purpose; direct and indirect adverse environmental effects the project would cause; any other NWP(s), regional general permit(s), or individual permit(s) used or intended to be used to authorize any part of the proposed project or any related activity. The description should be sufficiently detailed to allow the district engineer to determine that the adverse effects of the project will be minimal and to determine the need for compensatory mitigation. Sketches should be provided when necessary to show that the activity complies with the terms of the NWP. (Sketches usually clarify the project and when provided result in a quicker decision.);
- (4) The PCN must include a delineation of special aquatic sites and other waters of the United States on the project site. Wetland delineations must be prepared in accordance with the current method required by the Corps. The permittee may ask the Corps to delineate the special aquatic sites and other waters of the United States, but there may be a delay if the Corps does the delineation, especially if the project site is large or contains many waters of the United States. Furthermore, the 45 day period will not start until the delineation has been submitted to or completed by the Corps, where appropriate;

(5) If the proposed activity will result in the loss of greater than 1/10 acre of wetlands and a PCN is required, the prospective permittee must submit a statement describing how the mitigation requirement will be satisfied. As an alternative, the prospective permittee may submit a conceptual or detailed mitigation plan.

(6) If any listed species or designated critical habitat might be affected or is in the vicinity of the project, or if the project is located in designated critical habitat, for non-Federal applicants the PCN must include the name(s) of those endangered or threatened species that might be affected by the proposed work or utilize the designated critical habitat that may be affected by the proposed work. Federal applicants must provide documentation demonstrating compliance with the Endangered Species Act; and

(7) For an activity that may affect a historic property listed on, determined to be eligible for listing on, or potentially eligible for listing on, the National Register of Historic Places, for non-Federal applicants the PCN must state which historic property may be affected by the proposed work or include a vicinity map indicating the location of the historic property. Federal applicants must provide documentation demonstrating compliance with Section 106 of the National Historic Preservation Act.

(c) Form of Pre-Construction Notification: The standard individual permit application form (Form ENG 4345) may be used, but the completed application form must clearly indicate that it is a PCN and must include all of the information required in paragraphs (b)(1) through (7) of this general condition. A letter containing the required information may also be used.

(d) Agency Coordination: (1) The district engineer will consider any comments from Federal and state agencies concerning the proposed activity's compliance with the terms and conditions of the NWPs and the need for mitigation to reduce the project's adverse environmental effects to a minimal level.

(2) For all NWP 48 activities requiring pre-construction notification and for other NWP activities requiring pre-construction notification to the district engineer that result in the loss of greater than 1/2-acre of waters of the United States, the district engineer will immediately provide (e.g., via facsimile transmission, overnight mail, or other expeditious manner) a copy of the PCN to the appropriate Federal or state offices (U.S. FWS, state natural resource or water quality agency, EPA, State Historic Preservation Officer (SHPO) or Tribal Historic Preservation Office (THPO), and, if appropriate, the NMFS). With the exception of NWP 37, these agencies will then have 10 calendar days from the date the material is transmitted to telephone or fax the district engineer notice that they intend to provide substantive, site-specific comments. If so contacted by an agency, the district engineer will wait an additional 15 calendar days before making a decision on the pre-construction notification. The district engineer will fully consider agency comments received within the specified time frame, but will provide no response to the resource agency, except as provided below. The district engineer will indicate in the administrative record associated with each pre-construction notification that the resource agencies' concerns were considered. For NWP 37, the emergency watershed protection and rehabilitation activity may proceed immediately in cases where there is an unacceptable hazard to life or a significant loss of property or economic hardship will occur. The district engineer will consider any comments received to decide whether the NWP 37 authorization should be modified, suspended, or revoked in accordance with the procedures at 33 CFR 330.5.

(3) In cases where the prospective permittee is not a Federal agency, the district engineer will provide a response to NMFS within 30 calendar days of receipt of any Essential Fish Habitat conservation recommendations, as required by Section 305(b)(4)(B) of the Magnuson-Stevens Fishery Conservation and Management Act.

(4) Applicants are encouraged to provide the Corps multiple copies of pre-construction notifications to expedite agency coordination.

(5) For NWP 48 activities that require reporting, the district engineer will provide a copy of each report within 10 calendar days of receipt to the appropriate regional office of the NMFS.

(e) District Engineer's Decision: In reviewing the PCN for the proposed activity, the district engineer will determine whether the activity authorized by the NWP will result in more than minimal individual or cumulative adverse environmental effects or may be contrary to the public interest. If the proposed activity requires a PCN and will result in a loss of greater than 1/10 acre of wetlands, the prospective permittee should submit a mitigation proposal with the PCN. Applicants may also propose compensatory mitigation for projects with smaller impacts. The district engineer will consider any proposed compensatory mitigation the applicant has included in the proposal in determining whether the net adverse environmental effects to the aquatic environment of the proposed work are minimal. The compensatory mitigation proposal may be either conceptual or detailed. If the district engineer determines that the activity complies with the terms and conditions of the NWP and that the adverse effects on the aquatic environment are minimal, after considering mitigation, the district engineer will notify the permittee and include any conditions the district engineer deems necessary. The district engineer must approve any compensatory mitigation proposal before the permittee commences work. If the prospective permittee elects to submit a compensatory mitigation plan with the PCN, the district engineer will expeditiously review the proposed compensatory mitigation plan. The district engineer must review the plan within 45 calendar days of receiving a complete PCN and determine whether the proposed mitigation would ensure no more than minimal adverse effects on the aquatic environment. If the net adverse effects of the project on the aquatic environment (after consideration of the compensatory mitigation proposal) are determined by the district engineer to be minimal, the district engineer will provide a timely written response to the applicant. The response will state that the project can proceed under the terms and conditions of the NWP.

If the district engineer determines that the adverse effects of the proposed work are more than minimal, then the district engineer will notify the applicant either: (1) That the project does not qualify for authorization under the NWP and instruct the applicant on the procedures to seek authorization under an individual permit; (2) that the project is authorized under the NWP subject to the applicant's submission of a mitigation plan that would reduce the adverse effects on the aquatic environment to the minimal level; or (3) that the project is authorized under the NWP with specific modifications or conditions. Where the district engineer determines that mitigation is required to ensure no more than minimal adverse effects occur to the aquatic environment, the activity will be authorized within the 45-day PCN period. The authorization will include the necessary conceptual or specific mitigation or a requirement that the applicant submit a mitigation plan that would reduce the adverse effects on the aquatic environment to the minimal level. When mitigation is required, no work in waters of the United States may occur until the district engineer has approved a specific mitigation plan.

**2007 NATIONWIDE PERMITS  
REGIONAL CONDITIONS  
STATE OF NORTH DAKOTA  
OMAHA DISTRICT – CORPS OF ENGINEERS**

The U.S. Army Corps of Engineers has adopted the following regional conditions for activities authorized by nationwide permits within the State of North Dakota. However, the pre-construction notification requirements defined below are not applicable to Nationwide Permit 47.

**1. Wetlands Classified as Fens**

All Nationwide Permits, with the exception of 3, 5, 20, 32, 38, 45, and 47, are revoked for use in fens in North Dakota. For nationwide permits 3, 5, 20, 32, 38, and 45 permittees must notify the Corps in accordance with General Condition 27 (Notification) prior to initiating any regulated activity impacting fens in North Dakota.

Fens are wetlands that develop where a relatively constant supply of ground water to the plant rooting zone maintains saturated conditions most of the time. The water chemistry of fens reflects the mineralogy of the surrounding and underlying soils and geological materials. The substrate is carbon-accumulating, ranging from muck to peat to carbonates. These wetlands may be acidic to alkaline, have pH ranging from 3.5 to 8.4 and support a range of vegetation types. Fens may occur on slopes, in depressions, or on flats (i.e., in different hydrogeomorphic classes; after: Brinson 1993).

**2. Waters Adjacent to Natural Springs**

For all Nationwide Permits permittees must notify the Corps in accordance with General Condition No. 27 (Notification) for regulated activities located within 100 feet of the water source in natural spring areas in North Dakota. For purposes of this condition, a spring source is defined as any location where there is artesian flow emanating from a distinct point at any time during the growing season. Springs do not include seeps and other groundwater discharge areas where there is no distinct point source.

**3. Missouri River, including Lake Sakakawea and Lake Oahe within the State of North Dakota**

For all Nationwide Permits permittees must notify the Corps in accordance with General Condition No. 27 (Notification) prior to initiating any regulated activity in the Missouri River, including Lake Sakakawea and Lake Oahe, within the State of North Dakota.

**4. Historic Properties**

That the permittee and/or the permittee's contractor, or any of the employees, subcontractors or other persons working in the performance of a contract(s) to complete the work authorized herein, shall cease work and report the discovery of any previously unknown historic or archeological remains to the North Dakota Regulatory Office. Notification shall be by telephone or fax within 24 hours of the discovery and in writing within 48 hours. Work shall not resume until the permittee is notified by the North Dakota Regulatory Office.

**5. Spawning Condition**

That no regulated activity within waters of the United States listed as Class III or higher on the 1978 Stream Evaluation Map for the State of North Dakota or on the North Dakota Game and Fish Department's website as a North Dakota Public Fishing Water shall occur between 15 April and 1 June. No regulated activity within the Red River of the North shall occur between 15 April and 1 July.

**Additional Information**

Permittees are reminded that General Condition No. 6 prohibits the use of unsuitable material. In addition, organic debris, some building waste, and materials excessive in fines are not suitable material.

Specific verbiage on prohibited materials and the 1978 Stream Evaluation Map for the State of North Dakota can be accessed on the North Dakota Regulatory Office's website at:  
<https://www.nwo.usace.army.mil/html/od-rnd/ndhome.htm>



**NORTH DAKOTA**  
DEPARTMENT of HEALTH

ENVIRONMENTAL HEALTH SECTION  
Gold Seal Center, 918 E. Divide Ave.  
Bismarck, ND 58501-1947  
701.328.5200 (fax)  
www.ndhealth.gov



**Construction and Environmental Disturbance Requirements**

These represent the minimum requirements of the North Dakota Department of Health. They ensure that minimal environmental degradation occurs as a result of construction or related work which has the potential to affect the waters of the State of North Dakota. All projects will be designed and implemented to restrict the losses or disturbances of soil, vegetative cover, and pollutants (chemical or biological) from a site.

**Soils**

Prevent the erosion of exposed soil surfaces and trapping sediments being transported. Examples include, but are not restricted to, sediment dams or berms, diversion dikes, hay bales as erosion checks, riprap, mesh or burlap blankets to hold soil during construction, and immediately establishing vegetative cover on disturbed areas after construction is completed. Fragile and sensitive areas such as wetlands, riparian zones, delicate flora, or land resources will be protected against compaction, vegetation loss, and unnecessary damage.

**Surface Waters**

All construction which directly or indirectly impacts aquatic systems will be managed to minimize impacts. All attempts will be made to prevent the contamination of water at construction sites from fuel spillage, lubricants, and chemicals, by following safe storage and handling procedures. Stream bank and stream bed disturbances will be controlled to minimize and/or prevent silt movement, nutrient upsurges, plant dislocation, and any physical, chemical, or biological disruption. The use of pesticides or herbicides in or near these systems is forbidden without approval from this Department.

**Fill Material**

Any fill material placed below the high water mark must be free of top soils, decomposable materials, and persistent synthetic organic compounds (in toxic concentrations). This includes, but is not limited to, asphalt, tires, treated lumber, and construction debris. The Department may require testing of fill materials. All temporary fills must be removed. Debris and solid wastes will be removed from the site and the impacted areas restored as nearly as possible to the original condition.

Environmental Health  
Section Chief's Office  
701.328.5150

Division of  
Air Quality  
701.328.5188

Division of  
Municipal Facilities  
701.328.5211

Division of  
Waste Management  
701.328.5166

Division of  
Water Quality  
701.328.5210

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REPLY TO  
ATTENTION OF

DEPARTMENT OF THE ARMY  
CORPS OF ENGINEERS, OMAHA DISTRICT  
1616 CAPITOL AVENUE  
OMAHA NE 68102-4901

September 23, 2011

RECEIVED  
OCT 06 2011

Planning, Programs, and Project Management Division

Kadrmass, Lee & Jackson  
Attention: Ms. Jennifer Turnbow, PM  
128 Soo Line Drive  
P.O. Box 1157  
Bismarck, North Dakota 58502-1157

Dear Ms. Turnbow:

The U.S. Army Corps of Engineers, Omaha District (Corps) has reviewed your letter dated September 14, 2011 regarding the environmental report on the proposed development of an 88 megawatt natural gas fired simple-cycle combustion turbine located in Morton County, North Dakota. The Corps offers the following comments:

Your plans should be coordinated with the U.S. Environmental Protection Agency, which is currently involved in a program to protect groundwater resources. If you have not already done so, it is recommended you consult with the North Dakota Game and Fish Department. In addition, the North Dakota Preservation Office should be contacted for information and recommendations on potential cultural resources in the project area.

Since the proposed project does not appear to be located within Corps owned or operated lands, we are providing no flood plain or flood risk information. To determine if the proposed project may impact areas designated as a Federal Emergency Management Agency special flood hazard area, please consult the following floodplain management office.

NFIP Coordinator:  
North Dakota  
North Dakota State Water Commission  
Attention: Jeff Klein  
900 East Boulevard Avenue  
Bismarck, North Dakota 58505-0850  
[jjkein@nd.gov](mailto:jjkein@nd.gov)  
Telephone: 701-328-4898  
Fax: 701-328-3747

Any proposed placement of dredged or fill material into waters of the United States (including jurisdictional wetlands) requires Department of the Army authorization under Section 404 of the Clean Water Act. You can visit the Omaha District's Regulatory website for permit applications

and related information. Please review the information on the provided website to determine if this project requires a 404 permit (<http://www.nwo.usace.army.mil/html/od-rne/nehome.html>). For a detailed review of permit requirements, preliminary and final project plans should be sent to:

U.S. Army Corps of Engineers  
Bismarck Regulatory Office  
Attention: CENWO-OD-R-ND/Cimarosti  
1513 South 12th Street  
Bismarck, North Dakota 58504

In addition, please update your records with our current mailing address:

U.S. Army Corps of Engineers, Omaha District  
Planning Branch  
Attention: CENWO-PM-AC  
1616 Capitol Ave.  
Omaha, Nebraska 68102-4901

If you have any questions, please contact Mr. Shannon Sjolie of my staff at (402) 995-2887.

Sincerely,



Eric Laux  
Acting Chief, Environmental Resources and Missouri  
River Recovery Program Plan Formulation Section

Copy Furnished:  
CENWO-OD-R-ND/Cimarosti

United States Department of Agriculture



Natural Resources Conservation Service  
P.O. Box 1458  
Bismarck, ND 58502-1458

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September 30, 2011

Jennifer Turnbow  
Kadrmass, Lee & Jackson  
128 Soo Line Drive  
PO Box 1157  
Bismarck, ND 58502-1157

RE: Simple-Cycle Combustion Turbine  
Montana Dakota Utilities  
Morton County, North Dakota

Dear Ms. Turnbow:

The Natural Resources Conservation Service (NRCS) has reviewed your letter dated September 14, 2011, concerning the installation of a simple-cycle turbine in Morton County, North Dakota.

