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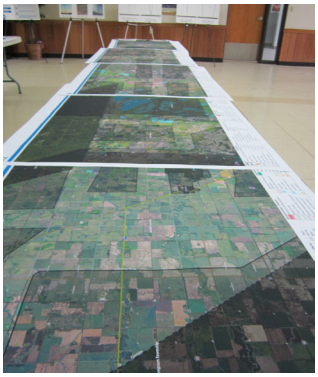
AN ALLETE COMPANY

GREAT NORTHERN TRANSMISSION LINE

ROUTE PERMIT APPLICATION FOR THE MINNESOTA PUBLIC UTILITIES COMMISSION

April 15, 2014



Route Application

BOOK 1 of 3

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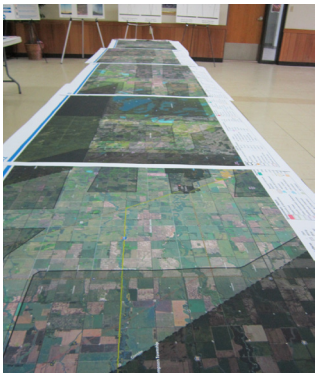

Route Application

BOOK 1 of 3

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minnesota power
AN ALLETE COMPANY
30 west superior street / duluth, minnesota 55802-2093 / fax: 218-723-3955 /www.allete.com

David R. Moeller
Senior Attorney
218-723-3963
dmoeller@allete.com

April 15, 2014

VIA ELECTRONIC FILING

Dr. Burl W. Haar
Executive Secretary
Minnesota Public Utilities Commission
121 7th Place East, Suite 350
St. Paul, MN 55101-2147

Re: *In the Matter of the Request by Minnesota Power for a Route Permit for the Great Northern Transmission Line*
Minnesota Power's Route Permit Application
MPUC Docket No. E015/TL-14-21

Dear Dr. Haar:

Minnesota Power hereby submits via eFiling its Application for a Route Permit to construct the 500 kV Great Northern Transmission Line and associated facilities (Project). The Project is a high voltage transmission line between the province of Manitoba and Minnesota Power's service territory in northern Minnesota. The Route Permit Application is being filed pursuant to Minnesota Statutes Chapter 216E and Minnesota Rules Chapter 7850.

Minnesota Power proposes to construct a 220-mile 500 kilovolt (kV) alternating current (AC) transmission line between the Minnesota Manitoba border crossing northwest of Roseau, Minnesota and the existing Blackberry Substation near Grand Rapids, Minnesota, as well as associated substation facilities and transmission system modifications at the Blackberry Substation site, and a 500 kV series compensation station. The new substation facilities required for the Project (Blackberry 500 kV Substation) will be constructed adjacent to and east of the existing Blackberry 230/115 kV Substation. The line is expected to carry at least 750 MW to facilitate agreements and transmission service requests between Minnesota Power and Manitoba Hydro plus exports and transmission service requests by Manitoba Hydro to other utilities.

Since January 2012 Minnesota Power has been actively developing the Project through extensive voluntary outreach, including numerous meetings with landowners, federal, state, and local agencies and other invited stakeholders such as tribal governments and non-governmental organizations. Minnesota Power initiated Minnesota Public Utilities

Commission (MPUC) approval through submittal of the Certificate of Need (CN) application, which the MPUC deemed complete in an order dated January 8, 2014. MPUC Docket No. E015/CN-12-1163. Also, in conjunction with this Application, Minnesota Power will be submitting today its Presidential Permit Application with the U.S. Department of Energy because this Project crosses an international border.

Notice of the Application filing will be made pursuant to Minn. Stat. § 216E.03, subd. 4 and Minn. Rules 7850.2100. Minnesota Power awaits an invoice from Department of Commerce (Department) for processing the Route Permit Application (as required by Minn. Rules 7850.1800 and Minn. Stat. 216E.18, subd. 2a).

Minnesota Power looks forward to continuing its active engagement for the Great Northern Transmission Line with the MPUC, the Department, and other stakeholders. Please contact me if you have any questions or need additional information.

Yours truly,

David R. Moeller
Senior Attorney
Minnesota Power

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Completeness Checklist

The content requirements for an application with the Commission under the Full Permitting Process are identified in Minnesota Rules 7850.1900, Subparts 2 and 3. The rule requirements are listed in table below with references indicating where the information can be found in this Application.

