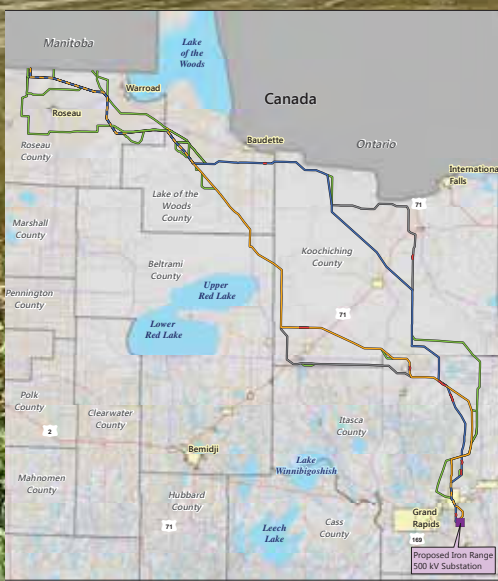


Great Northern Transmission Line Project Final Environmental Impact Statement Volume II: Appendices



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Great Northern Transmission Line Project Final Environmental Impact Statement

Volume II: Appendices

U.S. Department of Energy
Office of Electricity Delivery
and Energy Reliability



Minnesota
Department of Commerce



Cooperating Agencies

U.S. Environmental Protection Agency
U.S. Army Corps of Engineers
U.S. Fish and Wildlife Service
Red Lake Band of Chippewa Indians, Minnesota

October 2015

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Appendix A

Tribal Consultations



Department of Energy
Washington, DC 20585

September 9, 2013

President Thomas Maulson
Lac du Flambeau Band of Lake Superior Chippewa Indians of the Lac du Flambe
PO Box 67
603 Peace Pipe Rd.
Lac du Flambeau, WI 54538

RE: United States Department of Energy Early Tribal Outreach regarding Minnesota Power's Great Northern Transmission Line

Dear Honorable Leader,

The United States Department of Energy (the Department), in an effort to begin early government-to-government outreach and coordination with tribes that may be potentially affected by Minnesota Power's proposed Great Northern Transmission Line project, invites you to attend an upcoming outreach meeting scheduled for September 17, 2013 at the Sevens Clans Casino in Red Lake, Minnesota.

The Great Northern Transmission Line project is proposed by Minnesota Power to consist of two transmission lines: (1) a 500 kV transmission line from the Canadian border to Minnesota's Iron Range; and (2) a 345 kV double circuit transmission line from the Iron Range to near Duluth, Minnesota. While the Department is aware that Minnesota Power is currently moving forward with the routing, siting, and permitting process for the 500 kV line, it has not received an application requesting the issuance of a Presidential permit to allow the proposed project to cross the United States-Canadian international border. As such, the Department does not currently have a "federal undertaking" under Section 106 of the National Historic Preservation Act (36 CFR §800.16(y)), and is therefore not initiating formal Section 106 consultation activities (under 36 CFR §800.3) with any potential consulting party, including Tribes, at this time. Information about the proposed transmission line can be found at: www.mnpower.com.

Rather, the Department is exercising its authorities under Executive Order 13175 to coordinate early with Indian Tribes to foster true government-to-government relations with Indian tribes as early as possible in project development, and under Section 216(h) of the Federal Power Act to lead and coordinate interagency review and permitting efforts related to siting transmission line projects. As a part of this effort Department staff will be attending public open houses held by Minnesota Power at various locations throughout the proposed project area (see attached map provided to the Department by Minnesota Power). This will allow the Department to hear firsthand important input from tribes, landowners, stakeholders, and interested members of the public about the proposed project; information to be considered by Minnesota Power in the company's selection of routes to be considered for the state and Federal permitting processes.

The Department would more importantly like to use this authority and effort to invite you to come, meet and speak informally with our staff about your Tribe's thoughts or concerns about the proposed Great Northern Transmission Line project and the company's route selection process.

Department 216(h) Coordination Lead, Julie Ann Smith, will be in the proposed project area and will be available to meet with you on Tuesday, September 17, 2013, at the following location and time:

Seven Clans Casino
10200 Minnesota Hwy 89
Red Lake, MN 56671
12 noon – 3pm

Please do not hesitate to contact, Julie Ann Smith, at juliea.smith@hq.doe.gov or 202-586-7668 should you have any questions about this early Tribal outreach and coordination effort for the proposed Great Northern Transmission Line project.

We look forward to meeting with you soon on this matter.

Respectfully,

Lamont Jackson
Tribal Liaison
Office of Electricity Delivery and Energy
Efficiency



Department of Energy
Washington, DC 20585

June 27, 2014

**RE: Great Northern Transmission Line Project Environmental Impact Statement
(DOE/EIS-0499) – Tribal Consultation**

A.T. Rusty Stafne
Assiniboine and Sioux Tribes of the Fort Peck Reservation
501 Medicine Bear Road
PO Box 1027
Poplar, MT 59255

Dear Chairperson Stafne:

Pursuant to Section 106 of the National Historic Preservation Act (NHPA) and 36 CFR Part 800, the U.S. Department of Energy (DOE or the Department) is initiating the consultation process on a proposed undertaking to determine any potential adverse effects on Tribal properties of traditional religious and cultural significance. DOE is meeting its obligations under the NHPA concurrently with the preparation of an environmental impact statement (EIS) pursuant to the National Environmental Policy Act (NEPA) of 1969. As a part of its NEPA analysis, DOE is conducting public scoping for this proposed project. A copy of the Department's Notice of Intent for the *Great Northern Transmission Line Project EIS* (79 FR 36493; July 27, 2014) (GNTL EIS) containing information specific to the public scoping meetings is included with this letter.

DOE's Office of Electricity Delivery and Energy Reliability (OE) is responding to Minnesota Power's application for a Presidential permit for the proposed Great Northern Transmission Line (GNTL) Project on April 15, 2014. Executive Order (E.O.) 10485, as amended by E.O.12038, requires that a Presidential permit be issued by DOE before electric transmission facilities may be constructed, operated, maintained, or connected at the U.S. international border. The potential issuance of a Presidential permit for the proposed GNTL Project would authorize Minnesota Power to construct an approximately 220-mile, overhead, single-circuit 500 kV alternating current (AC) transmission line across the U.S.-Canadian border.

The proposed GNTL Project would cross the international border between the Province of Manitoba and the State of Minnesota, northwest of Roseau, Minnesota, and would terminate at the existing Blackberry 230/115 kV Substation near Grand Rapids, Minnesota. The proposed transmission line would be located on all new right-of-way that would be approximately 200-feet wide. Steel lattice tower structure types and configurations would be considered for the proposed GNTL Project with approximately 4 to 5 structures per mile of transmission line with towers spaced roughly 1,000 to 1,450 feet apart, with shorter or longer spans as necessary. The type of structure in any given section of transmission line would be dependent on land type, land

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Minnesota Power has proposed two alternative routes, with one route segment variation identified for each alternative route, which they identify as the “Blue Route,” the “Orange Route,” the “Segment C2,” and the “Segment J2,” respectively. The enclosed map shows the alternative routes, route segments, and the locations of nearby tribal lands. As proposed, neither route alternatives nor alternative route segments would cross tribal reservation lands; however, each route could have the potential to effect cultural resources of significance to your tribe.

The Minnesota Power application, including associated maps and drawings, can be viewed and downloaded in its entirety from the DOE Office of Electricity Delivery and Energy Reliability program Web site at: <http://energy.gov/oe/downloads/application-presidential-permit-oe-docket-no-pp-398-great-northern-transmission-line>. Scroll down to docket number PP-398 on this page to access this information. Information specific to cultural resources that was provided to the Department as part of the Minnesota Power application can be found in “Appendix G – Cultural Resource Report” of the application.

The Department is preparing the GNTL EIS in accordance with the Council on Environmental Quality (CEQ) NEPA regulations (40 CFR Parts 1500 through 1508), and the DOE NEPA implementing regulations (10 CFR Part 1021), with the Army Corps of Engineers - St. Paul District (Department of the Defense), as cooperating agency. The EIS will be a joint Federal-State document with Minnesota Department of Commerce acting as state co-lead.

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- Water Use and Water Quality
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DOE has also determined that its response to Minnesota Power's application for the Presidential permit is a "federal undertaking" under the Section 106 of the NHPA, and is inviting you to participate as a consulting party in this process by providing information to aid in the preparation of the EIS and to meet DOE's obligations under Section 106 of the National Historic Preservation Act, as well as the Native American Graves Protection and Repatriation Act of 1990.

We would very much like to hear from you about any concerns or issues you may have regarding the proposed Great Northern Transmission Line Project, and any information you could share with us regarding possible cultural resource concerns. Of particular interest would be mitigation measures you would propose for construction projects that could affect cultural properties that you consider important. If available, we would welcome information on the location and importance of archaeological sites, historic structures, and any traditional cultural properties or other localities of interest to you that are known to occur in the proposed project area. Please respond within 30 days of receipt of this letter to ensure DOE can promptly begin to address your comments or concerns and to facilitate the consultation process.

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Please do not hesitate to contact me if you, or your staff, have any questions or concerns about the project, the EIS, or the above proposed tribal consultation meetings. The primary point of contact for this effort is me, Julie Ann Smith, Federal Document Manager. I may be reached at 202-586-7668, or by email at juliea.smith@hq.doe.gov. We look forward to consulting with you in this review effort.

Sincerely,



Julie Ann Smith, PhD
Federal Document Manager
Office of Electricity Delivery and Energy
Reliability

Enclosed:
GNTL Notice of Intent
GNTL Alternatives Map with Tribal lands



Department of Energy
Washington, DC 20585

June 27, 2014

**RE: Great Northern Transmission Line Project Environmental Impact Statement
(DOE/EIS-0499) – Tribal Consultation**

Darrell "Curley" Youpee
Assiniboine and Sioux Tribes of the Fort Peck Reservation
501 Medicine Bear Road
PO Box 1027
Poplar, MT 59255

Dear Mr. Youpee:

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Julie Ann Smith, PhD
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Office of Electricity Delivery and Energy
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Department of Energy
Washington, DC 20585

June 27, 2014

**RE: Great Northern Transmission Line Project Environmental Impact Statement
(DOE/EIS-0499) – Tribal Consultation**

Edith Leoso
Bad River Band of the Lake Superior Tribe of Chippewa Indians of the Bad Ri
PO Box 39
Odanah, WI 54861

Dear Ms. Leoso:

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Julie Ann Smith, PhD
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Department of Energy
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June 27, 2014

**RE: Great Northern Transmission Line Project Environmental Impact Statement
(DOE/EIS-0499) – Tribal Consultation**

Michael Wiggins, Jr.
Bad River Band of the Lake Superior Tribe of Chippewa Indians of the Bad Ri
Chief Blackird Center, 72682 Maple Street
Odanah, WI 54861

Dear Chairperson Wiggins, Jr.:

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Julie Ann Smith, PhD
Federal Document Manager
Office of Electricity Delivery and Energy
Reliability

Enclosed:
GNTL Notice of Intent
GNTL Alternatives Map with Tribal lands



Department of Energy
Washington, DC 20585

June 27, 2014

**RE: Great Northern Transmission Line Project Environmental Impact Statement
(DOE/EIS-0499) – Tribal Consultation**

Bill Latady
Bois Forte Band of Chippewa Indians
1500 Bois Forte Road
Tower, MN 55790

Dear Mr. Latady:

Pursuant to Section 106 of the National Historic Preservation Act (NHPA) and 36 CFR Part 800, the U.S. Department of Energy (DOE or the Department) is initiating the consultation process on a proposed undertaking to determine any potential adverse effects on Tribal properties of traditional religious and cultural significance. DOE is meeting its obligations under the NHPA concurrently with the preparation of an environmental impact statement (EIS) pursuant to the National Environmental Policy Act (NEPA) of 1969. As a part of its NEPA analysis, DOE is conducting public scoping for this proposed project. A copy of the Department's Notice of Intent for the *Great Northern Transmission Line Project EIS* (79 FR 36493; July 27, 2014) (GNTL EIS) containing information specific to the public scoping meetings is included with this letter.

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The proposed GNTL Project would cross the international border between the Province of Manitoba and the State of Minnesota, northwest of Roseau, Minnesota, and would terminate at the existing Blackberry 230/115 kV Substation near Grand Rapids, Minnesota. The proposed transmission line would be located on all new right-of-way that would be approximately 200-feet wide. Steel lattice tower structure types and configurations would be considered for the proposed GNTL Project with approximately 4 to 5 structures per mile of transmission line with towers spaced roughly 1,000 to 1,450 feet apart, with shorter or longer spans as necessary. The type of structure in any given section of transmission line would be dependent on land type, land use, and potential effect on the surrounding landscape, and would typically range in height from

approximately 100 feet above ground to approximately 150 feet above ground. The proposed GNTL Project also includes associated substation facilities and transmission system modifications at the Blackberry Substation site, and construction of a new 500 kV Series Compensation Station (a structure which will house the 500 kV series capacitor banks necessary for reliable operation and performance of the proposed transmission line). A new Blackberry 500 kV Substation would be required for the proposed Project and would be constructed adjacent to and east of the existing Blackberry 230/115 kV Substation.

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DOE has also determined that its response to Minnesota Power’s application for the Presidential

permit is a “federal undertaking” under the Section 106 of the NHPA, and is inviting you to participate as a consulting party in this process by providing information to aid in the preparation of the EIS and to meet DOE’s obligations under Section 106 of the National Historic Preservation Act, as well as the Native American Graves Protection and Repatriation Act of 1990.

We would very much like to hear from you about any concerns or issues you may have regarding the proposed Great Northern Transmission Line Project, and any information you could share with us regarding possible cultural resource concerns. Of particular interest would be mitigation measures you would propose for construction projects that could affect cultural properties that you consider important. If available, we would welcome information on the location and importance of archaeological sites, historic structures, and any traditional cultural properties or other localities of interest to you that are known to occur in the proposed project area. Please respond within 30 days of receipt of this letter to ensure DOE can promptly begin to address your comments or concerns and to facilitate the consultation process.

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Please do not hesitate to contact me if you, or your staff, have any questions or concerns about the project, the EIS, or the above proposed tribal consultation meetings. The primary point of contact for this effort is me, Julie Ann Smith, Federal Document Manager. I may be reached at 202-586-7668, or by email at juliea.smith@hq.doe.gov. We look forward to consulting with you in this review effort.

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Kevin Leecy
Bois Forte Band of Chippewa Indians
5344 Lakeshore Drive
PO Box 16
Nett Lake, MN 55772

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**RE: Great Northern Transmission Line Project Environmental Impact Statement
(DOE/EIS-0499) – Tribal Consultation**

Dave Larson
Bois Forte Tribal Government-Nett Lake
2364 Indian Service Road 9
Nett Lake, MN 55772

Dear Mr. Larson:

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**RE: Great Northern Transmission Line Project Environmental Impact Statement
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Kevin Keckler
Cheyenne River Sioux Tribe
2001 N. Main Street
Eagle Butte, SD 57625

Dear Chairperson Keckler:

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Cheyenne River Sioux Tribe
PO Box 590
Eagle Butte, SD 57625

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permit is a “federal undertaking” under the Section 106 of the NHPA, and is inviting you to participate as a consulting party in this process by providing information to aid in the preparation of the EIS and to meet DOE’s obligations under Section 106 of the National Historic Preservation Act, as well as the Native American Graves Protection and Repatriation Act of 1990.

We would very much like to hear from you about any concerns or issues you may have regarding the proposed Great Northern Transmission Line Project, and any information you could share with us regarding possible cultural resource concerns. Of particular interest would be mitigation measures you would propose for construction projects that could affect cultural properties that you consider important. If available, we would welcome information on the location and importance of archaeological sites, historic structures, and any traditional cultural properties or other localities of interest to you that are known to occur in the proposed project area. Please respond within 30 days of receipt of this letter to ensure DOE can promptly begin to address your comments or concerns and to facilitate the consultation process.

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Please do not hesitate to contact me if you, or your staff, have any questions or concerns about the project, the EIS, or the above proposed tribal consultation meetings. The primary point of contact for this effort is me, Julie Ann Smith, Federal Document Manager. I may be reached at 202-586-7668, or by email at juliea.smith@hq.doe.gov. We look forward to consulting with you in this review effort.

Sincerely,



Julie Ann Smith, PhD
Federal Document Manager
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Enclosed:
GNTL Notice of Intent
GNTL Alternatives Map with Tribal lands



Department of Energy
Washington, DC 20585

June 27, 2014

**RE: Great Northern Transmission Line Project Environmental Impact Statement
(DOE/EIS-0499) – Tribal Consultation**

Brandon Sazue, Sr.
Crow Creek Sioux Tribe of the Crow Creek Reservation
100 Drifting Goose Street
Fort Thompson, SD 57339

Dear Chairperson Sazue, Sr.:

Pursuant to Section 106 of the National Historic Preservation Act (NHPA) and 36 CFR Part 800, the U.S. Department of Energy (DOE or the Department) is initiating the consultation process on a proposed undertaking to determine any potential adverse effects on Tribal properties of traditional religious and cultural significance. DOE is meeting its obligations under the NHPA concurrently with the preparation of an environmental impact statement (EIS) pursuant to the National Environmental Policy Act (NEPA) of 1969. As a part of its NEPA analysis, DOE is conducting public scoping for this proposed project. A copy of the Department's Notice of Intent for the *Great Northern Transmission Line Project EIS* (79 FR 36493; July 27, 2014) (GNTL EIS) containing information specific to the public scoping meetings is included with this letter.

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Department of Energy
Washington, DC 20585

June 27, 2014

**RE: Great Northern Transmission Line Project Environmental Impact Statement
(DOE/EIS-0499) – Tribal Consultation**

Anthony Reider
Flandreau Santee Sioux Tribe of South Dakota
603 West Broad Avenue
Flandreau, SD 57028

Dear President Reider:

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Department of Energy
Washington, DC 20585

June 27, 2014

**RE: Great Northern Transmission Line Project Environmental Impact Statement
(DOE/EIS-0499) – Tribal Consultation**

James B. Weston
Flandreau Santee Sioux Tribe of South Dakota
PO Box 285
Flandreau, SD 57028

Dear Mr. Weston:

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Department of Energy
Washington, DC 20585

June 27, 2014

**RE: Great Northern Transmission Line Project Environmental Impact Statement
(DOE/EIS-0499) – Tribal Consultation**

Sean Copeland
Fond du Lac Band of Lake Superior Chippewa
1720 Big Lake Road
Cloquet, MN 55720

Dear Mr. Copeland:

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LeRoy Defoe
Fond du Lac Band of Lake Superior Chippewa
1720 Big Lake Road
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DOE has also determined that its response to Minnesota Power’s application for the Presidential

permit is a “federal undertaking” under the Section 106 of the NHPA, and is inviting you to participate as a consulting party in this process by providing information to aid in the preparation of the EIS and to meet DOE’s obligations under Section 106 of the National Historic Preservation Act, as well as the Native American Graves Protection and Repatriation Act of 1990.

We would very much like to hear from you about any concerns or issues you may have regarding the proposed Great Northern Transmission Line Project, and any information you could share with us regarding possible cultural resource concerns. Of particular interest would be mitigation measures you would propose for construction projects that could affect cultural properties that you consider important. If available, we would welcome information on the location and importance of archaeological sites, historic structures, and any traditional cultural properties or other localities of interest to you that are known to occur in the proposed project area. Please respond within 30 days of receipt of this letter to ensure DOE can promptly begin to address your comments or concerns and to facilitate the consultation process.

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Please do not hesitate to contact me if you, or your staff, have any questions or concerns about the project, the EIS, or the above proposed tribal consultation meetings. The primary point of contact for this effort is me, Julie Ann Smith, Federal Document Manager. I may be reached at 202-586-7668, or by email at juliea.smith@hq.doe.gov. We look forward to consulting with you in this review effort.

Sincerely,



Julie Ann Smith, PhD
Federal Document Manager
Office of Electricity Delivery and Energy
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GNTL Notice of Intent
GNTL Alternatives Map with Tribal lands



Department of Energy
Washington, DC 20585

June 27, 2014

**RE: Great Northern Transmission Line Project Environmental Impact Statement
(DOE/EIS-0499) – Tribal Consultation**

Karen Diver
Fond du Lac Band of Lake Superior Chippewa
Fond du Lac Center,
1720 Big Lake Road
Cloquet, MN 55720

Dear Chairperson Diver:

Pursuant to Section 106 of the National Historic Preservation Act (NHPA) and 36 CFR Part 800, the U.S. Department of Energy (DOE or the Department) is initiating the consultation process on a proposed undertaking to determine any potential adverse effects on Tribal properties of traditional religious and cultural significance. DOE is meeting its obligations under the NHPA concurrently with the preparation of an environmental impact statement (EIS) pursuant to the National Environmental Policy Act (NEPA) of 1969. As a part of its NEPA analysis, DOE is conducting public scoping for this proposed project. A copy of the Department's Notice of Intent for the *Great Northern Transmission Line Project EIS* (79 FR 36493; July 27, 2014) (GNTL EIS) containing information specific to the public scoping meetings is included with this letter.

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Sincerely,



Julie Ann Smith, PhD
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Department of Energy
Washington, DC 20585

June 27, 2014

**RE: Great Northern Transmission Line Project Environmental Impact Statement
(DOE/EIS-0499) – Tribal Consultation**

Melissa Cook
Forest County Potawatomi Community WI
8130 Mishkoswen Drive, PO Box 340
Crandon, WI 54520

Dear Ms. Cook:

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Department of Energy
Washington, DC 20585

June 27, 2014

**RE: Great Northern Transmission Line Project Environmental Impact Statement
(DOE/EIS-0499) – Tribal Consultation**

Harold Frank
Forest County Potawatomi Community WI
5416 Everybody's Road
Crandon, WI 54520

Dear Chairperson Frank:

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Washington, DC 20585

June 27, 2014

**RE: Great Northern Transmission Line Project Environmental Impact Statement
(DOE/EIS-0499) – Tribal Consultation**

Mary Ann Gagnon
Grand Portage Band of Lake Superior Chippewa
PO BOX 428
Grand Portage, MN 55605

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Reliability

Enclosed:
GNTL Notice of Intent
GNTL Alternatives Map with Tribal lands



Department of Energy
Washington, DC 20585

June 27, 2014

**RE: Great Northern Transmission Line Project Environmental Impact Statement
(DOE/EIS-0499) – Tribal Consultation**

Kenneth Meshigaud
Hannahville Indian Community Michigan
N14911 Hannahville B1 Rd.
Wilson, MI 49896

Dear Chairperson Meshigaud:

Pursuant to Section 106 of the National Historic Preservation Act (NHPA) and 36 CFR Part 800, the U.S. Department of Energy (DOE or the Department) is initiating the consultation process on a proposed undertaking to determine any potential adverse effects on Tribal properties of traditional religious and cultural significance. DOE is meeting its obligations under the NHPA concurrently with the preparation of an environmental impact statement (EIS) pursuant to the National Environmental Policy Act (NEPA) of 1969. As a part of its NEPA analysis, DOE is conducting public scoping for this proposed project. A copy of the Department's Notice of Intent for the *Great Northern Transmission Line Project EIS* (79 FR 36493; July 27, 2014) (GNTL EIS) containing information specific to the public scoping meetings is included with this letter.

DOE's Office of Electricity Delivery and Energy Reliability (OE) is responding to Minnesota Power's application for a Presidential permit for the proposed Great Northern Transmission Line (GNTL) Project on April 15, 2014. Executive Order (E.O.) 10485, as amended by E.O. 12038, requires that a Presidential permit be issued by DOE before electric transmission facilities may be constructed, operated, maintained, or connected at the U.S. international border. The potential issuance of a Presidential permit for the proposed GNTL Project would authorize Minnesota Power to construct an approximately 220-mile, overhead, single-circuit 500 kV alternating current (AC) transmission line across the U.S.-Canadian border.

The proposed GNTL Project would cross the international border between the Province of Manitoba and the State of Minnesota, northwest of Roseau, Minnesota, and would terminate at the existing Blackberry 230/115 kV Substation near Grand Rapids, Minnesota. The proposed transmission line would be located on all new right-of-way that would be approximately 200-feet wide. Steel lattice tower structure types and configurations would be considered for the proposed GNTL Project with approximately 4 to 5 structures per mile of transmission line with towers spaced roughly 1,000 to 1,450 feet apart, with shorter or longer spans as necessary. The type of structure in any given section of transmission line would be dependent on land type, land use, and potential effect on the surrounding landscape, and would typically range in height from

approximately 100 feet above ground to approximately 150 feet above ground. The proposed GNTL Project also includes associated substation facilities and transmission system modifications at the Blackberry Substation site, and construction of a new 500 kV Series Compensation Station (a structure which will house the 500 kV series capacitor banks necessary for reliable operation and performance of the proposed transmission line). A new Blackberry 500 kV Substation would be required for the proposed Project and would be constructed adjacent to and east of the existing Blackberry 230/115 kV Substation.

Minnesota Power has proposed two alternative routes, with one route segment variation identified for each alternative route, which they identify as the “Blue Route,” the “Orange Route,” the “Segment C2,” and the “Segment J2,” respectively. The enclosed map shows the alternative routes, route segments, and the locations of nearby tribal lands. As proposed, neither route alternatives nor alternative route segments would cross tribal reservation lands; however, each route could have the potential to effect cultural resources of significance to your tribe.

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DOE has also determined that its response to Minnesota Power’s application for the Presidential

permit is a “federal undertaking” under the Section 106 of the NHPA, and is inviting you to participate as a consulting party in this process by providing information to aid in the preparation of the EIS and to meet DOE’s obligations under Section 106 of the National Historic Preservation Act, as well as the Native American Graves Protection and Repatriation Act of 1990.

We would very much like to hear from you about any concerns or issues you may have regarding the proposed Great Northern Transmission Line Project, and any information you could share with us regarding possible cultural resource concerns. Of particular interest would be mitigation measures you would propose for construction projects that could affect cultural properties that you consider important. If available, we would welcome information on the location and importance of archaeological sites, historic structures, and any traditional cultural properties or other localities of interest to you that are known to occur in the proposed project area. Please respond within 30 days of receipt of this letter to ensure DOE can promptly begin to address your comments or concerns and to facilitate the consultation process.

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Please do not hesitate to contact me if you, or your staff, have any questions or concerns about the project, the EIS, or the above proposed tribal consultation meetings. The primary point of contact for this effort is me, Julie Ann Smith, Federal Document Manager. I may be reached at 202-586-7668, or by email at juliea.smith@hq.doe.gov. We look forward to consulting with you in this review effort.

Sincerely,



Julie Ann Smith, PhD
Federal Document Manager
Office of Electricity Delivery and Energy
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Department of Energy
Washington, DC 20585

June 27, 2014

**RE: Great Northern Transmission Line Project Environmental Impact Statement
(DOE/EIS-0499) – Tribal Consultation**

Warren Schwartz Jr.
Keweenaw Bay Indian Community Michigan
16429 Beartown Road
Baraga, MI 49908

Dear President Schwartz Jr.:

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June 27, 2014

**RE: Great Northern Transmission Line Project Environmental Impact Statement
(DOE/EIS-0499) – Tribal Consultation**

Michael "Mic" Isham
Lac Courte Orilles Band of Lake Superior Chippewa Indians of Wisconsin
13394 West Trepania Road
Building #1
Hayward, WI 13394

Dear Chairman Isham:

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**RE: Great Northern Transmission Line Project Environmental Impact Statement
(DOE/EIS-0499) – Tribal Consultation**

Thomas Maulson
Lac du Flambeau Band of Lake Superior Chippewa Indians of the Lac du Flambe
418 Little Pines Road
Lac du Flambeau, WI 54538

Dear President Maulson:

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Melinda Young
Lac du Flambeau Band of Lake Superior Chippewa Indians of the Lac du Flambe
PO Box 67
Lac du Flambeau, WI 54538

Dear Ms. Young:

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permit is a “federal undertaking” under the Section 106 of the NHPA, and is inviting you to participate as a consulting party in this process by providing information to aid in the preparation of the EIS and to meet DOE’s obligations under Section 106 of the National Historic Preservation Act, as well as the Native American Graves Protection and Repatriation Act of 1990.

We would very much like to hear from you about any concerns or issues you may have regarding the proposed Great Northern Transmission Line Project, and any information you could share with us regarding possible cultural resource concerns. Of particular interest would be mitigation measures you would propose for construction projects that could affect cultural properties that you consider important. If available, we would welcome information on the location and importance of archaeological sites, historic structures, and any traditional cultural properties or other localities of interest to you that are known to occur in the proposed project area. Please respond within 30 days of receipt of this letter to ensure DOE can promptly begin to address your comments or concerns and to facilitate the consultation process.

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Please do not hesitate to contact me if you, or your staff, have any questions or concerns about the project, the EIS, or the above proposed tribal consultation meetings. The primary point of contact for this effort is me, Julie Ann Smith, Federal Document Manager. I may be reached at 202-586-7668, or by email at juliea.smith@hq.doe.gov. We look forward to consulting with you in this review effort.

Sincerely,



Julie Ann Smith, PhD
Federal Document Manager
Office of Electricity Delivery and Energy
Reliability

Enclosed:
GNTL Notice of Intent
GNTL Alternatives Map with Tribal lands



Department of Energy
Washington, DC 20585

June 27, 2014

**RE: Great Northern Transmission Line Project Environmental Impact Statement
(DOE/EIS-0499) – Tribal Consultation**

James Williams Jr.
Lac Vieux Desert Band of Lake Superior Chippewa Indians Michigan
East Pow Wow Trail Road
PO Box 249
Watersmeet, MI 49969

Dear Chairperson Williams Jr.:

Pursuant to Section 106 of the National Historic Preservation Act (NHPA) and 36 CFR Part 800, the U.S. Department of Energy (DOE or the Department) is initiating the consultation process on a proposed undertaking to determine any potential adverse effects on Tribal properties of traditional religious and cultural significance. DOE is meeting its obligations under the NHPA concurrently with the preparation of an environmental impact statement (EIS) pursuant to the National Environmental Policy Act (NEPA) of 1969. As a part of its NEPA analysis, DOE is conducting public scoping for this proposed project. A copy of the Department's Notice of Intent for the *Great Northern Transmission Line Project EIS* (79 FR 36493; July 27, 2014) (GNTL EIS) containing information specific to the public scoping meetings is included with this letter.

DOE's Office of Electricity Delivery and Energy Reliability (OE) is responding to Minnesota Power's application for a Presidential permit for the proposed Great Northern Transmission Line (GNTL) Project on April 15, 2014. Executive Order (E.O.) 10485, as amended by E.O.12038, requires that a Presidential permit be issued by DOE before electric transmission facilities may be constructed, operated, maintained, or connected at the U.S. international border. The potential issuance of a Presidential permit for the proposed GNTL Project would authorize Minnesota Power to construct an approximately 220-mile, overhead, single-circuit 500 kV alternating current (AC) transmission line across the U.S.-Canadian border.

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Department of Energy
Washington, DC 20585

June 27, 2014

**RE: Great Northern Transmission Line Project Environmental Impact Statement
(DOE/EIS-0499) – Tribal Consultation**

Gina Lemon
Leech Lake Band of Ojibwe
115 6th Street NW
Suite E
Cass Lake, MN 56633

Dear Ms. Lemon:

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Department of Energy
Washington, DC 20585

June 27, 2014

**RE: Great Northern Transmission Line Project Environmental Impact Statement
(DOE/EIS-0499) – Tribal Consultation**

Carrie Jones
Leech Lake Band of the Minnesota Chippewa Tribe MN
115 6th Street NW
Suite E
Cass Lake, MN 56633

Dear Chairwoman Jones:

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Department of Energy
Washington, DC 20585

June 27, 2014

**RE: Great Northern Transmission Line Project Environmental Impact Statement
(DOE/EIS-0499) – Tribal Consultation**

Robbie M. Howe-Bebeau
Leech Lake Reservation
6530 US Highway 2 NW
Cass Lake, MN 56633

Dear Representative Howe-Bebeau:

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June 27, 2014

**RE: Great Northern Transmission Line Project Environmental Impact Statement
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Arthur Rose
Leech Lake Reservation
6530 US Highway 2 NW
Cass Lake, MN 56633

Dear Chairman Rose:

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DOE has also determined that its response to Minnesota Power’s application for the Presidential

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We would very much like to hear from you about any concerns or issues you may have regarding the proposed Great Northern Transmission Line Project, and any information you could share with us regarding possible cultural resource concerns. Of particular interest would be mitigation measures you would propose for construction projects that could affect cultural properties that you consider important. If available, we would welcome information on the location and importance of archaeological sites, historic structures, and any traditional cultural properties or other localities of interest to you that are known to occur in the proposed project area. Please respond within 30 days of receipt of this letter to ensure DOE can promptly begin to address your comments or concerns and to facilitate the consultation process.

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Please do not hesitate to contact me if you, or your staff, have any questions or concerns about the project, the EIS, or the above proposed tribal consultation meetings. The primary point of contact for this effort is me, Julie Ann Smith, Federal Document Manager. I may be reached at 202-586-7668, or by email at juliea.smith@hq.doe.gov. We look forward to consulting with you in this review effort.

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Julie Ann Smith, PhD
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GNTL Alternatives Map with Tribal lands



Department of Energy
Washington, DC 20585

June 27, 2014

**RE: Great Northern Transmission Line Project Environmental Impact Statement
(DOE/EIS-0499) – Tribal Consultation**

Steve White
Leech Lake Reservation
6530 US Highway 2 NW
Cass Lake, MN 56633

Dear Representative White:

Pursuant to Section 106 of the National Historic Preservation Act (NHPA) and 36 CFR Part 800, the U.S. Department of Energy (DOE or the Department) is initiating the consultation process on a proposed undertaking to determine any potential adverse effects on Tribal properties of traditional religious and cultural significance. DOE is meeting its obligations under the NHPA concurrently with the preparation of an environmental impact statement (EIS) pursuant to the National Environmental Policy Act (NEPA) of 1969. As a part of its NEPA analysis, DOE is conducting public scoping for this proposed project. A copy of the Department's Notice of Intent for the *Great Northern Transmission Line Project EIS* (79 FR 36493; July 27, 2014) (GNTL EIS) containing information specific to the public scoping meetings is included with this letter.

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**RE: Great Northern Transmission Line Project Environmental Impact Statement
(DOE/EIS-0499) – Tribal Consultation**

Eugene Whitebird
Leech Lake Reservation
6530 US Highway 2 NW
Cass Lake, MN 56633

Dear Representative Whitebird:

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Department of Energy
Washington, DC 20585

June 27, 2014

**RE: Great Northern Transmission Line Project Environmental Impact Statement
(DOE/EIS-0499) – Tribal Consultation**

Michael Jandreau
Lower Brule Sioux Tribe of the Lower Brule Reservation
187 Oyate Circle
Lower Brule, SD 57548

Dear Chairperson Jandreau:

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June 27, 2014

**RE: Great Northern Transmission Line Project Environmental Impact Statement
(DOE/EIS-0499) – Tribal Consultation**

Grace Goldtooth-Campos
Lower Sioux Indian Community of Minnesota
32469 County Highway 2
Morton, MN 56270

Dear Ms. Goldtooth-Campos:

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GNTL Alternatives Map with Tribal lands



Department of Energy
Washington, DC 20585

June 27, 2014

**RE: Great Northern Transmission Line Project Environmental Impact Statement
(DOE/EIS-0499) – Tribal Consultation**

Denny Prescott
Lower Sioux Indian Community of Minnesota
39527 Res. Highway 1
PO Box 308
Morton, MN 56270

Dear President Prescott:

Pursuant to Section 106 of the National Historic Preservation Act (NHPA) and 36 CFR Part 800, the U.S. Department of Energy (DOE or the Department) is initiating the consultation process on a proposed undertaking to determine any potential adverse effects on Tribal properties of traditional religious and cultural significance. DOE is meeting its obligations under the NHPA concurrently with the preparation of an environmental impact statement (EIS) pursuant to the National Environmental Policy Act (NEPA) of 1969. As a part of its NEPA analysis, DOE is conducting public scoping for this proposed project. A copy of the Department's Notice of Intent for the *Great Northern Transmission Line Project EIS* (79 FR 36493; July 27, 2014) (GNTL EIS) containing information specific to the public scoping meetings is included with this letter.

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The proposed GNTL Project would cross the international border between the Province of Manitoba and the State of Minnesota, northwest of Roseau, Minnesota, and would terminate at the existing Blackberry 230/115 kV Substation near Grand Rapids, Minnesota. The proposed transmission line would be located on all new right-of-way that would be approximately 200-feet wide. Steel lattice tower structure types and configurations would be considered for the proposed GNTL Project with approximately 4 to 5 structures per mile of transmission line with towers spaced roughly 1,000 to 1,450 feet apart, with shorter or longer spans as necessary. The type of structure in any given section of transmission line would be dependent on land type, land

use, and potential effect on the surrounding landscape, and would typically range in height from approximately 100 feet above ground to approximately 150 feet above ground. The proposed GNTL Project also includes associated substation facilities and transmission system modifications at the Blackberry Substation site, and construction of a new 500 kV Series Compensation Station (a structure which will house the 500 kV series capacitor banks necessary for reliable operation and performance of the proposed transmission line). A new Blackberry 500 kV Substation would be required for the proposed Project and would be constructed adjacent to and east of the existing Blackberry 230/115 kV Substation.

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DOE has also determined that its response to Minnesota Power's application for the Presidential permit is a "federal undertaking" under the Section 106 of the NHPA, and is inviting you to participate as a consulting party in this process by providing information to aid in the preparation of the EIS and to meet DOE's obligations under Section 106 of the National Historic Preservation Act, as well as the Native American Graves Protection and Repatriation Act of 1990.

We would very much like to hear from you about any concerns or issues you may have regarding the proposed Great Northern Transmission Line Project, and any information you could share with us regarding possible cultural resource concerns. Of particular interest would be mitigation measures you would propose for construction projects that could affect cultural properties that you consider important. If available, we would welcome information on the location and importance of archaeological sites, historic structures, and any traditional cultural properties or other localities of interest to you that are known to occur in the proposed project area. Please respond within 30 days of receipt of this letter to ensure DOE can promptly begin to address your comments or concerns and to facilitate the consultation process.

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Please do not hesitate to contact me if you, or your staff, have any questions or concerns about the project, the EIS, or the above proposed tribal consultation meetings. The primary point of contact for this effort is me, Julie Ann Smith, Federal Document Manager. I may be reached at 202-586-7668, or by email at juliea.smith@hq.doe.gov. We look forward to consulting with you in this review effort.

Sincerely,



Julie Ann Smith, PhD
Federal Document Manager
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June 27, 2014

**RE: Great Northern Transmission Line Project Environmental Impact Statement
(DOE/EIS-0499) – Tribal Consultation**

Natalie Weyaus
Mille Lacs Band of Ojibwe MN
43408 Oodena Drive
Onamia, MN 56359

Dear Ms. Weyaus:

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**RE: Great Northern Transmission Line Project Environmental Impact Statement
(DOE/EIS-0499) – Tribal Consultation**

Melanie Benjamin
Mille Lacs Band of Ojibwe MN
43408 Oodena Drive
Onamia, MN 56359

Dear Chief Executive Benjamin:

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**RE: Great Northern Transmission Line Project Environmental Impact Statement
(DOE/EIS-0499) – Tribal Consultation**

Norman Deschampe
Minnesota Chippewa Tribe MN
15542 State 371 NW
PO Box 217
Cass Lake, MN 56633

Dear President Deschampe:

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**RE: Great Northern Transmission Line Project Environmental Impact Statement
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Wilmer Mesteth
Oglala Sioux Tribal Council of the Pine Ridge Reservation
PO Box 419
Pine Ridge, SD 57770

Dear Mr. Mesteth:

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permit is a “federal undertaking” under the Section 106 of the NHPA, and is inviting you to participate as a consulting party in this process by providing information to aid in the preparation of the EIS and to meet DOE’s obligations under Section 106 of the National Historic Preservation Act, as well as the Native American Graves Protection and Repatriation Act of 1990.

We would very much like to hear from you about any concerns or issues you may have regarding the proposed Great Northern Transmission Line Project, and any information you could share with us regarding possible cultural resource concerns. Of particular interest would be mitigation measures you would propose for construction projects that could affect cultural properties that you consider important. If available, we would welcome information on the location and importance of archaeological sites, historic structures, and any traditional cultural properties or other localities of interest to you that are known to occur in the proposed project area. Please respond within 30 days of receipt of this letter to ensure DOE can promptly begin to address your comments or concerns and to facilitate the consultation process.

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Please do not hesitate to contact me if you, or your staff, have any questions or concerns about the project, the EIS, or the above proposed tribal consultation meetings. The primary point of contact for this effort is me, Julie Ann Smith, Federal Document Manager. I may be reached at 202-586-7668, or by email at juliea.smith@hq.doe.gov. We look forward to consulting with you in this review effort.

Sincerely,



Julie Ann Smith, PhD
Federal Document Manager
Office of Electricity Delivery and Energy
Reliability

Enclosed:
GNTL Notice of Intent
GNTL Alternatives Map with Tribal lands



Department of Energy
Washington, DC 20585

June 27, 2014

**RE: Great Northern Transmission Line Project Environmental Impact Statement
(DOE/EIS-0499) – Tribal Consultation**

Bryan Brewer
Oglala Sioux Tribal Council of the Pine Ridge Reservation
Highway 18 Main Street
Pine Ridge, SD 57770

Dear President Brewer:

Pursuant to Section 106 of the National Historic Preservation Act (NHPA) and 36 CFR Part 800, the U.S. Department of Energy (DOE or the Department) is initiating the consultation process on a proposed undertaking to determine any potential adverse effects on Tribal properties of traditional religious and cultural significance. DOE is meeting its obligations under the NHPA concurrently with the preparation of an environmental impact statement (EIS) pursuant to the National Environmental Policy Act (NEPA) of 1969. As a part of its NEPA analysis, DOE is conducting public scoping for this proposed project. A copy of the Department's Notice of Intent for the *Great Northern Transmission Line Project EIS* (79 FR 36493; July 27, 2014) (GNTL EIS) containing information specific to the public scoping meetings is included with this letter.

DOE's Office of Electricity Delivery and Energy Reliability (OE) is responding to Minnesota Power's application for a Presidential permit for the proposed Great Northern Transmission Line (GNTL) Project on April 15, 2014. Executive Order (E.O.) 10485, as amended by E.O. 12038, requires that a Presidential permit be issued by DOE before electric transmission facilities may be constructed, operated, maintained, or connected at the U.S. international border. The potential issuance of a Presidential permit for the proposed GNTL Project would authorize Minnesota Power to construct an approximately 220-mile, overhead, single-circuit 500 kV alternating current (AC) transmission line across the U.S.-Canadian border.

The proposed GNTL Project would cross the international border between the Province of Manitoba and the State of Minnesota, northwest of Roseau, Minnesota, and would terminate at the existing Blackberry 230/115 kV Substation near Grand Rapids, Minnesota. The proposed transmission line would be located on all new right-of-way that would be approximately 200-feet wide. Steel lattice tower structure types and configurations would be considered for the proposed GNTL Project with approximately 4 to 5 structures per mile of transmission line with towers spaced roughly 1,000 to 1,450 feet apart, with shorter or longer spans as necessary. The type of structure in any given section of transmission line would be dependent on land type, land use, and potential effect on the surrounding landscape, and would typically range in height from

approximately 100 feet above ground to approximately 150 feet above ground. The proposed GNTL Project also includes associated substation facilities and transmission system modifications at the Blackberry Substation site, and construction of a new 500 kV Series Compensation Station (a structure which will house the 500 kV series capacitor banks necessary for reliable operation and performance of the proposed transmission line). A new Blackberry 500 kV Substation would be required for the proposed Project and would be constructed adjacent to and east of the existing Blackberry 230/115 kV Substation.

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The EIS will describe all potential impacts of the proposed project on the environment and will identify possible mitigation measures to reduce or eliminate those impacts. The EIS will describe the potentially affected environment and the impacts that could result to:

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Department of Energy
Washington, DC 20585

June 27, 2014

**RE: Great Northern Transmission Line Project Environmental Impact Statement
(DOE/EIS-0499) – Tribal Consultation**

Audrey Bennett, NAGPRA
Prairie Island Indian Community in the State of Minnesota
5636 Sturgeon Lake Road
Welch, MN 55809

Dear Ms. Bennett:

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Julie Ann Smith, PhD
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Department of Energy
Washington, DC 20585

June 27, 2014

**RE: Great Northern Transmission Line Project Environmental Impact Statement
(DOE/EIS-0499) – Tribal Consultation**

Whitney White
Prairie Island Indian Community in the State of Minnesota
5636 Sturgeon Lake Road
Welch, MN 55089

Dear Ms. White:

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Department of Energy
Washington, DC 20585

June 27, 2014

**RE: Great Northern Transmission Line Project Environmental Impact Statement
(DOE/EIS-0499) – Tribal Consultation**

Johnny Johnson
Prairie Island Indian Community in the State of Minnesota
5636 Sturgeon Lake Road
Welch, MN 55089

Dear President Johnson:

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June 27, 2014

**RE: Great Northern Transmission Line Project Environmental Impact Statement
(DOE/EIS-0499) – Tribal Consultation**

Larry Balber
Red Cliff Band of Lake Superior Chippewa Indians WI
88385 Pike Road Highway 13
Bayfield, WI 54814

Dear Mr. Balber:

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DOE has also determined that its response to Minnesota Power’s application for the Presidential

permit is a “federal undertaking” under the Section 106 of the NHPA, and is inviting you to participate as a consulting party in this process by providing information to aid in the preparation of the EIS and to meet DOE’s obligations under Section 106 of the National Historic Preservation Act, as well as the Native American Graves Protection and Repatriation Act of 1990.

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Please do not hesitate to contact me if you, or your staff, have any questions or concerns about the project, the EIS, or the above proposed tribal consultation meetings. The primary point of contact for this effort is me, Julie Ann Smith, Federal Document Manager. I may be reached at 202-586-7668, or by email at juliea.smith@hq.doe.gov. We look forward to consulting with you in this review effort.

Sincerely,



Julie Ann Smith, PhD
Federal Document Manager
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GNTL Alternatives Map with Tribal lands



Department of Energy
Washington, DC 20585

June 27, 2014

**RE: Great Northern Transmission Line Project Environmental Impact Statement
(DOE/EIS-0499) – Tribal Consultation**

Rosemary Soulier
Red Cliff Band of Lake Superior Chippewa Indians WI
88385 Pike Road Highway 13
Bayfield, WI 54814

Dear Chairperson Soulier:

Pursuant to Section 106 of the National Historic Preservation Act (NHPA) and 36 CFR Part 800, the U.S. Department of Energy (DOE or the Department) is initiating the consultation process on a proposed undertaking to determine any potential adverse effects on Tribal properties of traditional religious and cultural significance. DOE is meeting its obligations under the NHPA concurrently with the preparation of an environmental impact statement (EIS) pursuant to the National Environmental Policy Act (NEPA) of 1969. As a part of its NEPA analysis, DOE is conducting public scoping for this proposed project. A copy of the Department's Notice of Intent for the *Great Northern Transmission Line Project EIS* (79 FR 36493; July 27, 2014) (GNTL EIS) containing information specific to the public scoping meetings is included with this letter.

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Department of Energy
Washington, DC 20585

June 27, 2014

**RE: Great Northern Transmission Line Project Environmental Impact Statement
(DOE/EIS-0499) – Tribal Consultation**

Kathryn Beauleiu
Red Lake Band of Chippewa Indians Minnesota
PO Box 297
Red Lake, MN 56671

Dear Ms. Beauleiu:

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Department of Energy
Washington, DC 20585

June 27, 2014

**RE: Great Northern Transmission Line Project Environmental Impact Statement
(DOE/EIS-0499) – Tribal Consultation**

Floyd Jourdain
Red Lake Band of Chippewa Indians, Minnesota
Highway 1 East, 24200 Council St
Red Lake, MN 56671

Dear Chairman Jourdain:

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Department of Energy
Washington, DC 20585

June 27, 2014

**RE: Great Northern Transmission Line Project Environmental Impact Statement
(DOE/EIS-0499) – Tribal Consultation**

Cyril Scott
Rosebud Sioux Tribe of the Rosebud Indian Reservation
11 Legion Avenue
Rosebud, SD 57570

Dear President Scott:

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GNTL Alternatives Map with Tribal lands



Department of Energy
Washington, DC 20585

June 27, 2014

**RE: Great Northern Transmission Line Project Environmental Impact Statement
(DOE/EIS-0499) – Tribal Consultation**

Russell Eagle Bear
Rosebud Sioux Tribe of the Rosebud Indian Reservation
PO Box 809
Rosebud, SD 57470

Dear Mr. Eagle Bear:

Pursuant to Section 106 of the National Historic Preservation Act (NHPA) and 36 CFR Part 800, the U.S. Department of Energy (DOE or the Department) is initiating the consultation process on a proposed undertaking to determine any potential adverse effects on Tribal properties of traditional religious and cultural significance. DOE is meeting its obligations under the NHPA concurrently with the preparation of an environmental impact statement (EIS) pursuant to the National Environmental Policy Act (NEPA) of 1969. As a part of its NEPA analysis, DOE is conducting public scoping for this proposed project. A copy of the Department's Notice of Intent for the *Great Northern Transmission Line Project EIS* (79 FR 36493; July 27, 2014) (GNTL EIS) containing information specific to the public scoping meetings is included with this letter.

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The proposed GNTL Project would cross the international border between the Province of Manitoba and the State of Minnesota, northwest of Roseau, Minnesota, and would terminate at the existing Blackberry 230/115 kV Substation near Grand Rapids, Minnesota. The proposed transmission line would be located on all new right-of-way that would be approximately 200-feet wide. Steel lattice tower structure types and configurations would be considered for the proposed GNTL Project with approximately 4 to 5 structures per mile of transmission line with towers spaced roughly 1,000 to 1,450 feet apart, with shorter or longer spans as necessary. The type of structure in any given section of transmission line would be dependent on land type, land use, and potential effect on the surrounding landscape, and would typically range in height from

approximately 100 feet above ground to approximately 150 feet above ground. The proposed GNTL Project also includes associated substation facilities and transmission system modifications at the Blackberry Substation site, and construction of a new 500 kV Series Compensation Station (a structure which will house the 500 kV series capacitor banks necessary for reliable operation and performance of the proposed transmission line). A new Blackberry 500 kV Substation would be required for the proposed Project and would be constructed adjacent to and east of the existing Blackberry 230/115 kV Substation.

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DOE has also determined that its response to Minnesota Power’s application for the Presidential

permit is a “federal undertaking” under the Section 106 of the NHPA, and is inviting you to participate as a consulting party in this process by providing information to aid in the preparation of the EIS and to meet DOE’s obligations under Section 106 of the National Historic Preservation Act, as well as the Native American Graves Protection and Repatriation Act of 1990.

We would very much like to hear from you about any concerns or issues you may have regarding the proposed Great Northern Transmission Line Project, and any information you could share with us regarding possible cultural resource concerns. Of particular interest would be mitigation measures you would propose for construction projects that could affect cultural properties that you consider important. If available, we would welcome information on the location and importance of archaeological sites, historic structures, and any traditional cultural properties or other localities of interest to you that are known to occur in the proposed project area. Please respond within 30 days of receipt of this letter to ensure DOE can promptly begin to address your comments or concerns and to facilitate the consultation process.

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Please do not hesitate to contact me if you, or your staff, have any questions or concerns about the project, the EIS, or the above proposed tribal consultation meetings. The primary point of contact for this effort is me, Julie Ann Smith, Federal Document Manager. I may be reached at 202-586-7668, or by email at juliea.smith@hq.doe.gov. We look forward to consulting with you in this review effort.

Sincerely,



Julie Ann Smith, PhD
Federal Document Manager
Office of Electricity Delivery and Energy
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**RE: Great Northern Transmission Line Project Environmental Impact Statement
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Richard Thomas
Santee Sioux of Nebraska
108 Spirit Avenue West
Niobrara, NE 68760

Dear Mr. Thomas:

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**RE: Great Northern Transmission Line Project Environmental Impact Statement
(DOE/EIS-0499) – Tribal Consultation**

Roger Trudell
Santee Sioux of Nebraska
108 Spirit Ave West
Niobrara, NE 68760

Dear Chairperson Trudell:

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**RE: Great Northern Transmission Line Project Environmental Impact Statement
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Charles Vig
Shakopee Mdewakanton Sioux Community MN
2330 Sioux Trail NW
Prior Lake, MN 55372

Dear Chairman Vig:

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Diane Desrosier
Sisseton- Wahpeton Oyate of the Lake Traverse Reservation
PO Box 907
Sisseton, SD 57262

Dear Ms. Desrosier:

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We would very much like to hear from you about any concerns or issues you may have regarding the proposed Great Northern Transmission Line Project, and any information you could share with us regarding possible cultural resource concerns. Of particular interest would be mitigation measures you would propose for construction projects that could affect cultural properties that you consider important. If available, we would welcome information on the location and importance of archaeological sites, historic structures, and any traditional cultural properties or other localities of interest to you that are known to occur in the proposed project area. Please respond within 30 days of receipt of this letter to ensure DOE can promptly begin to address your comments or concerns and to facilitate the consultation process.

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Please do not hesitate to contact me if you, or your staff, have any questions or concerns about the project, the EIS, or the above proposed tribal consultation meetings. The primary point of contact for this effort is me, Julie Ann Smith, Federal Document Manager. I may be reached at 202-586-7668, or by email at juliea.smith@hq.doe.gov. We look forward to consulting with you in this review effort.

Sincerely,



Julie Ann Smith, PhD
Federal Document Manager
Office of Electricity Delivery and Energy
Reliability

Enclosed:
GNTL Notice of Intent
GNTL Alternatives Map with Tribal lands



Department of Energy
Washington, DC 20585

June 27, 2014

**RE: Great Northern Transmission Line Project Environmental Impact Statement
(DOE/EIS-0499) – Tribal Consultation**

Robert Shepherd
Sisseton- Wahpeton Oyate of the Lake Traverse Reservation
100 Veterans Memorial Drive
Agency Village, SD 57262

Dear Chairperson Shepherd:

Pursuant to Section 106 of the National Historic Preservation Act (NHPA) and 36 CFR Part 800, the U.S. Department of Energy (DOE or the Department) is initiating the consultation process on a proposed undertaking to determine any potential adverse effects on Tribal properties of traditional religious and cultural significance. DOE is meeting its obligations under the NHPA concurrently with the preparation of an environmental impact statement (EIS) pursuant to the National Environmental Policy Act (NEPA) of 1969. As a part of its NEPA analysis, DOE is conducting public scoping for this proposed project. A copy of the Department's Notice of Intent for the *Great Northern Transmission Line Project EIS* (79 FR 36493; July 27, 2014) (GNTL EIS) containing information specific to the public scoping meetings is included with this letter.

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Department of Energy
Washington, DC 20585

June 27, 2014

**RE: Great Northern Transmission Line Project Environmental Impact Statement
(DOE/EIS-0499) – Tribal Consultation**

Chris McGeshick
Sokaogon Chippewa Community WI
3051 Sand Lake Rd.
Crandon, WI 54520

Dear Chairperson McGeshick:

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Department of Energy
Washington, DC 20585

June 27, 2014

**RE: Great Northern Transmission Line Project Environmental Impact Statement
(DOE/EIS-0499) – Tribal Consultation**

Roger Yankton, Sr.
Spirit Lake Tribe North Dakota
816 3rd Avenue North
Fort Totten, ND 58335

Dear Chairperson Yankton, Sr.:

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Department of Energy
Washington, DC 20585

June 27, 2014

**RE: Great Northern Transmission Line Project Environmental Impact Statement
(DOE/EIS-0499) – Tribal Consultation**

Darrell Smith
Spirit Lake Tribe North Dakota
PO Box 475
Fort Totten, ND 58335

Dear Mr. Smith:

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June 27, 2014

**RE: Great Northern Transmission Line Project Environmental Impact Statement
(DOE/EIS-0499) – Tribal Consultation**

Waste'Win Young
Standing Rock Sioux Tribe
PO Box D
Fort Yates, ND 58538

Dear Mr. Young:

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Julie Ann Smith, PhD
Federal Document Manager
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GNTL Alternatives Map with Tribal lands



Department of Energy
Washington, DC 20585

June 27, 2014

**RE: Great Northern Transmission Line Project Environmental Impact Statement
(DOE/EIS-0499) – Tribal Consultation**

Charles Murphy
Standing Rock Sioux Tribe
North Standing Rock Avenue, Building 1
Fort Yates, ND 58538

Dear Chairperson Murphy:

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Department of Energy
Washington, DC 20585

June 27, 2014

**RE: Great Northern Transmission Line Project Environmental Impact Statement
(DOE/EIS-0499) – Tribal Consultation**

Elgin Crows Breast
Mandan, Hidatso & Arikara Nation
404 Frontage Road
New Town, ND 58763

Dear Mr. Crows Breast:

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Department of Energy
Washington, DC 20585

June 27, 2014

**RE: Great Northern Transmission Line Project Environmental Impact Statement
(DOE/EIS-0499) – Tribal Consultation**

Tex Hall
Three Affiliated Tribes of the Fort Berthold Reservation
404 Frontage Road
New Town, ND 58763

Dear Chairperson Hall:

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PO Box 900
Belcourt, ND 58316

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GNTL Notice of Intent
GNTL Alternatives Map with Tribal lands



Department of Energy
Washington, DC 20585

June 27, 2014

**RE: Great Northern Transmission Line Project Environmental Impact Statement
(DOE/EIS-0499) – Tribal Consultation**

Merle St. Clair
Turtle Mountain Band of Chippewa
PO Box 900
Belcourt, ND 58316

Dear Chairperson St. Clair:

Pursuant to Section 106 of the National Historic Preservation Act (NHPA) and 36 CFR Part 800, the U.S. Department of Energy (DOE or the Department) is initiating the consultation process on a proposed undertaking to determine any potential adverse effects on Tribal properties of traditional religious and cultural significance. DOE is meeting its obligations under the NHPA concurrently with the preparation of an environmental impact statement (EIS) pursuant to the National Environmental Policy Act (NEPA) of 1969. As a part of its NEPA analysis, DOE is conducting public scoping for this proposed project. A copy of the Department's Notice of Intent for the *Great Northern Transmission Line Project EIS* (79 FR 36493; July 27, 2014) (GNTL EIS) containing information specific to the public scoping meetings is included with this letter.

DOE's Office of Electricity Delivery and Energy Reliability (OE) is responding to Minnesota Power's application for a Presidential permit for the proposed Great Northern Transmission Line (GNTL) Project on April 15, 2014. Executive Order (E.O.) 10485, as amended by E.O. 12038, requires that a Presidential permit be issued by DOE before electric transmission facilities may be constructed, operated, maintained, or connected at the U.S. international border. The potential issuance of a Presidential permit for the proposed GNTL Project would authorize Minnesota Power to construct an approximately 220-mile, overhead, single-circuit 500 kV alternating current (AC) transmission line across the U.S.-Canadian border.

The proposed GNTL Project would cross the international border between the Province of Manitoba and the State of Minnesota, northwest of Roseau, Minnesota, and would terminate at the existing Blackberry 230/115 kV Substation near Grand Rapids, Minnesota. The proposed transmission line would be located on all new right-of-way that would be approximately 200-foot wide. Steel lattice tower structure types and configurations would be considered for the proposed GNTL Project with approximately 4 to 5 structures per mile of transmission line with towers spaced roughly 1,000 to 1,450 feet apart, with shorter or longer spans as necessary. The type of structure in any given section of transmission line would be dependent on land type, land use, and potential effect on the surrounding landscape, and would typically range in height from

approximately 100 feet above ground to approximately 150 feet above ground. The proposed GNTL Project also includes associated substation facilities and transmission system modifications at the Blackberry Substation site, and construction of a new 500 kV Series Compensation Station (a structure which will house the 500 kV series capacitor banks necessary for reliable operation and performance of the proposed transmission line). A new Blackberry 500 kV Substation would be required for the proposed Project and would be constructed adjacent to and east of the existing Blackberry 230/115 kV Substation.

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DOE has also determined that its response to Minnesota Power’s application for the Presidential

permit is a “federal undertaking” under the Section 106 of the NHPA, and is inviting you to participate as a consulting party in this process by providing information to aid in the preparation of the EIS and to meet DOE’s obligations under Section 106 of the National Historic Preservation Act, as well as the Native American Graves Protection and Repatriation Act of 1990.

We would very much like to hear from you about any concerns or issues you may have regarding the proposed Great Northern Transmission Line Project, and any information you could share with us regarding possible cultural resource concerns. Of particular interest would be mitigation measures you would propose for construction projects that could affect cultural properties that you consider important. If available, we would welcome information on the location and importance of archaeological sites, historic structures, and any traditional cultural properties or other localities of interest to you that are known to occur in the proposed project area. Please respond within 30 days of receipt of this letter to ensure DOE can promptly begin to address your comments or concerns and to facilitate the consultation process.

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Please do not hesitate to contact me if you, or your staff, have any questions or concerns about the project, the EIS, or the above proposed tribal consultation meetings. The primary point of contact for this effort is me, Julie Ann Smith, Federal Document Manager. I may be reached at 202-586-7668, or by email at juliea.smith@hq.doe.gov. We look forward to consulting with you in this review effort.

Sincerely,



Julie Ann Smith, PhD
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**RE: Great Northern Transmission Line Project Environmental Impact Statement
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Kevin Jenvold
Upper Sioux Community of Minnesota
5738 Highway 67 East
PO Box 147
Granite Falls, MN 56241

Dear Chairperson Jenvold:

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**RE: Great Northern Transmission Line Project Environmental Impact Statement
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Marlow LaBatte
Upper Sioux Community of Minnesota
PO Box 147
Granite Falls, MN 56241

Dear Mr./Ms. LaBatte:

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Dennis Gill
Wahpekute Band of Dakota
3322 Gill Road
Waubay, SD 57501

Dear Dennis Gill:

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Renee Lampi
White Earth Band of MN Chippewa Tribe MN
PO Box 418
White Earth, MN 56591

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GNTL Alternatives Map with Tribal lands



Department of Energy
Washington, DC 20585

June 27, 2014

**RE: Great Northern Transmission Line Project Environmental Impact Statement
(DOE/EIS-0499) – Tribal Consultation**

Erma Vizenor
White Earth Band of MN Chippewa Tribe MN
5500 Eagle View Road
White Earth, MN 56591

Dear Chairperson Vizenor:

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Department of Energy
Washington, DC 20585

June 27, 2014

**RE: Great Northern Transmission Line Project Environmental Impact Statement
(DOE/EIS-0499) – Tribal Consultation**

Robert Flying Hawk
Yankton Sioux Tribe
P.O. Box 1153
Wagner, SD 57380

Dear Chairperson Flying Hawk:

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Department of Energy
Washington, DC 20585

June 27, 2014

**RE: Great Northern Transmission Line Project Environmental Impact Statement
(DOE/EIS-0499) – Tribal Consultation**

Thurman Cournoyer
Yankton Sioux Tribe
800 Main Avenue SW
Wagner, SD 57380

Dear Chairperson Cournoyer:

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The Minnesota Power application, including associated maps and drawings, can be viewed and downloaded in its entirety from the DOE Office of Electricity Delivery and Energy Reliability program Web site at: <http://energy.gov/oe/downloads/application-presidential-permit-oe-docket-no-pp-398-great-northern-transmission-line>. Scroll down to docket number PP-398 on this page to access this information. Information specific to cultural resources that was provided to the Department as part of the Minnesota Power application can be found in “Appendix G – Cultural Resource Report” of the application.

The Department is preparing the GNTL EIS in accordance with the Council on Environmental Quality (CEQ) NEPA regulations (40 CFR Parts 1500 through 1508), and the DOE NEPA implementing regulations (10 CFR Part 1021), with the Army Corps of Engineers - St. Paul District (Department of the Defense), as cooperating agency. The EIS will be a joint Federal-State document with Minnesota Department of Commerce acting as state co-lead.

The EIS will describe all potential impacts of the proposed project on the environment and will identify possible mitigation measures to reduce or eliminate those impacts. The EIS will describe the potentially affected environment and the impacts that could result to:

- Land Use and Recreation
- Visual Resources
- Water Use and Water Quality
- Surface Water Features including Rivers, Floodplains, and Wetlands
- Fish, Wildlife, and Vegetation, including protected Critical Habitat
- Socioeconomics
- Historic and Cultural Resources
- Soils and Mineral Resources
- Human Health and Safety
- Air Quality
- Construction-related Impacts, including Road Clearing, Traffic, and Noise

DOE has also determined that its response to Minnesota Power’s application for the Presidential permit is a “federal undertaking” under the Section 106 of the NHPA, and is inviting you to participate as a consulting party in this process by providing information to aid in the preparation of the EIS and to meet DOE’s obligations under Section 106 of the National Historic

Preservation Act, as well as the Native American Graves Protection and Repatriation Act of 1990.

We would very much like to hear from you about any concerns or issues you may have regarding the proposed Great Northern Transmission Line Project, and any information you could share with us regarding possible cultural resource concerns. Of particular interest would be mitigation measures you would propose for construction projects that could affect cultural properties that you consider important. If available, we would welcome information on the location and importance of archaeological sites, historic structures, and any traditional cultural properties or other localities of interest to you that are known to occur in the proposed project area. Please respond within 30 days of receipt of this letter to ensure DOE can promptly begin to address your comments or concerns and to facilitate the consultation process.

The Department would also like to extend an invitation to you to meet with DOE senior staff in person on two dates in the month of July in order to formally initiate government-to-government consultations between the Department and your tribe regarding this federal undertaking. We have made the following arrangements for two tribal-only consultation meetings within the proposed GNTL Project area expressly for this purpose:

- Tuesday, July 15, 2014; Seven Clans Red Lake Casino, 10200 Hwy. 89, Red Lake, MN, 56671; 12:00 pm;
- Tuesday, July 22, 2014; White Oak Inn and Suites, 201 4th Avenue NW, Deer River, MN, 56636; 12:00 pm.

Please do not hesitate to contact me if you, or your staff, have any questions or concerns about the project, the EIS, or the above proposed tribal consultation meetings. The primary point of contact for this effort is me, Julie Ann Smith, Federal Document Manager. I may be reached at 202-586-7668, or by email at juliea.smith@hq.doe.gov. We look forward to consulting with you in this review effort.

Sincerely,



Julie Ann Smith, PhD
Federal Document Manager
Office of Electricity Delivery and Energy
Reliability

Enclosed:
GNTL Notice of Intent
GNTL Alternatives Map with Tribal lands



Department of Energy
Washington, DC 20585

June 27, 2014

**RE: Great Northern Transmission Line Project Environmental Impact Statement
(DOE/EIS-0499) – Tribal Consultation**

Dear Sir or Madam,

Pursuant to Section 106 of the National Historic Preservation Act (NHPA) and 36 CFR Part 800, the U.S. Department of Energy (DOE or the Department) is initiating the consultation process on a proposed undertaking to determine any potential adverse effects on Tribal properties of traditional religious and cultural significance. DOE is meeting its obligations under the NHPA concurrently with the preparation of an environmental impact statement (EIS) pursuant to the National Environmental Policy Act (NEPA) of 1969. As a part of its NEPA analysis, DOE is conducting public scoping for this proposed project. A copy of the Department's Notice of Intent for the *Great Northern Transmission Line Project EIS* (79 FR 36493; July 27, 2014) (GNTL EIS) containing information specific to the public scoping meetings is included with this letter.

DOE's Office of Electricity Delivery and Energy Reliability (OE) is responding to Minnesota Power's application for a Presidential permit for the proposed Great Northern Transmission Line (GNTL) Project on April 15, 2014. Executive Order (E.O.) 10485, as amended by E.O.12038, requires that a Presidential permit be issued by DOE before electric transmission facilities may be constructed, operated, maintained, or connected at the U.S. international border. The potential issuance of a Presidential permit for the proposed GNTL Project would authorize Minnesota Power to construct an approximately 220-mile, overhead, single-circuit 500 kV alternating current (AC) transmission line across the U.S.-Canadian border.

The proposed GNTL Project would cross the international border between the Province of Manitoba and the State of Minnesota, northwest of Roseau, Minnesota, and would terminate at the existing Blackberry 230/115 kV Substation near Grand Rapids, Minnesota. The proposed transmission line would be located on all new right-of-way that would be approximately 200-feet wide. Steel lattice tower structure types and configurations would be considered for the proposed GNTL Project with approximately 4 to 5 structures per mile of transmission line with towers spaced roughly 1,000 to 1,450 feet apart, with shorter or longer spans as necessary. The type of structure in any given section of transmission line would be dependent on land type, land use, and potential effect on the surrounding landscape, and would typically range in height from approximately 100 feet above ground to approximately 150 feet above ground. The proposed GNTL Project also includes associated substation facilities and transmission system modifications at the Blackberry Substation site, and construction of a new 500 kV Series

Compensation Station (a structure which will house the 500 kV series capacitor banks necessary for reliable operation and performance of the proposed transmission line). A new Blackberry 500 kV Substation would be required for the proposed Project and would be constructed adjacent to and east of the existing Blackberry 230/115 kV Substation.

Minnesota Power has proposed two alternative routes, with one route segment variation identified for each alternative route, which they identify as the “Blue Route,” the “Orange Route,” the “Segment C2,” and the “Segment J2,” respectively. The enclosed map shows the alternative routes, route segments, and the locations of nearby tribal lands. As proposed, neither route alternatives nor alternative route segments would cross tribal reservation lands; however, each route could have the potential to effect cultural resources of significance to your tribe.

The Minnesota Power application, including associated maps and drawings, can be viewed and downloaded in its entirety from the DOE Office of Electricity Delivery and Energy Reliability program Web site at: <http://energy.gov/oe/downloads/application-presidential-permit-oe-docket-no-pp-398-great-northern-transmission-line>. Scroll down to docket number PP-398 on this page to access this information. Information specific to cultural resources that was provided to the Department as part of the Minnesota Power application can be found in “Appendix G – Cultural Resource Report” of the application.

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The EIS will describe all potential impacts of the proposed project on the environment and will identify possible mitigation measures to reduce or eliminate those impacts. The EIS will describe the potentially affected environment and the impacts that could result to:

- Land Use and Recreation
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- Surface Water Features including Rivers, Floodplains, and Wetlands
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- Socioeconomics
- Historic and Cultural Resources
- Soils and Mineral Resources
- Human Health and Safety
- Air Quality
- Construction-related Impacts, including Road Clearing, Traffic, and Noise

DOE has also determined that its response to Minnesota Power’s application for the Presidential permit is a “federal undertaking” under the Section 106 of the NHPA, and is inviting you to participate as a consulting party in this process by providing information to aid in the preparation of the EIS and to meet DOE’s obligations under Section 106 of the National Historic

Preservation Act, as well as the Native American Graves Protection and Repatriation Act of 1990.

We would very much like to hear from you about any concerns or issues you may have regarding the proposed Great Northern Transmission Line Project, and any information you could share with us regarding possible cultural resource concerns. Of particular interest would be mitigation measures you would propose for construction projects that could affect cultural properties that you consider important. If available, we would welcome information on the location and importance of archaeological sites, historic structures, and any traditional cultural properties or other localities of interest to you that are known to occur in the proposed project area. Please respond within 30 days of receipt of this letter to ensure DOE can promptly begin to address your comments or concerns and to facilitate the consultation process.

The Department would also like to extend an invitation to you to meet with DOE senior staff in person on two dates in the month of July in order to formally initiate government-to-government consultations between the Department and your tribe regarding this federal undertaking. We have made the following arrangements for two tribal-only consultation meetings within the proposed GNTL Project area expressly for this purpose:

- Tuesday, July 15, 2014; Seven Clans Red Lake Casino, 10200 Hwy. 89, Red Lake, MN, 56671; 12:00 pm;
- Tuesday, July 22, 2014; White Oak Inn and Suites, 201 4th Avenue NW, Deer River, MN, 56636; 12:00 pm.

Please do not hesitate to contact me if you, or your staff, have any questions or concerns about the project, the EIS, or the above proposed tribal consultation meetings. The primary point of contact for this effort is me, Julie Ann Smith, Federal Document Manager. I may be reached at 202-586-7668, or by email at juliea.smith@hq.doe.gov. We look forward to consulting with you in this review effort.

Sincerely,



Julie Ann Smith, PhD
Federal Document Manager
Office of Electricity Delivery and Energy
Reliability

Enclosed:
GNTL Notice of Intent
GNTL Alternatives Map with Tribal lands

From: Edith Leoso [<mailto:THPO@badriver-nsn.gov>]
Sent: Friday, July 11, 2014 05:18 PM Eastern Standard Time
To: Smith, Julie A (OE)
Subject: RE: Great Northern Transmission Line Project, Tribal Consultation meetings reminder and update

Dear Ms. Smith,

Thank-you for the invitation to consult. I will be in attendance at the above referenced meeting and look forward to assisting your agency in their efforts to comply with Section 106 of the National Historic Preservation Act. If a meeting agenda is available, please forward it at your convenience.

Miigwech (Thank-you),

Edith Leoso, THPO
Bad River Band of the Lake Superior Tribe of the Chippewa

From: Smith, Julie A (OE) [<mailto:JulieA.Smith@hq.doe.gov>]
Sent: Thursday, July 10, 2014 5:55 PM
Cc: Jackson, Lamont
Subject: Great Northern Transmission Line Project, Tribal Consultation meetings reminder and update
Importance: High

Dear Honorable Leader:

This email is in follow up to our June 27, 2014, letter inviting you and your tribe to formally consult with DOE under Section 106 of the National Historic Preservation Act regarding Minnesota Power's application to DOE for a Presidential permit, which would authorize Minnesota Power to construct an approximately 220-mile, overhead, single-circuit 500 kV alternating current (AC) transmission line between the U.S.-Canadian border. DOE's Office of Electricity Delivery and Energy Reliability (OE) received Minnesota Power's application for the proposed Great Northern Transmission Line (GNTL) Project on April 15, 2014.

I and other DOE senior staff will be available on two dates this month to meet with you

in person in order to formally initiate government-to-government consultations regarding this federal undertaking under Section 106 of the NHPA. The Department has made arrangements for two tribal-only consultation meetings within the proposed GNTL Project area expressly for this purpose at the following:

- Tuesday, July 15, 2014; Seven Clans Red Lake Casino, 10200 Hwy. 89, Red Lake, MN, 56671; 12:00 pm.
- Tuesday, July 22, 2014; White Oak Inn and Suites, 201 4th Avenue NW, Deer River, MN, 56636; 12:00 pm.

We would very much like to hear from you about any concerns or issues you may have regarding the proposed Great Northern Transmission Line Project, and any information you could share with us regarding possible cultural resource concerns. Of particular interest would be mitigation measures you would propose for construction projects that could affect cultural properties that you consider important. If available, we would very much welcome your participation in the above scheduled meeting locations. *Minnesota Power is willing to provide expense reimbursement for these Section 106 Tribal consultation meetings, and the necessary reimbursement forms will be provided at the meetings for these purposes.*

I would also like to inform you ahead of these consultation meetings of the DOE's intention to have a contractor staff member present at the tribal consultation meetings only for purposes of taking meeting notes for our record. As a non-sovereign entity, this scribe would not participate in any way in the government-to-government consultation discussion. If you are uncomfortable or do not wish to have this assisting staff present for any reason, please let me know and alternative arrangements will be made for note-taking.

I very much look forward to meeting you in the next couple of weeks in northern Minnesota.

Sincerely – Julie Ann

Julie Ann Smith, PhD
Electricity Policy Analyst
National Electricity Delivery Division (OE-20)
U.S. Department of Energy
1000 Independence Avenue SW
Washington, DC 20590
Office: 202-586-7668
BB: 240-252-0332

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On July 17, 2014 at 6:57 PM "Smith, Julie A (OE)" <JulieA.Smith@hq.doe.gov> wrote:

Good day, Mr. Fisher. I am so pleased that you are interested in and willing to participate in our Section 106 Tribal consultation on the Great Northern project. Our next consultation meeting will be held on Tuesday, July 22nd at 12 (noon) at White Oak Inn and Suites, 201 4th Avenue NW, Deer River, MN, 56636. Minnesota Power has offered to reimburse your travel expenses and the necessary paperwork will be provided at the meeting. Please let me know if you need and further information. I am looking forward to our conversation and learning about your Tribal culture, history, and traditional resources. Thank you for your help in this matter - Julie

From: Conrad Fisher [<mailto:conrad.fisher@cheyennenation.com>]
Sent: Thursday, July 17, 2014 06:32 PM Eastern Standard Time
To: Smith, Julie A (OE)
Subject: Presidential Permit on Minnesota Transmission line

Dear Ms. Smith:

The Northern Cheyenne Tribe of Montana is interested in participation in the consultation process regarding the Presidential Permit of a transmission line in Minnesota. We are originally from the Minnesota Wisconsin area and definitely have ancestry lands there. If you could email me the next consultation I would really appreciate it. My phone number is 406-477-4839. Thank you.

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From: Dianne Desrosiers [<mailto:DianneD@SWO-NSN.GOV>]

Sent: Thursday, July 17, 2014 5:41 PM

To: Smith, Julie A (OE)

Subject: Great Northern Trans Project.

Good afternoon,

I am the Tribal Historic Preservation Officer for the Sisseton Wahpeton Oyate in NE South Dakota. We are interested in the consultation meeting which is taking place in Deer River Mn. I am planning to send 2 of my staff to this important meeting. The Transmission line route encompasses areas which are of importance to the Sisseton Wahpeton Oyate as these are, our aboriginal lands. My staff will be driving up on Monday and spending the night to attend the meeting on Tuesday as it is 550 miles. Will travel reimbursements be made available? Just would like to know in advance. We will plan to be in on Monday evening. Thank you for your attention in this matter.

**Dianne Desrosiers
Tribal Historic Preservation Officer
Sisseton Wahpeton Oyate
P.O. Box 907
Sisseton, SD 57262
(605) 698-3584 office**

"Every part of this Earth is sacred to my people. We are part of the earth and it is part of us".-Chief Seattle,1854

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From: Terence Clouthier
Sent: Monday, July 21, 2014 8:39 AM
To: 'julieasmith@hq.doe.gov'
Cc: Waste'Win Young (wyoung@standingrock.org)
Subject: Great Northern Transmission Line Project

Good Morning Julie,

The Standing Rock Sioux Tribe Tribal Historic Preservation Office would like to consult with your agency on this project. Unfortunately, our office is unable to attend the meeting on July 22, 2014 due to previous commitments however we would like any notes that are taken for this meeting including any discussions for addressing tribal concerns for sites of tribal significance and any recommendations made. Our office can be reached at (701) 854-2120 or emailed at Waste'Win Young (wyoung@standingrock.org) and Terry Clouthier (tclouthier@standingrock.org).

We look forward to consulting with your agency on this project.

Thank you for considering our traditional and sacred sites in your agency decision making process.

Sincerely,
Standing Rock Sioux Tribe

Terry Clouthier
Tribal Archaeologist

Message scanned by the Symantec Email Security service. If you suspect that this email is actually spam, please send it as an ATTACHMENT to spamsample@messagelabs.com



Department of Energy
Washington, DC 20585

January 15, 2015

A.T. Rusty Stafne
Assiniboine and Sioux Tribes of the Fort Peck Reservation
501 Medicine Bear Road
PO Box 1027
Poplar, MT 59255

SUBJECT: Invitation to Consult on the Proposed Great Northern Transmission Line Project

Dear Chairman Stafne,

The purpose of this letter is to ensure that the Assiniboine and Sioux Tribes of the Fort Peck Reservation is aware that the Department of Energy (DOE) is initiating the Section 106 consultation process on the proposed Great Northern Transmission Line (GNTL) project to determine any potential adverse effects on historic properties pursuant to Section 106 of the National Historic Preservation Act of 1966 (NHPA) and 36 CFR Part 800, "Protection of Historic Properties." The DOE invites you to consult with us, as provided for by Section 106 and its implementing regulations.

The DOE is meeting its obligations under the NHPA concurrently with the preparation of an environmental impact statement (EIS) pursuant to the National Environmental Policy Act of 1969 (NEPA). Minnesota Power is also seeking authorizations from the U.S. Army Corps of Engineers – St. Paul District (USACE), a cooperating agency to DOE in the preparation of the above mentioned EIS. DOE is also acting as the lead federal agency for purposes of compliance with Section 106 for the NEPA cooperating agencies (per 36 CFR § 800.2(a)(2)).

As you are aware from DOE's tribal government-to-government consultation letters for the proposed GNTL project dated June 27, 2014, and November 26, 2014, Minnesota Power applied to DOE for a Presidential permit to construct, operate, maintain, and connect an approximately 220-mile, overhead, single-circuit 500 kV AC transmission line between the Minnesota - Manitoba border crossing northwest of Roseau, Minnesota, and terminating at the existing Blackberry 230/115 kV Substation near Grand Rapids, Minnesota. Minnesota Power's proposal also includes associated substation facilities and transmission system modifications at the Blackberry Substation site, and construction of a new 500 kV Series Compensation Station (a structure which will house the 500 kV series capacitor banks necessary for reliable operation and performance of the proposed transmission line). A new Blackberry 500 kV Substation would be required for the proposed Project and would be constructed adjacent to and east of the existing Blackberry 230/115 kV Substation.

Under Section 106, the DOE must identify and consider the potential effects of its actions on historic properties through a collaborative framework (consultation) to identify historic properties potentially affected by the proposed project, assess its effects, and seek ways to avoid, minimize or mitigate any adverse effects to historic properties (36 CFR §800.1(a)). In addition to the State Historic Preservation Officer (SHPO), federally recognized Indian tribes, and the Advisory Council on Historic Preservation (ACHP), Section 106 consulting parties may include certain individuals and organizations with a demonstrated interest in the undertaking due to the nature of their legal or economic relation to the

undertaking or affected properties, or their concern with the undertaking's effects on historic properties (36 CFR §800.2).

The DOE would like to obtain information from you about historic properties, including those of traditional religious and cultural importance to your Tribe and its members, in or near the project area, and also to provide you an opportunity to identify your concerns about such properties, including the identification of potential mitigation measures. Your assistance in the identification and evaluation of historic properties will provide us the opportunity to work together to resolve any adverse effects this undertaking may have on these properties. If available, we would welcome any information on the location and importance of archaeological sites, historic structures, and any other localities of interest to you that are known to occur in or near the proposed project area.

DOE documented a Notice of Intent (NOI) to prepare an EIS in the *Federal Register* on June 27, 2014 (79 FR 36493), with an open public scoping period which ended on August 15, 2014. As a part of its scoping efforts, DOE held eight NEPA public scoping meetings from July 16 – July 24, 2014 (*see enclosed GNTL Regional Map*). For more information on DOE's NEPA review and preparation of the EIS, please visit the DOE GNTL EIS website at <http://www.GreatNorthernEIS.org>. The GNTL Presidential permit application (including an initial cultural resources study), NOI and the *Great Northern Transmission Line Scoping Summary Report* (November 2014), can be viewed on this website. Future information from the DOE, relevant to the Section 106 consultation (once underway), will also be posted to this website.

If you would like to participate in the Section 106 consultation process, please confirm within 30 calendar days of the date of this letter, by sending a letter accepting this invitation to act as a Section 106 consulting party for the proposed GNTL project that identifies a primary point of contact for your Tribe, either as an attachment to an email at Juliea.Smith@hq.doe.gov, or by postal mail to 1000 Independence Avenue, SW, Washington, D.C., 20585. Please also include information for a primary point of contact for your organization (as applicable) in your acceptance letter. If you have any questions or concerns, please contact me at any time at the above email address or (202) 586-7668.

If you have questions regarding the DOE's on-going review of the proposed GNTL project, or your participation as a Section 106 consulting party, please contact me at any time at the above email address or (202) 586-7668.

Yours very truly,



Julie Ann Smith, PhD
Principal NEPA Document Manager
National Electricity Delivery Division, OE-20
Office of Electricity Delivery and
Energy Reliability
U.S. Department of Energy

Enclosed:

- GNTL Project Regional Map (from GNTL Scoping Summary Report)



Department of Energy
Washington, DC 20585

January 15, 2015

Darrell "Curley" Youpee
Assiniboine and Sioux Tribes of the Fort Peck Reservation
501 Medicine Bear Road
PO Box 1027
Poplar, MT 59255

SUBJECT: Invitation to Consult on the Proposed Great Northern Transmission Line Project

Dear Darrell "Curley" Youpee,

The purpose of this letter is to ensure that the Assiniboine and Sioux Tribes of the Fort Peck Reservation is aware that the Department of Energy (DOE) is initiating the Section 106 consultation process on the proposed Great Northern Transmission Line (GNTL) project to determine any potential adverse effects on historic properties pursuant to Section 106 of the National Historic Preservation Act of 1966 (NHPA) and 36 CFR Part 800, "Protection of Historic Properties." The DOE invites you to consult with us, as provided for by Section 106 and its implementing regulations.

The DOE is meeting its obligations under the NHPA concurrently with the preparation of an environmental impact statement (EIS) pursuant to the National Environmental Policy Act of 1969 (NEPA). Minnesota Power is also seeking authorizations from the U.S. Army Corps of Engineers – St. Paul District (USACE), a cooperating agency to DOE in the preparation of the above mentioned EIS. DOE is also acting as the lead federal agency for purposes of compliance with Section 106 for the NEPA cooperating agencies (per 36 CFR § 800.2(a)(2)).

As you are aware from DOE's tribal government-to-government consultation letters for the proposed GNTL project dated June 27, 2014, and November 26, 2014, Minnesota Power applied to DOE for a Presidential permit to construct, operate, maintain, and connect an approximately 220-mile, overhead, single-circuit 500 kV AC transmission line between the Minnesota - Manitoba border crossing northwest of Roseau, Minnesota, and terminating at the existing Blackberry 230/115 kV Substation near Grand Rapids, Minnesota. Minnesota Power's proposal also includes associated substation facilities and transmission system modifications at the Blackberry Substation site, and construction of a new 500 kV Series Compensation Station (a structure which will house the 500 kV series capacitor banks necessary for reliable operation and performance of the proposed transmission line). A new Blackberry 500 kV Substation would be required for the proposed Project and would be constructed adjacent to and east of the existing Blackberry 230/115 kV Substation.

Under Section 106, the DOE must identify and consider the potential effects of its actions on historic properties through a collaborative framework (consultation) to identify historic properties potentially affected by the proposed project, assess its effects, and seek ways to avoid, minimize or mitigate any adverse effects to historic properties (36 CFR §800.1(a)). In addition to the State Historic Preservation Officer (SHPO), federally recognized Indian tribes, and the Advisory Council on Historic Preservation (ACHP), Section 106 consulting parties may include certain individuals and organizations with a demonstrated interest in the undertaking due to the nature of their legal or economic relation to the

undertaking or affected properties, or their concern with the undertaking's effects on historic properties (36 CFR §800.2).

The DOE would like to obtain information from you about historic properties, including those of traditional religious and cultural importance to your Tribe and its members, in or near the project area, and also to provide you an opportunity to identify your concerns about such properties, including the identification of potential mitigation measures. Your assistance in the identification and evaluation of historic properties will provide us the opportunity to work together to resolve any adverse effects this undertaking may have on these properties. If available, we would welcome any information on the location and importance of archaeological sites, historic structures, and any other localities of interest to you that are known to occur in or near the proposed project area.

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If you have questions regarding the DOE's on-going review of the proposed GNTL project, or your participation as a Section 106 consulting party, please contact me at any time at the above email address or (202) 586-7668.

Yours very truly,



Julie Ann Smith, PhD
Principal NEPA Document Manager
National Electricity Delivery Division, OE-20
Office of Electricity Delivery and
Energy Reliability
U.S. Department of Energy

Enclosed:

- GNTL Project Regional Map (from GNTL Scoping Summary Report)



Department of Energy
Washington, DC 20585

January 15, 2015

Edith Leoso
Bad River Band of the Lake Superior Tribe of Chippewa
1 Maple Lane
PO Box 39
Odanah, WI 54861

SUBJECT: Invitation to Consult on the Proposed Great Northern Transmission Line Project

Dear THPO Edith Leoso,

The purpose of this letter is to ensure that the Bad River Band of the Lake Superior Tribe of Chippewa is aware that the Department of Energy (DOE) is initiating the Section 106 consultation process on the proposed Great Northern Transmission Line (GNTL) project to determine any potential adverse effects on historic properties pursuant to Section 106 of the National Historic Preservation Act of 1966 (NHPA) and 36 CFR Part 800, "Protection of Historic Properties." The DOE invites you to consult with us, as provided for by Section 106 and its implementing regulations.

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As you are aware from DOE's tribal government-to-government consultation letters for the proposed GNTL project dated June 27, 2014, and November 26, 2014, Minnesota Power applied to DOE for a Presidential permit to construct, operate, maintain, and connect an approximately 220-mile, overhead, single-circuit 500 kV AC transmission line between the Minnesota - Manitoba border crossing northwest of Roseau, Minnesota, and terminating at the existing Blackberry 230/115 kV Substation near Grand Rapids, Minnesota. Minnesota Power's proposal also includes associated substation facilities and transmission system modifications at the Blackberry Substation site, and construction of a new 500 kV Series Compensation Station (a structure which will house the 500 kV series capacitor banks necessary for reliable operation and performance of the proposed transmission line). A new Blackberry 500 kV Substation would be required for the proposed Project and would be constructed adjacent to and east of the existing Blackberry 230/115 kV Substation.

Under Section 106, the DOE must identify and consider the potential effects of its actions on historic properties through a collaborative framework (consultation) to identify historic properties potentially affected by the proposed project, assess its effects, and seek ways to avoid, minimize or mitigate any adverse effects to historic properties (36 CFR §800.1(a)). In addition to the State Historic Preservation Officer (SHPO), federally recognized Indian tribes, and the Advisory Council on Historic Preservation (ACHP), Section 106 consulting parties may include certain individuals and organizations with a demonstrated interest in the undertaking due to the nature of their legal or economic relation to the

undertaking or affected properties, or their concern with the undertaking's effects on historic properties (36 CFR §800.2).

The DOE would like to obtain information from you about historic properties, including those of traditional religious and cultural importance to your Tribe and its members, in or near the project area, and also to provide you an opportunity to identify your concerns about such properties, including the identification of potential mitigation measures. Your assistance in the identification and evaluation of historic properties will provide us the opportunity to work together to resolve any adverse effects this undertaking may have on these properties. If available, we would welcome any information on the location and importance of archaeological sites, historic structures, and any other localities of interest to you that are known to occur in or near the proposed project area.

DOE documented a Notice of Intent (NOI) to prepare an EIS in the *Federal Register* on June 27, 2014 (79 FR 36493), with an open public scoping period which ended on August 15, 2014. As a part of its scoping efforts, DOE held eight NEPA public scoping meetings from July 16 – July 24, 2014 (*see enclosed GNTL Regional Map*). For more information on DOE's NEPA review and preparation of the EIS, please visit the DOE GNTL EIS website at <http://www.GreatNorthernEIS.org>. The GNTL Presidential permit application (including an initial cultural resources study), NOI and the *Great Northern Transmission Line Scoping Summary Report* (November 2014), can be viewed on this website. Future information from the DOE, relevant to the Section 106 consultation (once underway), will also be posted to this website.

If you would like to participate in the Section 106 consultation process, please confirm within 30 calendar days of the date of this letter, by sending a letter accepting this invitation to act as a Section 106 consulting party for the proposed GNTL project that identifies a primary point of contact for your Tribe, either as an attachment to an email at Julie.A.Smith@hq.doe.gov, or by postal mail to 1000 Independence Avenue, SW, Washington, D.C., 20585. Please also include information for a primary point of contact for your organization (as applicable) in your acceptance letter. If you have any questions or concerns, please contact me at any time at the above email address or (202) 586-7668.

If you have questions regarding the DOE's on-going review of the proposed GNTL project, or your participation as a Section 106 consulting party, please contact me at any time at the above email address or (202) 586-7668.

Yours very truly,



Julie Ann Smith, PhD
Principal NEPA Document Manager
National Electricity Delivery Division, OE-20
Office of Electricity Delivery and
Energy Reliability
U.S. Department of Energy

Enclosed:

- GNTL Project Regional Map (from GNTL Scoping Summary Report)



Department of Energy
Washington, DC 20585

January 15, 2015

Mike Wiggins, Jr.
Bad River Band of the Lake Superior Tribe of Chippewa
1 Maple Lane
PO Box 39
Odanah, WI 54861

SUBJECT: Invitation to Consult on the Proposed Great Northern Transmission Line Project

Dear Chairman Wiggins, Jr.,

The purpose of this letter is to ensure that the Bad River Band of the Lake Superior Tribe of Chippewa is aware that the Department of Energy (DOE) is initiating the Section 106 consultation process on the proposed Great Northern Transmission Line (GNTL) project to determine any potential adverse effects on historic properties pursuant to Section 106 of the National Historic Preservation Act of 1966 (NHPA) and 36 CFR Part 800, "Protection of Historic Properties." The DOE invites you to consult with us, as provided for by Section 106 and its implementing regulations.

The DOE is meeting its obligations under the NHPA concurrently with the preparation of an environmental impact statement (EIS) pursuant to the National Environmental Policy Act of 1969 (NEPA). Minnesota Power is also seeking authorizations from the U.S. Army Corps of Engineers – St. Paul District (USACE), a cooperating agency to DOE in the preparation of the above mentioned EIS. DOE is also acting as the lead federal agency for purposes of compliance with Section 106 for the NEPA cooperating agencies (per 36 CFR § 800.2(a)(2)).

As you are aware from DOE's tribal government-to-government consultation letters for the proposed GNTL project dated June 27, 2014, and November 26, 2014, Minnesota Power applied to DOE for a Presidential permit to construct, operate, maintain, and connect an approximately 220-mile, overhead, single-circuit 500 kV AC transmission line between the Minnesota - Manitoba border crossing northwest of Roseau, Minnesota, and terminating at the existing Blackberry 230/115 kV Substation near Grand Rapids, Minnesota. Minnesota Power's proposal also includes associated substation facilities and transmission system modifications at the Blackberry Substation site, and construction of a new 500 kV Series Compensation Station (a structure which will house the 500 kV series capacitor banks necessary for reliable operation and performance of the proposed transmission line). A new Blackberry 500 kV Substation would be required for the proposed Project and would be constructed adjacent to and east of the existing Blackberry 230/115 kV Substation.