NRCS has a major responsibility with Farmland Protection Policy Act (FPPA) in documenting conversion of farmland (i.e., prime, statewide, and local importance) to non-agricultural use when federal funding is used. Your proposed project is not supported by federal funding or actions; therefore, FPPA does not apply and no further action is needed.

If you have questions concerning the FPPA, please call Steve Sieler, State Soil Liaison, NRCS, Bismarck, ND at (701) 530-2019.

Sincerely,

A handwritten signature in black ink that reads "J. Schaar" followed by "ACTING FOR" in capital letters.

JEROME M. SCHAAR  
State Soil Scientist/MO 7 Leader

*Helping People Help the Land*

An Equal Opportunity Provider and Employer





## United States Department of the Interior

BUREAU OF INDIAN AFFAIRS  
Great Plains Regional Office  
115 Fourth Avenue S.E., Suite 400  
Aberdeen, South Dakota 57401



IN REPLY REFER TO:  
DESCRM  
MC-208

SEP 21 2011

Jennifer Turnbow  
Project Manager  
Kadmas Lee & Jackson  
P.O. Box 1157  
Bismarck, North Dakota 58502-1157

Dear Ms. Turnbow:

We received your letter regarding the proposed 88 megawatt natural gas fired simple-cycle combustion turbine (SCCT) in Morton County, North Dakota. We have considered the potential for both environmental damage and impacts to archaeological and Native American religious sites on lands held in trust by the Bureau of Indian Affairs, Great Plains Region. You should be aware, however, that Tribes or Tribal members may have lands in fee status near the site of interest. These lands would not necessarily be in our databases, and the Tribes should be contacted directly to ensure all concerns are recognized. The action considered has the following notification date and project location:

- September 14, 2011      Simple-Cycle Combustion Turbine  
   Montana-Dakota Utilities Co.  
   Morton County, North Dakota

We have no environmental objections to this action as long as the project complies with all pertinent laws and regulations. Questions regarding environmental opinions and conditions can be addressed to Jeffrey R. Davis, Environmental Protection Specialist, at (605) 226-7656.

We also find that the listed action will not affect cultural resources on Tribal or individual landholdings for which we are responsible. Methodologies for the treatment of cultural resources now known or yet to be discovered – particularly human remains – must nevertheless utilize the best available science in accordance with provisions of the Native American Graves Protection and Repatriation Act, the Archaeological Resources Protection Act of 1979 (as amended), and all other pertinent legislation and implementing regulations. Archaeological concerns can be addressed to Dr. Carson N. Murdy, Regional Archaeologist, at (605) 226-7656.

Sincerely,

Deputy Regional Director – Indian Services

**Kadrmass  
Lee &  
Jackson**  
Engineers Surveyors  
Planners

September 14, 2011

Mr. Jeffrey Towner  
Field Supervisor  
ND Field Office  
US Fish & Wildlife Service  
Bismarck, ND 58501

**Re: Simple-Cycle Combustion Turbine  
Montana-Dakota Utilities Co.  
Morton County, North Dakota**

Dear Mr. Towner:

On behalf of Montana-Dakota Utilities Co., a Division of MDU Resources Group, Inc. (Montana-Dakota), Kadrmass, Lee & Jackson is preparing an application for requirements of the North Dakota Energy Conversion and Transmission Facility Siting Act for the North Dakota Public Service Commission. The application will include the development of an 88 megawatt natural gas fired simple-cycle combustion turbine (SCCT) in Morton County. *Please refer to the enclosed project location map.*

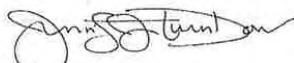
The proposed SCCT is required to meet the capacity requirements of Montana-Dakota's electric customers served by its integrated electric system. The project will also include the associated facilities necessary to connect with Montana-Dakota's existing electric system and a 10-inch natural gas pipeline, approximately 24 miles in length, to connect with Northern Border Pipeline Company to supply natural gas to the SCCT. The gas pipeline is being sited in a separate filing through the North Dakota Public Service Commission.

The project would be located on property currently owned by Montana-Dakota adjacent to the R.M. Heskett Station north of Mandan, ND. Construction is anticipated to begin in 2013 with a commercial operation date of March 2015 (subject to change). No federal funding is anticipated.

To ensure that social, economic, and environmental effects are considered in the development of this project, we are soliciting your views and comments on the proposed development of this project. We are particularly interested in any property within the project area that your department may own, or have an interest in. We would also appreciate being made aware of any proposed development(s) your department may be contemplating in the area of the proposed project. Any information that might help us in our study would be appreciated.

If you have any questions or need further information, please call me at (701) 355-8468. Thank you for your time and cooperation.

Sincerely,  
**Kadrmass, Lee & Jackson, Inc.**



Jennifer Turnbow  
Project Manager

Enclosure(s): 1, project location map  
Project #: 1611306

701 355 8400  
128 Soo Line Drive  
PO Box 1157  
Bismarck, ND 58502-1157  
Fax 701 355 8781  
kljeng.com

**U.S. FISH AND WILDLIFE SERVICE  
ECOLOGICAL SERVICES  
ND FIELD OFFICE**

**Project as described will have no significant impact on fish and wildlife resources. No endangered or threatened species are known to occupy the project area. IF PROJECT DESIGN CHANGES ARE MADE, PLEASE SUBMIT PLANS FOR REVIEW.**

10/26/11  
Date   
Jeffrey K. Towner  
Field Supervisor



Jack Dalrymple, Governor • Maren L. Daley, Executive Director

PO Box 5507 • Bismarck, ND 58506-5507

RECEIVED  
SEP 16 2011

September 15, 2011

Ms. Jennifer Turnbow  
Project Manager  
Kadmas, Lee & Jackson, Inc.  
128 Soo Line Drive  
PO Box 1157  
Bismarck, ND 58502-1157

RE: Simple-Cycle Combustion Turbine  
Montana-Dakota Utilities Co.  
Morton County, North Dakota

Dear Ms. Turnbow:

Job Service North Dakota administers the employment service and unemployment insurance programs.

We have no comments regarding the proposed project and have no applicable permits that are required from Job Service North Dakota.

Sincerely,

A handwritten signature in blue ink, appearing to read "M. Daley", is written over a faint, larger version of the signature.

Maren L. Daley  
Executive Director

701.328.2825 (Voice) • 800.366.6888 (TTY Users - Relay ND) • 701.328.4000 (FAX)

Job Service North Dakota is an equal opportunity employer/program provider.  
Auxiliary aids and services are available upon request to individuals with disabilities.



Community Services Economic Development & Finance Tourism Workforce Development

September 29, 2011

Jennifer Turnbow  
Kadmas Lee & Jackson  
PO Box 1157  
Bismarck, ND 58502-1157

"Letter of Clearance" In Conformance with the North Dakota Federal Program Review System -  
State Application Identifier No.: ND110930-0373

Dear Ms. Turnbow:

SUBJECT: MDU Simple-Cycle Combustion Turbine, Morton County, ND Environmental  
Review

The above referenced notice has been reviewed through the North Dakota Federal Program  
Review Process. As a result of the review, clearance is given to the project only with respect to  
this consultation process.

If the proposed project changes in duration, scope, description, budget, location or area of  
impact, from the project description submitted for review, then it is necessary to submit a copy of  
the completed application to this office for further review.

We also request the opportunity for complete review of applications for renewal or continuation  
grants within one year after the date of this letter.

Please use the above SAI number for reference to the above project with this office. Your  
continued cooperation in the review process is much appreciated.

Sincerely,

A handwritten signature in blue ink that reads "James R. Boyd".

James R. Boyd  
Manager of Governmental Services  
Division of Community Services

bb

*"We lead North Dakota's efforts to attract, retain and expand wealth."*

1600 E. Century Avenue, Suite 2 • P.O. Box 2057 • Bismarck, ND 58502-2057  
Phone: 701-328-5300 • 1-866-4DAKOTA • Fax: 701-328-5320 • www.ndcommerce.com  
Relay North Dakota: 1-800-366-6888 TTY • 1-800-366-6889 Voice



**NORTH DAKOTA**  
DEPARTMENT of HEALTH

ENVIRONMENTAL HEALTH SECTION  
Gold Seal Center, 918 E. Divide Ave.  
Bismarck, ND 58501-1947  
701.328.5200 (fax)  
www.ndhealth.gov



September 16, 2011

Ms. Jennifer Turnbow  
Kadmas, Lee & Jackson  
P.O. Box 1157  
Bismarck, ND 58502-1157

Re: Montana-Dakota Utilities Company  
Development of an 88 MW Natural Gas Fired Simple-Cycle Combustion Turbine  
Morton County

Dear Ms. Turnbow:

This department has reviewed the information concerning the above-referenced project submitted under date of September 14, 2011, with respect to possible environmental impacts.

This department believes that environmental impacts from the proposed construction will be minor and can be controlled by proper construction methods. With respect to construction, we have the following comments:

1. All necessary measures must be taken to minimize fugitive dust emissions created during construction activities. Any complaints that may arise are to be dealt with in an efficient and effective manner.
2. Care is to be taken during construction activity near any water of the state to minimize adverse effects on a water body. This includes minimal disturbance of stream beds and banks to prevent excess siltation, and the replacement and revegetation of any disturbed area as soon as possible after work has been completed. Caution must also be taken to prevent spills of oil and grease that may reach the receiving water from equipment maintenance, and/or the handling of fuels on the site. Guidelines for minimizing degradation to waterways during construction are attached.
3. Projects disturbing one or more acres are required to have a permit to discharge storm water runoff until the site is stabilized by the reestablishment of vegetation or other permanent cover. The facility also may be required to obtain a permit to discharge storm water runoff from industrial activity. Further information on the storm water permits may be obtained from the Department's website or by calling the Division of Water Quality (701-328-5210). Also, cities or counties may impose additional requirements and/or specific best management practices for construction affecting their storm drainage system and may require provisions to address the quality of post-construction storm water runoff from new

Environmental Health  
Section Chief's Office  
701.328.5150

Division of  
Air Quality  
701.328.5188

Division of  
Municipal Facilities  
701.328.5211

Division of  
Waste Management  
701.328.5166

Division of  
Water Quality  
701.328.5210

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Ms. Jennifer Turnbow

2.

September 16, 2011

development and redevelopment projects. Check with the local officials to be sure any local storm water management considerations are addressed.

4. Noise from construction activities may have adverse effects on persons who live near the construction area. Noise levels can be minimized by ensuring that construction equipment is equipped with a recommended muffler in good working order. Noise effects can also be minimized by ensuring that construction activities are not conducted during early morning or late evening hours.
5. The proposed project appears to have the potential to be a source of emissions to the air capable of causing or contributing to air pollution and may be required to have an Air Pollution Control Permit to Construct/Operate as required by Chapter 33-15-14 of the North Dakota Air Pollution Control Rules. The applicant should contact the Department's Air Pollution Control Program at 701-328-5188 prior to commencing construction.

The department owns no land in or adjacent to the proposed improvements, nor does it have any projects scheduled in the area. In addition, we believe the proposed activities are consistent with the State Implementation Plan for the Control of Air Pollution for the State of North Dakota.

These comments are based on the information provided about the project in the above-referenced submittal. The U.S. Army Corps of Engineers may require a water quality certification from this department for the project if the project is subject to their Section 404 permitting process. Any additional information which may be required by the U.S. Army Corps of Engineers under the process will be considered by this department in our determination regarding the issuance of such a certification.

If you have any questions regarding our comments, please feel free to contact this office.

Sincerely,



L. David Glat, P.E., Chief  
Environmental Health Section

LDG:cc  
Attach.



**NORTH DAKOTA**  
DEPARTMENT of HEALTH

ENVIRONMENTAL HEALTH SECTION  
Gold Seal Center, 918 E. Divide Ave.  
Bismarck, ND 58501-1947  
701.328.5200 (fax)  
www.ndhealth.gov



**Construction and Environmental Disturbance Requirements**

These represent the minimum requirements of the North Dakota Department of Health. They ensure that minimal environmental degradation occurs as a result of construction or related work which has the potential to affect the waters of the State of North Dakota. All projects will be designed and implemented to restrict the losses or disturbances of soil, vegetative cover, and pollutants (chemical or biological) from a site.

**Soils**

Prevent the erosion of exposed soil surfaces and trapping sediments being transported. Examples include, but are not restricted to, sediment dams or berms, diversion dikes, hay bales as erosion checks, riprap, mesh or burlap blankets to hold soil during construction, and immediately establishing vegetative cover on disturbed areas after construction is completed. Fragile and sensitive areas such as wetlands, riparian zones, delicate flora, or land resources will be protected against compaction, vegetation loss, and unnecessary damage.

**Surface Waters**

All construction which directly or indirectly impacts aquatic systems will be managed to minimize impacts. All attempts will be made to prevent the contamination of water at construction sites from fuel spillage, lubricants, and chemicals, by following safe storage and handling procedures. Stream bank and stream bed disturbances will be controlled to minimize and/or prevent silt movement, nutrient upsurges, plant dislocation, and any physical, chemical, or biological disruption. The use of pesticides or herbicides in or near these systems is forbidden without approval from this Department.

**Fill Material**

Any fill material placed below the high water mark must be free of top soils, decomposable materials, and persistent synthetic organic compounds (in toxic concentrations). This includes, but is not limited to, asphalt, tires, treated lumber, and construction debris. The Department may require testing of fill materials. All temporary fills must be removed. Debris and solid wastes will be removed from the site and the impacted areas restored as nearly as possible to the original condition.

Environmental Health  
Section Chief's Office  
701.328.5150

Division of  
Air Quality  
701.328.5188

Division of  
Municipal Facilities  
701.328.5211

Division of  
Waste Management  
701.328.5166

Division of  
Water Quality  
701.328.5210

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# North Dakota Department of Transportation

Francis G. Ziegler, P.E.  
*Director*

Jack Dalrymple  
*Governor*

September 23, 2011

Jennifer Turnbow  
Project Manager  
Kadmas Lee & Jackson Inc.  
P.O. Box 1157  
Bismarck, ND 58502-1157

CONSTRUCT A 88 MEGAWATT NATURAL GAS FIRED SIMPLE-CYCLE COMBUSTION  
TURBINE (SCCT) IN MORTON COUNTY, NORTH DAKOTA

We have reviewed your September 14, 2011, letter.

This project should have no adverse effect on the North Dakota Department of Transportation highways.

However, if because of this project any work needs to be done on highway right-of-way, appropriate permits and risk management documents will need to be obtained from the Department of Transportation District Engineer, Kevin Levi at 701-328-6955.