Route Permit Application Completeness Checklist

Authority	Required Information	Where
Minn. R. 7850.1900, Subp. 2	Route Permit for High Voltage Transmission Line	
A.	a statement of proposed ownership of the facility at the time of filing the application and after commercial operation;	Section 1.2.1
B.	the precise name of any person or organization to be initially named as permittee or permittees and the name of any other person to whom the permit may be transferred if transfer of the permit is contemplated;	Section 1.2.1
C.	at least two proposed routes for the proposed high voltage transmission line and identification of the applicant's preferred route and the reasons for the preference;	Executive Summary, Sections 1.1, 4.0, 4.14, 5.0
D.	a description of the proposed high voltage transmission line and all associated facilities including the size and type of the high voltage transmission line;	Sections 5.2, 5.3
E.	the environmental information required under Minn. R. 7850.1900, Subp. 3;	See Minn. R. 7850.1990, Subp.3 (A) to (H) below.
F.	identification of land uses and environmental conditions along the proposed routes;	Section 6.6 & Sections 4.0, 5.9, 6.0, 7.0, 8.0
G.	the names of each owner whose property is within any of the proposed routes for the high voltage transmission line;	Appendix H
H.	United States Geological Survey topographical maps or other maps acceptable to the commission showing the entire length of the high voltage transmission line on all proposed routes;	Appendix A
I.	identification of existing utility and public rights-of-way along or parallel to the proposed routes that have the potential to share right-of-way with the proposed line;	Section 6.6 and Appendix A, H
J.	the engineering and operational design concepts for the proposed high voltage transmission line, including information on the electric and magnetic fields of the transmission line;	Sections 5.2, 6.15

Authority	Required Information	Where
K.	cost analysis of each route, including the costs of constructing, operating, and maintaining the high voltage transmission line that are dependent on design and route;	Section 5.10
L.	a description of possible design options to accommodate expansion of the high voltage transmission line in the future;	Section 4.11, 5.2, 5.3
M.	the procedures and practices proposed for the acquisition and restoration of the right-of-way, construction, and maintenance of the high voltage transmission line;	Sections 5.5, 5.6, 5.7, 5.8
N.	a listing and brief description of federal, state, and local permits that may be required for the proposed high voltage transmission line;	Section 3.0
O.	a copy of the Certificate of Need or the certified high voltage transmission line list containing the proposed high voltage transmission line or documentation that an application for a Certificate of Need has been submitted or is not required.	Section 1.3
Minn. R. 7850.1900, Subp. 3	Environmental Information	
A.	a description of the environmental setting for each site or route;	Sections 4.0, 5.0, 6.0, 7.0
B.	a description of the effects of construction and operation of the facility on human settlement, including, but not limited to, public health and safety, displacement, noise, aesthetics, socioeconomic impacts, cultural values, recreation, and public services;	Sections 6.5, 6.6, 6.7, 6.8, 6.9, 6.10, 6.11, 6.12, 6.13, 6.15, 6.22, 6.23, 6.24, 7.3, 8.1
C.	a description of the effects of the facility on land-based economies, including, but not limited to, agriculture, forestry, tourism, and mining;	Sections 6.5, 6.6, 6.22, 6.23, 6.24, 6.25, 6.26, 7.3, 8.1
D.	a description of the effects of the facility on archaeological and historic resources;	Sections 6.10, 6.16
E.	a description of the effects of the facility on the natural environment, including effects on air and water quality resources and flora and fauna;	Sections 6.1, 6.2, 6.3, 6.4, 6.12, 6.17, 6.18, 6.19, 6.20, 6.21, 7.3, 8.1

Authority	Required Information	Where
F.	a description of the effects of the facility on rare and unique natural resources;	Sections 6.18, 6.19, 6.20, 7.3, 8.1
G.	identification of human and natural environmental effects that cannot be avoided if the facility is approved at a specific site or route;	Section 8.0 and Sections 5.0, 6.0, 7.0
H.	a description of measures that might be implemented to mitigate the potential human and environmental impacts identified in items A to G and the estimated costs of such mitigative measures.	Executive Summary and Sections 5.0, 6.0, 7.0, and 8.0

Conclusion

The data presented in this Application shows that both Route Alternatives would be consistent with state goals to conserve resources; minimize environmental and human settlement impacts and land use conflicts; and ensure the state's electric energy security through efficient, cost-effective infrastructure.

The Applicant is requesting that PUC issue a Route Permit for the Project and that DOE issue a Presidential Permit for the Project.