Under Section 106, the DOE must identify and consider the potential effects of its actions on historic properties through a collaborative framework (consultation) to identify historic properties potentially affected by the proposed project, assess its effects, and seek ways to avoid, minimize or mitigate any adverse effects to historic properties (36 CFR §800.1(a)). In addition to the State Historic Preservation Officer (SHPO), federally recognized Indian tribes, and the Advisory Council on Historic Preservation (ACHP), Section 106 consulting parties may include certain individuals and organizations with a demonstrated interest in the undertaking due to the nature of their legal or economic relation to the

undertaking or affected properties, or their concern with the undertaking's effects on historic properties (36 CFR §800.2).

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Yours very truly,



Julie Ann Smith, PhD
Principal NEPA Document Manager
National Electricity Delivery Division, OE-20
Office of Electricity Delivery and
Energy Reliability
U.S. Department of Energy

Enclosed:

- GNTL Project Regional Map (from GNTL Scoping Summary Report)



Department of Energy
Washington, DC 20585

January 15, 2015

William Latady
Bois Forte Band of Chippewa
1500 Bois Forte Road
Tower, MN 55790

SUBJECT: Invitation to Consult on the Proposed Great Northern Transmission Line Project

Dear THPO Latady,

The purpose of this letter is to ensure that the Bois Forte Band of Chippewa is aware that the Department of Energy (DOE) is initiating the Section 106 consultation process on the proposed Great Northern Transmission Line (GNTL) project to determine any potential adverse effects on historic properties pursuant to Section 106 of the National Historic Preservation Act of 1966 (NHPA) and 36 CFR Part 800, "Protection of Historic Properties." The DOE invites you to consult with us, as provided for by Section 106 and its implementing regulations.

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Yours very truly,



Julie Ann Smith, PhD
Principal NEPA Document Manager
National Electricity Delivery Division, OE-20
Office of Electricity Delivery and
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- GNTL Project Regional Map (from GNTL Scoping Summary Report)



Department of Energy
Washington, DC 20585

January 15, 2015

Kevin Leecy
Bois Forte Band of Chippewa
PO Box 16
Nett Lake, MN 55772

SUBJECT: Invitation to Consult on the Proposed Great Northern Transmission Line Project

Dear Chairman Leecy,

The purpose of this letter is to ensure that the Bois Forte Band of Chippewa is aware that the Department of Energy (DOE) is initiating the Section 106 consultation process on the proposed Great Northern Transmission Line (GNTL) project to determine any potential adverse effects on historic properties pursuant to Section 106 of the National Historic Preservation Act of 1966 (NHPA) and 36 CFR Part 800, "Protection of Historic Properties." The DOE invites you to consult with us, as provided for by Section 106 and its implementing regulations.

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Yours very truly,



Julie Ann Smith, PhD
Principal NEPA Document Manager
National Electricity Delivery Division, OE-20
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Energy Reliability
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Enclosed:

- GNTL Project Regional Map (from GNTL Scoping Summary Report)



Department of Energy
Washington, DC 20585

January 15, 2015

Dave Larson
Bois Forte Tribal Government-Nett Lake
2364 Indian Service Road 9
Nett Lake, MN 55772

SUBJECT: Invitation to Consult on the Proposed Great Northern Transmission Line Project

Dear Mr. Larson,

The purpose of this letter is to ensure that the Bois Forte Tribal Government-Nett Lake is aware that the Department of Energy (DOE) is initiating the Section 106 consultation process on the proposed Great Northern Transmission Line (GNTL) project to determine any potential adverse effects on historic properties pursuant to Section 106 of the National Historic Preservation Act of 1966 (NHPA) and 36 CFR Part 800, "Protection of Historic Properties." The DOE invites you to consult with us, as provided for by Section 106 and its implementing regulations.

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Julie Ann Smith, PhD
Principal NEPA Document Manager
National Electricity Delivery Division, OE-20
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- GNTL Project Regional Map (from GNTL Scoping Summary Report)



Department of Energy
Washington, DC 20585

January 15, 2015

Harold Frazier
Cheyenne River Sioux Tribe
PO Box 590
2001 Main Street
Eagle Butte, SD 57625

SUBJECT: Invitation to Consult on the Proposed Great Northern Transmission Line Project

Dear Chairman Frazier,

The purpose of this letter is to ensure that the Cheyenne River Sioux Tribe is aware that the Department of Energy (DOE) is initiating the Section 106 consultation process on the proposed Great Northern Transmission Line (GNTL) project to determine any potential adverse effects on historic properties pursuant to Section 106 of the National Historic Preservation Act of 1966 (NHPA) and 36 CFR Part 800, "Protection of Historic Properties." The DOE invites you to consult with us, as provided for by Section 106 and its implementing regulations.

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Julie Ann Smith, PhD
Principal NEPA Document Manager
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Office of Electricity Delivery and
Energy Reliability
U.S. Department of Energy

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- GNTL Project Regional Map (from GNTL Scoping Summary Report)



Department of Energy
Washington, DC 20585

January 15, 2015

Steven Vance
Cheyenne River Sioux Tribe
PO Box 590
Eagle Butte, SD 57625

SUBJECT: Invitation to Consult on the Proposed Great Northern Transmission Line Project

Dear THPO Vance,

The purpose of this letter is to ensure that the Cheyenne River Sioux Tribe is aware that the Department of Energy (DOE) is initiating the Section 106 consultation process on the proposed Great Northern Transmission Line (GNTL) project to determine any potential adverse effects on historic properties pursuant to Section 106 of the National Historic Preservation Act of 1966 (NHPA) and 36 CFR Part 800, "Protection of Historic Properties." The DOE invites you to consult with us, as provided for by Section 106 and its implementing regulations.

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If you would like to participate in the Section 106 consultation process, please confirm within 30 calendar days of the date of this letter, by sending a letter accepting this invitation to act as a Section 106 consulting party for the proposed GNTL project that identifies a primary point of contact for your Tribe, either as an attachment to an email at Juliea.Smith@hq.doe.gov, or by postal mail to 1000 Independence Avenue, SW, Washington, D.C., 20585. Please also include information for a primary point of contact for your organization (as applicable) in your acceptance letter. If you have any questions or concerns, please contact me at any time at the above email address or (202) 586-7668.

If you have questions regarding the DOE’s on-going review of the proposed GNTL project, or your participation as a Section 106 consulting party, please contact me at any time at the above email address or (202) 586-7668.

Yours very truly,



Julie Ann Smith, PhD
Principal NEPA Document Manager
National Electricity Delivery Division, OE-20
Office of Electricity Delivery and
Energy Reliability
U.S. Department of Energy

Enclosed:

- GNTL Project Regional Map (from GNTL Scoping Summary Report)



Department of Energy
Washington, DC 20585

January 15, 2015

**Roxanne Sazue
Crow Creek Sioux Tribe
PO Box 50
Fort Thompson, SD 57339**

SUBJECT: Invitation to Consult on the Proposed Great Northern Transmission Line Project

Dear Chairwoman Sazue,

The purpose of this letter is to ensure that the Crow Creek Sioux Tribe is aware that the Department of Energy (DOE) is initiating the Section 106 consultation process on the proposed Great Northern Transmission Line (GNTL) project to determine any potential adverse effects on historic properties pursuant to Section 106 of the National Historic Preservation Act of 1966 (NHPA) and 36 CFR Part 800, "Protection of Historic Properties." The DOE invites you to consult with us, as provided for by Section 106 and its implementing regulations.

The DOE is meeting its obligations under the NHPA concurrently with the preparation of an environmental impact statement (EIS) pursuant to the National Environmental Policy Act of 1969 (NEPA). Minnesota Power is also seeking authorizations from the U.S. Army Corps of Engineers – St. Paul District (USACE), a cooperating agency to DOE in the preparation of the above mentioned EIS. DOE is also acting as the lead federal agency for purposes of compliance with Section 106 for the NEPA cooperating agencies (per 36 CFR § 800.2(a)(2)).

As you are aware from DOE's tribal government-to-government consultation letters for the proposed GNTL project dated June 27, 2014, and November 26, 2014, Minnesota Power applied to DOE for a Presidential permit to construct, operate, maintain, and connect an approximately 220-mile, overhead, single-circuit 500 kV AC transmission line between the Minnesota - Manitoba border crossing northwest of Roseau, Minnesota, and terminating at the existing Blackberry 230/115 kV Substation near Grand Rapids, Minnesota. Minnesota Power's proposal also includes associated substation facilities and transmission system modifications at the Blackberry Substation site, and construction of a new 500 kV Series Compensation Station (a structure which will house the 500 kV series capacitor banks necessary for reliable operation and performance of the proposed transmission line). A new Blackberry 500 kV Substation would be required for the proposed Project and would be constructed adjacent to and east of the existing Blackberry 230/115 kV Substation.

Under Section 106, the DOE must identify and consider the potential effects of its actions on historic properties through a collaborative framework (consultation) to identify historic properties potentially affected by the proposed project, assess its effects, and seek ways to avoid, minimize or mitigate any adverse effects to historic properties (36 CFR §800.1(a)). In addition to the State Historic Preservation Officer (SHPO), federally recognized Indian tribes, and the Advisory Council on Historic Preservation (ACHP), Section 106 consulting parties may include certain individuals and organizations with a demonstrated interest in the undertaking due to the nature of their legal or economic relation to the undertaking or affected properties, or their concern with the undertaking's effects on historic properties (36 CFR §800.2).

The DOE would like to obtain information from you about historic properties, including those of traditional religious and cultural importance to your Tribe and its members, in or near the project area, and also to provide you an opportunity to identify your concerns about such properties, including the identification of potential mitigation measures. Your assistance in the identification and evaluation of historic properties will provide us the opportunity to work together to resolve any adverse effects this undertaking may have on these properties. If available, we would welcome any information on the location and importance of archaeological sites, historic structures, and any other localities of interest to you that are known to occur in or near the proposed project area.

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Yours very truly,



Julie Ann Smith, PhD
Principal NEPA Document Manager
National Electricity Delivery Division, OE-20
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Department of Energy
Washington, DC 20585

January 15, 2015

Darrell Zephier
Crow Creek Sioux Tribe
PO Box 50
Fort Thompson, SD 57339

SUBJECT: Invitation to Consult on the Proposed Great Northern Transmission Line Project

Dear THPO Zephier,

The purpose of this letter is to ensure that the Crow Creek Sioux Tribe is aware that the Department of Energy (DOE) is initiating the Section 106 consultation process on the proposed Great Northern Transmission Line (GNTL) project to determine any potential adverse effects on historic properties pursuant to Section 106 of the National Historic Preservation Act of 1966 (NHPA) and 36 CFR Part 800, "Protection of Historic Properties." The DOE invites you to consult with us, as provided for by Section 106 and its implementing regulations.

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Julie Ann Smith, PhD
Principal NEPA Document Manager
National Electricity Delivery Division, OE-20
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- GNTL Project Regional Map (from GNTL Scoping Summary Report)



Department of Energy
Washington, DC 20585

January 15, 2015

Anthony Rider
Flandreau Santee Sioux Tribe of South Dakota
PO Box 283
603 W. Broad Avenue
Flandreau, SD 57028

SUBJECT: Invitation to Consult on the Proposed Great Northern Transmission Line Project

Dear President Rider,

The purpose of this letter is to ensure that the Flandreau Santee Sioux Tribe of South Dakota is aware that the Department of Energy (DOE) is initiating the Section 106 consultation process on the proposed Great Northern Transmission Line (GNTL) project to determine any potential adverse effects on historic properties pursuant to Section 106 of the National Historic Preservation Act of 1966 (NHPA) and 36 CFR Part 800, "Protection of Historic Properties." The DOE invites you to consult with us, as provided for by Section 106 and its implementing regulations.

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Yours very truly,



Julie Ann Smith, PhD
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National Electricity Delivery Division, OE-20
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- GNTL Project Regional Map (from GNTL Scoping Summary Report)



Department of Energy
Washington, DC 20585

January 15, 2015

Sam Allen, Sr.
Flandreau Santee Sioux Tribe of South Dakota
PO Box 285
Flandreau, SD 57028

SUBJECT: Invitation to Consult on the Proposed Great Northern Transmission Line Project

Dear THPO Allen, Sr.,

The purpose of this letter is to ensure that the Flandreau Santee Sioux Tribe of South Dakota is aware that the Department of Energy (DOE) is initiating the Section 106 consultation process on the proposed Great Northern Transmission Line (GNTL) project to determine any potential adverse effects on historic properties pursuant to Section 106 of the National Historic Preservation Act of 1966 (NHPA) and 36 CFR Part 800, "Protection of Historic Properties." The DOE invites you to consult with us, as provided for by Section 106 and its implementing regulations.

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Julie Ann Smith, PhD
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- GNTL Project Regional Map (from GNTL Scoping Summary Report)



Department of Energy
Washington, DC 20585

January 15, 2015

Sean Copeland
Fond du Lac Band of Lake Superior Chippewa
1720 Big Lake Road
Cloquet, MN 55720

SUBJECT: Invitation to Consult on the Proposed Great Northern Transmission Line Project

Dear Mr. Copeland,

The purpose of this letter is to ensure that the Fond du Lac Band of Lake Superior Chippewa is aware that the Department of Energy (DOE) is initiating the Section 106 consultation process on the proposed Great Northern Transmission Line (GNTL) project to determine any potential adverse effects on historic properties pursuant to Section 106 of the National Historic Preservation Act of 1966 (NHPA) and 36 CFR Part 800, "Protection of Historic Properties." The DOE invites you to consult with us, as provided for by Section 106 and its implementing regulations.

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Julie Ann Smith, PhD
Principal NEPA Document Manager
National Electricity Delivery Division, OE-20
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- GNTL Project Regional Map (from GNTL Scoping Summary Report)



Department of Energy
Washington, DC 20585

January 15, 2015

Leah Savage
Fond du Lac Band of Lake Superior Chippewa
1720 Big Lake Road
Cloquet, MN 55720

SUBJECT: Invitation to Consult on the Proposed Great Northern Transmission Line Project

Dear THPO Savage,

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If you have questions regarding the DOE’s on-going review of the proposed GNTL project, or your participation as a Section 106 consulting party, please contact me at any time at the above email address or (202) 586-7668.

Yours very truly,



Julie Ann Smith, PhD
Principal NEPA Document Manager
National Electricity Delivery Division, OE-20
Office of Electricity Delivery and
Energy Reliability
U.S. Department of Energy

Enclosed:

- GNTL Project Regional Map (from GNTL Scoping Summary Report)



Department of Energy
Washington, DC 20585

January 15, 2015

Karen Diver
Fond du Lac Band of Lake Superior Chippewa
1720 Big Lake Road
Cloquet, MN 55720

SUBJECT: Invitation to Consult on the Proposed Great Northern Transmission Line Project

Dear Chairwoman Diver,

The purpose of this letter is to ensure that the Fond du Lac Band of Lake Superior Chippewa is aware that the Department of Energy (DOE) is initiating the Section 106 consultation process on the proposed Great Northern Transmission Line (GNTL) project to determine any potential adverse effects on historic properties pursuant to Section 106 of the National Historic Preservation Act of 1966 (NHPA) and 36 CFR Part 800, "Protection of Historic Properties." The DOE invites you to consult with us, as provided for by Section 106 and its implementing regulations.

The DOE is meeting its obligations under the NHPA concurrently with the preparation of an environmental impact statement (EIS) pursuant to the National Environmental Policy Act of 1969 (NEPA). Minnesota Power is also seeking authorizations from the U.S. Army Corps of Engineers – St. Paul District (USACE), a cooperating agency to DOE in the preparation of the above mentioned EIS. DOE is also acting as the lead federal agency for purposes of compliance with Section 106 for the NEPA cooperating agencies (per 36 CFR § 800.2(a)(2)).

As you are aware from DOE's tribal government-to-government consultation letters for the proposed GNTL project dated June 27, 2014, and November 26, 2014, Minnesota Power applied to DOE for a Presidential permit to construct, operate, maintain, and connect an approximately 220-mile, overhead, single-circuit 500 kV AC transmission line between the Minnesota - Manitoba border crossing northwest of Roseau, Minnesota, and terminating at the existing Blackberry 230/115 kV Substation near Grand Rapids, Minnesota. Minnesota Power's proposal also includes associated substation facilities and transmission system modifications at the Blackberry Substation site, and construction of a new 500 kV Series Compensation Station (a structure which will house the 500 kV series capacitor banks necessary for reliable operation and performance of the proposed transmission line). A new Blackberry 500 kV Substation would be required for the proposed Project and would be constructed adjacent to and east of the existing Blackberry 230/115 kV Substation.

Under Section 106, the DOE must identify and consider the potential effects of its actions on historic properties through a collaborative framework (consultation) to identify historic properties potentially affected by the proposed project, assess its effects, and seek ways to avoid, minimize or mitigate any adverse effects to historic properties (36 CFR §800.1(a)). In addition to the State Historic Preservation Officer (SHPO), federally recognized Indian tribes, and the Advisory Council on Historic Preservation (ACHP), Section 106 consulting parties may include certain individuals and organizations with a demonstrated interest in the undertaking due to the nature of their legal or economic relation to the undertaking or affected properties, or their concern with the undertaking's effects on historic properties (36 CFR §800.2).

The DOE would like to obtain information from you about historic properties, including those of traditional religious and cultural importance to your Tribe and its members, in or near the project area, and also to provide you an opportunity to identify your concerns about such properties, including the identification of potential mitigation measures. Your assistance in the identification and evaluation of historic properties will provide us the opportunity to work together to resolve any adverse effects this undertaking may have on these properties. If available, we would welcome any information on the location and importance of archaeological sites, historic structures, and any other localities of interest to you that are known to occur in or near the proposed project area.

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If you have questions regarding the DOE’s on-going review of the proposed GNTL project, or your participation as a Section 106 consulting party, please contact me at any time at the above email address or (202) 586-7668.

Yours very truly,



Julie Ann Smith, PhD
Principal NEPA Document Manager
National Electricity Delivery Division, OE-20
Office of Electricity Delivery and
Energy Reliability
U.S. Department of Energy

Enclosed:

- GNTL Project Regional Map (from GNTL Scoping Summary Report)



Department of Energy
Washington, DC 20585

January 15, 2015

Melissa Cook
Forest County Potawatomi Community WI
PO Box 340
8130 Mishkoswen Drive
Crandon, WI 54520

SUBJECT: Invitation to Consult on the Proposed Great Northern Transmission Line Project

Dear THPO Cook,

The purpose of this letter is to ensure that the Forest County Potawatomi Community WI is aware that the Department of Energy (DOE) is initiating the Section 106 consultation process on the proposed Great Northern Transmission Line (GNTL) project to determine any potential adverse effects on historic properties pursuant to Section 106 of the National Historic Preservation Act of 1966 (NHPA) and 36 CFR Part 800, "Protection of Historic Properties." The DOE invites you to consult with us, as provided for by Section 106 and its implementing regulations.

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Under Section 106, the DOE must identify and consider the potential effects of its actions on historic properties through a collaborative framework (consultation) to identify historic properties potentially affected by the proposed project, assess its effects, and seek ways to avoid, minimize or mitigate any adverse effects to historic properties (36 CFR §800.1(a)). In addition to the State Historic Preservation Officer (SHPO), federally recognized Indian tribes, and the Advisory Council on Historic Preservation (ACHP), Section 106 consulting parties may include certain individuals and organizations with a demonstrated interest in the undertaking due to the nature of their legal or economic relation to the

undertaking or affected properties, or their concern with the undertaking's effects on historic properties (36 CFR §800.2).

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Yours very truly,



Julie Ann Smith, PhD
Principal NEPA Document Manager
National Electricity Delivery Division, OE-20
Office of Electricity Delivery and
Energy Reliability
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Enclosed:

- GNTL Project Regional Map (from GNTL Scoping Summary Report)



Department of Energy
Washington, DC 20585

January 15, 2015

Harold Frank
Forest County Potawatomi Community WI
PO Box 340
Crandon, WI 54520

SUBJECT: Invitation to Consult on the Proposed Great Northern Transmission Line Project

Dear Chairman Frank,

The purpose of this letter is to ensure that the Forest County Potawatomi Community WI is aware that the Department of Energy (DOE) is initiating the Section 106 consultation process on the proposed Great Northern Transmission Line (GNTL) project to determine any potential adverse effects on historic properties pursuant to Section 106 of the National Historic Preservation Act of 1966 (NHPA) and 36 CFR Part 800, "Protection of Historic Properties." The DOE invites you to consult with us, as provided for by Section 106 and its implementing regulations.

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Yours very truly,



Julie Ann Smith, PhD
Principal NEPA Document Manager
National Electricity Delivery Division, OE-20
Office of Electricity Delivery and
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- GNTL Project Regional Map (from GNTL Scoping Summary Report)



Department of Energy
Washington, DC 20585

January 15, 2015

Norman W. Deschampe
Grand Portage Band of Lake Superior Chippewa
PO Box 428
Grand Portage, WI 55605

SUBJECT: Invitation to Consult on the Proposed Great Northern Transmission Line Project

Dear Chairman Deschampe,

The purpose of this letter is to ensure that the Grand Portage Band of Lake Superior Chippewa is aware that the Department of Energy (DOE) is initiating the Section 106 consultation process on the proposed Great Northern Transmission Line (GNTL) project to determine any potential adverse effects on historic properties pursuant to Section 106 of the National Historic Preservation Act of 1966 (NHPA) and 36 CFR Part 800, "Protection of Historic Properties." The DOE invites you to consult with us, as provided for by Section 106 and its implementing regulations.

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The DOE would like to obtain information from you about historic properties, including those of traditional religious and cultural importance to your Tribe and its members, in or near the project area, and also to provide you an opportunity to identify your concerns about such properties, including the identification of potential mitigation measures. Your assistance in the identification and evaluation of historic properties will provide us the opportunity to work together to resolve any adverse effects this undertaking may have on these properties. If available, we would welcome any information on the location and importance of archaeological sites, historic structures, and any other localities of interest to you that are known to occur in or near the proposed project area.

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Yours very truly,



Julie Ann Smith, PhD
Principal NEPA Document Manager
National Electricity Delivery Division, OE-20
Office of Electricity Delivery and
Energy Reliability
U.S. Department of Energy

Enclosed:

- GNTL Project Regional Map (from GNTL Scoping Summary Report)



Department of Energy
Washington, DC 20585

January 15, 2015

Mary Ann Gagnon
Grand Portage Band of Lake Superior Chippewa
PO Box 428
Grand Portage, MN 55605

SUBJECT: Invitation to Consult on the Proposed Great Northern Transmission Line Project

Dear THPO Gagnon,

The purpose of this letter is to ensure that the Grand Portage Band of Lake Superior Chippewa is aware that the Department of Energy (DOE) is initiating the Section 106 consultation process on the proposed Great Northern Transmission Line (GNTL) project to determine any potential adverse effects on historic properties pursuant to Section 106 of the National Historic Preservation Act of 1966 (NHPA) and 36 CFR Part 800, "Protection of Historic Properties." The DOE invites you to consult with us, as provided for by Section 106 and its implementing regulations.

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Yours very truly,



Julie Ann Smith, PhD
Principal NEPA Document Manager
National Electricity Delivery Division, OE-20
Office of Electricity Delivery and
Energy Reliability
U.S. Department of Energy

Enclosed:

- GNTL Project Regional Map (from GNTL Scoping Summary Report)



Department of Energy
Washington, DC 20585

January 15, 2015

**Kenneth Meshiguad
Hannahville Indian Community Michigan
N14911 Hannahville B1 Rd.
Wilson, MI 49896**

SUBJECT: Invitation to Consult on the Proposed Great Northern Transmission Line Project

Dear Chairman Meshiguad,

The purpose of this letter is to ensure that the Hannahville Indian Community Michigan is aware that the Department of Energy (DOE) is initiating the Section 106 consultation process on the proposed Great Northern Transmission Line (GNTL) project to determine any potential adverse effects on historic properties pursuant to Section 106 of the National Historic Preservation Act of 1966 (NHPA) and 36 CFR Part 800, "Protection of Historic Properties." The DOE invites you to consult with us, as provided for by Section 106 and its implementing regulations.

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Yours very truly,



Julie Ann Smith, PhD
Principal NEPA Document Manager
National Electricity Delivery Division, OE-20
Office of Electricity Delivery and
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U.S. Department of Energy

Enclosed:

- GNTL Project Regional Map (from GNTL Scoping Summary Report)



Department of Energy
Washington, DC 20585

January 15, 2015

Donald Shalifoe, Sr.
Keweenaw Bay Indian Community - Michigan
16429 Beartown Road
Baraga, MI 49908

SUBJECT: Invitation to Consult on the Proposed Great Northern Transmission Line Project

Dear President Shalifoe, Sr.,

The purpose of this letter is to ensure that the Keweenaw Bay Indian Community - Michigan is aware that the Department of Energy (DOE) is initiating the Section 106 consultation process on the proposed Great Northern Transmission Line (GNTL) project to determine any potential adverse effects on historic properties pursuant to Section 106 of the National Historic Preservation Act of 1966 (NHPA) and 36 CFR Part 800, "Protection of Historic Properties." The DOE invites you to consult with us, as provided for by Section 106 and its implementing regulations.

The DOE is meeting its obligations under the NHPA concurrently with the preparation of an environmental impact statement (EIS) pursuant to the National Environmental Policy Act of 1969 (NEPA). Minnesota Power is also seeking authorizations from the U.S. Army Corps of Engineers – St. Paul District (USACE), a cooperating agency to DOE in the preparation of the above mentioned EIS. DOE is also acting as the lead federal agency for purposes of compliance with Section 106 for the NEPA cooperating agencies (per 36 CFR § 800.2(a)(2)).

As you are aware from DOE's tribal government-to-government consultation letters for the proposed GNTL project dated June 27, 2014, and November 26, 2014, Minnesota Power applied to DOE for a Presidential permit to construct, operate, maintain, and connect an approximately 220-mile, overhead, single-circuit 500 kV AC transmission line between the Minnesota - Manitoba border crossing northwest of Roseau, Minnesota, and terminating at the existing Blackberry 230/115 kV Substation near Grand Rapids, Minnesota. Minnesota Power's proposal also includes associated substation facilities and transmission system modifications at the Blackberry Substation site, and construction of a new 500 kV Series Compensation Station (a structure which will house the 500 kV series capacitor banks necessary for reliable operation and performance of the proposed transmission line). A new Blackberry 500 kV Substation would be required for the proposed Project and would be constructed adjacent to and east of the existing Blackberry 230/115 kV Substation.

Under Section 106, the DOE must identify and consider the potential effects of its actions on historic properties through a collaborative framework (consultation) to identify historic properties potentially affected by the proposed project, assess its effects, and seek ways to avoid, minimize or mitigate any adverse effects to historic properties (36 CFR §800.1(a)). In addition to the State Historic Preservation Officer (SHPO), federally recognized Indian tribes, and the Advisory Council on Historic Preservation (ACHP), Section 106 consulting parties may include certain individuals and organizations with a demonstrated interest in the undertaking due to the nature of their legal or economic relation to the undertaking or affected properties, or their concern with the undertaking's effects on historic properties (36 CFR §800.2).

The DOE would like to obtain information from you about historic properties, including those of traditional religious and cultural importance to your Tribe and its members, in or near the project area, and also to provide you an opportunity to identify your concerns about such properties, including the identification of potential mitigation measures. Your assistance in the identification and evaluation of historic properties will provide us the opportunity to work together to resolve any adverse effects this undertaking may have on these properties. If available, we would welcome any information on the location and importance of archaeological sites, historic structures, and any other localities of interest to you that are known to occur in or near the proposed project area.

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If you would like to participate in the Section 106 consultation process, please confirm within 30 calendar days of the date of this letter, by sending a letter accepting this invitation to act as a Section 106 consulting party for the proposed GNTL project that identifies a primary point of contact for your Tribe, either as an attachment to an email at Juliea.Smith@hq.doe.gov, or by postal mail to 1000 Independence Avenue, SW, Washington, D.C., 20585. Please also include information for a primary point of contact for your organization (as applicable) in your acceptance letter. If you have any questions or concerns, please contact me at any time at the above email address or (202) 586-7668.

If you have questions regarding the DOE’s on-going review of the proposed GNTL project, or your participation as a Section 106 consulting party, please contact me at any time at the above email address or (202) 586-7668.

Yours very truly,



Julie Ann Smith, PhD
Principal NEPA Document Manager
National Electricity Delivery Division, OE-20
Office of Electricity Delivery and
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January 15, 2015

Gary Loonsfoot, Jr.
Keweenaw Bay Indian Community - Michigan
16429 Beartown Road
Baraga, MI 49908

SUBJECT: Invitation to Consult on the Proposed Great Northern Transmission Line Project

Dear THPO/Director Loonsfoot, Jr. ,

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Julie Ann Smith, PhD
Principal NEPA Document Manager
National Electricity Delivery Division, OE-20
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Washington, DC 20585

January 15, 2015

Michael Isham, Jr.
Lac Courte Orilles Band of Lake Superior Chippewa Indians of Wisconsin
13394 W. Prapania Rd.
Hayward, WI 54843

SUBJECT: Invitation to Consult on the Proposed Great Northern Transmission Line Project

Dear Chairman Isham, Jr.,

The purpose of this letter is to ensure that the Lac Courte Orilles Band of Lake Superior Chippewa Indians of Wisconsin is aware that the Department of Energy (DOE) is initiating the Section 106 consultation process on the proposed Great Northern Transmission Line (GNTL) project to determine any potential adverse effects on historic properties pursuant to Section 106 of the National Historic Preservation Act of 1966 (NHPA) and 36 CFR Part 800, "Protection of Historic Properties." The DOE invites you to consult with us, as provided for by Section 106 and its implementing regulations.

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Julie Ann Smith, PhD
Principal NEPA Document Manager
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Department of Energy
Washington, DC 20585

January 15, 2015

Jerry Smith
Lac Courte Orilles Band of Lake Superior Chippewa Indians of Wisconsin
13394 W. Prapania Rd.
Hayward, WI 54843

SUBJECT: Invitation to Consult on the Proposed Great Northern Transmission Line Project

Dear THPO Smith,

The purpose of this letter is to ensure that the Lac Courte Orilles Band of Lake Superior Chippewa Indians of Wisconsin is aware that the Department of Energy (DOE) is initiating the Section 106 consultation process on the proposed Great Northern Transmission Line (GNTL) project to determine any potential adverse effects on historic properties pursuant to Section 106 of the National Historic Preservation Act of 1966 (NHPA) and 36 CFR Part 800, "Protection of Historic Properties." The DOE invites you to consult with us, as provided for by Section 106 and its implementing regulations.

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Department of Energy
Washington, DC 20585

January 15, 2015

Thomas Maulson
Lac du Flambeau Band of Lake Superior Chippewa Indians of the Lac du Flambe
PO Box 67
603 Peace Pipe Rd.
Lac du Flambeau, WI 54538

SUBJECT: Invitation to Consult on the Proposed Great Northern Transmission Line Project

Dear President Maulson,

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Washington, DC 20585

January 15, 2015

Melinda Young
Lac du Flambeau Band of Lake Superior Chippewa Indians of the Lac du Flambe
PO Box 67
603 Peace Pipe Rd.
Lac du Flambeau, WI 54538

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Washington, DC 20585

January 15, 2015

James Williams Jr.
Lac Vieux Desert Band of Lake Superior Chippewa Indians - Michigan
PO Box 249 East Pow Wow Trail Road
Watersmeet, MI 49969

SUBJECT: Invitation to Consult on the Proposed Great Northern Transmission Line Project

Dear Chairperson Williams Jr.,

The purpose of this letter is to ensure that the Lac Vieux Desert Band of Lake Superior Chippewa Indians - Michigan is aware that the Department of Energy (DOE) is initiating the Section 106 consultation process on the proposed Great Northern Transmission Line (GNTL) project to determine any potential adverse effects on historic properties pursuant to Section 106 of the National Historic Preservation Act of 1966 (NHPA) and 36 CFR Part 800, "Protection of Historic Properties." The DOE invites you to consult with us, as provided for by Section 106 and its implementing regulations.

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As you are aware from DOE's tribal government-to-government consultation letters for the proposed GNTL project dated June 27, 2014, and November 26, 2014, Minnesota Power applied to DOE for a Presidential permit to construct, operate, maintain, and connect an approximately 220-mile, overhead, single-circuit 500 kV AC transmission line between the Minnesota - Manitoba border crossing northwest of Roseau, Minnesota, and terminating at the existing Blackberry 230/115 kV Substation near Grand Rapids, Minnesota. Minnesota Power's proposal also includes associated substation facilities and transmission system modifications at the Blackberry Substation site, and construction of a new 500 kV Series Compensation Station (a structure which will house the 500 kV series capacitor banks necessary for reliable operation and performance of the proposed transmission line). A new Blackberry 500 kV Substation would be required for the proposed Project and would be constructed adjacent to and east of the existing Blackberry 230/115 kV Substation.

Under Section 106, the DOE must identify and consider the potential effects of its actions on historic properties through a collaborative framework (consultation) to identify historic properties potentially affected by the proposed project, assess its effects, and seek ways to avoid, minimize or mitigate any adverse effects to historic properties (36 CFR §800.1(a)). In addition to the State Historic Preservation Officer (SHPO), federally recognized Indian tribes, and the Advisory Council on Historic Preservation (ACHP), Section 106 consulting parties may include certain individuals and organizations with a demonstrated interest in the undertaking due to the nature of their legal or economic relation to the undertaking or affected properties, or their concern with the undertaking's effects on historic properties (36 CFR §800.2).

The DOE would like to obtain information from you about historic properties, including those of traditional religious and cultural importance to your Tribe and its members, in or near the project area, and also to provide you an opportunity to identify your concerns about such properties, including the identification of potential mitigation measures. Your assistance in the identification and evaluation of historic properties will provide us the opportunity to work together to resolve any adverse effects this undertaking may have on these properties. If available, we would welcome any information on the location and importance of archaeological sites, historic structures, and any other localities of interest to you that are known to occur in or near the proposed project area.

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If you would like to participate in the Section 106 consultation process, please confirm within 30 calendar days of the date of this letter, by sending a letter accepting this invitation to act as a Section 106 consulting party for the proposed GNTL project that identifies a primary point of contact for your Tribe, either as an attachment to an email at Juliea.Smith@hq.doe.gov, or by postal mail to 1000 Independence Avenue, SW, Washington, D.C., 20585. Please also include information for a primary point of contact for your organization (as applicable) in your acceptance letter. If you have any questions or concerns, please contact me at any time at the above email address or (202) 586-7668.

If you have questions regarding the DOE’s on-going review of the proposed GNTL project, or your participation as a Section 106 consulting party, please contact me at any time at the above email address or (202) 586-7668.

Yours very truly,



Julie Ann Smith, PhD
Principal NEPA Document Manager
National Electricity Delivery Division, OE-20
Office of Electricity Delivery and
Energy Reliability
U.S. Department of Energy

Enclosed:

- GNTL Project Regional Map (from GNTL Scoping Summary Report)



Department of Energy
Washington, DC 20585

January 15, 2015

**Amanda Burnette
Leech Lake Band of Ojibwe
115 6th Street NW
Suite E
Cass Lake, MN 56633**

SUBJECT: Invitation to Consult on the Proposed Great Northern Transmission Line Project

Dear THPO Burnette,

The purpose of this letter is to ensure that the Leech Lake Band of Ojibwe is aware that the Department of Energy (DOE) is initiating the Section 106 consultation process on the proposed Great Northern Transmission Line (GNTL) project to determine any potential adverse effects on historic properties pursuant to Section 106 of the National Historic Preservation Act of 1966 (NHPA) and 36 CFR Part 800, "Protection of Historic Properties." The DOE invites you to consult with us, as provided for by Section 106 and its implementing regulations.

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Under Section 106, the DOE must identify and consider the potential effects of its actions on historic properties through a collaborative framework (consultation) to identify historic properties potentially affected by the proposed project, assess its effects, and seek ways to avoid, minimize or mitigate any adverse effects to historic properties (36 CFR §800.1(a)). In addition to the State Historic Preservation Officer (SHPO), federally recognized Indian tribes, and the Advisory Council on Historic Preservation (ACHP), Section 106 consulting parties may include certain individuals and organizations with a demonstrated interest in the undertaking due to the nature of their legal or economic relation to the

undertaking or affected properties, or their concern with the undertaking's effects on historic properties (36 CFR §800.2).

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Yours very truly,



Julie Ann Smith, PhD
Principal NEPA Document Manager
National Electricity Delivery Division, OE-20
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- GNTL Project Regional Map (from GNTL Scoping Summary Report)



Department of Energy
Washington, DC 20585

January 15, 2015

Carrie Jones
Leech Lake Band of Ojibwe
115 6th Street NW
Suite E
Cass Lake, MN 56633

SUBJECT: Invitation to Consult on the Proposed Great Northern Transmission Line Project

Dear Chairwoman Jones,

The purpose of this letter is to ensure that the Leech Lake Band of Ojibwe is aware that the Department of Energy (DOE) is initiating the Section 106 consultation process on the proposed Great Northern Transmission Line (GNTL) project to determine any potential adverse effects on historic properties pursuant to Section 106 of the National Historic Preservation Act of 1966 (NHPA) and 36 CFR Part 800, "Protection of Historic Properties." The DOE invites you to consult with us, as provided for by Section 106 and its implementing regulations.

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Yours very truly,



Julie Ann Smith, PhD
Principal NEPA Document Manager
National Electricity Delivery Division, OE-20
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- GNTL Project Regional Map (from GNTL Scoping Summary Report)



Department of Energy
Washington, DC 20585

January 15, 2015

Michael Jandreau
Lower Brule Sioux Tribe of the Lower Brule Reservation
PO Box 187, Oyate Circle
Lower Brule, SD 57548

SUBJECT: Invitation to Consult on the Proposed Great Northern Transmission Line Project

Dear Chairman Jandreau,

The purpose of this letter is to ensure that the Lower Brule Sioux Tribe of the Lower Brule Reservation is aware that the Department of Energy (DOE) is initiating the Section 106 consultation process on the proposed Great Northern Transmission Line (GNTL) project to determine any potential adverse effects on historic properties pursuant to Section 106 of the National Historic Preservation Act of 1966 (NHPA) and 36 CFR Part 800, "Protection of Historic Properties." The DOE invites you to consult with us, as provided for by Section 106 and its implementing regulations.

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If you have questions regarding the DOE's on-going review of the proposed GNTL project, or your participation as a Section 106 consulting party, please contact me at any time at the above email address or (202) 586-7668.

Yours very truly,



Julie Ann Smith, PhD
Principal NEPA Document Manager
National Electricity Delivery Division, OE-20
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Energy Reliability
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Enclosed:

- GNTL Project Regional Map (from GNTL Scoping Summary Report)



Department of Energy
Washington, DC 20585

January 15, 2015

Clair Green
Lower Brule Sioux Tribe of the Lower Brule Reservation
PO Box 187, Oyate Circle
Lower Brule, SD 57548

SUBJECT: Invitation to Consult on the Proposed Great Northern Transmission Line Project

Dear Ms. Green,

The purpose of this letter is to ensure that the Lower Brule Sioux Tribe of the Lower Brule Reservation is aware that the Department of Energy (DOE) is initiating the Section 106 consultation process on the proposed Great Northern Transmission Line (GNTL) project to determine any potential adverse effects on historic properties pursuant to Section 106 of the National Historic Preservation Act of 1966 (NHPA) and 36 CFR Part 800, "Protection of Historic Properties." The DOE invites you to consult with us, as provided for by Section 106 and its implementing regulations.

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Julie Ann Smith, PhD
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National Electricity Delivery Division, OE-20
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Department of Energy
Washington, DC 20585

January 15, 2015

Scott Jones
Lower Brule Sioux Tribe of the Lower Brule Reservation
PO Box 187, Oyate Circle
Lower Brule, SD 57548

SUBJECT: Invitation to Consult on the Proposed Great Northern Transmission Line Project

Dear Mr. Jones,

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Julie Ann Smith, PhD
Principal NEPA Document Manager
National Electricity Delivery Division, OE-20
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Department of Energy
Washington, DC 20585

January 15, 2015

**Grace Goldtooth-Campos
Lower Sioux Indian Community - Minnesota
32469 County Highway 2
Morton, MN 56270**

SUBJECT: Invitation to Consult on the Proposed Great Northern Transmission Line Project

Dear THPO Goldtooth-Campos,

The purpose of this letter is to ensure that the Lower Sioux Indian Community - Minnesota is aware that the Department of Energy (DOE) is initiating the Section 106 consultation process on the proposed Great Northern Transmission Line (GNTL) project to determine any potential adverse effects on historic properties pursuant to Section 106 of the National Historic Preservation Act of 1966 (NHPA) and 36 CFR Part 800, "Protection of Historic Properties." The DOE invites you to consult with us, as provided for by Section 106 and its implementing regulations.

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Under Section 106, the DOE must identify and consider the potential effects of its actions on historic properties through a collaborative framework (consultation) to identify historic properties potentially affected by the proposed project, assess its effects, and seek ways to avoid, minimize or mitigate any adverse effects to historic properties (36 CFR §800.1(a)). In addition to the State Historic Preservation Officer (SHPO), federally recognized Indian tribes, and the Advisory Council on Historic Preservation (ACHP), Section 106 consulting parties may include certain individuals and organizations with a demonstrated interest in the undertaking due to the nature of their legal or economic relation to the undertaking or affected properties, or their concern with the undertaking's effects on historic properties (36 CFR §800.2).

The DOE would like to obtain information from you about historic properties, including those of traditional religious and cultural importance to your Tribe and its members, in or near the project area, and also to provide you an opportunity to identify your concerns about such properties, including the identification of potential mitigation measures. Your assistance in the identification and evaluation of historic properties will provide us the opportunity to work together to resolve any adverse effects this undertaking may have on these properties. If available, we would welcome any information on the location and importance of archaeological sites, historic structures, and any other localities of interest to you that are known to occur in or near the proposed project area.

DOE documented a Notice of Intent (NOI) to prepare an EIS in the *Federal Register* on June 27, 2014 (79 FR 36493), with an open public scoping period which ended on August 15, 2014. As a part of its scoping efforts, DOE held eight NEPA public scoping meetings from July 16 – July 24, 2014 (*see enclosed GNTL Regional Map*). For more information on DOE’s NEPA review and preparation of the EIS, please visit the DOE GNTL EIS website at <http://www.GreatNorthernEIS.org>. The GNTL Presidential permit application (including an initial cultural resources study), NOI and the *Great Northern Transmission Line Scoping Summary Report* (November 2014), can be viewed on this website. Future information from the DOE, relevant to the Section 106 consultation (once underway), will also be posted to this website.

If you would like to participate in the Section 106 consultation process, please confirm within 30 calendar days of the date of this letter, by sending a letter accepting this invitation to act as a Section 106 consulting party for the proposed GNTL project that identifies a primary point of contact for your Tribe, either as an attachment to an email at Juliea.Smith@hq.doe.gov, or by postal mail to 1000 Independence Avenue, SW, Washington, D.C., 20585. Please also include information for a primary point of contact for your organization (as applicable) in your acceptance letter. If you have any questions or concerns, please contact me at any time at the above email address or (202) 586-7668.

If you have questions regarding the DOE’s on-going review of the proposed GNTL project, or your participation as a Section 106 consulting party, please contact me at any time at the above email address or (202) 586-7668.

Yours very truly,



Julie Ann Smith, PhD
Principal NEPA Document Manager
National Electricity Delivery Division, OE-20
Office of Electricity Delivery and
Energy Reliability
U.S. Department of Energy

Enclosed:

- GNTL Project Regional Map (from GNTL Scoping Summary Report)



Department of Energy
Washington, DC 20585

January 15, 2015

Denny Prescott
Lower Sioux Indian Community - Minnesota
39527 Res. Highway 1
PO Box 308
Morton, MN 56270

SUBJECT: Invitation to Consult on the Proposed Great Northern Transmission Line Project

Dear President Prescott,

The purpose of this letter is to ensure that the Lower Sioux Indian Community - Minnesota is aware that the Department of Energy (DOE) is initiating the Section 106 consultation process on the proposed Great Northern Transmission Line (GNTL) project to determine any potential adverse effects on historic properties pursuant to Section 106 of the National Historic Preservation Act of 1966 (NHPA) and 36 CFR Part 800, "Protection of Historic Properties." The DOE invites you to consult with us, as provided for by Section 106 and its implementing regulations.

The DOE is meeting its obligations under the NHPA concurrently with the preparation of an environmental impact statement (EIS) pursuant to the National Environmental Policy Act of 1969 (NEPA). Minnesota Power is also seeking authorizations from the U.S. Army Corps of Engineers – St. Paul District (USACE), a cooperating agency to DOE in the preparation of the above mentioned EIS. DOE is also acting as the lead federal agency for purposes of compliance with Section 106 for the NEPA cooperating agencies (per 36 CFR § 800.2(a)(2)).

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undertaking or affected properties, or their concern with the undertaking's effects on historic properties (36 CFR §800.2).

The DOE would like to obtain information from you about historic properties, including those of traditional religious and cultural importance to your Tribe and its members, in or near the project area, and also to provide you an opportunity to identify your concerns about such properties, including the identification of potential mitigation measures. Your assistance in the identification and evaluation of historic properties will provide us the opportunity to work together to resolve any adverse effects this undertaking may have on these properties. If available, we would welcome any information on the location and importance of archaeological sites, historic structures, and any other localities of interest to you that are known to occur in or near the proposed project area.

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If you have questions regarding the DOE's on-going review of the proposed GNTL project, or your participation as a Section 106 consulting party, please contact me at any time at the above email address or (202) 586-7668.

Yours very truly,



Julie Ann Smith, PhD
Principal NEPA Document Manager
National Electricity Delivery Division, OE-20
Office of Electricity Delivery and
Energy Reliability
U.S. Department of Energy

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- GNTL Project Regional Map (from GNTL Scoping Summary Report)



Department of Energy
Washington, DC 20585

January 15, 2015

**Natalie Weyaus
Mille Lacs Band of Ojibwe - Minnesota
43408 Oodena Drive
Onamia, MN 56359**

SUBJECT: Invitation to Consult on the Proposed Great Northern Transmission Line Project

Dear THPO Weyaus,

The purpose of this letter is to ensure that the Mille Lacs Band of Ojibwe - Minnesota is aware that the Department of Energy (DOE) is initiating the Section 106 consultation process on the proposed Great Northern Transmission Line (GNTL) project to determine any potential adverse effects on historic properties pursuant to Section 106 of the National Historic Preservation Act of 1966 (NHPA) and 36 CFR Part 800, "Protection of Historic Properties." The DOE invites you to consult with us, as provided for by Section 106 and its implementing regulations.

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Yours very truly,



Julie Ann Smith, PhD
Principal NEPA Document Manager
National Electricity Delivery Division, OE-20
Office of Electricity Delivery and
Energy Reliability
U.S. Department of Energy

Enclosed:

- GNTL Project Regional Map (from GNTL Scoping Summary Report)



Department of Energy
Washington, DC 20585

January 15, 2015

Melanie Benjamin
Mille Lacs Band of Ojibwe - Minnesota
43408 Oodena Drive
Onamia, MN 56359

SUBJECT: Invitation to Consult on the Proposed Great Northern Transmission Line Project

Dear Chief Executive Benjamin,

The purpose of this letter is to ensure that the Mille Lacs Band of Ojibwe – Minnesota is aware that the Department of Energy (DOE) is initiating the Section 106 consultation process on the proposed Great Northern Transmission Line (GNTL) project to determine any potential adverse effects on historic properties pursuant to Section 106 of the National Historic Preservation Act of 1966 (NHPA) and 36 CFR Part 800, “Protection of Historic Properties.” The DOE invites you to consult with us, as provided for by Section 106 and its implementing regulations.

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Yours very truly,



Julie Ann Smith, PhD
Principal NEPA Document Manager
National Electricity Delivery Division, OE-20
Office of Electricity Delivery and
Energy Reliability
U.S. Department of Energy

Enclosed:

- GNTL Project Regional Map (from GNTL Scoping Summary Report)



Department of Energy
Washington, DC 20585

January 15, 2015

**Dean Goggles
Northern Arapaho Tribe
P.O. Box 396
Ft. Washakie, WY 82514**

SUBJECT: Invitation to Consult on the Proposed Great Northern Transmission Line Project

Dear Chairman Goggles,

The purpose of this letter is to ensure that the Northern Arapaho Tribe is aware that the Department of Energy (DOE) is initiating the Section 106 consultation process on the proposed Great Northern Transmission Line (GNTL) project to determine any potential adverse effects on historic properties pursuant to Section 106 of the National Historic Preservation Act of 1966 (NHPA) and 36 CFR Part 800, "Protection of Historic Properties." The DOE invites you to consult with us, as provided for by Section 106 and its implementing regulations.

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Yours very truly,



Julie Ann Smith, PhD
Principal NEPA Document Manager
National Electricity Delivery Division, OE-20
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U.S. Department of Energy

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Department of Energy
Washington, DC 20585

January 15, 2015

Darlene Conrad
Northern Arapaho Tribe
P.O. Box 396
Ft. Washakie, WY 82514

SUBJECT: Invitation to Consult on the Proposed Great Northern Transmission Line Project

Dear THPO Conrad,

The purpose of this letter is to ensure that the Northern Arapaho Tribe is aware that the Department of Energy (DOE) is initiating the Section 106 consultation process on the proposed Great Northern Transmission Line (GNTL) project to determine any potential adverse effects on historic properties pursuant to Section 106 of the National Historic Preservation Act of 1966 (NHPA) and 36 CFR Part 800, "Protection of Historic Properties." The DOE invites you to consult with us, as provided for by Section 106 and its implementing regulations.

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Yours very truly,



Julie Ann Smith, PhD
Principal NEPA Document Manager
National Electricity Delivery Division, OE-20
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Energy Reliability
U.S. Department of Energy

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Department of Energy
Washington, DC 20585

January 15, 2015

**James Walksalong
Northern Cheyenne Tribe
P.O. Box 128
Lame Deer, MT 59043**

SUBJECT: Invitation to Consult on the Proposed Great Northern Transmission Line Project

Dear THPO Walksalong,

The purpose of this letter is to ensure that the Northern Cheyenne Tribe is aware that the Department of Energy (DOE) is initiating the Section 106 consultation process on the proposed Great Northern Transmission Line (GNTL) project to determine any potential adverse effects on historic properties pursuant to Section 106 of the National Historic Preservation Act of 1966 (NHPA) and 36 CFR Part 800, "Protection of Historic Properties." The DOE invites you to consult with us, as provided for by Section 106 and its implementing regulations.

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Under Section 106, the DOE must identify and consider the potential effects of its actions on historic properties through a collaborative framework (consultation) to identify historic properties potentially affected by the proposed project, assess its effects, and seek ways to avoid, minimize or mitigate any adverse effects to historic properties (36 CFR §800.1(a)). In addition to the State Historic Preservation Officer (SHPO), federally recognized Indian tribes, and the Advisory Council on Historic Preservation (ACHP), Section 106 consulting parties may include certain individuals and organizations with a demonstrated interest in the undertaking due to the nature of their legal or economic relation to the undertaking or affected properties, or their concern with the undertaking's effects on historic properties (36 CFR §800.2).

The DOE would like to obtain information from you about historic properties, including those of traditional religious and cultural importance to your Tribe and its members, in or near the project area, and also to provide you an opportunity to identify your concerns about such properties, including the identification of potential mitigation measures. Your assistance in the identification and evaluation of historic properties will provide us the opportunity to work together to resolve any adverse effects this undertaking may have on these properties. If available, we would welcome any information on the location and importance of archaeological sites, historic structures, and any other localities of interest to you that are known to occur in or near the proposed project area.

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If you have questions regarding the DOE’s on-going review of the proposed GNTL project, or your participation as a Section 106 consulting party, please contact me at any time at the above email address or (202) 586-7668.

Yours very truly,



Julie Ann Smith, PhD
Principal NEPA Document Manager
National Electricity Delivery Division, OE-20
Office of Electricity Delivery and
Energy Reliability
U.S. Department of Energy

Enclosed:

- GNTL Project Regional Map (from GNTL Scoping Summary Report)



Department of Energy
Washington, DC 20585

January 15, 2015

Mike CatchesEnemy
Oglala Sioux Tribal Council of the Pine Ridge Reservation
PO Box 419
Pine Ridge, SD 57770

SUBJECT: Invitation to Consult on the Proposed Great Northern Transmission Line Project

Dear THPO CatchesEnemy ,

The purpose of this letter is to ensure that the Oglala Sioux Tribal Council of the Pine Ridge Reservation is aware that the Department of Energy (DOE) is initiating the Section 106 consultation process on the proposed Great Northern Transmission Line (GNTL) project to determine any potential adverse effects on historic properties pursuant to Section 106 of the National Historic Preservation Act of 1966 (NHPA) and 36 CFR Part 800, "Protection of Historic Properties." The DOE invites you to consult with us, as provided for by Section 106 and its implementing regulations.

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If you have questions regarding the DOE’s on-going review of the proposed GNTL project, or your participation as a Section 106 consulting party, please contact me at any time at the above email address or (202) 586-7668.

Yours very truly,



Julie Ann Smith, PhD
Principal NEPA Document Manager
National Electricity Delivery Division, OE-20
Office of Electricity Delivery and
Energy Reliability
U.S. Department of Energy

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- GNTL Project Regional Map (from GNTL Scoping Summary Report)



Department of Energy
Washington, DC 20585

January 15, 2015

Bryan V. Brewer
Oglala Sioux Tribal Council of the Pine Ridge Reservation
PO Box 2070
Pine Ridge, SD 57770

SUBJECT: Invitation to Consult on the Proposed Great Northern Transmission Line Project

Dear President Brewer,

The purpose of this letter is to ensure that the Oglala Sioux Tribal Council of the Pine Ridge Reservation is aware that the Department of Energy (DOE) is initiating the Section 106 consultation process on the proposed Great Northern Transmission Line (GNTL) project to determine any potential adverse effects on historic properties pursuant to Section 106 of the National Historic Preservation Act of 1966 (NHPA) and 36 CFR Part 800, "Protection of Historic Properties." The DOE invites you to consult with us, as provided for by Section 106 and its implementing regulations.

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If you have questions regarding the DOE’s on-going review of the proposed GNTL project, or your participation as a Section 106 consulting party, please contact me at any time at the above email address or (202) 586-7668.

Yours very truly,



Julie Ann Smith, PhD
Principal NEPA Document Manager
National Electricity Delivery Division, OE-20
Office of Electricity Delivery and
Energy Reliability
U.S. Department of Energy

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- GNTL Project Regional Map (from GNTL Scoping Summary Report)



Department of Energy
Washington, DC 20585

January 15, 2015

Audrey Bennett (NAGPRA)
Prairie Island Indian Community in the State of Minnesota
5636 Sturgeon Lake Road
Welch, MN 55089

SUBJECT: Invitation to Consult on the Proposed Great Northern Transmission Line Project

Dear Ms. Bennett,

The purpose of this letter is to ensure that the Prairie Island Indian Community in the State of Minnesota is aware that the Department of Energy (DOE) is initiating the Section 106 consultation process on the proposed Great Northern Transmission Line (GNTL) project to determine any potential adverse effects on historic properties pursuant to Section 106 of the National Historic Preservation Act of 1966 (NHPA) and 36 CFR Part 800, "Protection of Historic Properties." The DOE invites you to consult with us, as provided for by Section 106 and its implementing regulations.

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Yours very truly,



Julie Ann Smith, PhD
Principal NEPA Document Manager
National Electricity Delivery Division, OE-20
Office of Electricity Delivery and
Energy Reliability
U.S. Department of Energy

Enclosed:

- GNTL Project Regional Map (from GNTL Scoping Summary Report)



Department of Energy
Washington, DC 20585

January 15, 2015

Whitney White
Prairie Island Indian Community in the State of Minnesota
5636 Sturgeon Lake Road
Welch, MN 55089

SUBJECT: Invitation to Consult on the Proposed Great Northern Transmission Line Project

Dear Ms. White,

The purpose of this letter is to ensure that the Prairie Island Indian Community in the State of Minnesota is aware that the Department of Energy (DOE) is initiating the Section 106 consultation process on the proposed Great Northern Transmission Line (GNTL) project to determine any potential adverse effects on historic properties pursuant to Section 106 of the National Historic Preservation Act of 1966 (NHPA) and 36 CFR Part 800, "Protection of Historic Properties." The DOE invites you to consult with us, as provided for by Section 106 and its implementing regulations.

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Yours very truly,



Julie Ann Smith, PhD
Principal NEPA Document Manager
National Electricity Delivery Division, OE-20
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Department of Energy
Washington, DC 20585

January 15, 2015

Ronald Johnson
Prairie Island Indian Community in the State of Minnesota
5636 Sturgeon Lake Road
Welch, MN 55089

SUBJECT: Invitation to Consult on the Proposed Great Northern Transmission Line Project

Dear President Johnson,

The purpose of this letter is to ensure that the Prairie Island Indian Community in the State of Minnesota is aware that the Department of Energy (DOE) is initiating the Section 106 consultation process on the proposed Great Northern Transmission Line (GNTL) project to determine any potential adverse effects on historic properties pursuant to Section 106 of the National Historic Preservation Act of 1966 (NHPA) and 36 CFR Part 800, "Protection of Historic Properties." The DOE invites you to consult with us, as provided for by Section 106 and its implementing regulations.

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Yours very truly,



Julie Ann Smith, PhD
Principal NEPA Document Manager
National Electricity Delivery Division, OE-20
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- GNTL Project Regional Map (from GNTL Scoping Summary Report)



Department of Energy
Washington, DC 20585

January 15, 2015

Larry Balber
Red Cliff Band of Lake Superior Chippewa Indians - Wisconsin
88385 Pike Road, Highway 13
Bayfield, WI 54814

SUBJECT: Invitation to Consult on the Proposed Great Northern Transmission Line Project

Dear THPO Balber,

The purpose of this letter is to ensure that the Red Cliff Band of Lake Superior Chippewa Indians - Wisconsin is aware that the Department of Energy (DOE) is initiating the Section 106 consultation process on the proposed Great Northern Transmission Line (GNTL) project to determine any potential adverse effects on historic properties pursuant to Section 106 of the National Historic Preservation Act of 1966 (NHPA) and 36 CFR Part 800, "Protection of Historic Properties." The DOE invites you to consult with us, as provided for by Section 106 and its implementing regulations.

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Under Section 106, the DOE must identify and consider the potential effects of its actions on historic properties through a collaborative framework (consultation) to identify historic properties potentially affected by the proposed project, assess its effects, and seek ways to avoid, minimize or mitigate any adverse effects to historic properties (36 CFR §800.1(a)). In addition to the State Historic Preservation Officer (SHPO), federally recognized Indian tribes, and the Advisory Council on Historic Preservation (ACHP), Section 106 consulting parties may include certain individuals and organizations with a demonstrated interest in the undertaking due to the nature of their legal or economic relation to the undertaking or affected properties, or their concern with the undertaking's effects on historic properties (36 CFR §800.2).

The DOE would like to obtain information from you about historic properties, including those of traditional religious and cultural importance to your Tribe and its members, in or near the project area, and also to provide you an opportunity to identify your concerns about such properties, including the identification of potential mitigation measures. Your assistance in the identification and evaluation of historic properties will provide us the opportunity to work together to resolve any adverse effects this undertaking may have on these properties. If available, we would welcome any information on the location and importance of archaeological sites, historic structures, and any other localities of interest to you that are known to occur in or near the proposed project area.

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If you would like to participate in the Section 106 consultation process, please confirm within 30 calendar days of the date of this letter, by sending a letter accepting this invitation to act as a Section 106 consulting party for the proposed GNTL project that identifies a primary point of contact for your Tribe, either as an attachment to an email at Juliea.Smith@hq.doe.gov, or by postal mail to 1000 Independence Avenue, SW, Washington, D.C., 20585. Please also include information for a primary point of contact for your organization (as applicable) in your acceptance letter. If you have any questions or concerns, please contact me at any time at the above email address or (202) 586-7668.

If you have questions regarding the DOE’s on-going review of the proposed GNTL project, or your participation as a Section 106 consulting party, please contact me at any time at the above email address or (202) 586-7668.

Yours very truly,



Julie Ann Smith, PhD
Principal NEPA Document Manager
National Electricity Delivery Division, OE-20
Office of Electricity Delivery and
Energy Reliability
U.S. Department of Energy

Enclosed:

- GNTL Project Regional Map (from GNTL Scoping Summary Report)



Department of Energy
Washington, DC 20585

January 15, 2015

Kade Ferris
Red Lake Band of Chippewa Indians Minnesota
PO Box 297
Red Lake, MN 56671

SUBJECT: Invitation to Consult on the Proposed Great Northern Transmission Line Project

Dear Kade Ferris,

The purpose of this letter is to ensure that the Red Lake Band of Chippewa Indians Minnesota is aware that the Department of Energy (DOE) is initiating the Section 106 consultation process on the proposed Great Northern Transmission Line (GNTL) project to determine any potential adverse effects on historic properties pursuant to Section 106 of the National Historic Preservation Act of 1966 (NHPA) and 36 CFR Part 800, "Protection of Historic Properties." The DOE invites you to consult with us, as provided for by Section 106 and its implementing regulations.

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Yours very truly,



Julie Ann Smith, PhD
Principal NEPA Document Manager
National Electricity Delivery Division, OE-20
Office of Electricity Delivery and
Energy Reliability
U.S. Department of Energy

Enclosed:

- GNTL Project Regional Map (from GNTL Scoping Summary Report)



Department of Energy
Washington, DC 20585

January 15, 2015

Kathryn Bealeiu (NAGPRA)
Red Lake Band of Chippewa Indians Minnesota
PO Box 297
Red Lake, MN 56671

SUBJECT: Invitation to Consult on the Proposed Great Northern Transmission Line Project

Dear Ms. Bealeiu,

The purpose of this letter is to ensure that the Red Lake Band of Chippewa Indians Minnesota is aware that the Department of Energy (DOE) is initiating the Section 106 consultation process on the proposed Great Northern Transmission Line (GNTL) project to determine any potential adverse effects on historic properties pursuant to Section 106 of the National Historic Preservation Act of 1966 (NHPA) and 36 CFR Part 800, "Protection of Historic Properties." The DOE invites you to consult with us, as provided for by Section 106 and its implementing regulations.

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Yours very truly,



Julie Ann Smith, PhD
Principal NEPA Document Manager
National Electricity Delivery Division, OE-20
Office of Electricity Delivery and
Energy Reliability
U.S. Department of Energy

Enclosed:

- GNTL Project Regional Map (from GNTL Scoping Summary Report)



Department of Energy
Washington, DC 20585

January 15, 2015

Darrell G. Seki, Sr.
Red Lake Band of Chippewa Indians Minnesota
PO Box 550
Red Lake, MN 56671

SUBJECT: Invitation to Consult on the Proposed Great Northern Transmission Line Project

Dear Chairman Seki, Sr.,

The purpose of this letter is to ensure that the Red Lake Band of Chippewa Indians Minnesota is aware that the Department of Energy (DOE) is initiating the Section 106 consultation process on the proposed Great Northern Transmission Line (GNTL) project to determine any potential adverse effects on historic properties pursuant to Section 106 of the National Historic Preservation Act of 1966 (NHPA) and 36 CFR Part 800, "Protection of Historic Properties." The DOE invites you to consult with us, as provided for by Section 106 and its implementing regulations.

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Yours very truly,



Julie Ann Smith, PhD
Principal NEPA Document Manager
National Electricity Delivery Division, OE-20
Office of Electricity Delivery and
Energy Reliability
U.S. Department of Energy

Enclosed:

- GNTL Project Regional Map (from GNTL Scoping Summary Report)



Department of Energy
Washington, DC 20585

January 15, 2015

Cyril Scott
Rosebud Sioux Tribe of the Rosebud Indian Reservation
PO Box 430
11 Legion Ave
Rosebud, SD 57570

SUBJECT: Invitation to Consult on the Proposed Great Northern Transmission Line Project

Dear President Scott,

The purpose of this letter is to ensure that the Rosebud Sioux Tribe of the Rosebud Indian Reservation is aware that the Department of Energy (DOE) is initiating the Section 106 consultation process on the proposed Great Northern Transmission Line (GNTL) project to determine any potential adverse effects on historic properties pursuant to Section 106 of the National Historic Preservation Act of 1966 (NHPA) and 36 CFR Part 800, "Protection of Historic Properties." The DOE invites you to consult with us, as provided for by Section 106 and its implementing regulations.

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Yours very truly,



Julie Ann Smith, PhD
Principal NEPA Document Manager
National Electricity Delivery Division, OE-20
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- GNTL Project Regional Map (from GNTL Scoping Summary Report)



Department of Energy
Washington, DC 20585

January 15, 2015

**Russell Eagle Bear
Rosebud Sioux Tribe of the Rosebud Indian Reservation
PO Box 809
Rosebud, SD 57570**

SUBJECT: Invitation to Consult on the Proposed Great Northern Transmission Line Project

Dear THPO Eagle Bear,

The purpose of this letter is to ensure that the Rosebud Sioux Tribe of the Rosebud Indian Reservation is aware that the Department of Energy (DOE) is initiating the Section 106 consultation process on the proposed Great Northern Transmission Line (GNTL) project to determine any potential adverse effects on historic properties pursuant to Section 106 of the National Historic Preservation Act of 1966 (NHPA) and 36 CFR Part 800, "Protection of Historic Properties." The DOE invites you to consult with us, as provided for by Section 106 and its implementing regulations.

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Yours very truly,



Julie Ann Smith, PhD
Principal NEPA Document Manager
National Electricity Delivery Division, OE-20
Office of Electricity Delivery and
Energy Reliability
U.S. Department of Energy

Enclosed:

- GNTL Project Regional Map (from GNTL Scoping Summary Report)



Department of Energy
Washington, DC 20585

January 15, 2015

Richard Thomas
Santee Sioux of Nebraska
108 Spirit Lake Ave West
Niobrara, NE 68760

SUBJECT: Invitation to Consult on the Proposed Great Northern Transmission Line Project

Dear THPO Thomas,

The purpose of this letter is to ensure that the Santee Sioux of Nebraska is aware that the Department of Energy (DOE) is initiating the Section 106 consultation process on the proposed Great Northern Transmission Line (GNTL) project to determine any potential adverse effects on historic properties pursuant to Section 106 of the National Historic Preservation Act of 1966 (NHPA) and 36 CFR Part 800, "Protection of Historic Properties." The DOE invites you to consult with us, as provided for by Section 106 and its implementing regulations.

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Under Section 106, the DOE must identify and consider the potential effects of its actions on historic properties through a collaborative framework (consultation) to identify historic properties potentially affected by the proposed project, assess its effects, and seek ways to avoid, minimize or mitigate any adverse effects to historic properties (36 CFR §800.1(a)). In addition to the State Historic Preservation Officer (SHPO), federally recognized Indian tribes, and the Advisory Council on Historic Preservation (ACHP), Section 106 consulting parties may include certain individuals and organizations with a demonstrated interest in the undertaking due to the nature of their legal or economic relation to the undertaking or affected properties, or their concern with the undertaking's effects on historic properties (36 CFR §800.2).

The DOE would like to obtain information from you about historic properties, including those of traditional religious and cultural importance to your Tribe and its members, in or near the project area, and also to provide you an opportunity to identify your concerns about such properties, including the identification of potential mitigation measures. Your assistance in the identification and evaluation of historic properties will provide us the opportunity to work together to resolve any adverse effects this undertaking may have on these properties. If available, we would welcome any information on the location and importance of archaeological sites, historic structures, and any other localities of interest to you that are known to occur in or near the proposed project area.

DOE documented a Notice of Intent (NOI) to prepare an EIS in the *Federal Register* on June 27, 2014 (79 FR 36493), with an open public scoping period which ended on August 15, 2014. As a part of its scoping efforts, DOE held eight NEPA public scoping meetings from July 16 – July 24, 2014 (*see enclosed GNTL Regional Map*). For more information on DOE’s NEPA review and preparation of the EIS, please visit the DOE GNTL EIS website at <http://www.GreatNorthernEIS.org>. The GNTL Presidential permit application (including an initial cultural resources study), NOI and the *Great Northern Transmission Line Scoping Summary Report* (November 2014), can be viewed on this website. Future information from the DOE, relevant to the Section 106 consultation (once underway), will also be posted to this website.

If you would like to participate in the Section 106 consultation process, please confirm within 30 calendar days of the date of this letter, by sending a letter accepting this invitation to act as a Section 106 consulting party for the proposed GNTL project that identifies a primary point of contact for your Tribe, either as an attachment to an email at Juliea.Smith@hq.doe.gov, or by postal mail to 1000 Independence Avenue, SW, Washington, D.C., 20585. Please also include information for a primary point of contact for your organization (as applicable) in your acceptance letter. If you have any questions or concerns, please contact me at any time at the above email address or (202) 586-7668.

If you have questions regarding the DOE’s on-going review of the proposed GNTL project, or your participation as a Section 106 consulting party, please contact me at any time at the above email address or (202) 586-7668.

Yours very truly,



Julie Ann Smith, PhD
Principal NEPA Document Manager
National Electricity Delivery Division, OE-20
Office of Electricity Delivery and
Energy Reliability
U.S. Department of Energy

Enclosed:

- GNTL Project Regional Map (from GNTL Scoping Summary Report)



Department of Energy
Washington, DC 20585

January 15, 2015

Roger Trudell
Santee Sioux of Nebraska
425 Frazier Ave N. Suite 2
Niobrara, NE 68760

SUBJECT: Invitation to Consult on the Proposed Great Northern Transmission Line Project

Dear Chairman Trudell,

The purpose of this letter is to ensure that the Santee Sioux of Nebraska is aware that the Department of Energy (DOE) is initiating the Section 106 consultation process on the proposed Great Northern Transmission Line (GNTL) project to determine any potential adverse effects on historic properties pursuant to Section 106 of the National Historic Preservation Act of 1966 (NHPA) and 36 CFR Part 800, "Protection of Historic Properties." The DOE invites you to consult with us, as provided for by Section 106 and its implementing regulations.

The DOE is meeting its obligations under the NHPA concurrently with the preparation of an environmental impact statement (EIS) pursuant to the National Environmental Policy Act of 1969 (NEPA). Minnesota Power is also seeking authorizations from the U.S. Army Corps of Engineers – St. Paul District (USACE), a cooperating agency to DOE in the preparation of the above mentioned EIS. DOE is also acting as the lead federal agency for purposes of compliance with Section 106 for the NEPA cooperating agencies (per 36 CFR § 800.2(a)(2)).

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Under Section 106, the DOE must identify and consider the potential effects of its actions on historic properties through a collaborative framework (consultation) to identify historic properties potentially affected by the proposed project, assess its effects, and seek ways to avoid, minimize or mitigate any adverse effects to historic properties (36 CFR §800.1(a)). In addition to the State Historic Preservation Officer (SHPO), federally recognized Indian tribes, and the Advisory Council on Historic Preservation (ACHP), Section 106 consulting parties may include certain individuals and organizations with a demonstrated interest in the undertaking due to the nature of their legal or economic relation to the undertaking or affected properties, or their concern with the undertaking's effects on historic properties (36 CFR §800.2).

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Yours very truly,



Julie Ann Smith, PhD
Principal NEPA Document Manager
National Electricity Delivery Division, OE-20
Office of Electricity Delivery and
Energy Reliability
U.S. Department of Energy

Enclosed:

- GNTL Project Regional Map (from GNTL Scoping Summary Report)



Department of Energy
Washington, DC 20585

January 15, 2015

Charles R. Vig
Shakopee Mdewakanton Sioux Community - Minnesota
2330 Sioux Trail NW
Prior Lake, MN 55372

SUBJECT: Invitation to Consult on the Proposed Great Northern Transmission Line Project

Dear Chairman Vig,

The purpose of this letter is to ensure that the Shakopee Mdewakanton Sioux Community - Minnesota is aware that the Department of Energy (DOE) is initiating the Section 106 consultation process on the proposed Great Northern Transmission Line (GNTL) project to determine any potential adverse effects on historic properties pursuant to Section 106 of the National Historic Preservation Act of 1966 (NHPA) and 36 CFR Part 800, "Protection of Historic Properties." The DOE invites you to consult with us, as provided for by Section 106 and its implementing regulations.

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Under Section 106, the DOE must identify and consider the potential effects of its actions on historic properties through a collaborative framework (consultation) to identify historic properties potentially affected by the proposed project, assess its effects, and seek ways to avoid, minimize or mitigate any adverse effects to historic properties (36 CFR §800.1(a)). In addition to the State Historic Preservation Officer (SHPO), federally recognized Indian tribes, and the Advisory Council on Historic Preservation (ACHP), Section 106 consulting parties may include certain individuals and organizations with a demonstrated interest in the undertaking due to the nature of their legal or economic relation to the undertaking or affected properties, or their concern with the undertaking's effects on historic properties (36 CFR §800.2).

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If you have questions regarding the DOE’s on-going review of the proposed GNTL project, or your participation as a Section 106 consulting party, please contact me at any time at the above email address or (202) 586-7668.

Yours very truly,



Julie Ann Smith, PhD
Principal NEPA Document Manager
National Electricity Delivery Division, OE-20
Office of Electricity Delivery and
Energy Reliability
U.S. Department of Energy

Enclosed:

- GNTL Project Regional Map (from GNTL Scoping Summary Report)



Department of Energy
Washington, DC 20585

January 15, 2015

**Leonard Wabasha
Shakopee Mdewakanton Sioux Community MN
2330 Sioux Trail NW
Prior Lake, MN 55372**

SUBJECT: Invitation to Consult on the Proposed Great Northern Transmission Line Project

Dear Mr. Wabasha,

The purpose of this letter is to ensure that the Shakopee Mdewakanton Sioux Community MN is aware that the Department of Energy (DOE) is initiating the Section 106 consultation process on the proposed Great Northern Transmission Line (GNTL) project to determine any potential adverse effects on historic properties pursuant to Section 106 of the National Historic Preservation Act of 1966 (NHPA) and 36 CFR Part 800, "Protection of Historic Properties." The DOE invites you to consult with us, as provided for by Section 106 and its implementing regulations.

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Yours very truly,



Julie Ann Smith, PhD
Principal NEPA Document Manager
National Electricity Delivery Division, OE-20
Office of Electricity Delivery and
Energy Reliability
U.S. Department of Energy

Enclosed:

- GNTL Project Regional Map (from GNTL Scoping Summary Report)



Department of Energy
Washington, DC 20585

January 15, 2015

Diane Desrosier
Sisseton- Wahpeton Oyate of the Lake Traverse Reservation
PO Box 907
205 Oak St. E. Suite 121
Sisseton, SD 57262

SUBJECT: Invitation to Consult on the Proposed Great Northern Transmission Line Project

Dear THPO Desrosier,

The purpose of this letter is to ensure that the Sisseton- Wahpeton Oyate of the Lake Traverse Reservation is aware that the Department of Energy (DOE) is initiating the Section 106 consultation process on the proposed Great Northern Transmission Line (GNTL) project to determine any potential adverse effects on historic properties pursuant to Section 106 of the National Historic Preservation Act of 1966 (NHPA) and 36 CFR Part 800, "Protection of Historic Properties." The DOE invites you to consult with us, as provided for by Section 106 and its implementing regulations.

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Yours very truly,



Julie Ann Smith, PhD
Principal NEPA Document Manager
National Electricity Delivery Division, OE-20
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- GNTL Project Regional Map (from GNTL Scoping Summary Report)



Department of Energy
Washington, DC 20585

January 15, 2015

Robert Shepherd
Sisseton- Wahpeton Oyate of the Lake Traverse Reservation
PO Box 509
100 Veterans Memorial Drive
Agency Village, SD 57262

SUBJECT: Invitation to Consult on the Proposed Great Northern Transmission Line Project

Dear Chairman Shepherd,

The purpose of this letter is to ensure that the Sisseton- Wahpeton Oyate of the Lake Traverse Reservation is aware that the Department of Energy (DOE) is initiating the Section 106 consultation process on the proposed Great Northern Transmission Line (GNTL) project to determine any potential adverse effects on historic properties pursuant to Section 106 of the National Historic Preservation Act of 1966 (NHPA) and 36 CFR Part 800, "Protection of Historic Properties." The DOE invites you to consult with us, as provided for by Section 106 and its implementing regulations.

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Yours very truly,



Julie Ann Smith, PhD
Principal NEPA Document Manager
National Electricity Delivery Division, OE-20
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Enclosed:

- GNTL Project Regional Map (from GNTL Scoping Summary Report)



Department of Energy
Washington, DC 20585

January 15, 2015

Chris McGeshick
Sokaogon Chippewa Community - Wisconsin
3051 Sand Lake Rd.
Crandon, WI 54520

SUBJECT: Invitation to Consult on the Proposed Great Northern Transmission Line Project

Dear Chairman McGeshick,

The purpose of this letter is to ensure that the Sokaogon Chippewa Community - Wisconsin is aware that the Department of Energy (DOE) is initiating the Section 106 consultation process on the proposed Great Northern Transmission Line (GNTL) project to determine any potential adverse effects on historic properties pursuant to Section 106 of the National Historic Preservation Act of 1966 (NHPA) and 36 CFR Part 800, "Protection of Historic Properties." The DOE invites you to consult with us, as provided for by Section 106 and its implementing regulations.

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Under Section 106, the DOE must identify and consider the potential effects of its actions on historic properties through a collaborative framework (consultation) to identify historic properties potentially affected by the proposed project, assess its effects, and seek ways to avoid, minimize or mitigate any adverse effects to historic properties (36 CFR §800.1(a)). In addition to the State Historic Preservation Officer (SHPO), federally recognized Indian tribes, and the Advisory Council on Historic Preservation (ACHP), Section 106 consulting parties may include certain individuals and organizations with a demonstrated interest in the undertaking due to the nature of their legal or economic relation to the undertaking or affected properties, or their concern with the undertaking's effects on historic properties (36 CFR §800.2).

The DOE would like to obtain information from you about historic properties, including those of traditional religious and cultural importance to your Tribe and its members, in or near the project area, and also to provide you an opportunity to identify your concerns about such properties, including the identification of potential mitigation measures. Your assistance in the identification and evaluation of historic properties will provide us the opportunity to work together to resolve any adverse effects this undertaking may have on these properties. If available, we would welcome any information on the location and importance of archaeological sites, historic structures, and any other localities of interest to you that are known to occur in or near the proposed project area.

DOE documented a Notice of Intent (NOI) to prepare an EIS in the *Federal Register* on June 27, 2014 (79 FR 36493), with an open public scoping period which ended on August 15, 2014. As a part of its scoping efforts, DOE held eight NEPA public scoping meetings from July 16 – July 24, 2014 (*see enclosed GNTL Regional Map*). For more information on DOE’s NEPA review and preparation of the EIS, please visit the DOE GNTL EIS website at <http://www.GreatNorthernEIS.org>. The GNTL Presidential permit application (including an initial cultural resources study), NOI and the *Great Northern Transmission Line Scoping Summary Report* (November 2014), can be viewed on this website. Future information from the DOE, relevant to the Section 106 consultation (once underway), will also be posted to this website.

If you would like to participate in the Section 106 consultation process, please confirm within 30 calendar days of the date of this letter, by sending a letter accepting this invitation to act as a Section 106 consulting party for the proposed GNTL project that identifies a primary point of contact for your Tribe, either as an attachment to an email at Juliea.Smith@hq.doe.gov, or by postal mail to 1000 Independence Avenue, SW, Washington, D.C., 20585. Please also include information for a primary point of contact for your organization (as applicable) in your acceptance letter. If you have any questions or concerns, please contact me at any time at the above email address or (202) 586-7668.

If you have questions regarding the DOE’s on-going review of the proposed GNTL project, or your participation as a Section 106 consulting party, please contact me at any time at the above email address or (202) 586-7668.

Yours very truly,



Julie Ann Smith, PhD
Principal NEPA Document Manager
National Electricity Delivery Division, OE-20
Office of Electricity Delivery and
Energy Reliability
U.S. Department of Energy

Enclosed:

- GNTL Project Regional Map (from GNTL Scoping Summary Report)



Department of Energy
Washington, DC 20585

January 15, 2015

Myra Pearson
Spirit Lake Tribe North Dakota
PO Box 359
Fort Totten, ND 58335

SUBJECT: Invitation to Consult on the Proposed Great Northern Transmission Line Project

Dear Chairperson Pearson,

The purpose of this letter is to ensure that the Spirit Lake Tribe North Dakota is aware that the Department of Energy (DOE) is initiating the Section 106 consultation process on the proposed Great Northern Transmission Line (GNTL) project to determine any potential adverse effects on historic properties pursuant to Section 106 of the National Historic Preservation Act of 1966 (NHPA) and 36 CFR Part 800, "Protection of Historic Properties." The DOE invites you to consult with us, as provided for by Section 106 and its implementing regulations.

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Yours very truly,



Julie Ann Smith, PhD
Principal NEPA Document Manager
National Electricity Delivery Division, OE-20
Office of Electricity Delivery and
Energy Reliability
U.S. Department of Energy

Enclosed:

- GNTL Project Regional Map (from GNTL Scoping Summary Report)



Department of Energy
Washington, DC 20585

January 15, 2015

Darrell Smith
Spirit Lake Tribe North Dakota
PO Box 475
816 3rd ave North
Fort Totten, ND 58335

SUBJECT: Invitation to Consult on the Proposed Great Northern Transmission Line Project

Dear Mr. Smith,

The purpose of this letter is to ensure that the Spirit Lake Tribe North Dakota is aware that the Department of Energy (DOE) is initiating the Section 106 consultation process on the proposed Great Northern Transmission Line (GNTL) project to determine any potential adverse effects on historic properties pursuant to Section 106 of the National Historic Preservation Act of 1966 (NHPA) and 36 CFR Part 800, "Protection of Historic Properties." The DOE invites you to consult with us, as provided for by Section 106 and its implementing regulations.

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Yours very truly,



Julie Ann Smith, PhD
Principal NEPA Document Manager
National Electricity Delivery Division, OE-20
Office of Electricity Delivery and
Energy Reliability
U.S. Department of Energy

Enclosed:

- GNTL Project Regional Map (from GNTL Scoping Summary Report)



Department of Energy
Washington, DC 20585

January 15, 2015

**Waste'Win Young
Standing Rock Sioux Tribe
PO Box D
Fort Yates, ND 0**

SUBJECT: Invitation to Consult on the Proposed Great Northern Transmission Line Project

Dear THPO Young,

The purpose of this letter is to ensure that the Standing Rock Sioux Tribe is aware that the Department of Energy (DOE) is initiating the Section 106 consultation process on the proposed Great Northern Transmission Line (GNTL) project to determine any potential adverse effects on historic properties pursuant to Section 106 of the National Historic Preservation Act of 1966 (NHPA) and 36 CFR Part 800, "Protection of Historic Properties." The DOE invites you to consult with us, as provided for by Section 106 and its implementing regulations.

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Yours very truly,



Julie Ann Smith, PhD
Principal NEPA Document Manager
National Electricity Delivery Division, OE-20
Office of Electricity Delivery and
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U.S. Department of Energy

Enclosed:

- GNTL Project Regional Map (from GNTL Scoping Summary Report)



Department of Energy
Washington, DC 20585

January 15, 2015

Dave Archambault II
Standing Rock Sioux Tribe
PO Box D
Fort Yates, ND 58538

SUBJECT: Invitation to Consult on the Proposed Great Northern Transmission Line Project

Dear Chairman Archambault II,

The purpose of this letter is to ensure that the Standing Rock Sioux Tribe is aware that the Department of Energy (DOE) is initiating the Section 106 consultation process on the proposed Great Northern Transmission Line (GNTL) project to determine any potential adverse effects on historic properties pursuant to Section 106 of the National Historic Preservation Act of 1966 (NHPA) and 36 CFR Part 800, "Protection of Historic Properties." The DOE invites you to consult with us, as provided for by Section 106 and its implementing regulations.

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Julie Ann Smith, PhD
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Department of Energy
Washington, DC 20585

January 15, 2015

**Elgin Crows Breast
Three Affiliated Tribes of the Fort Berthold Reservation
404 Frontage Road
New Town, ND 58763**

SUBJECT: Invitation to Consult on the Proposed Great Northern Transmission Line Project

Dear THPO Crows Breast,

The purpose of this letter is to ensure that the Three Affiliated Tribes of the Fort Berthold Reservation is aware that the Department of Energy (DOE) is initiating the Section 106 consultation process on the proposed Great Northern Transmission Line (GNTL) project to determine any potential adverse effects on historic properties pursuant to Section 106 of the National Historic Preservation Act of 1966 (NHPA) and 36 CFR Part 800, "Protection of Historic Properties." The DOE invites you to consult with us, as provided for by Section 106 and its implementing regulations.

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Yours very truly,



Julie Ann Smith, PhD
Principal NEPA Document Manager
National Electricity Delivery Division, OE-20
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- GNTL Project Regional Map (from GNTL Scoping Summary Report)



Department of Energy
Washington, DC 20585

January 15, 2015

Mark Fox
Three Affiliated Tribes of the Fort Berthold Reservation
404 Frontage Road
New Town, ND 58763

SUBJECT: Invitation to Consult on the Proposed Great Northern Transmission Line Project

Dear Chairman Fox,

The purpose of this letter is to ensure that the Three Affiliated Tribes of the Fort Berthold Reservation is aware that the Department of Energy (DOE) is initiating the Section 106 consultation process on the proposed Great Northern Transmission Line (GNTL) project to determine any potential adverse effects on historic properties pursuant to Section 106 of the National Historic Preservation Act of 1966 (NHPA) and 36 CFR Part 800, "Protection of Historic Properties." The DOE invites you to consult with us, as provided for by Section 106 and its implementing regulations.

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The DOE would like to obtain information from you about historic properties, including those of traditional religious and cultural importance to your Tribe and its members, in or near the project area, and also to provide you an opportunity to identify your concerns about such properties, including the identification of potential mitigation measures. Your assistance in the identification and evaluation of historic properties will provide us the opportunity to work together to resolve any adverse effects this undertaking may have on these properties. If available, we would welcome any information on the location and importance of archaeological sites, historic structures, and any other localities of interest to you that are known to occur in or near the proposed project area.

DOE documented a Notice of Intent (NOI) to prepare an EIS in the *Federal Register* on June 27, 2014 (79 FR 36493), with an open public scoping period which ended on August 15, 2014. As a part of its scoping efforts, DOE held eight NEPA public scoping meetings from July 16 – July 24, 2014 (*see enclosed GNTL Regional Map*). For more information on DOE’s NEPA review and preparation of the EIS, please visit the DOE GNTL EIS website at <http://www.GreatNorthernEIS.org>. The GNTL Presidential permit application (including an initial cultural resources study), NOI and the *Great Northern Transmission Line Scoping Summary Report* (November 2014), can be viewed on this website. Future information from the DOE, relevant to the Section 106 consultation (once underway), will also be posted to this website.

If you would like to participate in the Section 106 consultation process, please confirm within 30 calendar days of the date of this letter, by sending a letter accepting this invitation to act as a Section 106 consulting party for the proposed GNTL project that identifies a primary point of contact for your Tribe, either as an attachment to an email at Juliea.Smith@hq.doe.gov, or by postal mail to 1000 Independence Avenue, SW, Washington, D.C., 20585. Please also include information for a primary point of contact for your organization (as applicable) in your acceptance letter. If you have any questions or concerns, please contact me at any time at the above email address or (202) 586-7668.

If you have questions regarding the DOE’s on-going review of the proposed GNTL project, or your participation as a Section 106 consulting party, please contact me at any time at the above email address or (202) 586-7668.

Yours very truly,



Julie Ann Smith, PhD
Principal NEPA Document Manager
National Electricity Delivery Division, OE-20
Office of Electricity Delivery and
Energy Reliability
U.S. Department of Energy

Enclosed:

- GNTL Project Regional Map (from GNTL Scoping Summary Report)



Department of Energy
Washington, DC 20585

January 15, 2015

Archie Gronvold
Turtle Mountain Band of Chippewa
PO Box 900
Belcourt, ND 58316

SUBJECT: Invitation to Consult on the Proposed Great Northern Transmission Line Project

Dear THPO Gronvold,

The purpose of this letter is to ensure that the Turtle Mountain Band of Chippewa is aware that the Department of Energy (DOE) is initiating the Section 106 consultation process on the proposed Great Northern Transmission Line (GNTL) project to determine any potential adverse effects on historic properties pursuant to Section 106 of the National Historic Preservation Act of 1966 (NHPA) and 36 CFR Part 800, "Protection of Historic Properties." The DOE invites you to consult with us, as provided for by Section 106 and its implementing regulations.

The DOE is meeting its obligations under the NHPA concurrently with the preparation of an environmental impact statement (EIS) pursuant to the National Environmental Policy Act of 1969 (NEPA). Minnesota Power is also seeking authorizations from the U.S. Army Corps of Engineers – St. Paul District (USACE), a cooperating agency to DOE in the preparation of the above mentioned EIS. DOE is also acting as the lead federal agency for purposes of compliance with Section 106 for the NEPA cooperating agencies (per 36 CFR § 800.2(a)(2)).

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Under Section 106, the DOE must identify and consider the potential effects of its actions on historic properties through a collaborative framework (consultation) to identify historic properties potentially affected by the proposed project, assess its effects, and seek ways to avoid, minimize or mitigate any adverse effects to historic properties (36 CFR §800.1(a)). In addition to the State Historic Preservation Officer (SHPO), federally recognized Indian tribes, and the Advisory Council on Historic Preservation (ACHP), Section 106 consulting parties may include certain individuals and organizations with a demonstrated interest in the undertaking due to the nature of their legal or economic relation to the undertaking or affected properties, or their concern with the undertaking's effects on historic properties (36 CFR §800.2).

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Yours very truly,



Julie Ann Smith, PhD
Principal NEPA Document Manager
National Electricity Delivery Division, OE-20
Office of Electricity Delivery and
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U.S. Department of Energy

Enclosed:

- GNTL Project Regional Map (from GNTL Scoping Summary Report)



Department of Energy
Washington, DC 20585

January 15, 2015

Richard McCloud
Turtle Mountain Band of Chippewa
PO Box 900
Belcourt, ND 58316

SUBJECT: Invitation to Consult on the Proposed Great Northern Transmission Line Project

Dear Chairman McCloud,

The purpose of this letter is to ensure that the Turtle Mountain Band of Chippewa is aware that the Department of Energy (DOE) is initiating the Section 106 consultation process on the proposed Great Northern Transmission Line (GNTL) project to determine any potential adverse effects on historic properties pursuant to Section 106 of the National Historic Preservation Act of 1966 (NHPA) and 36 CFR Part 800, "Protection of Historic Properties." The DOE invites you to consult with us, as provided for by Section 106 and its implementing regulations.

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Yours very truly,



Julie Ann Smith, PhD
Principal NEPA Document Manager
National Electricity Delivery Division, OE-20
Office of Electricity Delivery and
Energy Reliability
U.S. Department of Energy

Enclosed:

- GNTL Project Regional Map (from GNTL Scoping Summary Report)



Department of Energy
Washington, DC 20585

January 15, 2015

Kevin Jensvold
Upper Sioux Community of Minnesota
PO Box 147
5722 Travers Lane
Granite Falls, MN 56241

SUBJECT: Invitation to Consult on the Proposed Great Northern Transmission Line Project

Dear Chairman Jensvold,

The purpose of this letter is to ensure that the Upper Sioux Community of Minnesota is aware that the Department of Energy (DOE) is initiating the Section 106 consultation process on the proposed Great Northern Transmission Line (GNTL) project to determine any potential adverse effects on historic properties pursuant to Section 106 of the National Historic Preservation Act of 1966 (NHPA) and 36 CFR Part 800, "Protection of Historic Properties." The DOE invites you to consult with us, as provided for by Section 106 and its implementing regulations.

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Yours very truly,



Julie Ann Smith, PhD
Principal NEPA Document Manager
National Electricity Delivery Division, OE-20
Office of Electricity Delivery and
Energy Reliability
U.S. Department of Energy

Enclosed:

- GNTL Project Regional Map (from GNTL Scoping Summary Report)



Department of Energy
Washington, DC 20585

January 15, 2015

Marlow LaBatte
Upper Sioux Community of Minnesota
PO Box 147
5722 Travers Lane
Granite Falls, MN 56241

SUBJECT: Invitation to Consult on the Proposed Great Northern Transmission Line Project

Dear THPO LaBatte,

The purpose of this letter is to ensure that the Upper Sioux Community of Minnesota is aware that the Department of Energy (DOE) is initiating the Section 106 consultation process on the proposed Great Northern Transmission Line (GNTL) project to determine any potential adverse effects on historic properties pursuant to Section 106 of the National Historic Preservation Act of 1966 (NHPA) and 36 CFR Part 800, "Protection of Historic Properties." The DOE invites you to consult with us, as provided for by Section 106 and its implementing regulations.

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The DOE would like to obtain information from you about historic properties, including those of traditional religious and cultural importance to your Tribe and its members, in or near the project area, and also to provide you an opportunity to identify your concerns about such properties, including the identification of potential mitigation measures. Your assistance in the identification and evaluation of historic properties will provide us the opportunity to work together to resolve any adverse effects this undertaking may have on these properties. If available, we would welcome any information on the location and importance of archaeological sites, historic structures, and any other localities of interest to you that are known to occur in or near the proposed project area.

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Yours very truly,



Julie Ann Smith, PhD
Principal NEPA Document Manager
National Electricity Delivery Division, OE-20
Office of Electricity Delivery and
Energy Reliability
U.S. Department of Energy

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- GNTL Project Regional Map (from GNTL Scoping Summary Report)



Department of Energy
Washington, DC 20585

January 15, 2015

**Dennis Gill
Wahpekute Band of Dakota
3322 Gill Road
Waubay, SD 57501**

SUBJECT: Invitation to Consult on the Proposed Great Northern Transmission Line Project

Dear Mr. Gill,

The purpose of this letter is to ensure that the Wahpekute Band of Dakota is aware that the Department of Energy (DOE) is initiating the Section 106 consultation process on the proposed Great Northern Transmission Line (GNTL) project to determine any potential adverse effects on historic properties pursuant to Section 106 of the National Historic Preservation Act of 1966 (NHPA) and 36 CFR Part 800, "Protection of Historic Properties." The DOE invites you to consult with us, as provided for by Section 106 and its implementing regulations.