A handwritten signature in blue ink that reads "Robert Fode".

ROBERT A. FODE, P.E., DIRECTOR – OFFICE OF PROJECT DEVELOPMENT

57/raf/js

c: Kevin Levi, Bismarck District Engineer



Jack Detrymple, Governor  
Mark A. Zimmerman, Director

1600 East Century Avenue, Suite 3  
Bismarck, ND 58503-0649  
Phone 701-328-5357  
Fax 701-328-5363  
E-mail [parkrec@nd.gov](mailto:parkrec@nd.gov)  
[www.parkrec.nd.gov](http://www.parkrec.nd.gov)

September 27, 2011

Kadmas Lee and Jackson  
Jennifer Turnbow  
128 Soo Line Drive  
PO Box 157  
Bismarck, ND 58502-1157

Re: Simple-Cycle Combustion Turbine  
MDU-Morton County, ND

Dear Ms. Turnbow,

The North Dakota Parks and Recreation Department (the Department) has reviewed the above referenced proposed for the development of an 88 megawatt natural gas fired simple-cycle combustion turbine in Morton County.

Our agency scope of authority and expertise covers recreation and biological resources (in particular rare plants and ecological communities). The project as defined does not affect state park lands that we manage or Land and Water Conservation Fund recreation projects that we coordinate.

The North Dakota Natural Heritage biological conservation database has been reviewed to determine if any plant or animal species of concern or other significant ecological communities are known to occur within an approximate one-mile radius of the project area. Based on this review, we have several occurrences of animal species and significant ecological communities documented adjacent to project area. Please see the attached spreadsheet and map for more information on these occurrences.

Because this information is not based on a comprehensive inventory, there may be species of concern or otherwise significant ecological communities in the area that are not represented in the database. The lack of data for any project area cannot be construed to mean that no significant features are present. The absence of data may indicate that the project area has not been surveyed, rather than confirm that the area lacks natural heritage resources.

Regarding any reclamation efforts, we recommend that any impacted areas be revegetated with species native to the project area.

We appreciate your commitment to rare plant, animal and ecological community conservation, management and inter-agency cooperation to date. For additional information please contact Kathy Duttonhefner (701-328-5370 or [kgduttonhefner@nd.gov](mailto:kgduttonhefner@nd.gov)) of our staff. Thank you for the opportunity to comment on this proposed project.

Sincerely,

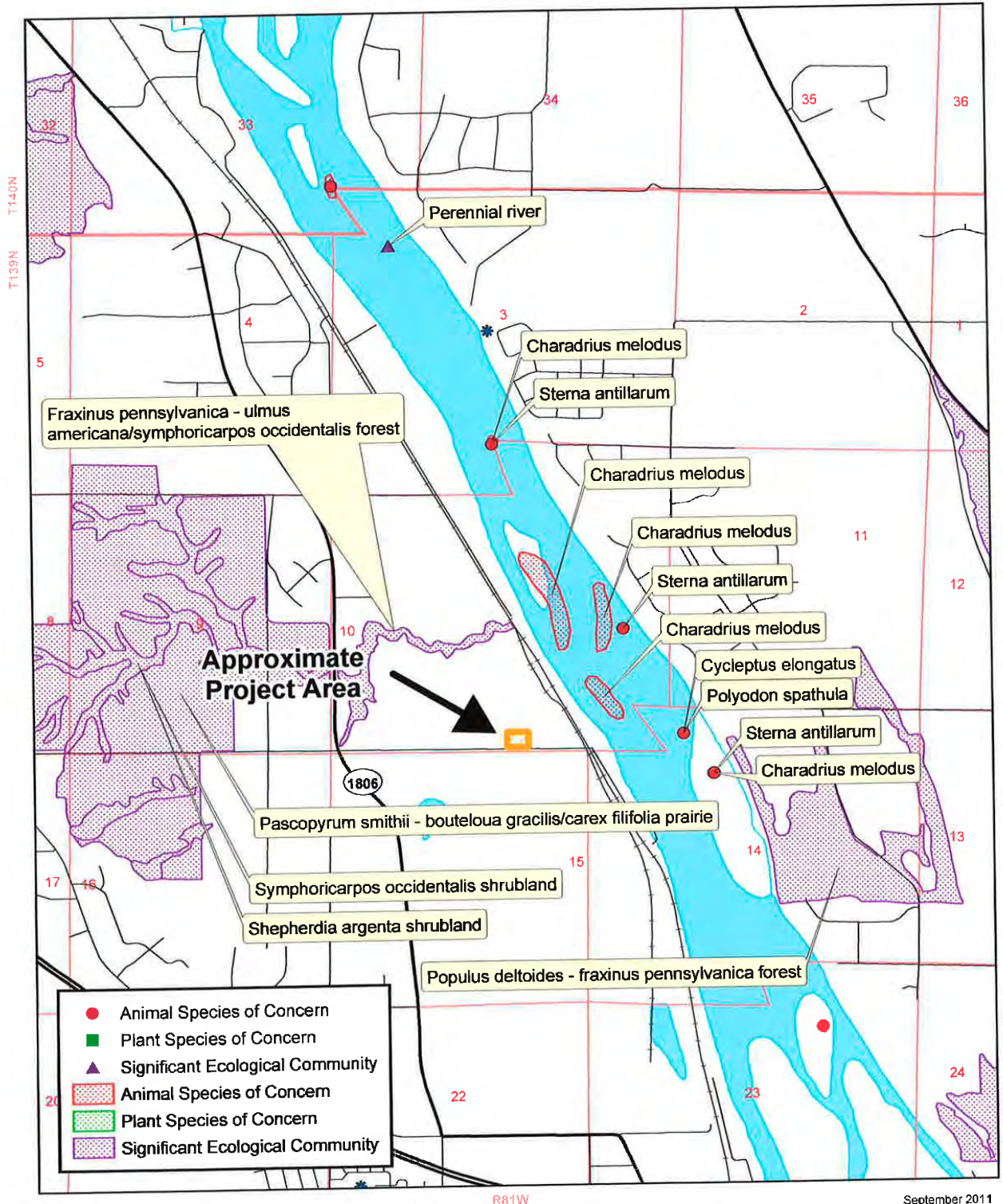
A handwritten signature in blue ink that reads "Jesse Hanson".

Jesse Hanson, Manager  
Planning and Natural Resources Division

R.USNDNHI\*2011-211KD9/21/2011DL10.1.2011

.....  
*Play in our backyard!*

### North Dakota Parks and Recreation Department North Dakota Natural Heritage Inventory



September 2011

North Dakota Natural Heritage Inventory  
Rare Animal and Plant Species and Significant Ecological Communities

State Scientific Name	State Common Name	State Rank	Global Rank	Federal Status	Township Range Section	County	Last Observation	Estimated Representation Accuracy	Precision
Charadrius melodus	Piping Plover	S1S2	G3	LE, LT	139N081W - 03; 139N081W - 10	Burleigh, Morton	1991	High	S
Charadrius melodus	Piping Plover	S1S2	G3	LE, LT	139N081W - 10	Morton	2003-05-28	Medium	S
Charadrius melodus	Piping Plover	S1S2	G3	LE, LT	139N081W - 10	Morton	2003-06-09	Medium	
Charadrius melodus	Piping Plover	S1S2	G3	LE, LT	139N081W - 10	Burleigh, Morton	2002-06-11	Medium	
Charadrius melodus	Piping Plover	S1S2	G3	LE, LT	139N081W - 14	Burleigh	1999-06-22	Medium	S
Cycleptus elongatus	Blue Sucker	S3	G3G4		139N081W - 14	Burleigh	1994-08-17		S
Fraxinus pennsylvanica - ulmus americana/symphoricarpos occidentalis forest	Western Floodplain Forest	S3	GNR		139N081W - 10	Morton	2007-06-22	Very High	
Pascopyrum smithii - bouteloua gracilis/carex filifolia prairie	Western Wheatgrass Prairie	S3S4	GNR		139N081W - 09; 139N081W - 17; 139N081W - 04; 139N081W - 16; 139N081W - 08	Morton	2007-06-22	Medium	
Perennial river		S1	GNR		139N081W - 03	Burleigh, Morton	1986		S
Polyodon spathula	Paddlefish	SNR	G4		139N081W - 14	Burleigh	1994-06-15		S
Populus deltoides - fraxinus pennsylvanica forest	Cottonwood-green Ash Floodplain Forest	S3	GNR		139N081W - 14; 139N081W - 11; 139N081W - 13	Burleigh	2007-09-18	Medium	
Shepherdia argenta shrubland	Buffaloberry Shrubland	S4	GNR		139N081W - 09; 139N081W - 04; 139N081W - 16; 139N081W - 08	Morton	2007-06-22	Medium	
Sterna antillarum	Least Tern	S1	G4		139N081W - 03; 139N081W - 10	Burleigh, Morton	1993-07-14	Medium	S
Sterna antillarum	Least Tern	S1	G4		139N081W - 10; 139N081W - 12; 139N081W - 09; 139N081W - 03; 139N081W - 11; 139N081W - 13; 139N081W - 16; 139N081W - 02; 139N081W - 14; 139N081W - 15	Burleigh, Morton	1993-07-14	Low	M
Sterna antillarum	Least Tern	S1	G4		139N081W - 14	Burleigh	2000-05-31	Medium	S
Symphoricarpos occidentalis shrubland	Buckbrush Shrubland	S4	GNR		139N081W - 08; 139N081W - 16; 139N081W - 09; 139N081W - 04	Morton	2007-06-22	Medium	

#### North Dakota Natural Heritage Inventory Biological and Conservation Data Disclaimer

The quantity and quality of data collected by the North Dakota Natural Heritage Inventory are dependent on the research and observations of many individuals and organizations. In most cases, this information is not the result of comprehensive or site-specific field surveys; many natural areas in North Dakota have never been thoroughly surveyed, and new species are still being discovered. For these reasons, the Natural Heritage inventory cannot provide a definite statement on the presence, absence, or condition of biological elements in any part of North Dakota. Natural Heritage data summarize the existing information known at the time of the request. Our data are continually upgraded and information is continually being added to the database. This data should never be regarded as final statements on the elements or areas that are being considered, nor should they be substituted for on-site surveys.

#### Estimated Representation Accuracy

Value that indicates the approximate percentage of the Element Occurrence Representation (EO Rep) that was observed to be occupied by the species or community (versus buffer area added for locational uncertainty). Use of estimated representation accuracy provides a common index for the consistent comparison of EO reps, thus helping to ensure that aggregated data are correctly analyzed and interpreted.

Very high (>95%)  
 High (>80%, <= 95%)  
 Medium (>20%, <= 80%)  
 Low (>0%, <= 20%)  
 Unknown  
 (null) - Not assessed

#### Precision

A single-letter code for the precision used to map the Element Occurrence (EO) on a U.S. Geological Survey (USGS) 7.5' (or 15') topographic quadrangle map, based on the previous Heritage methodology in which EOs were located on paper maps using dots.

S - Seconds: accuracy of locality mappable within a three-second radius; 100 meters from the centerpoint  
 M - Minute: accuracy of locality mappable within a one-minute radius; 2 km from the centerpoint  
 G - General: accuracy of locality mappable to map or place name precision only; 8 km from centerpoint  
 U - Unmappable



## North Dakota State Water Commission

900 EAST BOULEVARD AVENUE, DEPT 770 • BISMARCK, NORTH DAKOTA 58505-0850  
701-328-2750 • TDD 701-328-2750 • FAX 701-328-3696 • INTERNET: <http://swc.nd.gov>

October 7, 2011

Jennifer Turnbow  
Kadmas, Lee and Jackson  
PO Box 1157  
Bismarck, ND 58502-1157

RECEIVED

OCT 10 2011

Dear Ms. Turnbow:

This is in response to your request for review of environmental impacts associated with the Simple-Cycle Combustion Turbine, Montana-Dakota Utilities Co, Morton County, ND.


The proposed project has been reviewed by State Water Commission staff and the following comments are provided:

- The completed project should have no impact to any floodplain areas.
- It is the responsibility of the project sponsor to ensure that local, state and federal agencies are contacted for any required approvals, permits, and easements.
- All waste material associated with the project must be disposed of properly and not placed in identified floodway areas.
- No sole-source aquifers have been designated in ND.

There are no other concerns associated with this project that affect State Water Commission or State Engineer regulatory responsibilities.

Thank you for the opportunity to provide review comments. If you have any questions, please call me at 328-4969.

Sincerely,

  
Larry Knudtson  
Research Analyst

LJK:dp/1570

*[Faint, illegible text, likely bleed-through from the reverse side of the page]*

JACK DALRYMPLE, GOVERNOR  
CHAIRMAN

TODD SANDO, P.E.  
SECRETARY AND STATE ENGINEER



**STATE  
HISTORICAL  
SOCIETY  
OF NORTH DAKOTA**

RECEIVED  
SEP 19 2011

Jack Dalrymple  
*Governor of North Dakota*

North Dakota  
State Historical Board

Gereld Gerntholz  
*Valley City - President*

Calvin Grinnell  
*New Town - Vice President*

A. Ruric Todd III  
*Jamestown - Secretary*

Albert I. Berger  
*Grand Forks*

Richard Kloubee  
*Fargo*

Diane K. Larson  
*Bismarck*

Chester E. Nelson, Jr.  
*Bismarck*

Sara Otte Coleman  
*Director  
Tourism Division*

Kelly Schmidt  
*State Treasurer*

Alvin A. Jaeger  
*Secretary of State*

Mark Zimmerman  
*Director  
Parks and Recreation  
Department*

Francis Ziegler  
*Director  
Department of Transportation*

Merlan E. Paaverud, Jr.  
*Director*

*Accredited by the  
American Association  
of Museums since 1986*

September 16, 2011

Ms. Jennifer Turnbow  
Project Manager  
KLJ  
128 Soo Line Drive  
PO Box 1157  
Bismarck ND 58502-1157

**ND SHPO Ref.: 11-2735 Simple-Cycle Combustion Turbine Montana-Dakota  
Utilities Company in portions of [T139N R81W Section 10 SW of the SE]  
Morton County, North Dakota**

Dear Ms. Turnbow,

We reviewed ND SHPO Ref.: 11-2735 Simple-Cycle Combustion Turbine  
Montana-Dakota Utilities Company in portions of [T139N R81W Section 10  
SW of the SE] Morton County, North Dakota. If consulted by a federal agency,  
we would concur with a "No Historic Properties Affected" determination  
provided the project is of the nature specified and takes place as mapped in your  
associated correspondence dated September 16, 2011.