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Acronyms and Abbreviations

A

AADT	annual average daily traffic
ACHP	Advisory Council on Historic Preservation
Act	Next Generation Energy Act
AIMP	Agricultural Impact Mitigation Plan
Al	aluminum
ALJ	Administrative Law Judge
AM	amplitude modulation
ANSI	American National Standards Institute
APP	Avian Protection Plan
AREMA	American Railway Engineering and Maintenance of Way Association
ATV	all-terrain vehicle

B

BA	Biological Assessment
BGEPA	Bald and Golden Eagle Protection Act
BIA	Bureau of Indian Affairs
BLM	Bureau of Land Management
BMP	Best Management Practice

C

CEQ	Council on Environmental Quality
CO_2	carbon dioxide
CO	carbon monoxide
CSAH	county state-aid highway

D

DNR	Department of Natural Resources
DOC	Department of Commerce
DOE	Department of Energy
DOT	Department of Transportation
DOA	Department of Agriculture

E

ECS	Ecological Classification System
EHV	extra high voltage
EI	Environmental Inspector
EILC	Ecologically Important Lowland Conifers
EIS	Environmental Impact Statement
EMF	electric and magnetic field
EO	Executive Order
EPA	U.S. Environmental Protection Agency
EQB	Environmental Quality Board
ESA	Endangered Species Act
ESRI	

F

FA	operation with cooling fans
FAA	Federal Aviation Administration
FCC	Federal Communications Commission
Fe	iron
FM	frequency modulation
FOA	operation with fans and oil pumps

G

G	Gauss
GAP	Geographical Analysis Program
GHG	greenhouse gas
GIS	Geographic Information System
GNTL	Great Northern Transmission Line

H

H_2S	hydrogen sulfide

HCVF	High Conservation Value Forest
Hz	Hertz

I

ICD	implantable cardioverter defibrillator
ICNIRP	International Commission on Non-Ionizing Radiation Protection
IBA	Important Bird Area
IEEE	Institute of Electrical and Electronics Engineers

K

kV	kilovolt
kV/m	kilovolts per meter

L

LEP	Limited English Proficiency
Leq	Equivalent continuous sound level
LGU	Local Government Unit
LiDAR	Light Detection and Ranging
LMIC	Land Management Information Center

M

$\mu g/m^3$	micrograms per cubic meter
mA	milliAmperes
MAAQS	Minnesota Ambient Air Quality Standards
MBS	Minnesota Biological Survey
MBTA	Migratory Bird Treaty Act
MDA	Minnesota Department of Agriculture
mG	milliGauss
mg/m^3	milligrams per cubic meter
MHS	Minnesota Historical Society
MISO	Mid-Continent Independent System Operator
MNN	Minnesota Northern Railroad
MPCA	Minnesota Pollution Control Agency
MRCC	Midwestern Regional Climate Center
MW	megawatt

N

NAAQS	National Ambient Air Quality Standards
NAC-1	Noise Area Classification 1
NCDC	National Climatic Data Center
NEMA	National Electrical Manufacturers' Association
NEPA	National Environmental Policy Act
NERC	North American Electric Reliability Corporation
NESC	National Electric Safety Code
NGO	non-governmental organization
NHIS	Natural Heritage Inventory System
NHPA	National Historic Preservation Act
NIEHS	National Institute of Environmental Health Sciences
NLCD	National Land Cover Database
NO_2	nitrogen dioxide
NOI	Notice of Intent
NPC	Native Plant Communities
NPDES	National Pollutant Discharge Elimination System
NRCS	Natural Resources Conservation Service
NRHP	National Register of Historic Places

O

O_3	ozone
OA	operation with no fans
OGF	Old Growth Forest
OHV	off-highway vehicle

P

PA	Programmatic Agreement
Pb	lead
PEM	Palustrine emergent
PFO	Palustrine forested
PM	particulate matter
PPA	Power Purchase Agreement
ppb	parts per billion
ppm	parts per million
PPSA	Power Plant Siting Act
PSS	Palustrine Scrub-shrub
PUB	Palustrine Unconsolidated Bed
PUC	Public Utilities Commission
PWI	Public Waters Inventory

R

ROC	region of comparison
ROD	Record of Decision
ROW	right-of-way

S

SFRMP	Subsection Forest Resource Management Plan
SGCN	Species of Greatest Conservation Need
SHPO	State Historic Preservation Office
SNA	Scientific and Natural Area
SO_2	sulfur dioxide
SPCC	Spill Prevention, Control, and Countermeasures
SWPPP	Storm Water Pollution Prevention Plan

T

TCP	Traditional Cultural Property
TH	trunk highway
THPO	Tribal Historic Preservation Office
TSP	total suspended particulate

U

UHI	urban heat island
USACE	U.S. Army Corps of Engineers
USDA	U.S. Department of Agriculture
USFS	U.S. Forest Service
USFWS	U.S. Fish and Wildlife Service
USGS	U.S. Geological Survey

V

VEC	valued environmental component
VHF	very high frequency
VOR	very high frequency (VHF) omnidirectional range

W

WMA	Wildlife Management Area
WPA	Watershed Protection Area

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