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Yours very truly,



Julie Ann Smith, PhD
Principal NEPA Document Manager
National Electricity Delivery Division, OE-20
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Energy Reliability
U.S. Department of Energy

Enclosed:

- GNTL Project Regional Map (from GNTL Scoping Summary Report)



Department of Energy
Washington, DC 20585

January 15, 2015

Cayla Olson
White Earth Band of MN Chippewa Tribe MN
PO Box 418
White Earth, MN 56591

SUBJECT: Invitation to Consult on the Proposed Great Northern Transmission Line Project

Dear THPO Olson,

The purpose of this letter is to ensure that the White Earth Band of Minnesota Chippewa Tribe Minnesota is aware that the Department of Energy (DOE) is initiating the Section 106 consultation process on the proposed Great Northern Transmission Line (GNTL) project to determine any potential adverse effects on historic properties pursuant to Section 106 of the National Historic Preservation Act of 1966 (NHPA) and 36 CFR Part 800, "Protection of Historic Properties." The DOE invites you to consult with us, as provided for by Section 106 and its implementing regulations.

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Under Section 106, the DOE must identify and consider the potential effects of its actions on historic properties through a collaborative framework (consultation) to identify historic properties potentially affected by the proposed project, assess its effects, and seek ways to avoid, minimize or mitigate any adverse effects to historic properties (36 CFR §800.1(a)). In addition to the State Historic Preservation Officer (SHPO), federally recognized Indian tribes, and the Advisory Council on Historic Preservation (ACHP), Section 106 consulting parties may include certain individuals and organizations with a demonstrated interest in the undertaking due to the nature of their legal or economic relation to the undertaking or affected properties, or their concern with the undertaking's effects on historic properties (36 CFR §800.2).

The DOE would like to obtain information from you about historic properties, including those of traditional religious and cultural importance to your Tribe and its members, in or near the project area, and also to provide you an opportunity to identify your concerns about such properties, including the identification of potential mitigation measures. Your assistance in the identification and evaluation of historic properties will provide us the opportunity to work together to resolve any adverse effects this undertaking may have on these properties. If available, we would welcome any information on the location and importance of archaeological sites, historic structures, and any other localities of interest to you that are known to occur in or near the proposed project area.

DOE documented a Notice of Intent (NOI) to prepare an EIS in the *Federal Register* on June 27, 2014 (79 FR 36493), with an open public scoping period which ended on August 15, 2014. As a part of its scoping efforts, DOE held eight NEPA public scoping meetings from July 16 – July 24, 2014 (*see enclosed GNTL Regional Map*). For more information on DOE’s NEPA review and preparation of the EIS, please visit the DOE GNTL EIS website at <http://www.GreatNorthernEIS.org>. The GNTL Presidential permit application (including an initial cultural resources study), NOI and the *Great Northern Transmission Line Scoping Summary Report* (November 2014), can be viewed on this website. Future information from the DOE, relevant to the Section 106 consultation (once underway), will also be posted to this website.

If you would like to participate in the Section 106 consultation process, please confirm within 30 calendar days of the date of this letter, by sending a letter accepting this invitation to act as a Section 106 consulting party for the proposed GNTL project that identifies a primary point of contact for your Tribe, either as an attachment to an email at Juliea.Smith@hq.doe.gov, or by postal mail to 1000 Independence Avenue, SW, Washington, D.C., 20585. Please also include information for a primary point of contact for your organization (as applicable) in your acceptance letter. If you have any questions or concerns, please contact me at any time at the above email address or (202) 586-7668.

If you have questions regarding the DOE’s on-going review of the proposed GNTL project, or your participation as a Section 106 consulting party, please contact me at any time at the above email address or (202) 586-7668.

Yours very truly,



Julie Ann Smith, PhD
Principal NEPA Document Manager
National Electricity Delivery Division, OE-20
Office of Electricity Delivery and
Energy Reliability
U.S. Department of Energy

Enclosed:

- GNTL Project Regional Map (from GNTL Scoping Summary Report)



Department of Energy
Washington, DC 20585

January 15, 2015

Erma Vizenor
White Earth Band of MN Chippewa Tribe MN
PO Box 418
White Earth, MN 56591

SUBJECT: Invitation to Consult on the Proposed Great Northern Transmission Line Project

Dear Chairwoman Vizenor,

The purpose of this letter is to ensure that the White Earth Band of Minnesota Chippewa Tribe Minnesota is aware that the Department of Energy (DOE) is initiating the Section 106 consultation process on the proposed Great Northern Transmission Line (GNTL) project to determine any potential adverse effects on historic properties pursuant to Section 106 of the National Historic Preservation Act of 1966 (NHPA) and 36 CFR Part 800, "Protection of Historic Properties." The DOE invites you to consult with us, as provided for by Section 106 and its implementing regulations.

The DOE is meeting its obligations under the NHPA concurrently with the preparation of an environmental impact statement (EIS) pursuant to the National Environmental Policy Act of 1969 (NEPA). Minnesota Power is also seeking authorizations from the U.S. Army Corps of Engineers – St. Paul District (USACE), a cooperating agency to DOE in the preparation of the above mentioned EIS. DOE is also acting as the lead federal agency for purposes of compliance with Section 106 for the NEPA cooperating agencies (per 36 CFR § 800.2(a)(2)).

As you are aware from DOE's tribal government-to-government consultation letters for the proposed GNTL project dated June 27, 2014, and November 26, 2014, Minnesota Power applied to DOE for a Presidential permit to construct, operate, maintain, and connect an approximately 220-mile, overhead, single-circuit 500 kV AC transmission line between the Minnesota - Manitoba border crossing northwest of Roseau, Minnesota, and terminating at the existing Blackberry 230/115 kV Substation near Grand Rapids, Minnesota. Minnesota Power's proposal also includes associated substation facilities and transmission system modifications at the Blackberry Substation site, and construction of a new 500 kV Series Compensation Station (a structure which will house the 500 kV series capacitor banks necessary for reliable operation and performance of the proposed transmission line). A new Blackberry 500 kV Substation would be required for the proposed Project and would be constructed adjacent to and east of the existing Blackberry 230/115 kV Substation.

Under Section 106, the DOE must identify and consider the potential effects of its actions on historic properties through a collaborative framework (consultation) to identify historic properties potentially affected by the proposed project, assess its effects, and seek ways to avoid, minimize or mitigate any adverse effects to historic properties (36 CFR §800.1(a)). In addition to the State Historic Preservation Officer (SHPO), federally recognized Indian tribes, and the Advisory Council on Historic Preservation (ACHP), Section 106 consulting parties may include certain individuals and organizations with a demonstrated interest in the undertaking due to the nature of their legal or economic relation to the undertaking or affected properties, or their concern with the undertaking's effects on historic properties (36 CFR §800.2).

The DOE would like to obtain information from you about historic properties, including those of traditional religious and cultural importance to your Tribe and its members, in or near the project area, and also to provide you an opportunity to identify your concerns about such properties, including the identification of potential mitigation measures. Your assistance in the identification and evaluation of historic properties will provide us the opportunity to work together to resolve any adverse effects this undertaking may have on these properties. If available, we would welcome any information on the location and importance of archaeological sites, historic structures, and any other localities of interest to you that are known to occur in or near the proposed project area.

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If you would like to participate in the Section 106 consultation process, please confirm within 30 calendar days of the date of this letter, by sending a letter accepting this invitation to act as a Section 106 consulting party for the proposed GNTL project that identifies a primary point of contact for your Tribe, either as an attachment to an email at Juliea.Smith@hq.doe.gov, or by postal mail to 1000 Independence Avenue, SW, Washington, D.C., 20585. Please also include information for a primary point of contact for your organization (as applicable) in your acceptance letter. If you have any questions or concerns, please contact me at any time at the above email address or (202) 586-7668.

If you have questions regarding the DOE’s on-going review of the proposed GNTL project, or your participation as a Section 106 consulting party, please contact me at any time at the above email address or (202) 586-7668.

Yours very truly,



Julie Ann Smith, PhD
Principal NEPA Document Manager
National Electricity Delivery Division, OE-20
Office of Electricity Delivery and
Energy Reliability
U.S. Department of Energy

Enclosed:

- GNTL Project Regional Map (from GNTL Scoping Summary Report)



Department of Energy
Washington, DC 20585

January 15, 2015

**Robert Flying Hawk
Yankton Sioux Tribe
PO Box 1153
Wagner, SD 57380**

SUBJECT: Invitation to Consult on the Proposed Great Northern Transmission Line Project

Dear Chairman Flying Hawk,

The purpose of this letter is to ensure that the Yankton Sioux Tribe is aware that the Department of Energy (DOE) is initiating the Section 106 consultation process on the proposed Great Northern Transmission Line (GNTL) project to determine any potential adverse effects on historic properties pursuant to Section 106 of the National Historic Preservation Act of 1966 (NHPA) and 36 CFR Part 800, "Protection of Historic Properties." The DOE invites you to consult with us, as provided for by Section 106 and its implementing regulations.

The DOE is meeting its obligations under the NHPA concurrently with the preparation of an environmental impact statement (EIS) pursuant to the National Environmental Policy Act of 1969 (NEPA). Minnesota Power is also seeking authorizations from the U.S. Army Corps of Engineers – St. Paul District (USACE), a cooperating agency to DOE in the preparation of the above mentioned EIS. DOE is also acting as the lead federal agency for purposes of compliance with Section 106 for the NEPA cooperating agencies (per 36 CFR § 800.2(a)(2)).

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Under Section 106, the DOE must identify and consider the potential effects of its actions on historic properties through a collaborative framework (consultation) to identify historic properties potentially affected by the proposed project, assess its effects, and seek ways to avoid, minimize or mitigate any adverse effects to historic properties (36 CFR §800.1(a)). In addition to the State Historic Preservation Officer (SHPO), federally recognized Indian tribes, and the Advisory Council on Historic Preservation (ACHP), Section 106 consulting parties may include certain individuals and organizations with a demonstrated interest in the undertaking due to the nature of their legal or economic relation to the undertaking or affected properties, or their concern with the undertaking's effects on historic properties (36 CFR §800.2).

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If you would like to participate in the Section 106 consultation process, please confirm within 30 calendar days of the date of this letter, by sending a letter accepting this invitation to act as a Section 106 consulting party for the proposed GNTL project that identifies a primary point of contact for your Tribe, either as an attachment to an email at Juliea.Smith@hq.doe.gov, or by postal mail to 1000 Independence Avenue, SW, Washington, D.C., 20585. Please also include information for a primary point of contact for your organization (as applicable) in your acceptance letter. If you have any questions or concerns, please contact me at any time at the above email address or (202) 586-7668.

If you have questions regarding the DOE’s on-going review of the proposed GNTL project, or your participation as a Section 106 consulting party, please contact me at any time at the above email address or (202) 586-7668.

Yours very truly,



Julie Ann Smith, PhD
Principal NEPA Document Manager
National Electricity Delivery Division, OE-20
Office of Electricity Delivery and
Energy Reliability
U.S. Department of Energy

Enclosed:

- GNTL Project Regional Map (from GNTL Scoping Summary Report)



Department of Energy
Washington, DC 20585

January 15, 2015

**Lana Gravatt
Yankton Sioux Tribe
Box 1153/ 800 Main Avenue SW
Wagner, SD 57380**

SUBJECT: Invitation to Consult on the Proposed Great Northern Transmission Line Project

Dear THPO Gravatt,

The purpose of this letter is to ensure that the Yankton Sioux Tribe is aware that the Department of Energy (DOE) is initiating the Section 106 consultation process on the proposed Great Northern Transmission Line (GNTL) project to determine any potential adverse effects on historic properties pursuant to Section 106 of the National Historic Preservation Act of 1966 (NHPA) and 36 CFR Part 800, "Protection of Historic Properties." The DOE invites you to consult with us, as provided for by Section 106 and its implementing regulations.

The DOE is meeting its obligations under the NHPA concurrently with the preparation of an environmental impact statement (EIS) pursuant to the National Environmental Policy Act of 1969 (NEPA). Minnesota Power is also seeking authorizations from the U.S. Army Corps of Engineers – St. Paul District (USACE), a cooperating agency to DOE in the preparation of the above mentioned EIS. DOE is also acting as the lead federal agency for purposes of compliance with Section 106 for the NEPA cooperating agencies (per 36 CFR § 800.2(a)(2)).

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Under Section 106, the DOE must identify and consider the potential effects of its actions on historic properties through a collaborative framework (consultation) to identify historic properties potentially affected by the proposed project, assess its effects, and seek ways to avoid, minimize or mitigate any adverse effects to historic properties (36 CFR §800.1(a)). In addition to the State Historic Preservation Officer (SHPO), federally recognized Indian tribes, and the Advisory Council on Historic Preservation (ACHP), Section 106 consulting parties may include certain individuals and organizations with a demonstrated interest in the undertaking due to the nature of their legal or economic relation to the undertaking or affected properties, or their concern with the undertaking's effects on historic properties (36 CFR §800.2).

The DOE would like to obtain information from you about historic properties, including those of traditional religious and cultural importance to your Tribe and its members, in or near the project area, and also to provide you an opportunity to identify your concerns about such properties, including the identification of potential mitigation measures. Your assistance in the identification and evaluation of historic properties will provide us the opportunity to work together to resolve any adverse effects this undertaking may have on these properties. If available, we would welcome any information on the location and importance of archaeological sites, historic structures, and any other localities of interest to you that are known to occur in or near the proposed project area.

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If you would like to participate in the Section 106 consultation process, please confirm within 30 calendar days of the date of this letter, by sending a letter accepting this invitation to act as a Section 106 consulting party for the proposed GNTL project that identifies a primary point of contact for your Tribe, either as an attachment to an email at Juliea.Smith@hq.doe.gov, or by postal mail to 1000 Independence Avenue, SW, Washington, D.C., 20585. Please also include information for a primary point of contact for your organization (as applicable) in your acceptance letter. If you have any questions or concerns, please contact me at any time at the above email address or (202) 586-7668.

If you have questions regarding the DOE’s on-going review of the proposed GNTL project, or your participation as a Section 106 consulting party, please contact me at any time at the above email address or (202) 586-7668.

Yours very truly,



Julie Ann Smith, PhD
Principal NEPA Document Manager
National Electricity Delivery Division, OE-20
Office of Electricity Delivery and
Energy Reliability
U.S. Department of Energy

Enclosed:

- GNTL Project Regional Map (from GNTL Scoping Summary Report)
-

BAD RIVER BAND OF LAKE SUPERIOR TRIBE OF CHIPPEWA INDIANS

CHIEF BLACKBIRD CENTER

P.O. Box 39 • Odanah, Wisconsin 54861

TRIBAL HISTORIC PRESERVATION OFFICE

February 13, 2015

Julie Ann Smith, Ph.D.
Electricity Policy Analyst
National Electricity Delivery Division (OE-20)
U.S. Department of Energy
1000 Independence Avenue SW
Washington, DC 20590

RE: GNTL Project

Dear Ms. Smith:

This letter is to confirm that, as it pertains to Section 106 of the National Historic Preservation Act, the Bad River Band of Lake Superior Tribe of Chippewa – Tribal Historic Preservation Office is interested in being a consulting party regarding the above referenced project.

We recognize that this project may have significant impacts to listed historic properties, properties determined eligible for listing in the National Register of Historic Places, and significant cultural and environmental impacts that affect the Bad River Tribe. As such, we intend to participate in as many consultation meetings as possible, pertaining to this project.

We intend to participate in the upcoming Tribal Consultation in Shakopee, MN, March 24-26, 2015. Please keep us informed of any changes in the project and upcoming meetings.

Weweni (Sincerely),

Edith Leoso
Bad River Band of Lake Superior Tribe of Chippewa
Tribal Historic Preservation Officer
P.O. Box 39
Odanah, WI 54861
Ph: (715) 682-7123 ext. 1662
FAX: (715) 682-7118
Email: THPO@badriver-nsn.gov

ESL/cc: NRD Director; file



Project ID: Tower Notifications

Booshoo,

The Lac Vieux Desert Tribal Historic Preservation Office received your request for information related to properties of traditional religious and cultural significance within the vicinity of the proposed facility and any comments or concerns for affects to those properties as according to your obligations under Section 106 of the National Historic Preservation Act and the Native American Graves Protection Act.

The Ketegitigaaning Ojibwe Nation Tribal Historic Preservation Office does not release information related to properties of traditional religious and cultural significance to anyone. However, through government-to-government consultation, the LVD THPO will review project documents to determine whether or not any of these sites exist within the Area of Potential Effects and if so what those effects may be. If we have identified any sites of concern in our research of the project area, we will notify you of the fact.

Please forward the following information: a short summary of the proposed ground disturbing activity, Legal Description of the Area of Potential Effects, Topo maps identifying the proposed area, and copies of any studies that have already been conducted regarding cultural resources and archaeology in their full format, including reports on archaeological and cultural sites identified.

To enable us to participate fully, **the Ketegitigaaning Ojibwe Nations fee for such services is \$300. \$150.00 for historical/cultural records research and \$150.00 for archaeological records review per section of land.** The fee must be submitted so that the research can be done. At that time we will review and make our determinations with the appropriate information that we have on file with our Tribe pertaining to this area.

All Collocation Projects will be handled in the same manner as new projects UNLESS the Ketegitigaaning Ojibwe Nation commented on the original project.

Should you have any questions, please feel free to contact me at 906-358-0137.

Miigwetch,

Giiwégiizhigookway Martin, THPO

Fee can be sent along with the requested information to:

Make Check Payable to:

Ketegitigaaning Ojibwe Nation THPO
P.O. 249 (Post Office Mailing Address)
Watersmeet, Michigan 49969

Large Packets mailed by Fed Ex or UPS:

E23857 Poplar Circle
Watersmeet, MI 49969

Office: 906-358-0137 Fax: 906-358-4850

Email: gmartin@lvdtribal.com



LEECH LAKE BAND OF OJIBWE

Tribal Historic Preservation Office

*Amy Burnette, Tribal Historic Preservation Officer
Sheila Gotchie, Office Manager*

February 6, 2015

VIA INTERNET

Julie Ann Smith, Principal NEPA Document Manager
U.S. Department of Energy
1000 Independence Avenue, SW
Washington, DC 20585

Re: Proposed Great northern Transmission Line Project

Dear Ms. Smith;

Thank you for the opportunity to review and comment on the above-referenced project. Pursuant to the responsibilities given the Tribal Historic Preservation Officer by the National Historic Preservation Act of 1966, as amended in 1992 and the Procedures of the Advisory Council on Historic Preservation (36CFR800), the Leech Lake Tribal Historic Preservation Office will consult in regard to the Presidential permits to construct, operate, maintain, and connect a 500kV AC transmission line between the Minnesota Manitoba border, terminating at existing Blackberry substation in Grand Rapids Minnesota, to include facility and transmission system modifications and new adjacently located substation. Inclusion in the Section 106 consultation process is important to our office, and we are willing to accept consultation for this project.

Sincerely,

A handwritten signature in black ink, appearing to read "Amy Burnette", written over a horizontal line.

Amy Burnette, Tribal Historic Preservation Officer

Leech Lake Tribal Historic Preservation Office – Established in 1996

An Office Within the Division of Resources Management

190 Sailstar Drive NE * Cass Lake, Minnesota 56633

(218) 335-2940 * FAX (218) 335-2974

amy.burnette@llojibwe.org

A-369



Lower Sioux Indian Community

P.O. Box 308 • 39527 Reservation Highway 1

Morton, MN 56270

Cansayapi Otunwe

February 12, 2015

Julie Ann Smith, PhD
National Electricity Delivery Division, OE-20
Office of Electricity Delivery and Energy Reliability
U.S. Department of Energy
1000 Independence Avenue, SW
Washington, D.C., 20585

Re: Invitation to Consult on the Proposed Great Northern Transmission Line Project

Dear Ms. Smith,

Thank you for initiating consultation with the Lower Sioux Indian Community Tribal Historic Preservation Office. We appreciate the opportunity to provide comment on your proposed undertaking.

We have reviewed your proposed project and have determined that we would like to act as a Section 106 consulting party for the proposed Great Northern Transmission Line project. The primary point of contact for the Lower Sioux Indian Community is Grace Goldtooth-Campos, THPO.

If you have any questions, contact me at (507) 697-6185, or by email at lowersiouxthpo@lowersioux.com.

Sincerely,

Grace Goldtooth-Campos, THPO
Lower Sioux Indian Community



MILLE LACS BAND OF OJIBWE

Executive Branch of Tribal Government

February 18, 2015

Julie Ann Smith, PhD
Principal NEPA Document Manager
National Electricity Delivery Division, OE-20
Office of Electricity Delivery and Energy Reliability
U.S. Department of Energy
Washington, DC 20585

Re: Section 106 NHPA, Tribal Review and Consultation:

DNR/THPO-15-0203-02: Invitation to Consult on the Proposed Great Northern Transmission Line Project: MN Power applied to DOE for a Presidential permit to construct, operate, maintain, and connect an approximately 220 mile, overhead single-circuit 500 kV AC transmission line between the Minnesota- Manitoba border crossing northwest to Roseau, MN and terminating at the existing Blackberry 230/115 kV Substation near Grand Rapids, MN.

Dear Madam:

Thank you for the opportunity to comment on the above referenced project. It has been reviewed pursuant to the responsibilities given the Tribal Historic Preservation Officer (THPO) by the National Historic Preservation Act of 1966, as amended in 1992 and the Procedures of the Advisory Council on Historic Preservation (38CFR800).

I have reviewed the documentation: after careful consideration of our records, I have determined that the Mille Lacs Band of Ojibwe (DNR/E) does have known recorded sites of religious or cultural importance in this area. The Mille Lacs Band of Ojibwe accepts the invitation to consult on the Proposed Great Northern Transmission Line Project.

Should any human remains or suspected human remains be encountered, all work shall cease and the following personnel should be notified immediately in this order: County Sheriff's Office and the Office of the State Archaeologist. If any human remains or culturally affiliated objects are inadvertently discovered this will prompt the process to which the Band will become informed.

Please note: The above determination does not "exempt" future projects from Section 106 review. In the event any other tribe notifying us of concerns for a specific project, we may re-enter into the consultation process.

You may contact my staff at (320) 532-7450 if you have questions regarding our review of this project. Please refer to the MLB-THPO Number as stated above in all correspondence with this project.

Respectfully Submitted,

Susan Klapel

Commissioner of Natural Resources

DISTRICT I

43408 Oodena Drive • Onamia, MN 56359
(320) 532-4181 • Fax (320) 532-4209

DISTRICT II

36666 State Highway 65 • McGregor, MN 55760
(218) 768-3311 • Fax (218) 768-3903

DISTRICT IIA

2605 Chiminissing Drive • Isle, MN 56342
(320) 676-1102 • Fax (320) 676-3432

DISTRICT III

45749 Grace Lake Road • Sandstone, MN 55072
(320) 384-6240 • Fax (320) 384-6190

URBAN OFFICE

1433 E. Franklin Avenue, Ste. 7c • Minneapolis, MN 55072
(612) 872-1424 • Fax (612) 872-1257

A-371

Appendix B

Route Permit Generic Template and Example

GENERIC ROUTE PERMIT TEMPLATE

STATE OF MINNESOTA PUBLIC UTILITIES COMMISSION

ROUTE PERMIT FOR CONSTRUCTION OF A HIGH-VOLTAGE TRANSMISSION LINE AND ASSOCIATED FACILITIES

IN

[COUNTY]

ISSUED TO

[PERMITTEE]

PUC DOCKET NO. [Docket Number]

In accordance with the requirements of Minnesota Statutes Chapter 216E and Minnesota Rules Chapter 7850, this route permit is hereby issued to:

[PERMITTEE]

[Permittee] is authorized by this route permit to construct **[Provide a description of the project authorized by the Minnesota Public Utilities Commission]**.

The transmission line and associated facilities shall be built within the route identified in this permit and as portrayed on the official route maps, and in compliance with the conditions specified in this permit.

Approved and adopted this ____ day of **[Month, Year]**

BY ORDER OF THE COMMISSION

Burl W. Haar,
Executive Secretary

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GENERIC TEMPLATE

1.0 ROUTE PERMIT

The Minnesota Public Utilities Commission (Commission) hereby issues this route permit to [Permittee Name] (Permittee) pursuant to Minnesota Statutes Chapter 216E and Minnesota Rules Chapter 7850. This permit authorizes the [Permittee Name] to construct [Provide a description of the project as authorized by the Minnesota Public Utilities Commission], and as identified in the attached route permit maps, hereby incorporated into this document.

2.0 PROJECT DESCRIPTION

[Provide a description of the project as authorized by the Minnesota Public Utilities Commission]

2.1 Project Location

[Describe the location of the project including details such as the county, state, city, and townships, as appropriate]

County	Township Name	Township	Range	Section

2.2 Associated Facilities and Substations

[Provide a detailed description of the associated facilities and substations as authorized by the Commission]

2.3 Structures and Conductors

[Provide a detailed description of the structures and conductors authorized by the Commission]

The table below details specifics on the various structure types as presented in the route permit application.

Line Type	Conductor	Structure		Foundation	Height	Span
		Type	Material			

The transmission line and associated facilities shall be designed to meet or exceed all relevant local and state codes, the National Electric Safety Code (NESC), and North American Electric Reliability Corporation (NERC) requirements. This includes standards relating to clearances to

ground, clearance to crossing utilities, clearance to buildings, strength of materials, clearances over roadways, right-of-way widths, and permit requirements.

3.0 DESIGNATED ROUTE

The route designated by the Commission in this permit is the route described below and shown on the route maps attached to this permit. The route is generally described as follows:

[Provide detailed description of the authorized route including the route widths and any other specifics relevant to each segment. Also include a reference to the relevant route map to be attached to the permit.]

The identified route widths will provide the Permittee with flexibility for minor adjustments of the specific alignment or right-of-way to accommodate landowner requests and unforeseen conditions. The final alignment (i.e., permanent and maintained rights-of-way) will be located within this designated route unless otherwise authorized below.

3.1 Right-of-Way

The approved right-of-way width for the project is up to [number] feet. This permit anticipates that the right-of-way will generally conform to the anticipated alignment as noted on the attached route permit maps unless changes are requested by individual landowners or unforeseen conditions are encountered or are otherwise provided for by this permit. Any alignment modifications within the designated route shall be located so as to have comparable overall impacts relative to the factors in Minn. Rules, part 7850.4100, as does the alignment identified in this permit, and shall be specifically identified and documented in and approved as part of the plan and profile submitted pursuant to section 4.1 of this permit.

Where the transmission line route parallels existing highway and other road rights-of-way, the transmission line right-of-way shall occupy and utilize the existing right-of-way to the maximum extent possible, consistent with the criteria in Minn. Rules, part 7850.4100, the other requirements of this permit, and for highways under the jurisdiction of the Minnesota Department of Transportation (Mn/DOT) rules, policies, and procedures for accommodating utilities in trunk highway rights-of-way.

4.0 GENERAL CONDITIONS

The Permittee shall comply with the following conditions during construction of the transmission line and associated facilities over the life of this permit.

4.1 Plan and Profile

At least 30 calendar days before right-of-way preparation for construction begins on any segment or portion of the project, the Permittee shall provide the Commission with a plan and profile of the right-of-way and the specifications and drawings for right-of-way preparation, construction, structure specifications and locations, cleanup, and restoration for the transmission line. The documentation shall include maps depicting the plan and profile including the right-of-way, alignment, and structures in relation to the route and alignment approved per this permit.

The Permittee may not commence construction until the 30 days has expired or until the Commission has advised the Permittee in writing that it has completed its review of the documents and determined that the planned construction is consistent with this permit. If the Permittee intends to make any significant changes in its plan and profile or the specifications and drawings after submission to the Commission, the Permittee shall notify the Commission at least five days before implementing the changes. No changes shall be made that would be in violation of any of the terms of this permit.

4.2 Construction Practices

The Permittee shall follow those specific construction practices and material specifications described in [Permittee Name] Application to the Commission for a route permit for the [Project Name], dated [Date], unless this permit establishes a different requirement in which case this permit shall prevail.

4.2.1 Field Representative

At least 14 days prior to commencing construction, the Permittee shall advise the Commission in writing of the person or persons designated to be the field representative for the Permittee with the responsibility to oversee compliance with the conditions of this permit during construction.

The field representative's address, phone number, emergency phone number, and email shall be provided to the Commission and shall be made available to affected landowners, residents, public officials and other interested persons. The Permittee may change the field representative at any time upon written notice to the Commission.

4.2.2 Local Governments

During construction, the Permittee shall minimize any disruption to public services or public utilities. To the extent disruptions to public services or public utilities occur these

would be temporary and the Permittee will restore service promptly. Where any impacts to utilities have the potential to occur the Permittee will work with both landowners and local agencies to determine the most appropriate transmission structure placement.

The Permittee shall cooperate with county and city road authorities to develop appropriate signage and traffic management during construction.

4.2.3 Cleanup

All waste and scrap that is the product of construction shall be removed from the area and properly disposed of upon completion of each task. Personal litter, including bottles, cans, and paper from construction activities shall be removed on a daily basis.

4.2.4 Noise

Construction and routine maintenance activities shall be limited to daytime working hours, as defined in Minn. Rules, part 7030.0200, to ensure nighttime noise level standards will not be exceeded.

4.2.5 Vegetation Removal

The Permittee shall minimize the number of trees to be removed in selecting the right-of-way specifically preserving to the maximum extent practicable windbreaks, shelterbelts, living snow fences, and vegetation in areas such as trail and stream crossings where vegetative screening may minimize aesthetic impacts, to the extent that such actions do not violate sound engineering principles or system reliability criteria.

Tall tree species located within the transmission line right-of-way that endanger the safe and reliable operation of the transmission facility will be removed. Certain low growing species can be planted in the right-of-way to blend the difference between the right-of-way and adjacent wooded areas, to the extent that the low growing vegetation that will not pose a threat to the transmission facility or impede construction.

The Permittee shall avoid construction and maintenance practices, particularly the use of fertilizer, herbicides or other pesticides, that are inconsistent with the landowner's or tenant's use of the land.

4.2.6 Aesthetics

The Permittee shall consider input pertaining to visual impacts from landowners or land management agencies prior to final location of structures, rights-of-way, and other areas with the potential for visual disturbance. Care shall be used to preserve the natural landscape, minimize tree removal and prevent any unnecessary destruction of the natural surroundings in the vicinity of the project during construction and maintenance. Structures shall be placed at a distance, consistent with sound engineering principles and system reliability criteria, from intersecting roads, highway, or trail crossings and could cross roads to minimize or avoid impacts.

4.2.7 Erosion Control

The Permittee shall implement reasonable measures to minimize erosion and sedimentation during construction and shall employ perimeter sediment controls, protect exposed soil by promptly planting, seeding, using erosion control blankets and turf reinforcement mats, stabilizing slopes, protecting storm drain inlets, protecting soil stockpiles, and controlling vehicle tracking. Contours shall be graded as required so that all surfaces provide for proper drainage, blend with the natural terrain, and are left in a condition that will facilitate re-vegetation and prevent erosion. All areas disturbed during construction of the facilities shall be returned to pre-construction conditions.

When utilizing seed to establish temporary and permanent vegetative cover on exposed soil the Permittee shall select specific site characteristic seed certified to be free of noxious weeds.

Where larger areas of one acre or more are disturbed or other areas designated by the Minnesota Pollution Control Agency (MPCA), the Permittee shall obtain a National Pollutant Discharge Elimination System (NPDES)/State Disposal System (SDS) Construction Stormwater permit from the MPCA.

4.2.8 Wetlands and Water Resources

Wetland impact avoidance measures that shall be implemented during design and construction of the transmission line will include spacing and placing the power poles at variable distances to span and avoid wetlands, watercourses, and floodplains.

Unavoidable wetland impacts as a result of the placement of poles shall be limited to the immediate area around the poles. To minimize impacts, construction in wetland areas shall occur during frozen ground conditions. When construction during winter is not possible, wooden or composite mats shall be used to protect wetland vegetation. Soil excavated from the wetlands and riparian areas shall be contained and not placed back into the wetland or riparian area.

Wetlands and riparian areas shall be accessed using the shortest route possible in order to minimize travel through wetland areas and prevent unnecessary impacts. No staging or stringing set up areas shall be placed within or adjacent to wetlands or water resources, as practicable. Power pole structures shall be assembled on upland areas before they are brought to the site for installation. Areas disturbed by construction activities shall be restored to pre-construction conditions.

All requirements of the U.S. Army Corps of Engineers (wetlands under federal jurisdiction), Minnesota Department of Natural Resources (Public Waters/Wetlands), and County (wetlands under the jurisdiction of the Minnesota Wetland Conservation Act) shall be met.

4.2.9 Temporary Work Space

The Permittee shall limit temporary easements to special construction access needs and additional staging or lay-down areas required outside of the authorized right-of-way. Temporary space shall be selected to limit the removal and impacts to vegetation. Temporary easements outside of the authorized transmission line right-of-way will be obtained from affected landowners through rental agreements and are not provided for in this permit.

Temporary driveways may be constructed between the roadway and the structures to minimize impact using the shortest route possible. Construction mats should also be used to minimize impacts on access paths and construction areas.

4.2.10 Restoration

The Permittee shall restore the right-of-way, temporary work spaces, access roads, abandoned right-of-way, and other public or private lands affected by construction of the transmission line. Restoration within the right-of-way must be compatible with the safe operation, maintenance, and inspection of the transmission line. Within 60 days after completion of all restoration activities, the Permittee shall advise the Commission in writing of the completion of such activities.

The Permittee shall fairly compensate landowners for damage to crops, fences, landscaping, drain tile, or other damages sustained during construction.

4.2.11 Notice of Permit

The Permittee shall inform all employees, contractors, and other persons involved in the transmission line construction of the terms and conditions of this permit.

4.3 Periodic Status Reports

The Permittee shall report to the Commission on progress regarding finalization of the route, design of structures, and construction of the transmission line. The Permittee need not report more frequently than monthly.

4.4 Complaint Procedures

Prior to the start of construction, the Permittee shall submit to the Commission the procedures that will be used to receive and respond to complaints. The procedures shall be in accordance with the requirements set forth in the complaint procedures attached to this permit [Attachment].

4.5 Notification to Landowners

The Permittee shall provide all affected landowners with a copy of this permit and, as a separate information piece, the complaint procedures at the time of the first contact with the landowners after issuance of this permit. The Permittee shall contact landowners prior to entering the property or conducting maintenance along the route.

The Permittee shall work with landowners to locate the high-voltage transmission line to minimize the loss of agricultural land, forest, and wetlands, and to avoid homes and farmsteads.

4.6 Completion of Construction

4.6.1 Notification to Commission

At least three days before the line is to be placed into service, the Permittee shall notify the Commission of the date on which the line will be placed into service and the date on which construction was complete.

4.6.2 As-Builts

Within 60 days after completion of construction, the Permittee shall submit copies of all final as-built plans and specifications developed during the project.

4.6.3 GPS Data

Within 60 days after completion of construction, the Permittee shall submit to the Commission, in the format requested by the Commission, geo-spatial information (e.g., ArcGIS compatible map files, GPS coordinates, associated database of characteristics) for all structures associated with the transmission line and each substation connected.

4.7 Electrical Performance Standards

4.7.1 Grounding

The Permittee shall design, construct, and operate the transmission line in a manner so that the maximum induced steady-state short-circuit current shall be limited to five milliamperes root mean square (rms) alternating current between the ground and any non-stationary object within the right-of-way, including but not limited to large motor vehicles and agricultural equipment. All fixed metallic objects on or off the right-of-way, except electric fences that parallel or cross the right-of-way, shall be grounded to the extent necessary to limit the induced short-circuit current between ground and the object so as not to exceed one milliamperes rms under steady state conditions of the transmission line and to comply with the ground fault conditions specified in the NESC. The Permittee shall address and rectify any induced current problems that arise during transmission line operation.

4.7.2 Electric Field

The transmission line shall be designed, constructed, and operated in such a manner that the electric field measured one meter above ground level immediately below the transmission line shall not exceed 8.0 kV/m rms.

4.7.3 Interference with Communication Devices

If interference with radio or television, satellite, wireless internet, GPS-based agriculture navigation systems or other communication devices is caused by the presence or operation of the transmission line, the Permittee shall take whatever action is feasible to restore or provide reception equivalent to reception levels in the immediate area just prior to the construction of the line.

4.8 Other Requirements

4.8.1 Applicable Codes

The Permittee shall comply with applicable NERC planning standards and requirements of the NESC including clearances to ground, clearance to crossing utilities, clearance to buildings, right-of way widths, erecting power poles, and stringing of transmission line conductors.

4.8.2 Other Permits

The Permittee shall comply with all applicable state rules and statutes. The Permittee shall obtain all required permits for the project and comply with the conditions of these permits. A list of the required permits is included in the permit application. The Permittee shall submit a copy of such permits to the Commission upon request.

4.8.3 Pre-emption

Pursuant to Minn. Stat. § 216E.10, this route permit shall be the sole approval required to be obtained by the Permittee for construction of the transmission facilities and this permit shall supersede and preempt all zoning, building, or land use rules, regulations, or ordinances promulgated by regional, county, local and special purpose government.

4.8.4 Archaeological and Historic Resources

The Permittee shall make every effort to avoid impacts to identified archaeological and historic resources when installing the high-voltage transmission line on the approved route. In the event that a resource is encountered, the State Historic Preservation Office should be contacted and consulted; the nature of the resource should be identified; and a determination should be made on the eligibility for listing in the National Register of Historic Places. Where feasible, avoidance of the resource is required.

4.8.5 Avian Mitigation

The Permittee's standard transmission design shall incorporate adequate spacing of conductors and grounding devices in accordance with Avian Power Line Interaction Committee standards to eliminate the risk of electrocution to raptors with larger wingspans that may simultaneously come in contact with a conductor and grounding devices.

4.9 Delay in Construction

If the Permittee has not commenced construction or improvement of the route within four years after the date of issuance of this permit the Permittee shall file a report on the failure to construct

and the Commission shall consider suspension of the permit in accordance with Minn. Rules, part 7850.4700.

4.10 Special Conditions

The Permittee shall provide a report to the Commission as part of the plan and profile submission that describes the actions taken and mitigative measures developed regarding the project and the following special conditions.

[Describe any special conditions]

Examples of special conditions included in permits:

- *Avian Mitigation Plan*
- *Environmental Control Plan*
- *Agriculture Mitigation Plan*
- *Vegetation Management Plan*
- *Property Restrictions*
- *Minnesota Department of Natural Resources Requirements*
- *Minnesota Pollution Control Requirements*
- *Minnesota State Historical Preservation Office Requirements*
- *Minnesota Department of Transportation Requirements*

5.0 PERMIT AMENDMENT

This permit may be amended at any time by the Commission. Any person may request an amendment of the conditions of this permit by submitting a request to the Commission in writing describing the amendment sought and the reasons for the amendment. The Commission will mail notice of receipt of the request to the Permittee. The Commission may amend the conditions after affording the Permittee and interested persons such process as is required.

6.0 TRANSFER OF PERMIT

The Permittee may request at any time that the Commission transfer this permit to another person or entity. The Permittee shall provide the name and description of the person or entity to whom the permit is requested to be transferred, the reasons for the transfer, a description of the facilities affected, and the proposed effective date of the transfer.

The person to whom the permit is to be transferred shall provide the Commission with such information as the Commission shall require to determine whether the new Permittee can comply

with the conditions of the permit. The Commission may authorize transfer of the permit after affording the Permittee, the new Permittee, and interested persons such process as is required.

7.0 REVOCATION OR SUSPENSION OF THE PERMIT

The Commission may initiate action to revoke or suspend this permit at any time. The Commission shall act in accordance with the requirements of Minn. Rules, part 7850.5100, to revoke or suspend the permit.

GENERIC TEMPLATE

**MINNESOTA PUBLIC UTILITIES COMMISSION
COMPLAINT HANDLING PROCEDURES FOR
HIGH-VOLTAGE TRANSMISSION LINES**

A. Purpose

To establish a uniform and timely method of reporting complaints received by the permittee concerning permit conditions for site preparation, construction, cleanup and restoration, operation, and resolution of such complaints.

B. Scope

This document describes complaint reporting procedures and frequency.

C. Applicability

The procedures shall be used for all complaints received by the permittee and all complaints received by the Minnesota Public Utilities Commission (Commission) under Minn. Rules, parts 7829.1500 or 7829.1700 relevant to this permit.

D. Definitions

Complaint: A verbal or written statement presented to the permittees by a person expressing dissatisfaction or concern regarding site preparation, cleanup or restoration or other route and associated facilities permit conditions. Complaints do not include requests, inquiries, questions or general comments.

Substantial Complaint: A written complaint alleging a violation of a specific permit condition that, if substantiated, could result in permit modification or suspension pursuant to the applicable regulations.

Unresolved Complaint: A complaint which, despite the good faith efforts of the permittee and a person, remains to both or one of the parties unresolved or unsatisfactorily resolved.

Person: An individual, partnership, joint venture, private or public corporation, association, firm, public service company, cooperative, political subdivision, municipal corporation, government agency, public utility district, or any other entity, public or private, however organized.

E. Complaint Documentation and Processing

1. The permittee shall designate an individual to summarize complaints for the Commission. This person's name, phone number and email address shall accompany all complaint submittals.

2. A person presenting the complaint should to the extent possible, include the following information in their communications:
 - a. name, address, phone number, and email address;
 - b. date of complaint;
 - c. tract or parcel number; and
 - d. whether the complaint relates to a permit matter or a compliance issue.

3. The permittee shall document all complaints by maintaining a record of all applicable information concerning the complaint, including the following:
 - a. docket number and project name;
 - b. name of complainant, address, phone number and email address;
 - c. precise description of property or parcel number;
 - d. name of permittee representative receiving complaint and date of receipt;
 - e. nature of complaint and the applicable permit condition(s);
 - f. activities undertaken to resolve the complaint; and
 - g. final disposition of the complaint.

F. Reporting Requirements

The permittee shall commence complaint reporting at the beginning of project construction and continue through the term of the permit. The permittee shall report all complaints to the Commission according to the following schedule:

Immediate Reports: All substantial complaints shall be reported to the Commission the same day received, or on the following working day for complaints received after working hours. Such reports are to be directed to the Commission's Consumer Affairs Office at 1-800-657-3782 (voice messages are acceptable) or *consumer.puc@state.mn.us*. For e-mail reporting, the email subject line should read "EFP Complaint" and include the appropriate project docket number.

Monthly Reports: By the 15th of each month, a summary of all complaints, including substantial complaints received or resolved during the preceding month, shall be filed to Dr. Burl W. Haar, Executive Secretary, Public Utilities Commission, using the eDockets system. The eDockets system is located at:

<https://www.edockets.state.mn.us/EFiling/home.jsp>

If no complaints were received during the preceding month, the permittee shall submit (eFile) a summary indicating that no complaints were received.

G. Complaints Received by the Commission

Complaints received directly by the Commission from aggrieved persons regarding site preparation, construction, cleanup, restoration, operation and maintenance shall be promptly sent to the permittee.

H. Commission Process for Unresolved Complaints

Commission staff shall perform an initial evaluation of unresolved complaints submitted to the Commission. Complaints raising substantial permit issues shall be processed and resolved by the Commission. Staff shall notify the permittee and appropriate persons if it determines that the complaint is a substantial complaint. With respect to such complaints, each party shall submit a written summary of its position to the Commission no later than ten (10) days after receipt of the staff notification. The complaint will be presented to the Commission for a decision as soon as practicable.

I. Permittee Contacts for Complaints and Complaint Reporting

Complaints may be filed by mail or email to:

[Permittee Name]

[Permittee Complaint Contact]

[Permittee Address]

[Permittee Telephone Number]

[Permittee Email]

This information shall be maintained current by informing the Commission of any changes by eFiling, as they become effective.

**MINNESOTA PUBLIC UTILITIES COMMISSION
COMPLIANCE FILING PROCEDURE FOR
PERMITTED ENERGY FACILITIES**

A. Purpose

To establish a uniform and timely method of submitting information required by the Commission energy facility permits.

B. Scope and Applicability

This procedure encompasses all compliance filings required by permit.

C. Definitions

Compliance Filing: A filing of information to the Commission, where the information is required by a Commission site or route permit.

D. Responsibilities

1. The permittee shall eFile all compliance filings with Dr. Burl W. Haar, Executive Secretary, Public Utilities Commission, through the eDockets system. The eDockets system is located at: <https://www.edockets.state.mn.us/EFiling/home.jsp>

General instructions are provided on the eDockets website. Permittees must register on the website to eFile documents.

2. All filings must have a cover sheet that includes:

- a. Date
- b. Name of submitter/permittee
- c. Type of permit (site or route)
- d. Project location
- e. Project docket number
- f. Permit section under which the filing is made
- g. Short description of the filing

3. Filings that are graphic intensive (e.g., maps, engineered drawings) must, in addition to being eFiled, be submitted as paper copies and on CD. Paper copies and CDs should be sent to: 1) Dr. Burl W. Haar, Executive Secretary, Minnesota Public Utilities Commission, 121 7th Place East, Suite 350, St. Paul, MN 55101-2147, and 2) Department of Commerce, Energy Facility Permitting, 85 7th Place East, Suite 500, St. Paul, MN 55101-2198.

The Commission may request a paper copy of any eFiled document.

PERMIT COMPLIANCE FILINGS¹

PERMITTEE:
PERMIT TYPE:
PROJECT LOCATION:
PUC DOCKET NUMBER:

Filing Number	Permit Section	Description of Compliance Filing	Due Date

¹ This compilation of permit compliance filings is provided for the convenience of the permittee and the Commission. It is not a substitute for the permit; the language of the permit controls.

GENERIC ROUTE PERMIT TEMPLATE

STATE OF MINNESOTA PUBLIC UTILITIES COMMISSION

ROUTE PERMIT FOR CONSTRUCTION OF A HIGH-VOLTAGE TRANSMISSION LINE AND ASSOCIATED FACILITIES

IN

[COUNTY]

ISSUED TO

[PERMITTEE]

PUC DOCKET NO. [Docket Number]

In accordance with the requirements of Minnesota Statutes Chapter 216E and Minnesota Rules Chapter 7850, this route permit is hereby issued to:

[PERMITTEE]

[Permittee] is authorized by this route permit to construct **[Provide a description of the project authorized by the Minnesota Public Utilities Commission]**.

The transmission line and associated facilities shall be built within the route identified in this permit and as portrayed on the official route maps, and in compliance with the conditions specified in this permit.

Approved and adopted this ____ day of **[Month, Year]**

BY ORDER OF THE COMMISSION

Burl W. Haar,
Executive Secretary

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GENERIC TEMPLATE

1.0 ROUTE PERMIT

The Minnesota Public Utilities Commission (Commission) hereby issues this route permit to [Permittee Name] (Permittee) pursuant to Minnesota Statutes Chapter 216E and Minnesota Rules Chapter 7850. This permit authorizes the [Permittee Name] to construct [Provide a description of the project as authorized by the Minnesota Public Utilities Commission], and as identified in the attached route permit maps, hereby incorporated into this document.

2.0 PROJECT DESCRIPTION

[Provide a description of the project as authorized by the Minnesota Public Utilities Commission]

2.1 Project Location

[Describe the location of the project including details such as the county, state, city, and townships, as appropriate]

County	Township Name	Township	Range	Section

2.2 Associated Facilities and Substations

[Provide a detailed description of the associated facilities and substations as authorized by the Commission]

2.3 Structures and Conductors

[Provide a detailed description of the structures and conductors authorized by the Commission]

The table below details specifics on the various structure types as presented in the route permit application.

Line Type	Conductor	Structure		Foundation	Height	Span
		Type	Material			

The transmission line and associated facilities shall be designed to meet or exceed all relevant local and state codes, the National Electric Safety Code (NESC), and North American Electric Reliability Corporation (NERC) requirements. This includes standards relating to clearances to

ground, clearance to crossing utilities, clearance to buildings, strength of materials, clearances over roadways, right-of-way widths, and permit requirements.

3.0 DESIGNATED ROUTE

The route designated by the Commission in this permit is the route described below and shown on the route maps attached to this permit. The route is generally described as follows:

[Provide detailed description of the authorized route including the route widths and any other specifics relevant to each segment. Also include a reference to the relevant route map to be attached to the permit.]

The identified route widths will provide the Permittee with flexibility for minor adjustments of the specific alignment or right-of-way to accommodate landowner requests and unforeseen conditions. The final alignment (i.e., permanent and maintained rights-of-way) will be located within this designated route unless otherwise authorized below.

3.1 Right-of-Way

The approved right-of-way width for the project is up to *[number]* feet. This permit anticipates that the right-of-way will generally conform to the anticipated alignment as noted on the attached route permit maps unless changes are requested by individual landowners or unforeseen conditions are encountered or are otherwise provided for by this permit. Any alignment modifications within the designated route shall be located so as to have comparable overall impacts relative to the factors in Minn. Rules, part 7850.4100, as does the alignment identified in this permit, and shall be specifically identified and documented in and approved as part of the plan and profile submitted pursuant to section 4.1 of this permit.

Where the transmission line route parallels existing highway and other road rights-of-way, the transmission line right-of-way shall occupy and utilize the existing right-of-way to the maximum extent possible, consistent with the criteria in Minn. Rules, part 7850.4100, the other requirements of this permit, and for highways under the jurisdiction of the Minnesota Department of Transportation (Mn/DOT) rules, policies, and procedures for accommodating utilities in trunk highway rights-of-way.

4.0 GENERAL CONDITIONS

The Permittee shall comply with the following conditions during construction of the transmission line and associated facilities over the life of this permit.

4.1 Plan and Profile

At least 30 calendar days before right-of-way preparation for construction begins on any segment or portion of the project, the Permittee shall provide the Commission with a plan and profile of the right-of-way and the specifications and drawings for right-of-way preparation, construction, structure specifications and locations, cleanup, and restoration for the transmission line. The documentation shall include maps depicting the plan and profile including the right-of-way, alignment, and structures in relation to the route and alignment approved per this permit.

The Permittee may not commence construction until the 30 days has expired or until the Commission has advised the Permittee in writing that it has completed its review of the documents and determined that the planned construction is consistent with this permit. If the Permittee intends to make any significant changes in its plan and profile or the specifications and drawings after submission to the Commission, the Permittee shall notify the Commission at least five days before implementing the changes. No changes shall be made that would be in violation of any of the terms of this permit.

4.2 Construction Practices

The Permittee shall follow those specific construction practices and material specifications described in [Permittee Name] Application to the Commission for a route permit for the [Project Name], dated [Date], unless this permit establishes a different requirement in which case this permit shall prevail.

4.2.1 Field Representative

At least 14 days prior to commencing construction, the Permittee shall advise the Commission in writing of the person or persons designated to be the field representative for the Permittee with the responsibility to oversee compliance with the conditions of this permit during construction.

The field representative's address, phone number, emergency phone number, and email shall be provided to the Commission and shall be made available to affected landowners, residents, public officials and other interested persons. The Permittee may change the field representative at any time upon written notice to the Commission.

4.2.2 Local Governments

During construction, the Permittee shall minimize any disruption to public services or public utilities. To the extent disruptions to public services or public utilities occur these

would be temporary and the Permittee will restore service promptly. Where any impacts to utilities have the potential to occur the Permittee will work with both landowners and local agencies to determine the most appropriate transmission structure placement.

The Permittee shall cooperate with county and city road authorities to develop appropriate signage and traffic management during construction.

4.2.3 Cleanup

All waste and scrap that is the product of construction shall be removed from the area and properly disposed of upon completion of each task. Personal litter, including bottles, cans, and paper from construction activities shall be removed on a daily basis.

4.2.4 Noise

Construction and routine maintenance activities shall be limited to daytime working hours, as defined in Minn. Rules, part 7030.0200, to ensure nighttime noise level standards will not be exceeded.

4.2.5 Vegetation Removal

The Permittee shall minimize the number of trees to be removed in selecting the right-of-way specifically preserving to the maximum extent practicable windbreaks, shelterbelts, living snow fences, and vegetation in areas such as trail and stream crossings where vegetative screening may minimize aesthetic impacts, to the extent that such actions do not violate sound engineering principles or system reliability criteria.

Tall tree species located within the transmission line right-of-way that endanger the safe and reliable operation of the transmission facility will be removed. Certain low growing species can be planted in the right-of-way to blend the difference between the right-of-way and adjacent wooded areas, to the extent that the low growing vegetation that will not pose a threat to the transmission facility or impede construction.

The Permittee shall avoid construction and maintenance practices, particularly the use of fertilizer, herbicides or other pesticides, that are inconsistent with the landowner's or tenant's use of the land.

4.2.6 Aesthetics

The Permittee shall consider input pertaining to visual impacts from landowners or land management agencies prior to final location of structures, rights-of-way, and other areas with the potential for visual disturbance. Care shall be used to preserve the natural landscape, minimize tree removal and prevent any unnecessary destruction of the natural surroundings in the vicinity of the project during construction and maintenance. Structures shall be placed at a distance, consistent with sound engineering principles and system reliability criteria, from intersecting roads, highway, or trail crossings and could cross roads to minimize or avoid impacts.

4.2.7 Erosion Control

The Permittee shall implement reasonable measures to minimize erosion and sedimentation during construction and shall employ perimeter sediment controls, protect exposed soil by promptly planting, seeding, using erosion control blankets and turf reinforcement mats, stabilizing slopes, protecting storm drain inlets, protecting soil stockpiles, and controlling vehicle tracking. Contours shall be graded as required so that all surfaces provide for proper drainage, blend with the natural terrain, and are left in a condition that will facilitate re-vegetation and prevent erosion. All areas disturbed during construction of the facilities shall be returned to pre-construction conditions.

When utilizing seed to establish temporary and permanent vegetative cover on exposed soil the Permittee shall select specific site characteristic seed certified to be free of noxious weeds.

Where larger areas of one acre or more are disturbed or other areas designated by the Minnesota Pollution Control Agency (MPCA), the Permittee shall obtain a National Pollutant Discharge Elimination System (NPDES)/State Disposal System (SDS) Construction Stormwater permit from the MPCA.

4.2.8 Wetlands and Water Resources

Wetland impact avoidance measures that shall be implemented during design and construction of the transmission line will include spacing and placing the power poles at variable distances to span and avoid wetlands, watercourses, and floodplains.

Unavoidable wetland impacts as a result of the placement of poles shall be limited to the immediate area around the poles. To minimize impacts, construction in wetland areas shall occur during frozen ground conditions. When construction during winter is not possible, wooden or composite mats shall be used to protect wetland vegetation. Soil excavated from the wetlands and riparian areas shall be contained and not placed back into the wetland or riparian area.

Wetlands and riparian areas shall be accessed using the shortest route possible in order to minimize travel through wetland areas and prevent unnecessary impacts. No staging or stringing set up areas shall be placed within or adjacent to wetlands or water resources, as practicable. Power pole structures shall be assembled on upland areas before they are brought to the site for installation. Areas disturbed by construction activities shall be restored to pre-construction conditions.

All requirements of the U.S. Army Corps of Engineers (wetlands under federal jurisdiction), Minnesota Department of Natural Resources (Public Waters/Wetlands), and County (wetlands under the jurisdiction of the Minnesota Wetland Conservation Act) shall be met.

4.2.9 Temporary Work Space

The Permittee shall limit temporary easements to special construction access needs and additional staging or lay-down areas required outside of the authorized right-of-way. Temporary space shall be selected to limit the removal and impacts to vegetation. Temporary easements outside of the authorized transmission line right-of-way will be obtained from affected landowners through rental agreements and are not provided for in this permit.

Temporary driveways may be constructed between the roadway and the structures to minimize impact using the shortest route possible. Construction mats should also be used to minimize impacts on access paths and construction areas.

4.2.10 Restoration

The Permittee shall restore the right-of-way, temporary work spaces, access roads, abandoned right-of-way, and other public or private lands affected by construction of the transmission line. Restoration within the right-of-way must be compatible with the safe operation, maintenance, and inspection of the transmission line. Within 60 days after completion of all restoration activities, the Permittee shall advise the Commission in writing of the completion of such activities.

The Permittee shall fairly compensate landowners for damage to crops, fences, landscaping, drain tile, or other damages sustained during construction.

4.2.11 Notice of Permit

The Permittee shall inform all employees, contractors, and other persons involved in the transmission line construction of the terms and conditions of this permit.

4.3 Periodic Status Reports

The Permittee shall report to the Commission on progress regarding finalization of the route, design of structures, and construction of the transmission line. The Permittee need not report more frequently than monthly.

4.4 Complaint Procedures

Prior to the start of construction, the Permittee shall submit to the Commission the procedures that will be used to receive and respond to complaints. The procedures shall be in accordance with the requirements set forth in the complaint procedures attached to this permit [Attachment].

4.5 Notification to Landowners

The Permittee shall provide all affected landowners with a copy of this permit and, as a separate information piece, the complaint procedures at the time of the first contact with the landowners after issuance of this permit. The Permittee shall contact landowners prior to entering the property or conducting maintenance along the route.

The Permittee shall work with landowners to locate the high-voltage transmission line to minimize the loss of agricultural land, forest, and wetlands, and to avoid homes and farmsteads.

4.6 Completion of Construction

4.6.1 Notification to Commission

At least three days before the line is to be placed into service, the Permittee shall notify the Commission of the date on which the line will be placed into service and the date on which construction was complete.

4.6.2 As-Builts

Within 60 days after completion of construction, the Permittee shall submit copies of all final as-built plans and specifications developed during the project.

4.6.3 GPS Data

Within 60 days after completion of construction, the Permittee shall submit to the Commission, in the format requested by the Commission, geo-spatial information (e.g., ArcGIS compatible map files, GPS coordinates, associated database of characteristics) for all structures associated with the transmission line and each substation connected.

4.7 Electrical Performance Standards

4.7.1 Grounding

The Permittee shall design, construct, and operate the transmission line in a manner so that the maximum induced steady-state short-circuit current shall be limited to five milliamperes root mean square (rms) alternating current between the ground and any non-stationary object within the right-of-way, including but not limited to large motor vehicles and agricultural equipment. All fixed metallic objects on or off the right-of-way, except electric fences that parallel or cross the right-of-way, shall be grounded to the extent necessary to limit the induced short-circuit current between ground and the object so as not to exceed one milliamperes rms under steady state conditions of the transmission line and to comply with the ground fault conditions specified in the NESC. The Permittee shall address and rectify any induced current problems that arise during transmission line operation.

4.7.2 Electric Field

The transmission line shall be designed, constructed, and operated in such a manner that the electric field measured one meter above ground level immediately below the transmission line shall not exceed 8.0 kV/m rms.

4.7.3 Interference with Communication Devices

If interference with radio or television, satellite, wireless internet, GPS-based agriculture navigation systems or other communication devices is caused by the presence or operation of the transmission line, the Permittee shall take whatever action is feasible to restore or provide reception equivalent to reception levels in the immediate area just prior to the construction of the line.

4.8 Other Requirements

4.8.1 Applicable Codes

The Permittee shall comply with applicable NERC planning standards and requirements of the NESC including clearances to ground, clearance to crossing utilities, clearance to buildings, right-of way widths, erecting power poles, and stringing of transmission line conductors.

4.8.2 Other Permits

The Permittee shall comply with all applicable state rules and statutes. The Permittee shall obtain all required permits for the project and comply with the conditions of these permits. A list of the required permits is included in the permit application. The Permittee shall submit a copy of such permits to the Commission upon request.

4.8.3 Pre-emption

Pursuant to Minn. Stat. § 216E.10, this route permit shall be the sole approval required to be obtained by the Permittee for construction of the transmission facilities and this permit shall supersede and preempt all zoning, building, or land use rules, regulations, or ordinances promulgated by regional, county, local and special purpose government.

4.8.4 Archaeological and Historic Resources

The Permittee shall make every effort to avoid impacts to identified archaeological and historic resources when installing the high-voltage transmission line on the approved route. In the event that a resource is encountered, the State Historic Preservation Office should be contacted and consulted; the nature of the resource should be identified; and a determination should be made on the eligibility for listing in the National Register of Historic Places. Where feasible, avoidance of the resource is required.

4.8.5 Avian Mitigation

The Permittee's standard transmission design shall incorporate adequate spacing of conductors and grounding devices in accordance with Avian Power Line Interaction Committee standards to eliminate the risk of electrocution to raptors with larger wingspans that may simultaneously come in contact with a conductor and grounding devices.

4.9 Delay in Construction

If the Permittee has not commenced construction or improvement of the route within four years after the date of issuance of this permit the Permittee shall file a report on the failure to construct

and the Commission shall consider suspension of the permit in accordance with Minn. Rules, part 7850.4700.

4.10 Special Conditions

The Permittee shall provide a report to the Commission as part of the plan and profile submission that describes the actions taken and mitigative measures developed regarding the project and the following special conditions.

[Describe any special conditions]

Examples of special conditions included in permits:

- *Avian Mitigation Plan*
- *Environmental Control Plan*
- *Agriculture Mitigation Plan*
- *Vegetation Management Plan*
- *Property Restrictions*
- *Minnesota Department of Natural Resources Requirements*
- *Minnesota Pollution Control Requirements*
- *Minnesota State Historical Preservation Office Requirements*
- *Minnesota Department of Transportation Requirements*

5.0 PERMIT AMENDMENT

This permit may be amended at any time by the Commission. Any person may request an amendment of the conditions of this permit by submitting a request to the Commission in writing describing the amendment sought and the reasons for the amendment. The Commission will mail notice of receipt of the request to the Permittee. The Commission may amend the conditions after affording the Permittee and interested persons such process as is required.

6.0 TRANSFER OF PERMIT

The Permittee may request at any time that the Commission transfer this permit to another person or entity. The Permittee shall provide the name and description of the person or entity to whom the permit is requested to be transferred, the reasons for the transfer, a description of the facilities affected, and the proposed effective date of the transfer.

The person to whom the permit is to be transferred shall provide the Commission with such information as the Commission shall require to determine whether the new Permittee can comply

with the conditions of the permit. The Commission may authorize transfer of the permit after affording the Permittee, the new Permittee, and interested persons such process as is required.

7.0 REVOCATION OR SUSPENSION OF THE PERMIT

The Commission may initiate action to revoke or suspend this permit at any time. The Commission shall act in accordance with the requirements of Minn. Rules, part 7850.5100, to revoke or suspend the permit.

GENERIC TEMPLATE

**MINNESOTA PUBLIC UTILITIES COMMISSION
COMPLAINT HANDLING PROCEDURES FOR
HIGH-VOLTAGE TRANSMISSION LINES**

A. Purpose

To establish a uniform and timely method of reporting complaints received by the permittee concerning permit conditions for site preparation, construction, cleanup and restoration, operation, and resolution of such complaints.

B. Scope

This document describes complaint reporting procedures and frequency.

C. Applicability

The procedures shall be used for all complaints received by the permittee and all complaints received by the Minnesota Public Utilities Commission (Commission) under Minn. Rules, parts 7829.1500 or 7829.1700 relevant to this permit.

D. Definitions

Complaint: A verbal or written statement presented to the permittees by a person expressing dissatisfaction or concern regarding site preparation, cleanup or restoration or other route and associated facilities permit conditions. Complaints do not include requests, inquiries, questions or general comments.

Substantial Complaint: A written complaint alleging a violation of a specific permit condition that, if substantiated, could result in permit modification or suspension pursuant to the applicable regulations.

Unresolved Complaint: A complaint which, despite the good faith efforts of the permittee and a person, remains to both or one of the parties unresolved or unsatisfactorily resolved.

Person: An individual, partnership, joint venture, private or public corporation, association, firm, public service company, cooperative, political subdivision, municipal corporation, government agency, public utility district, or any other entity, public or private, however organized.

E. Complaint Documentation and Processing

1. The permittee shall designate an individual to summarize complaints for the Commission. This person's name, phone number and email address shall accompany all complaint submittals.

2. A person presenting the complaint should to the extent possible, include the following information in their communications:
 - a. name, address, phone number, and email address;
 - b. date of complaint;
 - c. tract or parcel number; and
 - d. whether the complaint relates to a permit matter or a compliance issue.

3. The permittee shall document all complaints by maintaining a record of all applicable information concerning the complaint, including the following:
 - a. docket number and project name;
 - b. name of complainant, address, phone number and email address;
 - c. precise description of property or parcel number;
 - d. name of permittee representative receiving complaint and date of receipt;
 - e. nature of complaint and the applicable permit condition(s);
 - f. activities undertaken to resolve the complaint; and
 - g. final disposition of the complaint.

F. Reporting Requirements

The permittee shall commence complaint reporting at the beginning of project construction and continue through the term of the permit. The permittee shall report all complaints to the Commission according to the following schedule:

Immediate Reports: All substantial complaints shall be reported to the Commission the same day received, or on the following working day for complaints received after working hours. Such reports are to be directed to the Commission's Consumer Affairs Office at 1-800-657-3782 (voice messages are acceptable) or *consumer.puc@state.mn.us*. For e-mail reporting, the email subject line should read "EFP Complaint" and include the appropriate project docket number.

Monthly Reports: By the 15th of each month, a summary of all complaints, including substantial complaints received or resolved during the preceding month, shall be filed to Dr. Burl W. Haar, Executive Secretary, Public Utilities Commission, using the eDockets system. The eDockets system is located at:

<https://www.edockets.state.mn.us/EFiling/home.jsp>

If no complaints were received during the preceding month, the permittee shall submit (eFile) a summary indicating that no complaints were received.

G. Complaints Received by the Commission

Complaints received directly by the Commission from aggrieved persons regarding site preparation, construction, cleanup, restoration, operation and maintenance shall be promptly sent to the permittee.

H. Commission Process for Unresolved Complaints

Commission staff shall perform an initial evaluation of unresolved complaints submitted to the Commission. Complaints raising substantial permit issues shall be processed and resolved by the Commission. Staff shall notify the permittee and appropriate persons if it determines that the complaint is a substantial complaint. With respect to such complaints, each party shall submit a written summary of its position to the Commission no later than ten (10) days after receipt of the staff notification. The complaint will be presented to the Commission for a decision as soon as practicable.

I. Permittee Contacts for Complaints and Complaint Reporting

Complaints may be filed by mail or email to:

[Permittee Name]

[Permittee Complaint Contact]

[Permittee Address]

[Permittee Telephone Number]

[Permittee Email]

This information shall be maintained current by informing the Commission of any changes by eFiling, as they become effective.

**MINNESOTA PUBLIC UTILITIES COMMISSION
COMPLIANCE FILING PROCEDURE FOR
PERMITTED ENERGY FACILITIES**

A. Purpose

To establish a uniform and timely method of submitting information required by the Commission energy facility permits.

B. Scope and Applicability

This procedure encompasses all compliance filings required by permit.

C. Definitions

Compliance Filing: A filing of information to the Commission, where the information is required by a Commission site or route permit.

D. Responsibilities

1. The permittee shall eFile all compliance filings with Dr. Burl W. Haar, Executive Secretary, Public Utilities Commission, through the eDockets system. The eDockets system is located at: <https://www.edockets.state.mn.us/EFiling/home.jsp>

General instructions are provided on the eDockets website. Permittees must register on the website to eFile documents.

2. All filings must have a cover sheet that includes:

- a. Date
- b. Name of submitter/permittee
- c. Type of permit (site or route)
- d. Project location
- e. Project docket number
- f. Permit section under which the filing is made
- g. Short description of the filing

3. Filings that are graphic intensive (e.g., maps, engineered drawings) must, in addition to being eFiled, be submitted as paper copies and on CD. Paper copies and CDs should be sent to: 1) Dr. Burl W. Haar, Executive Secretary, Minnesota Public Utilities Commission, 121 7th Place East, Suite 350, St. Paul, MN 55101-2147, and 2) Department of Commerce, Energy Facility Permitting, 85 7th Place East, Suite 500, St. Paul, MN 55101-2198.

The Commission may request a paper copy of any eFiled document.

PERMIT COMPLIANCE FILINGS¹

PERMITTEE:
PERMIT TYPE:
PROJECT LOCATION:
PUC DOCKET NUMBER:

Filing Number	Permit Section	Description of Compliance Filing	Due Date

¹ This compilation of permit compliance filings is provided for the convenience of the permittee and the Commission. It is not a substitute for the permit; the language of the permit controls.

STATE OF MINNESOTA PUBLIC UTILITIES COMMISSION

**ROUTE PERMIT FOR CONSTRUCTION OF A HIGH-VOLTAGE TRANSMISSION
LINE AND ASSOCIATED FACILITIES**

**IN
JACKSON, MARTIN, AND FARIBAULT COUNTIES**

**ISSUED TO
ITC MIDWEST LLC**

PUC DOCKET NO. ET-6675/TL-12-1337

In accordance with the requirements of Minnesota Statutes Chapter 216E and Minnesota Rules Chapter 7850 this route permit is hereby issued to:

ITC MIDWEST LLC

ITC Midwest LLC is authorized by this route permit to construct and operate approximately 75 miles of new 345 kilovolt transmission line in Jackson, Martin, and Faribault counties, Minnesota.

The transmission line and associated facilities shall be built within the route identified in this permit and as portrayed on the official route maps, and in compliance with the conditions specified in this permit.

Approved and adopted this 25th day of November, 2014

BY ORDER OF THE COMMISSION



Burl W. Haar,
Executive Secretary



This document can be made available in alternative formats (e.g., large print or audio) by calling 651.296.0406 (voice). Persons with hearing loss or speech disabilities may call us through their preferred Telecommunications Relay Service.

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Official Route Maps

ATTACHMENTS

Attachment A – Complaint Procedures for High-Voltage Transmission Lines

Attachment B – Compliance Filing Procedures for Permitted Energy Facilities

1.0 ROUTE PERMIT

The Minnesota Public Utilities Commission (Commission) hereby issues this route permit to ITC Midwest LLC pursuant to Minnesota Statutes Chapter 216E and Minnesota Rules Chapter 7850. This permit authorizes ITC Midwest LLC (Permittee) to construct and operate approximately 75 miles of new 345 kilovolt (kV) transmission line in Jackson, Martin, and Faribault counties, Minnesota, and as identified in the attached route permit maps, hereby incorporated into this document.

1.1 Pre-emption

Pursuant to Minn. Stat. § 216E.10, this route permit shall be the sole approval required to be obtained by the Permittee for construction of the transmission facilities and this permit shall supersede and preempt all zoning, building, or land use rules, regulations, or ordinances promulgated by regional, county, local and special purpose government.

2.0 PROJECT DESCRIPTION

The Project includes the construction and operation of approximately 75 miles of new 345 kV transmission line in Jackson, Martin, and Faribault counties. The 345 kV transmission line would run east from the existing Lakefield Junction substation near the city of Lakefield in Jackson County, crossing Martin County to a new Huntley substation near the city of Winnebago in Faribault County. From the new Huntley substation, the transmission line would proceed south crossing the Minnesota-Iowa border near the city of Elmore, Minnesota. The Project also includes expanding the existing Lakefield Junction substation, constructing a new Huntley substation, reconfiguring several existing 69 kV and 161 kV transmission lines, and decommissioning the Winnebago substation.

2.1 Project Location

The Project is located in southern Minnesota in Jackson, Martin, and Faribault counties, specifically within the townships of Hunter, Des Moines, Belmont, Wisconsin, Jay, Manyaska, Fox Lake, Fraser, Rutland, Center Creek, Verona, Jo Daviess, and Pilot Grove.

County	Township Name	Township	Range	Section
Jackson	Hunter	T102N	R36W	1, 2, 3
	Des Moines	T102N	R35W	1, 2, 3, 4, 5, 6
	Belmont	T103N	R35W	34, 35, 36
	Wisconsin	T012N	R34W	1, 2, 3, 4, 5, 6

County	Township Name	Township	Range	Section
Martin	Jay	T102N	R33W	1, 2, 3, 4, 5, 6
	Manyaska	T102N	R32W	2, 3, 4, 5, 6
	Fox Lake	T103N	R32W	13, 24, 25, 26, 35, 36
	Fraser	T103N	R31W	13, 14, 15, 16, 17, 18, 19, 30
	Rutland	T103N	R30W	13, 14, 15, 16, 17, 18, 19, 20, 21
	Center Creek	T103N	R29W	13, 14, 15, 16, 17, 18
Faribault	Verona	T103N	R28W	9, 10, 11, 14, 15, 16, 17, 18, 22, 23, 26, 35
	Jo Daviess	T102N	R28W	2, 11, 14, 23, 26, 35
	Pilot Grove	T101N	R28W	2, 11, 14, 23, 26, 35, 36

2.2 Associated Facilities and Substations

The associated facilities for the Project include expansion of the existing Lakefield Junction substation, removal of the existing Winnebago Junction substation, construction of the new Huntley substation, reconfiguration of four 161 kV transmission lines, and reconfiguration of three 69 kV transmission lines to be constructed to 161 kV standards.

2.2.1 Lakefield Junction Substation

The Lakefield Junction substation is located in the southwest quarter of the northeast quarter of Section 3 in Hunter Township. The substation will be expanded east approximately three acres to house additional equipment as part of the Project. Grading will be required over the full three acres. The fenced area will only be expanded by approximately 2.2 acres. New equipment will include one 345 kV bay using one position and a future bay position to allow for three future connections.

2.2.2 Winnebago Junction Substation

The Winnebago Junction substation is located in the northwest quarter of the southeast quarter of Section of Section 11 in Verona Township. The substation will be decommissioned as part of the Project. Decommissioning will entail the removal of all substation infrastructure at the site including electrical equipment, foundations, gravel, and fencing. One 161 kV transmission line and two 69 kV transmission lines will remain on the property after the substation infrastructure is removed.

The site will be allowed to return to its natural state by reestablishing vegetation in areas not crossed by the remaining transmission line rights-of-way. ITC Midwest will continue to own and operate transmission lines across the parcel.

2.2.3 Huntley Substation

The new Huntley substation will be constructed on a 32-acre parcel located in the southwest quarter of the southeast quarter of Section 14 in Verona Township. The substation fenced area will be approximately 12 acres and will include a control building. The remainder of the 32-acre parcel will be graded to allow for property setbacks, line clearances, retention pond, and road access requirements. Equipment to be installed within the fenced area includes a 40 MVAR bank of reactors, one 345 kV/161 kV transformer, two 161 kV/69 kV transformers, two 345 kV breaker-and-a-half bays with three 345 kV breakers, four 161 kV breaker-and-a-half bays with eleven 161 kV breakers, three 69 kV breakers, associated switches, steel, foundations, and dead end structures. The substation will be designed to allow for future installation of two 345 kV breaker-and-a-half bays and one additional 161 kV breaker-and-a-half bay.

2.2.4 Transmission Line Reconfiguration

The Project will include the reconfiguration of four existing 161 kV transmission lines and three existing 69 kV transmission that currently terminate at the Winnebago Junction substation that will be decommissioned. The seven transmission lines will be reconfigured and rerouted from the Winnebago Junction substation to the Huntley substation as follows:

- The existing 161 kV Rutland – Winnebago Junction will be constructed on single pole double-circuit structures with the new 345 kV transmission line and operated at 345 kV/161 kV.
- The existing 161 kV N.B.E.I – Winnebago Junction and the 69 kV Winnebago Local – Winnebago Junction transmission lines will be constructed on single pole double-circuit structures to 161 kV/161 kV standards but operated at 161 kV/69 kV (Local/N.B.E.I – Huntley).
- The existing 161 kV Freeborn – Winnebago Junction and the 69 kV Blue Earth – Winnebago Junction transmission lines will be constructed on single pole double-circuit structures to 161 kV/161 kV standards but operated at 161 kV/69 kV (Blue Earth/Freeborn – Huntley).

- The existing 69 kV Walters – Winnebago Junction transmission will not be co-located with another line but will instead be constructed on single pole structures to 161 kV standards but operated at 69 kV (Walters – Huntley).

The portions of rights-of-way currently occupied by the existing 161 kV Rutland – Winnebago Junction and the 69 kV Blue Earth – Winnebago Junction transmission lines will no longer be needed after the Project is constructed and will be abandoned.

2.3 Structures

The primary tangent structures authorized for the Project be will single pole galvanized or self-weathering steel davit arm structures capable of supporting one 345 kV circuit and one 161 kV circuit. The structures will be 130 to 190 feet in height with an average span of 700 to 1,000 feet between structures and will be supported by an approximately 8-foot diameter 25-foot deep drilled pier concrete foundation.

Specialty structures authorized for the Project may include angle, dead-end, H-frame, multiple pole, and low profile. The table below details specifics on the various structure types as presented in the route permit application.

Line Type	Initial Operation	Structure Type	Right-of-way (feet)	Height (feet)	Structure Base	Foundation	Span (feet)
					Diameter (feet)		
345 kV/161 kV	345 kV/161 kV or 345 kV/None	Single Pole Davit Arm	150	130-190	5-9	8-12	700-1,000
		Single Pole Davit Arm Low Profile	150	100-160	5-9	8-12	500-1,000
		Two Pole	150	130-190	9	12	700-1,000
		Three Pole Low Profile	150	100-160	9	12	500-1,000
345 kV/161 kV/69 kV	345 kV/161 kV/69 kV	Single Pole Davit Arm	150	175-195	9	12	600-800
345 kV/161 kV/69 kV	345 kV/161 kV/69 kV	2 Pole Deadend	150	175-195	11	14	600-800
345 kV/161 kV/69 kV	345/69 kV	Single pole davit arm with Underbuild	150	130-190	7	10	600-800

345 kV/161 kV/69 kV	345/69 kV	1 Pole Deadend	150	130-190	11	14	600-800
345 kV/161 kV	345 kV/69 kV	Single Pole Davit Arm	150	130-190	5-9	8-12	700-1,000
		Two Pole	150	130-190	9	12	700-1000
161 kV/161 kV	161 kV/161 kV or 161 kV/69 kV	Single Pole Braced Post	100	80-120	3.5-7	10 (Angle)	600-800
		Single Pole Davit Arm	100	80-120	7	10	600-800
161 kV	69 kV	Single Pole Braced Post	100	70-110	3-5	8 (Angle)	600-800
		Single Pole Davit Arm	100	70-110	5	8	600-800

Note: All structures will be comprised of galvanized or self-weathering steel.

2.4 Conductors

Each 345 kV phase wire for the Project will consist of two twisted pair Drake 795-circular mil 26/7 aluminum conductor steel reinforced (ACSR) conductors, or equivalent 3,000 amp conductor. Each ACSR cable consists of a core of seven steel conductors surrounded by 26 aluminum strands. The 345 kV twisted pair conductors (two sets for each of the three phases) will have a capacity equivalent to 3,000 amps. The same conductor and bundled configuration will be used for all the 345 kV sections of the transmission line in Minnesota. The minimum conductor clearance for the 345 kV transmission line between the ground and lowest point of the conductor will measure 35 feet.

Each 161 kV phase wire for the Project will consist of twisted pair Drake 795-circular mil 26/7 (ACSR) conductors, or equivalent 1,600 ampere conductor. The 161 kV line from N.B.E.I. to Huntley will consist of aluminum conductor steel supported 565-circular mil Calumet, or equivalent 1,400 amp conductor. The minimum conductor clearance for the 161 kV transmission line between the ground and lowest point of the conductor will measure 25 feet.

The 69 kV transmission lines to be relocated from the Winnebago Junction substation to the Huntley substation will consist of twisted pair Drake 795-circular mil 26/7 ACSR conductors, or comparable conductor. Other 69 kV conductors for the Project will consist of 600 amp conductor, or equivalent conductor. The minimum conductor clearance for the 69 kV transmission line between the ground and lowest point of the conductor will measure 21 feet.

An approximately 1-inch diameter shield wire will be installed above the conductors for lightning protection. The shield wire may include a fiber optic cable that allows for substation protection equipment to communicate with other terminals on the line.

2.5 Safety Codes and Design Requirements

The transmission line and associated facilities shall be designed to meet or exceed all relevant local and state codes, the National Electric Safety Code (NESC), and North American Electric Reliability Corporation (NERC) requirements. This includes standards relating to clearances to ground, clearance to crossing utilities, clearance to buildings, strength of materials, clearances over roadways, right-of-way widths, and permit requirements. The transmission line shall be equipped with protective devices to safeguard the public if an accident occurs.

3.0 DESIGNATED ROUTE

The route for the Project will vary in width from 1,000 feet and 2,200 feet. The widths greater than 1,000 feet are as follows: Des Moines River (1,400 feet); south of Lake Charlotte (1,200 feet); east of Lake Charlotte near State Highway 15 (1,400 feet); south of and adjacent to the Proposed Huntley substation (2,200 feet); and along the Blue Earth River south of the Proposed Huntley Substation (1,700 feet).

3.1 Lakefield Junction to Huntley – Jackson County

In Jackson County, the route originates at ITC Midwest's existing Lakefield Junction substation, located in Section 3 in Hunter Township. The route extends southeast from the Lakefield Junction Substation approximately 0.5 mile (north of 810th Street) and joins the existing Lakefield to Border 161 kV transmission line. It continues east approximately 0.5 mile until crossing 470th Street. From here, the route continues east through the middle of Sections 2 and 1 in Hunter Township for approximately two miles until reaching 490th Avenue. Before reaching 490th Avenue and for a short distance after crossing 490th Avenue, the route deviates slightly from the existing Lakefield to Border 161 kV transmission line. The existing 161 kV line will be removed from its current location and co-located with the new 345 kV line for approximately 1,900 feet as it crosses 490th Avenue. The route continues east through the middle of Sections 6 and 5 in Des Moines Township for approximately 1.8 miles. The route then turns to the southeast then east for approximately 1.6 miles crossing through the southern half of Section 4 in Des Moines Township to the middle of Section 3 where the route reaches the western bank of the Des Moines River. From this location, there are two options for crossing the Des Moines River in Section 3 of Des Moines Township. Both options would remove the existing Lakefield to Border 161 kV transmission line for 1.5 mile through Section 2 and the western half of Section 1 of Des Moines Township. In this area, the route width expands to a maximum of 1,400 feet for approximately 0.5 mile:

Alignment Option 1

The first option for crossing the Des Moines River is to follow the alignment, which deviates from the existing Lakefield to Border 161 kV transmission line to cross the Des Moines River perpendicularly for approximately 2,700 feet in a northeast direction. From this point, the alignment turns north before reaching Section 2 of Des Moines Township. Use of route alignment across the Des Moines River would remove the existing Lakefield to Border 161 kV transmission line from its current crossing of the Des Moines River.

Alignment Option 2

The second option for crossing the Des Moines River is to follow an alignment, which crosses the Des Moines River along the existing Lakefield to Border 161 kV transmission line centerline for approximately 3,100 feet in a northeast, then east direction. From this point, the alignment turns north before reaching Section 2 of Des Moines Township.

After the crossing of the Des Moines River, the route continues north for another 0.5 mile to 820th Street, where it turns east. The route extends along 820th Street for 0.6 mile, continuing east for an additional mile and across U.S. Highway 71 between Sections 3, 2, and 1 of Des Moines Township and 34, 35, and 36 of Belmont Township, respectively. The route then turns south, 0.5 mile east of U.S. Highway 71 in Section 1 of Des Moines Township. The route extends south for 0.5 mile and rejoins the alignment of the existing Lakefield to Border 161 kV transmission line. It turns east in the middle of Section 1 of Des Moines Township, and extends another 0.5 mile to 550th Avenue/County Road 23 and Wisconsin Township. From here, the route continues through the middle of Sections 6, 5, 4, 3, 2, and 1 of Wisconsin Township along field lines for approximately 6 miles until reaching 10th Avenue and the Martin County line. In Section 5, the route deviates from the existing Lakefield to Border 161 kV transmission line for 1,300 feet and the 161 kV and 345 kV transmission lines would be co-located along the new alignment.

3.2 Lakefield Junction to Huntley – Martin County

In Martin County, the route continues eastward in Jay Township from the Jackson County border. Between Section 6 and 5 at 20th Street, the existing 161 kV line will be relocated, and co-located with the 345 kV line for approximately 2,000 feet. The route continues through the middle of Sections 6, 5, 4, 3, 2 and 1 for six miles until just west of Fox Lake. The route continues east through the middle of Section 6 of Manyaska Township in Section 6 for one mile. The route then deviates from the existing Lakefield to Border 161 kV transmission line, continues east into Section 5 for approximately 0.3 mile and continues east before turning south across Interstate 90 and then east along the south side of the Interstate for 1.7 miles through Sections 5 and 4 of Manyaska Township.

The existing ITC Midwest 69 kV Fox Lake to Fairmont transmission line currently located north of 125th Street would be removed from this location and would be co-located with the new 345 kV transmission line along the new route south of Interstate 90. At the border between Sections 4 and 3 of Manyaska Township, the route crosses to the north side of Interstate 90 and 125th Street, before turning east for approximately 0.8 mile. The route continues east, north, and northeast along the existing ITC Midwest 69 kV Fox Lake to Fairmont transmission line for approximately 1.3 miles through Sections 3 and 2 of Manyaska Township and Section 35 of Fox Lake Township, crossing over an existing Union Pacific Railroad line and 110th and 120th Avenues. In Section 35 of Fox Lake Township, the route A continues north and separates from the existing 69 kV transmission line where it turns east. The route continues north in Section 35 of Fox Lake Township for approximately 0.5 mile crosses into Section 26 at 140th Street where it turns east. The route continues east along the border of Sections 26/35 and 25/36 along 140th Street for 1.5 miles where it reaches 130th Avenue, and turns to the north. The route continues north along 130th Avenue for approximately 2.5 miles through Sections 30, 19, and 18 of Frasier Township where it rejoins the existing Lakefield to Border 161 kV transmission line.

The route turns east along field lines through the center of Sections 18, 17, 16, 15, 14, and 13 of Frasier Township for approximately 5.5 miles. In Section 17, the existing 161 kV line is proposed to be relocated with the new 345 kV for approximately 1,000 feet; and in 1,500 feet in Section 15. In the middle of Section 13 of Frasier Township, the route turns south, deviating from the existing Lakefield to Border 161 kV transmission line that extends across Lake Charlotte. The route continues south along a field line for 0.5 mile where it turns east along 160th Street. The route continues east along of 160th Street for approximately 0.5 mile until crossing 190th Avenue and into Rutland Township.

In Rutland Township, the route continues along 160th Street and along the existing Great River Energy FE-RU 69 kV transmission line as it continues east for approximately 2.2 miles between Sections 18 and 19, and 17 and 20 of Rutland Township. Along this section, the route width is expanded to approximately 1,200 feet and the existing line is proposed to be relocated slightly for approximately 1,100 feet along 160th Street. As the route crosses between Sections 16 and 21 of Rutland Township, it is no longer co-located with the existing 69 kV transmission line. The route continues east along 160th Street for 0.5 mile where it turns north along a field line for approximately 0.5 mile before turning east and rejoining with the existing Lakefield to Border 161 kV transmission line in Section 16 of Rutland Township. From Section 16 into Section 15 of Rutland Township, the route width is expanded to approximately 1,400 feet and the existing 161 kV line is proposed to be relocated slightly for approximately 1,600 feet just west of 220th Avenue/State Highway 15.

The route crosses State Highway 15 and continues east along field lines for 3.5 miles through Sections 16, 15, 14, and 13 of Rutland Township before entering Center Creek Township, crossing 230th and 240th Avenues and Judicial Ditch Number Three. The route continues east for approximately one mile, crossing 255th Avenue and County Highway 53 (260th Avenue) in Section 18 of Center Creek Township. It continues east for an additional five miles along field lines through Sections 17, 16, 15, 14, and 13, of Center Creek Township, crossing 265th, 280th, 288th, 290th (County Road 159), 293rd (County Highway 59), and 298th Avenues before reaching the Faribault County line. In this area, the route also crosses Judicial Ditches One, Twenty-Eight, and Forty. The route also crosses a Canadian Pacific rail line in the middle of Section 13 of Center Creek Township.

3.3 Lakefield Junction to Huntley – Faribault County

From the Martin/Faribault County border, the route extends northeast into Verona Township through Sections 18, 17, 9/16, and 10/15 for approximately 3.2 miles, still co-located with the existing Lakefield to Border 161 kV transmission line. The route then turns south along a field line in Section 15 of Verona Township to 160th Street. At this point the existing 161 kV line that continues east to the existing Huntley substation site would be removed and collocated with the new 345 kV line. At 160th Street, Modified Route A turns east and continues along the north side of the road between Sections 15/22 and 14/23 of Verona Township for approximately 1.3 miles to the new Huntley substation site.

3.4 Huntley to Iowa Border – Faribault County

Just south of the Huntley Substation in Section 23 of Verona Township, the route includes a wider triangular-shaped area measuring 2,200 feet at its widest along the southern boundary of the new Huntley substation to accommodate positioning of the circuits into the substation. From the new Huntley substation, the route extends south along the existing Lakefield to Border 161 kV transmission line for approximately 0.3 mile where it turns southwest along the west bank of the Blue Earth River in Section 23 of Verona Township. The route then continues south and then southeast, reconnecting with the existing Lakefield to Border 161 kV transmission line approximately 0.4 mile (approximately 400 feet) before 150th Street. This area is approximately 0.9 mile long through Section 23 in Verona Township and has an expanded route width of approximately 2,200 feet. The existing Lakefield to Border 161 kV transmission line will be moved from its current alignment in Section 23 to follow the new route in this area. The route then continues south along the existing line for approximately two miles in Verona Township, Sections 23, 26, and 35. It crosses 160th, 150th, 140th, and 130th (County Highway 8) Streets, as well as South Creek in several locations.

The route continues south approximately two miles along field lines into Jo Daviess Township through Sections 2 and 11, crossing Interstate 90, 120th Street, County Ditch Number Sixty, and 115th Street. After crossing 115th Street, the route follows 355th Avenue for 0.5 mile, crossing a rail line and extending to 110th Street (County Highway 16). The route then continues south from 110th Street along the existing 161 kV line for two miles, through Sections 14 and 23 Jo Daviess Township, crossing 100th Street and Little Badger Creek. The route deviates from the existing 161 kV Lakefield to Border transmission line and turns southeast as it crosses 90th Street (County Highway 6). The route continues south and then back west to join with the existing 161 kV line. A portion of the existing 161 kV line would be relocated in Section 26 of Jo Daviess Township to move it farther from a home for approximately 1,000 feet where the new route crosses 85th Street. The route continues south along the existing Lakefield to Border 161 kV Transmission Line and field lines for approximately 1.3 miles through Sections 26 and 35 of Jo Daviess Township, crossing 80th and 70th Streets.

The route enters Pilot Grove Township in Section 2, and extends south, continuing along field lines and co-locating with the existing Lakefield to Border 161 kV transmission line, through the Pilot Grove Lake WPA and Sections 11, 14 and 23. The route crosses 60th, 50th, 40th, and 30th Streets, and follows Judicial Ditch Number Seven for 0.3 mile before crossing it in Section 23. The route turns east along 30th Street between Sections 23 and 26 of Pilot Grove Township, continuing to follow the existing Lakefield to Border 161 kV transmission line for approximately 0.5 mile before turning south along 360th Avenue and the existing line. The route continues south to the Iowa border along the existing Lakefield to Border 161 kV transmission line through Sections 26, 25, 35 and 36 of Pilot Grove Township crossing the West Branch of the Blue Earth River (Section 36) before reaching the Minnesota/Iowa border at the intersection of 510th Street (Minnesota) and 160th Avenue (Iowa). Between Section 35 and 36, the existing Lakefield to Border 161 kV transmission line is proposed to be relocated slightly for approximately 1,400 feet.

3.5 Transmission Line Reconfiguration between Winnebago Junction and Huntley Substations

The proposed construction configuration of the associated facilities will occur within a 500-foot route width between the Winnebago Junction substation and the Huntley substation and a 500-foot route width approximately 0.4 mile long along 170th Street. The existing Rutland—Winnebago Junction transmission line will be removed from Sections 11 and 10 of Verona Township. The existing Blue Earth—Winnebago Junction transmission line will be removed in Section 11 of Verona Township between 170th Street and the Winnebago Junction substation (See route maps 2 and 2A).

4.0 RIGHT-OF-WAY

The approved rights-of-way for the Project are as follows:

- 345 kV single-circuit structures, 161/345 kV double-circuit structures, and 69/161/345 kV triple-circuit structures shall be constructed and maintained within a 150-foot right-of-way. The Permittee will have vegetation management rights and will prohibit placement of other structures within the 150-foot right-of-way. The Permittee may trim or remove trees that pose a threat to the transmission facility within the 25-foot area adjacent to and on either side of the 150-foot right-of-way in accordance with the Vegetation Management Plan.
- 345 kV/161 kV double-circuit structures that cross through the Pilot Grove Lake Waterfowl Production Area shall be constructed and maintained within the existing 100-foot right-of-way.
- 161 kV/161 kV double-circuit capable and 161 kV single-circuit structures shall be constructed and maintained within a 100-foot right-of-way. The Permittee will have vegetation management rights and will prohibit placement of other structures within the 100-foot right-of-way. The Permittee may trim or remove trees that pose a threat to the transmission facility within the 25-foot area adjacent to and on either side of the 100-foot right-of-way in accordance with the Vegetation Management Plan.
- The Permittee shall utilize its existing rights-of-way associated with the existing single circuit 161 kV transmission line being replaced to the greatest extent possible.

This permit anticipates that the right-of-way will generally conform to the alignment identified on the attached route permit maps unless changes are requested by individual landowners and agreed to by the Permittee or for unforeseen conditions that are encountered or are otherwise provided for by this permit.

Any alignment modifications within the designated route shall be located so as to have comparable overall impacts relative to the factors in Minn. R. 7850.4100, as does the alignment identified in this permit, and shall be specifically identified and documented in and approved as part of the plan and profile submitted pursuant to Section 9.1 of this permit.

Where the transmission line route parallels existing highway and other road rights-of-way, the transmission line right-of-way shall occupy and utilize the existing right-of-way to the maximum extent possible, consistent with the criteria in Minn. R. 7850.4100, the other requirements of this permit, and for highways under the jurisdiction of the Minnesota Department of Transportation (Mn/DOT) rules, policies, and procedures for accommodating utilities in trunk highway rights-of-way.

5.0 GENERAL CONDITIONS

The Permittee shall comply with the following conditions during construction of the transmission line and associated facilities over the life of this permit.

5.1 Notification to Landowners

The Permittee shall provide all affected landowners with a copy of this permit and, as a separate information piece, the complaint procedures at the time of the first contact with the landowners after issuance of this permit. The Permittee shall contact landowners prior to entering the property or conducting maintenance along the route. The Permittee shall work with landowners to locate the high-voltage transmission line to minimize the loss of agricultural land, forest, and wetlands, and to avoid homes and farmsteads.

At the time of first contact, the Permittee shall also provide all affected landowners with a copy of the Department of Commerce's Rights-of-Way and Easements for Energy Facility Construction and Operation fact sheet.¹

5.2 Construction Practices

The Permittee shall follow those specific construction practices and material specifications described in ITC Midwest's Application to the Commission for a Route Permit for the Minnesota – Iowa 345 kV Transmission Project and Associated Facilities in Jackson, Martin, and Faribault Counties, dated March 28, 2013, unless this permit establishes a different requirement in which case this permit shall prevail.