Thank you for the opportunity to review this project. Please include the ND  
SHPO Reference number listed above in any further correspondence for these  
specific projects. If you have any questions please contact Susan Quinnell at  
(701) 328-3576, or [squinnell@nd.gov](mailto:squinnell@nd.gov)

Sincerely,

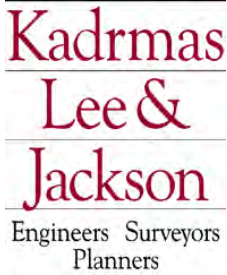
Merlan E. Paaverud, Jr.  
State Historic Preservation Officer (North Dakota)  
and Director State Historical Society of North Dakota

# APPENDIX D

## Scoping Package

APPLICATION FOR A CERTIFICATE OF SITE COMPATIBILITY • Montana-Dakota Utilities Co.

Morton County										
Solicitation of Views Mailing List										
	CTitle	First	Last	Title	Department	Agency	Address	City	State	Zip
1	Mr.	Weldon	Loudermilk	Regional Director		Bureau of Indian Affairs	115 4th Ave. SE	Aberdeen	SD	57401
2	Mr.	Richard	Nelson	Chief, Resource Management	Dakotas Area Office	Bureau of Reclamation	PO Box 1017	Bismarck	ND	58502-1017
3	Mr.	Lonny	Bagley	Field Office Manager	North Dakota Field Office	Bureau of Land Management	29 23rd Ave W Suite A	Dickinson	ND	58601
4	Mr.	Thomas	Schauer	Manager	Bismarck Airports District Office	Federal Aviation Administration	2301 University Drive, Bldg 238	Bismarck	ND	58504
5	Mr.	Dan	Cimarosti	Manager	ND Regulatory Office	US Army Corps of Engineers	1513 S. 12th St.	Bismarck	ND	58504
6	Ms.	Nancy	Peak	Acting Supervisor	Dakota Prairie Grasslands	US Forest Service	240 W. Century Ave.	Bismarck	ND	58503
7	Mr.	Brad	Thompson	Chief, Environmental Resources & Missouri Recovery	Omaha District	US Army Corps of Engineers	1616 Capitol Ave	Omaha	NE	68102-4901
8	Sir or Madam			State Conservationist	Natural Resources Conservation Service	US Department of Agriculture	PO Box 1458	Bismarck	ND	58502-1458
9	Mr.	Gerald	Paulson	Director, Transmission Linest Substations	Western Area Power Admin.	US Department of Energy	PO Box 1173	Bismarck	ND	58502-1173
10	Senator	Kent	Conrad			US Federal Building, Room 228	220 E. Rosser Avenue	Bismarck	ND	58501
11	Senator	John	Hoeven			US Federal Building, Room 317	220 E. Rosser Avenue	Bismarck	ND	58501
12	Congressman	Rick	Berg			US Federal Building, Room 328	220 E. Rosser Avenue	Bismarck	ND	58501
13	Mr.	Jeffrey	Towner	Field Supervisor	ND Field Office	US Fish & Wildlife Service	3425 Miriam Ave.	Bismarck	ND	58501
14	Mr.	Greg	Wiche	Director	Water Resources Division	US Geological Survey	821 E. Interstate Avenue	Bismarck	ND	58501
15	Mr.	Robert	Shepherd	Tribal Chairman		Sisseton-Wahpeton Sioux Tribe	PO Box 509	Sisseton	SD	57262-0267
16	Mr.	Roger	Yankton, SR	Tribal Chairman	Ft. Totten Tribal Business Office	Spirit Lake Dacotah Nation	PO Box 359	Ft. Totten	ND	58335
17	Mr.	Charles	Murphy	Tribal Chairman		Standing Rock Sioux Tribe	PO Box D	Fort Yates	ND	58538
18	Mr.	Tex	Hall	Tribal Chairman		Three Affiliated Tribes	HC3 Box 2	New Town	ND	58763
19	Mr.	Merle	St. Claire	Tribal Chairman		Turtle Mountain Chippewa	PO Box 900	Belcourt	ND	58316-0900
20	Ms.	Adrienne	Swallow	Environmental Protection Specialist		Standing Rock Sioux Tribe	PO Box D	Fort Yates	ND	58538
21	Mr.	Barry	Benson	Environmental Division Director	Natural Resources Department	Three Affiliated Tribes	404 Frontage Road	New Town	ND	58763
22	Mr.	Silas	Ironheart, Jr.	SLT-EPA Director		Spirit Lake Dacotah Nation	PO Box 99	Fort Totten	ND	58335
23	Mr.	Jack	Dalrymple	Governor		State of North Dakota	600 E. Boulevard Ave.	Bismarck	ND	58505-0001
24	Mr.	Wayne	Stenehjem	Attorney General		State of North Dakota	600 E. Boulevard Ave. Dept. 125	Bismarck	ND	58505
25	Mr.	Scott	Davis	Executive Director		ND Indian Affairs Commission	600 E. Blvd. Ave. 1st Floor, Judicial Wing, Rm 117	Bismarck	ND	58505-0300
26	Sir or Madam			Director		Job Service North Dakota	PO Box 5507	Bismarck	ND	58506-5507
27	Mr.	Mike	Brand	Director	Surface Management	ND State Land Department	PO Box 5523	Bismarck	ND	58506-5523
28	Mr.	Merl	Paaverud	State Historic Perservation Officer		State Historical Society of North Dakota	612 E. Boulevard Ave.	Bismarck	ND	58505-0830
29	Mr.	Francis	Ziegler	Director		ND Department of Transportation	608 E. Boulevard Ave.	Bismarck	ND	58505-0700
30	Mr.	Doug	Goehring	Agriculture Commissioner		ND Department of Agriculture	600 E. Boulevard Ave, Dept. 602	Bismarck	ND	58505-0020
31	Mr.	Larry	Taborsky	Director		ND Aeronautics Commission	PO Box 5020	Bismarck	ND	58502-5020
32	Mr.	Mark	Johnson	Executive Director		ND Association of Counties	1661 Capitol Way, PO Box 877	Bismarck	ND	58502-0877
33	Sir or Madam			Director		ND Department of Human Services	600 E. Boulevard Ave. Dept. 325	Bismarck	ND	58505-0250
34	Mr.	Tom	Weiler	Commissioner of Labor		ND Department of Labor	600 E. Boulevard Ave. Dept. 306	Bismarck	ND	58505-0340
35	Mr.	Wayne	Kutzer	Director		ND Department of Career and Technical Education	600 E. Boulevard Ave. Dept. 270	Bismarck	ND	58505-0610
36	Ms.	Pam	Sharp	Director		ND Office of Management and Budget	600 E. Boulevard Ave. Dept. 110	Bismarck	ND	58505-0400
37	Mr.	Alan	Anderson	Commissioner		Department of Commerce	600 E. Century Avenue, Suite 2	Bismarck	ND	58503
38		Lynn	Helms	Director		NDIC Oil & Gas Division	600 E. Boulevard Ave. Dept. 405	Bismarck	ND	58505-0840
39	Mr.	L David	Glatt	Chief	Environmental Health Section Gold Seal Center	ND Department of Health	918 E. Divide Ave., 4th floor	Bismarck	ND	58501-1947
40	Mr.	Larry	Kotchmann	State Forester		ND Forest Service	307 1st St. E.	Bottineau	ND	58318-1100
41	Mr.	Terry	Steinwand	Director		ND Game & Fish Department	100 Bismarck Expressway	Bismarck	ND	58501-5095
42	Mr.	Ed	Murphy	State Geologist		ND Geological Survey	600 E. Blvd. Ave.	Bismarck	ND	58501-5095
43	Mr.	Mark	Zimmerman	Director		ND Parks & Recreation Dept.	1600 E. Century Ave., Suite 3	Bismarck	ND	58503-0649
44	Mr.	Todd	Sando	State Engineer		ND State Water Commission	900 E. Blvd. Ave.	Bismarck	ND	58505-0850
45	Mr.	Scott	Hochhalter	Soil Conservation Specialist	NDSU Extension Service	Soil Conservation Committee	2718 Gateway Ave., #104	Bismarck	ND	58503
46	Sir or Madam			District Engineer	District 1	ND Department of Transportation	218 S Airport Rd	Bismarck	ND	58504-6003
47	Ms.	Dawn	Rhone	Auditor		Morton County	210 2nd Ave NW	Mandan	ND	58554
48	Mr.	Bruce	Strinden	Commission Chair	County Commission	Morton County	210 2nd Ave NW	Mandan	ND	58554
49	Mr.	Andy	Zachmeier	Commission Vice-Chair	County Commission	Morton County	210 2nd Ave NW	Mandan	ND	58554
50	Mr.	Jim	Boehm	Commissioner	County Commission	Morton County	210 2nd Ave NW	Mandan	ND	58554
51	Mr.	Richard	Tokach	Commissioner	County Commission	Morton County	210 2nd Ave NW	Mandan	ND	58554
52	Mr.	Mark	Bitz	Commissioner	County Commission	Morton County	210 2nd Ave NW	Mandan	ND	58554
53	Ms.	Tammy	Lapp-Harris	Emergency Manager		Morton County	210 2nd Ave NW	Mandan	ND	58554
54	Mr.	Michael	Aubol	County Engineer		Morton County	2916 37th St NW	Mandan	ND	58554
55	Mr.	Tim	Helbling	Mayor	City Commission	City of Mandan	205 2nd Ave NW	Mandan	ND	58554
56	Ms.	Dot	Frank	Commissioner	City Commission	City of Mandan	205 2nd Ave NW	Mandan	ND	58554
57	Mr.	Tom	Jackson	Commissioner	City Commission	City of Mandan	205 2nd Ave NW	Mandan	ND	58554
58	Mr.	Dennis	Rohr	Commissioner	City Commission	City of Mandan	205 2nd Ave NW	Mandan	ND	58554
59	Ms.	Sandra	Tibke	Commissioner	City Commission	City of Mandan	205 2nd Ave NW	Mandan	ND	58554
60	Sir or Madam			Manager		Mor-Gran-Sou Electric Cooperative, Inc.	2816 37th St NW	Mandan	ND	58554-7175
61	Sir or Madam			Manager		Basin Electric Power Cooperative	1717 E Interstate Ave	Bismarck	ND	58503-0564



September 14, 2011

«CTitle» «First» «Last»  
«Title»  
«Department»  
«Agency»  
«City», «State» «Zip»

**Re: Simple-Cycle Combustion Turbine  
Montana-Dakota Utilities Co.  
Morton County, North Dakota**

Dear «CTitle» «Last»:

On behalf of Montana-Dakota Utilities Co., a Division of MDU Resources Group, Inc. (Montana-Dakota), Kadrmass, Lee & Jackson is preparing an application for requirements of the North Dakota Energy Conversion and Transmission Facility Siting Act for the North Dakota Public Service Commission. The application will include the development of an 88 megawatt natural gas fired simple-cycle combustion turbine (SCCT) in Morton County. ***Please refer to the enclosed project location map.***

The proposed SCCT is required to meet the capacity requirements of Montana-Dakota's electric customers served by its integrated electric system. The project will also include the associated facilities necessary to connect with Montana-Dakota's existing electric system and a 10-inch natural gas pipeline, approximately 24 miles in length, to connect with Northern Border Pipeline Company to supply natural gas to the SCCT. The gas pipeline is being sited in a separate filing through the North Dakota Public Service Commission.

The project would be located on property currently owned by Montana-Dakota adjacent to the R.M. Heskett Station north of Mandan, ND. Construction is anticipated to begin in 2013 with a commercial operation date of March 2015 (subject to change). No federal funding is anticipated.

To ensure that social, economic, and environmental effects are considered in the development of this project, we are soliciting your views and comments on the proposed development of this project. We are particularly interested in any property within the project area that your department may own, or have an interest in. We would also appreciate being made aware of any proposed development(s) your department may be contemplating in the area of the proposed project. Any information that might help us in our study would be appreciated.

If you have any questions or need further information, please call me at (701) 355-8468. Thank you for your time and cooperation.

Sincerely,

**Kadrmass, Lee & Jackson, Inc.**

A handwritten signature in blue ink, appearing to read 'Jennifer Turnbow'.

Jennifer Turnbow  
Project Manager

Enclosure(s): 1, project location map  
Project #: 1611306

701 355 8400  
128 Soo Line Drive  
PO Box 1157  
Bismarck, ND 58502-1157  
Fax 701 355 8781  
kljeng.com

# Montana Dakota Utilities 88 MW Simple Cycle Combustion Turbine Project



# APPENDIX E

## Noise Assessment

# NOISE ASSESSMENT

## **Montana-Dakota Utilities Co.**

88 MW natural gas simple cycle combustion turbine  
Morton County, North Dakota

PREPARED FOR:  
Montana-Dakota Utilities Co.

PREPARED BY:  
Kadmas, Lee & Jackson  
1010 4th Ave SW  
Valley City, North Dakota 58072

**August 2012**

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Appendix B: Field Measurements

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# 1 INTRODUCTION

---

Montana-Dakota Utilities Co., a Division of MDU Resources Group, Inc. (Montana-Dakota), is proposing to construct an 88 megawatt (MW) natural gas-fired simple-cycle combustion turbine (SCCT) on the R.M. Heskett Station property, owned by Montana-Dakota, north of Mandan, Morton County, North Dakota (SE¼ of Section 10, T139N, R81W). Please refer to the project location map in **Appendix A**. The project also includes construction of the necessary transmission interconnection facilities for the SCCT to interconnect with the high-voltage electric grid, and an approximate 24-mile natural gas pipeline to supply fuel to the SCCT.

Applications for Certificates of Site Compatibility through the North Dakota Public Service Commission are being pursued separately for the SCCT and the natural gas pipeline. As part of the application for the SCCT, a noise analysis was conducted to determine existing conditions within the SCCT project area as well as potential noise impacts resulting from the proposed project. This report details the results of the noise analysis and only addresses the SCCT.

# 2 REGULATORY FRAMEWORK

---

The City of Mandan Zoning Board through the City's extraterritorial boundary regulates the project area. Currently, the proposed project site is zoned industrial. Please refer to the current zoning exhibit located in **Appendix A**. In February 2011, city commissioners approved the City of Mandan Ordinance No. 1090. The ordinance sets acceptable sound level limits for zoning districts under their jurisdiction. Please refer to **Table 1, City of Mandan Sound Level Limits**.

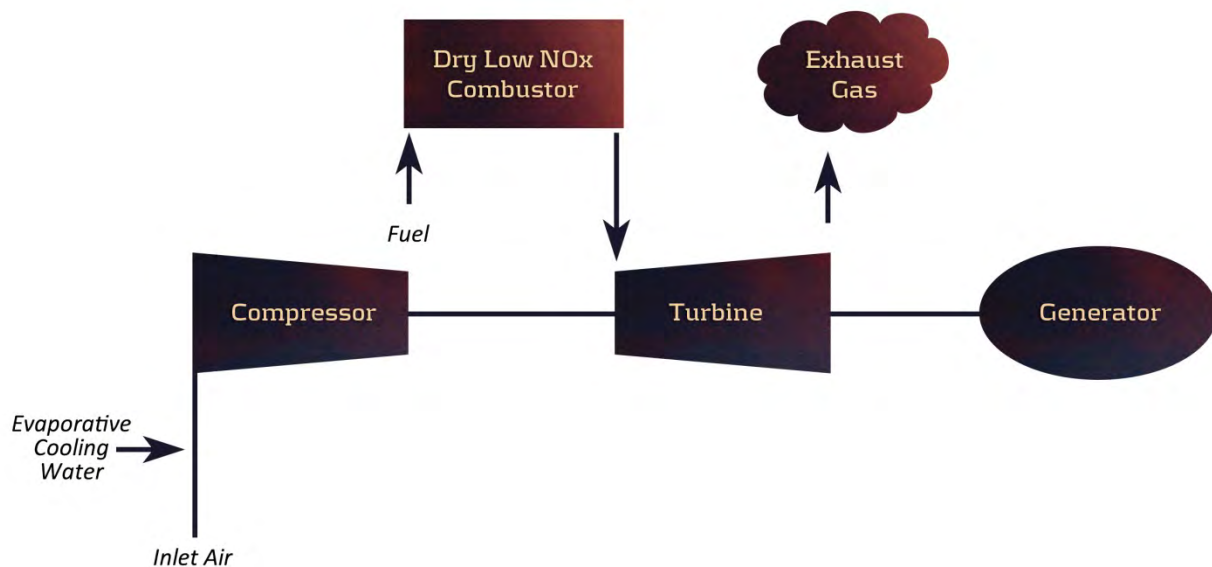
**Table 1, City of Mandan Sound Level Limits**

ZONING DISTRICT	MAXIMUM dB(A) FROM 7:00 A.M. TO 11:00 P.M.	MAXIMUM dB(A) FROM 11:00 P.M. TO 7:00 A.M.
<b>Residential</b>	55	50
<b>Commercial</b>	65	60
<b>Industrial</b>	80	75
No sound level limits have been established for other zoning types		

### 3 PROJECT AND LOCATION DESCRIPTION

The proposed project consists of a General Electric (GE) 88 MW SCCT. The proposed SCCT is required to meet the capacity demands of Montana-Dakota's electric customers served by its integrated electric system.

A combustion turbine is an internal combustion engine with primary components consisting of a rotating compressor, a combustor chamber, a rotating downstream turbine and an exhaust system. Ambient air is compressed in the compressor section. Fuel is then mixed with the compressed air and ignited in the combustor chamber. The combustion byproducts (exhaust gases) from the combustor chamber are routed downstream to the turbine. The high volume and velocity of the exhaust gases expand into the turbine and drive the turbine's blades to generate mechanical power. An electric generator converts the mechanical power produced from the turbine to electrical power, which is then supplied to the high-voltage electric grid by Montana-Dakota. For this SCCT, the inlet system would have an 8-foot silencer and the exhaust discharge stack would be 58 feet above the existing ground elevation with a series of integrated silencer design features. Please refer to *Figure 1, SCCT Diagram*.



*Figure 1, SCCT Diagram*

The SCCT would be located on Montana-Dakota property. The site, as well as the immediate surrounding area, is currently vacant with the exception of various transmission lines that cross the property. The surface type is a grass meadow and is relatively level with a gentle slope to the west for drainage.

## 4 SOUND LEVEL MEASUREMENTS

---

A combination of field measurements and modeling were used to complete the noise analysis. Field measurements were conducted on October 26–28, 2011, with a Quest SoundPro DL Type I sound level meter equipped with a windscreen. Four sites were selected to conduct the sound level survey. Please refer to the testing sites exhibit in **Appendix A**. Two sites were monitored for 24 hours and two additional sites were selected for sound level sampling for a duration of approximately one hour. Monitoring sites were selected to represent the project location and adjacent sensitive receptors. Sampling sites were selected to get an approximate measurement of sound levels downwind of the proposed SCCT location, as well as sound levels across the river in a residential area.

At each site, the sound level meter was set for meter 1 to log frequency data at a 1/1 octave scale and meter 2 set to capture Leq with an A-weighted average. Leq represents the level of sound our ears respond to and is the standard measurement for environmental noise assessment. The following sections provide site location and condition descriptions.

### A. Site 1

Site 1 is approximately 75 feet west of the proposed SCCT on Montana-Dakota-owned property and was monitored continuously for a period of 24 hours to establish an approximate baseline of existing noise conditions. The study session started at 1:03 pm on October 26, 2011, and ran until 1:02 pm on October 27, 2011. There were no large obstructions surrounding the site. Wind speeds were 8–12 mph out of the northwest on the first day of monitoring and then switched to the southwest the morning of October 27 until the end of the session. Temperatures ranged from a high of 48 degrees Fahrenheit to a low of 26 degrees Fahrenheit. The sound of the R.M. Heskett Station, located approximately 900 feet northeast of Site 1, was the predominant noise source, along with vehicle traffic on 38<sup>th</sup> Street NW, which is adjacent to the proposed project.

### B. Site 2

Site 2 is approximately 1,400 feet due west of the proposed SCCT and 125 feet north of 38<sup>th</sup> Street NW, on property not owned by Montana-Dakota. This site is on the eastern edge of an area containing several residences that is currently zoned agricultural by the City of Mandan. The ground elevation is approximately 30 feet higher than the proposed project ground elevation. The site was monitored continuously for 24 hours starting at 1:17 pm on October 27, 2011, until 1:16 pm on October 28, 2011. There were no large obstructions between Site 2 and the proposed project site. The predominant noise source at this location was also the R.M. Heskett Station, located approximately 2,150 feet east-northeast of Site 2. Wind speeds ranged from light and variable out of the southwest and switched to the northwest gusting to 15 mph. Temperatures ranged from highs of 55 degrees Fahrenheit to lows in the mid-20s. Other noise sources in the area mainly included light traffic on 38<sup>th</sup> Street NW.

### C. Sample Point 1

Sample Point 1 is approximately 1,200 feet southeast of the R.M. Heskett Station in the parking lot near the Heskett Fishing Public stairway access. The area of Sample Point 1 is currently zoned industrial. Winds were steady at 15 mph and gusting to 20 mph with temperatures in the mid-50s. Sound measurements were taken from 1:35 pm to 2:04 pm on October 28, 2011. The predominant noise source was the R.M. Heskett Station.

D. Sample Point 2

Sample Point 2 is located directly east of the R.M. Heskett Station; 3,100 feet across the Missouri River and west of the Misty Waters Marina area. Sound measurements were taken from 2:42 pm to 3:51 pm on October 28, 2011. The winds were gusting at 15 mph and temperatures were in the mid-50s. After 10 minutes of recording, a dredging operation began at the marina. Due to this, it is anticipated that the conditions measured at Sample Point 2 do not accurately depict baseline conditions. However, prior to the dredging operation, recorded noise levels were below 50 dB(A).

E. Field Measurement Results

Results of the field measurements indicated that the monitoring sites and sampling points are currently in compliance with the City of Mandan’s noise ordinance. The residences located near Site 2 are in an area currently zoned agricultural and are not subject to any sound level limit restrictions from Mandan’s noise ordinance. For a summary of sound levels recorded at the monitoring sites and sampling points, please refer to **Table 2, Existing Sound Level Measurements**. A complete data log of the monitoring results is available at the KL&J Valley City, North Dakota office. Please refer to **Appendix B, Field Measurements**, for a summary of the data logs.

**Table 2, Existing Sound Level Measurements**

LOCATION	dB(A)
Site 1	55.1
Site 2	51.0
Sample Point 1	56.8
Sample Point 2	54.6*
<i>*This measurement includes additional sound from a dredging operation that does not accurately portray average noise levels. Prior to the dredging operation, recorded noise levels were below 50 dB(A).</i>	

## 5 NOISE IMPACTS

---

The predicted noise levels resulting from the operation of the proposed SCCT have been analyzed and modeled. The three major sources of noise would be the intake system, generator and exhaust system, with the intake and exhaust systems being the largest contributor to noise levels. In addition to the major sources of noise, minor sources such as the accessory, turbine, load compartments, cooling water module and generator step-up transformer were also analyzed and modeled.

The sound power<sup>1</sup> levels of these components are based on manufacturer ratings, which included attenuation achieved through silencer design elements<sup>2</sup>, and were modeled using CadnaA software, which allows for octave band calculations of noise from multiple sources as well as computation of diffraction around obstacles and solid ground areas. This model predicts both the horizontal and vertical directivity<sup>3</sup> of sound propagation from the plant and takes into account atmospheric absorption, ground attenuation and distance. Please see **Table C-1, Far Field Noise Propagation**, located in **Appendix C, Tables**, for projected sound levels and corresponding sound pressure levels at various distances from the SCCT.

As shown in **Table C-1**, at 1,500 feet from the SCCT (just beyond Site 2), the overall total A-weighted sound pressure level was projected to be 46.9 dB(A). The new sound level impact of 46.9 dB(A) would increase the existing, measured level of 51.0 dB(A) by 1.2 dB(A), which is an imperceptible amount of sound level change to the human ear.

---

<sup>1</sup> Sound power is the acoustical energy emitted by a source in the area immediately adjacent to the sound source. This area is called the near field and is an area where no other factors (e.g., obstructions) can influence the sound power level; therefore, the sound power level is an absolute value and is not affected by environment. Sound propagates from the near field to the free field. As sound travels outward from the near field into the free field, which is the area immediately outside the near field, it creates pressure disturbance in the atmosphere and can become influenced by factors such as wind and physical obstructions. This disturbance is the sound that humans hear, known as a sound pressure level, and is measured in decibel (dB). These sound pressure levels can be calculated from sound power levels through an algorithmic formula and an estimated sound pressure level determined at a given distance. The A-weighted adjustment is a method to logarithmically combine frequencies into a single response value.

<sup>2</sup> Silencer Design elements are those elements such as expansion joints, transition joints and silencer ducts used during construction to attenuate sound power levels emitted by a component.

<sup>3</sup>Exhaust stack directivity is the effect of sound propagation from the stack opening moving upward and outward at various angles to the opening. Example of this would be a flame on a candle, with the most intense heat directly above the flame and the lower heat levels alongside and below the flame.

## 6 CONCLUSION

---

Baseline conditions recorded within the project area indicate that the area is currently in compliance with the City of Mandan's Ordinance No. 1090. Predicted noise levels resulting from the proposed SCCT would not cause a perceptible increase in sound over the measured existing sound levels.

**Table C-1** and **Table C-2** located in **Appendix C, Tables**, provide a summary of the analysis. The Complete System Noise Propagation and Vertical Noise Propagation figures, located in **Appendix A, Exhibits**, provide a graphic representation of these results.