5.2.1 Field Representative

At least 14 days prior to commencing construction, the Permittee shall advise the Commission in writing of the person or persons designated to be the field representative for the Permittee with the responsibility to oversee compliance with the conditions of this permit during construction.

¹ http://mn.gov/commerce/energyfacilities/documents/Easements%20Fact%20Sheet_08.05.14.pdf

This person shall be accessible by telephone during normal business hours throughout right-of-way preparation, construction, cleanup, and restoration.

The field representative's address, phone number, emergency phone number, and email shall be provided to the Commission and shall be made available to affected landowners, residents, public officials and other interested persons. The Permittee may change the field representative at any time upon notice to landowners and the Commission.

5.2.2 Employee Training and Education of Permit Terms and Conditions

The Permittee shall inform all employees, contractors, and other persons involved in the transmission line construction of the terms and conditions of this permit.

5.2.3 Public Services, Public Utilities, and Existing Easements

During construction, the Permittee shall minimize any disruption to public services or public utilities. To the extent disruptions to public services or public utilities occur these would be temporary and the Permittee will restore service promptly. Where any impacts to utilities have the potential to occur the Permittee will work with both landowners and local agencies to determine the most appropriate transmission structure placement.

The Permittee shall work with the landowners, townships, cities, and counties along the route to accommodate concerns regarding tree clearing, distance from existing structures, drain tiles, pole depth and placement in relationship to existing roads and road expansion plans.

The Permittee shall cooperate with county and city road authorities to develop appropriate signage and traffic management during construction.

5.2.4 Temporary Work Space

The Permittee shall limit temporary easements to special construction access needs and additional staging or lay-down areas required outside of the authorized right-of-way. Temporary space shall be selected to limit the removal and impacts to vegetation. Temporary easements outside of the authorized transmission line right-of-way will be obtained from affected landowners through rental agreements and are not provided for in this permit.

Temporary driveways may be constructed between the roadway and the structures to minimize impact using the shortest route possible. Construction mats should also be used to minimize impacts on access paths and construction areas.

5.2.5 Noise

Construction and routine maintenance activities shall be limited to daytime working hours, as defined in Minn. R. 7030.0200, to ensure nighttime noise level standards will not be exceeded.

5.2.6 Site Sediment and Erosion Control

The Permittee shall implement those erosion prevention and sediment control practices recommended by the Minnesota Pollution Control Agency (MPCA) Construction Stormwater Program.

The Permittee shall implement reasonable measures to minimize erosion and sedimentation during construction and shall employ perimeter sediment controls, protect exposed soil by promptly planting, seeding, using erosion control blankets and turf reinforcement mats, stabilizing slopes, protecting storm drain inlets, protecting soil stockpiles, and controlling vehicle tracking. Contours shall be graded as required so that all surfaces provide for proper drainage, blend with the natural terrain, and are left in a condition that will facilitate re-vegetation and prevent erosion. All areas disturbed during construction of the facilities shall be returned to pre-construction conditions.

Where larger areas of one acre or more are disturbed or other areas designated by the MPCA, the Permittee shall obtain a National Pollutant Discharge Elimination System (NPDES)/State Disposal System (SDS) Construction Stormwater permit from the MPCA.

5.2.7 Aesthetics

The Permittee shall consider input pertaining to visual impacts from landowners or land management agencies prior to final location of structures, rights-of-way, and other areas with the potential for visual disturbance. Care shall be used to preserve the natural landscape, minimize tree removal and prevent any unnecessary destruction of the natural surroundings in the vicinity of the Project during construction and maintenance.

Structures shall be placed at a distance, consistent with sound engineering principles and system reliability criteria, from intersecting roads, highway, or trail crossings and could cross roads to minimize or avoid impacts.

5.2.8 Vegetation Removal and Protection

The Permittee shall minimize the number of trees to be removed in selecting the right-of-way specifically preserving to the maximum extent practicable windbreaks, shelterbelts, living snow fences, and vegetation in areas such as trail and stream crossings where vegetative screening may minimize aesthetic impacts, to the extent that such actions do not violate sound engineering principles or system reliability criteria.

Tall growing species located within the transmission line right-of-way that endanger the safe and reliable operation of the transmission facility will be removed by the Permittee. The Permittee shall leave undisturbed, to the extent possible, existing low growing species in the right-of-way or replant such species in the right-of-way to blend the difference between the right-of-way and adjacent areas, to the extent that the low growing vegetation that will not pose a threat to the transmission facility or impede construction.

5.2.9 Application of Herbicides

The Permittee shall restrict herbicide use to those herbicides and methods of application approved by the Minnesota Department of Agriculture and the U.S. Environmental Protection Agency. Selective foliage or basal application shall be used when practicable. The Permittee shall contact the landowner or his designee to obtain approval for the use of herbicide prior to any application on their property. The landowner may request that there be no application of herbicides on any part of the right-of-way within the landowner's property. All herbicides shall be applied in a safe and cautious manner so as not to damage crops, orchards, tree farms, or gardens.

5.2.10 Noxious Weeds

The Permittee shall take all reasonable precautions against the spread of noxious weeds during all phases of construction. When utilizing seed to establish temporary and permanent vegetative cover on exposed soil the Permittee shall select site appropriate seed certified to be free of noxious weeds. To the extent possible, the Permittee shall use native seed mixes. The Permittee shall consult with landowners on the selection and use of seed for replanting.

5.2.11 Restoration

The Permittee shall restore the right-of-way, temporary work spaces, access roads, abandoned right-of-way, and other public or private lands affected by construction of the transmission line.

Restoration within the right-of-way must be compatible with the safe operation, maintenance, and inspection of the transmission line. Within 60 days after completion of all restoration activities, the Permittee shall advise the Commission in writing of the completion of such activities.

5.2.12 Wetlands and Water Resources

Wetland impact avoidance measures that shall be implemented during design and construction of the transmission line will include spacing and placing the power poles at variable distances to span and avoid wetlands, watercourses, and floodplains. Unavoidable wetland impacts as a result of the placement of poles shall be limited to the immediate area around the poles. To minimize impacts, construction in wetland areas shall occur during frozen ground conditions. When construction during winter is not possible, wooden or composite mats shall be used to protect wetland vegetation. Soil excavated from the wetlands and riparian areas shall be contained and not placed back into the wetland or riparian area.

Wetlands and riparian areas shall be accessed using the shortest route possible in order to minimize travel through wetland areas and prevent unnecessary impacts. No staging or stringing set up areas shall be placed within or adjacent to wetlands or water resources, as practicable. Power pole structures shall be assembled on upland areas before they are brought to the site for installation.

Areas disturbed by construction activities shall be restored to pre-construction conditions. Restoration of the wetlands will be performed by Permittee in accordance with the requirements of applicable state and federal permits or laws and landowner agreements.

All requirements of the U.S. Army Corps of Engineers (wetlands under federal jurisdiction), Minnesota Department of Natural Resources (Public Waters/Wetlands), and County (wetlands under the jurisdiction of the Minnesota Wetland Conservation Act) shall be met.

5.2.13 Archaeological and Historic Resources

The Permittee shall consult with the State Historic Preservation Office (SHPO) concerning the extent of a Phase I archaeological survey and appropriate mitigation measures for the Project. Permittee shall document and submit to the Commission the results of the consultation, including those portions of the Project that will be surveyed and the extent of the survey with the Construction Environmental Control Plan for the Project.

For those portions of the Project that are surveyed, Permittee shall submit, with the plan and profile for these portions, the results of the survey and all applicable avoidance and mitigation measures employed or to be employed.

Permittee shall inform construction personnel of known archaeological resources along the permitted route for the Project and of archaeological survey results. Permittee shall employ a monitor that reports to and communicates with the Environmental Monitor to identify and report archaeological resources encountered during construction of the Project and to coordinate with SHPO on appropriate mitigation measures.

5.2.14 Avian Mitigation

The Permittee's standard transmission design shall incorporate adequate spacing of conductors and grounding devices in accordance with Avian Power Line Interaction Committee standards to eliminate the risk of electrocution to raptors with larger wingspans that may simultaneously come in contact with a conductor and grounding devices.

The Permittee will consult with the Minnesota Department of Natural Resources regarding type and placement of bird diverters.

5.2.15 Cleanup

All waste and scrap that is the product of construction shall be removed from the right-of-way and all premises on which construction activities were conducted and properly disposed of upon completion of each task. Personal litter, including bottles, cans, and paper from construction activities shall be removed on a daily basis.

5.2.16 Pollution and Hazardous Wastes

All appropriate precautions to protect against pollution of the environment must be taken by the Permittee. The Permittee shall be responsible for compliance with all laws applicable to the generation, storage, transportation, clean up and disposal of all wastes generated during construction and restoration of the right-of-way.

5.2.17 Damages

The Permittee shall fairly compensate landowners for damage to crops, fences, private roads and lanes, landscaping, drain tile, or other damages sustained during construction.

5.3 Electrical Performance Standards

5.3.1 Grounding

The Permittee shall design, construct, and operate the transmission line in a manner so that the maximum induced steady-state short-circuit current shall be limited to five milliamperes root mean square (rms) alternating current between the ground and any non-stationary object within the right-of-way, including but not limited to large motor vehicles and agricultural equipment. All fixed metallic objects on or off the right-of-way, except electric fences that parallel or cross the right-of-way, shall be grounded to the extent necessary to limit the induced short-circuit current between ground and the object so as not to exceed one milliamperes rms under steady state conditions of the transmission line and to comply with the ground fault conditions specified in the NESC. The Permittee shall address and rectify any induced current problems that arise during transmission line operation.

5.3.2 Electric Field

The transmission line shall be designed, constructed, and operated in such a manner that the electric field measured one meter above ground level immediately below the transmission line shall not exceed 8.0 kV/m rms.

5.3.3 Interference with Communication Devices

If interference with radio or television, satellite, wireless internet, GPS-based agriculture navigation systems or other communication devices is caused by the presence or operation of the transmission line, the Permittee shall take whatever action is feasible to restore or provide reception equivalent to reception levels in the immediate area just prior to the construction of the line.

5.4 Other Requirements

5.4.1 Applicable Codes

The Permittee shall comply with applicable NERC planning standards and requirements of the NESC including clearances to ground, clearance to crossing utilities, clearance to buildings, right-of way widths, erecting power poles, and stringing of transmission line conductors.

5.4.2 Other Permits and Regulations

The Permittee shall comply with all applicable state rules and statutes. The Permittee shall obtain all required permits for the Project and comply with the conditions of these permits. A list of the permits known to be required is included in the permit application. The Permittee shall submit a copy of such permits to the Commission upon request.

6.0 SPECIAL CONDITIONS

The Permittee shall provide a report to the Commission as part of the plan and profile submission that describes the actions taken and mitigative measures developed regarding the Project and the following special conditions. Special conditions shall take precedence over other conditions of this permit should there be a conflict.

6.1 Construction Environmental Control Plan

The Permittee shall develop a Construction Environmental Control Plan (CECP) that shall include all environmental control plans and special conditions imposed by permits or licenses issued by state or federal agencies related to agency-managed resources. Plans within the CECP shall include the Agricultural Impact Mitigation Plan, the Avian Mitigation Plan, the Vegetation Management Plan, and a Stormwater Pollution Prevention Plan. The CECP shall be filed with the Commission 30 days prior to submitting the plan and profile for any segment of the Project. The CECP shall include the following:

1. Identification of and contact information for an Environmental Monitor to oversee the construction process and monitor compliance with the Construction Environmental Control Plan and all plans therein.
2. A process for regular reporting on construction status and the results of construction inspection and monitoring to the Commission.
3. A process for reporting the status of permits and licenses or other approvals from local units of government, state agencies, or federal agencies for the Project to the Commission.
4. A process for internal tracking of construction management, including required plan or permit inspection forms.

6.2 Agriculture Mitigation Plan

The Permittee shall comply with the Agricultural Impact Mitigation Plan (AIMP) prepared for this Project and approved by the Minnesota Department of Agriculture. The Permittee shall distribute the AIMP with the route permit to all affected landowners in accordance with Section 5.1 of this permit.

6.3 Vegetation Management Plan

The Permittee shall develop a Vegetation Management Plan (VMP). The Permittee shall submit the VMP with the CECP and monitor compliance with the VMP in accordance with the procedures set forth in the VMP. The purpose of the VMP shall be to identify measures to minimize the disturbance and removal of vegetation for the Project, prevent the introduction of noxious weeds and invasive species, and re-vegetate disturbed non-cropland areas with appropriate native species in cooperation with landowners and state, federal, and local resource agencies, in such a way that does not negatively impact the safe and reliable operation of the Project. The VMP shall include:

1. Measures that will be taken to minimize vegetation disturbance and removal during construction of the Project to the extent that such actions do not violate sound engineering principles or system reliability criteria.
2. Measures that will be taken to prevent the introduction of non-native and invasive species.
3. Measures that will be taken to re-vegetate disturbed non-cropland areas with appropriate native species to the extent that such actions do not violate sound engineering principles or system reliability criteria.
4. Processes by which Permittee will identify landowner and resource agency preferences or requirements regarding vegetation management (e.g. no herbicide application, etc.) and how these preferences or requirements will be addressed.
5. Measures that will be taken to manage vegetation during operation and maintenance of the Project, including tall tree species within and outside of the permitted right-of-way that endanger the safe and reliable operation of the transmission line, in accordance with this permit and any local, state, or federal permits, licenses, or approvals.

6.4 Avian Mitigation Plan

The Permittee shall develop an avian mitigation plan (AMP). The Permittee shall submit and implement the plan in accordance with the CECP for the Project. The Purpose of the AMP shall be to identify site-specific risks to avian species from the Project and to identify and implement strategies to avoid and mitigate potential impacts to these species, including but not limited to, the use of bird flight diverters. The AMP shall include and document Permittee's consultation with the DNR and the U.S. Fish and Wildlife Service (USFWS) in the development of the AMP.

6.5 Des Moines River Crossing

The Permittee shall consult with the DNR regarding the feasibility of mitigation measures for the crossing of the Des Moines River, and shall jointly determine with the DNR the alignment and mitigation measures that best mitigate avian impacts and impacts to the Oak- Basswood forest at the Des Moines River crossing. The Permittee shall document this consultation and the alignment and mitigation measures agreed upon by the Permittee and the DNR for the crossing. The Permittee shall submit this information with the plan and profile for this section of the Project.

7.0 DELAY IN CONSTRUCTION

If the Permittee has not commenced construction or improvement of the route within four years after the date of issuance of this permit the Permittee shall file a report on the failure to construct and the Commission shall consider suspension of the permit in accordance with Minn. R. 7850.4700.

8.0 COMPLAINT PROCEDURES

Prior to the start of construction, the Permittee shall submit to the Commission the procedures that will be used to receive and respond to complaints. The procedures shall be in accordance with the requirements of Minn. R. 7829.1500 or Minn. R. 7829.1700, and as set forth in the complaint procedures attached to this permit.

Upon request, the Permittee shall assist the Commission with the disposition of unresolved or longstanding complaints. This assistance shall include, but is not limited to, the submittal of complaint correspondence and complaint resolution efforts.

9.0 COMPLIANCE REQUIREMENTS

Failure to timely and properly make compliance filings required by this permit is a failure to comply with the conditions of this permit. Compliance filings must be electronically filed with the Commission.

9.1 Plan and Profile

At least 30 days before right-of-way preparation for construction begins on any segment or portion of the Project, the Permittee shall provide the Commission with a plan and profile of the right-of-way and the specifications and drawings for right-of-way preparation, construction, structure specifications and locations, cleanup, and restoration for the transmission line. The documentation shall include maps depicting the plan and profile including the right-of-way, alignment, and structures in relation to the route and alignment approved per this permit.

The Permittee may not commence construction until the 30 days has expired or until the Commission has advised the Permittee in writing that it has completed its review of the documents and determined that the planned construction is consistent with this permit. If the Permittee intends to make any significant changes in its plan and profile or the specifications and drawings after submission to the Commission, the Permittee shall notify the Commission at least five days before implementing the changes. No changes shall be made that would be in violation of any of the terms of this permit.

9.2 Periodic Status Reports

The Permittee shall report to the Commission on progress regarding finalization of the route, design of structures, and construction of the transmission line. The Permittee need not report more frequently than monthly.

9.3 Notification to Commission

At least three days before the line is to be placed into service, the Permittee shall notify the Commission of the date on which the line will be placed into service and the date on which construction was complete.

9.4 As-Builts

Within 60 days after completion of construction, the Permittee shall submit copies of all final as-built plans and specifications developed during the Project.

9.5 GPS Data

Within 60 days after completion of construction, the Permittee shall submit to the Commission, in the format requested by the Commission, geo-spatial information (e.g., ArcGIS compatible map files, GPS coordinates, associated database of characteristics) for all structures associated with the transmission line and each substation connected.

10.0 PERMIT AMENDMENT

This permit may be amended at any time by the Commission. Any person may request an amendment of the conditions of this permit by submitting a request to the Commission in writing describing the amendment sought and the reasons for the amendment. The Commission will mail notice of receipt of the request to the Permittee. The Commission may amend the conditions after affording the Permittee and interested persons such process as is required.

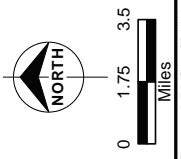
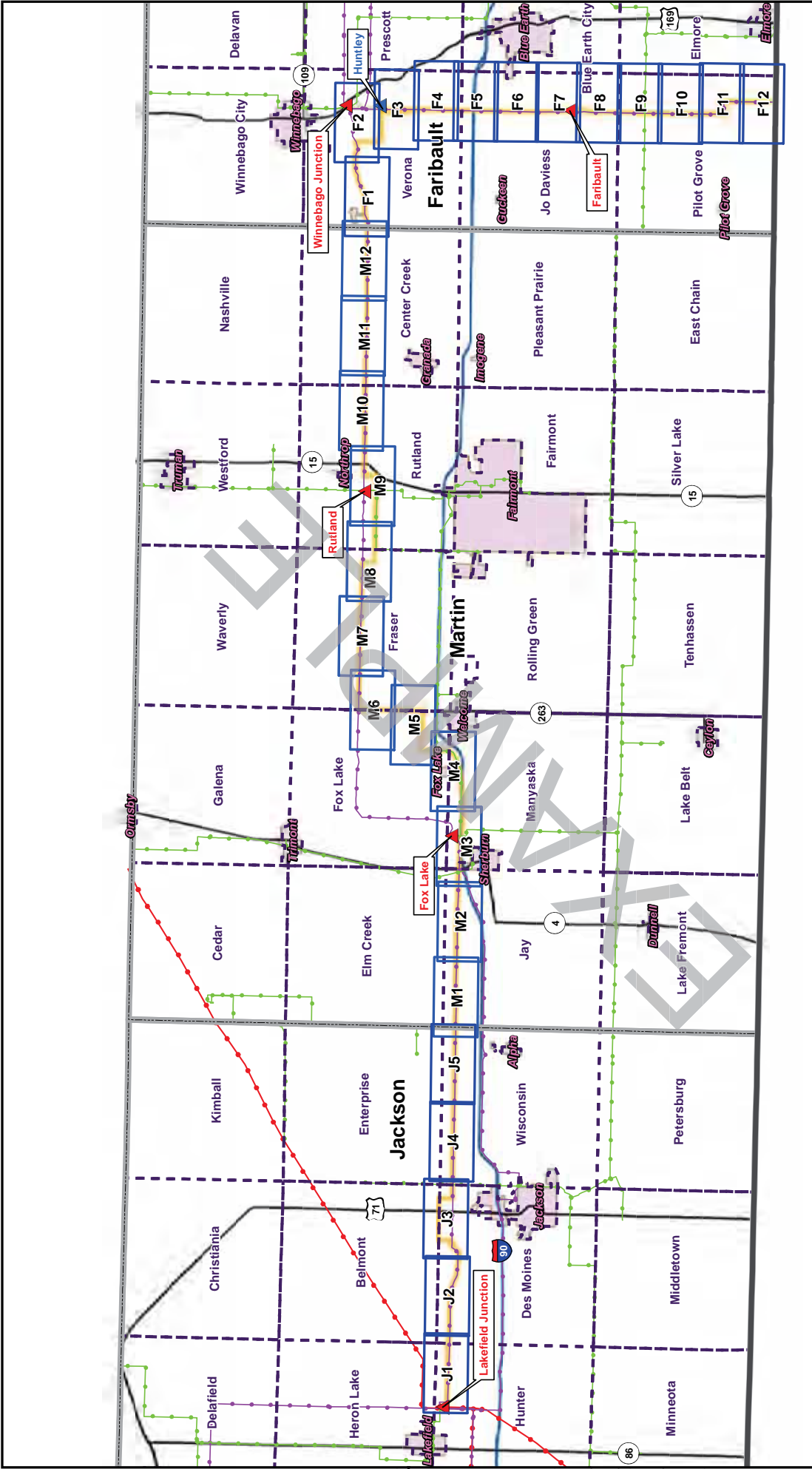
11.0 TRANSFER OF PERMIT

The Permittee may request at any time that the Commission transfer this permit to another person or entity. The Permittee shall provide the name and description of the person or entity to whom the permit is requested to be transferred, the reasons for the transfer, a description of the facilities affected, and the proposed effective date of the transfer.

The person to whom the permit is to be transferred shall provide the Commission with such information as the Commission shall require to determine whether the new Permittee can comply with the conditions of the permit. The Commission may authorize transfer of the permit after affording the Permittee, the new Permittee, and interested persons such process as is required.

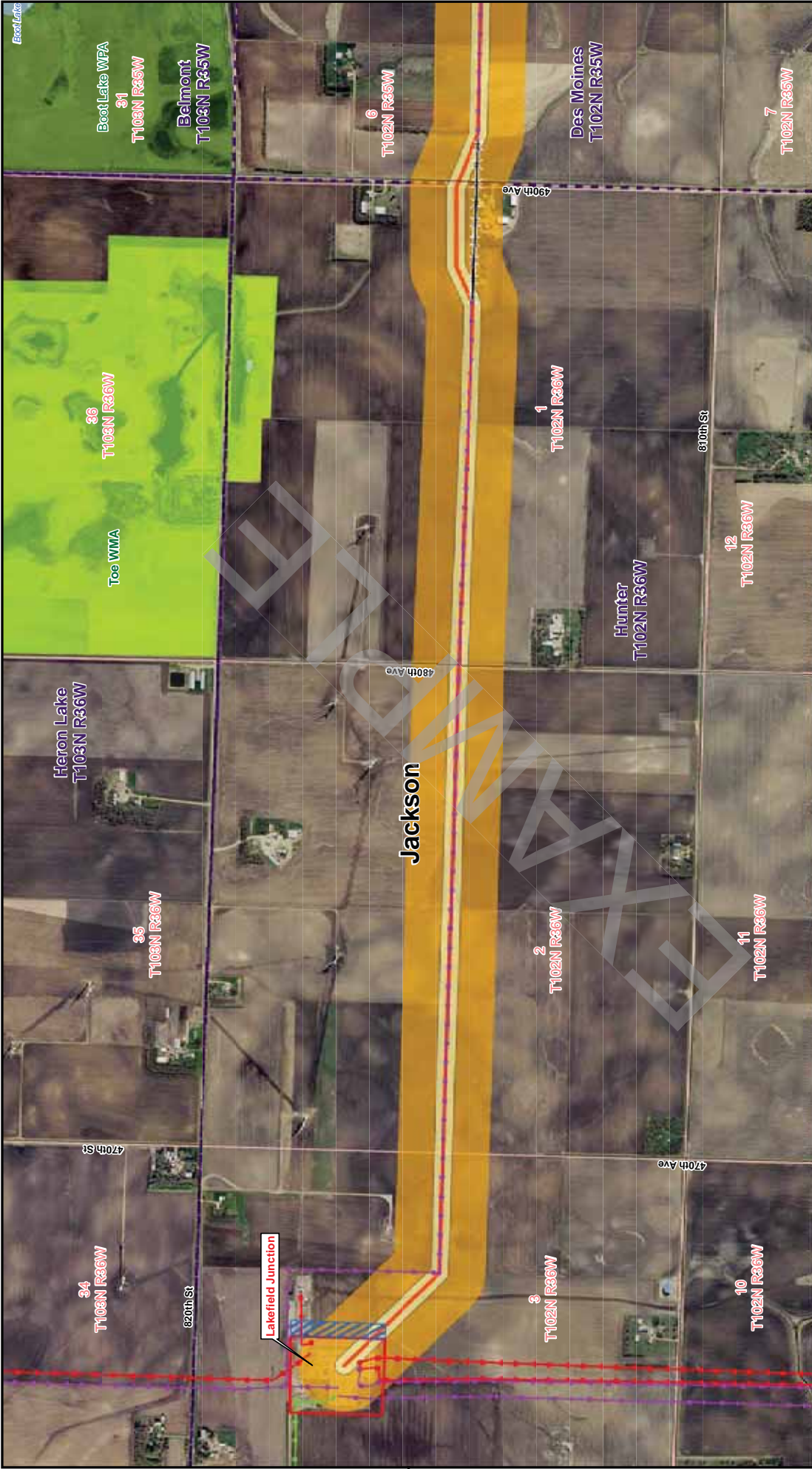
12.0 REVOCATION OR SUSPENSION OF THE PERMIT

The Commission may initiate action to revoke or suspend this permit at any time. The Commission shall act in accordance with the requirements of Minn. R. 7850.5100, to revoke or suspend the permit.



- ▲ Existing Substation
- ▲ Proposed Substation
- Modified Route A
- Associated Facilities
- Existing 69 kV Lines
- Existing 161 kV Lines
- Existing 345 kV Lines
- Civil Township
- County Boundary
- State Boundary
- City

ITC Midwest
 Minnesota to Iowa
 345 kV Transmission Project
 Modified Route A
 Map Index



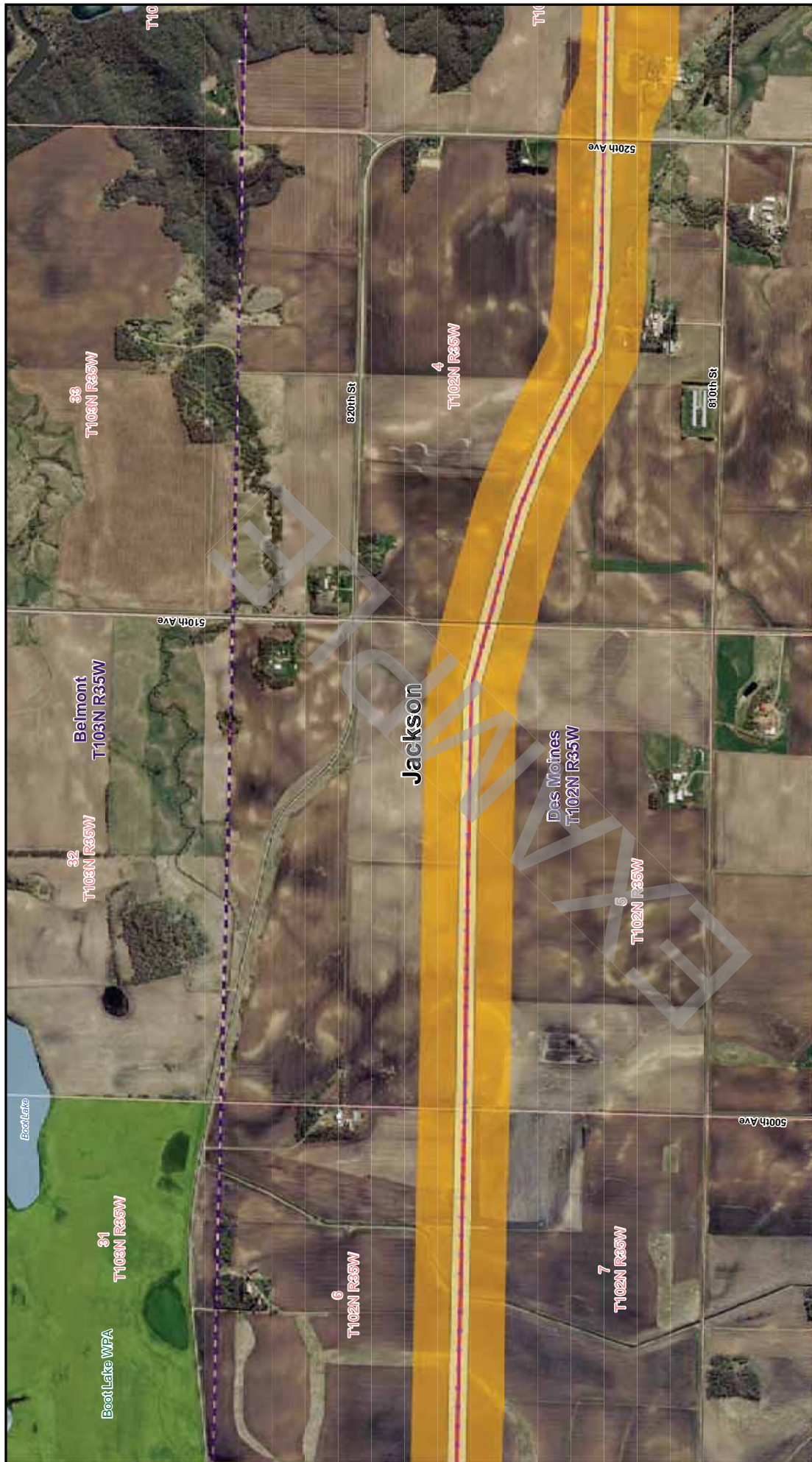
	Proposed Substation/Expansion		City
	Existing Substation Area		WMA
	Substation to be Removed		WPA
	Modified Route A-Alignment		WRP

Jackson County

Map Index

	Existing 69 kV Lines		Civil Township
	Existing 161 kV Lines		Township Sections
	Existing 345 kV Lines		County Boundary
	Line to be Removed		State Boundary

	Modified Route A		City
	Project ROW		WMA
	Associated Facilities		WPA
	Modified Route A-Alignment		WRP



Proposed Substation/Expansion	Modified Route A	Civil Township	City
Existing Substation Area	Project ROW	Township Sections	WMA
Substation to be Removed	Associated Facilities	County Boundary	WPA
Modified Route A-Alignment	Line to be Removed	State Boundary	WRP

Jackson County

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ITC Midwest
Minnesota to Iowa
345 kV Transmission Project

Modified Route A
Jackson County
Sheet 2 of 5

Source: MN Geo 2011 Aerials; Minnesota DNR; Minnesota Geo GIS; Minnesota DOT; ITC; Burns & McDonnell. September 19, 2014

**Des Moines River Crossing
Modified Route A**



**Des Moines River Crossing
JA- 2**

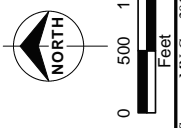


	Proposed Substation/Expansion	Associated Facilities	Civil Township	WMA
	Existing Substation Area	JA-2 Alignment	Township Sections	WPA
Substation to be Removed	Modified Route A - Alignment	County Boundary	State Boundary	WRP
Modified Route A	Existing 69 kV Lines	City	Map Index	Jackson County ITC Midwest Minnesota to Iowa 345 kV Transmission Project
Project ROW	Existing 161 kV Lines	Line to be Removed	Modified Route A with JA-2 Jackson County Sheet 3 of 5	Issued: 9/19/2014



	<p>Proposed Substation/Expansion</p> <p>Existing Substation Area</p> <p>Substation to be Removed</p> <p>Modified Route A-Alignment</p>	<p>Modified Route A</p> <p>Project ROW</p> <p>Associated Facilities</p> <p>Line to be Removed</p>	<p>Existing 69 kV Lines</p> <p>Existing 161 kV Lines</p> <p>Existing 345 kV Lines</p> <p>Line to be Removed</p>	<p>Civil Township</p> <p>Township Sections</p> <p>County Boundary</p> <p>State Boundary</p>	<p>City</p> <p>WMA</p> <p>WPA</p> <p>WRP</p>	<p>Jackson County</p> <p>Map Index</p>	<p>ITC Midwest Minnesota to Iowa 345 kV Transmission Project</p> <p>Modified Route A Jackson County Sheet 4 of 5</p>
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- Proposed Substation/Expansion
- Existing Substation Area
- Substation to be Removed
- Modified Route A-Alignment

- Existing 69 kV Lines
- Existing 161 kV Lines
- Existing 345 kV Lines
- Line to be Removed

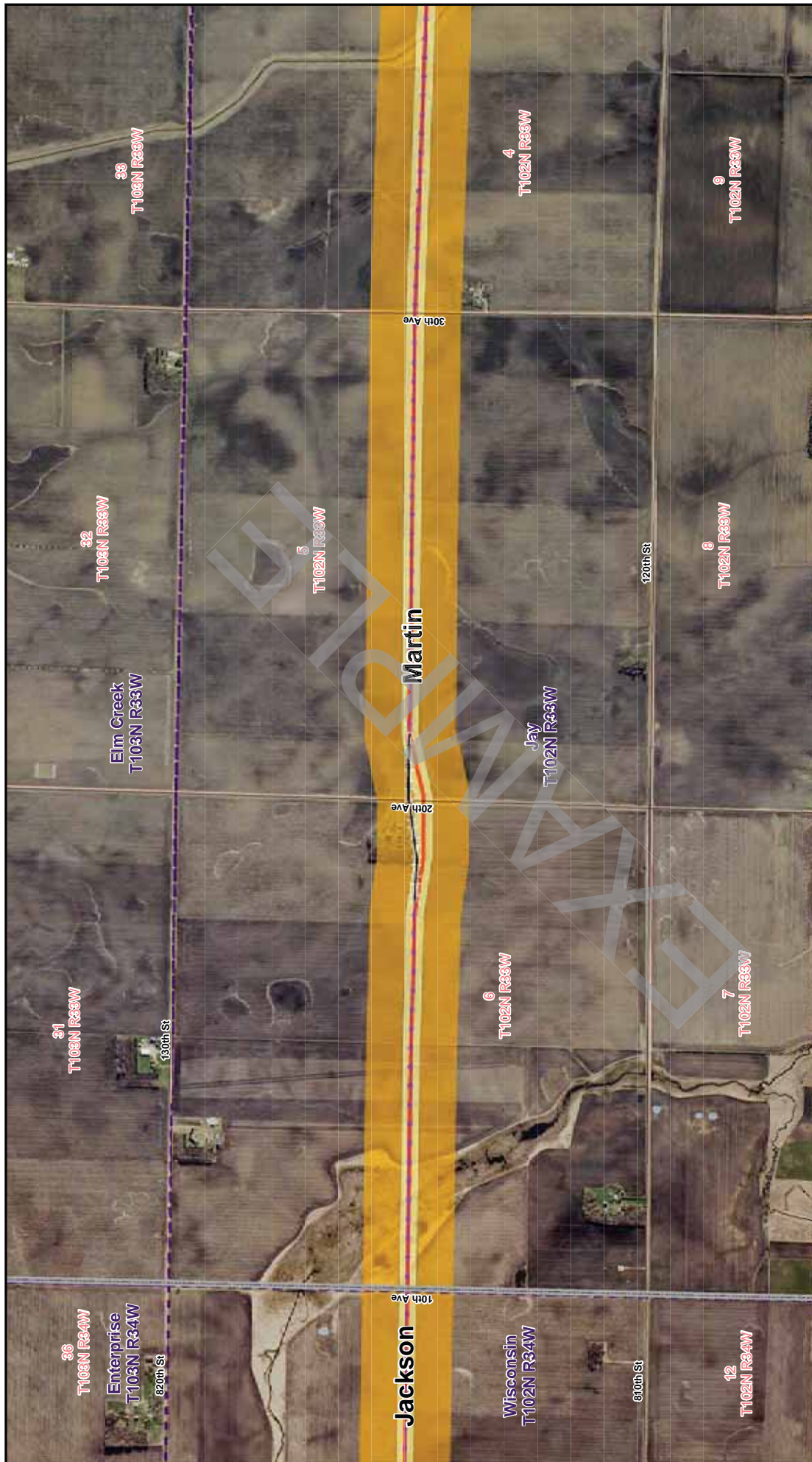
- Civil Township
- Township Sections
- County Boundary
- State Boundary

- City
- WMA
- WPA
- WRP

Jackson County

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 Minnesota to Iowa
 345 kV Transmission Project
 Modified Route A
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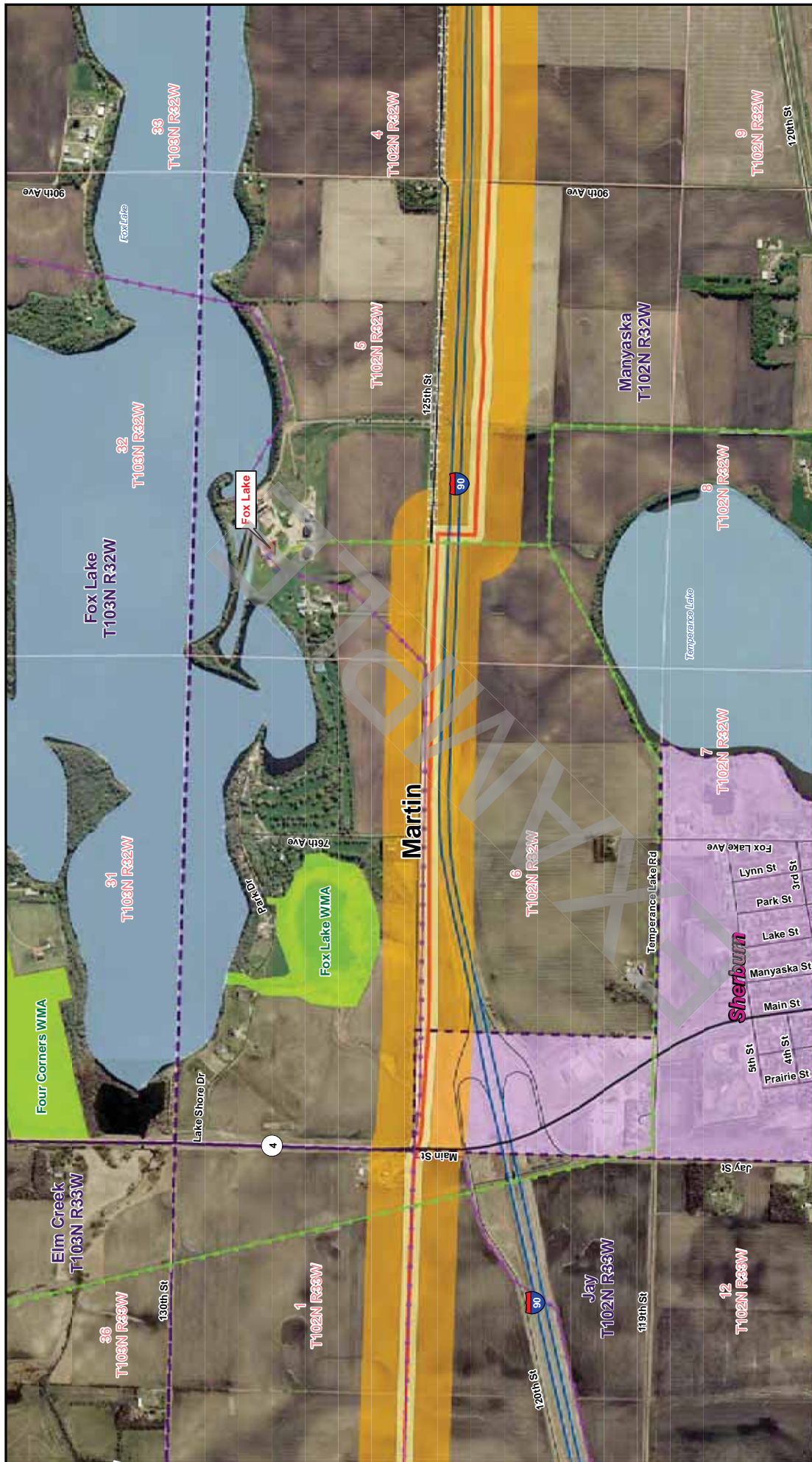
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Source: MN Geo 2011 Aerials; Minnesota DNR; Minnesota Geo GIS; Minnesota DOT; ITC; Burns & McDonnell. R:\ITC66742_HUNTLEY_LAKEFIELD\GIS\Bathymetry\ArcDoc\Routes_Adjustment_Figures\Scoping\Meeting_Route_Adjustments\Commission\Commission\Mapbook_MapInfo_MRA_9Sep2014.mxd



	<p>Proposed Substation/Expansion Existing Substation Area Substation to be Removed Modified Route A - Alignment</p>	<p>Modified Route A Project ROW Associated Facilities Line to be Removed</p>	<p>Existing 69 kV Lines Existing 161 kV Lines Existing 345 kV Lines</p>	<p>Civil Township Township Sections County Boundary State Boundary</p>	<p>City WMA WPA WRP</p>	<p>Martin County Map Index</p>	<p>ITC Midwest Minnesota to Iowa 345 kV Transmission Project Modified Route A Martin County Sheet 2 of 12</p>
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Source: MN Geo 2011 Aerials; Minnesota DNR; Minnesota Geo GIS; Minnesota DOT; ITC; Burns & McDonnell. September 19, 2014



	Proposed Substation/Expansion		Existing 69 kV Lines		Civil Township		City
	Existing Substation Area		Existing 161 kV Lines		Township Sections		WMA
	Substation to be Removed		Existing 345 kV Lines		County Boundary		WPA
	Modified Route A- Alignment		Line to be Removed		State Boundary		WRP

Martin County

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ITC Midwest
Minnesota to Iowa
345 kV Transmission Project
Modified Route A
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Source: MN Geo 2011 Aerials; Minnesota DNR; Minnesota Geo GIS; Minnesota DOT; ITC; Burns & McDonnell.



	Proposed Substation/Expansion		Existing 69 kV Lines		Civil Township		City
	Existing Substation Area		Existing 161 kV Lines		Township Sections		WMA
	Substation to be Removed		Existing 345 kV Lines		County Boundary		WPA
	Modified Route A- Alignment		Line to be Removed		State Boundary		WRP

Martin County

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ITC Midwest
Minnesota to Iowa
345 kV Transmission Project
Modified Route A
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Source: MN Geo 2011 Aerials; Minnesota DNR; Minnesota Geo GIS; Minnesota DOT; ITC; Burns & McDonnell. R:\ITC66742_HUNTLEY_LAKE\FIELD\GIS\Bathymetry\ArcDoc\RoutesAdjustments\Commission\Commission\Mapbook_MartinCo_MRA_9Sep2014.mxd



	<p>Proposed Substation/Expansion</p> <p>Existing Substation Area</p> <p>Substation to be Removed</p> <p>Modified Route A- Alignment</p>	<p>Modified Route A</p> <p>Project ROW</p> <p>Associated Facilities</p>	<p>Existing 69 kV Lines</p> <p>Existing 161 kV Lines</p> <p>Existing 345 kV Lines</p> <p>Line to be Removed</p>	<p>Civil Township</p> <p>Township Sections</p> <p>County Boundary</p> <p>State Boundary</p>	<p>City</p> <p>WMA</p> <p>WPA</p> <p>WRP</p>	<p>Martin County</p> <p>Map Index</p> <p>ITC Midwest Minnesota to Iowa 345 kV Transmission Project Modified Route A Martin County Sheet 6 of 12</p> <p>September 19, 2014</p>
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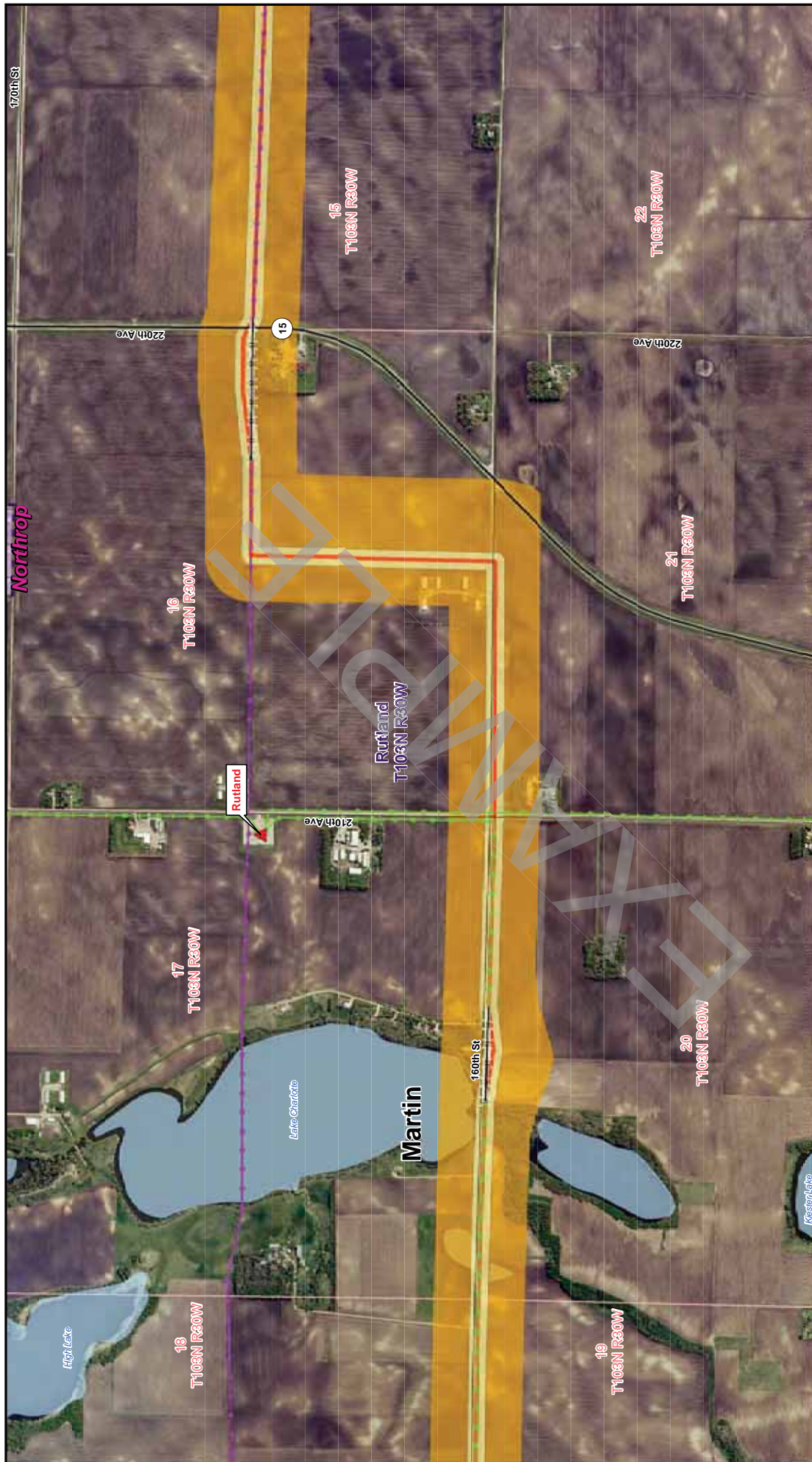
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Source: MN Geo 2011 Aerials; Minnesota DNR; Minnesota Geo GIS; Minnesota DOT; ITC; Burns & McDonnell. R:\ITC66742_HUNTLEY_LAKEFIELD\GIS\Bathymetry\ArcDoc\Routes_Adjustment_Figures\Scoping\Meeting_Route_Adjustments\Commission\Mapbook_MartinCo_MRA_9Sep2014.mxd



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Source: MN Geo 2011 Aerials; Minnesota DNR; Minnesota Geo GIS; Minnesota DOT; ITC; Burns & McDonnell.



	Proposed Substation/Expansion		Existing 69 kV Lines		Civil Township		City	
	Existing Substation Area		Existing 161 kV Lines		Township Sections		WMA	
	Substation to be Removed		Existing 345 kV Lines		County Boundary		WPA	
	Modified Route A - Alignment		Line to be Removed		State Boundary		WRP	

ITC Midwest
Minnesota to Iowa
345 kV Transmission Project
Modified Route A
Martin County
Sheet 9 of 12

Source: MN Geo 2011 Aerials; Minnesota DNR; Minnesota Geo GIS; Minnesota DOT; ITC; Burns & McDonnell. R:\ITC66742_HUNTLEY_LAKEFIELD\GIS\Bathymetry\ArcDoc\Routes_Adjustment_Figures\Scoping\Meeting_Route_Adjustments\Commission\Commission\Mapbook_MartinCo_MRA_9Sep2014.mxd



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Source: MN Geo 2011 Aerials; Minnesota DNR; Minnesota Geo GIS; Minnesota DOT; ITC; Burns & McDonnell.



	Proposed Substation/Expansion		Existing 69 kV Lines		Civil Township		City
	Existing Substation Area		Existing 161 kV Lines		Township Sections		WMA
	Substation to be Removed		Existing 345 kV Lines		County Boundary		WPA
	Modified Route A- Alignment		Line to be Removed		State Boundary		WRP

Martin County

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ITC Midwest
Minnesota to Iowa
345 kV Transmission Project
Modified Route A
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Source: MN Geo 2011 Aerials; Minnesota DNR; Minnesota Geo GIS; Minnesota DOT; ITC; Burns & McDonnell.



	Proposed Substation/Expansion		Existing 69 kV Lines		Civil Township		City
	Existing Substation Area		Existing 161 kV Lines		Township Sections		WMA
	Substation to be Removed		Associated Facilities		County Boundary		WPA
	Modified Route A - Alignment		Line to be Removed		State Boundary		WRP

Martin County

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ITC Midwest
Minnesota to Iowa
345 kV Transmission Project

Modified Route A
Martin County
Sheet 12 of 12

Source: MN Geo 2011 Aerials; Minnesota DNR; Minnesota Geo GIS; Minnesota DOT; ITC; Burns & McDonnell. September 19, 2014



Legend

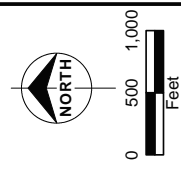
- Proposed Substation/Expansion
- Existing Substation Area
- Substation to be Removed
- Modified Route A-Alignment
- City
- WMA
- WPA
- WRP
- Civil Township
- Township Sections
- County Boundary
- State Boundary
- Existing 69 kV Lines
- Existing 161 kV Lines
- Existing 345 kV Lines
- Line to be Removed

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Faribault County

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Minnesota to Iowa
345 kV Transmission Project
Modified Route A
Faribault County
Sheet 1 of 12



Source: MN Geo 2011 Aerials; Minnesota DNR; Minnesota Geo GIS; Minnesota DOT; ITC; Burns & McDonnell.



Legend

- Proposed Substation/Expansion
- Existing Substation Area
- Substation to be Removed
- Modified Route A- Alignment
- Existing 69 kV Lines
- Existing 161 kV Lines
- Existing 345 kV Lines
- Line to be Removed
- Modified Route A
- Project ROW
- Associated Facilities
- Civil Township
- Township Sections
- County Boundary
- State Boundary
- City
- WMA
- WPA
- WRP

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Faribault County

ITC Midwest
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Modified Route A
Faribault County
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	Proposed Substation/Expansion		161 kV		City
	Existing Substation Area		69 kV		Civil Township
	Substation to be Removed		New 69 kV Built to 161 kV Standards		Township Sections
	Modified Route A - Alignment		New Double Circuit 161/69 kV		County Boundary
	Line to be Removed		New Double Circuit 345/161 kV		State Boundary

Faribault County

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ITC Midwest
Minnesota to Iowa
345 kV Transmission Project

Modified Route A
Faribault County
Sheet 2A of 12

Source: MN Geo 2011 Aerials; Minnesota DNR; Minnesota Geo GIS; Minnesota DOT; ITC; Burns & McDonnell.



Proposed Substation/Expansion	Modified Route A	Existing 69 kV Lines	Civil Township	City	<p>ITC Midwest Minnesota to Iowa 345 kV Transmission Project</p> <p>Modified Route A Faribault County Sheet 3 of 12</p>
Existing Substation Area	Project ROW	Existing 161 kV Lines	Township Sections	WMA	
Substation to be Removed	Associated Facilities	Existing 345 kV Lines	County Boundary	WPA	
Modified Route A-Alignment	Line to be Removed	State Boundary	State Boundary	WRP	

Faribault County

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Source: MN Geo 2011 Aerials; Minnesota DNR; Minnesota Geo GIS; Minnesota DOT; ITC; Burns & McDonnell. September 19, 2014



Proposed Substation/Expansion

- Proposed Substation/Expansion
- Existing Substation Area
- Substation to be Removed
- Modified Route A- Alignment

Existing 69 kV Lines

- Existing 69 kV Lines
- Existing 161 kV Lines
- Existing 345 kV Lines
- Line to be Removed

Civil Township

- Civil Township
- Township Sections
- County Boundary
- State Boundary

City

- City
- WMA
- WPA
- WRP

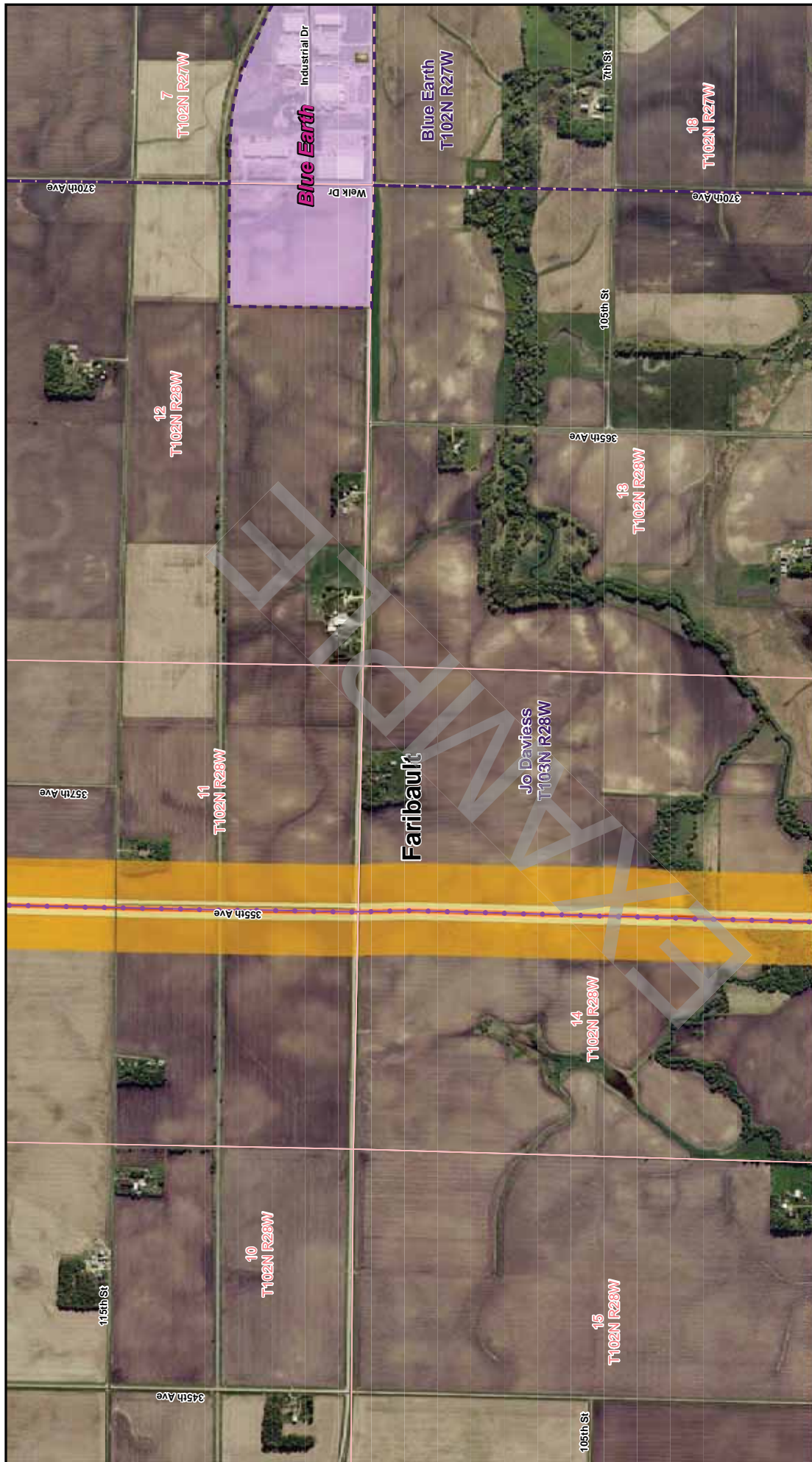
Faribault County

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Modified Route A
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Source: MN Geo 2011 Aerials; Minnesota DNR; Minnesota Geo GIS; Minnesota DOT; ITC; Burns & McDonnell. R:\ITC66742_HUNTLEY_LAKEFIELD\GIS\Bathymetry\ArcDocs\Route_Adjustment_Figures\Scoping\Meeting_Route_Adjustments\Commission\Commission\Mapbook_Faribault_MRA_10Sep2014.mxd



Proposed Substation/Expansion

- Proposed Substation/Expansion
- Existing Substation Area
- Substation to be Removed
- Modified Route A- Alignment

Existing 69 kV Lines

- Existing 69 kV Lines
- Existing 161 kV Lines
- Existing 345 kV Lines
- Line to be Removed

Modified Route A

- Modified Route A
- Project ROW
- Associated Facilities

Civil Township

- Civil Township
- Township Sections
- County Boundary
- State Boundary

City

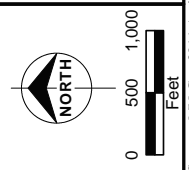
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- WRP

Faribault County

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ITC Midwest
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Modified Route A
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Source: MN Geo 2011 Aerials; Minnesota DNR; Minnesota Geo GIS; Minnesota DOT; ITC; Burns & McDonnell.
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	Proposed Substation/Expansion		Existing 69 kV Lines		Civil Township		City
	Existing Substation Area		Existing 161 kV Lines		Township Sections		WMA
	Substation to be Removed		Existing 345 kV Lines		County Boundary		WPA
	Modified Route A-Alignment		Line to be Removed		State Boundary		WRP

Faribault County

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Minnesota to Iowa
345 kV Transmission Project
Modified Route A
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Source: MN Geo 2011 Aerials; Minnesota DNR; Minnesota Geo GIS; Minnesota DOT; ITC; Burns & McDonnell. R:\ITC66742_HUNTLEY_LAKEFIELD\GIS\Bathymetry\Aerials\ArcDoc\Routes_Adjustment_Figures\Scoping\Meeting_RouteAdjustments\Commission\Commission\Mapbook_Faribault_MRA_10Sep2014.mxd



Proposed Substation/Expansion

- Proposed Substation/Expansion
- Existing Substation Area
- Substation to be Removed
- Modified Route A- Alignment

Line to be Removed

- Line to be Removed

Associated Facilities

- Existing 69 kV Lines
- Existing 161 kV Lines
- Existing 345 kV Lines

Project ROW

- Project ROW

Civil Township

- Civil Township

County Boundary

- County Boundary
- State Boundary

City

- City

WMA

- WMA
- WPA
- WRP

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Faribault County

Scale

0 500 1,000 Feet

North Arrow

NORTH

Source: MN Geo 2011 Aerials; Minnesota DNR; Minnesota Geo GIS; Minnesota DOT; ITC; Burns & McDonnell.

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Minnesota to Iowa
345 kV Transmission Project
Modified Route A
Faribault County
Sheet 8 of 12



	<p>Proposed Substation/Expansion</p> <ul style="list-style-type: none"> Blue hatched box: Proposed Substation/Expansion Red outline box: Existing Substation Area Grey box: Substation to be Removed Red line: Modified Route A- Alignment 	<p>Modified Route A</p> <ul style="list-style-type: none"> Yellow box: Modified Route A Light yellow box: Project ROW Yellow box: Associated Facilities Black line with cross-ticks: Line to be Removed 	<p>Existing 69 kV Lines</p> <ul style="list-style-type: none"> Green dashed line: Existing 69 kV Lines Purple dashed line: Existing 161 kV Lines Red dashed line: Existing 345 kV Lines <p>Civil Township</p> <ul style="list-style-type: none"> Blue dashed line: Civil Township Red dashed line: Township Sections Black dashed line: County Boundary Black dashed line: State Boundary 	<p>City</p> <ul style="list-style-type: none"> Pink box: City Light green box: WMA Green box: WPA White box with diagonal lines: WRP 	<p>Faribault County</p> <p>Map Index</p>	<p>ITC Midwest Minnesota to Iowa 345 kV Transmission Project</p> <p>Modified Route A Faribault County Sheet 9 of 12</p>
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Source: MN Geo 2011 Aerials; Minnesota DNR; Minnesota Geo GIS; Minnesota DOT; ITC; Burns & McDonnell.

September 19, 2014



	<p>Proposed Substation/Expansion</p> <p>Existing Substation Area</p> <p>Substation to be Removed</p> <p>Modified Route A- Alignment</p>	<p>Existing 69 kV Lines</p> <p>Existing 161 kV Lines</p> <p>Existing 345 kV Lines</p> <p>Line to be Removed</p>	<p>Civil Township</p> <p>Township Sections</p> <p>County Boundary</p> <p>State Boundary</p>	<p>City</p> <p>WMA</p> <p>WPA</p> <p>WRP</p>	<p>Faribault County</p> <p>Map Index</p>	<p>ITC Midwest Minnesota to Iowa 345 kV Transmission Project Modified Route A Faribault County Sheet 10 of 12</p>
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Source: MN Geo 2011 Aerials; Minnesota DNR; Minnesota Geo GIS; Minnesota DOT; ITC; Burns & McDonnell. R:\ITC66742_HUNTLEY_LAKEFIELD\GIS\Bathymetry\ArcDoc\Routes_Adjustment_Figures\Scoping\Meeting_RouteAdjustments\Commission\Commission\Mapbook_Faribault_MRA_10Sep2014.mxd



Proposed Substation/Expansion

- Proposed Substation Area
- Substation to be Removed
- Modified Route A- Alignment

Existing 69 kV Lines

- Existing 161 kV Lines
- Existing 345 kV Lines
- Line to be Removed

City

- City
- WMA
- WPA
- WRP

Civil Township

- Township Sections
- County Boundary
- State Boundary

Map Index

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Faribault County

ITC Midwest
Minnesota to Iowa
345 kV Transmission Project
Modified Route A
Faribault County
Sheet 11 of 12

Scale

0 500 1,000 Feet

North Arrow

Source: MN Geo 2011 Aerials; Minnesota DNR; Minnesota Geo GIS; Minnesota DOT; ITC; Burns & McDonnell.



	<p>Proposed Substation/Expansion</p> <p>Existing Substation Area</p> <p>Substation to be Removed</p> <p>Modified Route A- Alignment</p>	<p>Modified Route A</p> <p>Project ROW</p> <p>Associated Facilities</p> <p>Line to be Removed</p>	<p>Existing 69 kV Lines</p> <p>Existing 161 kV Lines</p> <p>Existing 345 kV Lines</p>	<p>Civil Township</p> <p>Township Sections</p> <p>County Boundary</p> <p>State Boundary</p>	<p>City</p> <p>WMA</p> <p>WPA</p> <p>WRP</p>	<p>Faribault County</p> <p>Map Index</p>	<p>ITC Midwest Minnesota to Iowa 345 kV Transmission Project</p> <p>Modified Route A Faribault County Sheet 12 of 12</p>
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Source: MN Geo 2011 Aerials; Minnesota DNR; Minnesota Geo GIS; Minnesota DOT; ITC; Burns & McDonnell.

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**MINNESOTA PUBLIC UTILITIES COMMISSION
COMPLAINT HANDLING PROCEDURES FOR
HIGH-VOLTAGE TRANSMISSION LINES**

A. Purpose

To establish a uniform and timely method of reporting complaints received by the permittee concerning permit conditions for site preparation, construction, cleanup and restoration, operation, and resolution of such complaints.

B. Scope

This document describes complaint reporting procedures and frequency.

C. Applicability

The procedures shall be used for all complaints received by the permittee and all complaints received by the Minnesota Public Utilities Commission (Commission) under Minn. R. 7829.1500 or Minn. R. 7829.1700 relevant to this permit.

D. Definitions

Complaint: A verbal or written statement presented to the permittees by a person expressing dissatisfaction or concern regarding site preparation, cleanup or restoration or other route and associated facilities permit conditions. Complaints do not include requests, inquiries, questions or general comments.

Substantial Complaint: A written complaint alleging a violation of a specific permit condition that, if substantiated, could result in permit modification or suspension pursuant to the applicable regulations.

Unresolved Complaint: A complaint which, despite the good faith efforts of the permittee and a person, remains to both or one of the parties unresolved or unsatisfactorily resolved.

Person: An individual, partnership, joint venture, private or public corporation, association, firm, public service company, cooperative, political subdivision, municipal corporation, government agency, public utility district, or any other entity, public or private, however organized.

E. Complaint Documentation and Processing

1. The permittee shall designate an individual to summarize complaints for the Commission. This person's name, phone number and email address shall accompany all complaint submittals.
2. A person presenting the complaint should to the extent possible, include the following information in their communications:
 - a. name, address, phone number, and email address;
 - b. date of complaint;
 - c. tract or parcel number; and
 - d. whether the complaint relates to a permit matter or a compliance issue.
3. The permittee shall document all complaints by maintaining a record of all applicable information concerning the complaint, including the following:
 - a. docket number and project name;
 - b. name of complainant, address, phone number and email address;
 - c. precise description of property or parcel number;
 - d. name of permittee representative receiving complaint and date of receipt;
 - e. nature of complaint and the applicable permit condition(s);
 - f. activities undertaken to resolve the complaint; and
 - g. final disposition of the complaint.

F. Reporting Requirements

The permittee shall commence complaint reporting at the beginning of project construction and continue through the term of the permit. The permittee shall report all complaints to the Commission according to the following schedule:

Immediate Reports: All substantial complaints shall be reported to the Commission the same day received, or on the following working day for complaints received after working hours. Such reports are to be directed to the Commission's Consumer Affairs Office at 1-800-657-3782 (voice messages are acceptable) or consumer.puc@state.mn.us. For e-mail reporting, the email subject line should read "PUC EFP Complaint" and include the appropriate project docket number.

Monthly Reports: By the 15th of each month, a summary of all complaints, including substantial complaints received or resolved during the preceding month, shall be filed to Dr. Burl W. Haar, Executive Secretary, Public Utilities Commission, using the eDockets system. The eDockets system is located at: <https://www.edockets.state.mn.us/EFiling/home.jsp>

If no complaints were received during the preceding month, the permittee shall file a summary indicating that no complaints were received.

G. Complaints Received by the Commission

Complaints received directly by the Commission from aggrieved persons regarding site preparation, construction, cleanup, restoration, operation and maintenance shall be promptly sent to the permittee.

H. Commission Process for Unresolved Complaints

Commission staff shall perform an initial evaluation of unresolved complaints submitted to the Commission. Complaints raising substantial permit issues shall be processed and resolved by the Commission. Staff shall notify the permittee and appropriate persons if it determines that the complaint is a substantial complaint. With respect to such complaints, each party shall submit a written summary of its position to the Commission no later than ten (10) days after receipt of the staff notification. The complaint will be presented to the Commission for a decision as soon as practicable.

I. Permittee Contacts for Complaints and Complaint Reporting

Complaints may be filed by mail or email to:

ITC Midwest LLC
Jeanne Archie
Senior Real Estate Specialist
123 5th Street, S.E.
Cedar Rapids, IA 52401
Phone: 319-297-6764
jarchie@itctransco.com

This information shall be maintained current by informing the Commission of any changes by eFiling, as they become effective.

**MINNESOTA PUBLIC UTILITIES COMMISSION
COMPLIANCE FILING PROCEDURE FOR
PERMITTED ENERGY FACILITIES**

A. Purpose

To establish a uniform and timely method of submitting information required by the Commission energy facility permits.

B. Scope and Applicability

This procedure encompasses all compliance filings required by permit.

C. Definitions

Compliance Filing: A filing of information to the Commission, where the information is required by a Commission site or route permit.

D. Responsibilities

1. The permittee shall eFile all compliance filings with Dr. Burl W. Haar, Executive Secretary, Public Utilities Commission, through the eDockets system. The eDockets system is located at: <https://www.edockets.state.mn.us/EFiling/home.jsp>

General instructions are provided on the eDockets website. Permittees must register on the website to eFile documents.

2. All filings must have a cover sheet that includes:
 - a. Date
 - b. Name of submitter/permittee
 - c. Type of permit (site or route)
 - d. Project location
 - e. Project docket number
 - f. Permit section under which the filing is made
 - g. Short description of the filing

3. Filings that are graphic intensive (e.g., maps, engineered drawings) must, in addition to being eFiled, be submitted as paper copies and on CD. Paper copies and CDs should be sent to: 1) Dr. Burl W. Haar, Executive Secretary, Minnesota Public Utilities Commission, 121 7th Place East, Suite 350, St. Paul, MN 55101-2147, and 2) Department of Commerce, Energy Environmental Review and Analysis, 85 7th Place East, Suite 500, St. Paul, MN 55101-2198.

The Commission may request a paper copy of any eFiled document.

EXAMPLE

PERMIT COMPLIANCE FILINGS¹

PERMITTEE: ITC Midwest LLC

PERMIT TYPE: High-Voltage Transmission Line Route Permit

PROJECT LOCATION: Jackson, Martin, and Faribault Counties

PUC DOCKET NUMBER: ET-6675/TL-12-1337

Filing Number	Permit Section	Description of Compliance Filing	Due Date
	5.1	Notification of Landowners	First contact after issuance of route permit.
	5.2.1	Field Representative	14 days prior to commencing construction.
	5.2.11	Restoration	60 days after completion of all construction activities.
	5.2.13	State Historic Preservation Office Consultation	After completion of consultation.
	5.4.2	Other Permits and Regulations	Upon request of the Commission.
	6.1	Construction Environmental Control Plan (CECP)	30 days prior to submitting the plan and profile for any segment of the Project.
	6.2	Agricultural Impact Mitigation Plan distribution	First contact after issuance of route permit in accordance with Section 4.1.
	6.3	Vegetation Management Plan	Submitted with CECP in accordance with Section 5.1.
	6.4	Avian Mitigation Plan	Submitted with CECP in accordance with Section 5.1.

¹ This compilation of permit compliance filings is provided for the convenience of the permittee and the Commission. It is not a substitute for the permit; the language of the permit controls.

Filing Number	Permit Section	Description of Compliance Filing	Due Date
	6.5	Des Moines River Crossing	Upon completion of consultation with DNR and as part of the plan and profile in accordance with Section 8.1.
	8.0	Complaint Procedures	Prior to the start of construction.
	9.1	Plan and Profile	30 days before right-of-way preparation.
	9.2	Periodic Status Reports	Monthly
	9.3	Completion of Construction and In-Service Date	Three days prior to in-service date.
	9.4	As-Builts	60 days after completion of construction.
	9.5	GPS Data	60 days after completion of construction.

EXAMPLE

Appendix C

Narrative of the Scoping Summary Report

Scoping Summary Report

Great Northern Transmission Line Environmental Impact Statement

Prepared for
U.S. Department of Energy
Office of Electricity Delivery and Energy Reliability
Washington, DC 20585

Minnesota Department of Commerce
Energy Environmental Review and Analysis
85 7th Place East, Suite 500
Saint Paul, MN 55101

Cooperating Agencies:
U.S. Army Corps of Engineers
U.S. Environmental Protection Agency
U.S. Fish and Wildlife Service

November 2014

Scoping Summary Report

September 2014

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Acronyms and Abbreviations

AC	Alternating Current
ATF	Advisory Task Force
CFR	Code of Federal Regulations
CON	Certificate of Need
DOE	U.S. Department of Energy
DOE	U.S. Department of Energy
EERA	Energy Environmental Review and Analysis
EIS	Environmental Impact Statement
EMF	electric and magnetic fields
EO	Executive Order
kV	kilovolt
LUG	Local Unit of Government
MW	megawatt
MnDNR	Minnesota Department of Natural Resources
MN PUC	Minnesota Public Utilities Commission
NEPA	National Environmental Policy Act
NOI	Notice of Intent
NWI	National Wetland Inventory
PPSA	Power Plant Siting Act
ROW	Right-of-way
SNA	Scientific and Natural Area
USACE	U.S. Army Corps of Engineers
USEPA	U.S. Environmental Protection Agency
USFWS	U.S. Fish and Wildlife Service
WMA	Wildlife Management Area
WMMPB	Western Mesabi Mine Planning Board

1.0 Introduction

1.1 Overview

On April 15, 2014, Minnesota Power, an operating division of ALLETE, Inc., applied to the U.S. Department of Energy (DOE) for a Presidential permit¹ for a new 235-270 mile long, 500-kilovolt alternating current (AC) high-voltage transmission line that would cross the border between the United States and Canada in Roseau County, Minnesota. After crossing the border, the transmission line would connect into the Minnesota Power Blackberry Substation near Grand Rapids, Minnesota (Figure 1-1). The DOE's National Electricity Delivery Division, in the Office of Electricity Delivery and Energy Reliability (OE-20), is responsible for issuing Presidential permits. The Presidential permit for Minnesota Power (OE Docket Number PP-398), if issued, would authorize Minnesota Power to construct, operate, maintain, and connect the U.S. portion of the project.

On the same date, Minnesota Power also filed an application for a route permit with the Minnesota Public Utilities Commission (MN PUC). Under the Minnesota Power Plant Siting Act (PPSA), the MN PUC must determine the route for any proposed transmission line of 100 kilovolt (kV) or more and greater than 1,500 feet in length. As part of the route permit, the MN PUC will also list any conditions it will require for constructing, operating and maintaining the project. The MN PUC found the route permit application complete on July 2, 2014.

Through a separate Certificate of Need (CON) process, the MN PUC must also determine whether there is a need for a transmission line, and establish the size, type and required end points of the Project. Minnesota Power filed its CON application for the Great Northern Transmission Line (GNTL) Project with the MN PUC on October 22, 2013, and anticipates a decision by May 2015.

A project overview is provided in Section 1.9, and additional project details are provided in Minnesota Power's April 15, 2014, application letter to DOE. All of these documents are available on the DOE/DOC project website at <http://www.greatnortherneis.org>, the Minnesota Department of Commerce (DOC) e-dockets website (<https://www.edockets.state.mn.us/EFiling/edockets/searchDocuments.do?method=showeDocketsSearch&showEdocket=true>), docket number E015/TL-14-21), the DOC-EERA website (<http://mn.gov/commerce/energyfacilities/#ui-tabs-3>, docket number 14-21), and additional project information is also available on the Minnesota Power's website at <http://greatnortherntransmissionline.com>. Figure 1-1 shows the two major route alternatives proposed by Minnesota Power.

¹ In accordance with Executive Order (EO) 10485, as amended by EO 12038, and the regulations codified at 10 Code of Federal Regulations (CFR) 205.320 et seq. (2000), "Application for Presidential Permit Authorizing the Construction, Connection, Operation, and Maintenance of Facilities for Transmission of Electric Energy at International Boundaries."

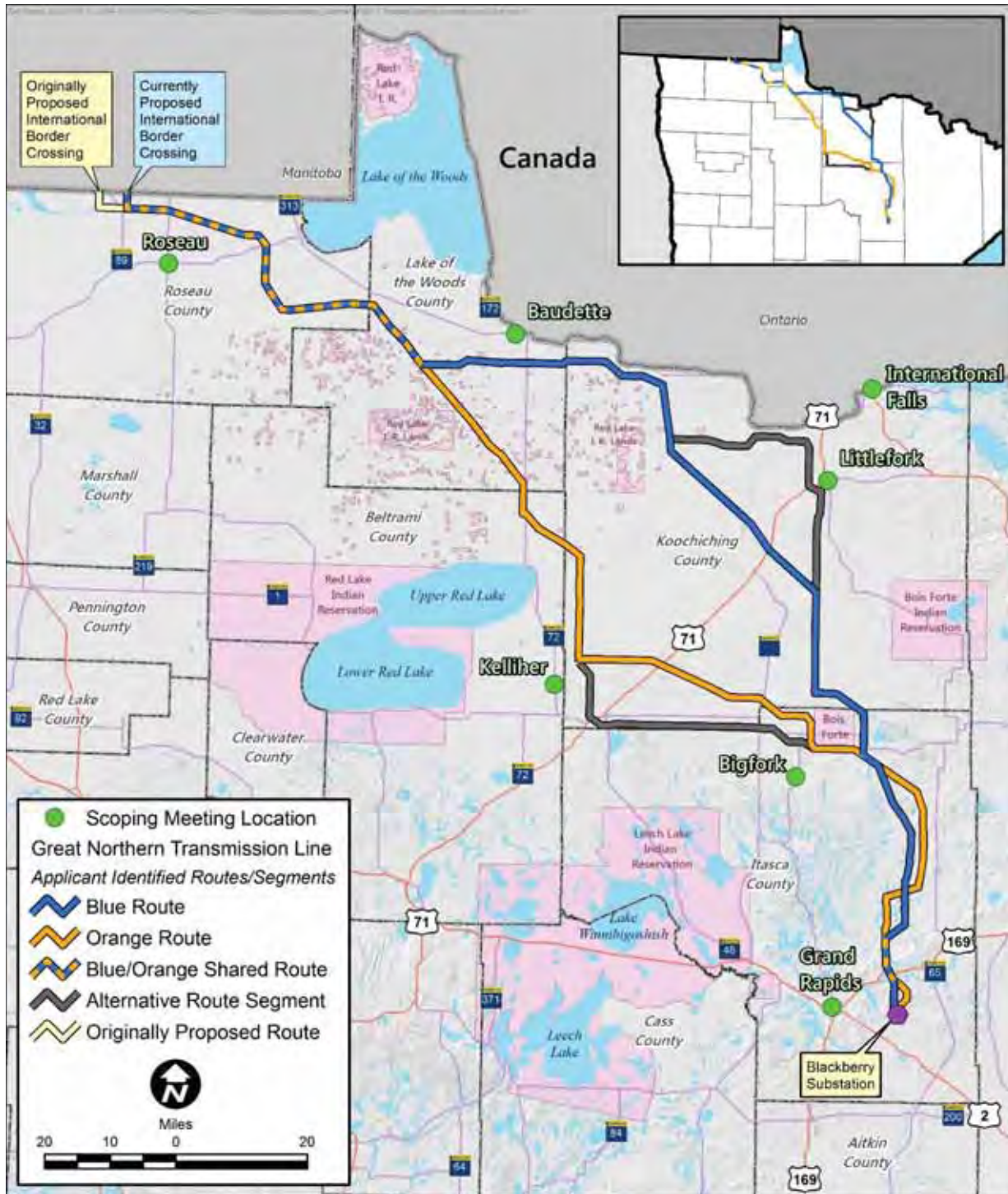


Figure 1-1 Project Regional Map

1.2 Joint Federal and State Environmental Review

Pursuant to the National Environmental Policy Act of 1969 (NEPA), when considering an application for a Presidential permit the DOE must take into account possible environmental impacts of the proposed facility. DOE has determined that an Environmental Impact Statement (EIS) is the appropriate level of environmental review. Therefore, an EIS will be prepared in compliance with NEPA and DOE's implementing regulations, 10 Code of Federal Regulations (CFR) Part 1021.

In addition, under the PPSA, the MN PUC must also determine the route for the proposed line and any conditions it will require for construction, operation, and maintenance. As part of this MN PUC Route Permit decision-making process, a state EIS must be prepared.

In order to avoid duplication, DOE and the Minnesota DOC-Energy Environmental Review and Analysis (DOC-EERA) will prepare a single EIS to comply with environmental review requirements under NEPA and the PPSA. DOE will act as federal joint lead agency with DOC-EERA acting as state joint lead agency per 40 CFR 1501.5(b). DOC-EERA prepares EISs for proposed high-voltage transmission lines pursuant to Minnesota Statute Section 216E.03, Subdivision 5.

DOE and DOC-EERA have implemented a joint planning and scoping process to encourage agency and public involvement in the review of the Project, and to identify the range of reasonable alternatives. The public outreach process is designed to facilitate public discussion of the scope of appropriate issues to be addressed in the EIS.

1.3 Public Outreach

On June 27, 2014, DOE published in the *Federal Register* its Notice of Intent (NOI) to Prepare an EIS and to Conduct Public Scoping Meetings; Notice of Floodplains and Wetlands Involvement for the Great Northern Transmission Line (79 FR 36493). The NOI, provided in Appendix A, explained that DOE would be assessing potential environmental impacts and issues associated with the Project and reasonable alternatives. The NOI was sent to interested parties including federal, state, and local officials; agency representatives; stakeholder organizations; local libraries, newspapers, and radio and TV stations; and private individuals in the vicinity of the proposed transmission line. Issuance of the NOI commenced a 45-day public scoping period that ended on August 15, 2014. However, the NOI did note that comments submitted after the deadline "would be considered to the extent practicable."

Minnesota Power placed advertisements in 11 local and regional newspapers along the Project corridor to invite the public to local scoping meetings and to announce their times and locations. Copies of newspaper tear sheets and affidavits are included in Appendix B and are available at the DOC e-dockets website

(<https://www.edockets.state.mn.us/EFiling/edockets/searchDocuments.do?method=showeDocketsSearch&showEdocket=true>, e-dockets number 14-21, document ID 20149-103236-01).

During the public scoping period, DOE and DOC conducted eight scoping meetings (Figure 1-1). Table 1-1 provides the dates and locations where scoping meetings were held.

Table 1-1 Summary of Scoping Meetings

Meeting Date and Time	Location	Number of Attendees
July 16, 2014, 11:00 AM	Roseau Civic Center, Roseau, Minnesota	22
July 16, 2014, 6:00 PM	Lake of the Woods School, Baudette, Minnesota	6
July 17, 2014, 11:00 AM	Littlefork Community Center, Littlefork, Minnesota	12
July 17, 2014, 6:00 PM	AmericInn, International Falls, Minnesota	4
July 23, 2014, 11:00 AM	Kelliher Public School, Kelliher, Minnesota	7
July 23, 2014, 6:00 PM	Bigfork School, Bigfork, Minnesota	17
July 24, 2014, 11:00 AM	Sawmill Inn, Grand Rapids, Minnesota	19
July 24, 2014, 6:00 PM	Sawmill Inn, Grand Rapids, Minnesota	20

The meetings provided the public with the opportunity to learn more about the project and to provide comments on potential environmental issues associated with the project. A total of 46 people gave oral comments at the meetings, and their comments were transcribed by a court stenographer.

Transcripts of the oral comments at the scoping meetings are provided in Appendix C and are available at <http://greatnortherneis.org>, the DOC e-dockets website (<https://www.edockets.state.mn.us/EFiling/edockets/searchDocuments.do?method=showeDocketsSearch&showEdocket=true>, e-dockets number 14-21), and the DOC-EERA website at <http://mn.gov/commerce/energyfacilities//resource.html?Id=33954>. DOE and DOC received scoping comments in the form of 122 written letters, emails, or website submittals from private citizens, government agencies, and nongovernmental organizations (NGOs).

The comment letters received during the scoping period and written materials submitted for the record at the scoping meetings are provided in Appendix D and are also available at <http://greatnortherneis.org>, the DOC e-dockets website (<https://www.edockets.state.mn.us/EFiling/edockets/searchDocuments.do?method=showeDocketsSearch&showEdocket=true>, e-dockets number 14-21) and the DOC-EERA website at <http://mn.gov/commerce/energyfacilities//resource.html?Id=33954>. DOE and DOC's Draft EIS will also contain a subsection that summarizes the comments received during the scoping period.

1.4 Cooperating Agencies

DOE has invited several federal agencies to participate in the preparation of the EIS to ensure that it satisfies those agencies' environmental requirements and to engage their specialized expertise. The federal cooperating agencies are the St. Paul District of the U.S. Army Corps of Engineers (USACE), Region 5 of the U.S. Environmental Protection Agency (USEPA) and the Twin Cities Ecological Field Office (Region 3) of the U.S. Fish and Wildlife Service (USFWS).

The following outlines each agency's requirements for the EIS:

USACE. The USACE will use the EIS in their decision making for the permits that would be required under Section 10 of the Rivers and Harbors Act of 1899 and Section 404 of the Clean Water Act. In accordance with 33 CFR Part 325 Appendix B (8)(c), the USACE will coordinate with DOE to ensure the project EIS in supports USACE's decision making requirements on the Section 10 and Section 404 permit application by Minnesota Power.

USEPA. Under Section 309 of the Clean Air Act, the EPA is required to review and publicly comment on the environmental impacts of major federal actions. EPA also has responsibilities under Section 404 of the Clean Water Act. In addition, the EPA administers various statutes and regulations, including, but not limited to, the Safe Drinking Water Act; the Pollution Prevention Act; the Resource Conservation and Recovery Act; and the Comprehensive Environmental Response, Compensation, and Liability Act.

EPA involvement as a cooperating agency will include: 1) participation in relevant project meetings and calls and 2) review and comment on preliminary documents to the extent that staff resources allow. However, EPA will exercise its independent review and comment authorities on the Draft and Final EISs consistent with EPA responsibilities under NEPA and Section 309 of the Clean Air Act.

USFWS. The USFWS role as a cooperating agency will include evaluation of environmental impacts on fish and wildlife, in general. They will also evaluate potential environmental impacts on federally listed threatened and endangered species and designated critical habitat and might issue a Biological Opinion based on a potential Biological Assessment prepared for the project.

1.5 Participating Agencies

Other federal agencies may participate in the EIS process, although not as Cooperating Agencies under NEPA (as defined in 36 CFR 1501.6).

1.6 Workgroup

Pursuant to the PPSA the MN PUC may appoint an advisory task force (ATF) as an aid to the environmental review process (Minnesota Statutes 2014, section 216E.08). An ATF must include representatives of local governmental units in the project area. An ATF typically assists DOC-EERA staff with identifying specific impacts and alternative routes and sites to be evaluated in the EIS for the project. An ATF expires upon designation of alternative routes to be included in the EIS (Minnesota Rules, part 7850.2400).

In its July 2, 2014, Order (DOC e-docket number 20147-101165-01) accepting the Route Permit Application as complete the MN PUC authorized the formation (structure and charge) of an ATF.

Subsequently the MN PUC concluded that for this docket an alternative approach to the ATF for gathering public input was necessary (see the DOC e-dockets website <https://www.edockets.state.mn.us/EFiling/edockets/searchDocuments.do?method=showeDocketsSearch&showEdocket=true>, document ID 20149-103259-01). The MN PUC amended its previous order (<https://www.edockets.state.mn.us>, e-dockets number 14-21, document ID 20144-98464-01) to remove

the ATF structure and charge, and approved instead the workgroup process. The purpose of the Workgroup is primarily to provide an additional opportunity for local government representatives to discuss their concerns, develop potential alternative route segments, review potential zoning conflicts, and ensure local input necessary for informed decision-making.

The MN PUC requested the DOC-EERA to conduct a minimum of two workgroup meetings and consult directly with local units of government (LUGs) within the project area. The DOC-EERA held two four-hour Workgroup meetings in Grand Rapids Minnesota on September 30 and October 29, 2014. In addition to the two meetings, Workgroup members were provided a scoping questionnaire designed to assist Workgroup members in identifying ordinances, land use planning, or zoning issues. Workgroup meeting agendas and minutes as well as LUG/NGO Scoping Questionnaire responses are provided in Appendix E.

The primary concerns expressed by Workgroup members at the outset of the Workgroup meetings were related to the routing process and potential impacts on the Workgroup members' constituents. Through discussion during the two Workgroup sessions, the following issues and themes were identified:

- Roseau County representatives expressed the Roseau County Board's preference for Minnesota Power's proposed route through Roseau County. They indicated an understanding of the constraints Minnesota Power faces at the border crossing and expressed support, given these constraints, for Minnesota Power's proposed amended border crossing. In addition, they expressed opposition to alternative route segments proposed for the Roseau County area during scoping due to human settlement and private property use (particularly agricultural) impacts associated with these alternative route segments.
- Concerns were raised by a number of Workgroup members regarding visual impacts to the Big Bog State Recreation Area. The Waskish Township/Big Bog State Recreation Area representative advocated for the EIS to include an assessment of impacts to the Big Bog State Recreation Area and boardwalk as well as detailed discussion of mitigation measures to address impacts in this area.
- The benefits of following existing transmission corridors and the feasibility of following existing corridors through Minnesota Department of Natural Resources (MnDNR) Scientific and Natural Areas (SNA), including the Red Lake Peatland SNA was considered at length.
- Impacts to outstanding natural resources including the Bear-Wolf Peatland (MnDNR Minnesota Biological Survey preliminary site of high biodiversity significance) were identified as a concern. These issues as well as minimizing habitat fragmentation through corridor sharing were highlighted, particularly by the Izaak Walton League representative.
- Lawrence and Balsam Township representatives expressed their opposition to the Orange Route and emphasized the significance of potential impacts to these communities and their residents if the Orange Route is permitted.

- Concerns were raised over potential impacts to mining resources. Through the Trout Lake township representative, Western Mesabi Mine Planning Board (WMMPB) communicated their position that siting and other aspects of Project development should consider WMMPB's objective of allowing future mining without encumbrance, delay, or cost.
- In a number of areas, minor adjustments to alternative route segments or alignment modifications proposed during the scoping period (detailed in the meeting minutes in Appendix E) were suggested to minimize overall impacts to residents.

Workgroup efforts culminated in the development of a Workgroup resolution, putting forth the following five recommendations that reflect the group's consensus:

- This is a public purpose project and should therefore be routed as much as possible on public land, minimizing impact to human settlement and private property use.
- As much as practical and feasible, the route should follow existing infrastructure corridors.
- At this time the Workgroup prefers the Blue Route (as modified by Minnesota Power's amended border crossing) over the Orange Route.
- The Workgroup would like the DOC-EERA to investigate the legality of following an existing transmission line corridor through an SNA as an alternative route. If routing through an SNA is a legally viable option, the Workgroup proposes an alternative route segment following the existing Northern States Power 500 kV line through the Red Lake Peatland SNA and the Lost River Peatland SNA and recommends analysis of this additional route alternative in the EIS.
- The Workgroup would like to put forth two alternative routes for consideration during scoping.

1.7 Project Chronology to Date for the Federal/State EIS Scoping Processes for the Project

The following timeline summarizes the scoping process events previously described:

April 15, 2014	DOE received Minnesota Power's application for Presidential permit.
April 15, 2014	DOC-EERA received Minnesota Power's application for a route permit.
April 18, 2014	MN PUC issued a notice seeking comments on if the route permit application was complete and if an ATF should be appointed.
June 27, 2014	DOE issued <i>Federal Register</i> NOI (79 FR 36493) to prepare an EIS. Federal EIS scoping starts.
July 2, 2014	MN PUC released its Order on the completeness of the route permit application and authorized the DOC-EERA to establish three ATFs.
July 16 to 24, 2014	Eight public scoping meetings held in various locations in Minnesota (Table 1-1).

August 8, 2014	DOC-EERA requested the MN PUC reconsider question of ATFs.
August 15, 2014	Scoping comment period ended.
August 22, 2014	MN PUC comment period on need for ATFs ended.
September 11, 2014	MN PUC reconsidered the question of ATFs.
September 30, 2014	DOC-EERA conducted the first Workgroup meeting in Grand Rapids.
October 29, 2014	DOC-EERA conducted the second Workgroup meeting in Grand Rapids.
November 4, 2014	DOC-EERA requested comments from the Workgroup members on the write-up and figures that summarize the two Workgroup meetings.
November 6, 2014	Workgroup comment period ended.
November 7, 2014	Scoping Summary Report released.

1.8 Purpose and Need

Manitoba Hydro has excess electricity capacity that is available for export to the United States. The underlying need for this transmission line project, therefore, is to increase the amount of electrical capacity that can be delivered from Manitoba Hydro's hydroelectric stations in Manitoba to Minnesota Power and other utilities in the United States. The project would also improve grid reliability on both sides of the border.

In its CON application, Minnesota Power states that the project is needed to deliver 383 megawatts (MW), including the 250-MW PPA and the 133-MW Renewable Optimization Agreement, of hydropower and wind-storage energy products to serve Minnesota Power. The project is also needed to provide additional hydropower capacity and energy to other utilities, thereby meeting long-term state and regional energy needs. While large hydropower transfers like this do not satisfy the current renewable energy mandates in Minnesota, such a hydropower transfer could support compliance with future carbon regulations as well as help meet renewable energy requirements for utilities in Wisconsin and other states.

To meet this underlying need, Minnesota Power proposes to construct, operate, and maintain an approximately 220-mile, overhead, single-circuit, 500-kV AC transmission line between the Minnesota-Manitoba border crossing northwest of Roseau, Minnesota, and a new Blackberry 500/230/115 kV Substation near Grand Rapids, Minnesota. The project is described in detail in its April 15, 2014, application letter to DOE which is available on the DOE project website at <http://www.greatnortherneis.org>. Minnesota Power has determined that the original proposed border crossing is no longer feasible and on October 29th Minnesota Power submitted a letter to DOE and DOC-EERA amending their proposed border crossing (Figure 1-1).

In its CON process, the MN PUC is responsible for determining whether the project is needed, as well as the size, type and required end points of the project. Minnesota Power filed its CON application for the

Project with the MN PUC on October 22, 2013, and anticipates a decision by May 2015 (see <http://mn.gov/commerce/energyfacilities/Docket.html?Id=33608>). Although the EIS will include an analysis of a “No Action” alternative, it will not assess alternative ways to meet the underlying project need. These issues will be determined in the Minnesota CON process.

1.9 Applicant’s Project Description

The project would be located on all new right-of-way (ROW) that would be approximately 200-feet wide, with a wider ROW required for certain spans at angle and corner structures, for guyed structures, or where special design requirements are dictated by topography. Steel lattice tower structure (free-standing towers constructed in a crisscrossed pattern of steel beams) types and configurations would be considered for the project to accommodate variations in terrain and land use including a self-supporting lattice structure, a lattice guyed-V structure, and a lattice guyed delta structure. Minnesota Power currently estimates approximately 4 to 5 structures per mile of transmission line with towers spaced approximately 1,000 to 1,450 feet apart, with shorter or longer spans as necessary.

The type of structure in any given section of transmission line would be dependent on land type, land use, and potential effect on the surrounding landscape, and would typically range in height from approximately 100 feet above ground to approximately 150 feet above ground. In some instances, such as where the project crosses an existing transmission line, taller structures would be required. In cultivated lands, Minnesota Power would use self-supporting lattice structures so as not to interfere with existing land use.