# Appendix A

---

*Exhibits*

# Montana Dakota Utilities 88 MW Simple Cycle Combustion Turbine Project



Project Location

38th St NW

MISSOURI RIVER

10  
T139N-R81W

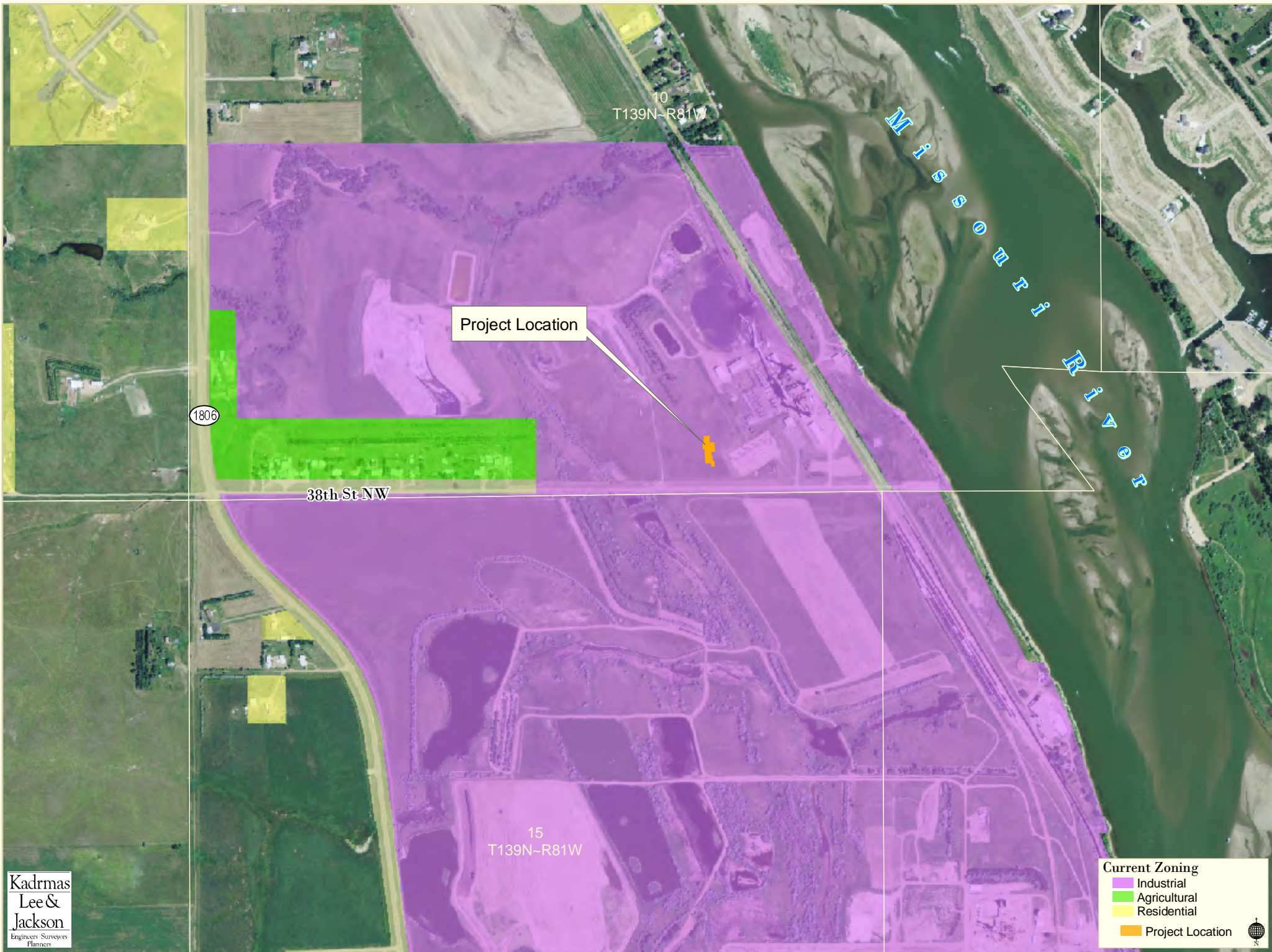
15  
T139N-R81W

Project Location



Kadrmas  
Lee &  
Jackson  
Engineers Surveyors  
Planners

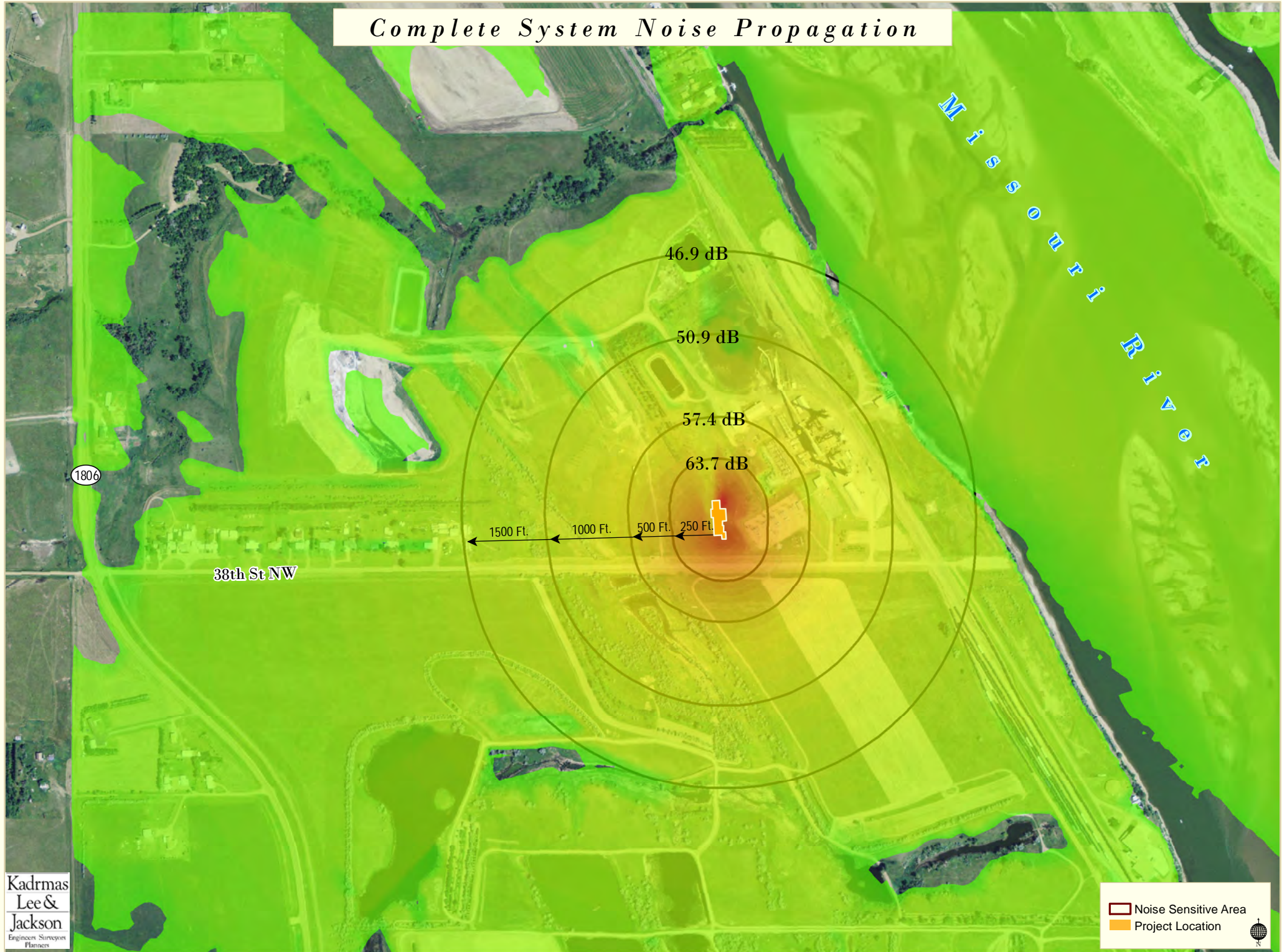
# Montana Dakota Utilities 88 MW Simple Cycle Combustion Turbine Project

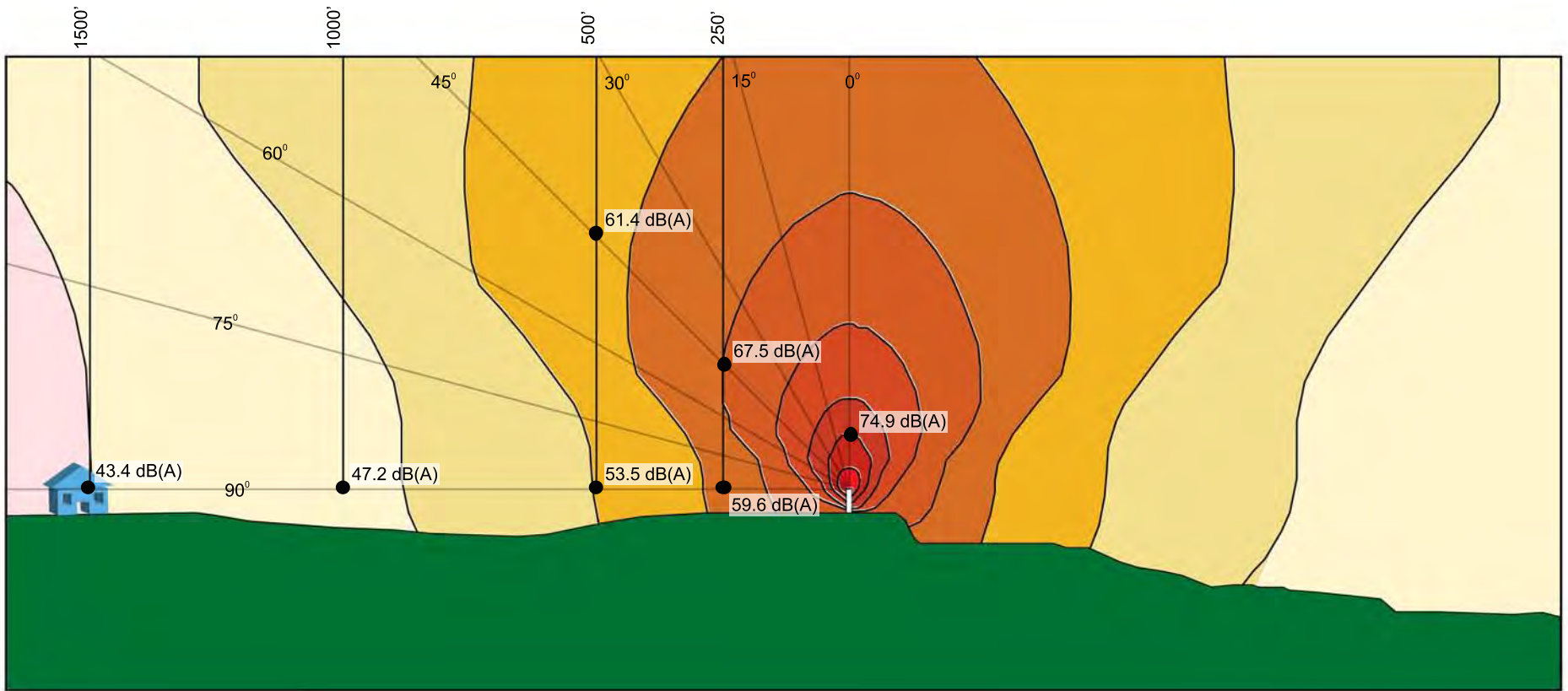


# Montana Dakota Utilities 88 MW Simple Cycle Combustion Turbine Project



Complete System Noise Propagation





Vertical Noise Propagation

## **Appendix B**

---

*Field Measurements*

# MDU Noise Assessment Site 1 A-weighted Average

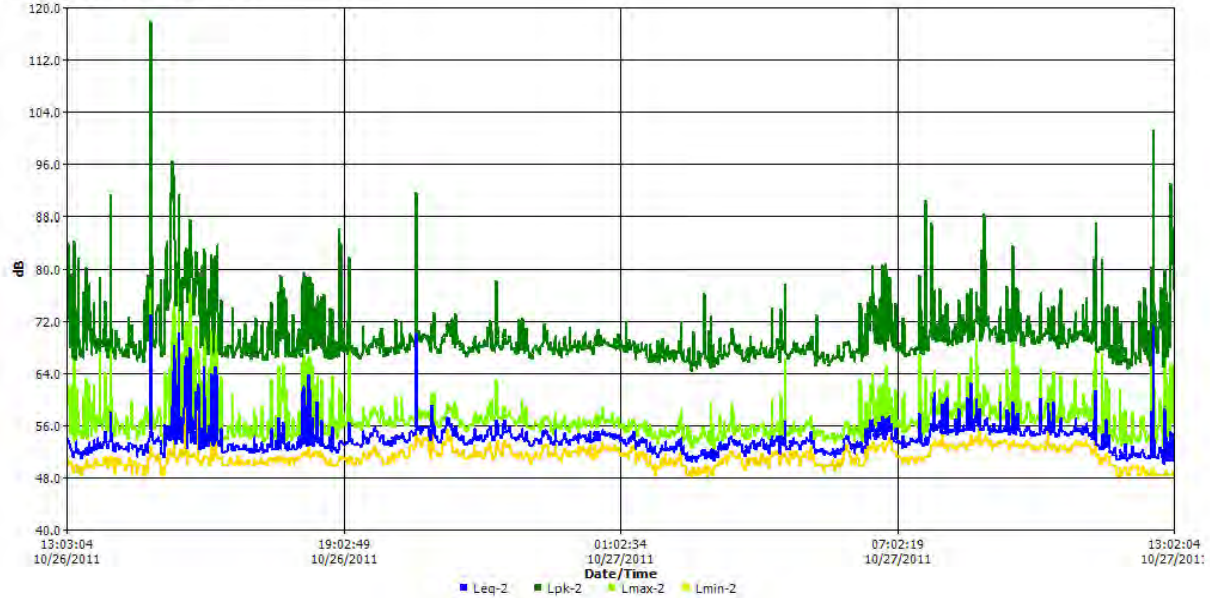
## Information Panel

Name MDU Noise Assessment Site 1  
 Location  
 Comments  
 Start Time Wednesday, October 26, 2011 13:02:04  
 Stop Time Thursday, October 27, 2011 13:02:07  
 User Name

## General Data Panel

Description	Meter	Value	Description	Meter	Value
Leq	2	55.1 dB	Lmax	2	96.1 dB
Lmin	2	48.1 dB	Weighting	1	Z
Response	1	FAST	Bandwidth	1	1/1
Exchange Rate	1	3 dB	Int Threshold	1	80 dB
Log Rate	1	60 s	Exchange Rate	2	3 dB
Int Threshold	2	80 dB	Weighting	2	A
Response	2	FAST			

## Logged Data Chart



# MDU Noise Assessment Site 1 Frequency Rating

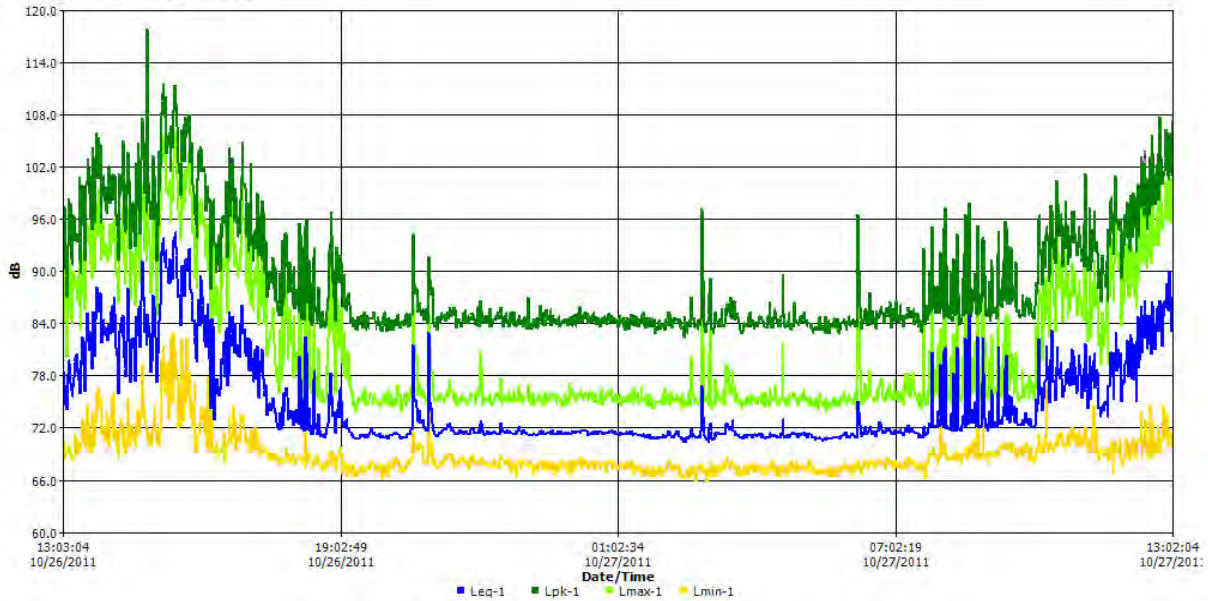
## Information Panel

Name MDU Noise Assessment Site 1  
 Location  
 Comments  
 Start Time Wednesday, October 26, 2011 13:02:04  
 Stop Time Thursday, October 27, 2011 13:02:07  
 User Name

## General Data Panel

Description	Meter	Value	Description	Meter	Value
Leq	1	79.6 dB	Leq 16Hz.	1	70.6 dB
Leq 31.5Hz.	1	68 dB	Leq 63Hz.	1	66 dB
Leq 125Hz.	1	63 dB	Leq 250Hz.	1	57.9 dB
Leq 500Hz.	1	51.2 dB	Leq 1kHz.	1	49 dB
Leq 2kHz.	1	44.3 dB	Leq 4kHz.	1	42.8 dB
Leq 8kHz.	1	45.4 dB	Leq 16kHz.	1	45.3 dB
Weighting	1	Z	Response	1	FAST
Bandwidth	1	1/1	Exchange Rate	1	3 dB
Int Threshold	1	80 dB	Log Rate	1	60 s
Exchange Rate	2	3 dB	Int Threshold	2	80 dB
Weighting	2	A	Response	2	FAST