Minnesota Power proposes to expand the site of its existing Blackberry 230/115 kV Substation near Grand Rapids, Minnesota, to incorporate a new Blackberry 500 kV Substation, which would be constructed adjacent to and east of the existing substation. The 500 kV Substation would accommodate the new 500 kV line, existing 230 kV lines, and all associated 500 kV and 230 kV equipment. Additionally, the project would require construction of a new 500 kV Series Compensation Station, which would be located within or adjacent to the final route approved by the State of Minnesota, and would include the 500 kV series capacitor banks necessary for reliable operation and performance of the proposed transmission line, and all associated equipment.

The final location for the 500 kV Series Compensation Station would be determined by electric design optimization studies and final route selection. The Applicant has initiated the electric design optimization studies to identify generally what would be a preferred location of the 500 kV Series Compensation Station along the final route permitted by the state. Based on these studies, candidate sites in Minnesota include the overall midpoint of the line and at one-third of the overall transmission line distance from Blackberry to the existing Dorsey Substation in Manitoba, Canada. Minnesota Power will provide more information on these studies and the preferred location of the 500 kV Series Compensation Station when available.

2.0 Scoping Comments

Minnesota Power's two proposed routes largely avoid farms and residences by following existing transmission corridors through forested wetland and upland areas. Therefore, many comments on the scope of the EIS focused on ways to minimize unavoidable conflicts with forested areas and the associated natural resources. Other comments focused on potential conflicts with airports or seaplane landing areas on nearby lakes. Many commenters, particularly those with property in the more populated area near Grand Rapids, proposed alternative route segments or mitigation on one route or another that could reduce or eliminate visual, health or other impacts that they believe would impair their quality of life or their use of their a specific property.

DOE and DOC-EERA will consider the content of all comments in determining the scope of the EIS. A summary of the comments received during the scoping period is provided in Table 2-1, which identifies the major issues raised, arranged by general topic. Table 2-2 presents a list of the individuals or organizations who submitted scoping comments along with the date each comment was received by DOE, DOC-EERA, or MN PUC.

The Draft EIS will also contain a subsection that summarizes the comments received during scoping. For the purposes of this Scoping Report, the comments are paraphrased and condensed from the actual comments; however, the environmental analysis included in the EIS will rely on the full text of the comments as submitted by the commenters.

Table 2-1 Summary of Scoping Comments Received by DOE and DOC-EERA

Subject Area	Comment Summary
Regulatory Process	<p><i>Purpose and Need.</i> Seven commenters questioned whether the project was really needed for various reasons, including that capacity of the line is larger than required for Minnesota Power's purchase agreement, that Minnesota Power has already met its statutory renewable energy goals, and that there is another transmission system option that might meet the need instead. One commenter pointed out that the need issue is determined through the MN PUC CON process, and encouraged citizens to participate in that process if they are concerned about whether the project is needed.</p> <p><i>EIS Process:</i> Seven commenters, including state and federal agencies, commented on their expectations for the EIS and related regulatory processes, including requesting details on alternative route screening criteria, requesting that the process be transparent, and requesting clarification of the roles of the Applicant and the various agencies involved. The EPA pointed out they have a review role for a federal EIS under the Clean Air Act. One commenter specifically requested information on whether the MnDNR could on its own change or request review of routes already screened out by Minnesota Power in its route permit application.</p> <p><i>Permits.</i> Ten commenters either identified that permits that will be required or requested information about how and what type of conditions can be included in the state route permit. The MnDNR and the Minnesota Department of Transportation (MnDOT) provided information about their permits and permit requirements. Other commenters requested information about the state route permit as well as the applicability of local zoning in that process. One comment asked if and how the route could be made more specific that the allowed route width, and another comments suggested the route permit application did not contain the information required by the applicable rules.</p> <p><i>Connected Action.</i> One commenter asked that the EIS include an analysis of the environmental impacts of future transmission lines to Wisconsin or Michigan that may rely on this project to move the power to connecting substations. That commenter also requested an analysis of how the energy will be in states to the east of Minnesota Power's service area, such as Wisconsin or Michigan.</p>

Subject Area	Comment Summary
Proposed Action and Alternatives (Alternatives, Route Preference)	<p><i>Alternatives Analysis.</i> Thirty-three commenters proposed modifications to one or both of the Applicant's two proposed routes. However, some of these proposed alternative segments were in Canada, which is outside the jurisdiction of both the State of Minnesota and DOE.</p> <p>These proposed alternative route segments include construction in or adjacent to existing transmission line and utility corridors, highway ROWs (e.g., Highway 7, 65, or 53), using mostly non-private lands (federal, state, county, businesses), or along the Canadian side of the border. Several commenters generally suggested that the route should go through western Minnesota, but these commenters did not propose a specific route.</p> <p>Seven commenters noted that the EIS should identify and evaluate alternative border crossings for the transmission line, evaluate constraints at the border crossing, and discuss the process and factors used by Minnesota Power to narrow the range of alternative routes and border crossing locations, specifically why certain alternatives have been carried forward for NEPA analysis while other alternatives and border crossing locations were eliminated.</p> <p>Two commenters noted that the EIS should evaluate the concept of distributed generation and double-circuiting as a way to reduce the need for transmission lines.</p>

Subject Area	Comment Summary
<p>Biological Resources (Environmental Impacts, Forest Service Lands, Soils, State Lands, Vegetation, Wildlife)</p>	<p><i>State/Federal/Protected Lands.</i> Eight commenters expressed concern regarding impacts to State Administered Lands, Sites of Biodiversity Significance (including preliminary sites), SNAs, Watershed Protection Areas, Wildlife Management Areas (WMA), old growth forest on state lands (Ecologically Important Lowland Conifers and Lowland Conifer Old Growth), Minnesota Biological Survey calcareous fens, Important Bird Areas, National Natural Landmarks, State Recreation Areas, High Conservation Value State Forest, Great Gray Owl Management Area, USFWS Interest Lands, and Reinvest in Minnesota Lands.</p> <p>Five commenters suggested the route should pass through SNAs in the existing corridor or on other state land.</p> <p><i>Wildlife.</i> Thirty-three commenters expressed concern about impacts to wildlife species including wood bison, wolf, birds, deer, poweshiek skipperling, northern long-eared bat, bald eagle, osprey, goshawk, moose, and/or Canada lynx, as well as issues related to wildlife habitat/fragmentation, including mitigation for potential habitat/fragmentation impacts.</p> <p><i>Vegetation.</i> Thirteen commenters expressed concern over clearing trees/forest in general and/or in old growth forests, particularly cedar forests.</p> <p>One commenter noted that the EIS should provide information on ROW maintenance, with regard to identifying danger trees falling into the ROW, and whether it's possible to have a harvestable product at the time of ROW maintenance intervals in forested areas.</p> <p>Four commenters expressed concern of invasive species, including plants and earthworms, and that the EIS should discuss potential mitigation efforts for those impacts.</p> <p>Three commenters expressed concern of impacts to rare plant species and recommended that a rare plant survey be completed.</p> <p><i>Other Topics.</i> Two commenters noted that the EIS should discuss other environmental related topics including impacts related to compression of peat soils and watershed level impacts.</p>
<p>Visual Resources (Aesthetics, Viewshed/Scenery)</p>	<p><i>General.</i> Seven commenters noted that the EIS should address general aesthetic and viewshed impacts.</p> <p><i>Impact Analysis.</i> Five commenters noted that the EIS should address aesthetic and visual impacts at specific locations, including Voyagers National Park, Roseau River WMA, Itasca County Bass Lake Park, Bear Lake, and Bigfork River. Three commenters noted that the EIS should address aesthetic and visual impacts at Big Bog State Recreation Area, with one of these commenters noting that the EIS should include a viewshed analysis (with scaled visual renditions on what one would expect to see) for the Big Bog State Recreation Area's Fire Tower and Bog Walk boardwalk. Two commenters noted that the EIS should address impacts to viewsheds and aesthetics associated with forest clearing.</p>

Subject Area	Comment Summary
<p>Land Use and Infrastructure (Airports, Traffic/Transportation, Land Resource Management, Private Property/Land Use)</p>	<p><i>Airports.</i> Thirteen commenters noted that the EIS should address the proximity of the Project to existing aviation facilities (runways, air strips, and water takeoff/landing areas), including the Piney Pinecreek Border Airport, Waskish Airport, William Gray Airfield, Deer Lake, and Lawrence Lake. Four commenters noted that the EIS should address impacts on future planned runways and air strips. One commenter noted that the EIS should address effects of crop dusting flight paths on wild rice leases. One commenter noted that the EIS should address Life Flight Air Ambulance landing sites.</p> <p><i>Traffic/Transportation.</i> One commenter noted that the EIS should address project effects on transportation systems, including highway maintenance and expansion, as well as compliance with the MnDOT's Utility Accommodation Policy. One commenter noted that the EIS should address noise, traffic, and road condition impacts on Diamond Lake Road.</p> <p><i>Land Resource Management.</i> One commenter noted that the EIS should address project impacts on existing MnDNR plans for prescribed burns in the Roseau Lake WMA, as well as project potential for igniting wildfires and the necessary response actions. One commenter noted that the EIS should address impacts of herbicide runoff onto adjacent lands associated with transmission line maintenance.</p> <p><i>Private Property/Land Use.</i> Five commenters noted that the EIS should address impacts associated with the project's proximity to existing and planned residences. Five commenters noted that the EIS should address impacts to private land-based livelihoods (such as farming, hunting, foraging, recreation, and artistries). Three commenters noted that the EIS should address the applicability of eminent domain related to the project. Three commenters noted that the EIS should address impacts on property values. Two commenters noted that the EIS should address impacts to privacy, including private roadway access. Two commenters noted that the EIS should address general impacts to private property and residential areas. Two commenters noted that they would like their land to be purchased if crossed by the Project, and two noted that they would like to trade lands with Minnesota if their property is impacted. One commenter noted that the EIS should address impacts associated with different route alignments on potential future expansion of the Balsam Bible Chapel. One commenter noted that the EIS should use current land ownership maps.</p>
<p>Cultural Resources (Historic/Cultural, Tribal Issues)</p>	<p><i>Transmission Line Cultural Resources.</i> Four commenters noted that the EIS should evaluate the impacts of construction on historic resources along the transmission line route, including Conservation Corps Camp 53, logging camps, Big Fork River historic and cultural areas, and cultural resources affected by the construction of the dam to support hydroelectric power development in Manitoba, Canada.</p> <p>Two commenters noted that documentation needs to be developed regarding Section 106 of the National Historic Preservation Act, which includes but is not limited to, consultation with the Minnesota State Historic Preservation Office, the potentially affected tribes, and Tribal Historic Preservation Officers.</p>

Subject Area	Comment Summary
Health and Safety (Health and Safety, National Security)	<p><i>General Health and Safety.</i> A total of twenty-three commenters expressed concern about various health and safety issues, including electric and magnetic fields, effects on animals, airplane and helicopter operations, snowmobile safety, hunting safety, pacemaker operation safety, grid security issues from intentional attacks at substations, and potential for increased lightning strikes.</p> <p><i>Electric and Magnetic Fields (EMFs).</i> Most comments regarding health and safety focused on EMF concerns and requested information on the health effects on children and others, such as effects on immune systems or potential relationship to increasing cancer rates. Stray voltage issues were also raised by two commenters.</p> <p><i>Cardiac pacemakers.</i> Two commenters requested a complete investigation of the potential interference with pacemakers due to the electric fields from the line.</p> <p><i>Airports, airplane and helicopter safety.</i> Two comments specifically expressed concerns about a conflict with the Bill Gray airstrip near Little Fork; two others requested analysis of how hospital (particularly near Balsam Lake Township) and other helicopter operations might be affected by the various routes under consideration.</p> <p><i>Hunting.</i> Three commenters requested a review of how a route might increase hunting in the cleared ROW, thereby increasing the potential for accidental hunting accidents near the new line. One comment expressed concern that hunters might accidentally shoot transformers or the line if they are too near duck hunting areas.</p>
Air Quality and Noise (Air Quality, Noise)	<p><i>Air Quality Analysis.</i> Two commenters raised concerns about air quality. One commenter requested that the EIS address the net effect of the project on air pollution and greenhouse gas production including an evaluation of net greenhouse gas production/sequestration associated with terrestrial carbon cycle impacts. This commenter also requested an analysis addressing the project's potential effect on all criteria pollutants and any significant concentrations of hazardous air pollutants particularly in the context of the protection of public health.</p> <p><i>Noise.</i> Five commenters mentioned concerns about noise and three of these comments focused on substation noise. In particular, it was requested that the EIS identify existing noise levels in the project area, particularly at proposed substation locations, assess increases in both short-term and long-term noise levels associated with the project, and identify mitigation measures that will be implemented to address project related noise.</p>

Subject Area	Comment Summary
Water Resources (Water/Wetlands)	<p><i>Water Quality.</i> Six commenters expressed concern over impacts on water quality resulting from herbicide spraying during ROW maintenance, use of hazardous solvents during construction and maintenance, and construction related erosion and sedimentation.</p> <p>One commenter noted that the EIS should identify impaired waters and whether project activities would negatively contribute to the impairments.</p> <p>One commenter noted that the EIS should address issues related to and mitigation for work that would occur in an identified wellhead (drinking) protection zone.</p> <p><i>Surface Water and Wetlands.</i> Eight commenters expressed concern over impacts to streams, lakes, and wetlands and suggested that the EIS assess direct, indirect, and cumulative impacts to water resources.</p> <p>One commenter noted that the EIS should discuss potential impacts to calcareous fens and USFWS Waterfowl Production Areas and impacts to other native plant communities associated with Wetland Conservation Act provisions. In addition, this commenter also noted that potential impacts to vegetation and wetlands should be addressed as part of an overall vegetation management plan and included in the EIS.</p> <p>One commenter noted that use of the USFWS National Wetland Inventory data may underestimate the areal extent of wetland impact. This commenter also noted that the EIS should include an analysis using the existing transmission line ROW in order to minimize wetland impacts.</p> <p><i>Mitigation.</i> Two commenters noted that the EIS should discuss how the project will comply with wetland permitting requirements.</p> <p>Two commenters noted that the EIS should consider functional losses of wetlands (particularly forested wetlands) when determining wetland mitigation and compensation and that the EIS should include a draft wetland compensation mitigation plan.</p>
Environmental Justice (Environmental Justice)	<p><i>Environmental Justice.</i> One commenter recommended that an environmental justice analysis should be completed for the EIS including a characterization of communities along the transmission line routes, including minority, low-income, and tribal populations at a census block level as well as characterization of potentially disproportionate impacts to these communities from construction, operation, and or maintenance of the project.</p>

Subject Area	Comment Summary
Socioeconomics (Economic, Property Values, Quality of Life, Taxes)	<p><i>Economic Impacts.</i> Fifteen commenters raised economic concerns particularly related to potential impacts on commerce in the Balsam and Bigfork areas, particularly impacts on local timber, tourism, and mining industries. Several commenters requested an assessment of potential impacts on job creation and employment and one commenter emphasized the need for a comprehensive cost-benefit analysis for the project. A number of commenters also requested additional information regarding county, state, and local tax impacts of the project, for example, having to pay these taxes on unusable land and what are the implications of loss in tax revenue resulting from decreasing property values.</p> <p><i>Property Values.</i> Seventeen commenters identified property value impacts and lack of compensation for lost property value as a concern. Property value concerns were largely linked to impacts on the character/relatively isolated wilderness of the impacted properties.</p> <p><i>Quality of Life.</i> Eleven commenters identified impacts to quality of life as a concern. These concerns center around the impact of the Project on certain qualities that define the “sense of place” in the project area including such things as solitude, remoteness, isolation, wilderness, independence, and absence of disturbance and development.</p>
Land Based Economies (Agriculture, Mining/Minerals, Tourism)	<p><i>Agriculture.</i> Four commenters noted that the EIS should address general impacts on farming, including productivity. Three commenters noted that the EIS should address the project’s potential to restrict or obstruct farming and grazing activities. Three commenters noted that the EIS should address impacts associated with weeds in the project area spreading onto farmland. One commenter noted that the EIS should address the project’s effects on crop dusting operations. One commenter noted that the EIS should address impacts of herbicides associated with transmission line ROW maintenance on organic farmland.</p> <p><i>Mining/Minerals.</i> Two commenters noted the EIS should address the project’s potential to affect viability of current and future mining resources. One commenter noted that a “Mining and Minerals” section be included in the EIS and that the EIS should address the likelihood and consequence of mineral resources/transmission line conflict for known and undeveloped resource areas and on state lands.</p> <p><i>Tourism.</i> Four commenters noted that the EIS should address impacts to tourism.</p>
Recreation (Recreation)	<p><i>Recreation.</i> Five commenters noted that the EIS should address impacts on recreational hunting lands. Three commenters noted that the EIS should address project effects on snowmobile and all-terrain vehicle trails. Three commenters noted the EIS should address proximity to public parks, lakes, rivers, and WMAs, as well as access to these resources. Three commenters noted the EIS should address project proximity to city parks, businesses, and services.</p>

Subject Area	Comment Summary
Cumulative Impacts (Cumulative Effects)	<p><i>Cumulative Impact Analysis.</i> Six commenters noted that the EIS should evaluate the impacts of other past or planned linear projects in same corridor between lakes near Grand Rapids such as transmission lines, pipelines, and other projects that have impacted or could impact the area adjacent to the Project. Two commenters specifically requested that the EIS include a clear map of existing high-voltage transmission lines in the project area so they could more easily see where the proposed line could parallel existing lines.</p> <p>Several commenters near Grand Rapids, MN, expressed fatigue over all the linear projects built or proposed to be built in the area and requested an analysis of whether following existing ROWs always results in the least impact. Commenters identified some specific negative impacts that past power plant or linear projects have already had on their quality of life.</p>
Mitigation (Design Criteria/Mitigation Measures)	<p><i>Mitigation Measures.</i> Nine commenters noted that the EIS should consider all appropriate mitigation measures to avoid and reduce impacts to sensitive aquatic and terrestrial habitats; habitat fragmentation; ecological functions; threatened, endangered, and special concern species; soil disturbance; and socioeconomic impacts.</p> <p>Four commenters noted that the EIS should assess methods of reduced forested wetland clearing, reduced use of herbicides for transmission line ROW maintenance, use environmental monitors during construction, appropriate Best Management Practices, reduced upland tree losses, use of clean diesel fuel during construction, and compliance with comply with MN Rules 6135.</p> <p>Two commenters noted that the EIS should include additional information on system reliability, towers, tower lights, separation distances, and potential impacts of having two or more parallel transmission lines damaged at the same time by high winds or lightening. In addition, all mitigation proposed by the Applicant should be further evaluated in the EIS.</p> <p>Three commenters were concerned about a variety of detailed transmission engineering and construction issues, including conductor sizing, placement of structures within the highway ROWs, maintenance of access roads, "line loss" due to transmission of electricity over such long distances, and the need for the planned capacity of the transmission line.</p> <p>One commenter noted that the EIS should identify and discuss the rationale for potential locations for the proposed new 500-kV series Compensation Station associated with each route alternative. In addition, impacts associated with the siting, construction, operation and maintenance of each route alternative's proposed new 500-kV Compensation Station location(s) should also be assessed and disclosed in the EIS with mitigation measures identified.</p>

Subject Area	Comment Summary
Other Issues (Other, No Specific Comment)	<p><i>Renewable energy.</i> Five commenters discussed renewable energy and the project's relationship to Minnesota Power's progress toward meeting the Renewable Portfolio Standard.</p> <p><i>MNPUC Process.</i> Several commenters requested additional information about the timeline for the MN PUC process, availability of information regarding existing transmission line routes, public involvement, interactions between the project proponent and the MN PUC.</p> <p><i>ATF.</i> Four commenters mentioned a need for a citizen ATF under Minnesota Statute 216E.08 and Minnesota Administrative Rules 7850.2400.</p> <p><i>Other topics.</i> These topics included one comment regarding increased risk of terrorist attack, one comment on frequency of easement compensation, one comment related to route adjustments made in the Bigfork area during Minnesota Power's routing process, one question regarding existing capacity at the Minnesota/Ontario boarder, and comments from five agencies related to coordination and communication, information sharing/information sourcing, and timing of decision-making steps.</p>

Table 2-2 Directory of Stakeholder Comments

Stakeholder Name and Affiliation			Comment Date and Source	
First Name	Last Name	Affiliation	Date	Received Via
Federal Agencies				
Tamara	Cameron	USACE	12/10/1013 ²	Mail
Peter	Fasbender	USFWS	7/1/2014	Mail
Lisa	Mandell	USFWS	8/14/2014	Mail
Patricia	Trapp	National Park Service	8/15/2014	Mail
Kenneth	Westlake	EPA	8/14/2014	Mail and Email
State Agencies				
Stacy	Kotch	MnDOT	8/14/2014	Mail
Ryan	Reed	MnDNR - Grand Rapids	7/17/2014	Oral - Littlefork July 17, 11:00 am
Ryan	Reed	MnDNR - Grand Rapids	7/17/2014	Oral - Littlefork July 17, 11:00 am
Ryan	Reed	MnDNR - Grand Rapids	7/23/2014	Oral - Bigfork July 23, 6:00 pm
Jamie	Schrenzel	MnDNR	8/1/2014	Email
Jamie	Schrenzel	MnDNR	8/15/2014	Email
Local Government Agencies				
Balsam Township	Balsam Township	Balsam Township	7/23/2014	Mail
Troy	Beckner	Balsam Volunteer Fire Dept.	8/6/2014	Mail
Itasca County Board of Commissioners	Itasca County Board of Commissioners	Itasca County Board of Commissioners	5/13/2014	Mail
Lawrence Township	Lawrence Township	Lawrence Township	7/16/2014	Mail
Casey	Venema	Lawrence Township	5/8/2014	Email
David	Leonhardt	Waskish Town Board and Citizen Advisory Committee for the Big Bog State Recreation Area	7/16/2014	Oral - Baudette July 16, 6:00 pm

² The USACE December 2013 letter included content relevant to EIS scoping and USACE concurrence points that are concurrent with EIS scoping.

Stakeholder Name and Affiliation			Comment Date and Source	
First Name	Last Name	Affiliation	Date	Received Via
David	Leonhardt	Waskish Town Board and Citizen Advisory Committee for the Big Bog State Recreation Area	7/23/2014	Oral - Kelliher July 23, 11:00 am
David	Leonhardt	Waskish Town Board and Citizen Advisory Committee for the Big Bog State Recreation Area	7/23/2014	Oral - Kelliher July 23, 11:00 am
Non-Governmental Organizations and Individuals				
Gary	Bailey	Private Citizen	7/23/2014	Public Scoping Meeting
Balsam Bible Chapel	Balsam Bible Chapel	The Board of Elders	7/29/2014	Mail
Thomas	Beadle	Private Citizen	5/28/2014	Mail
Thomas	Beadle	Private Citizen		Mail
Thomas	Beadle	Private Citizen	7/16/2014	Oral - Baudette July 16, 6:00 pm
Dr. Erwin	Berglund	Private Citizen	8/15/2014	Email
Tom	Boland	Private Citizen	7/23/2014	Oral - Bigfork July 23, 6:00 pm
Tom	Boland	Private Citizen	7/23/2014	Oral - Bigfork July 23, 6:00 pm
Kathryn and Joseph	Boyle	Private Citizen	5/15/2014	Email
Kathryn and Joseph	Boyle	Private Citizen	8/18/2014	Email
Jim	Bulera	Private Citizen	8/3/2014	Email
Cheryl	Bunes	Private Citizen	5/16/2014	Email
Cheryl	Bunes	Private Citizen	5/12/2014	Mail
Michael	Bunes	Private Citizen	8/15/2014	Mail
Michael and Cheryl	Bunes	Private Citizen	8/15/2014	Mail
Michael	Bunes	Private Citizen	7/24/2014	Oral - Grand Rapids July 24, 6:00 pm
Cheryl	Bunes	Private Citizen	7/24/2014	Oral - Grand Rapids July 24, 6:00 pm
Toni	Burbie	Private Citizen	6/23/2014	Mail
Wanda	Burbie	Private Citizen	5/29/2014	Mail
Tammy	Card	Private Citizen	5/19/2014	Mail
Tammy	Card	Private Citizen	7/24/2014	Oral - Grand Rapids July 24, 6:00 pm
Linda	Castagneri	Private Citizen	8/11/2014	Mail
Linda	Castagneri	Private Citizen	7/24/2014	Oral - Grand Rapids July 24, 11:00 am
David	Christiansen	Private Citizen	1/15/2014	Email

Stakeholder Name and Affiliation			Comment Date and Source	
First Name	Last Name	Affiliation	Date	Received Via
Joanne	Cockrum	Private Citizen	8/11/2014	Mail
Joanne	Cockrun	Private Citizen	7/17/2014	Oral - Littlefork July 17, 11:00 am
Luis	Contreras	Private Citizen	8/14/2014	Email
Ross	Dally	Private Citizen	7/16/2014	Oral - Baudette July 16, 6:00 pm
Robert and Janet	Delich	Private Citizen	8/18/2014	Mail
Robert and Janet	Delich	Private Citizen	5/13/2014	Mail
Robert and Janet	Delich	Private Citizen	5/8/2014	Mail
Robert and Janet	Delich	Private Citizen	5/7/2014	Mail
Brad	Dokken	Private Citizen	8/12/2014	Mail
Brad	Dokken	Private Citizen	8/15/2014	Public Scoping Meeting
John	Dunn	Private Citizen	8/14/2014	Email
Mark	Elton	Private Citizen	8/15/2014	Public Scoping Meeting
Marlin	Elton	Private Citizen	8/15/2014	Mail
Marlin	Elton	Private Citizen	8/15/2014	Public Scoping Meeting
Marlin	Elton	Private Citizen	8/15/2014	Email
Curtis	Erickson	Private Citizen	5/2/2014	Email
Byron	Fiedler	Private Citizen	7/17/2014	Oral - Littlefork July 17, 11:00 am
Nick	Francisco	Private Citizen	7/16/2014	Public Scoping Meeting
Jerry	Freaks	Private Citizen	5/14/2014	Email
Brian	Fredrickson	Private Citizen	7/27/2014	Email
Brian	Fredrickson	Private Citizen	7/28/2014	Website
William	Gary	Private Citizen	7/17/2014	Oral - Littlefork July 17, 11:00 am
Carl	Gibson	Bear Lake Cabin Owners Association	8/12/2014	Email
Cora	Gray	Private Citizen	8/15/2014	Email
Ron	Gustafson	Private Citizen	7/24/2014	Oral - Grand Rapids July 24, 11:00 am
LeRoy	Hagrlle	Private Citizen	5/19/2014	Mail
Dave	Hancock	Private Citizen	8/15/2014	Public Scoping Meeting
Mike	Hanson	Northstar Electric	7/17/2014	Oral - Littlefork July 17, 11:00 am
Darin	Heller	Private Citizen	5/30/2014	Website
Darin	Heller	Private Citizen	8/13/2014	Email
Darin	Heller	Private Citizen	7/16/2014	Oral - Roseau July 16, 11:00 am
D	Hosel	Private Citizen	5/27/2014	Mail
James	Johnson	Private Citizen	4/27/2014	Email

Stakeholder Name and Affiliation			Comment Date and Source	
First Name	Last Name	Affiliation	Date	Received Via
James	Johnson	Private Citizen	8/15/2014	Email
James	Johnson	Private Citizen	4/27/2014	Email
Jeff	Johnson	Private Citizen	8/15/2014	Website
Jeff	Johnson	Private Citizen	5/15/2014	Email
Cavour	Johnson	Private Citizen	7/24/2014	Oral - Grand Rapids July 24, 11:00 am
Cavour	Johnson	Private Citizen	7/24/2014	Oral - Grand Rapids July 24, 11:00 am
Patrick	Kvien	Private Citizen	8/12/2014	Website
David	Leonhardt	Private Citizen	7/16/2014	Public Scoping Meeting
Richard	Libbey	Private Citizen	4/15/2014	Email
Richard	Libbey	Private Citizen	8/14/2014	Email
Richard	Libbey	Private Citizen	8/15/2014	Email
Richard	Libbey	Private Citizen	8/15/2014	Email
Richard	Libbey	Private Citizen	8/15/2014	Email
Richard	Libbey	Private Citizen	5/15/2014	Email
Richard	Libbey	Private Citizen	5/15/2014	Email
Richard	Libbey	Private Citizen	7/24/2014	Oral - Grand Rapids July 24, 11:00 am
Richard	Libbey	Private Citizen	7/24/2014	Oral - Grand Rapids July 24, 11:00 am
Richard	Libbey	Private Citizen	7/24/2014	Oral - Grand Rapids July 24, 11:00 am
Richard	Libbey	Private Citizen	7/24/2014	Oral - Grand Rapids July 24, 6:00 pm
Larry	Lindholm	RGGGS Land & Minerals Ltd. L.P.	5/19/2014	Email
Lindner		Private Citizen	10/15/2014	CON Hearing – Grand Rapids October 15
Mark	Lofgren	Private Citizen	5/6/2014	Mail
Mark	Lofgren	Private Citizen	5/29/2014	Mail
Mark	Lofgren	Private Citizen	7/28/2014	Mail
Mark and Colleen	Lofgren	Private Citizen	7/3/2014	Public Scoping Meeting
Mark	Lofgren	Private Citizen	7/23/2014	Oral - Bigfork July 23, 6:00 pm
Mark and Beth	Mandich	Private Citizen	6/3/2014	Mail
Joel	Mattfield	Private Citizen	5/4/2014	Email
Meloy	Mattfield	Private Citizen	5/21/2014	Mail
Meloy	Mattfield	Private Citizen	8/7/2014	Mail
Meloy	Mattfield	Private Citizen	5/12/2014	Mail
Meloy	Mattfield	Private Citizen	4/12/2014	Mail
Norman	Mattfield	Private Citizen	5/13/2014	Mail

Stakeholder Name and Affiliation			Comment Date and Source	
First Name	Last Name	Affiliation	Date	Received Via
Meloy	Mattfield	Private Citizen	7/23/2014	Oral - Bigfork July 23, 6:00 pm
Meloy	Mattfield	Private Citizen	7/23/2014	Oral - Bigfork July 23, 6:00 pm
Warren	McQuay	Private Citizen	7/24/2014	Oral - Grand Rapids July 24, 6:00 pm
Gary and Jeanne	Messiner	Private Citizen		Email
Multiple Landowners	Multiple Landowners	Private Citizens, landowners	8/15/2014	Public Scoping Meeting
Richard	Myers	Private Citizen	8/10/2014	Mail
Richard	Myers	Private Citizen	5/27/2014, 5/6/2014, 5/4/2014	Mail
Dick	Myers	Private Citizen	7/16/2014	Oral - Baudette July 16, 6:00 pm
Steve	Nelson	Private Citizen	7/17/2014	Public Scoping Meeting
Steve	Nelson	Private Citizen	7/17/2014	Oral - International Falls July 17, 6:00 pm
Bob	Nick	Private Citizen	7/24/2014	Oral - Grand Rapids July 24, 11:00 am
Brent	Ostlund	Private Citizen	7/16/2014	Public Scoping Meeting
Brent	Ostlund	Private Citizen	7/16/2014	Public Scoping Meeting
Brent	Ostlund	Private Citizen	7/16/2014	Public Scoping Meeting
Brent and Orin	Ostlund	Private Citizen	6/25/2014	Mail
Brent and Orin	Ostlund	Private Citizen	5/12/2014	Mail
Brent	Ostlund	Private Citizen	7/24/2014	Oral - Grand Rapids July 24, 6:00 pm
Carol	Overland	RRANT Representative	7/23/2014	Public Scoping Meeting
Carol	Overland	RRANT Representative	8/15/2014	Mail
Carol	Overland	Private Citizen	7/23/2014	Oral - Bigfork July 23, 6:00 pm
Carol	Overland	Private Citizen	7/23/2014	Oral - Bigfork July 23, 6:00 pm
Carol	Overland	RRANT Representative	7/24/2014	Oral - Grand Rapids July 24, 11:00 am
Carol	Overland	RRANT Representative	7/24/2014	Oral - Grand Rapids July 24, 11:00 am
Robert	Oveson	Private Citizen	8/9/2014	Website
Robert	Oveson	Private Citizen	8/9/2014	Email
Robert	Oveson	Private Citizen	7/17/2014	Oral - Littlefork July 17, 11:00 am
Robert	Oveson	Private Citizen	7/17/2014	Oral - Littlefork July 17, 11:00 am
Lyle	Pearson	Private Citizen		Email
Beth	Pederson	Private Citizen	5/15/2014	Email

Stakeholder Name and Affiliation			Comment Date and Source	
First Name	Last Name	Affiliation	Date	Received Via
Candace	Perry	Private Citizen	5/16/2014	Mail
Patrick	Perry	Private Citizen	5/16/2014	Mail
Don	Peterson	Private Citizen	8/15/2014	Email
Kevin	Peterson	Private Citizen	7/16/2014	Mail
Kevin	Peterson	Private Citizen	8/11/2014	Mail
Kevin	Peterson	Private Citizen	7/17/2014	Oral - International Falls July 17, 6:00 pm
Roy	Procopio	Private Citizen	8/15/2014	Public Scoping Meeting
Roy	Procopio	Private Citizen	7/24/2014	Oral - Grand Rapids July 24, 6:00 pm
Brian	Rice	Private Citizen	8/15/2014	Public Scoping Meeting
Gregg	Rice	Private Citizen	7/27/2014	Email
Kirby	Rice	Private Citizen	8/12/2014	Website
Sheldon	Rice	Private Citizen	8/15/2014	Website
Steven	Rice	Private Citizen	5/2/2014	Email
Stuart	Rice	Private Citizen	7/22/2014	Website
Stuart	Rice	Private Citizen	7/31/2014	Website
Stuart	Rice	Private Citizen	8/15/2014	Public Scoping Meeting
Stuart	Rice	Private Citizen	8/12/2014	Website
Randy	Robb	Private Citizen	8/15/2014	Public Scoping Meeting
Dave	Roerick	Private Citizen	8/15/2014	Public Scoping Meeting
Dave	Roerick	Private Citizen	7/24/2014	Oral - Grand Rapids July 24, 11:00 am
Larry	Rukevina	Private Citizen	5/22/2014	Mail
Jamie	Schrenzel	Private Citizen	7/24/2014	Oral - Grand Rapids July 24, 6:00 pm
Sally	Sedgwick	Private Citizen	7/23/2014	Public Scoping Meeting
Dean	Sedgwick	Private Citizen	7/23/2014	Oral - Bigfork July 23, 6:00 pm
Sally	Sedgwick	Private Citizen	7/23/2014	Oral - Bigfork July 23, 6:00 pm
Dean	Sedgwick	Private Citizen	7/23/2014	Oral - Bigfork July 23, 6:00 pm
Carol	Seisland	Private Citizen	7/22/2014	Public Scoping Meeting
Warren	Stoe	Private Citizen	5/29/2014	Email
Strand	Dan and Elizabeth	Private Citizen	10/15/2014	CON Hearing – Grand Rapids October 15
Strand	Dan and Elizabeth	Private Citizen	11/4/2014	Mail
Steve	Takaichi	Private Citizen	7/22/2014	Email
Harvey	Wahlquist	Private Citizen	7/24/2014	Oral - Grand Rapids July 24, 11:00 am
Mark	Walsh	Private Citizen	7/24/2014	Oral - Grand Rapids July 24, 11:00 am

Stakeholder Name and Affiliation			Comment Date and Source	
First Name	Last Name	Affiliation	Date	Received Via
Bob	Walsh	Private Citizen	7/24/2014	Oral - Grand Rapids July 24, 11:00 am
Robert	Ward	Private Citizen	7/24/2014	Oral - Grand Rapids July 24, 6:00 pm
Roger	Webber	Private Citizen	7/23/2014	Oral - Bigfork July 23, 6:00 pm
Roger	Webber	Private Citizen	7/23/2014	Oral - Bigfork July 23, 6:00 pm
Roger and MaryJo	Weber	Private Citizen	8/16/2014	Mail
Darrell and Delores	White	Private Citizen	7/30/2014	Mail
Delores	White	Private Citizen	7/24/2014	Oral - Grand Rapids July 24, 11:00 am
Darrell	White	Private Citizen	7/24/2014	Oral - Grand Rapids July 24, 11:00 am
Darrell	White	Private Citizen	7/24/2014	Oral - Grand Rapids July 24, 11:00 am
Tim	Williamson	Private Citizen	7/23/2014	Oral - Kelliher July 23, 11:00 am
Richard	Yuenger	Private Citizen	5/17/2014	Email
William	Yuenger	Private Citizen	7/23/2014	Oral - Bigfork July 23, 6:00 pm

2.1 Alternative Route Segments/Alignment Modifications Proposed during Scoping

The alternative route segments and alignment modifications proposed during scoping are identified in Figure 2-1. These alternative segments and modifications were developed by reviewing comments received during the scoping process. In some areas, multiple commenters suggested avoiding the same issue (e.g., residential areas or protected natural areas) or one modification mitigated several issues raised by commenters (e.g., sensitive lands, houses, following existing corridors). Detailed figures showing the requested alternative route segments and alignment modifications that were developed from the scoping comments for analysis in the EIS are provided in Appendix F.

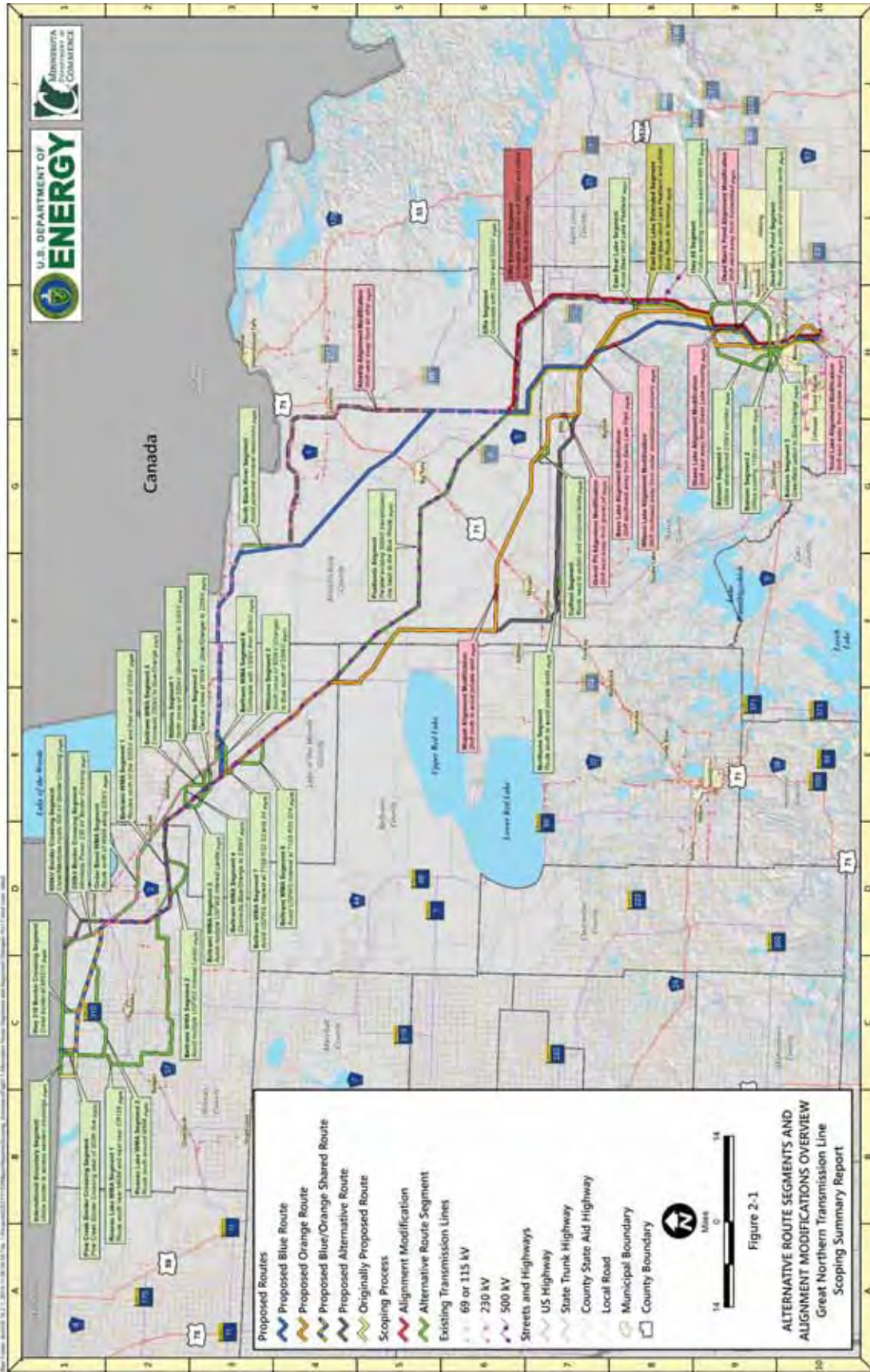


Figure 2-1 Summary of Requested Alternative Route Segments and Alignment Modifications

Appendix D

DOC-EERA Scoping Decision



In the Matter of the HVTL Route Permit Application by Minnesota Power for the Great Northern Transmission Line Project and Associated Facilities in Roseau, Lake of the Woods, Beltrami, Koochiching and Itasca Counties, Minnesota

ENVIRONMENTAL IMPACT STATEMENT SCOPING DECISION

PUC DOCKET NO. E015/TL-14-21

The above matter has come before the deputy commissioner of the Department of Commerce (Department) for a decision on the scope of the environmental impact statement (EIS) to be prepared for the Great Northern Transmission Line (GNTL) project proposed by Minnesota Power (MP) in Roseau, Lake of the Woods, Beltrami, Koochiching and Itasca counties, Minnesota.

Project Description

Minnesota Power (Applicant or MP), in partnership with Manitoba Hydro, proposes to construct a high voltage transmission line (HVTL) from the International border that would terminate at the Blackberry Substation in Itasca County.

The GNTL project includes the construction of a new 500 kV transmission line in Minnesota from the United States/Canadian border to the Minnesota Power Blackberry Substation near Grand Rapids, Minnesota. The 500 kV Line will be approximately 235-270 miles in length, subject to final route approval by the Commission, and will be constructed on a 200 foot wide right-of-way (ROW). The line will provide 883 megawatts (MW) of transfer capability.

Minnesota Power is requesting a route width that is 1,000 to 3,000 feet wide, with structures typically ranging in heights from approximately 100 feet to 150 feet above ground. The Applicant currently estimates between 4 to 5 structures per mile of transmission line. A variety of structure types (self-supporting suspension, guyed delta suspension, and guyed-V suspension) may be used along the route.

Minnesota Power anticipates that construction on the project will begin in the fall of 2016, with an in-service date of mid-year 2020.

Project Purpose

As stated by the Applicant, the primary objective of the GNTL project is to provide increased access to Manitoba hydropower. Additionally, MP states that the project facilitates an innovative wind storage provision in the power purchase agreement (PPA) that leverages the flexible and responsive nature of hydropower to optimize the value of MP's significant wind energy investments and compliments MP's EnergyForward resource strategy.

The GNTL project would provide delivery and access to power generated by Manitoba Hydro's hydroelectric stations in Manitoba, Canada. Minnesota Power, states in its certificate of need (CN) application, that the project is required to facilitate delivery of the combined 383 megawatts (MW) (250 MW PPA and the 133 MW Renewable Optimization Agreement) of hydropower and wind storage energy products to serve Minnesota Power, as well as additional hydropower to other utilities in the United States, thereby meeting future state and regional energy needs. Minnesota Power further states that while large hydropower transfers like this do not satisfy the current renewable energy mandates in Minnesota, such a hydropower transfer could support compliance with renewable energy requirements for utilities in Wisconsin and other states.

Regulatory Background

In Minnesota, no person may construct a high voltage transmission line (HVTL) without a route permit from the Minnesota Public Utilities Commission (Commission) (Minnesota Statute 216E.03). A high voltage transmission line is defined as a conductor of electric energy designed for and capable of operation at a voltage of 100 kV or more and greater than 1,500 feet in length (Minnesota Statute 216E.01). The proposed project will consist of approximately 220 miles of new 500 kV transmission line and therefore requires a route permit from the Commission.

Route permit applications are subject to environmental review conducted by Department of Commerce, Energy Environmental Review and Analysis (DOC-EERA) staff. Projects proceeding under the full permitting process require the preparation of an environmental impact statement (EIS) (Minnesota Statute 216E.03, Subd. 5). Public information and scoping meetings are held to solicit comments on the scope of the EIS. The Department of Commerce (Department) determines the scope of the EIS.¹ The Department may include alternative sites or routes suggested by the public in the scope of the EIS if such alternatives will aid in the Commission's decision on the route permit application (Minnesota Rule 7850.2500). The Department must include those site or routes "the Commission deems necessary that [were] proposed in a manner consistent with rules concerning the form, content, and timeliness of proposals for alternate site or routes."²

State (Department) and Federal (DOE) Joint Environmental Review

The Department of Energy (DOE) is the lead federal agency for the GNTL project. Pursuant to Executive Order (EO) 10485 of 1953, as amended by EO 12038, and 10 Code of Federal Regulations (CFR) Section 205.320, a Presidential Permit is required for the GNTL project because it will cross the international boundary between Minnesota and Manitoba, Canada.

Since the GNTL project constitutes a Major Federal Action, the DOE must consider the environmental effects of the project, and reasonable alternatives to the project, pursuant to the National Environmental Policy Act (NEPA). An Environmental Impact Statement (EIS) must be prepared to comply with NEPA and DOE's NEPA implementing regulations, 10 CFR Part 1021.

DOE and the Department intend to jointly develop one EIS that meets both agencies' environmental review requirements to minimize duplication of effort.

¹ Minnesota Rule 7850.2500, Subp. 2.

² Minnesota Statute 216E.03, Subd. 5.

Scoping Process

Commission staff and DOC-EERA staff, along with the DOE, held eight joint public information and environmental impact statement scoping meetings between July 16 and 24, 2014, across the study area.

The meetings provided the public with the opportunity to learn more about the proposed project, to provide comments on potential environmental issues associated with the project and to put forth alternative routes for consideration. A total of 46 people gave oral comments at the meetings, and their comments were transcribed by a court stenographer.³

A comment period, ending on August 15, 2014, provided the public an opportunity to submit comments to DOC-EERA/DOE staff on issues and route alternatives for consideration in the scope of the EIS. DOC-EERA and DOE received scoping comments in the form of 122 written letters, emails or website submittals from private citizens, government agencies, and nongovernmental organizations. Written public comment letters can be found in eDockets (docket No. 14-21 – Public Comments), the DOC web-site (<http://mn.gov/commerce/energyfacilities/Docket.html?Id=33847>) and are also contained in whole and abridged in the *Scoping Summary Report*.⁴

The *Scoping Summary Report* describes the public scoping process for the EIS that the DOE (DOE/EIS-0499) and DOC-EERA are preparing for the GNTL project. The purpose of the *Scoping Summary Report* is to describe the scoping process; the report contains information on the manner of public notification, venues, dates and times in which the scoping meetings were held, comments received, information on the Workgroup efforts, and requested alternative route segments/alignment modifications. The *Scoping Summary Report* was released on November 13, 2014.

There were 33 alternative route segment (including five border crossing alternatives) and nine alignment modification requests received through the scoping process.

Commission Review

On December 5, 2014, EERA staff provided the Commission with a summary of the EIS scoping process.⁵ The summary discussed the route and alignment alternatives that were proposed during the scoping process and those alternatives that the DOC-EERA intended to carry forward for inclusion in the scope of the EIS. On January 6, 2015, the Commission considered what action, if any, it should take with respect to the route alternatives to be considered in the EIS.

The Commission took no action.

³ Oral Comments from Public Information and EIS Scoping Meetings, July 16-24, 2014, eDockets Number 20148-102461-01 to 20148-102461-07, [hereinafter Oral Comments].

⁴ Scoping Summary Report, November, 2014, eDockets Numbers: 201411-104621-01 to 10, 104622-01 to 09, 104623-01 to 10, 104624-01 to 08, 104625-01 to 07, and 104625-01 to 03.

⁵ Department of Commerce, Comments and Recommendations on EIS Scoping Process, December 5, 2014, eDockets Number 201412-105219-01.

HAVING REVIEWED THE MATTER, consulted with DOC-EERA staff, and in accordance with Minnesota Rule 7850.2500, I hereby make the following scoping decision:

MATTERS TO BE ADDRESSED

The issues outlined below will be analyzed in the EIS for the proposed Great Northern Transmission Line project. The EIS will describe the project and the human and environmental resources of the project area. It will provide information on the potential impacts of the project as they relate to the topics outlined in this scoping decision, including possible mitigation measures. It will identify impacts that cannot be avoided and irretrievable commitments of resources, as well as permits from other government entities that may be required for the project. The EIS will discuss the relative merits of the route alternatives studied in the EIS using the routing factors found in Minnesota Rule 7850.4100.

I. GENERAL DESCRIPTION OF THE PROJECT

- A. Project Description
- B. Project Purpose
- C. Route Description
 - 1. Route Width
 - 2. Right-of-Way
- D. Substation/Compensation Station Description
- E. Project Costs
 - Construction, Operation and Maintenance

II. REGULATORY FRAMEWORK

- A. Certificate of Need
- B. High Voltage Transmission Line Route Permit
 - Buy the Farm Provisions
- C. Environmental Review Process

III. ENGINEERING AND DESIGN

- A. Transmission Line Structures
- B. Transmission Line Conductors
- C. Substations/Compensation Station

IV. CONSTRUCTION

- A. Right-of-Way Acquisition
- B. Construction
 - 1. Transmission Line
 - 2. Substation/Compensation Station
- C. Restoration
- D. Damage Compensation
- E. Operation and Maintenance
 - Danger trees determination
 - Vegetation management
- F. Decommissioning

V. AFFECTED ENVIRONMENT, POTENTIAL IMPACTS, AND MITIGATIVE MEASURES

The EIS will include a discussion of the human and environmental resources potentially impacted by the proposed project and the route and alignment alternatives described herein (Section VI). Potential impacts, both positive and negative, of the project and each alternative will be described. Based on the impacts identified, the EIS will describe mitigation measures that could reasonably be implemented to reduce or eliminate the identified impacts. The EIS will describe any unavoidable impacts resulting from implementation of the proposed project.

- A. Environmental Setting
- B. Socioeconomics
 - Environmental Justice
- C. Human Settlements
 - 1. Noise
 - Blackberry Substation
 - 2. Aesthetics
 - Big Bog State Recreation Area
 - Itasca County Bass Lake Park
 - 3. Displacement
 - Eminent Domain
 - Balsam Bible Chapel expansion
 - 4. Property Values
 - 5. Public Services
 - a) Roads and Highways
 - MnDOT's Utility Accommodation Policy
 - b) Airports
 - c) Utilities
 - ROW Sharing/paralleling
 - d) Emergency Services
 - 6. Electronic Interference
 - a) Radio
 - b) Television
 - c) Wireless Phone/Internet Services
- D. Public Health and Safety
 - 1. Electric and Magnetic Fields
 - 2. Implantable Medical Devices
 - Cardiac Pacemakers
 - 3. Stray Voltage
 - 4. Induced Voltage
- E. Land Based Economies
 - 1. Agriculture
 - a) Compaction
 - b) Tile Damage
 - c) Aerial Spraying
 - d) GPS Systems / Real Time Kinetic Systems
 - e) Structure Foundations Obstruction

- f) Livestock (including wood bison)
- g) Crop production (including organic)
- 2. Forestry
 - Harvestable Product within ROW
- 3. Mining
 - Current and Future
- 4. Recreation and Tourism
 - Snowmobile and ATV Trails
- F. Archaeological and Historic Resources
 - Conservation Corps Camp 53
- G. Natural Environment
 - 1. Air Quality
 - Green House Gas
 - 2. Water Resources
 - a) Surface Waters and Floodplains
 - b) Groundwater
 - Wellhead Protection Areas
 - c) Wetlands
 - Type Conversion
 - 3. Soils
 - Peatland Soils
 - 4. Flora
 - Invasive Species
 - Habitat Fragmentation
 - 5. Fauna
- H. Threatened / Endangered / Rare and Unique Natural Resources
- I. Zoning and Land Use Compatibility
 - Use of Existing Rights-of-Way
- J. Cumulative Effects
- K. Adverse Impacts that Cannot be Avoided
- L. Irreversible and Irretrievable Commitments of Resources

The above outline is not intended to serve as a “Table of Contents” for the EIS document, and as such, the organization of the information and data may not be similar to that appearing in the EIS.

VI. ROUTES AND SITES TO BE EVALUATED IN THE ENVIRONMENTAL IMPACT STATEMENT

The EIS will evaluate the routes and associated facilities proposed in Minnesota Power’s HVTL route permit application – aka the Blue Route (including C-1 and C-2) and the Orange Route (including J-1 and J-2).

In addition, the following alternative route segments and alignment modifications will be evaluated in the EIS (see description below and attached maps). Alternatives are presented here in a north-to-south fashion – from the border crossing in Roseau County to the terminus at the Blackberry Substation in Itasca County.

Pine Creek Border Crossing Alternative Route Segment (Figure 1). This alternative crosses the border just west of Piney Creek, with the alternative route paralleling 320th Avenue as it runs south along the quarter-sections of Sections 27 and 34 in T164N, Range 41W and continuing through Section 3 of T163N, Range 41W where it joins Minnesota Power's proposed route.

Hwy 310 Border Crossing Alternative Route Segment (Figure 2). This alternative crosses the border east of the Sprague Creek Peatland SNA and follows State Highway 310 until it joins Minnesota Power's proposed route.

500kV Border Crossing Alternative Route Segment (Figure 3). The 500 kV Border Crossing follows the existing 500 kV transmission line from the international border until it joins Minnesota Power's proposed route.

230kV Border Crossing Alternative Route Segment (Figure 4). This alternative follows the existing 230 kV transmission line from the international border until it joins Minnesota Power's proposed route.

Roseau Lake WMA Alternative Route Segment 1 (Figure 5). This alternative follows MN-89 south, crosses MN-11, stair-steps its way south to CR-126, then continues north and east to join Minnesota Power's proposed route.

Roseau Lake WMA Alternative Route Segment 2 (Figure 6). This proposal follows MN-89 south, and then continues east on the south side of the Roseau Lake WMA to 360th Street, and east to the intersection with Minnesota Power's proposed route.

Cedar Bend WMA Alternative Route Segment (Figure 7). This alternative follows the existing 230 kV transmission line from where it intersects Minnesota Power's proposed route, and then turns southeast to continue along the existing 230kV transmission line.

Beltrami WMA Alternative Route Segment 1 North (Figure 8). This alternative crosses the existing 500 kV transmission line south of CSAH 2 and angles to the southeast but north of USFWS parcels. The alternative then follows the north side of the existing 500 kV transmission line (Minnesota Power's proposed route) until the existing 500 kV line turns to the southeast where it connects with Beltrami WMA Alternative Route Segment 1 South, described below.

Beltrami WMA Alternative Route Segment 1 South (Figure 9). This alternative extends from Beltrami WMA Alternative Route Segment 1 North where the existing 500 kV line turns to the southeast. From this point, the alternative crosses to the south side of the existing 230 kV transmission line and continues southeast to join Minnesota Power's proposed Blue Route and thereby passes to the east of USFWS parcels.

Beltrami WMA Alternative Route Segment 2 (Figure 10). This alternative diverges from Minnesota Power's proposed route that parallels the existing 500kV transmission line, goes south around USFWS parcels, then goes north to join Minnesota Power's proposed route.

Beltrami WMA Alternative Route Segment 3 (Figure 11). This alternative diverges from Minnesota Power's proposed route that parallels the existing 500 kV transmission line, goes south and east around USFWS parcels, and then joins with Minnesota Power's proposed route.

Beltrami WMA Alternative Route Segment 4 (Figure 12). This alternative diverges east from Minnesota Power's proposed route that parallels the existing 500 kV transmission line north the USFWS parcels, and connects with the Beltrami WMA Alternative Route Segment 1 on the south side of the existing 230 kV transmission line.

Beltrami WMA Alternative Route Segment 5 (Figure 13). This alternative connects Beltrami WMA Alternative Route Segments 1 and 4, which parallel the existing 230 kV transmission line, south to join Minnesota Power's proposed Blue/Orange route. This alternative retains the viability of Minnesota Power's proposed Orange Route if Beltrami WMA Alternative Route Segments 1 or 4 are selected.

Beltrami WMA Alternative Route Segment 7 (Figure 14). This alternative diverges from the proposed route to create an "L" shape around a USFWS parcel to avoid it.

Beltrami WMA Alternative Route Segment 8 (Figure 15). This alternative diverges from the proposed route to create an "L" shape around three USFWS parcels to avoid them.

Silver Creek WMA Alignment Modification (Figure 16). The modification shifts the anticipated alignment approximately 150 feet south from Minnesota Power's proposed route, creating a new ROW corridor that is separate from the existing 230 kV transmission line ROW corridor.

North Black River Alternative Route Segment (Figure 17). This alternative diverges from Minnesota Power's proposed route and continues along the existing 230 kV transmission line north and east before it joins Minnesota Power's proposed route further east.

Airstrip Alignment Modification (Figure 18). This modification is located approximately 725 feet west of Minnesota Power's proposed C2 Route Alternative. This modification increases the distance between the private airstrip and the anticipated centerline of Minnesota Power's proposed Route Alternative C2.

Mizpah Alignment Modification (Figure 19). This modification shifts the anticipated alignment further to the north from Minnesota Power's proposed route to limit ROW impacts to public lands.

Northome Alternative Route Segment (Figure 20). This alternative moves the route approximately 3,000 feet south from Minnesota Power's proposed alignment and away from the proponent's private property and from USFWS FmHA parcels.

Cutoff Alternative Route Segment (Figure 21). This alternative moves the route to the southwest from Minnesota Power's proposed route and shifts impacts from private land onto state, county, and corporate lands.

Gravel Pit Alignment Modification (Figure 22). This modification moves the alignment approximately 750 feet to the east of Minnesota Power's proposed alignment. The move places the entire ROW onto public and corporate lands and away from the proponent's gravel pit operation.

Effie Alternative Route Segment (Figure 23a and 23b). This alternative diverges from Minnesota Power's proposed blue route, parallels the existing 230 kV and 500 kV transmission lines located east of Minnesota Power's proposed routes, and joins Minnesota Power's proposed Orange Route.

Bass Lake Alignment Modification (Figure 24). This modification moves Minnesota Power's proposed alignment approximately 750 feet southwest.

Wilson Lake Alignment Modification (Figure 25). This modification moves Minnesota Power's proposed alignment approximately 500 feet to the east.

East Bear Lake Alternative Route Segment (Figure 26). This alternative diverges from Minnesota Power's proposed route, follows the existing 230kV and 500kV transmission line for approximately 4 miles, and then joins Minnesota Power's proposed route.

Grass Lake Alignment Modification (Figure 27). The modification moves Minnesota Power's proposed alignment approximately 900 feet east onto public and corporate lands, while splitting the distance between private residences on Grass and Bray Lakes.

Dead Man's Pond Alignment Modification (Figure 28). This modification moves Minnesota Power's proposed alignment approximately 1,000 feet west across Dead Man's Pond and undeveloped land.

Dead Man's Pond Alternative Route Segment (Figure 29). This alternative moves Minnesota Power's proposed route west of Dead Man's Pond onto public and corporate land and away from the proponent's private property.

Balsam Alternative Route Segment 1 (Figure 30). This alternative diverges from Minnesota Power's proposed Yellow Route to follow the abandoned Minnesota Power 230 kV transmission line, then joins Minnesota Power's proposed Blue/Yellow Route.

Trout Lake Alignment Modification (Figure 31). This modification moves Minnesota Power's proposed alignment further east onto corporate land.

VII. IDENTIFICATION OF PERMITS

The EIS will include a list and description of permits from other government entities that may be required for the proposed project.

ISSUES OUTSIDE THE SCOPE OF THE ENVIRONMENTAL IMPACT STATEMENT

The EIS for the GNTL project will not consider the following:

- A. Any route alternative not specifically identified for study in this scoping decision.
- B. Policy issues concerning whether utilities or local governments should be liable for the cost to relocate utility poles when roadways are widened.
- C. The manner in which land owners are paid for transmission line right-of-way easements.
- D. Issues/impacts associated with the development and construction of those components of the project that are occurring within the Canadian jurisdiction and subject to the environmental review procedures of the provincial government.
- E. Of the 33 alternative route segments proposed during the scoping process 11 will not be included for further study in the EIS, they are:
 - International Boundary Alternative Route Segment (Scoping Summary Report, Appendix F, Figure 1)
 - Williams Alternative Route Segment 1 (Scoping Summary Report, Appendix F, Figure 14)
 - Williams Alternative Route Segment 2 (Scoping Summary Report, Appendix F, Figure 15)
 - Beltrami WMA Alternative Route Segment 6 (Scoping Summary Report, Appendix F, Figure 16)
 - Williams Alternative Route Segment 3 (Scoping Summary Report, Appendix F, Figure 17)
 - Highway 65 Alternative Route Segment (Scoping Summary Report, Appendix F, Figure 30)
 - Balsam Alternative Route Segment 2 (Scoping Summary Report, Appendix F, Figure 35)
 - Balsam Alternative Route Segment 3 (Scoping Summary Report, Appendix F, Figure 36)
 - East Bear Lake Extended Alternative Route Segment (Scoping Summary Report, Appendix F, Figures 39a/39b)
 - Effie Extended Alternative Route Segment (Scoping Summary Report, Appendix F, Figures 39a/38b)
 - Peatlands Alternative Route Segment (Scoping Summary Report, Appendix F, Figures 40a/40b)

SCHEDULE

The draft EIS is anticipated to be completed and available in June 2015. Public meetings and a comment period on the draft EIS will follow. Timely and substantive comments on the draft EIS will be responded to in a final EIS. Public hearings will be held in the project area after issuance of the draft EIS and are anticipated to occur in July 2015.

Signed this 8th day of January, 2015

STATE OF MINNESOTA
DEPARTMENT OF COMMERCE



William Grant, Deputy Commissioner

Appendix E

Route Analysis Data Tables

Sources:

Minnesota Power 2014 Reference 1	Minnesota Power 2014 Reference 2	Minnesota Power 2014 Reference 3	Minnesota Power 2014 Reference 7	Minnesota Power 2014 Reference 8
Roseau County 2015 Reference 4	Minnesota Power 2014 Reference 5	Minnesota Power 2014 Reference 6	SHPO 2014 Reference 12	SHPO 2005 Reference 13
USDOT 2014 Reference 9	Minnesota Power 2014 Reference 10	SHPO 2014 Reference 11	MnDOT 2003 Reference 17	MnDNR 2014 Reference 18
Minnesota Power 2014 Reference 14	Minnesota Power 2014 Reference 15	MnDOT 2003 Reference 16	Minnesota Power 2014 Reference 22	MPCA 2013 Reference 23
MnDNR 2012 Reference 19	MnDOT 2012 Reference 20	MnDNR 2014 Reference 21	MnDNR 2008 Reference 27	MnDNR 2010 Reference 28
MPCA 2013 Reference 24	USGS 2014 Reference 25	USGS 2014 Reference 26	USFWS 1997 Reference 32	MnDNR 2008 Reference 33
MnDNR 2008 Reference 29	MnDNR 2002 Reference 30	MnDNR 2002 Reference 31	MnDNR 2000 Reference 37	MnDNR 2006 Reference 38
MnDNR 2009 Reference 34	MnDNR 2009 Reference 35	MnDNR 2009 Reference 36	MnDNR 2003 Reference 44	MnDNR 2008 Reference 45
MnDNR 2003 Reference 39	MnDNR 2003 Reference 40	MnDNR 2002 Reference 43	MnDNR 2003 Reference 49	MnDNR 2012 Reference 50
USDOT 2014 Reference 46	MnDOT 2013 Reference 47	MnDNR 2010 Reference 48	MnDNR 1999 Reference 54	MBS 1998 Reference 55
MnDNR 2010 Reference 51	BWSR 2003 Reference 52	MnDNR 2010 Reference 53	MnDNR 1905 Reference 59	MnDNR 2015 Reference 60
MBS 2015 Reference 56	MBS 2014 Reference 57	MnDNR 2003 Reference 58	USFWS 2011 Reference 65	USFWS 2011 Reference 65
MnDNR 2008 Reference 61	MnDNR 2014 Reference 62	MnDNR 2008 Reference 63	MnDNR 2014 Reference 69	MnDNR 1984 Reference 70
MnDNR 2007 Reference 66	MnDNR 2008 Reference 67	MnDNR 2014 Reference 68	MnDNR 2014 Reference 74	MPCA 2010 Reference 75
MnDNR Reference 71	MnDNR Reference 72	University of Minnesota 2003 Reference 73	MnDNR 2010 Reference 79	MnDNR 2009 Reference 80
MGS 2014 Reference 76	MnDNR 2006 Reference 77	MnDNR 2003 Reference 78	USFWS 2014 Reference 84	USFWS/Partner's In Flight 2004 Reference 85
USFWS 2014 Reference 81	USFWS 2014 Reference 82	USFWS 2014 Reference 83	USDA NRCS 2014 Reference 89	USDA NRCS 2014 Reference 90
Audubon Society 2014 Reference 86	MnDNR 2014 Reference 87	USGS 2001 Reference 88	NFS 2014 Reference 94	NPS 2014 Reference 95
US BLM Reference 91	MPCA 2013 Reference 92	MPCA 2013 Reference 93	MnDNR 2009 Reference 99	USDA, FSA, APFO 2013 Reference 100
MN DOC 2014 Reference 96	MnDOT 2010 Reference 97	MnDNR 2010 Reference 98	MnDNR et al 2009 Reference 104	USFWS 2015 Reference 105
MnDNR et al 2014 Reference 101	MnDNR et al 2013 Reference 102	MnDNR 2013 Reference 103		

Notes:

Items containing the color shown to the left are datasets that were analyzed in GIS and had no features located within the buffers.

The following datasets were analyzed in GIS and had no features for any variation area located within 0-1,500 ft; they have been omitted from the appendix table: Schools (Public & Private, > Kindergarten), Daycares/Child-care centers/Pre-schools, Hospitals, Nursing Homes, Airport/Helpport Locations, MPCA Impaired Lakes, MnDNR Trout Lakes, State Park Trails, State Forest Camp Grounds, State Parks, US NPS National Parks, BWSR Reinvest in Minnesota Conservation Easements, MBS Railroad Right-of-Way Prairies, USFWS Waterfowl Production Areas, State Aquatic Management Areas, State Game Refuges, State Migratory Fowl Feeding and Resting Areas, and USFWS National Wildlife Refuges.

Footnotes:

- Impact numbers within datasets cannot be added together for variations or proposed routes in different variation areas to calculate an accurate total. Any totals developed using this method have the potential to be inaccurate due to rounding and/or shared areas that would not be accounted for when using simple addition. There were some datasets that were analyzed in GIS and there were no features from these datasets located within the 1,500 ft buffer including: Schools (Public & Private, > Kindergarten), Daycares/Child-care centers/Pre-schools, Hospitals, Nursing Homes, Airport/Helpport Locations, MPCA Impaired Lakes, MnDNR Trout Lakes, MnDNR Wildlife Lakes, State Park Trails, State Forest Camp Grounds, State Parks, US NPS National Parks, BWSR Reinvest in Minnesota Conservation Easements, MBS Railroad Right-of-Way Prairies, USFWS Waterfowl Production Areas, State Aquatic Management Areas, State Game Refuges, State Migratory Fowl Feeding and Resting Areas, and USFWS National Wildlife Refuges.
- The buffer distances includes both sides of the anticipated alignment. For example, count with a buffer of 100 ft includes 100 ft on each side of the anticipated alignment. Buffer distances are cumulative. For example, impacts accrued within the 100 ft buffer are also included within the 1,500 ft buffer. For this EIS, the 100 ft buffer is the equivalent of the ROW. The 1,500 ft buffer represents the route width used for the GIS analysis in this EIS. The Presidential permit and Route Permit applications use a route width that ranges from 1,500 feet to 3,000 feet.
- The MnDNR's State Fee Lands dataset represents state land ownership using public land survey quarter-quarter sections as the smallest unit. In some cases multiple state lands are within a single quarter-quarter section are then represented in the data through duplicate features. Therefore the analysis results presented may be over-representing the potential impacts.
- Palustrine emergent wetland (PEM), palustrine shrub wetland (PSS), palustrine forested wetland (PFO), palustrine unconsolidated bottom pond (PUB).
- Mapping of MBS Sites of Biodiversity Significance has been completed for Roseau County, mapping is only preliminary in the other counties across the proposed Project.
- ND means No Data or indicates that data were not available.
- MBS Native Plant Communities data only available for Roseau County
- Percent of Total Length was calculated by rounding and any values less than 0.5 were rounded to zero, this may result in a total of slightly more or less than 100 percent. Also, Percent of Total Length cannot be added together for variations or proposed routes in different variation areas to calculate an accurate total. Any totals developed using this method have the potential to be inaccurate due to rounding and/or shared areas that would not be accounted for when using simple addition.
- Canada lynx and gray wolf records are not documented in the NHIS database.

Dataset ⁽¹⁾	MPCA Impaired Streams	National Hydrology Dataset Flowlines		National Hydrology Dataset Waterbodies		MnDNR Public Watercourses		MnDNR Public Water Inventory Basins		MnDNR Public Water Inventory Wetlands		MnDNR Trout Streams	
		Length (mi)	Area (ac)	Length (mi)	Area (ac)	Length (mi)	Area (ac)	Length (mi)	Area (ac)	Length (mi)	Area (ac)	Length (mi)	Area (ac)
Type	--	--	--	--	--	--	--	--	--	--	--	--	--
Unit	Length (mi)	1,500	1,500	1,500	1,500	1,500	1,500	1,500	1,500	1,500	1,500	1,500	1,500
	Buffer ⁽²⁾ (ft)	100	1,500	100	1,500	100	1,500	100	1,500	100	1,500	100	1,500
Border Crossing Variation Area	Proposed Border Crossing-Blue/Orange Route	0.1	0.7	3.1	28.4	0	0	0.1	2.8	0	0	0	0
	Border Crossing Pine Creek Variation	0.1	0.7	3.3	32.9	0	0	0.1	2.9	0	0	0	0
	Border Crossing Hwy 310 Variation	0.1	0.7	5.3	26.0	0	1	0.1	1.7	0	0	0	0
	Border Crossing 500KV Variation	0	0	1.1	7.3	0	0	0	0	0	0	0	0
	Border Crossing 230KV Variation	0	0	1.5	8.8	0	<0.5	0	0	0	0	0	0
	Proposed Blue/Orange Route	0.1	0.7	3.3	30.8	0	<0.5	0.1	1.7	0	0	0	0
Roseau Lake WMA Variation Area	Roseau Lake WMA Variation 1	0.1	1.6	3.1	54.2	<0.5	10	0.6	10.3	0	0	0	19
	Roseau Lake WMA Variation 2	0.1	1.7	8.8	49.8	0	4	5.2	10.8	0	0	0	0
Cedar Bend WMA Variation Area	Proposed Blue/Orange Route	0.2	3.4	0.8	14.6	1	4	0.2	4.0	9	67	0	0
	Cedar Bend WMA Variation	0.2	3.3	0.9	13.1	<0.5	3	0.3	4.8	0	0	0	0
Beltrami North Variation Area	Proposed Blue/Orange Route	0.2	3.4	0.5	9.5	1	3	0.2	4.0	9	67	0	0
	Beltrami North Variation 1	0.4	3.9	0.6	8.6	0	1	0.4	4.6	0	13	0	0
	Beltrami North Variation 2	0.2	4.7	1.1	13.3	<0.5	9	0.2	5.1	9	67	0	0
	Proposed Blue/Orange Route	0	0	0.2	4.4	1	3	<0.05	0.7	0	14	0	0
Beltrami North Central Variation Area	Beltrami North Central Variation 1	0	0	0.4	6.7	0	1	0.2	1.8	0	0	0	0
	Beltrami North Central Variation 2	0	0	0.3	6.7	0	3	0.1	1.6	0	0	0	0
	Beltrami North Central Variation 3	0	0	0.3	5.9	<0.5	3	0.1	1.6	0	0	0	0
	Beltrami North Central Variation 4	0	0	0.4	9.0	<0.5	2	0.1	2.1	0	0	0	0
	Beltrami North Central Variation 5	0	0	0.5	9.8	0	0	<0.5	0.2	2.3	0	0	0
Pine Island Variation Area	Proposed Blue Route	<0.5	0.8	5.5	53.7	3	61	0.8	14.6	1	8	0	<0.05
	Proposed Orange Route	0.1	0.9	3.6	57.4	7	106	1.2	20.2	0	1	0	0
Beltrami South Central Variation Area	Proposed Orange Route	0	0	<0.05	0.2	0	<0.5	0	0	0	0	0	0
	Beltrami South Central Variation	0	0	0	0	0	2	0	0	0	0	0	0
Beltrami South Variation Area	Proposed Orange Route	0	0	0	0	0	1	0	0	0	0	0	0
	Beltrami South Variation	0	0	0	<0.05	0	0	0	0	0	0	0	0
North Black River Variation Area	Proposed Blue Route	0	0	0.1	5.0	<0.5	3	0	0	0	0	0	0
	North Black River Variation	0	0	0.2	15.4	0	0	<0.05	0.3	0	0	0	0
C2 Segment Option Variation Area	Proposed Blue Route	<0.5	0.8	1.3	13.1	<0.5	10	0.2	4.0	0	0	0	0
	C2 Segment Option Variation	0.1	2.0	0.3	6.0	1	40	0.1	2.4	0	0	0	0
J2 Segment Option Variation Area	Proposed Orange Route	0	0	1.7	24.0	5	85	0.3	8.5	0	1	0	0
	J2 Segment Option Variation	0	0	1.8	18.8	13	169	0.2	3.4	0	100	0	9
Northome Variation Area	J2 Segment Option Variation	0	0	0.9	8	54	0	0.5	0	<0.5	0	9	0
	Northome Variation	0	0	0.1	1.2	3	49	<0.05	0.5	3	58	0	1
Cutoff Variation Area	Proposed Orange Route	0	0	<0.05	2.6	2	21	0	2.1	0	0	0	0
	Cutoff Variation	0	0	0	1.2	0	1	0	0.9	0	0	0	0
Effie Variation Area	Proposed Blue Route	0	0	0.9	11.4	5	109	0.5	8.6	1	33	<0.5	32
	Proposed Orange Route	0	0	1.3	13.9	6	166	0.8	10.3	3	58	0	16
East Bear Lake Variation Area	Effie Variation	0	0	1.2	19.2	6	150	0.7	12.6	<0.5	26	0	1.1
	Proposed Orange Route	0	0	0.3	3.8	0	13	0.3	3.3	0	0	0	0
East Bear Lake Variation Area	Proposed Blue Route	0	0	0.2	7.2	0	17	0.1	5.1	0	2	0	0
	Proposed Blue Route	0	0	0.3	7.7	6	100	0.3	5.6	0	36	6	117
Balsam Variation Area	Proposed Orange Route	0	0	0.4	9.9	0	6	0.2	5.1	0	8	0	3
	Proposed Orange Route	0	0	0.3	7.6	2	126	0.2	4.3	0	41	0	4
Dead Man's Pond Variation Area	Balsam Variation	0	0	0	1.0	0	19	0	1.0	0	2	0	19
	Proposed Blue Route	0	0	0	0.9	0	3	0	0.9	0	5	0	1
Blackberry Variation Area	Proposed Blue Route	0.1	1.3	0.1	1.8	0	12	0.1	1.8	0	13	0	0
	Proposed Orange Route	0.2	2.2	0.2	2.8	0	92	0.2	2.8	3	89	0	21

Dataset ⁽¹⁾	Type	USFWS National Wetland Inventory ⁽⁶⁾												MnDNR Shallow Lakes	MnDNR Wild Rice Lakes	State Trails	County/Local Parks	
		PEM	PSS	PFO	PUB	River		Lake		Area (ac)	Length (mi)	Area (ac)	Area (ac)					
						Area (ac)	Area (ac)	Area (ac)	Area (ac)									
	Unit	1,500	1,500	1,500	1,500	1,500	1,500	1,500	1,500	1,500	1,500	1,500	1,500	1,500	1,500	1,500	1,500	1,500
	Buffer ⁽²⁾ (ft)	100	1,500	100	1,500	100	1,500	100	1,500	100	1,500	100	1,500	100	1,500	100	1,500	100
	Proposed Border Crossing-Blue/Orange Route	220	3,060	94	1,635	150	1,653	0	0	0	0	0	0	0	0	0	0	0
	Border Crossing Pine Creek Variation	225	2,978	94	1,476	96	1,242	0	0	0	0	0	0	0	0	0	0	0
	Border Crossing Hwy 310 Variation	152	1,919	93	1,464	65	1,251	0	1	0	0	0	0	0	0	0	0	0
	Border Crossing 500kV Variation	35	447	107	1,450	30	665	0	0	0	0	0	0	0	0	0	0	0
	Border Crossing 230kV Variation	30	366	49	763	23	515	0	<0.5	0	0	0	0	0	0	0	0	0
	Proposed Blue/Orange Route	279	3,644	136	2,033	132	1,697	0	<0.5	0	0	0	0	0	0	0	0	0
	Roseau Lake WMA Variation 1	45	803	21	398	35	461	<0.5	10	<0.5	12	0	0	0	0	0	0	0
	Roseau Lake WMA Variation 2	131	1,804	88	1,295	53	739	0	4	<0.5	18	0	0	0	0	0	0	0
	Proposed Blue/Orange Route	85	1,036	128	1,943	253	3,662	<0.5	4	<0.5	4	9	67	0	0	0	0	0
	Cedar Bend WMA Variation	45	549	14	251	95	1,575	<0.5	3	0	0	0	0	0	0	0	0	0
	Proposed Blue/Orange Route	22	303	87	1,456	213	3,209	<0.5	3	0	<0.5	0	0	0	0	0	0	0
	Beltrami North Variation 1	9	220	99	1,326	185	2,800	0	1	0	0	0	13	0	0	0	0	0
	Beltrami North Variation 2	45	616	128	1,883	217	3,380	<0.5	<0.5	0	<0.5	0	9	67	0	0	0	0
	Proposed Blue/Orange Route	23	430	130	1,449	119	2,244	<0.5	3	0	0	0	0	0	0	0	0	0
	Beltrami North Central Variation 1	25	403	97	1,574	191	2,769	0	<0.5	0	0	0	0	0	0	0	0	0
	Beltrami North Central Variation 2	26	500	118	1,452	147	2,482	0	0	0	0	0	0	0	0	0	0	0
	Beltrami North Central Variation 3	12	247	115	1,685	154	2,393	<0.5	3	0	0	0	0	0	0	0	0	0
	Beltrami North Central Variation 4	28	445	108	1,518	169	2,572	<0.5	2	0	0	0	0	0	0	0	0	0
	Beltrami North Central Variation 5	41	601	90	1,407	205	2,948	0	<0.5	0	0	0	0	0	0	0	0	0
	Proposed Blue Route	200	1,822	657	9,654	1,240	19,733	3	62	3	50	0	0	0	0	0	<0.05	0.6
	Variation Area	54	1,087	774	11,289	1,039	15,490	7	106	<0.5	13	0	0	0	0	0	<0.05	0.6
	Proposed Orange Route	2	156	8	207	20	230	0	<0.5	0	0	0	0	0	0	0	0	0
	Beltrami South Central Variation	4	130	28	451	11	187	0	2	0	0	0	0	0	0	0	0	0
	Proposed Orange Route	3	145	40	564	93	1,477	0	<0.5	0	0	0	0	0	0	0	0	0
	Beltrami South Variation	3	56	20	407	160	2,427	0	0	0	0	0	0	0	0	0	0	0
	Proposed Blue Route	8	180	72	1,136	113	1,834	<0.5	3	0	0	0	0	0	0	0	0	0
	North Black River Variation	42	517	83	1,015	73	1,631	0	0	0	0	0	0	0	0	0	0	0
	C2 Segment Option Variation	14	183	80	1,232	633	9,347	<0.5	10	1	23	0	0	0	0	0	<0.05	0.6
	Variation Area	66	739	175	2,944	585	8,238	1	28	2	47	0	0	0	0	0	<0.05	0.6
	Proposed Orange Route	21	324	96	1,587	388	5,529	5	85	0	0	0	0	0	0	0	<0.05	0.6
	J2 Segment Option Variation	28	480	97	1,394	215	3,540	13	151	0	0	19	0	31	0	0	<0.05	0.6
	Northome Variation	2	39	6	123	8	118	8	54	0	0	0	22	0	0	0	0	0
	Proposed Orange Route	3	65	2	91	6	139	0	8	0	0	3	40	1	52	0	0	0
	Cutfoot Variation	3	36	3	97	49	664	2	21	0	0	0	0	0	0	0	0	0
	Effie Variation	3	38	5	51	59	867	0	<0.5	0	0	0	0	0	0	0	0	0
	Proposed Orange Route	18	274	164	2,284	255	3,927	4	59	3	21	<0.5	50	0	0	0	0.1	2.7
	Effie Variation	12	199	155	2,082	217	3,628	4	121	<0.5	7	2	45	0	0	0	<0.05	1.2
	Proposed Orange Route	30	468	104	2,087	273	4,057	6	120	0	0	28	0	0	0	0	<0.05	0.9
	East Bear Lake Variation	5	52	64	871	34	658	0	13	0	0	0	0	0	0	0	<0.05	1.2
	Proposed Blue Route	2	54	40	873	47	575	0	17	0	0	0	0	0	0	0	<0.05	0.9
	Balsam Variation Area	1	49	33	490	14	334	0	8	0	0	6	92	0	14	5	40	0
	Proposed Orange Route	10	98	38	436	21	356	0	3	0	0	0	3	0	3	0	0	0
	Balsam Variation	11	126	55	638	28	490	2	23	0	0	0	35	0	11	0	0	0
	Proposed Blue Route	0	0	11	130	3	40	0	0	0	0	0	19	0	0	0	0	0
	Dead Man's Pond Variation Area	0	0	2	59	2	54	0	0	0	0	0	3	0	2	54	0	0
	Proposed Blue Route	0	9	15	247	36	482	0	3	0	0	0	9	0	14	0	0	0
	Proposed Orange Route	1	21	10	202	29	419	0	31	0	0	0	61	0	46	0	0	0

Dataset ⁽¹⁾	State Forests	USDA-USFS National Forest	State Scenic Byways	State Snowmobile Trails	State Water Trails	State Conservation Easements	Type	
							Area (ac)	Length (mi)
Unit	Area (ac)	Area (ac)	Length (mi)	Length (mi)	Length (mi)	Area (ac)	Buffer ⁽²⁾ (ft)	
							100	1,500
Border Crossing Variation Area	394	5,231	0	0	1.0	4.4	0	0
	339	4,490	0	0	1.0	2.3	0	0
Roseau Lake WMA Variation Area	294	4,191	0	0	1.0	2.4	0	0
	120	1,722	0	0	1.0	0.4	3.6	0
Cedar Bend WMA Variation Area	96	1,509	0	0	1.0	<0.05	0.7	0
	334	4,473	0	0	<0.05	1.0	0.1	2.0
Beltrami North Variation Area	6	96	0	0	<0.05	1.0	0.3	9.6
	52	751	0	0	<0.05	1.0	0.3	7.4
Beltrami South Variation Area	372	5,507	0	0	<0.05	1.0	0.2	8.0
	78	1,305	0	0	<0.05	1.0	0.8	2.6
Beltrami North Central Variation Area	372	5,507	0	0	0	0	0.1	7.4
	291	4,420	0	0	0	0	0.3	7.6
Beltrami North Central Variation Area	462	6,996	0	0	0	0	0.7	11.8
	224	3,476	0	0	0	0	0.1	2.5
Beltrami North Central Variation Area	237	3,632	0	0	0	0	0.1	2.1
	255	3,921	0	0	0	0	0.1	1.7
Beltrami North Central Variation Area	184	2,790	0	0	0	0	0.1	5.9
	178	2,746	0	0	0	0	0.1	5.6
Beltrami North Central Variation Area	230	3,587	0	0	0	0	0.1	1.8
	2,291	34,154	0	0	0	0	0.5	9.1
Pine Island Variation Area	1,980	29,679	0	0	0	0	0.8	16.0
	30	607	0	0	0	0	<0.05	0.7
Beltrami South Central Variation Area	43	784	0	0	0	0	<0.05	0.6
	136	2,196	0	0	0	0	0	0
Beltrami South Central Variation Area	183	2,898	0	0	0	0	0	0
	188	2,751	0	0	0	0	0.1	2.4
North Black River Variation Area	156	2,405	0	0	0	0	0.1	1.8
	797	12,103	0	0	0	0	0.2	3.7
C2 Segment Option Variation Area	274	4,390	0	0	0	0	<0.05	1.2
	851	12,840	0	0	0	0	0.6	5.5
J2 Segment Option Variation Area	715	10,803	0	0	<0.05	1.0	0.1	4.0
	<0.5	82	0	0	0	0	0	0
Northhome Variation Area	<0.5	83	0	171	0	0	0	0
	103	1,697	0	0	0	0	0	0
Cutfoot Variation Area	116	1,887	0	0	0	0	0	0
	909	13,699	0	0	0	0	0.4	6.9
Effe Variation Area	958	14,434	0	0	0	0	0.4	7.0
	1,086	16,361	0	0	0	0	0.3	5.0
East Bear Lake Variation Area	217	3,404	0	0	0	0	0.1	3.4
	256	3,977	0	0	0	0	0.2	4.2
Balsam Variation Area	0	0	0	0	0	0	0.1	3.7
	0	0	0	0	0	0	0.2	5.7
Balsam Variation Area	0	0	0	0	0	0	0	0
	0	0	0	0	0	0	4.9	9.0
Dead Man's Pond Variation Area	0	0	0	0	0	0	0	0
	0	0	0	0	0	0	0	0
Blackberry Variation Area	0	0	0	0	0	0	0.1	2.0
	0	0	0	0	0	0	0.3	5.1

Dataset ⁽¹⁾	MBS Sites of Biodiversity Significance ⁽⁸⁾													
	Type	Outstanding	High	Moderate	Below	Rank Unknown	Total							
Unit	Area (ac)	Area (ac)	Area (ac)	Area (ac)	Area (ac)	Area (ac)	Area (ac)							
		100	1,500	100	1,500	100	1,500	100	1,500	100	1,500	100	1,500	
	Proposed Border Crossing-Blue/Orange Route	80	1,028	45	602	253	3,521	3	76	0	0	0	381	5,227
	Border Crossing Pine Creek Variation	25	300	45	602	253	3,521	3	76	0	0	0	326	4,499
	Border Crossing Hwy 310 Variation	29	347	45	602	188	2,840	3	76	0	0	0	265	3,865
	Border Crossing 500kV Variation	0	0	62	965	59	845	42	596	0	0	0	162	2,406
	Border Crossing 230kV Variation	0	0	42	634	41	618	8	155	0	0	0	91	1,407
	Proposed Blue/Orange Route	19	264	88	1,241	253	3,521	44	510	0	0	0	404	5,537
	Roseau Lake WMA Variation 1	7	98	0	0	0	0	8	100	0	0	0	14	198
	Roseau Lake WMA Variation 2	7	98	70	1,084	0	77	981	0	0	0	0	153	2,162
	Cedar Bend WMA Variation	0	0	43	732	327	4,751	83	961	0	0	0	454	6,444
	Cedar Bend WMA Variation 2	0	0	0	55	60	929	52	886	0	0	0	112	1,870
	Proposed Blue/Orange Route	0	0	0	93	327	4,751	42	527	0	0	0	369	5,370
	Beltrami North Variation 1	0	0	6	108	226	3,443	45	629	0	0	0	276	4,180
	Beltrami North Variation 2	0	0	30	616	429	6,234	0	0	0	0	0	460	6,850
	Proposed Blue/Orange Route	0	0	101	1,752	43	901	0	0	0	0	0	145	2,653
	Beltrami North Central Variation 1	0	0	15	525	82	1,444	0	0	0	0	0	97	1,970
	Beltrami North Central Variation 2	0	0	115	1,986	58	999	0	0	0	0	0	174	2,985
	Beltrami North Central Variation 3	0	0	15	452	90	1,231	0	0	0	0	0	105	1,683
	Beltrami North Central Variation 4	0	0	0	157	90	1,231	0	0	12	261	102	168	1,648
	Beltrami North Central Variation 5	0	0	0	230	82	1,444	0	0	0	0	0	94	1,935
	Proposed Blue Route	118	2,895	210	2,919	10	190	0	0	1,175	16,996	1,514	22,999	24,840
	Proposed Orange Route	476	7,418	335	5,032	274	4,097	0	0	555	8,292	1,639	16,399	24,840
	Proposed Orange Route	0	0	30	607	0	0	0	0	0	0	0	30	607
	Beltrami South Central Variation	0	0	43	784	0	0	0	0	0	0	0	43	784
	Proposed Orange Route	22	400	98	1,469	0	0	0	0	0	0	0	120	1,869
	Beltrami South Variation	62	898	99	1,552	0	0	0	0	0	0	0	161	2,449
	Proposed Blue Route	0	126	165	2,330	0	0	0	0	0	0	0	165	2,456
	North Black River Variation	5	1,043	105	1,190	0	0	0	0	0	0	0	109	2,233
	Proposed Blue Route	92	1,632	8	109	0	0	0	0	542	7,894	642	9,636	10,911
	C2 Segment Option Variation	149	1,679	181	2,742	0	0	0	0	181	2,795	510	7,216	10,411
	Proposed Orange Route	26	568	0	0	137	2,042	0	0	326	5,005	489	7,615	10,411
	J2 Segment Option Variation	3	113	0	0	0	21	0	0	182	3,105	185	3,238	3,533
	Northhome Variation	0	0	0	0	0	0	0	0	0	0	0	0	0
	Proposed Orange Route	0	0	0	0	0	76	0	0	0	0	0	0	76
	Cutoff Variation	0	0	0	0	32	450	0	0	11	261	43	711	1,035
	Proposed Blue Route	56	742	179	2,611	187	2,924	0	0	14	264	60	912	1,215
	Proposed Orange Route	56	742	108	1,627	257	3,844	69	1,082	0	128	422	6,405	8,866
	Effie Variation	0	18	20	581	158	2,799	166	1,899	82	1,295	427	6,592	10,411
	Proposed Orange Route	0	0	108	1,607	40	735	69	1,066	0	0	0	217	3,408
	East Bear Lake Variation	0	0	20	467	57	1,228	178	2,186	0	0	0	255	3,881
	Proposed Blue Route	0	0	0	18	78	1,197	0	0	0	0	0	78	1,215
	Proposed Orange Route	0	0	28	593	78	1,197	0	0	0	0	0	105	1,900
	Balsam Variation	18	375	14	380	63	936	0	0	0	0	0	95	1,691
	Proposed Blue Route	0	0	0	0	0	0	0	0	0	0	0	0	0
	Dead Man's Pond Variation	0	0	0	0	0	0	0	0	0	0	0	0	0
	Blackberry Variation	0	0	40	577	17	292	0	0	0	0	0	57	869
	Proposed Orange Route	0	0	38	583	41	739	0	0	0	0	0	79	1,323

Dataset ⁽¹⁾		GAP Land Cover Vegetation Class Level - Division 4											
		Type	Recently Disturbed or Modified	Open Water	Southeastern North American Flooded & Swamp Forest	Eastern North America Freshwater Wet Meadow, Riparian & Marsh	Introduced & Semi Natural Vegetation						
Unit		Area (ac)		Area (ac)		Area (ac)		Area (ac)		Area (ac)			
Buffer ⁽²⁾ (ft)		100	1,500	100	1,500	100	1,500	100	1,500	100	1,500		
Border Crossing Variation Area	Proposed Border Crossing-Blue/Orange Route	2	28	27	324	0	0	0	0	0	0		
	Border Crossing Pine Creek Variation	2	17	17	274	0	0	0	0	0	0		
	Border Crossing Hwy 310 Variation	1	17	16	286	0	0	0	0	0	0		
Roseau Lake WMA Variation Area	Border Crossing 500kV Variation	3	12	0	15	0	0	0	0	0	0		
	Border Crossing 230kV Variation	1	6	0	4	0	0	0	0	0	0		
	Proposed Blue/Orange Route	6	64	17	274	0	0	1	11	0	0		
Cedar Bend WMA Variation Area	Roseau Lake WMA Variation 1	3	53	2	22	6	73	0	0	0	0		
	Roseau Lake WMA Variation 2	5	63	2	46	0	9	1	11	0	0		
	Proposed Blue/Orange Route	4	60	0	5	0	0	1	11	0	0		
Beltrami North Variation Area	Cedar Bend WMA Variation	13	137	0	3	0	0	0	4	0	1		
	Proposed Blue/Orange Route	1	25	0	5	0	0	0	0	0	0		
	Beltrami North Variation 1	2	48	0	4	0	0	0	0	0	0		
Beltrami North Central Variation Area	Beltrami North Variation 2	1	20	1	6	0	0	0	0	0	0		
	Proposed Blue/Orange Route	0	15	1	6	0	0	0	0	0	0		
	Beltrami North Central Variation 1	1	26	1	6	0	0	0	0	0	0		
Pine Island Variation Area	Beltrami North Central Variation 2	0	16	1	8	0	0	0	0	0	0		
	Beltrami North Central Variation 3	1	24	1	6	0	0	0	0	0	0		
	Beltrami North Central Variation 4	6	46	0	2	0	0	0	0	0	0		
Beltrami South Central Variation Area	Beltrami North Central Variation 5	6	49	0	2	0	0	0	0	0	0		
	Proposed Blue Route	21	245	12	200	0	0	0	0	1	3		
	Proposed Orange Route	8	131	7	128	0	0	0	0	0	1		
Beltrami South Variation Area	Proposed Orange Route	0	0	0	0	0	0	0	0	0	0		
	Beltrami South Central Variation	0	0	0	0	0	0	0	0	0	0		
	Proposed Orange Route	<0.5	1	0	0	0	0	0	0	0	0		
C2 Segment Option Variation Area	Beltrami South Variation	0	0	0	0	0	0	0	0	0	0		
	Proposed Blue Route	0	1	0	0	0	0	0	0	0	0		
	North Black River Variation	10	26	0	5	0	0	0	0	0	0		
J2 Segment Option Variation Area	Proposed Blue Route	2	41	4	84	0	0	0	0	0	3		
	C2 Segment Option Variation	10	212	1	64	0	0	0	0	1	16		
	Proposed Orange Route	6	83	5	104	0	0	0	0	0	0		
Northhome Variation Area	J2 Segment Option Variation	13	220	10	210	0	0	0	0	0	0		
	Northhome Variation	0	16	3	61	0	0	0	1	0	0		
	Proposed Orange Route	0	3	3	30	0	0	0	0	0	0		
East Bear Lake Variation Area	Cutoff Variation	0	1	0	0	0	0	0	0	0	0		
	Proposed Blue Route	4	96	10	123	0	0	0	0	0	0		
	Proposed Orange Route	20	278	9	145	0	0	0	0	0	0		
Balsam Variation Area	Effie Variation	31	260	3	84	0	0	0	0	0	0		
	Proposed Orange Route	0	9	0	7	0	0	0	0	0	0		
	East Bear Lake Variation	2	32	1	13	0	0	0	0	0	0		
Dead Man's Pond Variation Area	Proposed Blue Route	2	60	7	145	0	0	0	0	0	0		
	Proposed Orange Route	7	94	0	20	0	0	0	0	0	0		
	Balsam Variation	16	132	3	86	0	0	0	0	0	0		
Blackberry Variation Area	Proposed Blue Route	0	2	0	21	0	0	0	0	0	0		
	Proposed Orange Route	0	4	1	27	0	0	0	0	0	0		
	Proposed Orange Route	3	42	0	101	0	0	0	0	0	0		