## Logged Data Chart



# MDU Noise Assessment Site 2 A-weighted Average

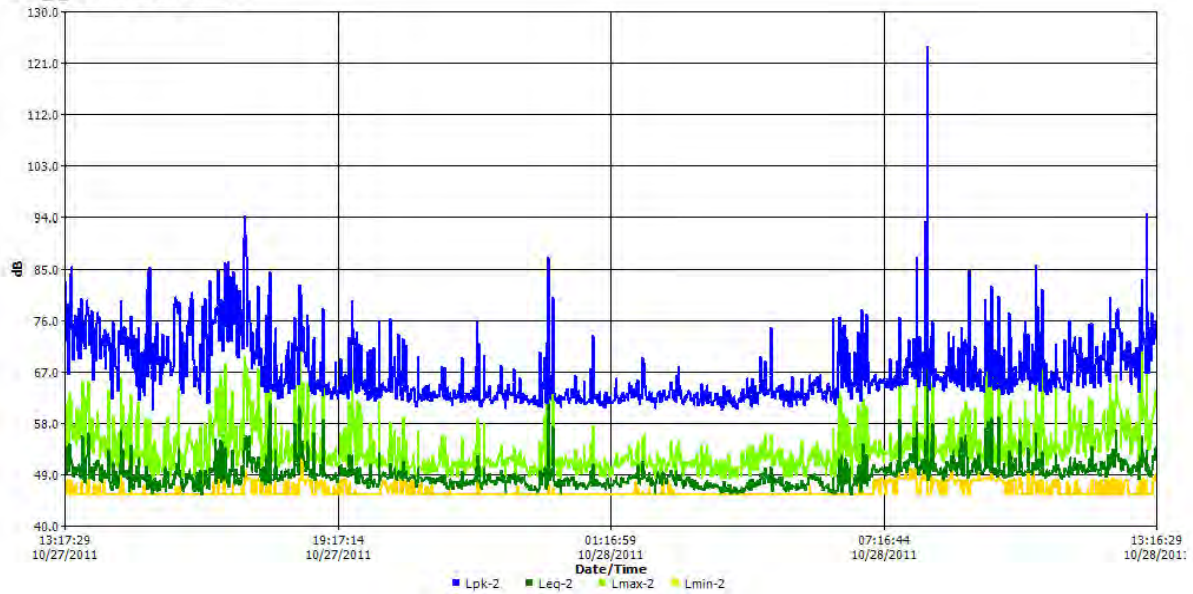
## Information Panel

Name MDU Noise Assessment Site 2  
 Location  
 Comments  
 Start Time Thursday, October 27, 2011 13:16:29  
 Stop Time Friday, October 28, 2011 13:16:34  
 User Name

## General Data Panel

Description	Meter	Value	Description	Meter	Value
Leq	2	51 dB	Lmin	2	45.3 dB
Lmax	2	101.7 dB	Weighting	1	Z
Response	1	FAST	Bandwidth	1	1/1
Exchange Rate	1	3 dB	Int Threshold	1	80 dB
Log Rate	1	60 s	Exchange Rate	2	3 dB
Int Threshold	2	80 dB	Weighting	2	A
Response	2	FAST			

## Logged Data Chart



# MDU Noise Assessment Site 2 Frequency Rating

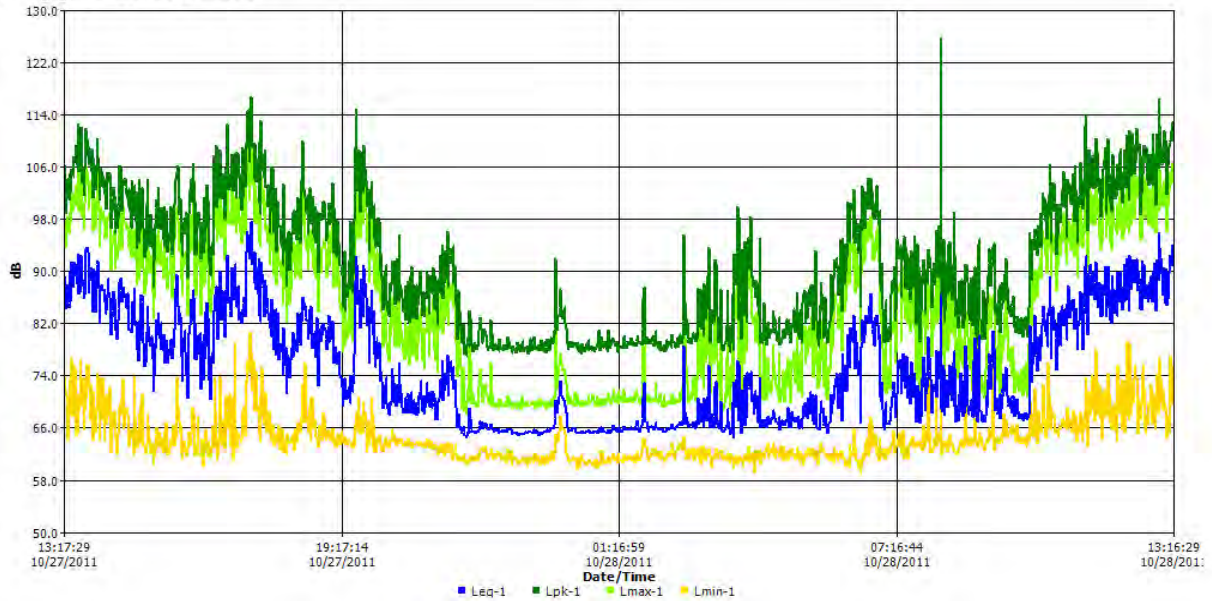
## Information Panel

Name MDU Noise Assessment Site 2  
 Location  
 Comments  
 Start Time Thursday, October 27, 2011 13:16:29  
 Stop Time Friday, October 28, 2011 13:16:34  
 User Name

## General Data Panel

Description	Meter	Value	Description	Meter	Value
Leq	1	82.8 dB	Leq 16Hz.	1	73.6 dB
Leq 31.5Hz.	1	68.7 dB	Leq 63Hz.	1	61.7 dB
Leq 125Hz.	1	58.7 dB	Leq 250Hz.	1	52.5 dB
Leq 500Hz.	1	48.9 dB	Leq 1kHz.	1	43.1 dB
Leq 2kHz.	1	41.1 dB	Leq 4kHz.	1	42.8 dB
Leq 8kHz.	1	45.4 dB	Leq 16kHz.	1	45.3 dB
Weighting	1	Z	Response	1	FAST
Bandwidth	1	1/1	Exchange Rate	1	3 dB
Int Threshold	1	80 dB	Log Rate	1	60 s
Exchange Rate	2	3 dB	Int Threshold	2	80 dB
Weighting	2	A	Response	2	FAST

## Logged Data Chart



# Sampling Site 1

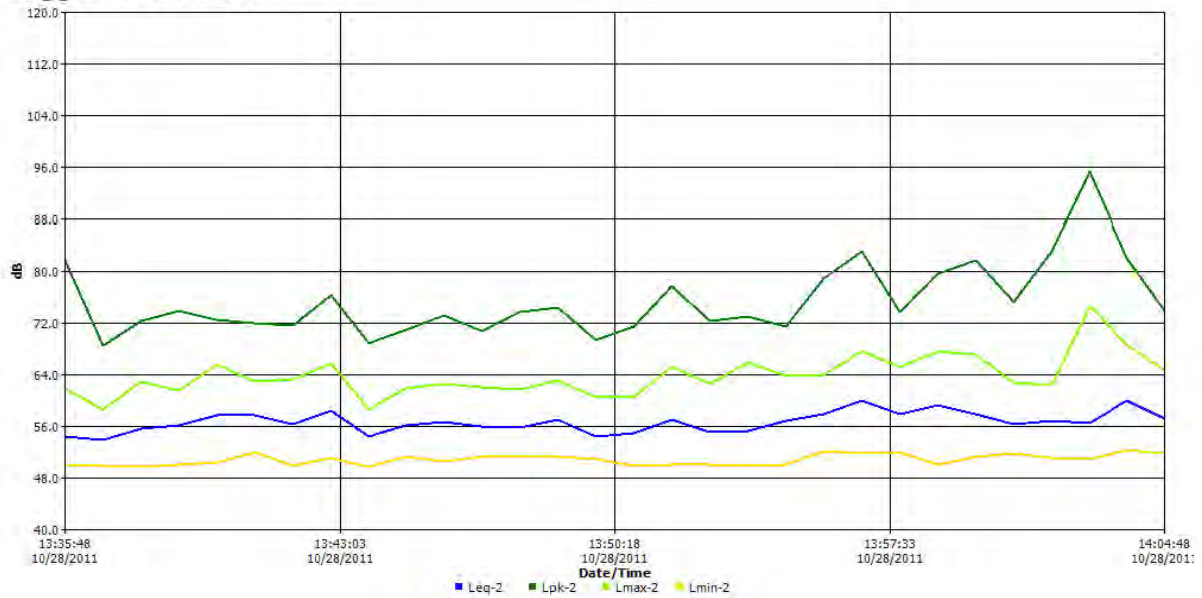
## Information Panel

Name	Fishing Stairway Noise Sample
Location	
Comments	Sustainable winds above 15 mph and gusting
Start Time	Friday, October 28, 2011 13:34:48
Stop Time	Friday, October 28, 2011 14:04:50
User Name	

## General Data Panel

Description	Meter	Value	Description	Meter	Value
Leq	2	56.8 dB	Lmax	2	74.5 dB
Lmin	2	49.6 dB	Weighting	1	Z
Response	1	FAST	Bandwidth	1	1/1
Exchange Rate	1	3 dB	Int Threshold	1	80 dB
Log Rate	1	60 s	Exchange Rate	2	3 dB
Int Threshold	2	80 dB	Weighting	2	A
Response	2	FAST			

## Logged Data Chart



## Sampling Site 2

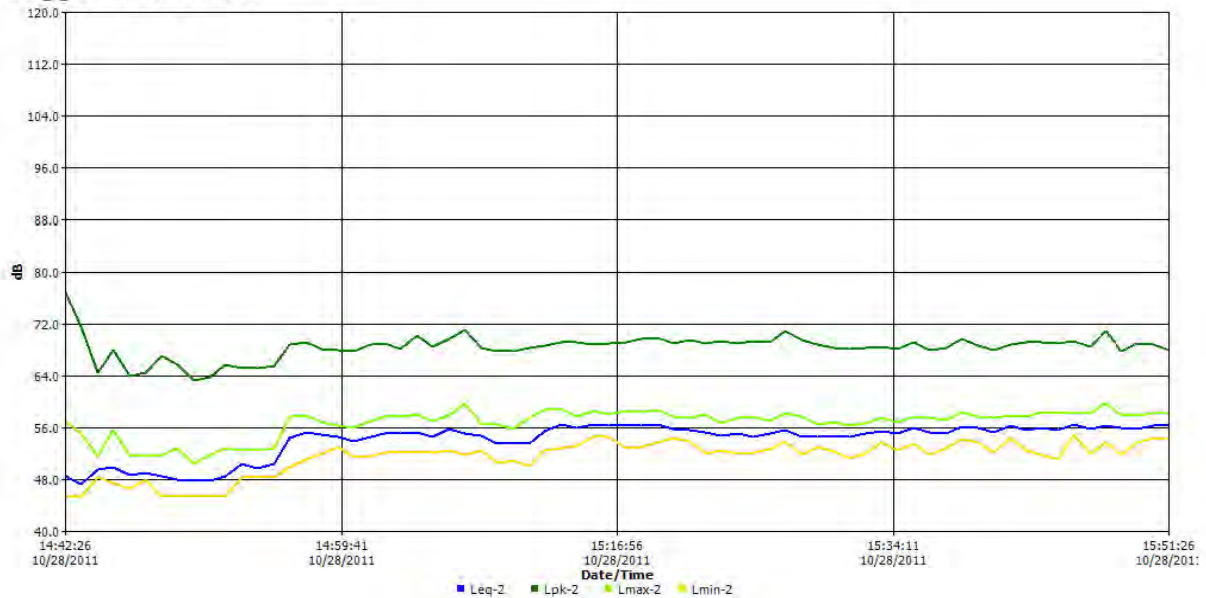
### Information Panel

Name	Misty Waters Noise Sample
Location	
Comments	Marina Dredging Operation Near By
Start Time	Friday, October 28, 2011 14:41:26
Stop Time	Friday, October 28, 2011 15:52:13
User Name	

### General Data Panel

<u>Description</u>	<u>Meter</u>	<u>Value</u>	<u>Description</u>	<u>Meter</u>	<u>Value</u>
Leq	2	54.6 dB	Lmax	2	60 dB
Lmin	2	45.3 dB	Weighting	1	Z
Response	1	FAST	Bandwidth	1	1/1
Exchange Rate	1	3 dB	Int Threshold	1	80 dB
Log Rate	1	60 s	Exchange Rate	2	3 dB
Int Threshold	2	80 dB	Weighting	2	A
Response	2	FAST			

### Logged Data Chart



# Appendix C

---

*Tables*

**Table C-1, Far Field Noise Propagation**

FAR FIELD DISTANCE, METERS = <b>76.2</b>	OCTAVE BAND CENTER FREQUENCY, HZ									OVERALL A-WT
	<b>250 FEET</b>									
COMPONENTS	31.5 Hz	63 Hz	125 Hz	250 Hz	500 Hz	1000 Hz	2000 Hz	4000 Hz	8000 Hz	DB(A)
<b>Exhaust System:</b>										
Exhaust Plenum	64.4	63.4	59.4	50.3	47.2	42.2	36.8	31.9	24.9	49.6
Stack Emission	80.1	68.5	68.9	58.5	57.4	45.6	22.7	19.2	13.8	57.9
Expansion Joint	63.3	53.3	44.6	39.8	35.9	32.6	35.3	30.7	34.4	47.6
Transition Duct	62.1	59.1	55.1	51.5	45.8	43.0	34.7	23.8	8.7	48.6
Silencer Duct, ½	60.8	57.8	53.8	50.2	44.5	38.3	34.4	23.5	8.4	46.6
Silencer Duct, ¾	57.2	51.7	49.6	45.1	37.8	26.6	14.5	7.0	0.0	40.2
Transition Duct	53.4	45.4	45.3	39.7	30.8	14.7	0.0	0.0	0.0	34.5
Elbow	60.7	52.7	52.6	47.0	38.1	22.0	1.7	0.0	0.0	41.8
Stack Casing	62.3	50.2	51.4	47.5	38.7	22.6	2.3	0.0	0.0	41.9
Summation of Stack Levels	80.5	69.6	69.5	60.4	58.1	48.2	39.7	32.4	34.5	59.0
<b>Inlet System:</b>										
Inlet Plenum	58.4	57.4	56.4	45.3	45.2	41.2	41.8	33.9	26.9	48.4
Inlet	60.4	63.4	57.4	49.3	43.2	45.2	50.8	40.9	25.9	54.0
<b>Package Compartments:</b>										
Accessory	73.4	67.4	62.4	56.3	54.2	51.2	49.8	41.9	34.9	57.2
Turbine	67.4	67.4	66.4	56.3	57.2	52.2	51.8	45.9	38.9	59.3
Load Compartment	60.4	63.4	58.4	51.3	43.2	41.2	34.8	28.9	20.9	48.4
Generator	67.4	68.4	65.4	56.3	49.2	46.2	38.8	30.9	22.9	54.0
<b>Other Sources:</b>										
Water Cooler	53.4	53.4	46.4	50.3	48.2	47.2	45.8	41.9	22.9	52.3
GSU Transformer	34.4	50.4	54.4	48.3	44.2	44.2	37.8	31.9	23.9	48.1
<b>Total Summation of Components</b>	<b>75.9</b>	<b>74.0</b>	<b>70.9</b>	<b>62.6</b>	<b>60.4</b>	<b>56.9</b>	<b>56.5</b>	<b>49.6</b>	<b>41.0</b>	<b>63.7</b>