Dataset ⁽¹⁾	Type	Farmland				USDA-NRCS Soil Type				Abandoned Transmission Line					
		Not Farmland	Prime Farmland If Drained	Farmland Of Statewide Importance	All Areas Are Prime Farmland	Mineral	Histosol	Length (mi)	Percent of Total Length						
Unit	Unit	Area (ac)	Area (ac)	Area (ac)	Area (ac)	Area (ac)	Area (ac)	Area (ac)	Area (ac)	Area (ac)	Length (mi)	Percent of Total Length			
		100	1,500	100	1,500	100	1,500	100	1,500	100	1,500	---			
	Proposed Border Crossing-Blue/Orange Route	497	7,088	103	1,869	4	85	3	123	176	2,975	431	6,190	0	
	Border Crossing Pine Creek Variation	452	6,499	164	2,687	4	85	3	148	247	3,914	376	5,505	0	
	Border Crossing Hwy 310 Variation	355	5,285	89	1,388	4	85	3	94	156	2,285	297	4,567	0	
	Border Crossing 500kV Variation	158	2,268	76	1,322	0	0	9	134	125	1,927	119	1,797	0	
	Border Crossing 230kV Variation	121	1,748	72	1,151	<0.5	19	5	132	101	1,718	97	1,331	0	
	Proposed Blue/Orange Route	561	7,899	143	2,793	23	299	18	344	295	4,893	450	6,441	0	
	Roseau Lake WMA Variation 1	578	8,901	388	5,819	21	307	84	1,096	1,037	15,491	33	633	0	
	Roseau Lake WMA Variation 2	498	7,167	356	5,634	23	299	33	670	612	9,507	298	4,263	0	
	Cedar Bend WMA Variation	497	7,159	68	1,499	18	237	15	236	427	6,865	172	2,266	0	
	Cedar Bend WMA Variation	285	4,367	161	2,422	6	85	25	420	458	6,959	18	335	0	
	Beltrami North Variation 1	373	5,685	19	365	0	0	8	99	306	4,670	77	1,228	0	
	Beltrami North Variation 2	450	6,810	27	420	0	24	<0.5	44	381	5,691	96	1,606	0	
	Proposed Blue/Orange Route	275	4,306	0	6	56	0	6	56	0	164	2,828	116	1,534	0
	Beltrami North Central Variation 1	327	5,015	0	5	104	0	0	236	3,772	96	1,352	0	0	
	Beltrami North Central Variation 2	305	4,696	0	0	13	0	0	185	3,119	120	1,591	0	0	
	Beltrami North Central Variation 3	291	4,420	0	5	5	93	0	216	3,273	80	1,317	0	0	
	Beltrami North Central Variation 4	290	4,420	13	258	20	363	6	43	251	3,908	78	1,176	0	
	Beltrami North Central Variation 5	326	4,943	13	258	20	375	6	43	271	4,408	93	1,211	0	
	Proposed Blue Route	1,995	30,317	307	4,768	289	3,943	70	1,019	1,229	19,102	1,433	20,945	0	
	Proposed Orange Route	1,863	28,244	503	7,216	120	1,909	70	1,088	1,410	21,722	1,146	16,735	0	
	Proposed Orange Route	30	607	0	0	0	0	0	0	13	300	17	307	0	
	Beltrami South Central Variation	43	784	0	0	0	0	0	0	9	220	34	563	0	
	Proposed Orange Route	136	2,196	0	0	0	<0.5	0	0	33	640	104	1,557	0	
	Beltrami South Variation	183	2,898	0	0	0	0	0	57	1,049	126	1,848	0	0	
	Proposed Blue Route	163	2,444	12	316	29	451	0	44	887	160	2,324	0	0	
	North Black River Variation	159	2,298	50	833	14	364	0	79	1,441	144	2,054	0	0	
	Proposed Blue Route	625	9,694	92	1,230	78	1,148	2	30	304	5,011	493	7,091	0	
	C2 Segment Option Variation	790	11,979	124	1,893	177	2,605	25	396	581	9,163	535	7,710	0	
	Proposed Orange Route	530	8,382	373	5,122	60	979	61	1,029	803	12,448	221	3,064	0	
	J2 Segment Option Variation	397	6,367	300	4,598	241	3,308	159	2,316	1,005	14,923	91	1,666	0	
	J2 Segment Option Variation	30	498	2	76	39	616	20	333	91	1,510	0	13	0	
	Northhome Variation	28	538	15	96	28	508	28	490	99	1,597	0	34	0	
	Proposed Orange Route	48	803	53	754	2	84	0	57	64	1,193	39	505	0	
	Cutoff Variation	81	1,072	32	725	4	58	0	32	54	1,135	62	753	0	
	Proposed Blue Route	600	9,310	158	2,344	121	1,736	118	1,695	721	11,024	275	4,061	0	
	Proposed Orange Route	571	8,826	164	2,350	123	1,742	223	3,425	845	12,726	236	3,618	1	
	Effie Variation	544	8,385	311	4,517	159	1,982	195	3,388	930	14,439	279	3,833	1	
	Proposed Orange Route	132	2,167	1	40	0	0	84	1,201	136	2,206	81	1,202	0	
	East Bear Lake Variation	95	1,693	36	493	0	0	124	1,795	214	3,082	42	899	0	
	Proposed Blue Route	109	1,787	50	790	0	0	156	2,282	275	4,117	39	742	0	
	Proposed Orange Route	115	1,785	46	683	12	236	159	2,427	295	4,573	38	558	3	
	Balsam Variation	230	3,410	61	830	1	24	141	2,375	363	5,617	70	1,021	12	
	Proposed Blue Route	34	508	9	119	0	0	11	334	47	837	7	124	0	
	Dead Man's Pond Variation Area	17	398	1	58	0	0	38	531	56	925	<0.5	63	0	
	Blackberry Variation Area	51	880	12	179	11	131	59	938	88	1,434	44	693	0	
	Proposed Orange Route	57	1,003	8	100	2	65	80	1,186	109	1,764	38	590	0	

Dataset ⁽¹⁾	Historic Architectural Sites			Archaeological Sites			Communication Towers			State Aggregate Sources			MPCA Impaired Streams			National Hydrology Dataset Flowlines		
	Unit			Count			Count			Count			Count			Count		
	100	1,500	5,280	100	1,500	5,280	100	1,500	5,280	100	1,500	100	1,500	100	1,500	100	1,500	
Border Crossing Variation Area	Proposed Border Crossing-Blue/Orange Route	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0
	Border Crossing Pine Creek Variation	0	0	0	1	2	0	0	0	0	0	0	0	0	0	0	0	0
	Border Crossing Hwy 310 Variation	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Roseau Lake WMA Variation Area	Border Crossing 500KV Variation	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0
	Border Crossing 230KV Variation	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Proposed Blue/Orange Route	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Cedar Bend WMA Variation Area	Roseau Lake WMA Variation 1	0	1	1	0	3	9	0	2	0	1	2	0	1	2	2	49	106
	Roseau Lake WMA Variation 2	0	1	2	0	3	10	0	2	0	0	1	1	1	1	42	87	
	Proposed Blue/Orange Route	0	0	0	0	0	2	0	2	0	0	2	0	0	2	16	35	
Beltrami North Variation Area	Cedar Bend WMA Variation	0	0	8	1	2	3	0	3	0	3	0	3	3	19	30		
	Proposed Blue/Orange Route	0	0	0	0	2	0	0	0	0	0	0	0	0	2	11	26	
	Beltrami North Variation 1	0	0	0	0	0	0	0	0	0	0	0	0	0	2	8	23	
Beltrami North Central Variation Area	Beltrami North Variation 2	0	0	2	1	2	4	0	0	0	0	0	0	0	2	14	29	
	Proposed Blue/Orange Route	0	0	0	0	0	0	0	0	0	0	0	0	0	0	6	11	
	Beltrami North Central Variation 1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	8	13	
Pine Island Variation Area	Beltrami North Central Variation 2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	6	10	
	Beltrami North Central Variation 3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	6	14	
	Beltrami North Central Variation 4	0	0	1	0	0	0	0	0	0	0	0	0	0	0	9	24	
North Black River Variation Area	Beltrami North Central Variation 5	0	0	1	0	0	0	0	0	0	0	0	0	0	0	11	23	
	Proposed Blue Route	0	2	2	0	1	1	0	0	0	2	1	1	1	1	60	109	
	Proposed Orange Route	0	0	7	0	0	1	0	0	0	2	4	1	2	63	100		
C2 Segment Option Variation Area	Proposed Orange Route	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	
	Proposed Orange Route	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	Beltrami South Central Variation	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
J2 Segment Option Variation Area	Proposed Orange Route	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	Proposed Orange Route	0	0	2	0	0	1	0	0	2	4	0	0	0	0	31	44	
	J2 Segment Option Variation	0	2	7	0	0	1	0	1	2	5	0	0	0	0	25	39	
Northhome Variation Area	Northhome Variation	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	
	Proposed Orange Route	0	0	0	0	1	1	0	0	1	1	0	0	0	0	2	2	
	Cutfoot Variation	0	0	0	0	0	0	0	0	0	1	2	0	0	0	1	4	
Effie Variation Area	Cutfoot Variation	0	0	0	0	0	0	0	0	0	1	2	0	0	0	0	3	
	Proposed Blue Route	0	1	1	0	0	1	0	0	0	2	0	0	0	0	13	19	
	Proposed Orange Route	0	1	1	0	0	1	0	0	2	0	0	0	0	0	14	19	
East Bear Lake Variation Area	Effie Variation	0	0	3	1	2	3	0	0	1	0	1	0	0	0	19	38	
	Proposed Orange Route	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	5	
	East Bear Lake Variation	0	0	0	0	0	0	0	0	0	0	0	0	0	0	5	6	
Balsam Variation Area	Proposed Blue Route	0	0	13	0	0	2	0	0	0	0	0	0	0	0	6	12	
	Proposed Orange Route	0	0	24	0	0	1	0	0	0	0	0	0	0	0	9	19	
	Balsam Variation	0	4	28	0	1	2	0	0	0	0	0	0	0	0	7	17	
Dead Man's Pond Variation Area	Proposed Blue Route	0	0	1	0	0	2	0	0	0	0	0	0	0	0	0	3	
	Proposed Orange Route	0	0	1	0	0	1	0	0	0	0	0	0	0	0	0	3	
	Dead Man's Pond Variation	0	0	6	0	0	0	0	0	0	0	0	0	0	0	1	5	
Blackberry Variation Area	Proposed Blue Route	0	0	0	0	0	0	0	0	0	1	0	0	1	1	3		
	Proposed Orange Route	0	0	1	0	0	0	0	0	0	1	0	0	1	1	3		

Dataset ⁽¹⁾	State Forests		USDA-USFS National Forest		State Scenic Byways		Snowmobile Trails		Water Access Points		State Water Trails		MnDNR Scientific and Natural Areas		MnDNR NHIS Database Records (Endangered, Threatened, and Special Concern) ⁽⁶⁾	
	Count	1,500	Count	1,500	Count	1,500	Count	1,500	Count	1,500	Count	1,500	Count	1,500	Count	1,500
Proposed Border Crossing-Blue/Orange Route	1	1	0	0	0	0	1	1	0	0	0	0	0	0	0	0
Border Crossing Pine Creek Variation	1	1	0	0	0	0	1	1	0	0	0	0	0	0	0	0
Border Crossing Hwy 310 Variation	1	1	0	0	0	0	1	1	0	0	0	0	0	0	0	0
Border Crossing 500KV Variation	1	1	0	0	0	0	1	1	0	0	0	0	0	0	0	0
Border Crossing 230KV Variation	1	1	0	0	0	0	1	1	0	0	0	0	0	0	0	0
Proposed Blue/Orange Route	1	1	0	0	0	0	1	1	0	0	0	0	0	0	0	0
Roseau Lake WMA Variation 1	1	1	0	0	0	0	1	1	0	0	0	0	0	0	0	0
Roseau Lake WMA Variation 2	1	1	0	0	0	0	1	1	0	0	0	0	0	0	0	0
Cedar Bend WMA	1	1	0	0	0	0	1	1	0	0	0	0	0	0	0	0
Proposed Blue/Orange Route	1	1	0	0	0	0	1	1	0	0	0	0	0	0	0	0
Cedar Bend WMA Variation	2	2	0	0	0	0	1	2	0	0	0	0	0	0	0	0
Proposed Blue/Orange Route	1	1	0	0	0	0	1	1	0	0	0	0	0	0	0	0
Beltrami North Variation 1	1	1	0	0	0	0	2	2	0	0	0	0	0	0	0	0
Beltrami North Variation 2	1	1	0	0	0	0	2	2	0	0	0	0	0	0	0	0
Beltrami North Variation 3	1	1	0	0	0	0	2	2	0	0	0	0	0	0	0	0
Beltrami North Variation 4	2	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Beltrami North Variation 5	2	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Proposed Blue/Orange Route	2	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Beltrami North Central Variation 1	2	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Beltrami North Central Variation 2	2	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Beltrami North Central Variation 3	2	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Beltrami North Central Variation 4	2	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Beltrami North Central Variation 5	2	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Pine Island Variation Area	4	4	0	0	0	0	0	3	3	0	0	0	0	0	0	0
Proposed Orange Route	6	6	0	0	0	0	0	4	4	0	0	0	0	0	0	0
Proposed Orange Route	2	2	0	0	0	0	0	1	1	0	0	0	0	0	0	0
Beltrami South Central Variation	2	2	0	0	0	0	0	1	1	0	0	0	0	0	0	0
Beltrami South Variation Area	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Beltrami South Variation Area	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
North Black River Variation Area	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
North Black River Variation Area	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
C2 Segment Option	1	1	0	0	0	0	0	2	2	0	0	0	0	0	0	0
Variation Area	2	2	0	0	0	0	0	2	2	0	0	0	0	0	0	0
Variation Area	3	3	0	0	0	0	0	1	1	0	0	0	0	0	0	0
J2 Segment Option	3	3	0	0	0	0	0	2	2	0	0	0	0	0	0	0
Variation Area	2	2	0	0	0	0	2	3	4	0	0	0	0	0	0	0
Northome Variation Area	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Northome Variation Area	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Cutfoot	3	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Variation Area	3	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Effe	2	2	0	0	0	0	0	4	5	0	0	0	0	0	0	0
Variation Area	2	2	0	0	0	0	0	6	6	0	0	0	0	0	0	0
East Bear Lake Variation Area	2	2	0	0	0	0	0	4	4	0	0	0	0	0	0	0
East Bear Lake Variation Area	1	1	0	0	0	0	0	3	3	0	0	0	0	0	0	0
Balsam Variation Area	1	1	0	0	0	0	0	3	3	0	0	0	0	0	0	0
Balsam Variation Area	0	0	0	0	0	0	0	1	2	0	0	0	0	0	0	0
Dead Man's Pond Variation Area	0	0	0	0	0	0	0	2	3	0	0	0	0	0	0	0
Dead Man's Pond Variation Area	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Blackberry Variation Area	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0
Proposed Orange Route	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0

Datasets ⁽¹⁾	Unit	MnDNR Shallow Lakes	MnDNR Wild Rice Lakes	State Trails	State Forests	USDA-USFS National Forest	State Scenic Byways	Snowmobile Trails	State Water Trails	MnDNR Scientific and Natural Areas	MnDNR High Conservation Value Forest	MnDNR Scientific and Natural Area Peatland Watershed Protection Areas
		Number of Crossings	Number of Crossings	Number of Crossings	Number of Crossings	Number of Crossings	Number of Crossings	Number of Crossings	Number of Crossings	Number of Crossings	Number of Crossings	Number of Crossings
Border Crossing Variation Area	Proposed Border Crossing-Blue/Orange Route	0	0	0	9		0	3	0		2	4
	Border Crossing Pine Creek Variation	0	0	0	9		0	3	0		2	4
	Border Crossing Hwy 310 Variation	0	0	0	7		0	3	0		2	2
Roseau Lake WMA Variation Area	Border Crossing 500kV Variation	0	0	0	3		0	1	0		0	0
	Border Crossing 230kV Variation	0	0	0	2		0	1	0		0	0
	Proposed Blue/Orange Route	0	0	0	8		1	3	0		1	3
Cedar Bend WMA Variation Area	Roseau Lake WMA Variation 1	0	0	0	1		1	6	0		1	1
	Roseau Lake WMA Variation 2	0	0	0	5		1	6	0		1	1
	Proposed Blue/Orange Route	1	0	0	4		1	4	0		2	0
Beltrami North Variation Area	Cedar Bend WMA Variation	1	0	0	3		1	3	0		0	0
	Proposed Blue/Orange Route	1	0	0	4		0	3	0		2	0
	Beltrami North Variation 1	0	0	0	5		0	4	0		0	0
Beltrami North Central Variation Area	Beltrami North Variation 2	1	0	0	3		0	9	0		2	0
	Beltrami North Variation 3	0	0	0	4		0	2	0		0	0
	Beltrami North Variation 4	0	0	0	11		0	2	0		0	0
Pine Island Variation Area	Beltrami North Central Variation 2	0	0	0	4		0	2	0		0	1
	Beltrami North Central Variation 3	0	0	0	4		0	2	0		0	0
	Beltrami North Central Variation 4	0	0	0	15		0	2	0		0	0
Beltrami South Variation Area	Beltrami North Central Variation 5	0	0	0	17		0	2	0		0	0
	Proposed Blue Route	0	0	0	13		0	2	0		0	0
	Proposed Orange Route	0	0	1	23		0	12	1		0	2
Beltrami South Central Variation Area	Proposed Orange Route	0	0	1	20		0	10	1		0	2
	Beltrami South Central Variation	0	0	0	2		0	0	0		0	0
	Proposed Orange Route	0	0	0	2		0	0	0		0	0
North Black River Variation Area	Beltrami South Variation	0	0	0	1		0	0	0		0	0
	Proposed Blue Route	0	0	0	1		0	0	0		0	0
	Proposed Orange Route	0	0	0	3		0	2	0		0	1
C2 Segment Option Variation Area	North Black River Variation	0	0	0	4		0	2	0		0	1
	Proposed Blue Route	0	0	1	2		0	5	1		0	0
	Proposed Orange Route	0	0	1	5		0	1	1		0	3
J2 Segment Option Variation Area	C2 Segment Option Variation	0	0	1	7		0	7	0		0	0
	Proposed Orange Route	0	0	1	4		0	3	0		0	0
	J2 Segment Option Variation	0	0	1	4		2	3	0		0	0
Northhome Variation Area	Northhome Variation	1	0	0	1		0	0	0		0	0
	Proposed Orange Route	0	0	0	3		0	0	0		0	0
	Cutfoot Variation	0	0	0	3		0	0	0		0	0
East Bear Lake Variation Area	Proposed Blue Route	0	0	1	7		0	7	0		0	0
	Proposed Orange Route	0	0	1	7		0	8	0		0	0
	Effie Variation	0	0	1	4		0	4	0		0	0
Balsam Variation Area	Proposed Orange Route	0	0	1	2		0	3	0		0	0
	Proposed Blue Route	0	1	0	0		0	2	0		0	0
	Balsam Variation	0	0	0	0		0	6	0		0	0
Dead Man's Pond Variation Area	Proposed Blue Route	0	0	0	0		0	0	0		0	0
	Proposed Orange Route	0	0	0	0		0	0	0		0	0
	Proposed Blue Route	0	0	0	0		0	2	0		0	0
Blackberry Variation Area	Proposed Orange Route	0	0	0	0		0	6	0		0	0
	Proposed Blue Route	0	0	0	0		0	0	0		0	0
	Proposed Orange Route	0	0	0	0		0	0	0		0	0

Datasets ⁽¹⁾		Unit	MnDNR Ecologically Important Lowland Conifer Areas	MnDNR Wildlife Management Areas	Minnesota Department of Health Wellhead Protection Areas	USFWS Interest Lands	Audubon Society Important Bird Areas	USFWS Grassland Bird Conservation Areas
			Number of Crossings	Number of Crossings	Number of Crossings	Number of Crossings	Number of Crossings	Number of Crossings
Border Crossing Variation Area	Proposed Border Crossing-Blue/Orange Route		0	1	0	0	0	6
	Border Crossing Pine Creek Variation		0	1	0	0	0	6
	Border Crossing Hwy 310 Variation		0	0	0	0	0	6
Rousseau Lake WMA Variation Area	Border Crossing 500kV Variation		0	0	0	0	0	0
	Border Crossing 230kV Variation		0	0	0	0	0	0
	Proposed Blue/Orange Route		0	3	0	0	0	10
	Rousseau Lake WMA Variation 1		0	0	0	0	0	4
Cedar Bend WMA Variation Area	Rousseau Lake WMA Variation 2		0	2	0	0	0	14
	Proposed Blue/Orange Route		0	2	0	1	0	4
Beltrami North Variation Area	Cedar Bend WMA Variation		0	1	0	0	0	1
	Proposed Blue/Orange Route		0	0	0	1	0	0
Beltrami North Central Variation Area	Beltrami North Variation 1		0	0	0	0	0	0
	Beltrami North Variation 2		0	0	0	0	1	0
	Proposed Blue/Orange Route		0	0	0	2	0	0
	Beltrami North Central Variation 1		0	0	0	0	1	0
	Beltrami North Central Variation 2		0	0	0	1	2	0
Pine Island Variation Area	Beltrami North Central Variation 3		0	0	0	0	1	0
	Beltrami North Central Variation 4		0	0	0	0	1	0
	Beltrami North Central Variation 5		0	0	0	0	1	0
	Proposed Blue Route		7	1	0	1	9	0
	Proposed Orange Route		1	4	0	2	8	0
Beltrami South Variation Area	Proposed Orange Route		0	0	0	2	1	0
	Beltrami South Central Variation		0	0	0	0	1	0
North Black River Variation Area	Proposed Orange Route		0	0	0	0	1	0
	Beltrami South Variation		0	0	0	0	1	0
C2 Segment Option Variation Area	Proposed Blue Route		0	0	0	0	1	0
	North Black River Variation		0	0	0	0	1	0
J2 Segment Option Variation Area	Proposed Blue Route		2	0	0	0	1	0
	C2 Segment Option Variation		1	0	0	0	1	0
Northhome Variation Area	Proposed Orange Route		0	0	0	1	0	0
	Northhome Variation		0	0	0	1	0	0
Effie Variation Area	Proposed Orange Route		0	0	0	0	0	0
	Cutfoot Variation		0	0	0	0	0	0
East Bear Lake Variation Area	Proposed Blue Route		0	0	0	0	2	0
	Proposed Orange Route		0	0	0	0	2	0
Balsam Variation Area	Effie Variation		0	0	0	0	0	0
	Proposed Orange Route		0	0	0	0	0	0
Dead Man's Pond Variation Area	East Bear Lake Variation		0	0	0	0	0	0
	Proposed Blue Route		0	0	0	0	0	0
Blackberry Variation Area	Proposed Orange Route		0	0	0	0	0	0
	Balsam Variation		0	0	4	0	0	0
	Proposed Blue Route		0	0	0	0	0	0
	Dead Man's Pond Variation		0	0	0	0	0	0
	Proposed Blue Route		0	0	0	0	0	0
	Proposed Orange Route		0	0	0	0	0	0

Datasets ⁽¹⁾	National Hydrology Dataset Waterbodies	MnDNR Public Water Inventory Watercourses		MnDNR Public Water Inventory Basins		MnDNR Public Water Inventory Wetlands	MnDNR Trout Streams		USFWS National Wetland Inventory ⁽⁴⁾						MnDNR Shallow Lakes	MnDNR Wild Rice Lakes
		Length (mi)	Area (ac)	Area (ac)	Area (ac)		Length (mi)	Area (ac)	Area (ac)	Area (ac)	Area (ac)	Area (ac)	Area (ac)	Area (ac)		
Type	--	--	--	--	--	--	--	--	PEM	PSS	PFO	PUB	River	Lake	--	--
Unit	Area (ac)	Length (mi)	Area (ac)	Area (ac)	Area (ac)	Area (ac)	Length (mi)	Area (ac)	Area (ac)	Area (ac)	Area (ac)	Area (ac)	Area (ac)	Area (ac)	Area (ac)	Area (ac)
Buffer ⁽²⁾ (ft)	100	1,500	100	1,500	100	1,500	100	1,500	100	1,500	100	1,500	100	1,500	100	1,500
Pine Island Variation Area	0	0	0	0	0	0	0	0	3	25	497	0	25	0	0	0
Silver Creek WMA Alignment Modification	0	0	0	0	0	0	0	0	3	26	508	0	22	0	0	0
C2 Segment Option Variation Area	0	<0.5	<0.05	0	0	0	0	0	3	50	20	325	13	266	0	0
Airstrip Alignment Modification	0	0	<0.05	0	0	0	0	0	2	39	19	336	17	291	0	0
Proposed Orange Route	0	0	0.8	0	0	0	0	0	1	14	1	57	10	244	0	0
Mizpah Alignment Modification	0	0	0.8	0	0	0	0	0	1	13	3	58	12	257	0	0
Proposed Orange Route	0	0	0	0	0	0	0	0	0	4	0	55	5	100	0	0
Gravel Pit Alignment Modification	0	0	0	0	0	0	0	0	2	5	0	66	3	88	0	0
Proposed Blue/Orange Route	0	0	0	0	0	0	0	0	0	6	6	73	17	360	0	0
Bass Lake Alignment Modification	0	0	0	0	0	0	0	0	0	1	6	75	13	376	0	0
Proposed Blue Route	0	6	<0.05	0.6	0	0	0	0	1	15	4	92	20	376	0	0
Wilson Lake Alignment Modification	0	1	<0.05	0.5	0	0	0	0	3	15	5	86	19	362	0	1
Proposed Blue Route	6	62	0	0	16	6	70	0	0	1	28	1	74	0	1	0
Grass Lake Alignment Modification	0	52	0	15	0	57	0	0	0	3	33	2	84	0	1	0
Proposed Blue Route	0	19	0	2	0	19	0	0	0	4	112	2	38	0	0	0
Dead Man's Pond Alignment Modification	3	26	0	0.9	2	3	26	0	0	0	3	95	2	67	0	0
Proposed Orange Route	0	0	0	0	0	0	0	0	0	0	1	59	1	95	0	0
Trout Lake Alignment Modification	0	0	0	0	0	0	0	0	0	0	1	61	5	95	0	0

Datasets ⁽¹⁾	State Trails	County/Local Parks	State Forests	USDA-USFS National Forest	State Scenic Byways	State Snowmobile Trails	State Water Trails	State Conservation Easements
Type	--	--	--	--	--	--	--	--
Unit	Length (mi)	Area (ac)	Area (ac)	Area (ac)	Length (mi)	Length (mi)	Length (mi)	Area (ac)
	100	1,500	100	1,500	100	1,500	100	1,500
Pine Island Variation Area		0	0	0	0	0	0	0
C2 Segment Option Variation Area		0	0	0	0	0	0	0
J2 Segment Option Variation Area		0	0	0	0	0	0	0
Effie Variation Area		0	0	0	0	0	0	0
Balsam Variation Area		0	0	0	0	0	0	0
Dead Man's Variation Area		0	0	0	0	0	0	0
Blackberry Variation Area		0	0	0	0	0	0	0
Proposed Blue Route		0	0	0	0	0	0	0
Silver Creek WMA Alignment Modification		0	0	15	355	0	0	0
C2 Segment Option		0	0	24	378	0	0	0
Airstrip Alignment Modification		0	0	0	0	0	0	0
Proposed Orange Route		0	0	68	1,165	0	0	0
Mizpah Alignment Modification		0	0	68	1,165	0	0	0
Proposed Orange Route		0	0	0	0	0	0	0
Gravel Pit Alignment Modification		0	0	0	0	0	0	0
Proposed Blue/Orange Route		0	24	60	1,045	<0.05	1.0	48
Proposed Blue Route		0	0	60	1,052	<0.05	0.9	37
Wilson Lake Alignment Modification		0	0	60	1,047	0	0	<0.5
Proposed Blue Route		0	0	60	1,050	0	0	0
Grass Lake Alignment Modification		0	0	0	0	0	0	76
Proposed Blue Route		0	0	0	0	0	0	0
Proposed Blue Route		0	0	0	0	0	0	0
Dead Man's Pond Alignment Modification		0	0	0	0	0	0	0
Proposed Orange Route		0	0	0	0	0	0	0
Trout Lake Alignment Modification		0	0	0	0	0	0	0

Datasets ⁽¹⁾		GAP Land Cover Vegetation Class Level - Division 4																		
		Herbaceous Agricultural Vegetation		North American Boreal Forest		North American Boreal Flooded & Swamp Forest		Eastern North American Cool Temperate Forest		Eastern North American Flooded & Swamp Forest		Great Plains Grassland & Shrubland		Developed & Urban		Recently Disturbed or Modified		Open Water		
Type	Unit	Area (ac)		Area (ac)		Area (ac)		Area (ac)		Area (ac)		Area (ac)		Area (ac)		Area (ac)		Area (ac)		
	Buffer ⁽²⁾ (ft)	1,500	100	1,500	100	1,500	100	1,500	100	1,500	100	1,500	100	1,500	100	1,500	100	1,500	100	1,500
Pine Island Variation Area	Proposed Blue Route	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Silver Creek WMA Alignment Modification	0	0	6	89	15	391	0	2	4	56	0	0	0	0	0	0	0	0	0
C2 Segment Option Variation Area	C2 Segment Option	0	1	7	136	28	470	0	0	2	82	0	0	0	0	10	0	5	0	0
	Airstrip Alignment Modification	0	0	11	143	26	502	0	0	0	68	0	0	0	0	5	0	3	0	0
J2 Segment Option Variation Area	Proposed Orange Route	0	108	40	584	6	159	17	196	4	106	0	0	0	0	7	0	3	0	1
	Mizpah Alignment Modification	0	107	38	582	8	163	17	195	4	108	0	0	0	0	7	0	2	0	1
	Proposed Orange Route	0	3	25	455	1	60	1	32	1	26	0	0	1	14	0	5	0	0	0
	Gravel Pit Alignment Modification	0	2	25	445	1	68	2	33	1	36	0	0	1	14	1	4	0	0	6
	Proposed Blue/Orange Route	0	0	18	374	35	527	1	28	6	109	0	0	0	5	0	2	0	0	0
Effie Variation Area	Bass Lake Alignment Modification	0	0	24	384	28	518	0	28	7	117	0	0	0	4	0	2	0	0	0
	Proposed Blue Route	0	0	35	459	23	507	0	5	1	46	0	0	0	10	0	15	0	0	4
	Wilson Lake Alignment Modification	0	0	29	491	28	484	1	7	2	42	0	0	0	12	0	14	0	0	0
Balsam Variation Area	Proposed Blue Route	0	0	21	308	0	68	4	127	0	20	0	0	0	0	28	0	6	6	62
	Grass Lake Alignment Modification	0	0	16	323	3	82	12	121	1	20	0	0	0	0	28	0	7	0	51
Dead Man's Variation Area	Proposed Blue Route	0	0	25	449	0	53	12	176	1	26	0	0	0	4	33	0	2	0	21
	Dead Man's Pond Alignment Modification	0	2	22	439	0	61	12	155	1	30	0	0	0	1	25	0	3	3	32
	Proposed Orange Route	0	6	19	334	0	35	4	101	2	44	0	0	0	5	0	1	0	0	0
Blackberry Variation Area	Trout Lake Alignment Modification	0	6	19	341	0	35	5	106	2	43	0	0	0	5	0	2	0	0	0

Datasets ⁽¹⁾	GAP Land Cover Vegetation Class Level - Division 4						Farmland					USDA-NRCS Soil Type		Abandoned Transmission Line				
	Type	Southeastern North American Flooded & Swamp Forest	Eastern North America Freshwater Wet Meadow, Riparian & Marsh		Introduced & Semi Natural Vegetation	Not Farmland	Prime Farmland If Drained	Farmland Of Statewide Importance	All Areas Are Prime Farmland	Mineral	Histosol	Length (mi)	Percent of Total Length					
			Area (ac)	Area (ac)											Area (ac)	Area (ac)	Area (ac)	Area (ac)
	Unit	100	1,500	100	1,500	100	1,500	100	1,500	100	1,500	100	1,500	100	1,500	--	--	
Pine Island Variation Area	Proposed Blue Route	0	0	0	0	0	26	511	0	27	0	0	0	2	94	24	443	
C2 Segment Option Variation Area	Silver Creek WMA Alignment Modification	0	0	0	0	0	26	524	0	16	0	0	0	0	77	26	464	
	Airstrip Alignment Modification	0	0	0	0	0	35	641	0	0	1	63	0	0	23	438	14	266
J2 Segment Option Variation Area	Proposed Orange Route	0	0	0	0	0	37	664	0	0	1	57	0	0	23	443	15	278
	Mizpah Alignment Modification	0	0	0	0	0	22	365	42	652	4	134	0	13	68	1,165	0	0
	Proposed Orange Route	0	0	0	0	0	21	361	42	657	4	134	0	13	68	1,165	0	0
	Gravel Pit Alignment Modification	0	0	0	0	0	0	96	15	141	0	0	14	358	30	544	0	0
	Proposed Blue/Orange Route	0	0	0	0	0	<0.5	92	4	132	0	0	27	384	30	557	<0.5	51
	Proposed Blue Route	0	0	0	0	0	27	522	7	74	11	193	14	256	38	640	22	405
	Wilson Lake Alignment Modification	0	0	0	0	0	40	778	0	31	10	146	10	91	38	686	22	361
	Grass Lake Alignment Modification	0	0	0	0	0	44	749	0	31	8	150	9	120	37	709	23	341
	Proposed Blue Route	0	0	0	0	0	16	345	0	7	0	0	15	267	30	511	1	108
	Proposed Blue Route	0	0	0	0	0	10	345	0	7	0	0	22	280	27	509	5	123
	Dead Man's Pond Alignment Modification	0	0	0	0	0	30	480	6	87	0	0	5	193	35	639	5	121
	Proposed Orange Route	0	0	0	0	0	33	480	4	78	0	0	2	188	37	618	3	128
	Trout Lake Alignment Modification	0	0	0	0	0	1	163	8	78	0	0	16	286	24	379	1	147
		0	0	0	0	0	4	169	11	82	0	0	11	286	22	393	4	145

Datasets ⁽¹⁾	Corridor Sharing ⁽⁶⁾											
	Type	Transmission Line only		Transmission Line and Trail		None		Field Line only		Road and Trail and PLSS		Road and Transmission Line and PLSS
Unit	Length (mi)	Percent of Total Length	Length (mi)	Percent of Total Length	Length (mi)	Percent of Total Length	Length (mi)	Percent of Total Length	Length (mi)	Percent of Total Length	Length (mi)	Percent of Total Length
		--	--	--	--	--	--	--	--	--	--	--
	Buffer ⁽²⁾ (ft)	1.0	100	0	0	0	0	0	0	0	0	0
Pine Island Variation Area	Proposed Blue Route	0.0	0	0	0	0	0	0	0	0	0	0
	Silver Creek WMA Alignment Modification	0.0	0	0	1	100	0	0	0	0	0	0
C2 Segment Option Variation Area	C2 Segment Option	0.9	60	0	1	40	0	0	0	0	0	0
	Airstrip Alignment Modification	0.0	0	0	2	100	0	0	0	0	0	0
J2 Segment Option Variation Area	Proposed Orange Route	0.0	0	0	2	82	1	18	0	0	0	0
	Mizpah Alignment Modification	0.0	0	0	2	81	1	18	0	0	0	0
	Proposed Orange Route	0.0	0	0	1	100	0	0	0	0	0	0
	Gravel Pit Alignment Modification	0.0	0	0	1	100	0	0	0	0	0	0
	Bass Lake Alignment/Modification	0.0	0	0	2	100	0	0	0	0	0	0
	Proposed Blue/Orange Route	0.0	0	0	2	100	0	0	0	0	0	0
Effie Variation Area	Proposed Blue Route	0.0	0	0	2	100	0	0	0	0	0	0
	Wilson Lake Alignment Modification	0.0	0	0	2	100	0	0	0	0	0	0
Balsam Variation Area	Proposed Blue Route	0.0	0	0	1	100	0	0	0	0	0	0
	Grass Lake Alignment Modification	0.0	0	0	1	100	0	0	0	0	0	0
Dead Man's Variation Area	Proposed Blue Route	0.0	0	0	1	77	0	0	0	0	0	0
	Dead Man's Pond Alignment Modification	0.0	0	0	2	100	0	0	0	0	0	0
	Proposed Orange Route	0.0	0	0	1	100	0	0	0	0	0	0
Blackberry Variation Area	Trout Lake Alignment Modification	0.0	0	0	1	100	0	0	0	0	0	0

Datasets ⁽¹⁾		State Mineral Leases	County Lands	MPCA Impaired Streams	National Hydrology Dataset Flowlines	National Hydrology Dataset Waterbodies	MnDNR Public Water Inventory Watercourses	MnDNR Public Water Inventory Basins	MnDNR Public Water Inventory Wetlands
		Number of Crossings	Number of Crossings	Number of Crossings	Number of Crossings	Number of Crossings	Number of Crossings	Number of Crossings	Number of Crossings
Pine Island Variation Area	Proposed Blue Route	5	0		0	0	0		0
	Silver Creek WMA Alignment Modification	7	0		0	0	0		0
C2 Segment Option Variation Area	C2 Segment Option	0	0		1	0	1		0
	Alitrip Alignment Modification	0	0		1	0	1		0
J2 Segment Option Variation Area	Proposed Orange Route	0	0		5	0	1		0
	Mizpah Alignment Modification	0	0		3	0	1		0
	Proposed Orange Route	0	0		0	0	0		0
	Gravel Pit Alignment Modification	0	0		0	0	0		0
Effe Variation Area	Proposed Blue/Orange Route	14	0		0	0	0		0
	Bass Lake Alignment Modification	14	0		0	0	0		0
	Proposed Blue Route	13	0		1	0	1		0
	Wilson Lake Alignment Modification	16	0		1	0	1		0
	Proposed Blue Route	0	0		0	1	0		1
	Grass Lake Alignment Modification	0	0		0	0	0		0
Dead Man's Variation Area	Proposed Blue Route	0	0		0	0	0		0
	Dead Man's Pond Alignment Modification	0	0		0	1	0		1
Blackberry Variation Area	Proposed Orange Route	0	0		0	0	0		0
	Trout Lake Alignment Modification	0	0		0	0	0		0

Datasets ⁽¹⁾		MnDNR Trout Streams	MnDNR Shallow Lakes	MnDNR Wild Rice Lakes	State Trails	State Forests	USDA-USFS National Forest	State Scenic Byways	Snowmobile Trails	State Water Trails	MnDNR Scientific and Natural Areas	MnDNR High Conservation Value Forest	MnDNR Scientific and Natural Area Wetland Watershed Protection Areas	MnDNR Ecologically Important Lowland Conifer Areas
		Number of Crossings	Number of Crossings	Number of Crossings	Number of Crossings	Number of Crossings	Number of Crossings	Number of Crossings	Number of Crossings	Number of Crossings	Number of Crossings	Number of Crossings	Number of Crossings	Number of Crossings
Unit														
Pine Island Variation Area	Proposed Blue Route		0	0	1	1		0	0					
C2 Segment Option Variation Area	Silver Creek WMA Alignment Modification			0		1		0	0					
	C2 Segment Option			0		0		0	0					
	Airstrip Alignment Modification			0		0		0	0					
J2 Segment Option Variation Area	Proposed Orange Route			0		1		0	0					
	Mizpah Alignment Modification			0		1		0	0					
	Proposed Orange Route			0		0		0	0					
	Gravel Pit Alignment Modification			0		0		0	0					
	Proposed Blue/Orange Route			0		1		0	1					
Effie Variation Area	Bass Lake Alignment Modification			0		1		0	1					
	Proposed Blue Route			0		1		0	0					
	Wilson Lake Alignment Modification			0		1		0	0					
Balsam Variation Area	Proposed Blue Route			1		0		0	0					
	Grass Lake Alignment Modification			0		0		0	0					
Dead Man's Variation Area	Proposed Blue Route			0		0		0	0					
	Dead Man's Pond Alignment Modification			0		0		0	0					
Blackberry Variation Area	Proposed Orange Route			0		0		0	0					
	Trout Lake Alignment Modification			0		0		0	0					

Datasets ⁽¹⁾	MnDNR Wildlife Management Areas	Minnesota Department of Health Wellhead Protection Areas	USFWS Interest Lands	Audubon Society Important Bird Areas	USFWS Grassland Bird Conservation Areas	Unit	
						Number of Crossings	Number of Crossings
Pine Island Variation Area	Proposed Blue Route		1	1			
C2 Segment Option Variation Area	Silver Creek WMA Alignment Modification		0	1			
	C2 Segment Option		0	0			
	Airstrip Alignment Modification		0	0			
J2 Segment Option Variation Area	Proposed Orange Route		0	0			
	Mizpah Alignment Modification		0	0			
	Proposed Orange Route		0	0			
	Gravel Pit Alignment Modification		0	0			
	Proposed Blue/Orange Route		0	1			
Effie Variation Area	Bass Lake Alignment Modification		0	1			
	Proposed Blue Route		0	0			
	Wilson Lake Alignment Modification		0	0			
Balsam Variation Area	Proposed Blue Route		0	0			
	Grass Lake Alignment Modification		0	0			
Dead Man's Variation Area	Proposed Blue Route		0	0			
	Dead Man's Pond Alignment Modification		0	0			
Blackberry Variation Area	Proposed Orange Route		0	0			
	Trout Lake Alignment Modification		0	0			

Datasets ⁽¹⁾	State Trails	County/Local Parks	State Forests	USDA-USFS National Forest	State Scenic Byways
Type	--	--	--	--	--
Unit	Length (mi)	Area (ac)	Area (ac)	Area (ac)	Length (mi)
	100	1,500	100	1,500	100
	1,500	100	1,500	100	1,500
	Buffer ⁽²⁾ (ft)				
	Hop 1		17	372	
	Hop 2		30	571	
	Hop 3		23	502	
	Hop 4		23	502	
	Hop 5		75	1,216	

Datasets ⁽¹⁾	State Snowmobile Trails	State Water Trails	State Conservation Easements	Preliminary MBS Sites of Biodiversity Significance ⁽⁶⁾												MBS Native Plant Communities ⁽⁶⁾⁽⁷⁾	MNDNR Scientific and Natural Areas										
				Length (mi)	Length (mi)	Outstanding	High	Moderate	Below	Rank Unknown	Total	Area (ac)	Area (ac)	Area (ac)	Area (ac)			Area (ac)	Area (ac)								
Type	--	--	--	100	1,500	0	0	0	10	134	7	267	0	0	0	0	17	401	100	1,500	--	Area (ac)	Area (ac)	100	1,500		
Unit	Length (mi)	Length (mi)	Area (ac)	100	1,500	0	0	0	8	189	22	411	0	0	0	0	30	599	100	1,500	Area (ac)	Area (ac)	100	1,500	Area (ac)	Area (ac)	
Buffer ⁽²⁾ (ft)	100	1,500	0.7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Cedar Bend WMA	<0.05	0.7		0	10	0	0	0	10	134	7	267	0	0	0	0	17	401	100	1,500	Area (ac)	Area (ac)	100	1,500	Area (ac)	Area (ac)	
Variation Area	0.5	2.1		0	8	0	0	0	8	189	22	411	0	0	0	0	30	599	100	1,500	Area (ac)	Area (ac)	100	1,500	Area (ac)	Area (ac)	
Cedar Bend WMA and Beltrami North Variation Area	0	0.8		0	20	0	0	0	20	308	3	194	0	0	0	0	23	502	100	1,500	Area (ac)	Area (ac)	100	1,500	Area (ac)	Area (ac)	
Beltrami North Variation Area	0	0.8		0	20	0	0	0	20	308	3	194	0	0	0	0	23	502	100	1,500	Area (ac)	Area (ac)	100	1,500	Area (ac)	Area (ac)	
Beltrami North Central Variation Area	0	0		0	38	0	0	0	38	574	0	0	0	0	0	39	678	1,252	100	1,500	Area (ac)	Area (ac)	100	1,500	Area (ac)	Area (ac)	

Datasets ⁽¹⁾		GAP Land Cover Vegetation Class Level - Division 4																	
		Herbaceous Agricultural Vegetation		North American Boreal Forest		North American Boreal Flooded & Swamp Forest		Eastern North American Cool Temperate Forest		Eastern North American Flooded & Swamp Forest		Great Plains Grassland & Shrubland		Developed & Urban		Recently Disturbed or Modified		Open Water	
Type	Unit	Area (ac)		Area (ac)		Area (ac)		Area (ac)		Area (ac)		Area (ac)		Area (ac)		Area (ac)		Area (ac)	
		100	1,500	100	1,500	100	1,500	100	1,500	100	1,500	100	1,500	100	1,500	100	1,500	100	1,500
	Buffer ⁽²⁾																		
	Hop 1			5	55	12	332	<0.5	1	1	17	0	0	0	0	0	0	0	0
	Hop 2			6	112	23	434	1	2	1	57	0	0	0	0	0	0	0	0
	Hop 3			4	92	11	335	0	1	8	75	0	0	0	0	0	0	0	0
	Hop 4			4	92	11	335	0	1	8	75	0	0	0	0	0	0	0	0
	Hop 5			39	526	40	710	1	20	5	165	0	0	0	0	2	0	0	0

Corridor Sharing ⁽⁸⁾												
Datasets ⁽¹⁾	Corridor Sharing ⁽⁸⁾											
Type	Road and Trail and PLSS		Road and Transmission Line and PLSS		PLSS only		Road and Trail and PLSS and Field Line		Road and PLSS and Field Line		Transmission Line and PLSS	
	Length (mi)	Percent of Total Length	Length (mi)	Percent of Total Length	Length (mi)	Percent of Total Length	Length (mi)	Percent of Total Length	Length (mi)	Percent of Total Length	Length (mi)	Percent of Total Length
	Unit											
	Buffer ⁽²⁾ (ft)											
		0	0	0	0	0	0	0	0	0	0	0
		0	0	0	0	0	0	0	0	0	0	0
Cedar Bend WMA Variation Area												
		0	0	0	0	0	0	0	0	0	0	0
Cedar Bend WMA and Beltrami North Variation Area												
		0	0	0	0	0	0	0	0	0	0	0
Beltrami North Variation Area												
		0	0	0	0	0	0	0	0	0	0	0
Beltrami North Central Variation Area												
		0	0	0	0	3	100	0	0	0	0	0

Datasets ⁽¹⁾	MnDNR Wildlife Management Areas	Minnesota Department of Health Wellhead Protection Areas	USFWS Interest Lands	Audubon Society Important Bird Areas	USFWS Grassland Bird Conservation Areas
Unit					
Cedar Bend WMA Variation Area				0	
Cedar Bend WMA and Beltrami North Variation Area				0	
Beltrami North Variation Area				0	
Beltrami North Central Variation Area				1	

Dataset ⁽¹⁾	County/Local Parks	State Forests	USDA-USFS National Forest	State Scenic Byways	State Snowmobile Trails	State Water Trails	State Conservation Easements
Type	--	--	--	--	--	--	--
Unit	Area (ac)	Area (ac)	Area (ac)	Length (mi)	Length (mi)	Length (mi)	Area (ac)
Buffer ⁽²⁾ (ft)	100	1,500	1,500	100	1,500	1,500	1,500
Proposed Blue Route	0	3,758	55,180	<0.5	1.5	<0.5	218
Proposed Orange Route	0	3,496	51,442	<0.5	2.0	0.1	97
	24			1.0	48.0	0.9	1,239

Dataset ⁽¹⁾	Preliminary MBS Sites of Biodiversity Significance ⁽⁶⁾										MBS Native Plant Communities ⁽⁷⁾	MnDNR Scientific and Natural Areas	MnDNR High Conservation Value Forest	MnDNR Scientific and Natural Area, Peatland Watershed Protection Areas	MnDNR Ecologically Important Lowland Conifer Areas							
	Type	Outstanding	High	Moderate	Below	Rank Unknown	Total	Area (ac)	Area (ac)	Area (ac)						Area (ac)	Area (ac)	Area (ac)	Area (ac)	Area (ac)		
Unit	Area (ac)	Area (ac)	Area (ac)	Area (ac)	Area (ac)	Area (ac)	Area (ac)	Area (ac)	Area (ac)	Area (ac)	Area (ac)	Area (ac)	Area (ac)	Area (ac)	Area (ac)							
Buffer ⁽²⁾ (ft)	100	1,500	100	1,500	100	1,500	100	1,500	100	1,500	100	1,500	100	1,500	100	1,500						
Proposed Blue Route	227	4,266	616	8,940	930	13,780	86	1,037	1,175	16,996	3,036	45,019	167	2,210	0	117	90	1,026	303	4,133	29	448
Proposed Orange Route	585	8,791	697	10,653	1,287	19,055	156	2,118	555	8,292	3,280	48,910	167	2,210	0	67	90	1,026	425	6,287	5	85

Dataset ⁽¹⁾		GAP Land Cover Vegetation Class Level - Division 4																						
		Minnesota Department of Health Well Head Protection Areas		MnDNR State Wildlife Management Areas		USFWS Interest Lands		Audubon Society Important Bird Areas		USFWS Grassland Bird Conservation Areas		MnDNR Gray Owl Management Area		Herbaceous Agricultural Vegetation		North American Boreal Forest		North American Boreal Flooded & Swamp Forest		Eastern North American Cool Temperate Forest		Eastern North American Flooded & Swamp Forest		
Type		--		--		--		--		--		--		--		--		--		--		--		
Unit		Area (ac)		Area (ac)		Area (ac)		Area (ac)		Area (ac)		Area (ac)		Area (ac)		Area (ac)		Area (ac)		Area (ac)		Area (ac)		
Proposed Blue Route	Buffer ⁽²⁾ (ft)	100	1,500	100	1,500	100	1,500	100	1,500	100	1,500	100	1,500	100	1,500	100	1,500	100	1,500	100	1,500	100	1,500	
Proposed Orange Route				117	1,927	33	48	674	1,565	23,204	131	1,931			260	4,546	1,546	23,584	2,564	38,235	195	2,903	524	6,676
				342	5,055	41	61	820	1,881	28,587	131	1,931			225	4,076	1,622	24,534	2,455	35,539	258	3,896	548	8,261

Dataset ⁽¹⁾	GAP Land Cover Vegetation Class Level - Division 4												Farmland							
	Type	Great Plains Grassland & Shrubland	Developed & Urban	Recently Disturbed or Modified	Open Water	Southeastern North American Flooded & Swamp Forest	Eastern North America Freshwater Wet Meadow, Riparian & Marsh	Introduced & Semi Natural Vegetation	Not Farmland	Prime Farmland If Drained	Farmland Of Statewide Importance	All Areas Are Prime Farmland	Area (ac)	Area (ac)	Area (ac)	Area (ac)				
Unit	Area (ac)	Area (ac)	Area (ac)	Area (ac)	Area (ac)	Area (ac)	Area (ac)	Area (ac)	Area (ac)	Area (ac)	Area (ac)	Area (ac)	Area (ac)	Area (ac)	Area (ac)	Area (ac)				
Proposed Blue Route	100	1,500	100	1,500	100	1,500	100	1,500	100	1,500	100	1,500	100	1,500	100	1,500				
Proposed Orange Route	0	15	44	564	50	835	1	11	1	4	1	4	3,846	57,694	579	9,484	377	5,127	415	5,954
Buffer ⁽²⁾	0	15	40	753	36	743	1	11	1	2	0	2	3,698	55,258	775	11,752	212	3,271	545	8,149

Dataset ⁽¹⁾		Corridor Sharing ⁽⁸⁾																	
Type	Unit	PLSS only		Road and Trail and PLSS and Field Line		Road and PLSS and Field Line		Past Transmission Line only		Transmission Line and PLSS		Transmission Line and Trail and PLSS		Road and PLSS		Transmission Line and PLSS and Field Line		Road and Transmission Line and PLSS and Field Line	
		Length (mi)	Percent of Total Length	Length (mi)	Percent of Total Length	Length (mi)	Percent of Total Length	Length (mi)	Percent of Total Length	Length (mi)	Percent of Total Length	Length (mi)	Percent of Total Length	Length (mi)	Percent of Total Length	Length (mi)	Percent of Total Length	Length (mi)	Percent of Total Length
	Buffer ⁽²⁾ (ft)	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Proposed Blue Route		11	5	0	0	6	3	0	0	13	6	3	1	0	0	4	2	1	1
Proposed Orange Route		12	6	0	0	6	3	4	2	4	2	3	1	0	0	1	1	1	1

Dataset ⁽¹⁾	Residences						Churches		Commercial & Non-Residential Structures		Cemeteries		Private Airstrips		Historic Architectural Sites		Archaeological Sites					
	Unit	100	150	200	500	1,000	1,500	Count	100	1,500	Count	100	1,500	Count	100	1,500	Count	100	1,500	Count		
Proposed Blue Route	Buffer ⁽²⁾	0	0	0	6	32	55	0	0	0	1	101		0	0	0	2	7	27	0	1	17
Proposed Orange Route		0	0	0	6	30	69	0	0	0	0	135		0	0	1	2	5	38	0	0	11

Dataset ⁽¹⁾	Communication Towers		State Aggregate Sources		MPCA Impaired Streams		National Hydrology Dataset Flowlines		National Hydrology Dataset Waterbodies		MnDNR Public Water Inventory Watercourses		MnDNR Public Water Inventory Basins		MnDNR Public Water Inventory Wetlands		MnDNR Trout Streams		
	Unit	Count	Count	Count	Count	Count	Count	Count	Count	Count	Count	Count	Count	Count	Count	Count	Count	Count	
Proposed Blue Route	Buffer ⁽²⁾ (ft)	100	1,500	100	1,500	100	1,500	100	1,500	100	1,500	100	1,500	100	1,500	100	1,500	100	1,500
		0	3	5	5	115	224	12	78	35	39	3	9	2	7	1	1	1	1
Proposed Orange Route		0	3	5	6	124	222	12	106	31	40	4	12	0	4	0	4	0	0

Dataset ⁽¹⁾	MnDNR Shallow Lakes		MnDNR Wild Rice Lakes		State Trails		County/Local Parks		State Forests		USDA-USFS National Forest		State Scenic Byways		Snowmobile Trails		Water Access Points		State Water Trails		MnDNR Scientific and Natural Areas		
	Unit	Count	Count	Count	Count	Count	Count	Count	Count	Count	Count	Count	Count	Count	Count	Count	Count	Count	Count	Count	Count	Count	
Proposed Blue Route	Buffer ⁽²⁾ (ft)	100	1,500	100	1,500	100	1,500	100	1,500	100	1,500	100	1,500	100	1,500	100	1,500	100	1,500	100	1,500	100	1,500
Proposed Orange Route		1	4	1	1	3	3	0	1	6			1	10	10			1	1	1	0	2	
		1	3	0	0	3	3	0	1	7			1	12	12			1	1	1	0	2	

Dataset ⁽¹⁾	Unit	MnDNR NHIS Database Records (Endangered, Threatened, and Special Concern) ⁽⁶⁾			MnDNR Colonial Waterbird Nesting Sites			MnDNR High Conservation Value Forest			MnDNR Scientific and Natural Area Peatland Watershed Protection Areas			MnDNR Calcareous Fens			MPCA What's in My Neighborhood Sites (Active and Inactive)		
		Count	1,500	5,280	Count	100	1,500	Count	100	1,500	Count	100	1,500	Count	100	1,500	Count	100	1,500
Proposed Blue Route	Buffer ⁽²⁾ (ft)	4	10	46	0	2	3	2	3	4	4	4	0	0	1	0	0	0	5
Proposed Orange Route		6	17	54	0	0	1	2	3	4	4	4	0	0	2	1	1	1	4

Dataset ⁽¹⁾	Minnesota Department of Health County Well Index		MnDNR Wildlife Management Areas		USFWS Interest Lands			MnDNR Gray Owl Management Area	
	Unit	Count	Count	Count	Count	Count	Count	Count	
Proposed Blue Route	Buffer ⁽²⁾ (ft)	100	1,500	100	100	150	1,500	100	1,500
		3	39	3	5	7	13		
Proposed Orange Route		4	52	3	6	9	17		

Datasets ⁽¹⁾	State Mineral Leases	County Lands	MPCA Impaired Streams	National Hydrology Dataset Flowlines	National Hydrology Dataset Waterbodies	MnDNR Public Water Inventory Watercourses	MnDNR Public Water Inventory Basins	MnDNR Public Water Inventory Wetlands	MnDNR Trout Streams	MnDNR Shallow Lakes	MnDNR Wild Rice Lakes
Unit	Number of Crossings	Number of Crossings	Number of Crossings	Number of Crossings	Number of Crossings	Number of Crossings	Number of Crossings	Number of Crossings	Number of Crossings	Number of Crossings	Number of Crossings
Proposed Blue Route	288	2	5	112	9	36	2	1	1	1	1
Proposed Orange Route	177	0	5	124	10	46	3	0	0	1	0

Datasets ⁽¹⁾	State Trails	State Forests	USDA-USFS National Forest	State Scenic Byways	Snowmobile Trails	State Water Trails	MnDNR Scientific and Natural Areas	MnDNR High Conservation Value Forest	MnDNR Scientific and Natural Area Peatland Watershed Protection Areas	MnDNR Ecologically Important Lowland Conifer Areas
Unit	Number of Crossings	Number of Crossings	Number of Crossings	Number of Crossings	Number of Crossings	Number of Crossings	Number of Crossings	Number of Crossings	Number of Crossings	Number of Crossings
Proposed Blue Route	3	45	0	1	31	1		4	6	7
Proposed Orange Route	3	42	0	1	36	1		4	6	1

Datasets ⁽¹⁾	MnDNR Wildlife Management Areas	Minnesota Department of Health Wellhead Protection Areas	USFWS Interest Lands	Audubon Society Important Bird Areas	USFWS Grassland Bird Conservation Areas
Unit	Number of Crossings	Number of Crossings	Number of Crossings	Number of Crossings	Number of Crossings
Proposed Blue Route	4		4	12	10
Proposed Orange Route	7		5	11	10

Appendix F

Rare Species Data Tables

Sources: MnDNR 2015 Reference 60, USFWS 2015 Reference 105

Footnotes: (1) Canada lynx and gray wolf records are not documented in the NHIS database.

(2) The buffer distances includes both sides of the anticipated alignment. For example, count with a buffer of 100 ft includes 100 ft on each side of the anticipated alignment. Buffer distances are cumulative. For example, impacts accrued within the 100 ft buffer are also included within the 1,500 ft buffer. For this EIS, the 100 ft buffer is the equivalent of the ROW. The 1,500 ft buffer represents the route width used for the GIS analysis in this EIS. The Presidential permit and Route Permit applications use a route width that ranges from 1,500 feet to 3,000 feet.

Scientific Name ⁽¹⁾	Common Name	Federal Status	State Status	Type	C2 Segment Option Variation Area				J2 Segment Proposed Variation Area				Northome Variation Area				Cutfoot Variation Area					
					Proposed Blue Route		C2 Segment Option Variation		Proposed Orange Route		J2 Segment Option Variation		J2 Segment Option Variation		J2 Segment Option Variation		Northome Variation		Proposed Orange Route		Cutfoot Variation	
					Buffer ⁽²⁾ (ft)	1,500	5,280	100	1,500	5,280	100	1,500	5,280	100	1,500	5,280	100	1,500	5,280	100	1,500	5,280
<i>Lasmignona compressa</i>	Creek Heelsplitter	None	Special Concern	Mussel	--	--	2	--	--	--	1	--	--	--	--	--	--	--	--	--	--	--
<i>Ligumia recta</i>	Black Sandshell	None	Special Concern	Mussel	--	--	2	--	1	--	--	--	--	--	--	--	--	--	--	--	--	--
<i>Oxyethira itascae</i>	A Caddisfly	None	Special Concern	Insect	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
<i>Torreyochloa pallida</i>	Torrey's Manna-grass	None	Special Concern	Vascular Plant	--	--	--	--	--	--	--	1	--	--	--	--	--	--	--	--	--	--
<i>Botaurus lentiginosus</i>	American Bittern	None	Tracked	Bird	--	--	--	--	--	--	--	1	--	--	--	--	--	--	--	--	--	--
<i>Bostrychium michiganense</i>	Michigan Moonwort	None	Tracked	Vascular Plant	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
<i>Carex capillaris</i>	Hair-like Sedge	None	Tracked	Vascular Plant	--	--	--	--	--	--	1	--	--	--	--	--	--	--	--	--	--	--
<i>Grus canadensis</i>	Sandhill Crane	None	Tracked	Bird	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
<i>Haliaeetus leucocephalus</i>	Bald Eagle	None	Tracked	Bird	--	--	--	--	--	--	--	1	--	--	--	--	--	--	--	--	--	--
<i>Hydrotipila novicola</i>	A Caddisfly	None	Tracked	Insect	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
<i>OphioGLOSSUM pusillum</i>	Adder's Tongue	None	Tracked	Vascular Plant	--	--	--	--	--	1	--	--	--	--	--	--	--	--	--	--	--	--
Colonial Waterbird Nesting Area	Colonial Waterbird Nesting Site	--	--	Animal Assemblage	--	--	--	--	--	1	2	2	1	--	2	--	1	--	--	--	--	2

Scientific Name ⁽¹⁾	Common Name	Federal Status	State Status	Type	Effie Variation Area			East Bear Lake Variation Area					
					Proposed Blue Route	Proposed Orange Route	Effie Variation	Proposed Orange Route	Proposed Orange Route	East Bear Lake Variation			
					Buffer ⁽²⁾ (ft)	Buffer ⁽²⁾ (ft)	Buffer ⁽²⁾ (ft)	Buffer ⁽²⁾ (ft)	Buffer ⁽²⁾ (ft)	Buffer ⁽²⁾ (ft)			
<i>Eleocharis robbinsii</i>	Robbin's Spike-rush	None	Threatened	Vascular Plant	100	1,500	5,280	100	1,500	5,280	100	1,500	5,280
<i>Nothopsis anogenus</i>	Pugnose Shiner	None	Threatened	Fish	--	--	--	--	--	--	--	--	--
<i>Platanthera ilava</i> var. <i>herbiola</i>	Tuberled Rein-orchid	None	Threatened	Vascular Plant	--	--	--	--	--	--	--	--	--
<i>Spiranthes casei</i> var. <i>casei</i>	Case's Ladies'-tresses	None	Threatened	Vascular Plant	--	--	--	--	--	--	--	--	--
<i>Accipiter gentilis</i>	Northern Goshawk	None	Special Concern	Bird	--	--	--	--	--	--	--	--	--
<i>Carex ormostachya</i>	Necklace Spike Sedge	None	Special Concern	Vascular Plant	--	1	1	--	1	1	--	1	1
<i>Lasmigona compressa</i>	Creek Heelsplitter	None	Special Concern	Mussel	--	1	1	2	--	1	--	1	1
<i>Ligumia recta</i>	Black Sandshell	None	Special Concern	Mussel	--	1	2	--	--	--	--	1	--
<i>Nejias gracillima</i>	Thread-like Naiad	None	Special Concern	Vascular Plant	--	--	--	1	--	1	--	--	--
<i>Nejias guadalupensis</i> ssp. <i>olivacea</i>	Guadalupe water nymph	None	Special Concern	Vascular Plant	--	--	--	1	--	--	--	--	--
<i>Botaurus lentiginosus</i>	American Blittern	None	Tracked	Bird	--	--	--	--	--	1	--	--	--
<i>Ceratophyllum echinatum</i>	Spry Hornwort	None	Tracked	Vascular Plant	--	--	--	--	--	--	--	--	--
<i>Haliaeetus leucocephalus</i>	Bald Eagle	None	Tracked	Bird	--	--	--	--	--	--	--	--	--
Colonial Waterbird Nesting Area	Colonial Waterbird Nesting Site	--	--	Animal Assemblage	--	2	3	--	2	3	--	1	2

Scientific Name ⁽¹⁾	Common Name	Federal Status	State Status	Type	Cedar Bend WMA Variation Area		Cedar Bend WMA and Beltrami North Variation Area		Beltrami North Variation Area		Beltrami North Central Variation Area	
					Hop 1	Hop 2	Hop 3	Hop 4	Hop 5			
Botrychium ascendens	Upward-lobed Moonwort	None	Endangered	Vascular Plant	100	1,500	100	1,500	100	1,500	100	1,500
					5,280	5,280	5,280	5,280	5,280	5,280		
Botrychium lunaria	Common Moonwort	None	Threatened	Vascular Plant	--	--	--	--	--	--	--	1
Botrychium pallidum	Pale Moonwort	None	Special Concern	Vascular Plant	--	--	--	--	--	--	--	2
Botrychium simplex	Least Moonwort	None	Special Concern	Vascular Plant	--	1	--	--	--	1	--	2

Scientific Name ⁽¹⁾	Common Name	Federal Status	State Status	Type	Proposed Blue Route				Proposed Orange Route					
					Buffer ⁽²⁾ (ft)				Buffer ⁽²⁾ (ft)					
					100	1,500	5,280		100	1,500	5,280			
<i>Anthus spragueii</i>	Sprague's Pipit	Candidate	Endangered	Bird	--	--	1	--	--	--	1	--	--	1
<i>Botrychium ascendens</i>	Upward-lobed Moonwort	None	Endangered	Vascular Plant	--	--	1	--	--	1	2	--	--	2
<i>Botrychium lunaria</i>	Common Moonwort	None	Threatened	Vascular Plant	--	--	1	--	--	1	1	--	--	1
<i>Carex sterilis</i>	Sterile Sedge	None	Threatened	Vascular Plant	--	--	1	--	--	--	2	--	--	2
<i>Cypripedium arietinum</i>	Ram's-head Lady's-slipper	None	Threatened	Vascular Plant	--	1	4	--	--	1	4	--	--	4
<i>Eleocharis robbinsii</i>	Robbins's Spike-rush	None	Threatened	Vascular Plant	--	--	1	--	--	--	--	--	--	--
<i>Eleocharis rostellata</i>	Beaked Spike-rush	None	Threatened	Vascular Plant	--	--	--	--	--	--	1	--	--	1
<i>Platanthera flava</i> var. <i>herbiola</i>	Tubercled Reim-orchid	None	Threatened	Vascular Plant	--	--	1	--	--	--	1	--	--	1
<i>Rhynchospora capillacea</i>	Hair-like Beak-rush	None	Threatened	Vascular Plant	--	--	--	--	--	--	1	--	--	1
<i>Spiranthes casei</i> var. <i>casei</i>	Casey's Ladies'-tresses	None	Threatened	Vascular Plant	--	--	1	--	--	--	1	--	--	1
<i>Accipiter gentilis</i>	Northern Goshawk	None	Special Concern	Bird	1	1	1	1	1	1	1	1	1	2
<i>Ammodramus nelsoni</i>	Nelson's Sparrow	None	Special Concern	Bird	1	1	1	1	1	1	1	1	1	1
<i>Asio flammeus</i>	Short-eared Owl	None	Special Concern	Bird	--	--	--	--	--	1	1	1	1	1
<i>Botrychium pallidum</i>	Pale Moonwort	None	Special Concern	Vascular Plant	--	--	6	--	--	1	6	--	--	6
<i>Botrychium simplex</i>	Least Moonwort	None	Special Concern	Vascular Plant	--	2	8	--	--	4	9	--	--	9
<i>Carex exilis</i>	Coastal Sedge	None	Special Concern	Vascular Plant	--	--	--	--	1	1	1	--	--	1
<i>Carex ormostachya</i>	Necklace Spike Sedge	None	Special Concern	Vascular Plant	--	--	--	--	--	1	1	--	--	1
<i>Cladium mariscoides</i>	Twig-rush	None	Special Concern	Vascular Plant	--	1	2	--	--	1	3	--	--	3
<i>Coturnicops noveboracensis</i>	Yellow Rail	None	Special Concern	Bird	1	1	1	1	1	2	3	2	2	3
<i>Drosera anglica</i>	English Sundew	None	Special Concern	Vascular Plant	--	--	1	--	--	--	2	--	--	2
<i>Drosera linearis</i>	Linear-leaved Sundew	None	Special Concern	Vascular Plant	--	--	2	--	--	--	2	--	--	2
<i>Ichthyomyzon fossor</i>	Northern Brook Lamprey	None	Special Concern	Fish	--	--	--	--	--	--	--	--	--	--
<i>Juncus stygius</i> var. <i>americanus</i>	Bog Rush	None	Special Concern	Vascular Plant	--	--	1	--	--	1	--	--	--	--

Scientific Name ⁽¹⁾	Common Name	Federal Status	State Status	Type	Proposed Blue Route			Proposed Orange Route		
					Buffer ⁽²⁾ (ft)			Buffer ⁽²⁾ (ft)		
					100	1,500	5,280	100	1,500	5,280
<i>Anthus spragueii</i>	Sprague's Pipit	Candidate	Endangered	Bird	--	--	1	--	--	1
<i>Limnospiza compta</i>	Creek Heelsplitter	None	Special Concern	Mussel	1	2	4	--	--	3
<i>Ligumia recta</i>	Black Sandshell	None	Special Concern	Mussel	--	1	5	--	--	2
<i>Limosa fedoa</i>	Marbled Godwit	None	Special Concern	Bird	--	--	1	--	--	1
<i>Najas gracillima</i>	Thread-like Nalad	None	Special Concern	Vascular Plant	--	--	1	--	--	1
<i>Najas guadalupensis</i> <i>ssp. olivacea</i>	Guadalupe waterlily	None	Special Concern	Vascular Plant	--	--	1	--	--	1
<i>Oxyethira itasca</i>	A Caddisfly	None	Special Concern	Insect	--	--	--	--	1	1
<i>Ranunculus lapponicus</i>	Lapland Buttercup	None	Special Concern	Vascular Plant	--	--	1	--	--	1
<i>Botaurus lentiginosus</i>	American Bittern	None	Tracked	Bird	1	1	2	1	2	3
<i>Bostrychium michiganense</i>	Michigan Moonwort	None	Tracked	Vascular Plant	--	--	--	--	--	1
<i>Carex capillaris</i>	Hair-like Sedge	None	Tracked	Vascular Plant	--	--	2	--	--	3
<i>Grus canadensis</i>	Sandhill Crane	None	Tracked	Bird	--	--	3	--	--	4
<i>Haliaeetus leucocephalus</i>	Bald Eagle	None	Tracked	Bird	--	--	--	--	--	1
<i>Hydroptila novicola</i>	A Caddisfly	None	Tracked	Insect	--	--	--	--	1	1
<i>Lycaena epixanthe michiganensis</i>	Bog Copper	None	Tracked	Insect	1	2	4	1	2	4
Colonial Waterbird Nesting Area	Colonial Waterbird Nesting Site	--	--	Animal Assemblage	--	2	3	--	--	1

Appendix G

Rare Communities Data Tables

Sources: MBS 2014 Reference 57

Footnotes:

(1) S2 – community is imperiled; S3 – community is vulnerable to extirpation or extinction; S4 – community is apparently secure; S5 – community is demonstrably widespread, abundant, and secure. “CMX” refers to complex

(2) The buffer distances include both sides of the anticipated alignment. For example, count with a buffer of 100 ft on each side of the anticipated alignment. Buffer distances are cumulative. For example, impacts accrued within the 100 ft buffer are also included within the 1,500 ft buffer. For this EIS, the 100 ft buffer is the equivalent of the ROW. The 1,500 ft buffer represents the route width used for the GIS analysis in this EIS. The Presidential permit and Route Permit applications use a route width that ranges from 1,500 feet to 3,000 feet.

State Rank ⁽¹⁾	Type	Border Crossing Variation Area										Roseau Lake WMA Variation Area									
		Proposed Border Crossing-Blue/Orange Route		Border Crossing Pine Creek Variation		Border Crossing Hwy 310 Variation		Border Crossing 500kV Variation		Border Crossing 230kV Variation		Proposed Blue/Orange Route		Roseau Lake WMA Variation 1		Roseau Lake WMA Variation 2					
		Buffer ⁽²⁾ (ft)		Area (ac)		Buffer ⁽²⁾ (ft)		Area (ac)		Buffer ⁽²⁾ (ft)		Area (ac)		Buffer ⁽²⁾ (ft)		Area (ac)					
		100	1,500	100	1,500	100	1,500	100	1,500	100	1,500	100	1,500	100	1,500	100	1,500				
S2	Graminoid Rich Fen (Water Track), Flark Subtype	1	--	--	--	--	20	268	--	--	--	--	--	--	--	--					
S3	Alder - (Red Currant - Meadow-Rue) Swamp	--	--	--	--	1	21	--	--	--	--	2	27	--	--	2	27				
S3	Graminoid Rich Fen (Water Track) Featureless Water Track Subtype	14	268	14	249	13	240	9	93	--	--	14	249	--	--	--	151				
S3	Lowland White Cedar Forest (Northern)	--	--	--	--	6	76	--	--	--	--	--	--	--	--	--	--				
S3	Rich Black Spruce Swamp (Water Track)	5	34	--	12	40	--	--	--	--	--	--	12	--	--	--	--				
S3	Rich Fen (Peatland)	--	--	--	--	--	--	--	--	--	--	20	312	--	--	20	312				
S3	Tamarack - Black Spruce Swamp (Aspen Parkland)	3	38	3	38	--	--	--	--	--	--	3	38	--	--	--	--				
S3	White Cedar Swamp (Northwestern)	--	--	--	--	--	34	--	--	--	--	--	--	--	--	--	--				
S3/S4	Aspen - Fir Forest	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--				
S4	Black Ash - Alder Swamp (Northern)	--	--	--	--	6	40	--	--	--	--	--	--	--	--	--	--				
S4	Black Ash - Mountain Maple Swamp (Northern)	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--				
S4	Black Ash - Alder Swamp (Northern)	6	80	6	53	--	--	--	--	--	--	7	98	--	--	<0.5	2	46			
S4	Lowland Black Ash - Aspen - Balsam Poplar Forest	--	152	--	7	--	11	224	--	--	--	103	--	--	7	--	1				
S4	Northern Rich Fen (Water Track)	65	526	13	135	7	111	7	65	33	10	134	4	78	4	78	4	78			
S4	Rich Tamarack (Sundew - Pitcher Plant) Swamp	5	63	5	63	5	63	4	95	31	309	5	63	--	--	--	<0.5				
S4	Shrub Rich Fen (Water Track)	2	109	2	52	2	47	9	120	--	--	2	47	--	--	2	47				
S4/S5	Sedge Meadow	--	65	2	29	5	15	--	13	1	43	--	--	9	2	8	2	11			
S5	Alder - (Maple - Looseshrift) Swamp	24	263	24	248	24	243	1	53	3	45	24	243	--	--	24	243				
S5	Willow - Dogwood Shrub Swamp	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	17			
CMX	Felsic Cliff (Northern) / Northern Talus Complex	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	17			
CMX	Shrub Swamp Complex	--	--	--	--	--	--	--	--	--	--	--	--	--	--	19	210	19	210		

Appendix H

Noise Supplement

Appendix H Noise Supplement

Noise Overview and Noise Standards

Noise is generally defined as unwanted sound. Sound travels in mechanical wave motion and produces a sound pressure level. Sound pressure level is commonly measured in decibels (dB), representing the logarithmic increase in sound energy relative to a reference energy level. Sound measurement is further refined by using an A-weighted decibel scale (dBA) to emphasize the range of sound frequencies that are most audible to the human ear (i.e., between 1,000 and 8,000 cycles per second). Decibel measurements discussed in this environmental impact statement (EIS) are presented using the dBA scale (MPCA 2008, reference H1).

A noise level change of three dBA is barely discernible to average human hearing. A five dBA change in noise level, however, is clearly noticeable. A ten dBA change in noise levels is perceived as a doubling or halving of noise loudness, while a 20 dBA change is considered a dramatic change in loudness. Cumulative noise increases occur on a logarithmic scale. If a noise source is doubled, there is a three dBA increase in noise, which is barely discernible to the human ear. For cumulative increases in noise resulting from sources of different magnitudes, the rule of thumb is that if there is a difference of greater than ten dBA between noise sources, there will be no additive effect to the overall noise level. Figure H-1 shows noise levels associated with common, everyday sources and provides a context for the magnitude of noise levels discussed here.

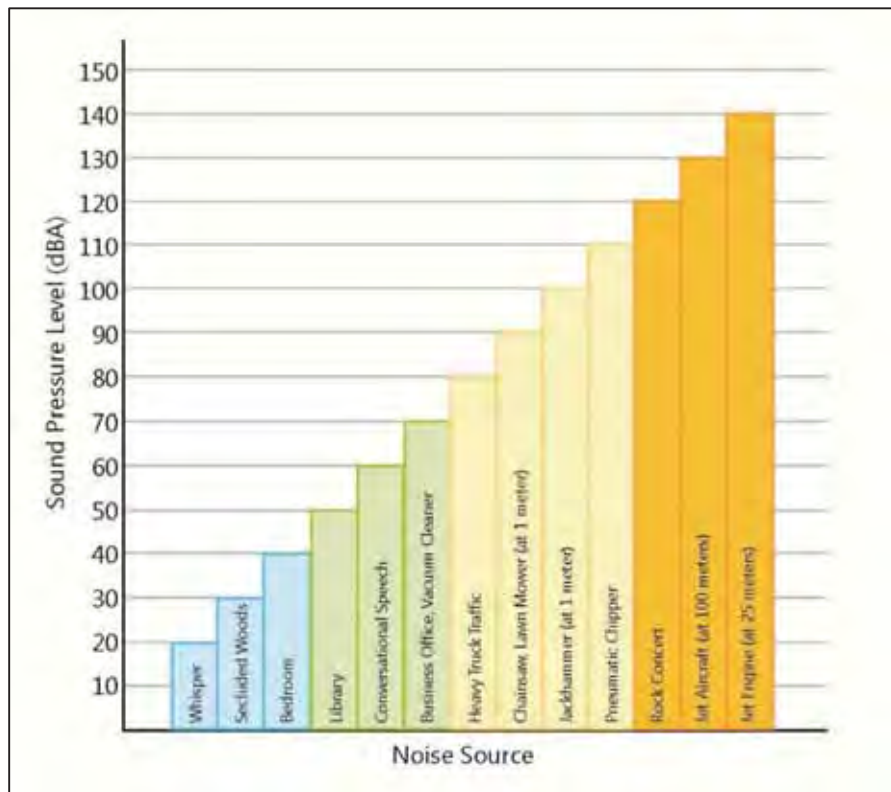


Figure H-1 Noise levels associated with common, everyday sources

Typically, noise is evaluated according to two general criteria: the extent to which noise levels exceed federal, state, or (where applicable) local noise regulations; and the estimated degree of disturbance to people.

The Minnesota Pollution Control Agency (MPCA) has established standards for the regulation of noise levels. Land use activities associated with residential, commercial and industrial land have been grouped together into Noise Area Classifications (NAC; Minn. R. 7030.0050). Each NAC is then assigned both daytime (7 a.m. to 10 p.m.) and nighttime (10 p.m. to 7 a.m.) limits for land use activities within the NAC (Minn. R. 7030.0040).

Table H-1 shows the MPCA daytime and nighttime limits in dBA for each NAC. The limits are expressed as a range of permissible dBA within a one hour period. L₅₀ is the dBA that may be exceeded 50 percent of the time within an hour, while L₁₀ is the dBA that may be exceeded ten percent of the time within one hour. Residences, which are typically considered sensitive to noise, are classified as NAC-1 (MPCA 2008, reference H1).

Table H-1 Applicable Noise Standards for Different Land Uses in Minnesota

Noise Area Classification (NAC)	Noise Standard dB(A)			
	Daytime (7 a.m. to 10 p.m.)		Nighttime (10 p.m. to 7 a.m.)	
	L ₅₀	L ₁₀	L ₅₀	L ₁₀
Residential (NAC-1)	60	65	50	55
Commercial (NAC-2)	65	70	65	70
Industrial (NAC-3)	75	80	75	80
Undeveloped (NAC-4)	None	None	None	None

Minnesota's state noise level standards are more stringent than the U.S. Department of Housing and Urban Development standards; therefore, noise levels in the project area can conservatively be compared to state standards.

In addition to local, state, and federal standards, the degree of disturbance becomes a key factor in evaluating noise conditions. Typically this includes a focus on residents in the vicinity of the area under evaluation. The concept of human disturbance varies with a number of interrelated factors, including changes in noise levels; the presence of other, non-project-related noise sources in the vicinity, people's attitudes toward the project, the number of people exposed, and the type of human activity affected (e.g., sleep or quiet conversation as compared to physical work or active recreation).

Project Noise

Noise associated with the project would be produced by construction of the transmission lines and substations, and by its operation.

As discussed in the Section 6.1.3 of this EIS, noise levels associated with construction will be highly localized and intermittent. Table H-2 and Table H-3 provides additional detail regarding typical noise levels associated with a variety of types of construction equipment that may be used during construction

of the proposed project. Receptors (people/residences), though perhaps nearby, would be located outside of the immediate construction area, so sound levels associated with construction equipment shown in Tables H-2 and Table H-3 are not necessarily indicative of noise levels experienced by sensitive receptors.

Table H-2 Typical Noise Levels of Transmission Line Construction Equipment

Equipment Type	Maximum Noise Level (Lmax, dBA)	Utilization Factor	Estimated Noise Level (dBA) at 50 feet
Pickup Truck	55	0.4	51
Crew Cab	55	0.4	51
Compressor Trailer	80	0.4	76
Crane	85	0.16	77
Backhoe/Frontend loader	80	0.4	76
Auger Truck	85	0.2	78
Water Truck	84	0.4	80
Dump Truck	84	0.4	80
Concrete Truck	85	0.4	81
Fork Lift	86	0.4	82
Vibratory Pile Driver	95	0.2	88
Estimated Transmission Line Construction Noise Level (at 50 feet)			91

Sources: (FHWA 2006, Reference H2)

Notes: Noise emission levels and utilization factors are based on FHWA guidelines.

Table H-3 Typical Noise Levels of Substation Construction Equipment

Equipment Type	Maximum Noise Level (dBA)	Distance (feet)	Utilization Factor	Estimated Noise Level (dBA) at 50 feet
Backhoe	80	50	0.4	76
Bobcat	82	50	0.8	81
Flatbed Truck	84	50	0.4	80
Excavator	85	50	0.4	81
Foundation Auger	85	50	0.2	78
Dump Truck	84	50	0.4	80
Concrete Truck	85	50	0.4	81
Loader	80	50	0.4	76
Forklift	86	50	0.4	82
Crane	85	50	0.16	77
Water Truck	84	50	0.4	80
Crew Vehicle	55	50	0.4	51
Manlift	85	50	0.2	78
Paving Roller	85	50	0.2	78
Asphalt Paver	85	50	0.5	82
Tractor	84	50	0.4	80
Compressor	80	50	0.4	76
Generator	82	50	0.5	79
Estimated Substation Construction Noise Level (at 50 feet)				92

Sources: (FHWA 2006, Reference H2)

Notes: Noise emission levels and utilization factors are based on FHWA guidelines.

Construction of the proposed compensation station and regeneration stations is assumed to require similar equipment as those necessary to build the proposed Iron Range 500 kV substation, resulting in similar levels of construction noise

Audible Noise from Transmission Lines

Noise from the operation of transmission lines is primarily associated with the “corona effect,” small electrical discharges which ionize surrounding air molecules, causing a cracking or hissing noise that may be audible from directly below the transmission line, especially during damp conditions. The Applicant has modeled Audible Noise (AN) from the proposed 500 kV transmission lines under rainy conditions (worst case scenario for noise generated from corona effect), considering two configurations: standalone 500 kV transmission line and collocation of the proposed Project with existing transmission lines. The Applicant’s calculations for the audible noise results are provided in Table H-4.

Table H-4 Predicted Audible Noise Levels from the proposed Project Transmission Line in Rainy Weather Conditions

Proposed Transmission Line Configuration	Maximum Audible Noise Level (dBA)		
	Within ROW	At edge of ROW	At 300 feet from centerline
500 kV Transmission Line (Stand-alone, not paralleling existing lines)	51	48	43
500 kV Transmission Line paralleling existing 500 kV Transmission Line ⁽¹⁾	52	52	51
500 kV Transmission Line paralleling existing 230 kV Transmission Line ⁽²⁾	51	50	46
500 kV Transmission Line paralleling existing 115 kV Transmission Line ⁽³⁾	51	48	43
500 kV paralleling two existing 115 kV Transmission Lines ⁽⁴⁾	51	48	43
500 kV paralleling existing 115 kV and 230 kV Transmission Lines ⁽⁵⁾	51	49	45

Source: (Minnesota Power, reference H3; also Appendix I of the FEIS).

Notes:

- (1) Existing 500 kV D602F transmission line (self-supporting tower structures). For this analysis the applicant calculated audible noise up to 400 feet from the centerline. Results are reported at 300 feet for comparison purposes.
- (2) Existing 230 kV 83L transmission line (H-Frame structures).
- (3) Existing 115 kV 28L tap (H-Frame structures).
- (4) Existing 115 kV 62L and 63L transmission lines (H-Frame structures).
- (5) Existing 115 kV 20L and 230 kV 83L transmission lines (H-Frame structures).

Substation Noise

Noise from operation of the proposed Project does not solely emanate from the transmission line; it also includes noise from the proposed Iron Range 500 kV Substation. Predominant operational noise sources at substations are transformers and shunt reactors. Transformer noise results from vibrations associated with magnetic forces inside substation transformers and from cooling fans and pumps that control

transformer temperature. Most of the other equipment at a substation is either silent or generates minimal noise in comparison to the transformers and shunt reactors.

Based on electrical design optimization studies, the Applicant anticipates that the predominant noise emitters from the proposed Iron Range 500 kV Substation would include a single 1,200 MVA 500/230 kV transformer bank and two 150 MVA 500 kV shunt reactors. The 500/230 kV transformer bank would consist of three single phase 400 MVA transformers and a spare unit of the same size that would not normally carry load. At the moment of the FEIS publication, the exact location of the transformer and reactor banks has not yet been defined; however, the Applicant provided the following conservative substation noise assessment based on the best available information (Minnesota Power 2015b, reference H4).

Based on a preliminary site plan for the Iron Range 500 kV Substation, the Applicant modeled the transformer bank as a single point source located approximately midpoint of the substation site, Similarly, a single point source was assumed for the reactor bank (consisting of two reactors) located at the northern fence line of the substation site. Transformer noise levels were calculated using the Electric Power Plant Environmental Noise Guide (EPPENG), which have resulted higher compared to values provided by transformer manufacturers for a transformer comparable size and design characteristics (Minnesota Power 2015b, reference H4). Reactor noise levels were estimated using the National Electrical Manufacturer’s Association (NEMA) Standard TR1 Table 0-2, which provides guidance to manufacturers pertaining to the maximum allowable noise level for electrical equipment operations (NEMA 2000, reference H6). Presence of other noise sources in the area, such as wind and traffic, as well as existing natural or man-made barriers to noise propagation were not included in the Applicant’s noise model.

Two nearest residences were considered for the substation noise analysis, one located north of the preliminary substation site plan, approximately 1,120 feet from the midpoint of the substation, and another one located northeast of the substation approximately 1,700 feet from the midpoint of the site plan. Tables H-5 and H-6 provide the noise levels calculated by the Applicant for both sensitive receptors, based on the equipment information available and the preliminary substation site plan.

Table H-5 Calculated Substation Noise Levels for Northern Receptor

Range of Noise Emissions from Equipment		Noise Level at Northern Receptor (dBA)		
Transformers (SPL at 3 feet)	Reactors (SPL at 6 feet)	Transformers (at 1,120 feet)	Reactors (at 1,155 feet)	Overall SPL at Residence
Low	82	30	44	44
High	92	40	44	46

Source: Minnesota Power 2015b, reference H4.

Table H-6 Calculated Substation Noise Levels for Northeastern Receptor

Range of Noise Emissions from Equipment		Noise Level at Northeastern Receptor (dBA)			
Transformers (SPL at 3 feet)	Reactors (SPL at 6 feet)	Transformers (at 1,700 feet)	Reactors (at 1,100 feet)	Overall SPL at Residence	
Low	82	90	27	45	45
High	92	90	37	45	45

Source: Minnesota Power 2015b, reference H4.

Table H-7 provides a summary of the estimated noise levels associated with the proposed Project construction, transmission line operation, and substation operation and how they attenuate over distance.

Table H-7 Summary of Estimated Noise Levels for the Proposed Project

Proposed Project Noise Source/ Distance to Receiver (feet)	Predicted Noise Level (dBA)					
	50	100	250	500	1,000	1,500
500 kV Transmission Line Construction	91	85	77	71	65	62
Iron Range 500 kV Substation Construction	92	86	78	72	66	62
500 kV Transmission Line Operation	52	46	38	32	26	22
Iron Range 500 kV Substation Operation (Transformers)	68	62	54	48	42	38

Operational noise levels from the proposed Project would be generally below the Minnesota standards and because construction noise is intermittent and levels decrease by 6 dBA with a doubling of distance, noise levels at residences along the route are generally not expected to exceed Minnesota’s daytime noise standards during construction (Table H-1).

References

- H1. Minnesota Pollution Control Agency (MPCA). 2008. A Guide to Noise Control In Minnesota: Acoustical Properties, Measurement, Analysis and Regulation.
- H2. Federal Highway Administration (FHWA). 2006. FHWA Roadway Construction Noise Model User’s Guide. FHWA-HEP-05-054. January.
- H3. Minnesota Power 2015a. Audible Noise Simulation Results. Provided in Comment Letter 209 to the Great Northern Transmission Line Project Draft Environmental Impact Statement. July.
- H4. Minnesota Power 2015. Memorandum. Response to Request for Information (RFI) – Substation Noise. April 6, 2015.
- H5. National Electrical Manufacturers Association (NEMA). 2000. NEMA Standards Publication TR-1-1993 (R2000) Transformers, Regulators and Reactors. Rosslyn, VA.

Appendix I

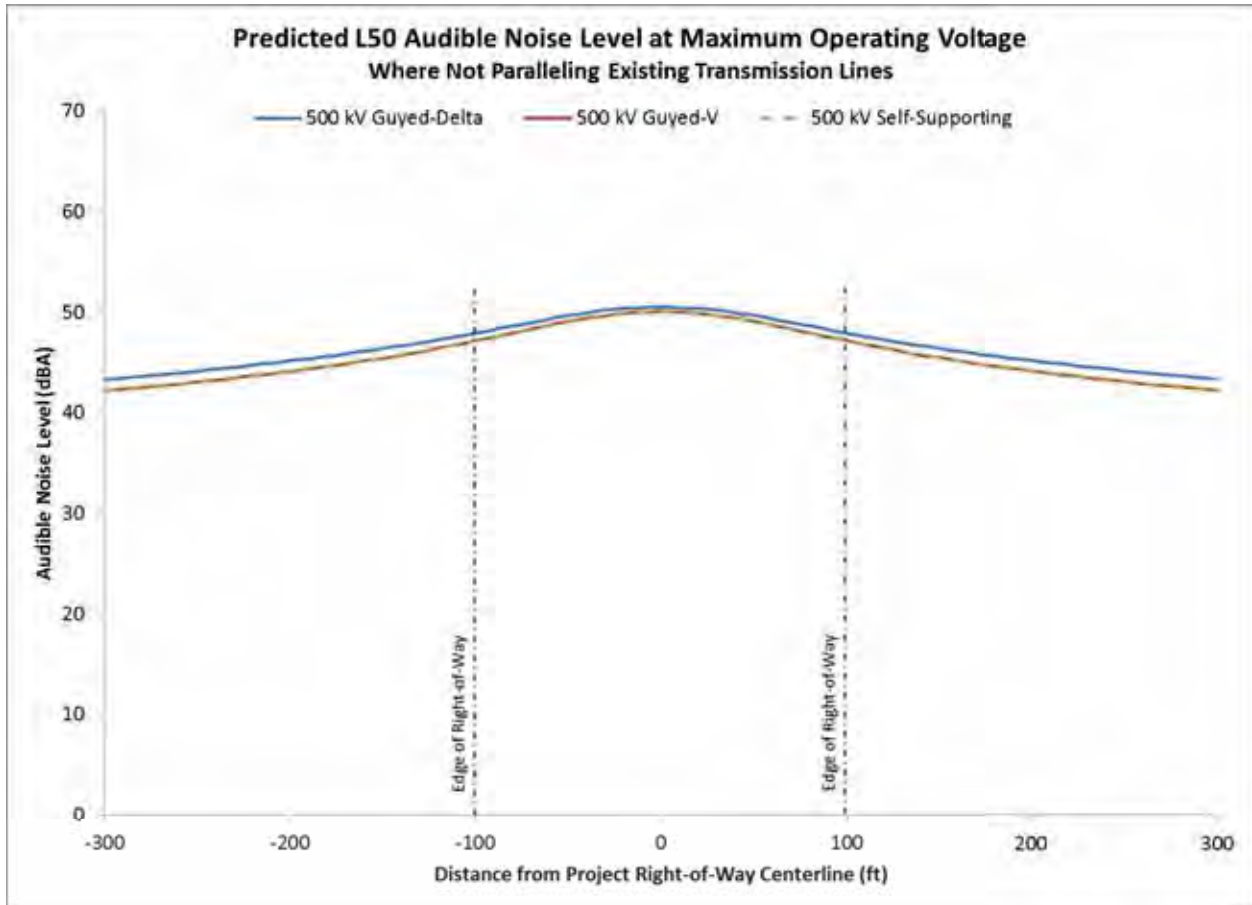
Applicant's Audible Noise and EMF Calculations

Audible Noise Simulation Results

Audible Noise Simulation Results

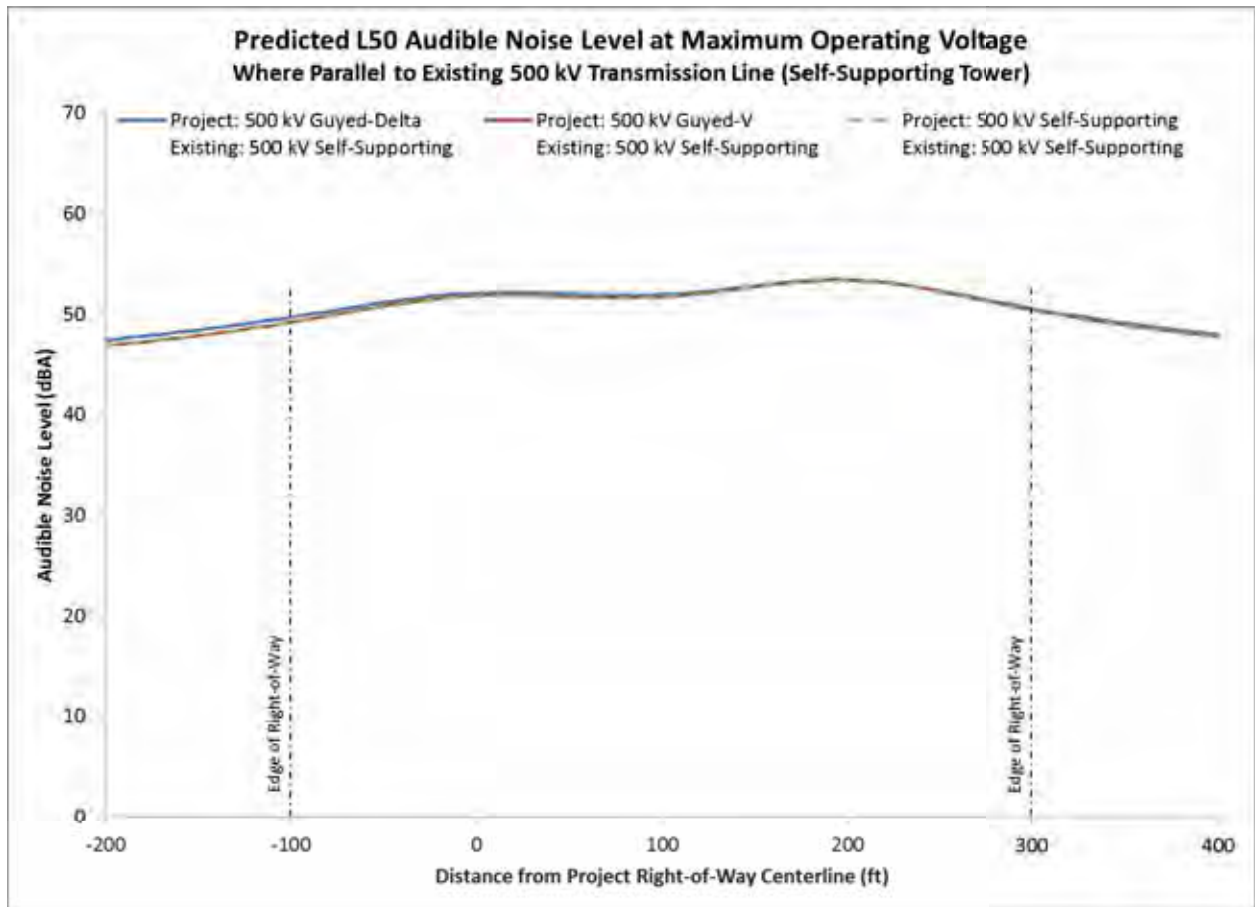
Predicted L50 Audible Noise Level (dBA) at Maximum Operating Voltage
Where Not Paralleling Existing Transmission Lines

Structure Type	Line Voltage	Distance from Project ROW Centerline										
		-300	-200	-100	-50	-25	0	25	50	100	200	300
500 kV Guyed-Delta	550 kV	43.3	45.2	47.9	49.7	50.3	50.5	50.3	49.7	47.9	45.2	43.3
500 kV Guyed-V	550 kV	42.2	44.1	47.2	49.1	49.8	50.1	49.8	49.1	47.2	44.1	42.2
500 kV Self-Supporting	550 kV	42.2	44.1	47.2	49.1	49.8	50.1	49.8	49.1	47.2	44.1	42.2



Audible Noise Simulation Results

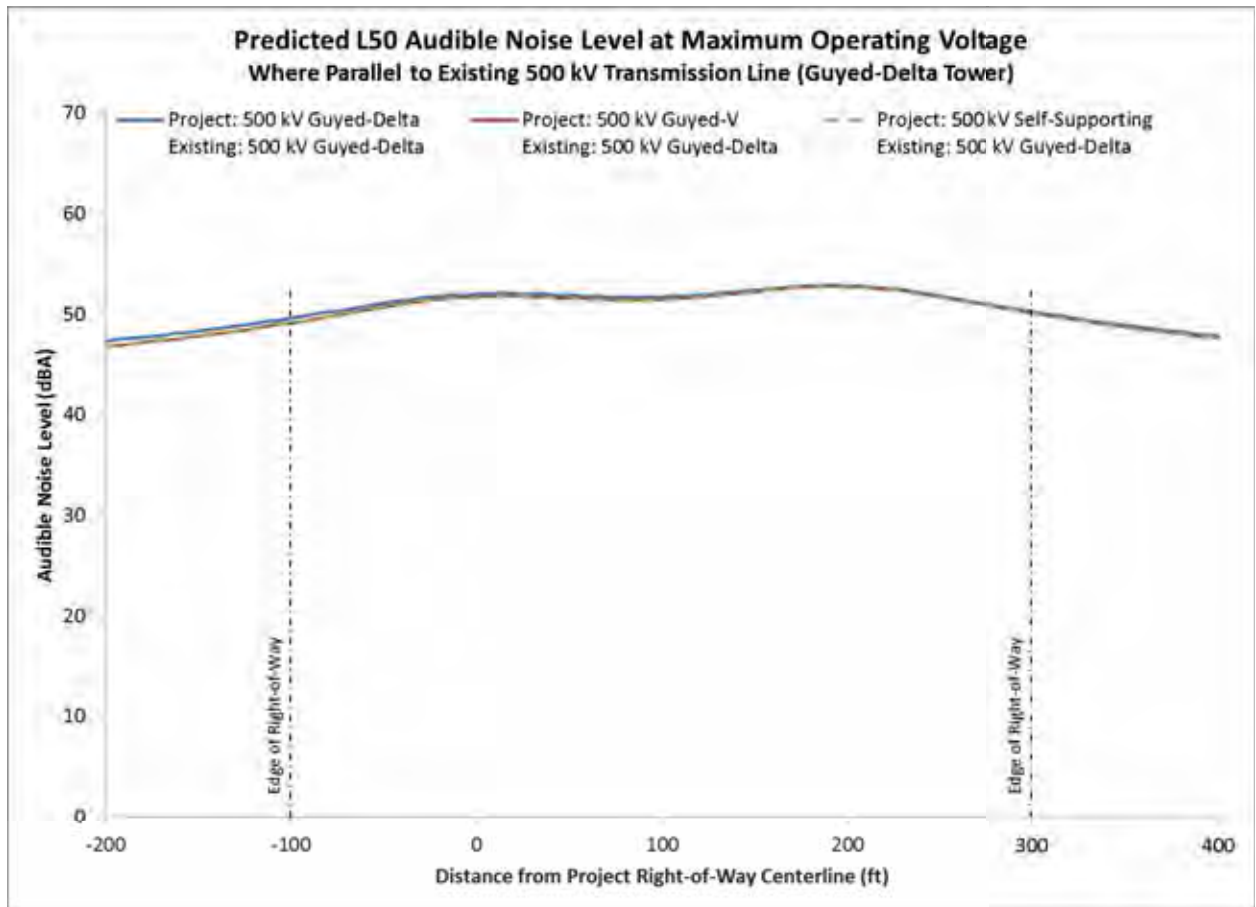
Predicted L50 Audible Noise Level (dBA) at Maximum Operating Voltage Where Parallel to Existing 500 kV Transmission Line (Self-Supporting Tower)		Distance from Project ROW Centerline										
Structure Type	Line Voltage	Distance from Project ROW Centerline										
		-200	-100	-50	-25	0	25	50	100	200	300	400
Project: 500 kV Guyed-Delta Existing: 500 kV Self-Supporting	550 kV 550 kV	47.4	49.7	51.2	51.8	52.1	52.2	52.0	52.0	53.4	50.5	47.9
Project: 500 kV Guyed-V Existing: 500 kV Self-Supporting	550 kV 550 kV	46.9	49.2	50.8	51.4	51.8	51.9	51.7	51.7	53.4	50.4	47.7
Project: 500 kV Self-Supporting Existing: 500 kV Self-Supporting	550 kV 550 kV	46.9	49.2	50.8	51.4	51.8	51.9	51.7	51.7	53.4	50.4	47.7



[Simulation assumes that Project ROW is adjacent to existing line ROW]

Audible Noise Simulation Results

Predicted L50 Audible Noise Level (dBA) at Maximum Operating Voltage Where Parallel to Existing 500 kV Transmission Line (Guyed-Delta Tower)												
Structure Type	Line Voltage	Distance from Project ROW Centerline										
		-200	-100	-50	-25	0	25	50	100	200	300	400
Project: 500 kV Guyed-Delta	550 kV	47.3	49.6	51.1	51.7	52.0	52.0	51.9	51.7	52.8	50.2	47.8
Existing: 500 kV Guyed-Delta	550 kV											
Project: 500 kV Guyed-V	550 kV	46.8	49.1	50.7	51.4	51.7	51.8	51.6	51.5	52.7	50.1	47.6
Existing: 500 kV Guyed-Delta	550 kV											
Project: 500 kV Self-Supporting	550 kV	46.8	49.1	50.7	51.4	51.7	51.8	51.6	51.5	52.7	50.1	47.6
Existing: 500 kV Guyed-Delta	550 kV											

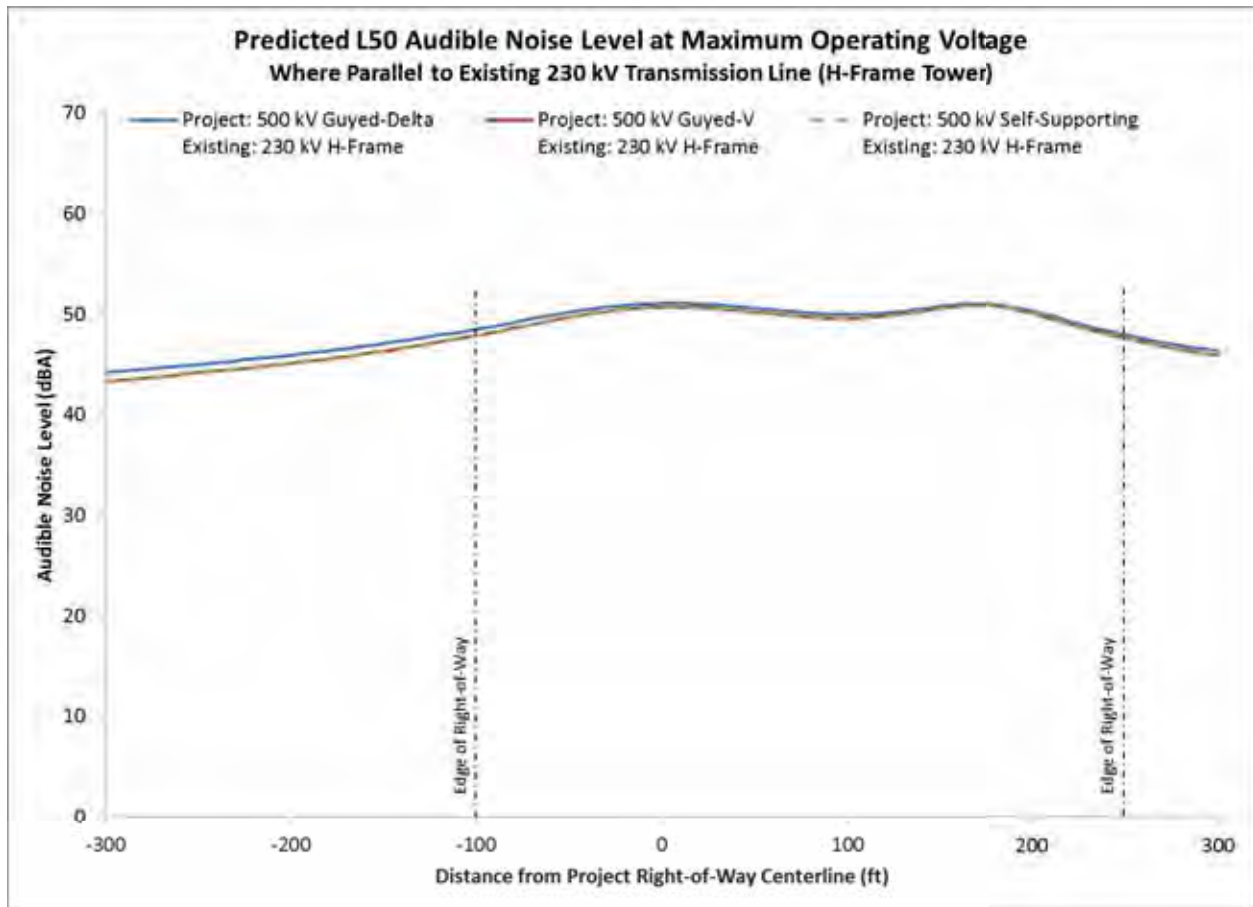


[Simulation assumes that Project ROW is adjacent to existing line ROW]

Audible Noise Simulation Results

**Predicted L50 Audible Noise Level (dBA) at Maximum Operating Voltage
Where Parallel to Existing 230 kV Transmission Line (H-Frame Tower)**

Structure Type	Line Voltage	Distance from Project ROW Centerline										
		-300	-200	-100	-50	-25	0	25	50	100	200	300
Project: 500 kV Guyed-Delta Existing: 230 kV H-Frame	550 kV 253 kV	44.2	45.9	48.5	50.2	50.8	51.1	51.0	50.6	50.0	50.3	46.3
Project: 500 kV Guyed-V Existing: 230 kV H-Frame	550 kV 253 kV	43.4	45.1	47.9	49.7	50.4	50.7	50.6	50.2	49.6	50.1	45.9
Project: 500 kV Self-Supporting Existing: 230 kV H-Frame	550 kV 253 kV	43.4	45.1	47.9	49.7	50.4	50.7	50.6	50.2	49.6	50.1	45.9

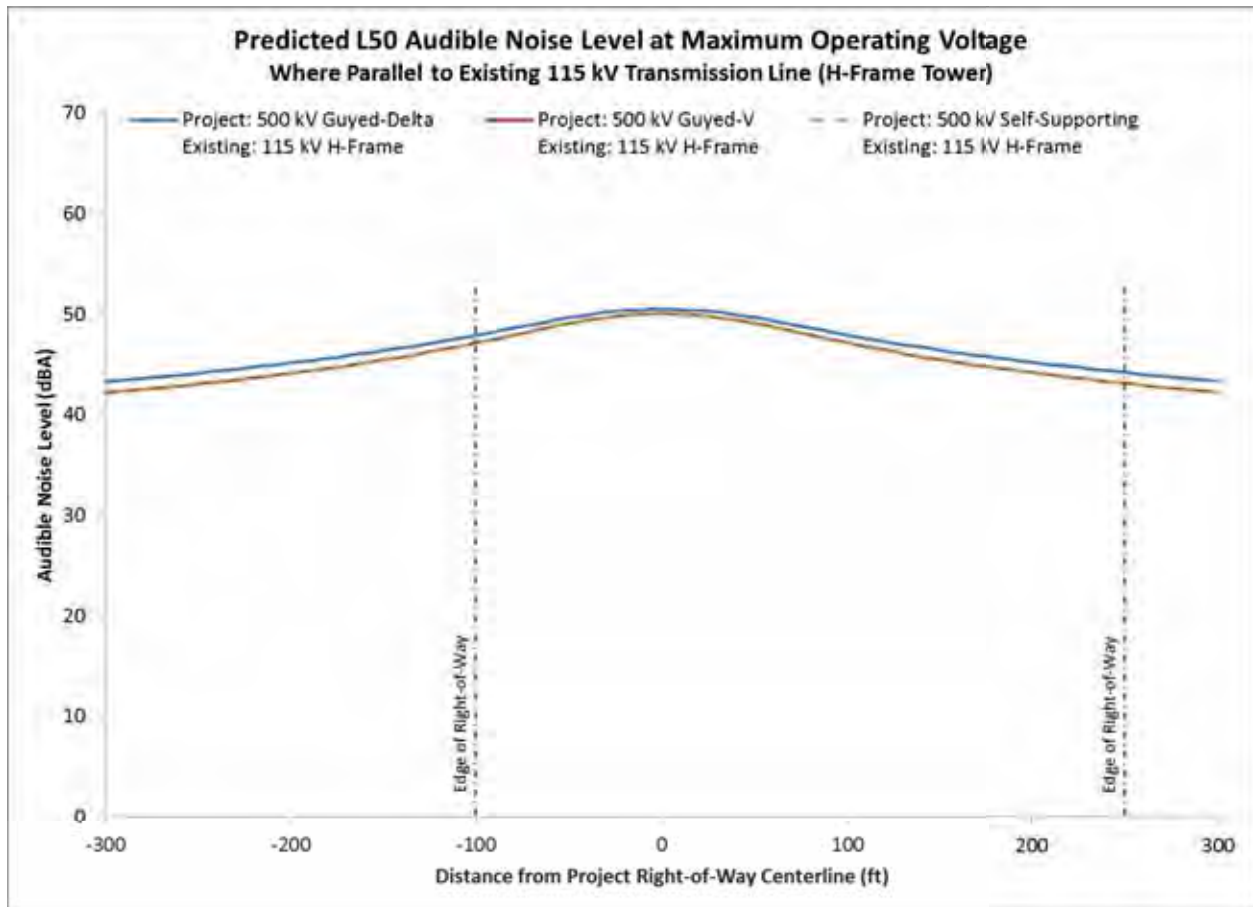


[Simulation assumes that Project ROW is adjacent to existing line ROW]

Audible Noise Simulation Results

**Predicted L50 Audible Noise Level (dBA) at Maximum Operating Voltage
Where Parallel to Existing 115 kV Transmission Line (H-Frame Tower)**

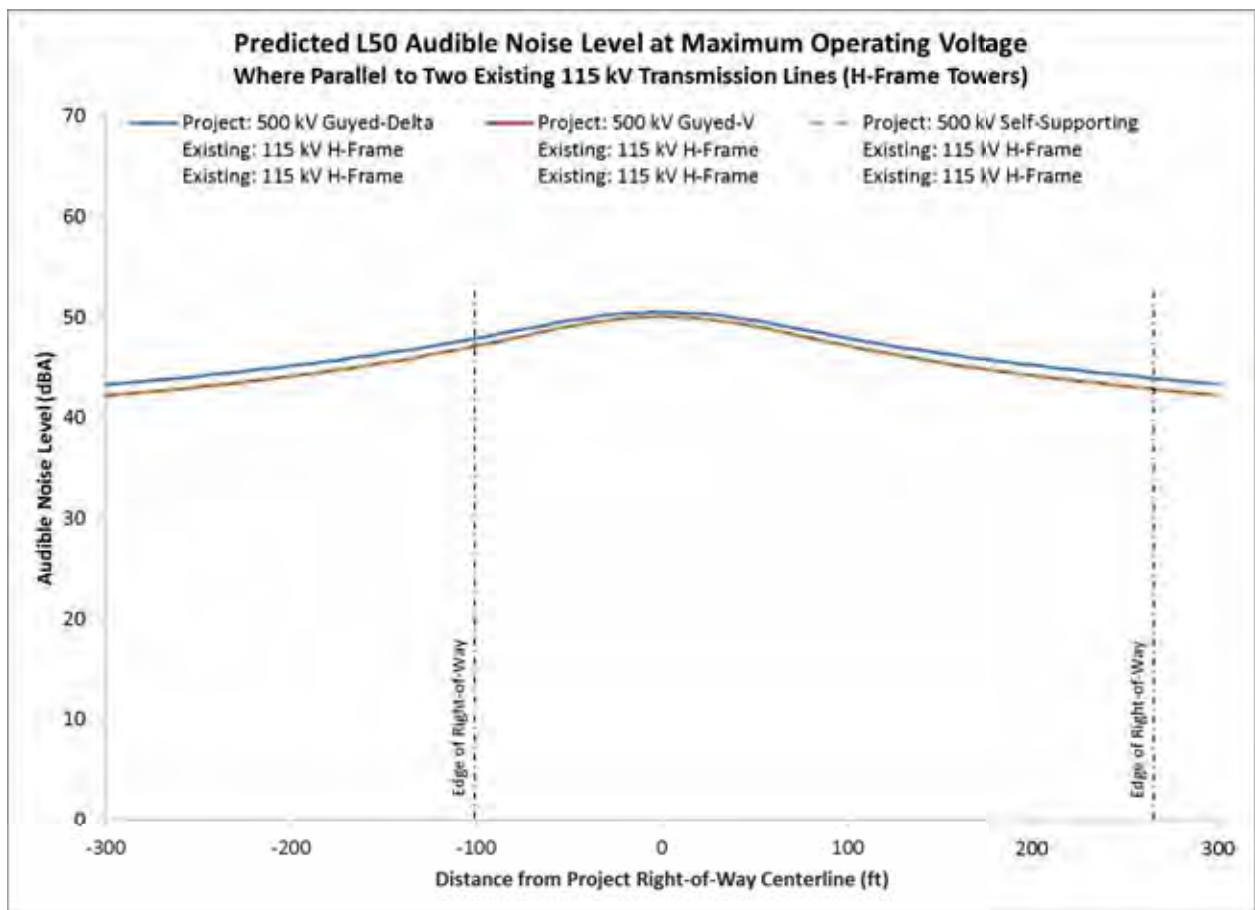
Structure Type	Line Voltage	Distance from Project ROW Centerline										
		-300	-200	-100	-50	-25	0	25	50	100	200	300
Project: 500 kV Guyed-Delta Existing: 115 kV H-Frame	500 kV 127 kV	43.3	45.2	47.9	49.7	50.3	50.5	50.3	49.7	47.9	45.2	43.3
Project: 500 kV Guyed-V Existing: 115 kV H-Frame	500 kV 127 kV	42.2	44.1	47.2	49.1	49.8	50.1	49.8	49.1	47.2	44.2	42.2
Project: 500 kV Self-Supporting Existing: 115 kV H-Frame	500 kV 127 kV	42.2	44.1	47.2	49.1	49.8	50.1	49.8	49.1	47.2	44.2	42.2



[Simulation assumes that Project ROW is adjacent to existing line ROW]

Audible Noise Simulation Results

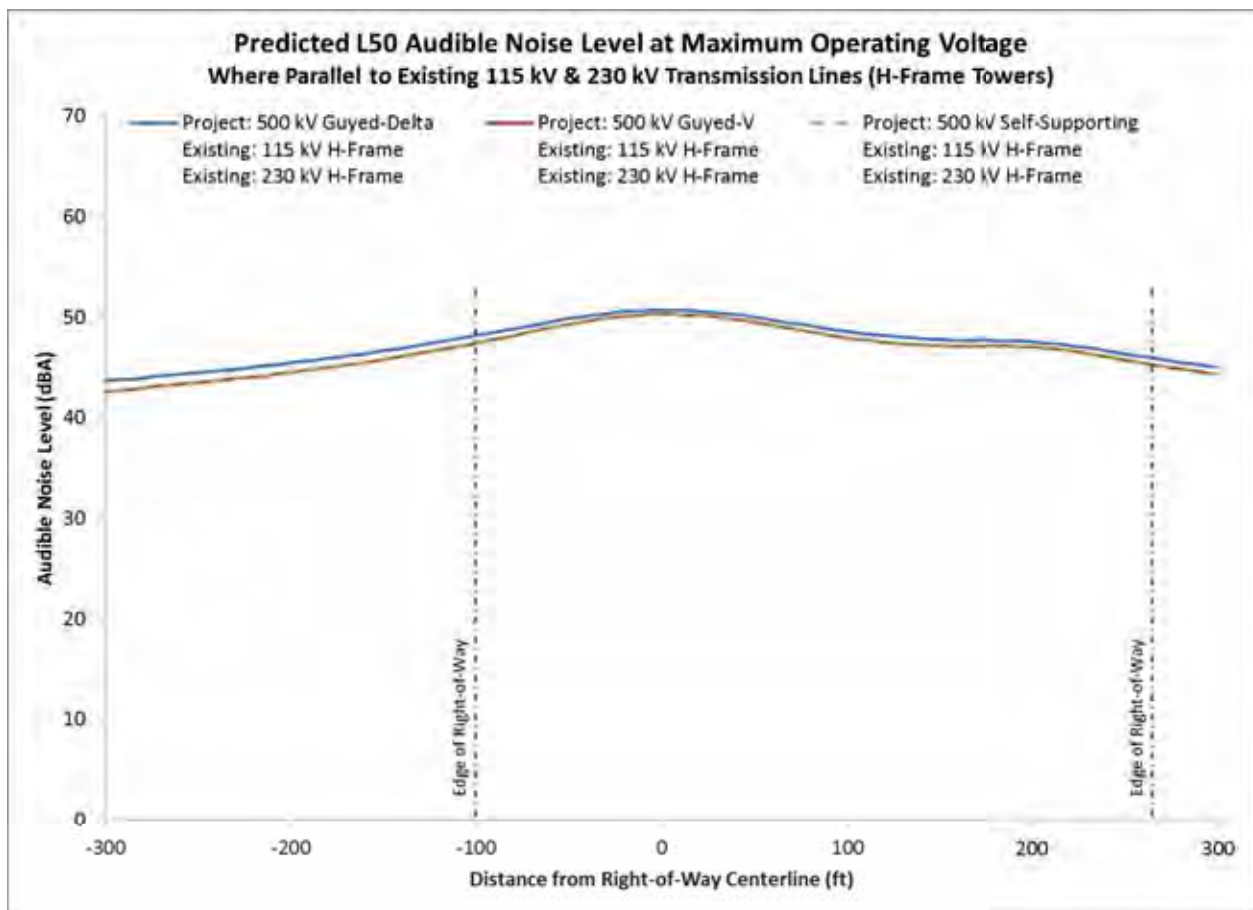
Predicted L50 Audible Noise Level (dBA) at Maximum Operating Voltage Where Parallel to Two Existing 115 kV Transmission Lines (H-Frame Towers)												
Structure Type	Line Voltage	Distance from Project ROW Centerline										
		-300	-200	-100	-50	-25	0	25	50	100	200	300
Project: 500 kV Guyed-Delta Existing: 115 kV H-Frame Existing: 115 kV H-Frame	550 kV 127 kV 127 kV	43.3	45.2	47.9	49.7	50.3	50.5	50.3	49.7	47.9	45.2	43.3
Project: 500 kV Guyed-V Existing: 115 kV H-Frame Existing: 115 kV H-Frame	550 kV 127 kV 127 kV	42.2	44.1	47.2	49.1	49.8	50.1	49.8	49.1	47.2	44.2	42.2
Project: 500 kV Self-Supporting Existing: 115 kV H-Frame Existing: 115 kV H-Frame	550 kV 127 kV 127 kV	42.2	44.1	47.2	49.1	49.8	50.1	49.8	49.1	47.2	44.2	42.2



[Simulation assumes that Project ROW is adjacent to existing line ROW]

Audible Noise Simulation Results

Predicted L50 Audible Noise Level (dBA) at Maximum Operating Voltage Where Parallel to Existing 115 kV & 230 kV Transmission Lines (H-Frame Towers)												
Structure Type	Line Voltage	Distance from Project ROW Centerline										
		-300	-200	-100	-50	-25	0	25	50	100	200	300
Project: 500 kV Guyed-Delta Existing: 115 kV H-Frame Existing: 230 kV H-Frame	550 kV 127 kV 253 kV	43.7	45.5	48.2	49.9	50.5	50.7	50.5	50.0	48.6	47.5	45.0
Project: 500 kV Guyed-V Existing: 115 kV H-Frame Existing: 230 kV H-Frame	550 kV 127 kV 253 kV	42.6	44.5	47.4	49.3	50.0	50.3	50.1	49.5	47.9	47.0	44.3
Project: 500 kV Self-Supporting Existing: 115 kV H-Frame Existing: 230 kV H-Frame	550 kV 127 kV 253 kV	42.6	44.5	47.4	49.3	50.0	50.3	50.1	49.5	47.9	47.0	44.3



[Simulation assumes that Project ROW is adjacent to existing line ROW]

Electric Field Simulations Results

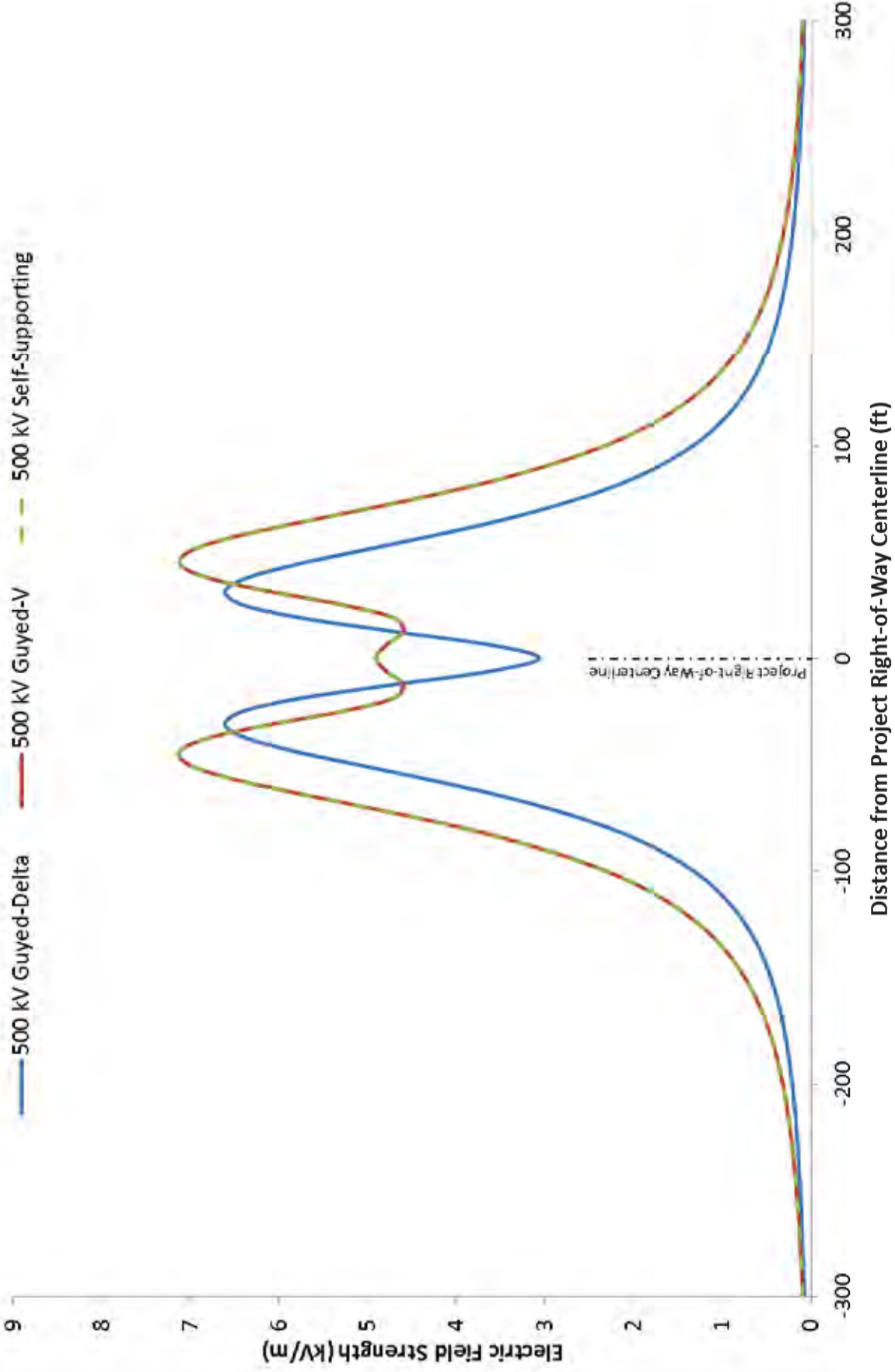
**Predicted Intensity of Electric Fields (kV/m) at Maximum Operating Voltage
Where Parallel to Existing 230 kV Transmission Line (H-Frame Tower)**

Structure Type	Line Voltage	Distance from Project ROW Centerline										
		-300	-200	-100	-50	-25	0	25	50	100	200	300
Project: 500 kV Guyed-Delta Existing: 230 kV H-Frame	550 kV 253 kV	0.080	0.218	1.337	5.146	6.426	3.079	6.377	5.035	0.818	2.495	0.190
Project: 500 kV Guyed-V Existing: 230 kV H-Frame	550 kV 253 kV	0.100	0.327	2.334	7.035	5.295	4.903	5.228	6.914	1.840	2.538	0.221
Project: 500 kV Self-Supporting Existing: 230 kV H-Frame	550 kV 253 kV	0.100	0.327	2.334	7.035	5.295	4.903	5.228	6.914	1.840	2.538	0.221

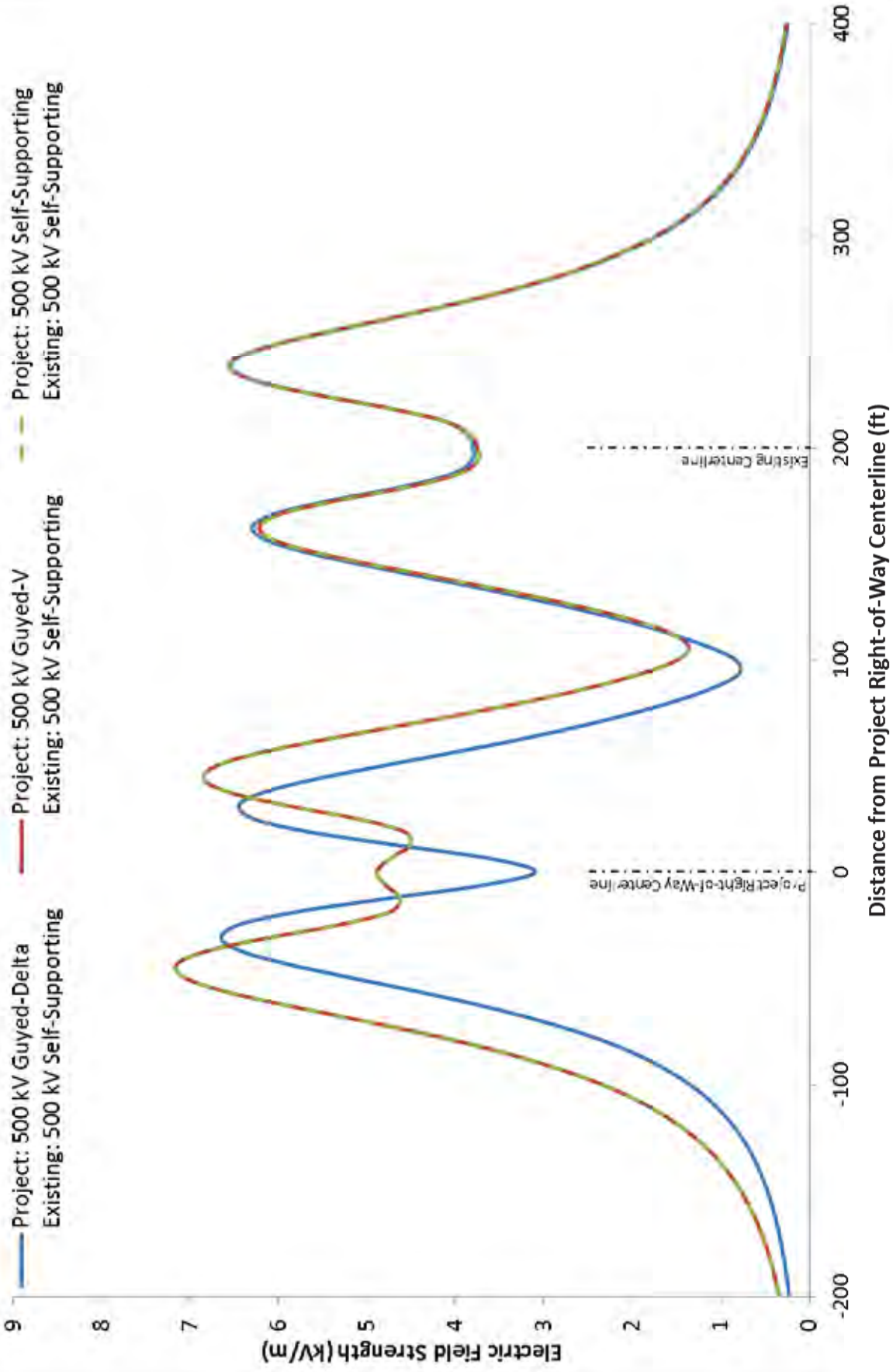
**Predicted Intensity of Electric Fields (kV/m) at Maximum Operating Voltage
Where Parallel to Existing 115 kV Transmission Line (H-Frame Tower)**

Structure Type	Line Voltage	Distance from Project ROW Centerline										
		-300	-200	-100	-50	-25	0	25	50	100	200	300
Project: 500 kV Guyed-Delta Existing: 115 kV H-Frame	550 kV 127 kV	0.079	0.214	1.329	5.136	6.413	3.073	6.421	5.152	1.388	0.359	0.029
Project: 500 kV Guyed-V Existing: 115 kV H-Frame	550 kV 127 kV	0.096	0.320	2.321	7.021	5.277	4.906	5.287	7.036	2.375	0.369	0.055
Project: 500 kV Self-Supporting Existing: 115 kV H-Frame	550 kV 127 kV	0.096	0.320	2.321	7.021	5.277	4.906	5.287	7.036	2.375	0.369	0.055

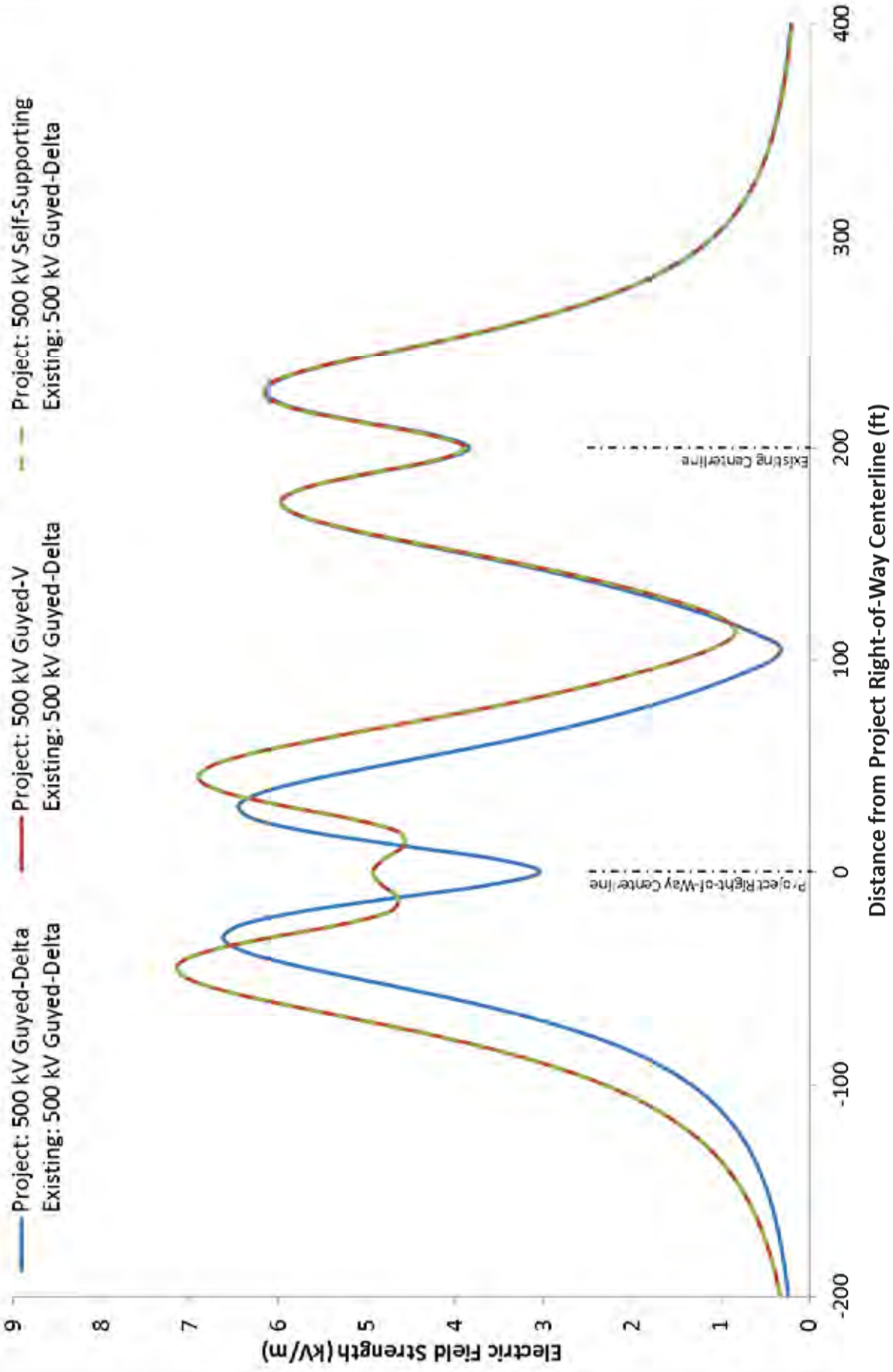
Predicted Intensity of Electric Fields at Maximum Operating Voltage Where Not Paralleling Existing Transmission Lines



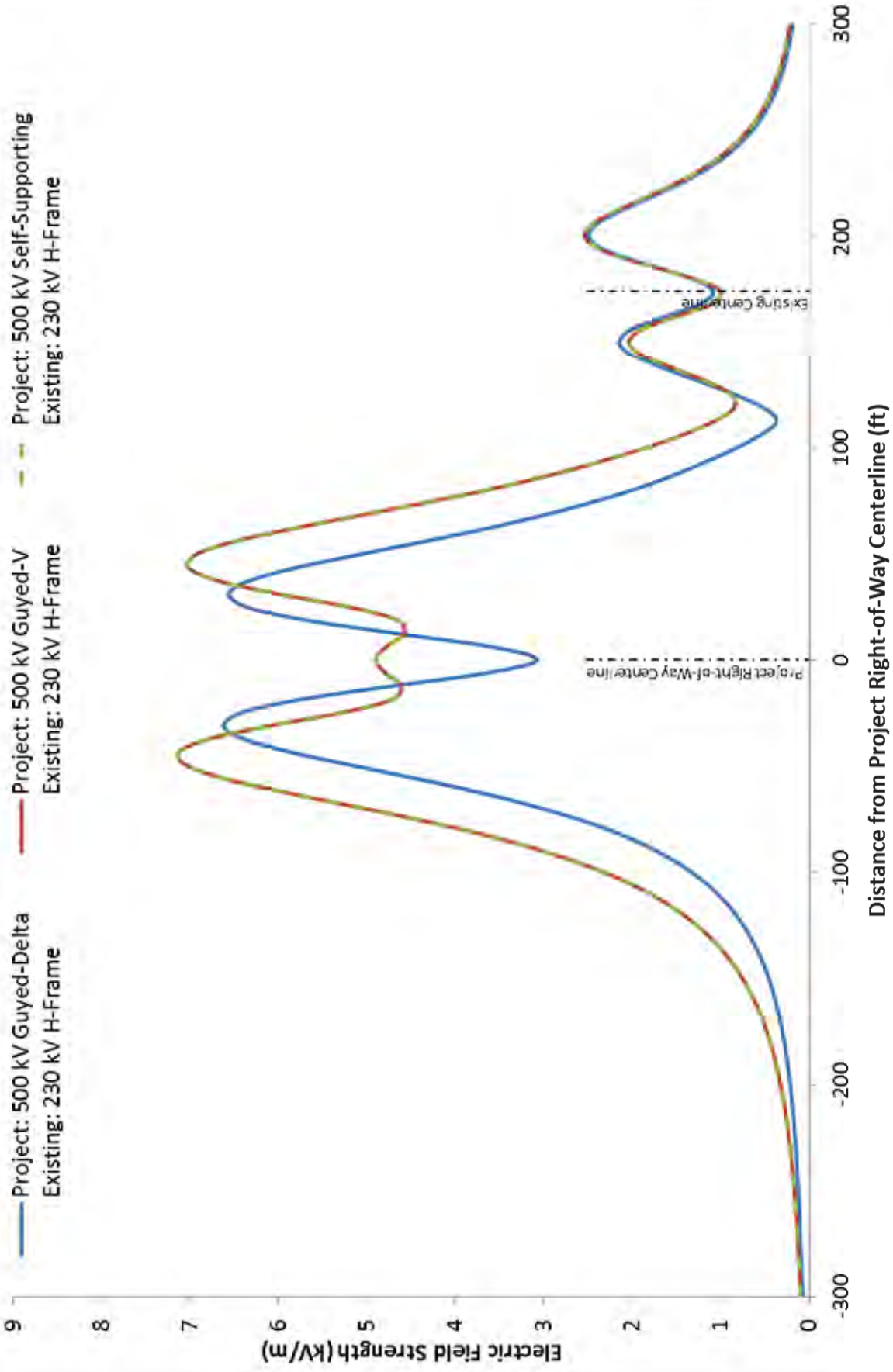
Predicted Intensity of Electric Fields at Maximum Operating Voltage Where Parallel to Existing 500 kV Transmission Line (Self-Supporting Tower)



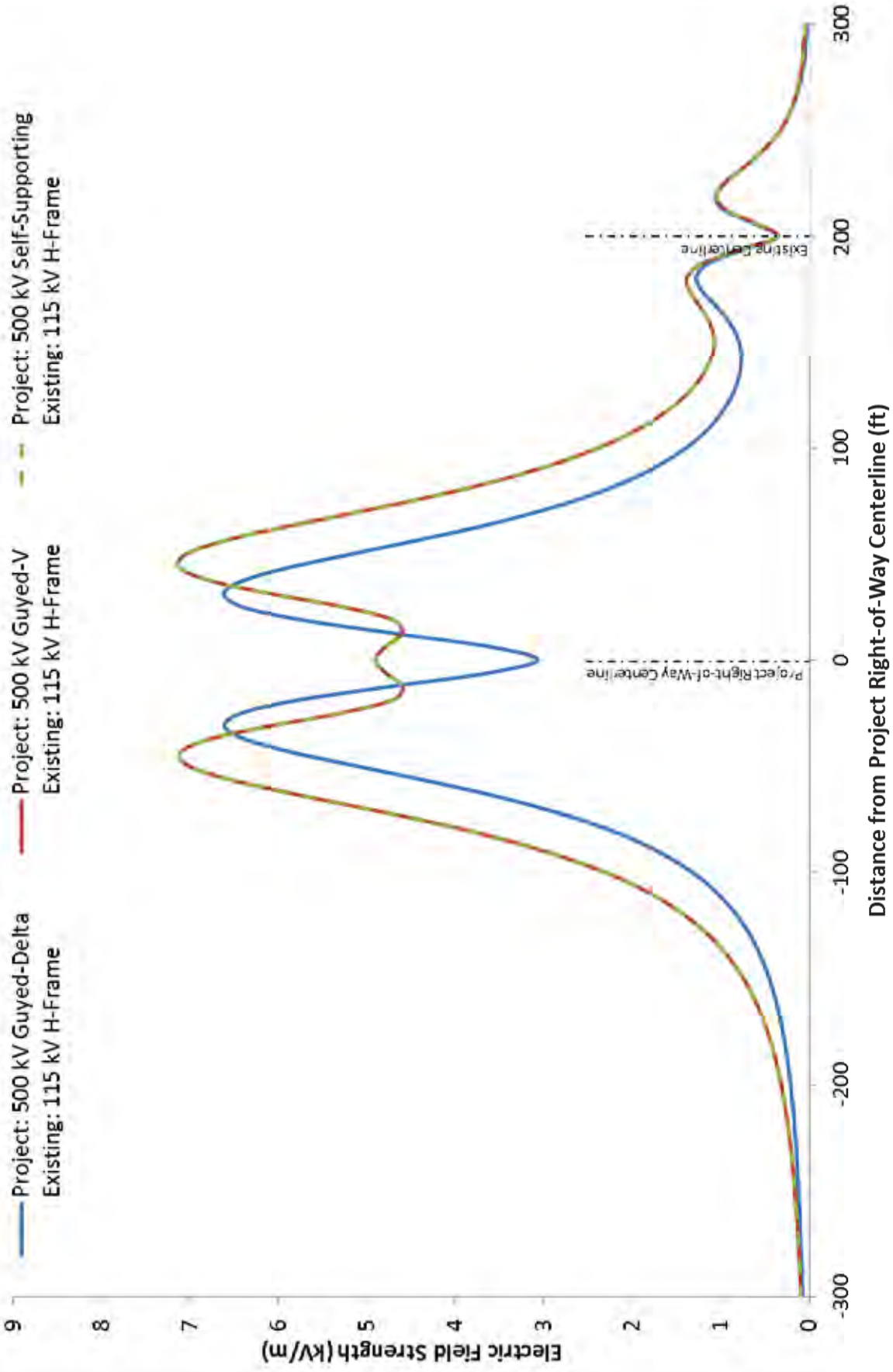
Predicted Intensity of Electric Fields at Maximum Operating Voltage Where Parallel to Existing 500 kV Transmission Line (Guyed-Delta Tower)



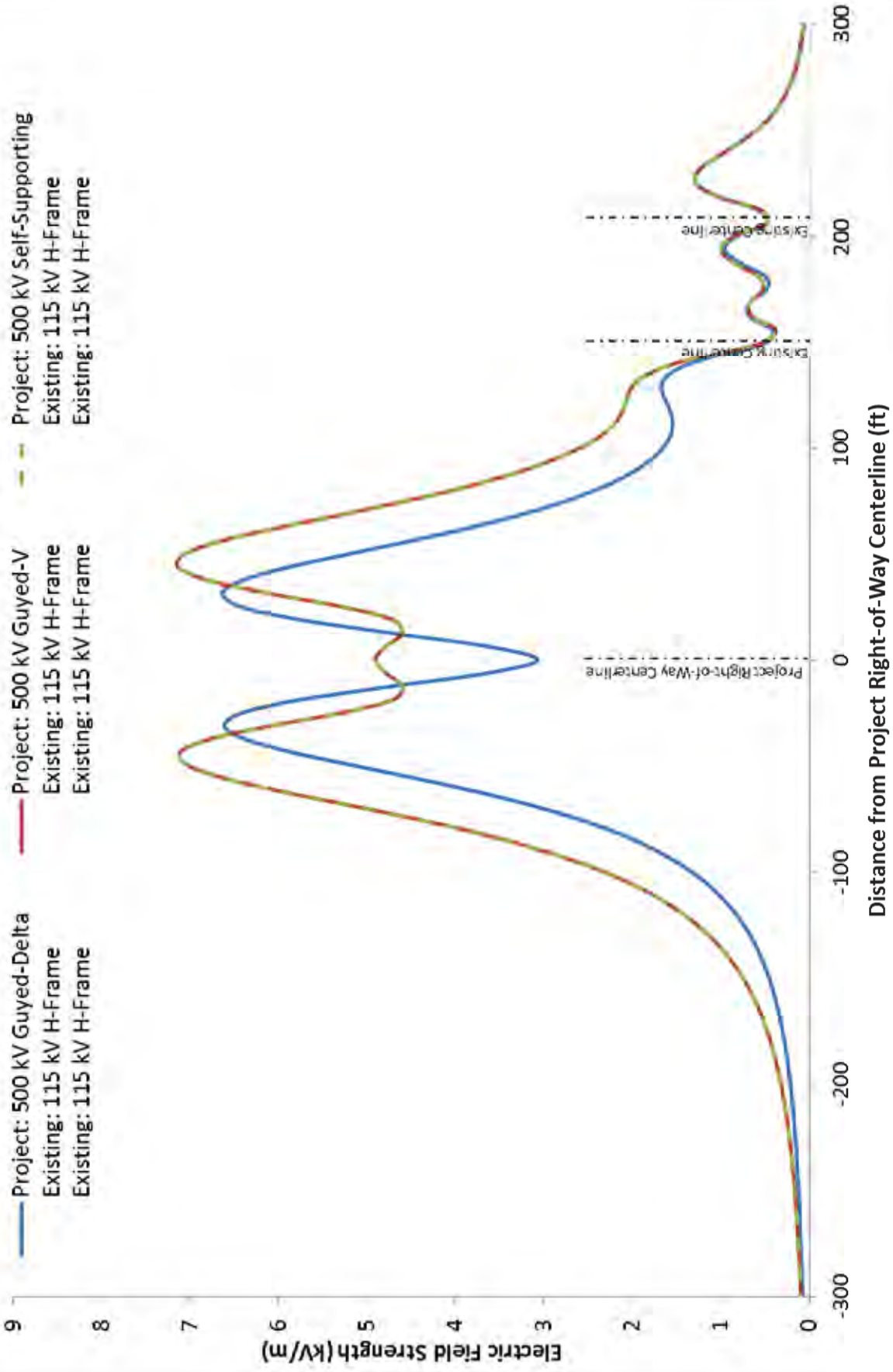
Predicted Intensity of Electric Fields at Maximum Operating Voltage Where Parallel to Existing 230 kV Transmission Line (H-Frame Tower)



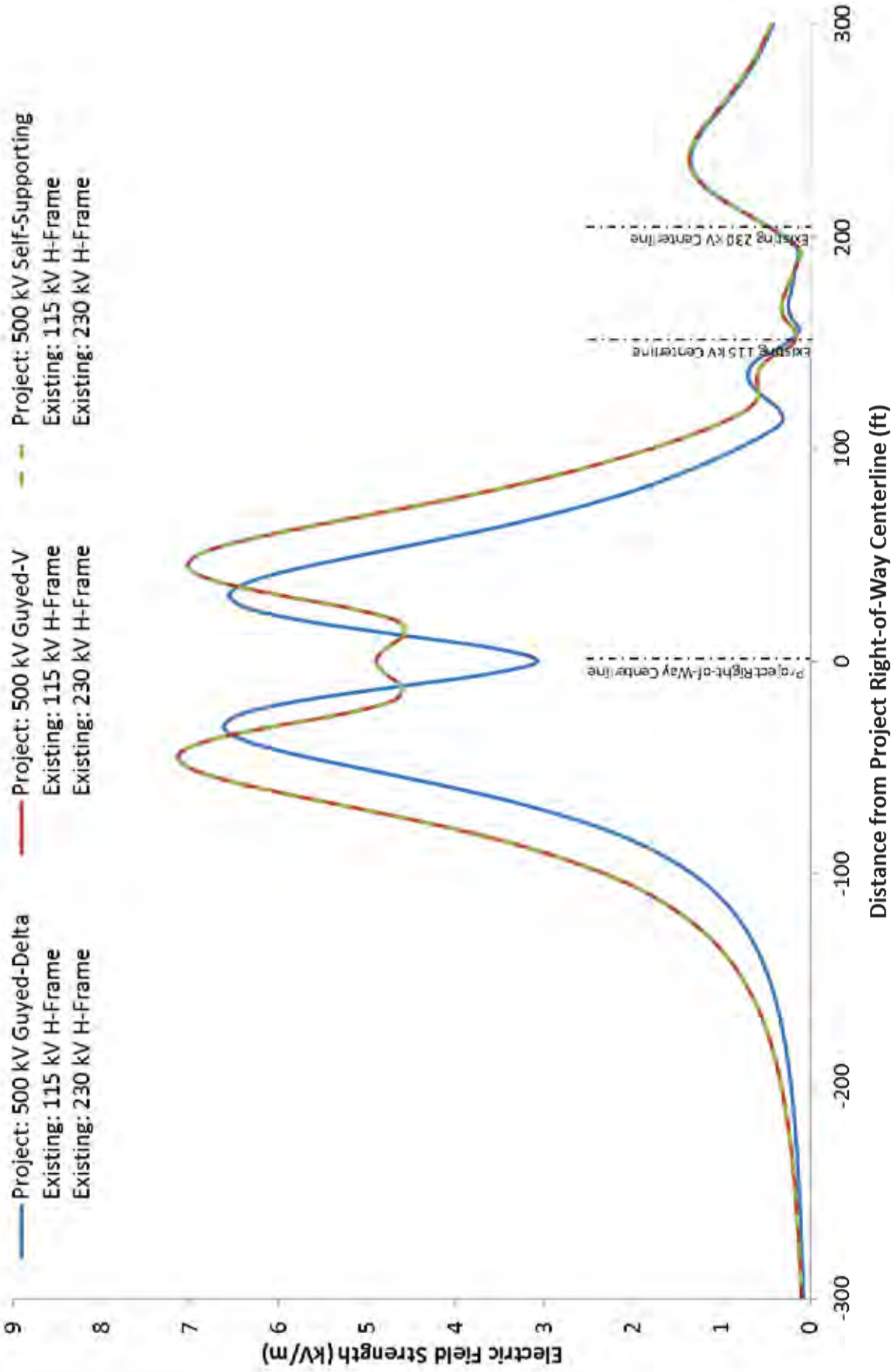
Predicted Intensity of Electric Fields at Maximum Operating Voltage Where Parallel to Existing 115 kV Transmission Line (H-Frame Tower)



Predicted Intensity of Electric Fields at Maximum Operating Voltage Where Parallel to Two Existing 115 kV Transmission Lines (H-Frame Towers)



Predicted Intensity of Electric Fields at Maximum Operating Voltage Where Parallel to Existing 115 kV & 230 kV Transmission Lines (H-Frame Towers)

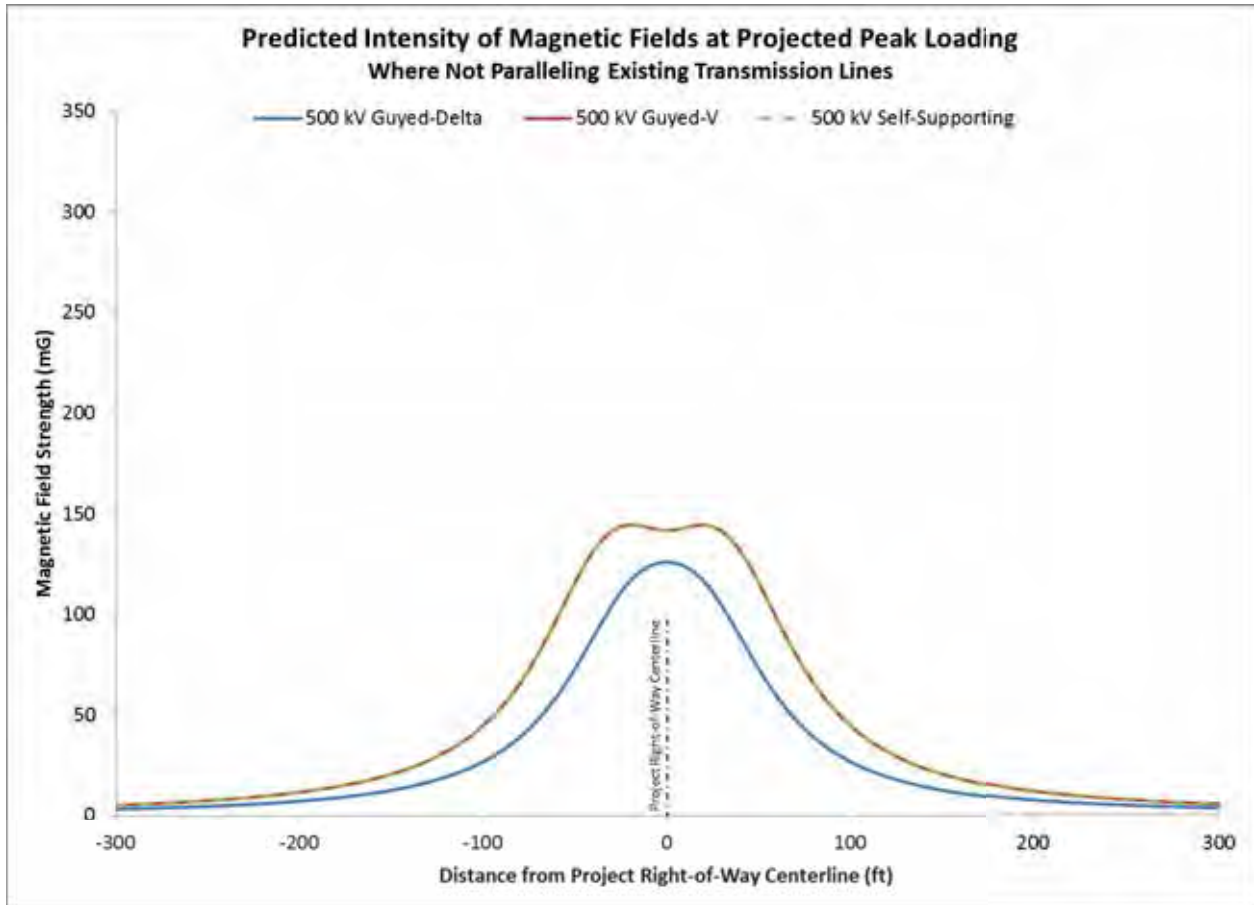


Magnetic Field Simulation Results

Magnetic Field Simulation Results: Projected Peak Loading

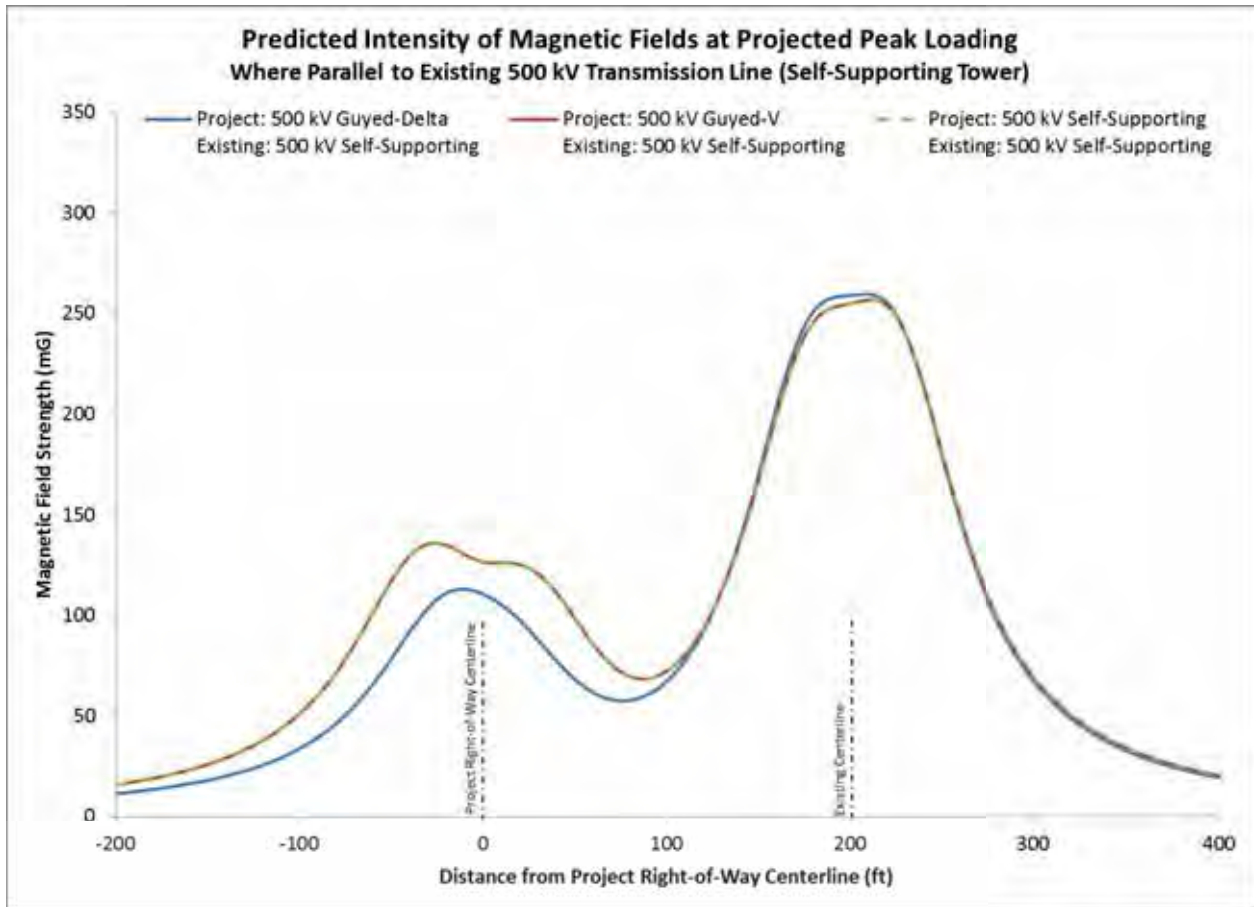
**Predicted Intensity of Magnetic Fields (mG) at Projected Peak Loading
Where Not Paralleling Existing Transmission Lines**

Structure Type	Line Current	Distance from Project ROW Centerline										
		-300	-200	-100	-50	-25	0	25	50	100	200	300
500 kV Guyed-Delta	1,024 A	3.2	7.2	26.8	73.1	111.2	126.2	111.2	73.1	26.8	7.2	3.2
500 kV Guyed-V	1,024 A	5.2	11.6	44.8	115.9	143.8	141.9	143.8	115.9	44.8	11.6	5.2
500 kV Self-Supporting	1,024 A	5.2	11.6	44.8	115.9	143.8	141.9	143.8	115.9	44.8	11.6	5.2



Magnetic Field Simulation Results: Projected Peak Loading

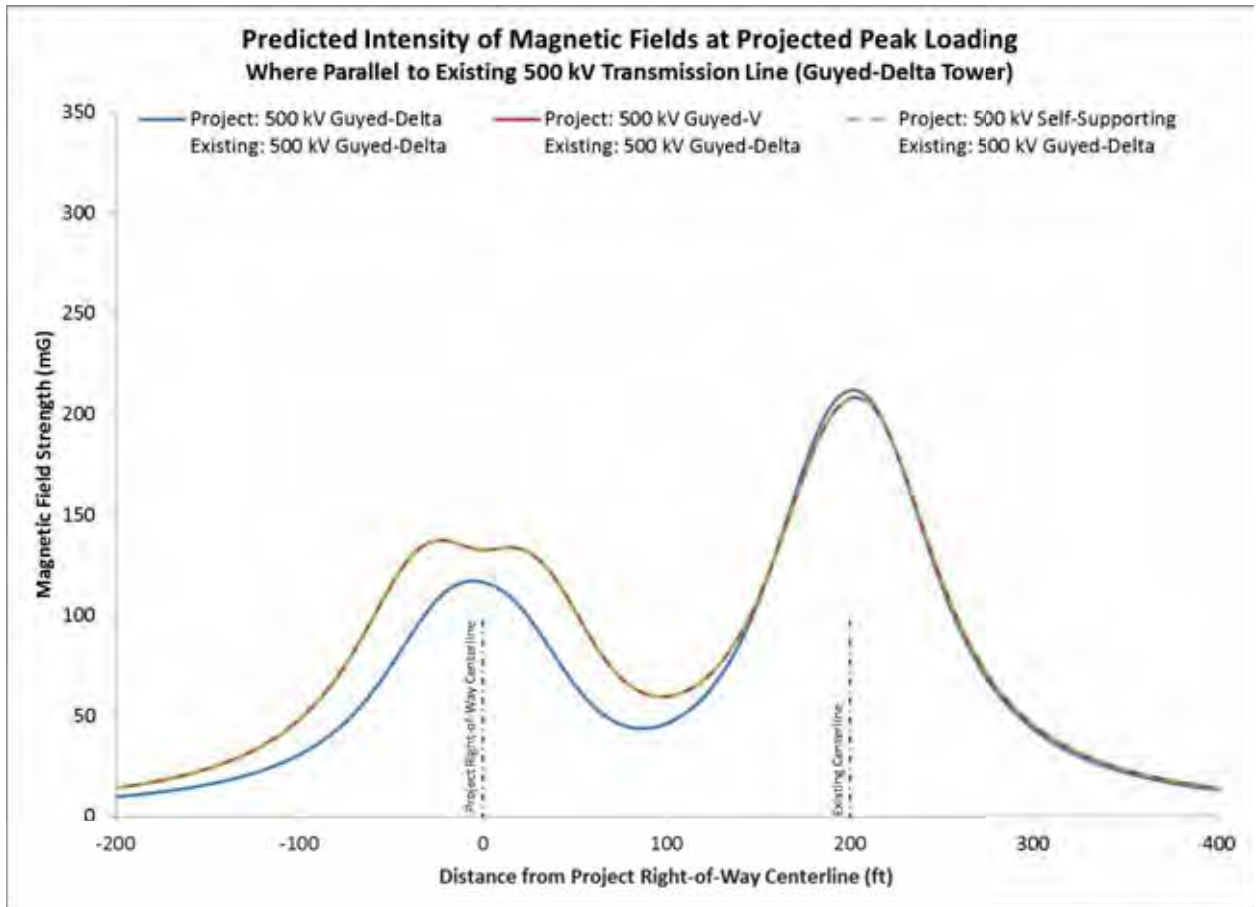
Predicted Intensity of Magnetic Fields (mG) at Projected Peak Loading Where Parallel to Existing 500 kV Transmission Line (Self-Supporting Tower)												
Structure Type	Line Voltage	Distance from Project ROW Centerline										
		-200	-100	-50	-25	0	25	50	100	200	300	400
Project: 500 kV Guyed-Delta	1,024 A	11.5	33.8	78.5	108.2	110.8	92.9	68.3	67.4	258.8	66.9	18.8
Existing: 500 kV Self-Supporting	1,897 A											
Project: 500 kV Guyed-V	1,024 A	15.9	51.1	117.2	136.1	126.6	123.7	98.5	72.4	254.8	68.8	19.9
Existing: 500 kV Self-Supporting	1,897 A											
Project: 500 kV Self-Supporting	1,024 A	15.9	51.1	117.2	136.1	126.6	123.7	98.5	72.4	254.8	68.8	19.9
Existing: 500 kV Self-Supporting	1,897 A											



[Simulation assumes that Project ROW is adjacent to existing line ROW]

Magnetic Field Simulation Results: Projected Peak Loading

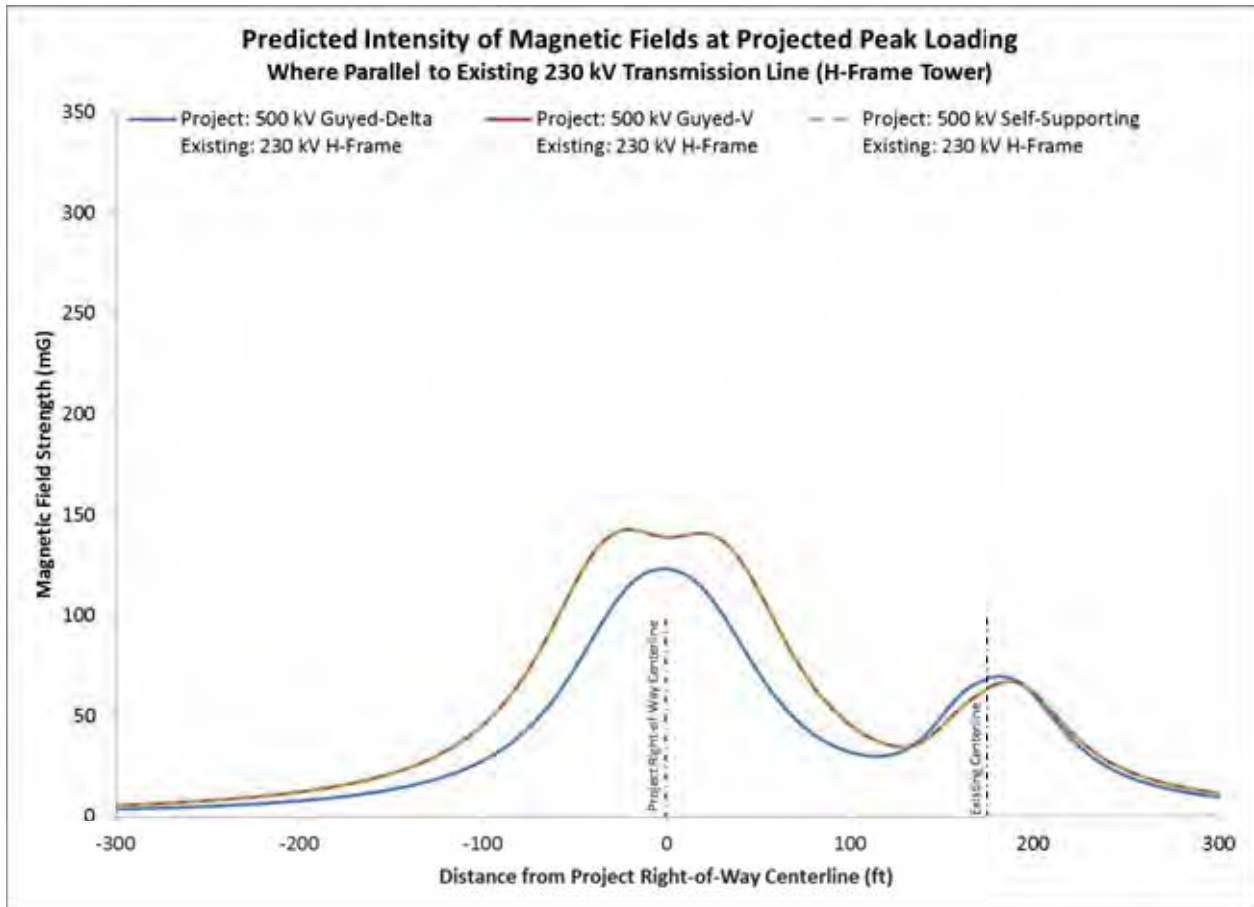
Predicted Intensity of Magnetic Fields (mG) at Projected Peak Loading Where Parallel to Existing 500 kV Transmission Line (Guyed-Delta Tower)												
Structure Type	Line Voltage	Distance from Project ROW Centerline										
		-200	-100	-50	-25	0	25	50	100	200	300	400
Project: 500 kV Guyed-Delta	1,024 A	9.9	30.8	75.1	108.1	116.7	98.9	65.3	46.4	211.7	43.0	12.6
Existing: 500 kV Guyed-Delta	1,897 A											
Project: 500 kV Guyed-V	1,024 A	14.2	48.3	115.3	137.4	132.7	131.5	102.4	59.8	207.6	44.9	13.6
Existing: 500 kV Guyed-Delta	1,897 A											
Project: 500 kV Self-Supporting	1,024 A	14.2	48.3	115.3	137.4	132.7	131.5	102.4	59.8	207.6	44.9	13.6
Existing: 500 kV Guyed-Delta	1,897 A											



[Simulation assumes that Project ROW is adjacent to existing line ROW]

Magnetic Field Simulation Results: Projected Peak Loading

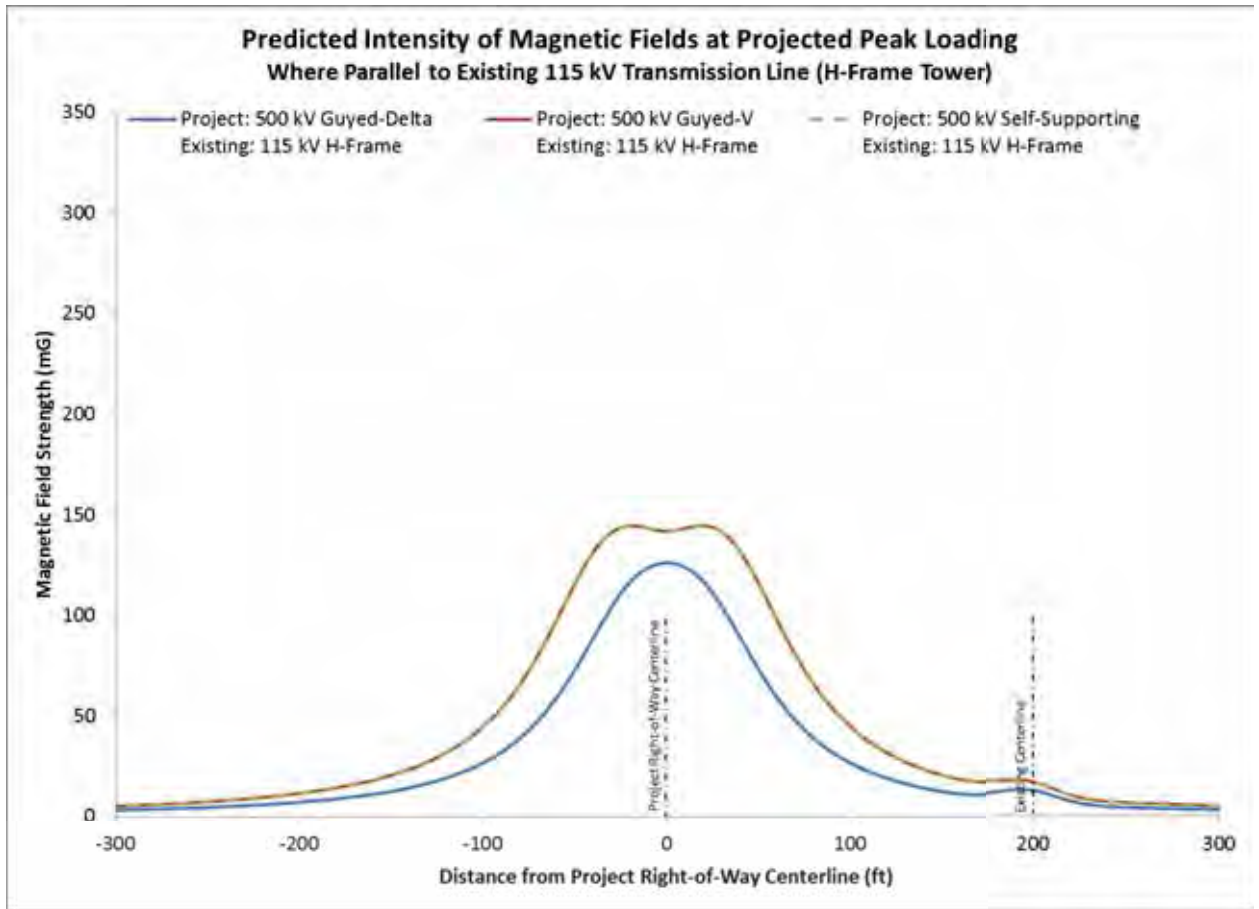
Predicted Intensity of Magnetic Fields (mG) at Projected Peak Loading Where Parallel to Existing 230 kV Transmission Line (H-Frame Tower)												
Structure Type	Line Voltage	Distance from Project ROW Centerline										
		-300	-200	-100	-50	-25	0	25	50	100	200	300
Project: 500 kV Guyed-Delta Existing: 230 kV H-Frame	1,024 A 434 A	3.7	7.9	27.9	73.8	110.4	123.3	107.7	71.5	32.0	60.1	9.1
Project: 500 kV Guyed-V Existing: 230 kV H-Frame	1,024 A 434 A	5.6	12.3	45.7	116.0	142.3	139.0	140.0	112.3	45.5	61.4	11.1
Project: 500 kV Self-Supporting Existing: 230 kV H-Frame	1,024 A 434 A	5.6	12.3	45.7	116.0	142.3	139.0	140.0	112.3	45.5	61.4	11.1



[Simulation assumes that Project ROW is adjacent to existing line ROW]

Magnetic Field Simulation Results: Projected Peak Loading

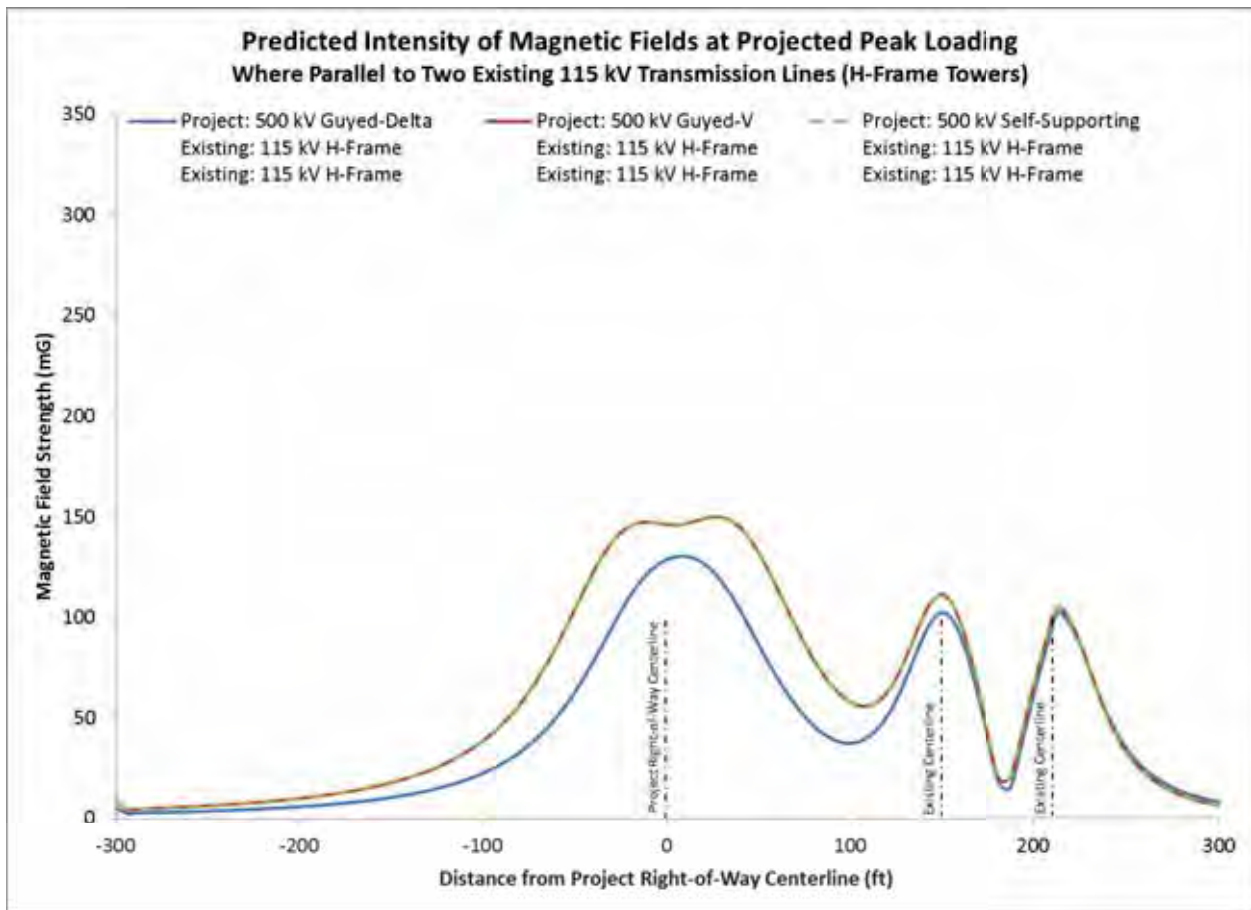
Predicted Intensity of Magnetic Fields (mG) at Projected Peak Loading Where Parallel to Existing 115 kV Transmission Line (H-Frame Tower)												
Structure Type	Line Voltage	Distance from Project ROW Centerline										
		-300	-200	-100	-50	-25	0	25	50	100	200	300
Project: 500 kV Guyed-Delta Existing: 115 kV H-Frame	1,024 A 32 A	3.2	7.2	26.8	73.0	111.2	126.3	111.3	73.1	26.7	12.4	2.9
Project: 500 kV Guyed-V Existing: 115 kV H-Frame	1,024 A 32 A	5.2	11.6	44.7	115.9	143.9	142.0	143.9	116.0	44.7	16.7	4.8
Project: 500 kV Self-Supporting Existing: 115 kV H-Frame	1,024 A 32 A	5.2	11.6	44.7	115.9	143.9	142.0	143.9	116.0	44.7	16.7	4.8



[Simulation assumes that Project ROW is adjacent to existing line ROW]

Magnetic Field Simulation Results: Projected Peak Loading

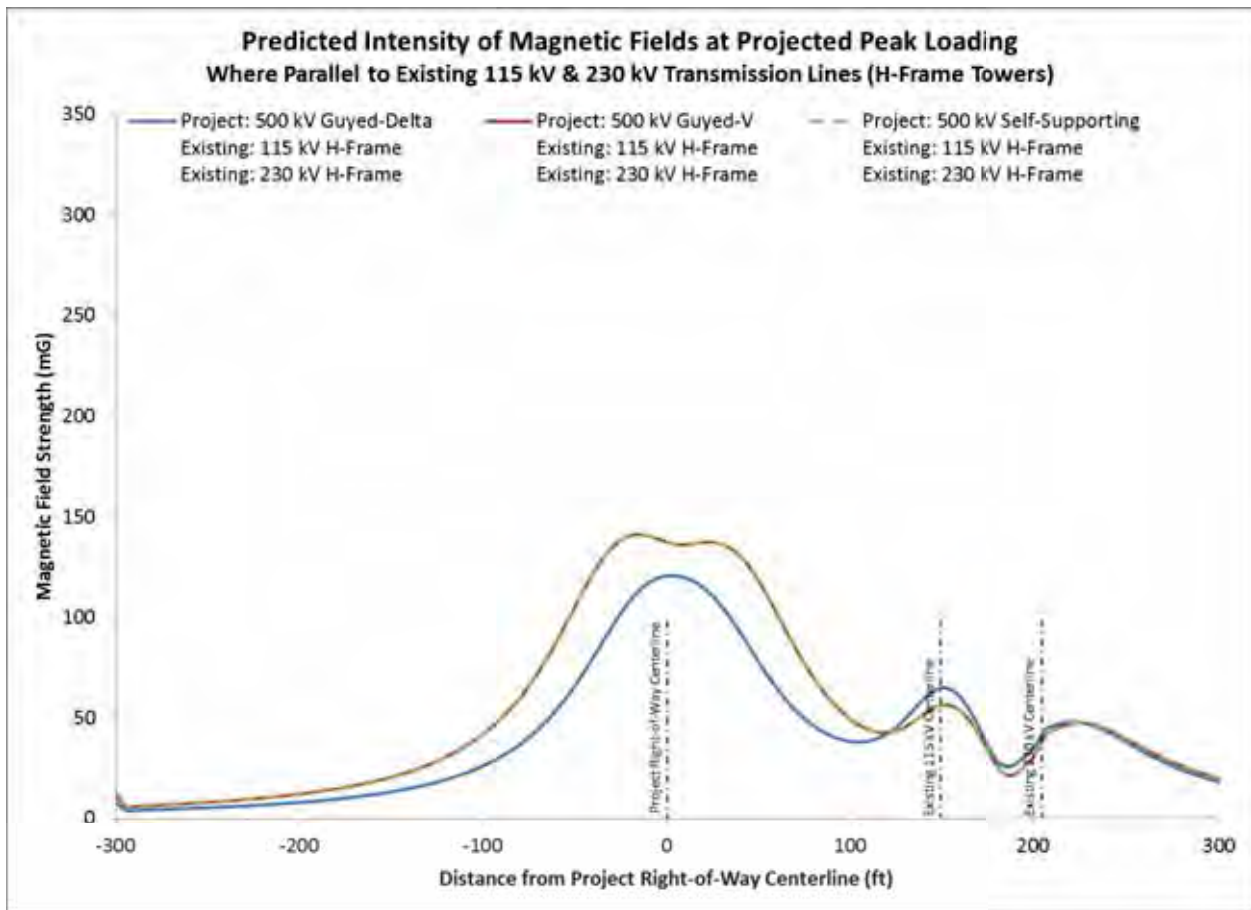
Predicted Intensity of Magnetic Fields (mG) at Projected Peak Loading Where Parallel to Two Existing 115 kV Transmission Lines (H-Frame Towers)												
Structure Type	Line Voltage	Distance from Project ROW Centerline										
		-300	-200	-100	-50	-25	0	25	50	100	200	300
Project: 500 kV Guyed-Delta Existing: 115 kV H-Frame Existing: 115 kV H-Frame	1,024 A 536 A 536 A	5.3	5.9	22.6	63.0	103.2	128.9	123.1	86.4	37.5	60.7	7.7
Project: 500 kV Guyed-V Existing: 115 kV H-Frame Existing: 115 kV H-Frame	1,024 A 536 A 536 A	9.1	10.1	38.8	104.3	142.3	146.4	150.1	132.2	58.0	65.4	5.8
Project: 500 kV Self-Supporting Existing: 115 kV H-Frame Existing: 115 kV H-Frame	1,024 A 536 A 536 A	9.1	10.1	38.8	104.3	142.3	146.4	150.1	132.2	58.0	65.4	5.8



[Simulation assumes that Project ROW is adjacent to existing line ROW]

Magnetic Field Simulation Results: Projected Peak Loading

Predicted Intensity of Magnetic Fields (mG) at Projected Peak Loading Where Parallel to Existing 115 kV & 230 kV Transmission Lines (H-Frame Towers)												
Structure Type	Line Voltage	Distance from Project ROW Centerline										
		-300	-200	-100	-50	-25	0	25	50	100	200	300
Project: 500 kV Guyed-Delta Existing: 115 kV H-Frame Existing: 230 kV H-Frame	1,024 A 557 A 601 A	8.3	8.1	26.3	66.1	102.4	120.8	110.8	77.9	38.4	34.4	17.7
Project: 500 kV Guyed-V Existing: 115 kV H-Frame Existing: 230 kV H-Frame	1,024 A 557 A 601 A	12.1	12.2	42.0	105.5	138.7	137.6	137.6	118.2	49.5	30.0	19.6
Project: 500 kV Self-Supporting Existing: 115 kV H-Frame Existing: 230 kV H-Frame	1,024 A 557 A 601 A	12.1	12.2	42.0	105.5	138.7	137.6	137.6	118.2	49.5	30.0	19.6

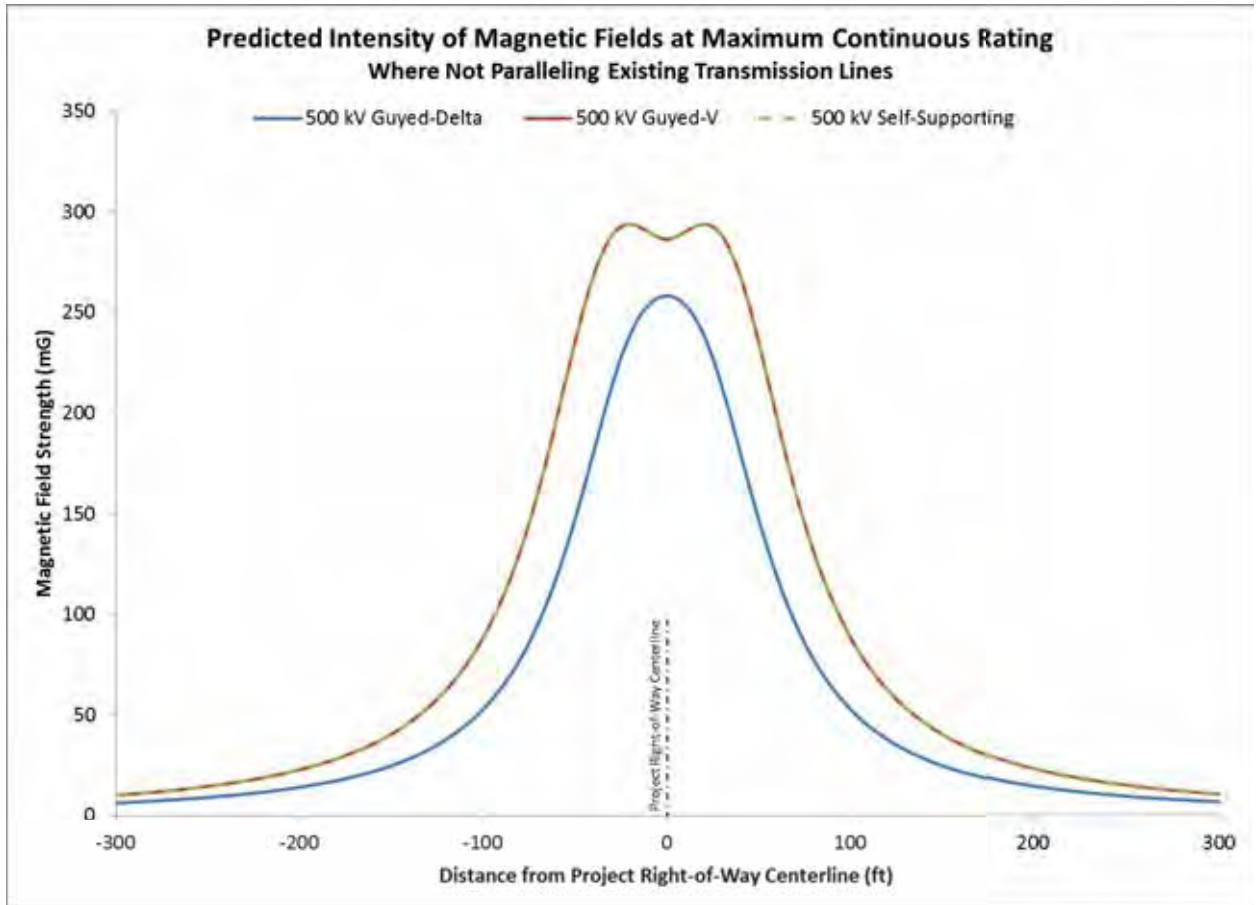


[Simulation assumes that Project ROW is adjacent to existing line ROW]