FAR FIELD DISTANCE, METERS = 152.4	OCTAVE BAND CENTER FREQUENCY, HZ									OVERALL A-WT
	500 FEET									
COMPONENTS	31.5 Hz	63 Hz	125 Hz	250 Hz	500 Hz	1000 Hz	2000 Hz	4000 Hz	8000 Hz	DB(A)
<b>Exhaust System:</b>										
Exhaust Plenum	58.4	57.4	53.4	44.2	41.1	35.9	30.3	24.5	15.3	43.4
Stack Emission	74.2	62.6	63.1	52.9	51.8	40.0	16.9	12.7	4.4	52.3
Expansion Joint	57.3	47.3	38.6	33.4	29.6	26.1	28.4	23.0	23.6	34.6
Transition Duct	56.0	53.0	49.0	45.1	39.6	36.5	27.8	16.1	0.0	42.2
Silencer Duct, ½	54.7	51.7	47.8	43.8	38.3	31.7	27.5	15.8	0.0	40.3
Silencer Duct, ¾	51.2	45.7	43.6	38.7	31.5	20.1	7.7	0.0	0.0	33.9
Transition Duct	47.1	39.3	39.2	33.3	24.5	8.2	0.0	0.0	0.0	28.3
Elbow	54.7	46.6	46.5	40.6	31.8	15.5	0.0	0.0	0.0	35.6
Stack Casing	56.2	44.2	45.4	41.1	32.4	16.0	0.0	0.0	0.0	35.6
Summation of Stack Levels	74.6	63.7	63.6	54.6	52.4	42.2	32.8	24.8	23.7	53.2
<b>Inlet System:</b>										
Inlet Plenum	52.4	51.4	50.4	39.2	39.1	34.9	35.3	26.5	17.3	42.1
Inlet	54.4	57.4	51.4	43.2	37.1	38.9	44.3	33.5	16.3	47.5
<b>Package Compartments:</b>										
Accessory	67.4	61.4	56.4	50.2	48.1	44.9	43.3	34.5	25.3	50.9
Turbine	61.4	61.4	60.4	50.2	51.1	45.9	45.3	38.5	29.3	53.0
Load Compartment	54.4	57.4	52.4	45.2	37.1	34.9	28.3	21.5	11.3	42.2
Generator	61.4	62.4	59.4	50.2	43.1	39.9	32.3	23.5	13.3	47.9
<b>Other Sources:</b>										
Water Cooler	47.4	47.4	40.4	44.2	42.1	40.9	39.3	34.5	13.3	45.9
GSU Transformer	28.4	44.4	48.4	42.2	38.1	37.9	31.3	24.5	14.3	41.9
<b>Total Summation of Components</b>	<b>69.8</b>	<b>68.0</b>	<b>64.9</b>	<b>56.5</b>	<b>54.2</b>	<b>50.6</b>	<b>49.9</b>	<b>42.1</b>	<b>31.5</b>	<b>57.4</b>

FAR FIELD DISTANCE, METERS = 304.8	OCTAVE BAND CENTER FREQUENCY, HZ									OVERALL A-WT
	1,000 FEET									
COMPONENTS	31.5 Hz	63 Hz	125 Hz	250 Hz	500 Hz	1000 Hz	2000 Hz	4000 Hz	8000 Hz	DB(A)
<b>Exhaust System:</b>										
Exhaust Plenum	52.3	51.3	47.3	38.0	34.7	29.4	23.2	15.5	2.3	37.1
Stack Emission	68.2	56.6	57.1	47.0	45.7	33.4	9.7	3.9	0.0	46.2
Expansion Joint	51.2	41.3	32.5	28.0	23.1	19.0	20.7	13.6	7.9	27.4
Transition Duct	49.9	47.0	43.0	39.7	33.1	29.5	20.1	6.7	0.0	35.9
Silencer Duct, ½	48.7	45.7	41.7	38.4	31.8	24.7	19.8	6.4	0.0	34.1
Silencer Duct, ¾	45.1	39.6	37.5	33.3	25.0	13.1	0.0	0.0	0.0	28.0
Transition Duct	41.3	33.3	33.2	27.9	18.1	1.2	0.0	0.0	0.0	22.5
Elbow	48.6	40.6	40.5	35.2	25.3	8.5	0.0	0.0	0.0	29.7
Stack Casing	50.1	38.2	39.3	35.8	25.9	9.0	0.0	0.0	0.0	29.8
Summation of Stack Levels	68.5	57.7	57.6	48.8	46.2	35.4	25.2	15.8	11.2	47.1
<b>Inlet System:</b>										
Inlet Plenum	46.3	45.3	44.3	33.0	32.7	28.4	28.2	17.5	4.3	35.5
Inlet	48.3	51.3	45.3	37.0	30.7	32.4	37.2	24.5	3.3	40.6
<b>Package Compartments:</b>										
Accessory	61.3	55.3	50.3	44.0	41.7	38.4	36.2	25.5	12.3	44.3
Turbine	55.3	55.3	54.3	44.0	44.7	39.4	38.2	29.5	16.3	46.4
Load Compartment	48.3	51.3	46.3	39.0	30.7	28.4	21.2	12.5		36.0
Generator	55.3	56.3	53.3	44.0	36.7	33.4	25.2	14.5	0.3	41.7
<b>Other Sources:</b>										
Water Cooler	41.3	41.3	34.3	38.0	35.7	34.4	32.2	25.5	0.3	39.1
GSU Transformer	22.3	38.3	42.3	36.0	31.7	31.4	24.2	15.5	1.3	35.4
<b>Total Summation of Components</b>	<b>63.8</b>	<b>62.0</b>	<b>58.9</b>	<b>50.3</b>	<b>47.9</b>	<b>44.2</b>	<b>42.9</b>	<b>33.2</b>	<b>18.5</b>	<b>50.9</b>

FAR FIELD DISTANCE, METERS = 457.2	OCTAVE BAND CENTER FREQUENCY, HZ									OVERALL A-WT
	1,500 FEET									
COMPONENTS	31.5 Hz	63 Hz	125 Hz	250 Hz	500 Hz	1000 Hz	2000 Hz	4000 Hz	8000 Hz	DB(A)
<b>Exhaust System:</b>										
Exhaust Plenum	48.8	47.8	43.8	34.4	30.9	25.4	18.6	9.1		33.4
Stack Emission	64.6	53.1	53.6	43.3	41.8	29.0	4.7	0.0	0.0	42.4
Expansion Joint	47.6	37.7	28.9	24.4	19.1	14.5	15.5	6.7	0.0	23.0
Transition Duct	46.4	43.5	39.4	36.1	29.1	25.0	14.9	0.0	0.0	32.0
Silencer Duct, ½	45.1	42.2	38.1	34.8	27.8	20.2	14.6	0.0	0.0	30.2
Silencer Duct, ¾	41.5	36.1	34.0	29.6	21.0	8.5	0.0	0.0	0.0	24.3
Transition Duct	37.8	29.8	29.6	24.2	14.1	0.0	0.0	0.0	0.0	18.9
Elbow	45.0	37.1	36.9	31.5	21.3	3.9	0.0	0.0	0.0	26.0
Stack Casing	46.6	34.6	35.7	32.1	21.9	4.5	0.0	0.0	0.0	26.1
Summation of Stack Levels	65.0	54.2	54.1	45.2	42.3	31.0	20.1	10.7	9.0	43.3
<b>Inlet System:</b>										
Inlet Plenum	42.8	41.8	40.8	29.4	28.9	24.4	23.6	11.1		31.5
Inlet	44.8	47.8	41.8	33.4	26.9	28.4	32.6	18.1		36.3
<b>Package Compartments:</b>										
Accessory	57.8	51.8	46.8	40.4	37.9	34.4	31.6	19.1	1.8	40.4
Turbine	51.8	51.8	50.8	40.4	40.9	35.4	33.6	23.1	5.8	42.4
Load Compartment	44.8	47.8	42.8	35.4	26.9	24.4	16.6	6.1		32.2
Generator	51.8	52.8	49.8	40.4	32.9	29.4	20.6	8.1		38.0
<b>Other Sources:</b>										
Water Cooler	37.8	37.8	30.8	34.4	31.9	30.4	27.6	19.1		35.0
GSU Transformer	18.8	34.8	38.8	32.4	27.9	27.4	19.6	9.1		31.5
<b>Total Summation of Components</b>	<b>60.3</b>	<b>58.5</b>	<b>55.4</b>	<b>46.6</b>	<b>44.1</b>	<b>40.2</b>	<b>38.3</b>	<b>26.8</b>	<b>8.0</b>	<b>46.9</b>

**Table C-2, Exhaust Stack Noise Predictions at Range of Distances and Showing Directivity Effect**

<b>MONTANA-DAKOTA SCCT</b>										
<b>STACK NOISE IS DIRECTED VERTICALLY</b>										
<b>Distance and Angle from Stack*</b>	<b>Octave Band Center Frequency, Hz</b>									
	<b>31.5</b>	<b>63</b>	<b>125</b>	<b>250</b>	<b>500</b>	<b>1000</b>	<b>2000</b>	<b>4000</b>	<b>8000</b>	<b>dB(A)</b>
<b>250 ft., 103 degrees</b>	<b>80.5</b>	<b>69.6</b>	<b>69.5</b>	<b>60.4</b>	<b>58.1</b>	<b>48.2</b>	<b>39.7</b>	<b>32.4</b>	<b>34.5</b>	<b>59.0</b>
<b>250 ft., 0 degrees</b>	83.1	77.3	82.3	75.2	75.8	65.8	45.8	43.0	39.5	74.9
<b>250 ft., 45 degrees</b>	81.7	72.9	76.0	67.2	68.1	58.6	41.6	37.1	35.9	67.5
<b>250 ft., 90 degrees</b>	80.5	69.6	69.6	60.9	59.0	49.1	39.7	32.5	34.5	59.6
<b>500 ft., 97 degrees</b>	<b>74.6</b>	<b>63.7</b>	<b>63.6</b>	<b>54.6</b>	<b>52.4</b>	<b>42.2</b>	<b>32.8</b>	<b>24.8</b>	<b>23.7</b>	<b>53.2</b>
<b>500 ft., 0 degrees</b>	77.2	71.4	76.4	69.3	69.7	59.5	39.1	35.5	28.9	68.9
<b>500 ft., 45 degrees</b>	75.8	67.0	70.1	61.2	62.0	52.3	34.8	29.5	25.2	61.4
<b>500 ft., 90 degrees</b>	74.6	63.7	63.7	54.9	52.9	42.7	32.9	24.9	23.8	53.5
<b>1000 ft., 93 degrees</b>	<b>68.5</b>	<b>57.7</b>	<b>57.6</b>	<b>48.8</b>	<b>46.2</b>	<b>35.4</b>	<b>25.2</b>	<b>15.8</b>	<b>11.2</b>	<b>47.1</b>
<b>1000 ft., 0 degrees</b>	71.2	65.4	70.4	63.1	63.3	52.5	31.4	26.2	14.3	62.5
<b>1000 ft., 45 degrees</b>	69.8	61.0	64.1	55.1	55.5	45.3	27.1	20.2	11.7	55.0
<b>1000 ft., 90 degrees</b>	68.5	57.7	57.6	49.0	46.5	35.7	25.2	15.9	11.2	47.2
<b>1500 ft., 92 degrees</b>	<b>65.0</b>	<b>54.2</b>	<b>54.1</b>	<b>45.2</b>	<b>42.3</b>	<b>31.0</b>	<b>20.1</b>	<b>10.7</b>	<b>9.0</b>	<b>43.3</b>
<b>1500 ft., 0 degrees</b>	67.6	61.9	66.8	59.5	59.3	48.0	26.2	19.4	9.0	58.5
<b>1500 ft., 45 degrees</b>	66.2	57.5	60.6	51.4	51.5	40.8	22.0	14.0	9.0	51.1
<b>1500 ft., 90 degrees</b>	65.0	54.2	54.1	45.3	42.5	31.1	20.1	10.7	9.0	43.4
*Angle is direction to receptor point. 0 degrees is vertical. First angle shown for each distance is angle to a ground receptor.										

# APPENDIX F

## Environmental Policy

- Cascade Natural Gas Corporation
- Great Plains Natural Gas Co.
- Intermountain Gas Company
- Montana-Dakota Utilities Co.

**POLICY STATEMENTS**  
**ENVIRONMENTAL POLICY**

**EV 500.0**  
April 14, 2011  
Page 1 of 1

**I. PURPOSE**

To establish a general Environmental Policy and define general environmental goals and planning for all utility divisions and utility subsidiaries of MDU Resources Group, Inc. (collectively, referred to as the “Companies” and individually as a “Company”).

**II. SCOPE**

This policy applies to all employees in the utility divisions and utility subsidiaries of MDU Resources Group Inc., including Cascade Natural Gas Corporation, Great Plains Natural Gas Co., Intermountain Gas Company and Montana-Dakota Utilities Co.

**III. DEFINITIONS**

Reserved.

**IV. POLICY**

**A. Goals**

The Company will operate efficiently to meet the needs of the present without compromising the ability of future generations to meet their own needs. Our environmental goals are:

- To minimize waste and maximize resources.
- To support environmental laws and regulations that are based on sound science and cost-effective technology; and
- To comply with or exceed all applicable environmental laws, regulations and permit requirements.

**B. Planning and Implementation**





The Company considers environmental factors in its business planning to minimize risks through assessment of financial and environmental impacts of its programs, operations, and projects.

Environmental procedures and other environmental documents are developed by the Environmental Department. These procedures and documents provide guidance in complying with federal, state and local environmental laws, regulations and other requirements, as well as with the Company’s environmental policy.

The Company will provide employees with training on environmental requirements as applicable to the duties of each position. The Company department or employee responsible for providing environmental training is specified in each individual environmental procedure.

**V. ADMINISTRATION**

The President and Chief Executive Officer (CEO) is responsible for establishing this policy. Administration of this policy is the responsibility of the Environmental Manager of Montana-Dakota Utilities Co. Requiring compliance with this policy is the responsibility of all officers, directors, managers and supervisors (management). It is also the responsibility of management to ensure that policies are accessible and understood by all employees.

<b>REVIEWED:</b>	 	4/15/11	<b>APPROVED:</b>	 	4/18/11
	ENVIRONMENTAL MANAGER	DATE		PRESIDENT & CEO	DATE