Magnetic Field Simulation Results: Max Continuous Rating

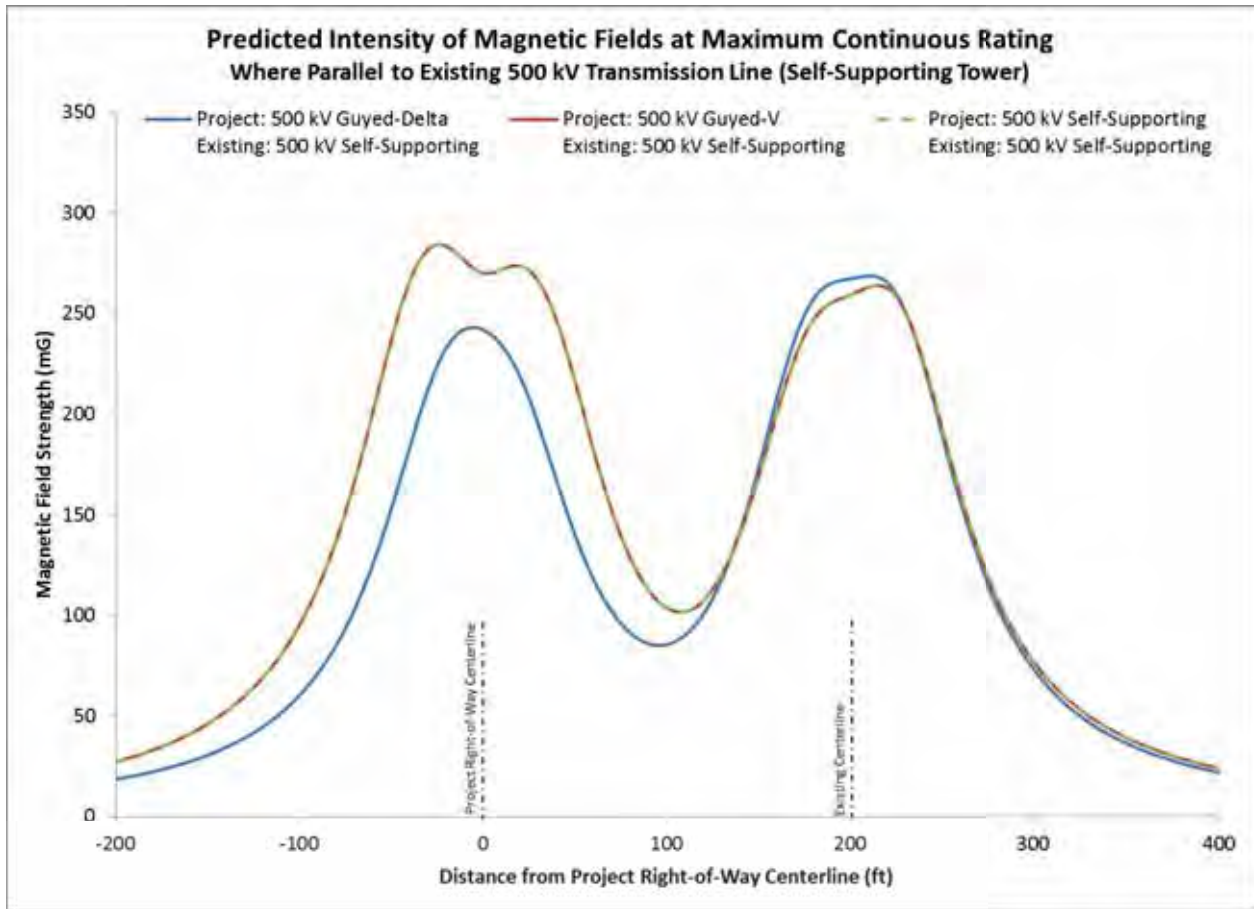
**Predicted Intensity of Magnetic Fields (mG) at Maximum Continuous Rating
Where Not Paralleling Existing Transmission Lines**

Structure Type	Line Current	Distance from Project ROW Centerline										
		-300	-200	-100	-50	-25	0	25	50	100	200	300
500 kV Guyed-Delta	2,000 A	6.3	14.1	52.9	147.3	227.2	258.1	227.2	147.3	52.9	14.1	6.3
500 kV Guyed-V	2,000 A	10.1	22.8	88.5	235.0	292.5	286.2	292.5	235.0	88.5	22.8	10.1
500 kV Self-Supporting	2,000 A	10.1	22.8	88.5	235.0	292.5	286.2	292.5	235.0	88.5	22.8	10.1



Magnetic Field Simulation Results: Max Continuous Rating

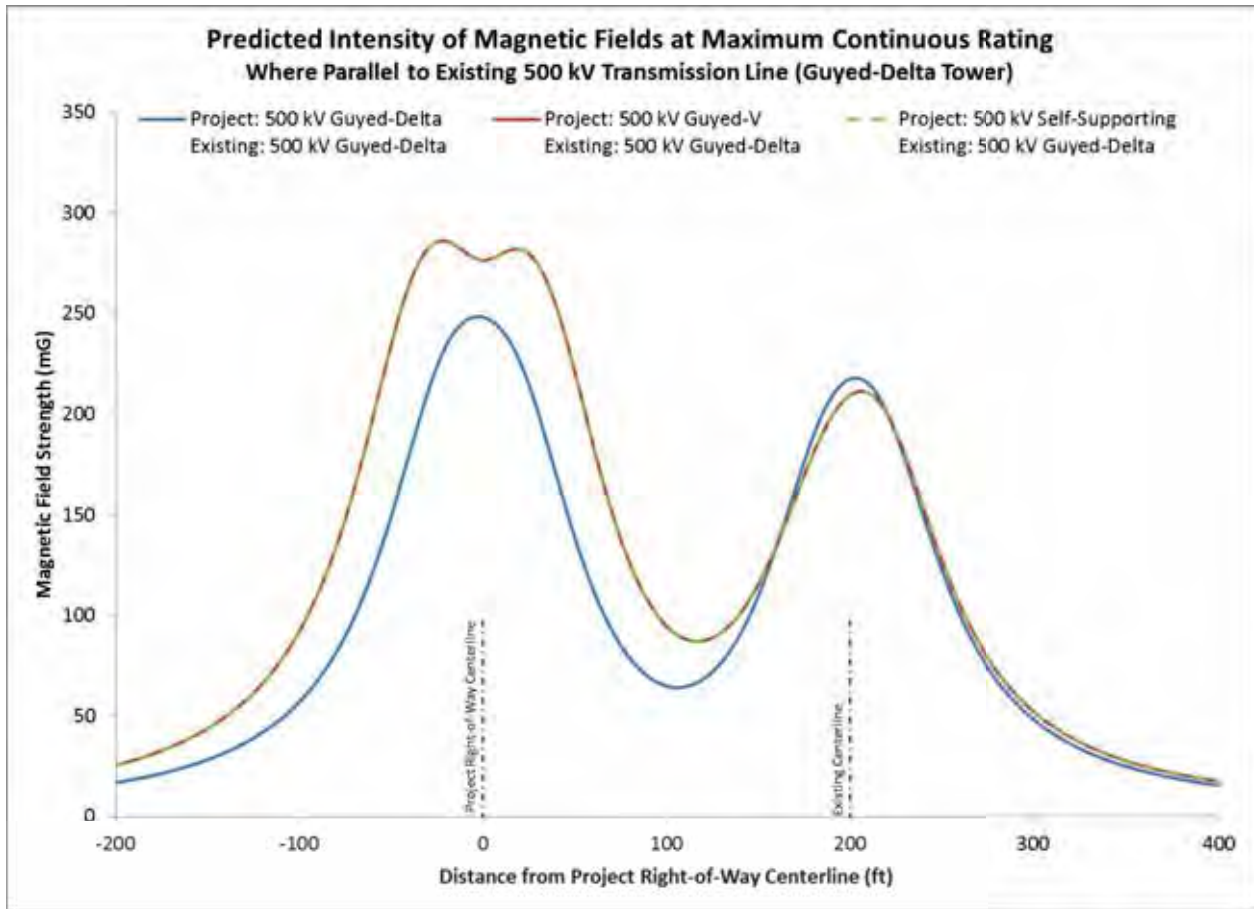
Predicted Intensity of Magnetic Fields (mG) at Maximum Continuous Rating Where Parallel to Existing 500 kV Transmission Line (Self-Supporting Tower)												
Structure Type	Line Voltage	Distance from Project ROW Centerline										
		-200	-100	-50	-25	0	25	50	100	200	300	400
Project: 500 kV Guyed-Delta Existing: 500 kV Self-Supporting	2,000 A 2,000 A	18.6	60.3	153.0	223.8	241.7	207.7	140.2	85.6	267.1	72.9	21.4
Project: 500 kV Guyed-V Existing: 500 kV Self-Supporting	2,000 A 2,000 A	27.3	95.2	236.4	284.1	269.9	271.3	216.1	103.9	259.1	76.6	23.6
Project: 500 kV Self-Supporting Existing: 500 kV Self-Supporting	2,000 A 2,000 A	27.3	95.2	236.4	284.1	269.9	271.3	216.1	103.9	259.1	76.6	23.6



[Simulation assumes that Project ROW is adjacent to existing line ROW]

Magnetic Field Simulation Results: Max Continuous Rating

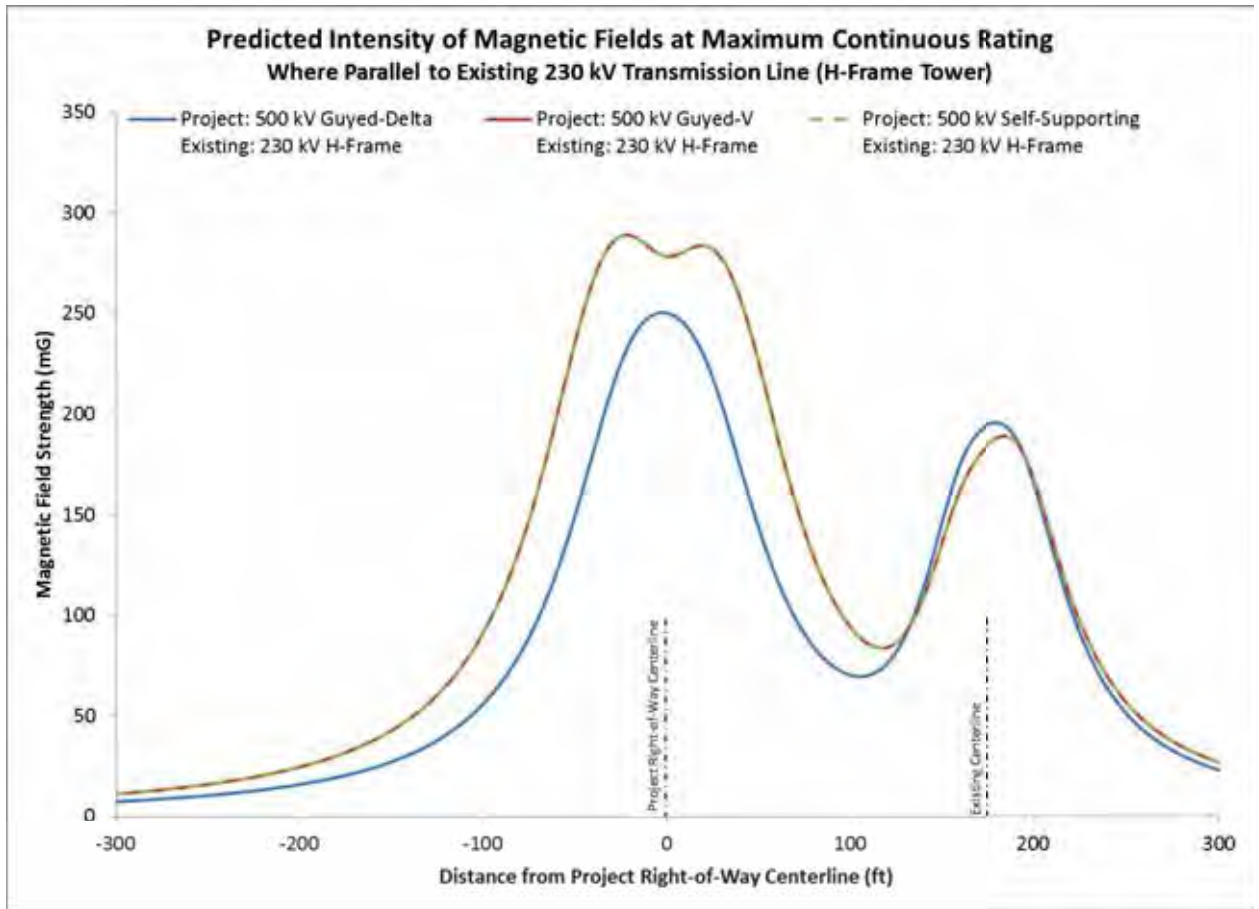
Predicted Intensity of Magnetic Fields (mG) at Maximum Continuous Rating Where Parallel to Existing 500 kV Transmission Line (Guyed-Delta Tower)												
Structure Type	Line Voltage	Distance from Project ROW Centerline										
		-200	-100	-50	-25	0	25	50	100	200	300	400
Project: 500 kV Guyed-Delta Existing: 500 kV Guyed-Delta	2,000 A	16.9	57.2	149.4	223.8	248.0	214.3	138.5	64.9	217.3	47.9	14.9
Project: 500 kV Guyed-V Existing: 500 kV Guyed-Delta	2,000 A	25.5	92.3	234.2	285.5	276.2	279.5	220.5	94.6	209.4	51.7	16.9
Project: 500 kV Self-Supporting Existing: 500 kV Guyed-Delta	2,000 A	25.5	92.3	234.2	285.5	276.2	279.5	220.5	94.6	209.4	51.7	16.9



[Simulation assumes that Project ROW is adjacent to existing line ROW]

Magnetic Field Simulation Results: Max Continuous Rating

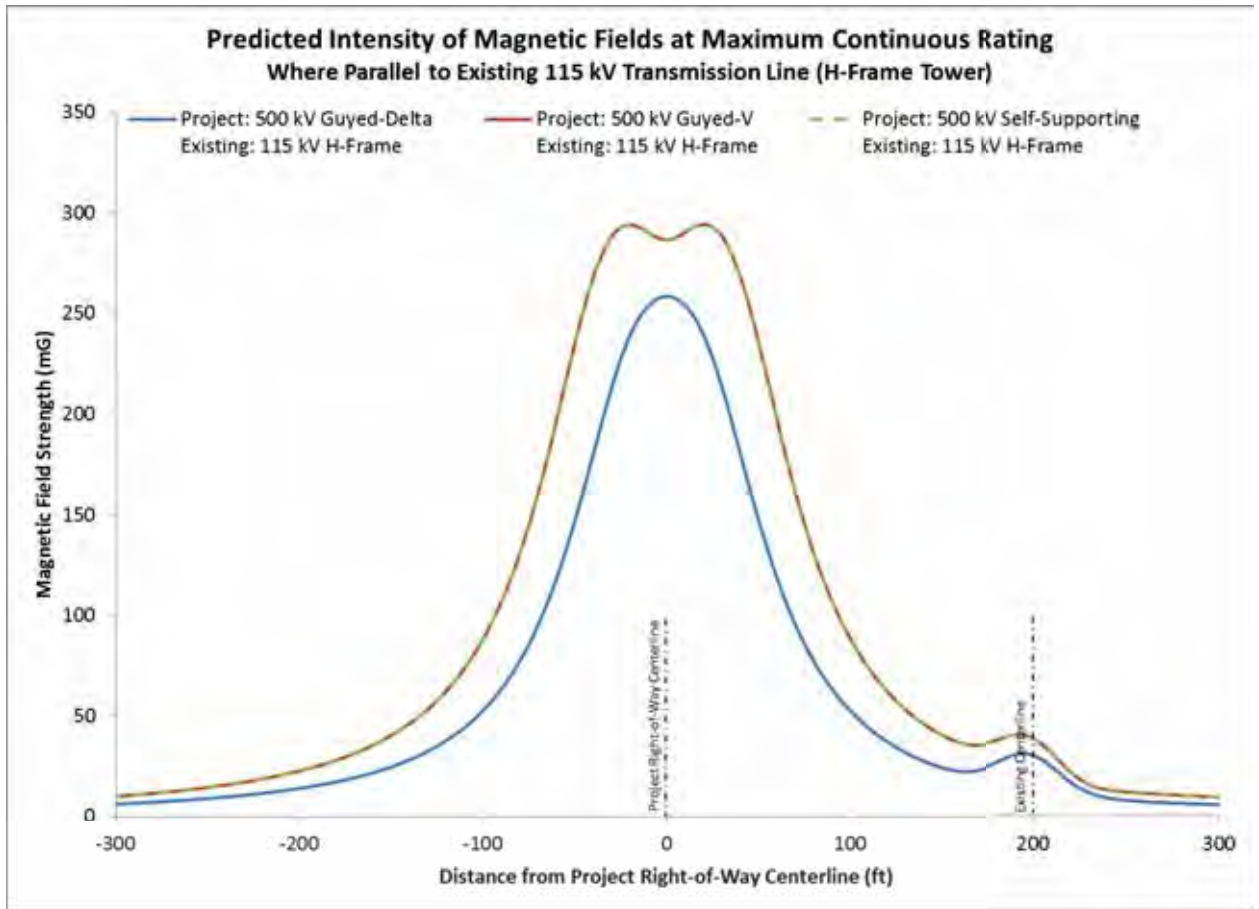
Predicted Intensity of Magnetic Fields (mG) at Maximum Continuous Rating Where Parallel to Existing 230 kV Transmission Line (H-Frame Tower)												
Structure Type	Line Voltage	Distance from Project ROW Centerline										
		-300	-200	-100	-50	-25	0	25	50	100	200	300
Project: 500 kV Guyed-Delta Existing: 230 kV H-Frame	2,000 A 1,198 A	7.5	16.0	56.0	149.5	225.2	250.1	217.7	143.6	70.4	165.7	22.6
Project: 500 kV Guyed-V Existing: 230 kV H-Frame	2,000 A 1,198 A	11.3	24.6	91.3	235.3	288.3	278.2	281.9	225.4	94.2	167.9	26.5
Project: 500 kV Self-Supporting Existing: 230 kV H-Frame	2,000 A 1,198 A	11.3	24.6	91.3	235.3	288.3	278.2	281.9	225.4	94.2	167.9	26.5



[Simulation assumes that Project ROW is adjacent to existing line ROW]

Magnetic Field Simulation Results: Max Continuous Rating

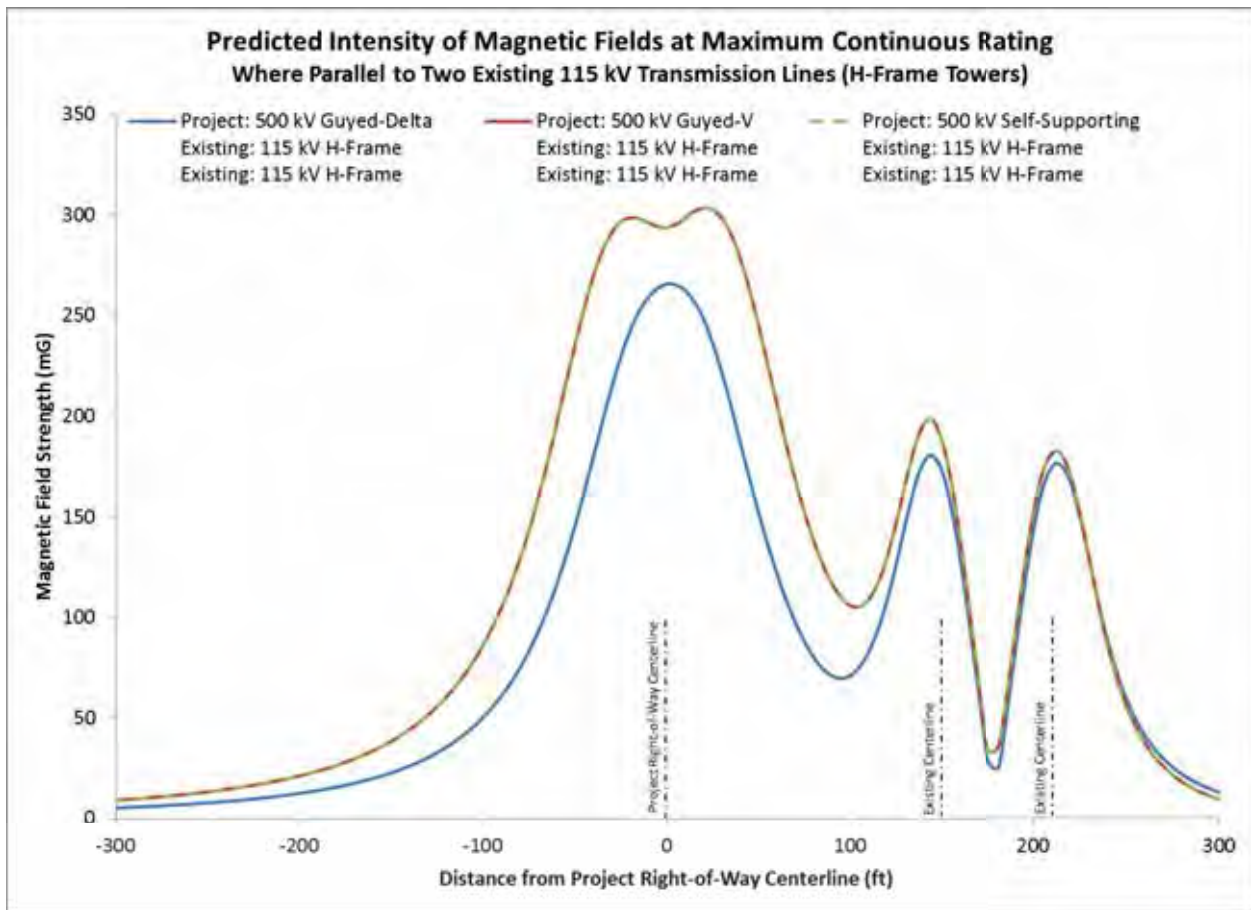
Predicted Intensity of Magnetic Fields (mG) at Maximum Continuous Rating Where Parallel to Existing 115 kV Transmission Line (H-Frame Tower)												
Structure Type	Line Voltage	Distance from Project ROW Centerline										
		-300	-200	-100	-50	-25	0	25	50	100	200	300
Project: 500 kV Guyed-Delta Existing: 115 kV H-Frame	2,000 A 96 A	6.3	14.1	52.8	147.2	227.3	258.4	227.5	147.4	52.5	29.9	5.4
Project: 500 kV Guyed-V Existing: 115 kV H-Frame	2,000 A 96 A	10.1	22.7	88.5	235.0	292.7	286.5	292.9	235.3	88.3	38.3	9.0
Project: 500 kV Self-Supporting Existing: 115 kV H-Frame	2,000 A 96 A	10.1	22.7	88.5	235.0	292.7	286.5	292.9	235.3	88.3	38.3	9.0



[Simulation assumes that Project ROW is adjacent to existing line ROW]

Magnetic Field Simulation Results: Max Continuous Rating

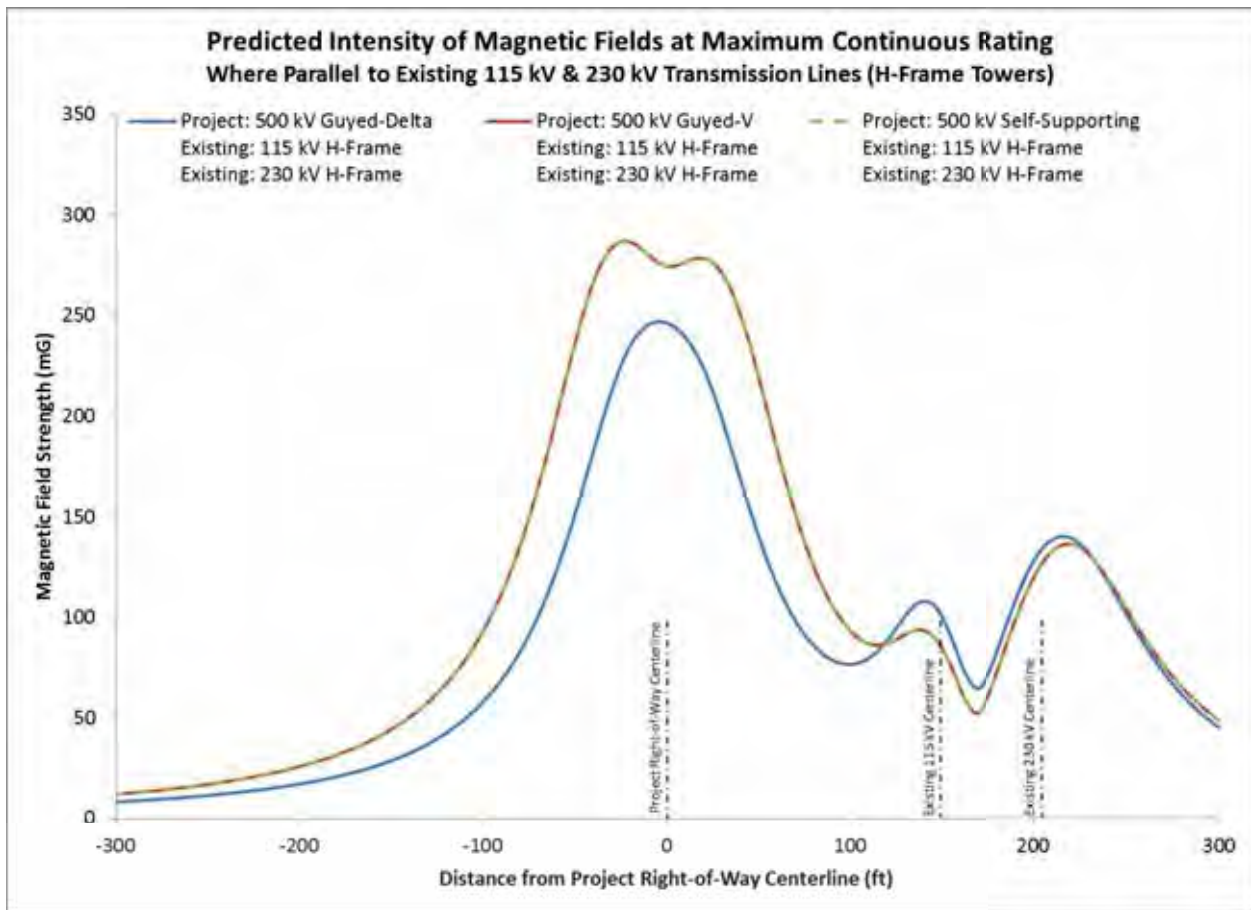
Predicted Intensity of Magnetic Fields (mG) at Maximum Continuous Rating Where Parallel to Two Existing 115 kV Transmission Lines (H-Frame Towers)												
Structure Type	Line Voltage	Distance from Project ROW Centerline										
		-300	-200	-100	-50	-25	0	25	50	100	200	300
Project: 500 kV Guyed-Delta Existing: 115 kV H-Frame Existing: 115 kV H-Frame	2,000 A 929 A 929 A	5.3	12.6	50.4	145.7	229.4	265.5	235.9	151.9	71.2	143.0	12.6
Project: 500 kV Guyed-V Existing: 115 kV H-Frame Existing: 115 kV H-Frame	2,000 A 929 A 929 A	9.1	21.3	86.3	235.1	296.4	293.6	302.5	244.5	105.8	152.0	9.1
Project: 500 kV Self-Supporting Existing: 115 kV H-Frame Existing: 115 kV H-Frame	2,000 A 929 A 929 A	9.1	21.3	86.3	235.1	296.4	293.6	302.5	244.5	105.8	152.0	9.1



[Simulation assumes that Project ROW is adjacent to existing line ROW]

Magnetic Field Simulation Results: Max Continuous Rating

Predicted Intensity of Magnetic Fields (mG) at Maximum Continuous Rating Where Parallel to Existing 115 kV & 230 kV Transmission Lines (H-Frame Towers)												
Structure Type	Line Voltage	Distance from Project ROW Centerline										
		-300	-200	-100	-50	-25	0	25	50	100	200	300
Project: 500 kV Guyed-Delta Existing: 115 kV H-Frame Existing: 230 kV H-Frame	2,000 A 804 A 1,753 A	8.3	17.2	58.1	151.4	224.8	246.1	212.1	140.2	76.7	127.5	44.8
Project: 500 kV Guyed-V Existing: 115 kV H-Frame Existing: 230 kV H-Frame	2,000 A 804 A 1,753 A	12.1	25.9	93.3	236.0	286.6	274.3	276.2	219.1	93.3	119.3	48.3
Project: 500 kV Self-Supporting Existing: 115 kV H-Frame Existing: 230 kV H-Frame	2,000 A 804 A 1,753 A	12.1	25.9	93.3	236.0	286.6	274.3	276.2	219.1	93.3	119.3	48.3



[Simulation assumes that Project ROW is adjacent to existing line ROW]

Appendix J

Property Values Supplement

Appendix J Property Values Supplement

Attempts to correlate proximity to transmission lines with impacts to property values are complicated by the interaction of several relevant factors, including geographic region, land use, variability in perceptions over time, and limited sales data for similar properties before and after construction of transmission lines. Researchers have generally used survey-based techniques and statistical analyses to make inferences and draw conclusions about the relationship between transmissions lines and property values. In general, surveys provide useful insights for estimating price effects based on public opinion, yielding what researchers refer to as “stated preferences.” Statistical analyses, on the other hand, reflect the actual behavior of property buyers and sellers in terms of recorded sales prices, providing what researchers refer to as the “revealed preferences.” In other words, there is often incongruity between what people think and how they actually behave. Measuring both perceptions and actual behaviors helps researchers understand the relationship between transmission lines and property values.

A recent literature review (Jackson and Pitts 2010, reference I1) examined 17 studies on the relationship between transmission lines and property values to compare their results and to develop some general conclusions. The 17 studies, spanning the time period between 1956 and 2009, were compiled and reviewed by Real Property Analytics, Inc., a private firm specializing in the valuation of property potentially affected by external environmental factors. The Real Property Analytics review was published in the *Journal of Real Estate Literature*, which is a publication of the American Real Estate Society. The studies evaluated impacts from transmission lines ranging from 69 kilovolts (kV) to 345 kV. They were placed into one of three categories designated by the authors:

- Survey-based studies;
- Statistical sales-based analyses using multivariate analysis to isolate the impact of transmission lines by holding other variables statistically constant; and
- Sales-based analyses not using multivariate analysis, but utilizing factors such as sale/resale analysis, price per square foot comparisons, case studies and “paired sales” analysis, where the values of two homes that are similar in all respects except for proximity to transmission lines are compared.

Upon completion of their review of the studies, Jackson and Pitts (2010, reference I1) concluded the following:

“The studies reviewed...generally pointed to small or no effects on sales prices due to the presence of electric transmission lines. Some studies found an effect but this effect generally dissipated with time and distance. The effects that were found ranged from approximately 2% to 9%. Most studies found no effect and in some cases a premium was observed.”

Jackson and Pitts discussed the utility of both survey-based and statistically-based methods, quoting one of the research papers to note that statistical analyses “reflect what buyers and sellers actually do, opposed to what potential buyers say they might do, under specified hypothetical circumstances”

Selected findings from Jackson and Pitts's literature review are provided below, along with the year and type of study:

Survey-based studies

- Kinnard, 1967 – Questionnaires were sent to property owners intersected by or abutting transmission line right-of-way (ROW) in 17 Connecticut subdivisions. Over 85 percent indicated they would purchase again in the same location. Kinnard concluded that property value is not significantly affected by proximity to transmission lines.
- Morgan et al., 1985 – A questionnaire asked participants to rank the risk from transmission lines, electric blankets and 14 other common hazards. Electric blankets and transmission lines were ranked as presenting the least risk. Participants were then provided with information on electric and magnetic fields (EMF) and associated potential health effects. Subsequent questionnaire responses indicated a change in perception and an increased concern about the risk of EMF.
- Solum, 1985 – Presented a questionnaire to 180 agricultural, recreational, or residential property owners in northwest Wisconsin whose land was encumbered by transmission lines. All three types had some level of concern over the proximity of the lines, but for varying reasons. Further interviews indicated that all but one of the properties sold at a market price comparable to non-encumbered properties and that none of the buyers had reduced their purchase offers due to the presence of the transmission line.
- Delaney and Timmons, 1992 – Survey results from 219 real estate appraisers found that 84 percent believed that transmission line proximity results in an average ten percent lower market value. Ten percent of respondents found no effect and six percent thought transmission lines increased property value due to larger lots for similar price.
- Kung and Seagle, 1992 – Sent a questionnaire to homeowners in Memphis and Shelby Counties, Tennessee. Half of the respondents considered the transmission line an eyesore; however, 72 percent of those who thought the lines were an eyesore also said the lines had no effect on the purchase price. Prices of homes adjacent to the transmission line are similar to prices of other homes in the same neighborhood.
- Priestly and Evans, 1996 – Conducted a survey of 445 homeowners living near transmission lines in the San Francisco area. Eighty-seven percent of the 267 respondents felt the transmission line was a negative element in their neighborhood.

Statistical Sales Price Analyses

- Brown, 1976 – Conducted regression analysis on sales of farm land in Saskatchewan, Canada, between 1965 and 1970 and found that the relationship of land value to the number of power line structures was not statistically significant and that the lines did not negatively affect property value. Brown also found that the structures can be an impediment to farming operations.

- Colwell and Foley, 1979 – Examined 200 property sales over a ten-year period in Decatur, Illinois and found that sales price increases as distance from a transmission line increases. Property values were approximately six percent lower within 50 to 200 feet of the transmission line, but there was no difference in property value beyond 200 feet.
- Colwell, 1990 – Followed up the study above and confirmed that the selling price of residential property increases as distance from the transmission line increases. The rate of increase slows with distance and eventually disappears.
- Rigdon, 1991 – Evaluated 46 properties sold in Marquette County, Michigan over a five-year period and found no statistically significant relationship between sales price and proximity to a transmission line easement.
- Hamilton and Schwann, 1995 – Reviewed previous literature and found that transmission lines can reduce adjacent property values, but that the reduction is generally less than five percent of property value and that the reduction diminishes at 600 feet.
- Des Rosiers, 1998 – Reviewed property values of 507 homes in the Montreal area and found an average drop in property value of 9.6 percent for homes immediately adjacent to the line. He also found an average increase of up to 9.2 percent in value for homes one to two lots away from the transmission line and no effect beyond 500 feet.
- Wolverton and Bottemiller, 2003 and Cowger, Bottemiller and Cahill, 1996 – Two studies, both conducted in Portland, Vancouver, and Seattle, the 2003 work repeating the 1996 study with more rigorous analytical methods. Both applied statistical methods to paired-sales analysis and found no price effect on residential property from proximity to transmission lines. The data also show no difference in appreciation rates between homes near a transmission line and homes further away.
- Chalmers and Voorvaart, 2009 – Studied residential properties sold in Connecticut and Massachusetts between 1999 and 2007 and found proximity to transmission lines to have an insignificant effect on sales prices.

Sales-based analyses

- Carll, 1956 – Compared property values and interviewed owners, buyers and brokers along a transmission line in Los Angeles and found that residences adjoining the ROW had not sold at a discount and that lenders did not adjust loan amounts for lots adjacent to the ROW.
- Bigras, 1964 – Reviewed over 1,900 deeds of sale and mortgages in Quebec and found that prices for vacant land adjacent to transmission lines were generally higher than the average price of all transactions. Land adjacent to transmission lines was sold faster and was developed to a higher degree than land away from the lines.

Jackson and Pitts (2010) concluded from these studies that proximity to transmission lines results in little or no effect on property value. In studies where transmission lines were found to have impacts to property

values, the decrease in values typically ranged from approximately two percent to ten percent. In some instances, increases in property value were found. The following additional studies and reviews generally reach a similar conclusion.

Between 1978 and 1982, Jensen and Weber and the Jensen Management Company conducted three studies in west-central Minnesota. The studies in 1978 and 1982 are of particular interest since they consider effects to agricultural land. The 1978 study found that the landowners cited an inconvenience to the presence of the line, but had not paid less for their land (Weber and Jensen 1978, reference I2). The 1982 study, however, found there was a broad range of effect from no effect to a 20 percent reduction, which depended on the amount of disruption to farm operations (Jensen and Weber 1982, reference I3).

In the final EIS on the Arrowhead-Weston Electric Transmission Line Project, the Wisconsin Public Service Commission (PSC) addressed the issue of property value changes associated with high voltage transmission lines. This document summarized the findings of approximately 30 papers, articles, and court cases covering the period of 1987 through 1999. The Arrowhead-Weston EIS provides six general observations (Reference I4):

- The potential reduction in sale price for single family homes may range from zero to 14 percent.
- Adverse effects on the sale price of smaller properties could be greater than effects on the sale price of larger properties.
- Other amenities, such as proximity to school or jobs, lot size, square footage of a house and neighborhood characteristics, tend to have a much greater effect on sale price than the presence of a power line.
- The adverse effects appear to diminish over time.
- Effects on sale price are most often observed for properties crossed by or immediately adjacent to a power line, but effects have also been observed for properties farther away from the line.
- The value of agricultural property is likely to decrease if the power line poles are placed in an area that inhibits farm operations.

The Arrowhead-Weston Electric Transmission Line Project environmental impact statement (EIS) reported that in Midwest states such as Minnesota, Wisconsin and the Upper Peninsula of Michigan, the average decrease appears to be between four and seven percent. The EIS noted that it is very difficult to make predictions about how a specific transmission line would affect the value of specific properties.

An additional potential adverse effect of transmission lines on adjacent properties is on the ability of homeowners and developers to obtain Federal Housing Administration (FHA) and/or Housing and Urban Development (HUD) loans. Section 2.2(J) of the current HUD guidebook 4150.2 addresses this issue in the following FAQ:

FAQ: Is a property eligible for FHA if there are overhead or high voltage power lines nearby?

The appraiser must indicate whether the dwelling or related property improvements is located within the easement serving a high-voltage transmission line, radio/TV transmission tower, cell phone tower, microwave relay dish or tower, or satellite dish (radio, TV cable, etc).

1) If the dwelling or related property improvement is located within such an easement, the lender must obtain a letter from the owner or operator of the tower indicating that the dwelling and its related property improvements are not located within the tower's (engineered) fall distance in order to waive this requirement.

2) If the dwelling and related property improvements are located outside the easement, the property is considered eligible and no further action is necessary. The appraiser, however, is instructed to note and comment on the effect on marketability resulting from the proximity to such site hazards and nuisances.

In general and for safe operation of the line, a residence cannot be located within a transmission line ROW; thus, all residences near the project would fall into category 2 (a dwelling located "outside the easement"). For this category, the HUD appraiser is directed to comment on any effects on marketability resulting from the transmission line. These comments could affect loan values if an appraiser believes the residence is nevertheless located so near the transmission line that the line could be a hazard or nuisance.

References

- I1. Jackson and Pitts, 2010. The Effects of Transmission Lines on Property Values: A Literature Review. Journal of Real Estate Literature. Volume 18, No 2.
- I2. Weber, William V. and Glenn A. Jensen. 1978. A Study of High Voltage Power Line Easements and their Effect on Farm Land Values in West Central Minnesota. Luverne, Minnesota: Jensen Management Service.
- I3. Jensen, Glenn A. and William V. Weber. 1982. High Voltage Transmission Lines and their Effect on Farm Land Value in West Central Minnesota. Luverne, Minnesota: Jensen Management Service, Inc.
- I4. Final Environmental Impact Statement, Arrowhead –Weston Electric Transmission Line Project, Volume I, Public Service Commission of Wisconsin Docket 05-CE-113, October 2000, pg 212-215.

Appendix K

EMF Supplement

Appendix K Electric and Magnetic Fields Supplement

There is concern about the potential for adverse health effects from exposure to electric and magnetic Fields (EMF) as the result of residing near high voltage transmission lines (HVTLs). Extremely low-frequency (ELF) - EMF that is emitted from HVTLs does not have the energy to ionize molecules or to heat them; however, they are fields of energy and thus have the potential to produce effects.

In the 1970s, epidemiological studies indicated a possible association between childhood leukemia and EMF levels. Since then, various types of research, including animal studies, epidemiological studies, clinical studies and cellular studies, have been conducted to examine the potential health effects of EMF. Scientific panels and commissions have reviewed and studied this research data. These studies have been conducted by, among others, the National Institute of Environmental Health Sciences (NIEHS), the World Health Organization (WHO), the International Agency for Research on Cancer (IARC), the Scientific Committee on Emerging and Newly Identified Health Risks (SCENIHR) and the Minnesota State Interagency Working Group (MSIWG). In general, these studies concur that:

- Based on epidemiological studies, there is a weak association between childhood leukemia and EMF exposure. There is however no consistent association between EMF exposure and other diseases in children or adults.
- Laboratory, animal, and cellular studies fail to show a cause and effect relationship between disease and EMF exposure at common EMF levels. A biological mechanism for how EMFs might cause disease has not been established.

Because a cause and effect relationship cannot be established, yet a weak association between childhood leukemia and EMF exposure has been shown: 1) the potential health effects of EMF are uncertain; 2) no methodology for estimating health effects based on EMF exposure exists; 3) further study of the potential health effects of EMF is needed; and 4) a precautionary approach, including regulations and guidelines, is needed in designing and using all electrical devices.

Researchers continue to study potential health effects related to ELF-EMF and potential causal mechanisms. The following sections provide brief summaries from scientific panels and commissions that have examined the potential health impacts of ELF-EMF.

In 1992, the U.S. Congress authorized the Electric and Magnetic Fields Research and Public Information Dissemination Program (EMF-RAPID program). Congress instructed NIEHS and the U.S. Department of Energy to direct and manage a program of research and analysis aimed at providing scientific evidence to clarify the potential for health risk from exposure to ELF-EMF. The program provided the following conclusions to Congress (NIEHS 1999, reference K1):

- "The scientific evidence suggesting that ELF-EMF exposures pose any health risk is weak.
- Epidemiological studies have serious limitations in their ability to demonstrate a cause and effect relationship whereas laboratory studies, by design, can clearly show that cause and effect are

possible. Virtually all of the laboratory evidence in animals and humans and most of the mechanistic work done in cells fail to support a causal relationship between exposure to ELF-EMF at environmental levels and changes in biological function or disease status. The lack of consistent positive findings in animal or mechanistic studies weakens the belief that this association (the epidemiological association between ELF-EMF and childhood leukemia) is actually due to ELF-EMFs but it cannot completely discount the epidemiological findings.

- The NIEHS concludes that ELF-EMF exposure cannot be recognized as entirely safe because of weak scientific evidence that exposure may pose a leukemia hazard. In our opinion, this finding is insufficient to warrant aggressive regulatory concern. However, because virtually everyone in the United States uses electricity and therefore is routinely exposed to ELF-EMF, passive regulatory action is warranted such as a continued emphasis on education both the public and regulated community on means aimed at reducing exposures. The NIEHS does not believe that other cancers or non-cancer outcomes provide sufficient evidence of a risk to currently warrant concern.”

In 2002, the EMF-RAPID program published a detailed question and answer pamphlet summarizing research on ELF-EMF and potential health effects. The pamphlet is available at:

http://www.niehs.nih.gov/health/materials/electric_and_magnetic_fields_associated_with_the_use_of_electric_power_questions_and_answers_english_508.pdf

World Health Organization

In 1996, the WHO established the International EMF Project to study the potential health impacts of EMF. The project develops and disseminates information on EMF and public health. In 2007, the WHO issued an environmental health monograph on ELF-EMF (WHO 2007, reference K2). The monograph concluded:

- “Scientific evidence suggesting that everyday, chronic low-intensity (above 0.3 – 0.4 μ T) power-frequency magnetic field exposure poses a health risk is based on epidemiological studies demonstrating a consistent pattern of increase risk for childhood leukemia. Uncertainties in the hazard assessment include the role that control selection bias and exposure misclassification might have on the observed relationship between magnetic fields and childhood leukemia. In addition, virtually all of the laboratory evidence and the mechanistic evidence fail to support a relationship between low-level ELF magnetic fields and changes in biological function or disease status. Thus, on balance, the evidence is not strong enough to be considered causal, but sufficiently strong to remain a concern.
- A number of other diseases have been investigated for the possible association with ELF magnetic field exposures. These include cancers in children and adults, depression, suicide, reproductive dysfunction, developmental disorders, immunological modifications and neurological disease. The scientific evidence supporting a linkage between ELF magnetic fields and any of these diseases is much weaker than for childhood leukemia and in some cases (for example, for cardiovascular disease or breast cancer) the evidence is sufficient to give confidence that magnetic fields do not cause the disease.

- The use of precautionary approaches is warranted. However, electric power brings obvious health, social and economic benefits and precautionary approaches should not compromise these benefits. Furthermore, given both weakness of the evidence for a link between exposure to ELF magnetic fields and childhood leukemia and the limited impact on public health if there is a link, the benefits of exposure reduction on health are unclear. Thus, the costs of precautionary measures should be very low. The costs of implementing exposure reductions would vary from one country to another, making it very difficult to provide general recommendation for balancing the costs against the potential risk from ELF fields.”

International Agency for Research on Cancer

Since 1969, the IARC has been evaluating the carcinogenic risks of chemicals and other agents, such as viruses and radiation. In 2001, the IARC convened a working group of scientists to evaluate possible carcinogenic risks to humans from exposure to EMF (IARC 2002, reference K3). These scientists concluded that ELF magnetic fields are possibly carcinogenic to humans (a “Group 2B carcinogen”). Group 2B carcinogens are agents for which there is limited evidence of carcinogenicity in humans and less than sufficient evidence for carcinogenicity in experimental animals. The working group concluded:

- “Since the first report suggesting an association between residential ELF electric and magnetic fields and childhood leukemia was published in 1979, dozens of increasingly sophisticated studies have examined this association. In addition, there have been numerous comprehensive review, meta-analyses and two recent pooled analyses. In one pooled analysis...no excess risk was seen for exposure to ELF magnetic fields below 0.4 μ T and a twofold excess risk was seen for exposure above 0.4 μ T. [In the other study] a relative risk of 1.7 for exposure above 0.3 μ T was reported.
- No consistent relationship has been seen in studies of childhood brain tumors or cancers at other sites and residential ELF electric and magnetic fields.
- While a number of studies are available, reliable data on adult cancer and residential exposure to ELF electric and magnetic fields, including the use of appliances, are sparse and methodologically limited.... Although there have been considerable number of reports, a consistent association between residential exposure and adult leukemia and brain cancer has not been established.”

Scientific Committee on Emerging and Newly Identified Health Risks (SCENIHR)

The SCENIHR serves as an advisory committee to the European Commission. At the request of the Commission, the SCENIHR reviewed possible adverse health impacts due to EMF. In 2007, the committee concluded (SCENIHR 2007, reference K4):

- “The previous conclusion (by a prior advisory committee, the Scientific Committee on Toxicity, Ecotoxicity and the Environment, CSTE) that ELF magnetic fields are possibly carcinogenic, chiefly based on occurrence of childhood leukemia, is still valid. For breast cancer and cardiovascular disease, recent research has indicated that an association is unlikely. For neurodegenerative diseases and brain tumors, the link to ELF fields remains uncertain.”

In 2009, the committee updated its prior opinion after reviewing new studies of ELF-EMF (SCENIHR 2009, reference K5) and concluded:

- “The new information available is not sufficient to changes the conclusions of the 2007 opinion. The few new epidemiological and animal studies that have addressed ELF exposure and cancer do not change the previous assessment that ELF magnetic fields are a possible carcinogen and might contribute to an increase in childhood leukemia. At present, in vitro studies did not provide a mechanistic explanation of this epidemiological finding.
- New epidemiological studies indicate a possible increase in Alzheimer’s disease arising from exposure to ELF. Further epidemiological and laboratory investigations of this observation are needed.”

Minnesota State Interagency Working Group (MSIWG)

In 2002, the MSIWG on EMF issues was formed to examine the potential health impacts of EMF and to provide science-based information to policy makers in Minnesota. Working group members included representatives from the Department of Commerce, Department of Health, Pollution Control Agency, Public Utilities Commission, and Environmental Quality Board. The working group issued a white paper entitled “A White Paper on Electric and Magnetic Field (EMF) Policy and Mitigation Options” (MSIWG on EMF Issues 2002, reference K6). The white paper concluded:

- “Some epidemiological results do show a weak but consistent association between childhood leukemia and increasing exposure to EMF... However, epidemiological studies alone are considered insufficient for concluding that a cause and effect relationship exists and the association must be supported by data from laboratory studies. Existing laboratory studies have not substantiated this relationship... nor have scientists been able to understand the biological mechanism of how EMF could cause adverse effects. In addition, epidemiological studies of various other diseases, in both children and adults, have failed to show any consistent pattern of harm from EMF.
- The Minnesota Department of Health concludes that the current body of evidence is insufficient to establish a cause and effect relationship between EMF and adverse health effects. However, as with many other environmental health issues, the possibility of a health risk from EMF cannot be dismissed. Construction of new generation and transmission facilities to meet increasing electrical needs in the state is likely to increase exposure to EMF and public concern regarding potential adverse health effects.
- Based on its review, the Work Group believes the most appropriate public health policy is to take a prudent avoidance approach to regulating EMF. Based upon this approach, policy recommendations of the Work Group include:
 - Apply low-cost EMF mitigation options in electric infrastructure construction projects;
 - Encourage conservation;

- Encourage distributed generation;
- Continue to monitor EMF research;
- Encourage utilities to work with customers on household EMF issues; and
- Provide public education on EMF issues.”

References

- K1. National Institute of Environmental Health Sciences, 1999. NIEHS Report on Health Effects from Exposure to Power-line Frequency Electric and Magnetic Fields. NIH Publication No. 99-4493
- K2. World Health Organization, 2007. Environmental Health Criteria 238 (2007): Extremely Low Frequency (ELF) Fields. ISBN 978-92-4-157238-5
- K3. International Agency for Research on Cancer, 2002. IARC Monographs on the Evaluation of Carcinogenic Risks to Humans. Volume 80. Non-Ionizing Radiation, Part 1: Static and Extremely Low-Frequency (ELF) Electric and Magnetic Fields. Summary of Data Reported and Evaluation
- K4. Scientific Committee on Emerging and Newly Identified Health Risks, 2007. Possible Effects of Electromagnetic Fields (EMF) on Human Health. Accessed February 2014 at: http://ec.europa.eu/health/ph_risk/committees/04_scenihr/docs/scenihr_o_007.pdf
- K5. Scientific Committee on Emerging and Newly Identified Health Risks, 2009. Health Effects of Exposure to EMF. Accessed February 2014 at: http://ec.europa.eu/health/ph_risk/committees/04_scenihr/docs/scenihr_o_022.pdf
- K6. The Minnesota State Interagency Working Group on EMF Issues, 2002. A White Paper on Electric and Magnetic Field (EMF) Policy and Mitigation Options. Accessed February 2014 at: <https://www.edockets.state.mn.us/EFiling/edockets/searchDocuments.do?method=showPoup&documentId=%7B474587DD-E5C5-4A6E-95BC-7BC805CE4975%7D&documentTitle=20101-45731-07>

Appendix L

Stray Voltage Supplement

Literature Review and Synthesis of Research Findings on the Impact of Stray Voltage on Farm Operations

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For the

Ontario Energy Board

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Disclaimer: The views expressed in this paper are those of Douglas J. Reinemann Ph.D. and do not necessarily represent the views of, and should not be attributed to, the Ontario Energy Board, any individual Board Member, or Board staff.

Executive Summary

This report synthesizes the main findings and conclusions of the body of scientific literature on the potential for tingle voltage (or stray voltage) or at power frequencies (50 to 60 Hz), to directly or indirectly affect farm output or productivity. The report includes:

- A review of scientific literature,
- A description of the symptoms indicative of the presence of tingle/stray voltage,
- Descriptions of the pathways whereby tingle/stray voltage can have an impact on farms,
- An indication, by animal type, of the minimum voltage and current level at which impacts on farm operations can be expected,
- A description of the on-farm measures available for mitigating tingle/stray voltage, and
- The range of regulatory measures that have been adopted to achieve the objective of ensuring that tingle/stray voltage does not unduly impact farm operations.

The direct effect of animal contact with electrical voltage can range from:

- Mild behavioral reactions indicative of sensation, to
- Involuntary muscle contraction – or twitching, to
- Intense behavioral responses indicative of pain,

The indirect effects of these behaviors can vary considerably depending on the specifics of the contact location, level of current flow, body pathway, frequency of occurrence, and many other factors related to the daily activities of animals. There are several common situations of concern in animal environments:

- Animals avoiding certain exposure locations which may result in,
 - Reduced water intake that may result if painful exposure is required for animals to access watering devices,
 - Reduced feed intake that may result if painful exposure is required for animals to access feeding devices or locations,
- Difficulty of moving or handling animals in areas of annoying voltage/current exposure,
- The release of stress hormones produced by contact with painful stimuli.

The review of literature in this study used published studies that included data from controlled experiments and field studies. This review synthesizes these studies and summarizes the conclusions of hundreds of researchers to provide the basis for a consensus view of the scientific community.

The majority of tingle/stray voltage research has been done on dairy cows. The accepted practice by researchers and regulators has been to assume worst-case (lowest practical values) for cow contact resistances. Studies done to measure more typical body + contact resistances that would occur on farms have shown that 500 Ohms to 1000 Ohms is a reasonable range to use in a measurement circuit to estimate the current that would flow through a cow's body. The most sensitive dairy cows may experience mild behavioral modifications at current exposures exceeding 2 milli-Amps (60 Hz AC rms) corresponding to 1 Volt to 2 Volts (60 Hz, AC rms) of cow contact exposure in farm exposure situations. Aversion and metabolic changes have been documented to require substantially higher voltage and current exposures. It has also been shown that the equivalent to 2 mA of 60 Hz AC current (2 Volts of 60 Hz AC rms voltage) is about 2.8 mA of DC current (2.8 Volts DC). In addition dairy cows are much less sensitive to high frequency or short duration electrical exposures than for 60 Hz rms AC current (A much

higher current is required to elicit the same response). Numerous studies have documented that cows rapidly acclimate very quickly to even very high levels of voltage/current exposure and behavioral modifications become less pronounced in a matter of several days.

Research suggests swine respond to voltage/current exposure in a similar way to cows. Behavioral modification has been observed at about 5 Volts with avoidance behaviors at exposures of 8 V. The body + contact resistance for swine appears to be somewhat higher than for cows and 1000 Ohms appears to be a conservative value for measurement purposes.

Neuro- electric principles suggest that the current sensitivity of sheep is lower than for cows, but that their body resistance is higher than cows. Ewes have been shown to avoid electrified feed bowls when exposure levels exceed 5.5 V while Lambs showed this same preferential behavior when exposure levels exceeded 5 V.

Exposures to voltages as high as 18 V had no effect on the hens' production and behavior. This is likely due to the very high electrical resistance of poultry which has been documented to be between 350,000 and 544,000 Ohms.

The source of stray voltage is a voltage that is developed on the grounded neutral wiring network of a farm and/or the electric power delivery system. The magnitude of the voltage source is a product of the current flowing on the neutral system and the resistance of that neutral system. Grounding is provided to keep the voltage potential between the neutral system and the ground below levels that could be harmful to people or animals. Neutral-to-earth, or stray voltage can be reduced in three fundamental ways:

- reduce the current flow on the neutral system,
- reduce the resistance of the neutral system, or
- Improve the grounding of the neutral system

The first step in a competent stray voltage investigation is to determine the major sources of neutral-earth voltage. Any major faults or code violations in the wiring system that could pose an electrocution hazard or are a major source of neutral to earth voltage should be corrected immediately. If the wiring systems (farm and utility) are operating correctly then the above three actions can be assessed to determine which is most practical, safe and efficient way to reduce neutral-earth voltage. Equipotential planes are effective in eliminating contact potentials even if substantial levels of neutral-to-earth voltage are present.

Several jurisdictions have conducted scientific and technical reviews and held public hearings to address concerns and inform public policy on stray voltage issues. Some States have adopted regulations dealing with stray voltage while others have developed multi-agency and stakeholder groups to develop guidelines and standard practices. State regulations generally relate to the maximum utility contribution to on-farm voltage levels (since most only have regulatory authority over investor owned utilities) while stressing the importance of reducing on-farm sources of neutral voltage through compliance with wiring codes and good management practice.

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1 Introduction

1.1 Scope of this Report

The general scope of this report is to synthesize the main findings and conclusions of the body of literature on the potential for tingle voltage, or stray voltage to directly or indirectly affect farm output or productivity. The specific elements of this report include:

- A **literature review** on the effects of stray voltage on farm animals including;
 - A review and synthesis of academic, industry, government agency and other sources of information, with publications from 1990 onwards being the main focus. Earlier publications have been included where important and appropriate.
 - These publications form a comprehensive review of all studies in which farm animals have been exposed to voltage or current sources and are divided into two general categories; controlled studies in which exposure (or dose) levels and responses have been documented and field studies in which exposures and responses have not been recorded as accurately (or at all). A discussion of conclusions that can be drawn from each type of study and a comparison of these studies is included in this report
- A description of some common **symptoms** associated with the presence of stray voltage is provided along with a discussion of other causes that can give rise to these same symptoms is presented.
- A description of the exposure **pathways** whereby stray voltage can have an impact on farm operations.
 - Details are provided, where available, as to variations in the electrical components of various contact pathways
 - Differences in impacts associated with variations in exposure duration, exposure level, contact pathway and animal type are discussed.
- An indication, by animal type, of the **minimum voltage (or current) level** at which impacts on behavior, health, reproductive success and productivity and overall farm operations would be expected.
- A description of the on-farm measures available for mitigating stray voltage with their respective level of effectiveness at reducing or eliminating impact of stray voltage from all sources (on- and off-farm) on farm operations.
- The range of regulatory measures that have been adopted to achieve the objective of ensuring that stray voltage does not unduly impact farm operations.

1.2. Ways That Stray, or Tingle, voltage Can Impact Farm Operations

The terms stray voltage and tingle have been used for about the past 40 years to describe a special case of voltage developed on the grounded-neutral system of a farm. The definition of stray (or tingle) voltage accepted by the scientific community is that it is a low-level electrical shock that can produce sensation or annoyance in farm animals¹.

1.2.1. Direct effects

The direct effect of animal contact with electrical voltage and the resulting current flowing through their bodies can range from:

- Mild behavioral reactions indicative of sensation, to
- Involuntary muscle contraction – or twitching, to
- Intense behavioral responses indicative of pain,

The severity of response will depend upon the amount of electrical current (usually measured in milliamps, mA) flowing through the animal's body, the pathway it takes through the body and the sensitivity of the individual animal.

1.2.2. Indirect effects

The indirect effects of these behaviors can vary considerably depending on the specifics of the contact location, level of current flow, body pathway, frequency of occurrence, and many other factors related to the daily activities of animals. There are several common situations of concern in animal environments:

- Animals avoiding certain exposure locations which may result in;
 - Reduced water intake that may result if painful exposure is required for animals to access watering devices,
 - Reduced feed intake that may result if painful exposure is required for animals to access feeding devices or locations,
- Difficulty of moving or handling animals in areas of annoying voltage/current exposure,
- The release of stress hormones produced by contact with painful stimuli.

The levels of voltage exposure and current flow through animals required to produce these various behaviorally mediated responses are identified in the summary of research studies in section 3.

A number of studies have been done to investigate direct physiological effects that may be produced at levels **above** those that produce behavioral changes, as well as potential detrimental physiological responses that may result from animals' exposure to voltage/current **below** levels which may produce

¹ Stray voltage is defined in a Handbook published by the United States Department of Agriculture as a small voltage (less than 10 V) measured between two points that can be contacted simultaneously by an animal. Because animals respond to the current produced by a voltage and not to that voltage directly, the source of the voltage must be able to produce current flows greater than the threshold current needed to elicit a response from an animal when an animal, or an equivalent electrical load, contacts both points (Lefcourt, 1991).

sensation and behavioral response. These studies have shown that increased concentrations of the stress hormone cortisol do not occur at levels below behavioral response levels and only become apparent in some, but not all cows, at substantially higher voltage/current exposures than the threshold required for behavioral modification, and typically at levels that produce severe behavioral changes and probably at current levels that produce discomfort and/or pain. Furthermore, the failure of several experimental and field studies to demonstrate detrimental effects of current exposure on the incidence of mastitis (an infection of the mammary gland) and immune function response indicate that the levels of voltage/current exposure that elicit behavioral changes do not compromise the immune function of dairy cows.

2. Overview of Electrical Exposure and the Physiology of Animal Contact voltage and Current

2.1. Basic concepts of voltage, current, and resistance

The relationship between voltage exposure and current conducted through the animal is described by Ohms Law². This simple relationship has been a source of much confusion and resulting controversy in the stray voltage debate. One way to think about electricity is that voltage is the driving force and current is the resulting movement of electrons through the resistance of the wire (or animal). It is **possible** to have a voltage source with no resulting current flow if the resistance value is infinite (as is the case when a switch is turned off, or a valve is shut). It is **not possible** to produce current flow in the absence of voltage, regardless of the resistance of the circuit.

While the contact voltage is often used to describe animal exposure conditions, it is the resulting current flowing through animals' bodies that determines the 'dose' and the resulting type and degree of nerve stimulation. The exposure (voltage) and the dose (current) are related by the resistance (measured in Ohms) of various parts of the electrical circuit.

It is critically important to use a realistic value of animal resistance (or impedance³) to relate voltage exposures to the level of current conducted through an animal and the resulting effects on nerve stimulation, sensation and behavioral reaction. Figures 1 and 2 illustrate the elements of the electrical circuit that occurs when an animal comes into contact with a voltage source.⁴

² Ohm's law expresses the relationship between voltage, Current and Resistance in an electrical circuit.

A common form of Ohm's Law is: **Current (Amps) = $\frac{\text{Voltage (Volts)}}{\text{Resistance (Ohms)}}$**

Ohms law indicates that if the voltage (across animal contact points) is increased, the current flowing through the animal will increase. Likewise, if the resistance (of contact points) is increased, the current flowing through the animal will decrease. The current measure used in many stray voltage studies is milli-Amps or 1/1000th of an Amp. The measurement circuit used for field investigations uses a 500 Ohm Resistor to simulate the combined resistance of a cow's body + conservative estimates of the resistance of the two contact points. Using these values a cow contact current of 2 mA would result from a cow contact voltage of 1 V and a cow+contact resistance of 500 Ohms.

$$\text{Current} \left(\frac{1}{500} \text{ Amps} = \frac{2}{1000} \text{ Amps} = 2 \text{ Millamps} \right) = \frac{1 \text{ Volt}}{500 \text{ Ohms}}$$

³ Resistance refers to the physical properties of materials while impedance incorporates capacitive and inductive elements. Impedance is a more technically specific term for AC circuits but resistance will be used here for simplicity. There are some special cases in which capacitive and inductive elements must be considered and these will be noted.

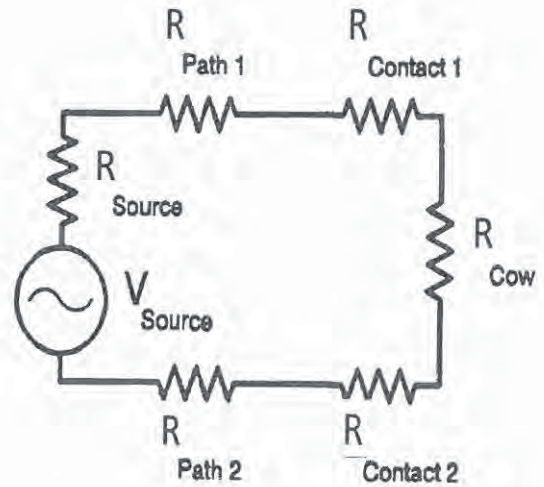
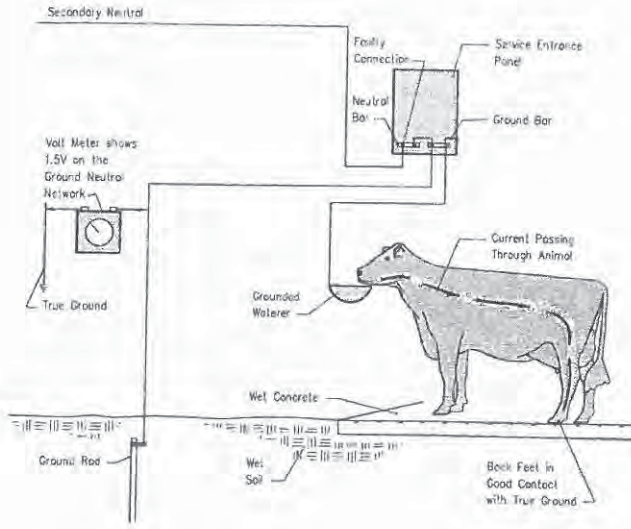


Figure 1. Cow drinking from a water bowl. Figure 2. Elements of the electrical circuit.

The source circuit is represented by the left half of Figures 1 and 2.

- V_{source} = the source voltage, usually a voltage drop developed by current flowing through the resistance of neutral wires. V_{source} is also referred to as open circuit voltage and is the voltage between two animal contact points/areas measured without a shunt resistor.
- R_{source} = the internal resistance of the source, in our example, the resistance of the neutral wire. The three resistances in the source circuit are commonly grouped together into a single source resistance ($R_{source} = R_{path1} + R_{path2} + R_{source}$).
- R_{path1} = the resistance of the path from the voltage source (neutral wire) to the water bowl. If the farm's grounding system is well bonded (or electrically connected) this resistance will be very low. If the farm is not well bonded this resistance can be very high.
- R_{path2} = the resistance of the path from the floor back to the source, in this example the resistance of the concrete floor, the earth itself, and the grounding connection back to the neutral wire. If the farm has an equipotential plane that is bonded to the grounded neutral system this value can be very low. If the farm does not have an equipotential plane this value can be very high.

The animal circuit is represented by the right half of Figure 2 and the Cow and its muzzle and hoof contact points in Figure 1. The three elements of the animal circuit are commonly grouped together to form an equivalent animal+contact resistance (500 Ohms for cows) for measurement purposes. This is the value of the shunt resistor used to estimate current flow through an animal.

- R_{body} = the body resistance of the animal across the contact pathway, in our example muzzle to 4 hooves.
- R_{contact1} = the resistance of contact point 1, usually the animals mouth/muzzle or front hooves/feet. This resistance value can be quite low in the case of a wet muzzle in firm contact with a wet metal plate. There are other situations in which this resistance value is quite high such as muzzle contact through feed on a metal feed bowl or an animal's muzzle in a water tank, without making contact with the walls of the tank.
- R_{contact2} = the resistance of contact point 2, usually the animals 4 hooves/feet or rear hooves/feet. This resistance value is also quite variable from relatively low values for animals standing on clean water pooled surfaces to very high values for animals standing on surfaces covered with debris, manure, bedding, etc.

Correct measurement technique involves cleaning the contact surfaces and wetting them with a conductive solution to eliminate the contact resistances. These contact resistances are then added back into the animal body resistance to provide a realistic animal+contact resistance value that is used as the 'shunt' resistor in the measurement circuit. Scenarios illustrating the importance of understanding the resistive components of the electrical circuit are presented in Table 1.

Table 1. Examples of Cow Contact Circuit Resistance Values.

V(source) ¹	R(Source) ²	R(cow + contact) ³	V(cow contact) ⁴	Current through cow ⁵
1 V	100 Ohms ⁶	500 Ohms ⁷	0.8 V ⁸	1.7 mA
1 V	100 Ohms ⁹	1,000 Ohms ¹⁰	0.9 V ⁸	0.9 mA
1 V	1,000 Ohms ¹²	1,000 Ohms ¹⁰	0.5 V ¹¹	0.5 mA
<i>Notes:</i>				
¹ Vs, Also referred to as open circuit voltage measured without a shunt resistor.				
² Rs, combining internal resistance of the source and path resistances to contact points				
³ Rcc, combining animals body resistance and 2 contact resistances (muzzle to water bowl and hooves to floor, or front hooves to floor and rear hooves to floor)				
⁴ Vcc, Also referred to as the exposure level. $V_{cc} = R_{cc} / (R_s + R_{cc})$				
⁵ Ic, or the dose level which determines nerves stimulation. $I_c = V_{cc} / R_{cc}$				
⁶ A farm on which conductive elements are well connected to the grounding system.				
⁷ $R_{cc} = 350 \text{ Ohms cow} + 150 \text{ Ohms}$, or a cow standing on a clean wet concrete floor and drinking from a metallic water bowl.				
⁸ Cow contact voltage is somewhat less than the source or open circuit voltage.				
⁹ A farm on which conductive elements are well connected to the grounding system.				
¹⁰ $R_{cc} = 350 \text{ Ohms cow} + 650 \text{ Ohms Contacts}$, or a cow standing on dry concrete with minimal debris.				
¹¹ Cow contact voltage is considerable lower than the source or open circuit voltage.				
¹² A poorly bonded farm, metallic objects in animal areas not grounded.				

The examples in Table 1 illustrate that for the same source voltage (measured 'open circuit' with no shunt resistor) the resulting animal current (or dose) varies by a factor of 3. Changes in the contact resistance, resulting from small differences in the animal environment, changed the current dose by a

factor of 2. While a poorly bonded farm, in which metallic objects in animal areas are not connected to the farms grounded neutral system, produced less current through an animal, there is also a much higher risk of electrocution because the lack of proper grounding can cause breakers to fail, and expose people and animals to lethal voltage in the event of an electrical fault.

Source resistance values also show variability depending on the quality of bonding and local soil conditions on each individual farm. Measurement of the source resistance is essential in assessing voltage/current exposure risk and is an essential part of stray voltage measurement technique. Once these source resistance values have been measured on an individual farm they show relatively little variation, unless the farm wiring system is altered.

2.1.1. The Problem of Contact Resistance

The body resistance of several species of farm animals through various body pathways has been measured in several studies. Measures of an animal's body resistance depends on the pathway between the contact points (e.g. muzzle-hoof or hoof-hoof) and the way in which the contact is made including factors such as the area over which the contact is made, pressure applied to the contact, and use of conductive liquids or gels on the measurement connection.

Some studies have tried to isolate the body resistance of animals using contact conditions not encountered in normal farm operations such as:

- removing contact resistance by injecting voltage/current under the skin (Gorewit, 1985)
- Applying current through EKG patches applied to shaved skin (Lefcourt, 1985)
- Minimizing contact resistance by providing extremely low contact points at the hoof (such as wetted expanded metal plates) and/or muzzle (bits or nose clips) (Norell, 1983; Currence, 1990; Reinemann, 1999; Aneshansley, 1999).

The lowest body resistance values have been reported when the skin of the animal was pierced using needles. The next lowest category of body resistances include measurement electrodes affixed to shaved patches of skin. The majority of body resistance measurements have been made with cows coming into contact with a metallic device such as: standing on a metal plate, standing on a metallic mesh, metallic bit in the animals' mouth, metallic clip applied to the animals' nose. Definition of the body pathway and mode of contact will allow a reasonable estimate to be made of an animals' body resistance and reasonable population estimates are available for cows and swine for typical pathways (mouth-feet, foot-foot).

Contact resistances are the most difficult value to predict in real-world farm situations. Fewer studies have been done to characterize real-world contact resistances. It is clear from these studies as well as physical principles that real-world contact resistances have enormous variability. The lowest contact resistances would be expected if a clean, wet body part (such as a cow's muzzle) comes into contact with a clean, wet, metallic object with a substantial mutual contact area and substantial contact pressure. Contact resistances will increase with:

- smaller contact surface area (e.g. a point contact the size of a pencil eraser compared to a metal plate applied over a surface the size of your hand)

- reduced contact surface pressure (e.g. a light touch versus a contact applied with the weight of an animal)
- drier contact surfaces
- the amount of debris on either the animal contact point (e.g. bedding/manure impacted in hooves or feed at the muzzle)
- the resistance value of the debris at the contact margin (e.g. dry straw compared with wet manure)

The accepted practice by researchers and regulators has been to assume worst-case (lowest practical values) for contact resistances. Studies done to measure more typical body+contact resistances that would occur on farms (Lefcourt, 1991; Reinemann, 2005) have shown that 500 Ohms to 1000 Ohms is a reasonable value to use in a measurement circuit to estimate the current that would flow through a cow's body. Although the resistance of the cow's body is typically less than 500 Ohms for the muzzle to hoof pathway (other pathways have a higher resistance), it has been shown to be a 'worst case' or minimum resistance value for the combination of a dairy cow's body + real-world contact resistance in the farm environment.

There have been fewer studies on other species, but the same principle will apply to any animal contact situation. A review of each species and common contact points is included in section 4 of this report.

2.2 – Nerve Stimulation and Response

2.2.1 The Bio-mechanics of Nerve Stimulation

Behavioral responses are the result of nerve stimulation that elicits a sensation and/or muscle contraction in an animal. The bio-mechanics of nerve stimulation with electrical exposure has been widely studied and is well understood⁵. Nerve stimulation is characterized by a current threshold. Current applied below the threshold will not produce nerve excitation, and hence no sensation, motor response or behavioral response can occur (Figure 3). At the current level just above the threshold of nerve excitation sensation will result, which may be perceived but is not painful. As the current level is increased above the threshold involuntary muscle contraction begins to occur. This lower margin of muscle contraction is not painful. Pain can be experienced as current exposures are increased further due to both increased sensory stimulation and more intense muscle contraction.

⁵ *The 1998 text Applied Bioelectricity: from Electrical Stimulation to Electropathology by J.P. Reilly is a definitive reference on the biomechanics of nerve stimulation and resulting pathologies. This text summarizes the vast body of research on electrical stimulation over the past 100 years or more. Electrical properties animal tissues are described. The use of electrical stimulation for beneficial medical purposes is covered as well as pathological exposures that may result in injury, death or other undesirable conditions. It has been shown that the broad body of research on nerve excitation in humans also applies to nerve excitation in animals. Both sensation and muscle reactions can be elicited with electric currents conducted through the skin... These effects occur when nerves (or neurons) are excited – sensory neurons in the case of sensation, or motor neurons in the case of muscle reactions. Sensory effects are usually elicited with lower stimuli than are motor effects.*

2.2.2. Behavioral Responses to voltage exposure

Studies have shown that each animal will have a threshold of current exposure for a particular contact pathway. Levels of current exposure just above the threshold will result in mild behavioral reactions, such as the blink of an eye, which tend to become less pronounced over time as animals become accustomed to the sensation. As current exposure is increased above this threshold, behavioral responses become more pronounced and more persistent, indicative of annoyance, pain or involuntary muscle contraction (twitches).

Stray voltage studies have used a variety of animal responses to characterize these threshold phenomena. Some studies have tried to use the most sensitive behavioral indicators of perception as a threshold of response (Norell, 1983; Reinemann, 1995, 1999; Rigalma, 2007). Researchers have noted that these very sensitive thresholds show high variability because cows rapidly acclimate to an unfamiliar sensation and cease to show any behavioral response.

Other studies have attempted to develop a more repeatable response in order to more accurately compare different types of stimuli (Aneshansley, 1997; Reinemann, 1999, 2003). These studies typically rely on involuntary muscle contraction, or stimuli with goes beyond subtle sensation to moderate annoyance as a threshold. Current applied in a periodic manner (e.g. a short burst of current repeated every 3 seconds for 1 minute) appear to produce more repeatable behavioral response thresholds than continuously applied stimuli (e.g. current applied continuously for 1 minute). This is probably because repeated stimuli produce a repeated series of 'startle' behaviors when each stimulus is applied whereas there may be only one such response at the start of continuous current exposure.

Further studies have used avoidance of water intake as a response threshold (Gorewit, 1989; Reinemann, 2004). Because of an animal's powerful drive to satisfy their water demand, this threshold is logically a higher value than those designed to detect moderate or pronounced (repeatable) behavioral changes. Studies have shown that animals are not deterred from drinking if only a mild sensation results from contact with a drinking device, while they are only temporarily deterred from drinking when a moderately annoying sensation results.

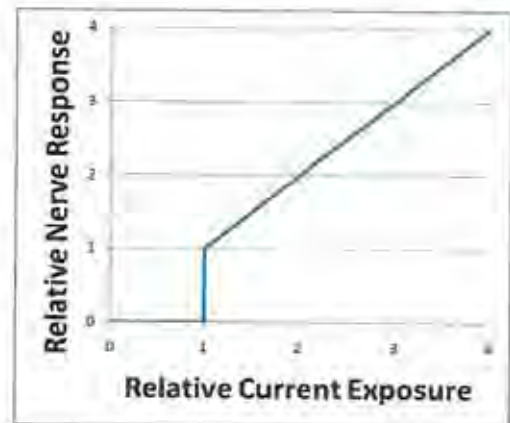


Figure 3. Example of threshold response. Below the threshold there is no nervous response. Response begins at the threshold value (in this example, one arbitrary 'unit' of current) and the intensity of response increases as the current level is increased further.

3. History of Stray voltage Studies and Evolution of Experimental Techniques

3.1. Methods Used In This Literature Review

This review of literature uses published studies that include data from controlled experiments and field studies. Controlled studies are designed to establish cause and effect relationships by careful administration of causal variables (voltage / current) and careful measurement of responses (behaviors, aversion, water or feed intake) while minimizing or controlling for external sources of variability and comparing responses to a control group. Field studies can be useful in establishing correlation but are generally not useful in establishing cause and effect relationships. If a cause and effect relationship exists they may be apparent in field studies if causal variables and responses are properly characterized and sufficient sample size has been obtained to account for the normal farm to farm and seasonal variation that occurs in the field.

Each study has been critically reviewed in regard to the number of subjects, experimental designs used, appropriate verification of electrical exposures and animal responses, statistical analysis methods and the degree of peer review. Studies of similar nature have been compared to assess repeatability of results. There have been a number of different ways that researchers have used to quantify voltage and current levels. The most common is to report the root-mean-square (rms) average of alternating voltage or current and will be used in this report unless otherwise noted.⁶ Repeatability is a fundamental criterion for judging the weight of scientific evidence. Both applied voltage and the resulting current flowing through animals was reported where measured by and stated by the authors. Some studies did not report both of these measures, however, and the authors reported values are cited.

3.2. Early studies in New Zealand

The first reported studies of animal response to voltage exposure were published by researchers from New Zealand (Phillips, 1962; Woolford, 1972; Whittlestone, 1975). These studies were initiated by reports from dairy farms that people were experiencing mild shocks in milking parlors and speculation

⁶ *Measurement Terminology:* The most common way to refer to AC voltages and current is as a Root Mean Square (rms) average. The default statement of voltage and current in the literature is as the rms average of 60 Hz current (milli-Amperes or mA) and the rms average of 60 Hz voltage (volts or V). This is the meaning implied in this report unless otherwise noted. In some cases other measurements have been used, especially when dealing with transient voltage and current, short duration voltage or current pulses, or when current or voltage waveforms are not sinusoidal.

Some studies have used the zero-to-peak (or just peak) current or voltage has been used as the defining exposure or dose level. The zero-to-peak voltage or current is the same as the rms average for square waveforms. The zero-to-peak current or voltage is 1.4 times the rms average (the rms average is 0.7 time the peak value) for sinusoidal waveforms. The peak voltage or current is 3 times the rms average for triangular waveforms.

In a few studies the peak-to-peak current or voltage has been used to describe the voltage exposure or current dose level. The peak-to-peak voltage or current is 2 times the rms average for an alternating square wave. The peak-to-peak current or voltage is 2.8 times the rms average for alternating sinusoidal waveforms. The peak voltage or current is 6 times the rms average for an alternating triangular waveform.

that cows might also be experiencing these same electrical shocks. An electrical survey of farms showed that contact voltages ranged from zero to as much as 20 V with most between 3 V and 10 V. The most important sources of voltage were: unbalanced loads (resulting in high neutral current) and the resistance of the neutral between the shed and transformer (secondary neutral voltage drop). A series of experiments were carried out to establish the lowest level of contact voltage, applied to the teat-to-rear hooves pathway, at which there was a response (Phillips, 1962). While certain cows were more susceptible than others it was concluded that 3 V would be a likely minimum level for response.

A subsequent study measured the current through animals (front to rear hooves and between a wetted flank and 4-hooves) in an attempt to reduce the variability of responses and found that changes in cow behavior were observed when currents reached 3 to 8 mA and these behaviors were judged to be uncomfortable for currents of 4.5 to 12 mA (Woolford, 1972).

A further study was done using a more objective method of measuring behavioral responses using an operant conditioning system in which cows turned on an electric current applied to the teats, the rump or the flank in order to receive crushed barley and turned off current by pressing a second manipulanda (Whittlestone, 1975). A step-wise increase in current in the range 0 to 10 mA showed that behaviors changed with currents of approximately 7 mA for one teat, 6 mA for the rump, and 4 mA for the chest area, and 6 mA for the udder.

This series of studies shows remarkable repeatability in the range of currents required to produce behavioral changes and aversion. Furthermore the relationship between voltage and current exposure indicate an effective animal + contact resistance in the range of 500 to 1000 Ohms. Similar experimental technique has been repeated by several research groups around the world over the past 45 years.

3.3. Early North American Studies

The first on-farm case studies in North America were reported in the early 1970's (Craine, 1970 in Washington State; Feistman, 1975 in Canada). These were assumed to be localized problems and did not receive wide attention. The first study published in North America of controlled animal exposure to voltage was by Craine (1975). Groups of 70 and 30 cows each were exposed to voltages ranging from 0 V (control treatment) to 8 V. Mild aversion was noted at 3 V while suppression of water intake was noted above 4 V. The 8 V treatment was discontinued after 1 day because many cows refused to drink. These response levels agree remarkably well with the New Zealand studies with corresponding real-world cow + contact resistances of about 1000 Ohms.

Field studies and observations began to appear with greater frequency in the US, Canadian and European literature in the 1980's (Gustafson, 1980; Sanders, 1981; Erikson, 1984; Kirk, 1984; Rodenburg, 1984; Thornton, 1984; Winter, 1984). This heightened awareness resulted in the initiation of research programs by groups at the US Department of Agriculture, Agriculture Canada, the University of Minnesota and Cornell University. These research programs were undertaken to better understand the relationship between voltage exposures and current dose for a variety of exposure pathways, the variety of behavioral responses, and physiological responses such as blood chemistry, stress hormones, occurrence of mastitis, milk production and milk composition. These studies were primarily done using steady 60 Hz AC voltages and currents.

3.4. United States Department of Agriculture Research

Lefcourt (1982a) used EKG patches applied to shaved areas on the front and rear legs to eliminate the problem of contact resistance on five cows exposed to an ascending current series of voltage from 0.25 V to 5 V. The cow body resistance varied from 250 to 405 Ohms using this pathway. Four cows showed a mild response to a current of about 3 mA while one cow showed a mild response to a current of 0.7 mA, although this may have been due to a cut in the skin during shaving. In a second study Lefcourt (1982b) subjected 6 cows to 5 mA of current for 20 minutes (continuous) and one for 5 of every 30 seconds (intermittent) both starting 10 minutes prior to milking and continuing through the milking session. Milk yield and milking time decreased in cows subjected to stimulation by intermittent current. Neither treatment appeared to have an effect on norepinephrine. The continuous 5 mA treatment had a variable effect on milk yield, milking time and hormonal responses, some cows seemed to adapt and some cows were reported to have enjoyed the stimulation.

Lefcourt (1985) later subjected seven cows to 3.6 mA and six cows to 6.0 mA intermittently at a.m. and p.m. milkings for 7 days. One cow had to be removed from the 6.0 mA group because of severe behavioral responses. In this study milk yield, milking time, and Wisconsin Mastitis Test scores were not affected, the maximum rate of milk flow increased slightly and the number of behavioral events increased with a greater increase in the 6.0 mA group. Heart rate was elevated (+3 beats/min) only in response to shock during preparation (initial shock). Time to peak oxytocin response was delayed in the 3.6 mA group, and peak prolactin and area under prolactin response curves increased similarly for both groups during shock. The author concluded that any negative effects of electrical shock on milk production or mammary health most likely are not related directly to shock (physiological responses to shock were minimal and milk yield was maintained). They noted, however, the severe behavioral responses to this level of shock would almost assuredly result in management problems.

In a final experiment, Lefcourt (1986,) exposed seven lactating cows to 60 Hz currents of 0, 2.5, 5.0, 7.5, 10, then 12.5 mA, biweekly for 10 seconds. As the current dose increased, cows became more agitated and two cows were not shocked at 12.5 mA due to severe behavioral responses. Heart rate immediately after shock increased at 10 mA and 12.5 mA treatments while prolactin, norepinephrine and glucocorticoids were unaffected. Epinephrine doubled in two exceptional cows at 10 mA. Dramatic behavioral responses displayed by cows at the higher current exposures were not correlated with significant or prolonged physiological responses and electrical exposure was not considered a reliable way to induce 'stress' in cows.

3.5. The University of Minnesota

A team of researchers at the University of Minnesota (Gustafson, 1983) measured the electrical resistance of milking machine components and found milk hose resistances ranging from about 30,000 Ohms to 80,000 Ohms depending on the milk flow rate. The minimum resistance from the claw through the cow to the floor was 3,000 Ohms. It was estimated that 25 V to 50 V across the milking machine/floor pathway would be required to obtain perception level currents through a cow.

Norell (1983) measured electrical resistance for eight pathways through dairy cows. Significant variation in resistance was found for different pathways as well as for different cows. The mean path resistances

ranged from 359 ohms for a mouth-all hooves pathway to 738 ohms for a front-rear hooves pathway. Three experiments assessing animal sensitivity to current based on behavioral indicators were performed. No suppression of a learned response to obtain food was found up to 6.0 mA front-rear hooves shock. However, muzzle-all-hooves shock as low as 1.0 mA suppressed plate pressing behavior. A learned escape response to a front-rear hooves shock above a normal activity level occurred between 2.0 and 3.0 mA. It should be noted that these exposure conditions were not typical of farm exposures.

Appleman and Gustafson published an article in 1985 in which they stated that, based on research done to that point, less than 10% of cows are thought to perceive contact voltages below 0.35 V, behavioral modification may occur above 0.7 V and endocrine response above 3 V or 8 mA (60 Hz rms). They estimated the resistance of different cow body pathways to range from 350 to 1700 ohms. A subsequent publication by these same authors (Cloud, 1987) contains revised recommendations based on additional research. They note that the milking machine is not a likely pathway for electrical currents to the cow because of its high resistance. The failure of controlled research to find a direct physiological effect in animals subjected to stray voltages, and the absence of documented case studies demonstrating a marked improvement in these traits upon correction of an existing problem lead them to the conclusion that there was no direct and causal relationship between voltage exposures and milking performance and animal health. They state that problems may occur when voltages accessing dairy cows through the mouth-all hooves pathway exceed 1 V and that below 0.7 V problems would be minimal. On the issue of cow+contact resistance they state that because the resistance of the front-rear hooves pathway is approximately twice that of the mouth-all hooves pathway, it requires a 2 V step potential shock to produce the same response as a 1 V mouth-all hooves shock and they recommend continued monitoring when measured voltages reach the 0.5 V level. These authors were also part of the consensus opinion later issued in the 1991 UDSA handbook recommending that voltage levels be kept below 2 to 4 V to avoid problems on farms.

3.6. Cornell University

A group of researchers at Cornell University reported on their first study in which cows exhibit behavioral response between 2 and 4 mA, while current applications up to 8 mA applied between the udder and four hooves did not affect milk production or milk composition and hormone responses were minimal (Gorewit, 1984).

In a 1985 study (Gorewit, 1985) eight pregnant Holstein-Friesian cows in weeks 16-20 of lactation were exposed to a current dose of 4 mA in the following manner. A 96-hour experimental period was divided into 4 sub-periods of 24 hours each during which cows on treatment were given shocks of 4 mA at 30 second intervals during 5 min in every 4 hours, via sub-dermal electrodes on the spine. The treatment and control cows were alternated in consecutive periods. Milk yield was slightly but not significantly decreased by the shock treatment (down 0.16 kg/milking), but milk composition, and feed and water intake were not affected. Milk somatic cell count (SCC)⁷ tended to increase during treatment, but the

⁷ Somatic cell count (SCC) is one of indicators of the quality of milk. Somatic cells are leucocytes (white blood cells). The number of somatic cells increases in response to pathogenic bacteria.

increase was not significant. Behavioral responses were greatest on first exposure, but cows became accustomed to shocks within 24 hours.

Three experiments were conducted using water bowl exposures. In one experiment a total of 30 cows were divided into five treatment groups of six cows each. Treatments of 0 V, 0.5 V, 1.0 V, 2 V, and 4 V were applied between metallic water bowls and a metal floor plate for a period of 21 days (Aneshansley et al. 1987; Gorewit et al 1987; Gorewit et al. 1988; Gorewit et al. 1989). Two of the six cows in the 4 V treatment group did not drink for 36 hours and were removed from the experiment and replaced with other cows. All other cows drank normal amounts of water within two days of the initiation of the 21-day exposure periods and there was no significant difference in water and feed intake, milk yield and quality over the 21 days for any treatment group. Cows in the 1 V, 2 V and 4 V treatment group did show an increasing delay from the time the voltage treatment was applied to the time that they drank their first gallon of water. This delay was not observed at the 0.5 V treatment level. The delay increased with increasing voltage for the 1 V, 2 V and 4 V treatment groups.

A second test involved 80 cows, 40 of which were first calf heifers (Gorewit, 1989). These cows were divided into four groups of 20 cows each and exposed to 3 V, 4 V, 5 V and 6 V for 48 hours. Two heifers in the 5 V treatment group and two heifers in the 6 V treatment group did not drink for 36 hours. They were removed from the study and replaced with other heifers (bringing the total to 84 cows). There was a similar dose response curve for voltage treatment level and the delay to drink the first gallon of water as observed in the previous study, with no changes in the total daily water intake for any treatment level.

Aneshansley (1988) applied the following five temporal patterns of voltages between water bowls and rear hooves:

Exposure Level	Time Pattern
5 V	6 hours on – 6 hours off
5 V	4 hours on – 4 hour off
5 V	2 hours on – 2 hours off
8 V	one second every 20 seconds for 50% of the time;
8 V	for one second randomly with a probability of occurring 1 time in 40 seconds or 2.5% of the time

Behavioral patterns showed no consistent pattern. There was no significant change in amount of water consumed for any of the treatments.

Milking exposures were investigated by Aneshansley (1990; 1992) and showed that first calf heifers kicked their milking machine at levels ranging from 5 mA to 12.5 mA, and second through fifth lactation kicked their milking machine off at currents ranging from 8 mA to 18 mA.

Cornell University scientists conducted a full lactation study that examined the effects of voltage at various levels over full lactations, approximately 12 months (Gorewit, 1992a, 1992b). Four groups of 10 Holstein cows each were exposed to 0 V, 1 V, 2 V, or 4 V between waterers and a metal grid throughout

an entire lactation. Cows could not drink without placing their front hooves on the metal grid. Although there were some behavioral changes on the first day of exposure, feed and water intakes were not affected by and of the voltage treatments. Milk yield for the full 305 day lactation showed no significant differences between groups exposed or unexposed to and of the voltage treatment levels. Somatic cell counts, milk fat and protein and reproductive performance showed no significant differences between groups exposed or unexposed to voltage. The Cornell group also examined the impedance of cows over a wide range of frequencies and found a similar relationship to humans with decreasing impedance at higher frequencies (Aneshansley, 1990).

3.7. University of Missouri

Currence (1990) examined response threshold of 24 cows and humans to 1, 10 and 100 cycles of 60 Hz sinusoidal alternating current. Current was applied from one front to one rear hoof for cows and through adjacent fingers immersed approximately 4 cm in two small beakers containing dilute salt water for humans. Significantly higher currents were required for the 1 cycle current duration than for 10 and 100 cycle durations to elicit the same response in cows and humans. The average mild behavioral response threshold for all cows was 3.6 mA rms for multiple cycle events and ranged from 2.2 mA for the most sensitive cow to 5.4 mA for the least sensitive cow. The average response for all cows was 5.5 mA for the single cycle stimuli (or about 20% higher than the multiple cycle stimuli). The average current levels for humans to first perceive the 100 cycle current was 0.37 mA with discomfort noted at 0.45 mA. Cows showed behavioral responses at 3.6 mA whereas humans noted perception at 0.37 mA and discomfort at 0.45 mA for the same signal applied to adjacent fingers. It thus took about 10 times more current to produce a similar response in cows than in people. This relationship is as would be expected because of the larger body mass of cows (about 10 times humans) and correspondingly reduced current density (the same total current is spread out over a larger amount of enervated tissue).

3.8. New Liskeard Study

A series of long-term exposures studies was conducted at New Liskeard College of Agricultural Technology from 1986 to 1990 (Gumprich 1992a and b). Cows were included in the study from 2 weeks post partum for 112 days. A switch back experimental design was used to determine the effects of the three different levels of voltage applied to the cows. The responses measured were: daily milk production, milking time, milk composition, water consumption, feed consumption, breeding and behavior.

The cows were exposed to a uniform voltage between the cow platform, water bowls, and all metal stabling components. To simulate on-farm conditions, a continuous low-level voltage was interrupted by two three-hour periods of higher levels at 5 am and 5 pm, to simulate higher loads during milking that occur on many dairy farms. The first treatment applied to 30 cows (level 1) was 1.0 V with a background voltage of 0.3 V. The second treatment applied to 30 cows (level 2) was 2.5 V with a background level of 0.75 V. The third treatment applied to 30 cows (level 3) was 5.0 V with a background voltage of 0.75 V.

At treatment level 1 (0.3 V and 1 V), cows receiving the voltage treatment had significantly higher milk fat percentage than cows in the control group (31.2 versus 30.6 kg/cow per day). No other response

variables showed a significant response. At treatment level 2 (0.75 V and 2.5 V), milking time was longer (8.5 versus 8.3 min) for the treatment group while no other response variable showed a significant response. At treatment level 3 (0.75 V and 5 V) there was a residual effect on milk production two periods after the treatment period. In addition, less water was consumed by the treatment group (97.6 versus 100 liters/cow per day). It was concluded that exposures up to 5.0 V in well managed tie-stall dairy operations were unlikely to cause observable changes in cow milk production or behavior.

3.9. Field Studies and Case Studies

There have been reports of a number of field and case studies in the literature. Many of these suffer from:

- Self selection bias: Farms are often enrolled because they have health or production problems that they believe may be related to electrical exposures rather than a random selection of farms. Farms that are experiencing problems are more likely to be implementing a number of measures to improve their performance.
- Small sample size: Some studies have enrolled only a few case studies or a small selection of farms that have installed a particular mitigation device. Valid correlations rely on a sufficient random sample to balance the enormous variability across farms, across regions and across time.
- Inadequate characterization of voltage exposures: In some cases, exposures have not been documented at all or have been characterized by neutral-to-earth voltages which have been shown to be poorly related to animal exposure levels.
- Inadequate measurement of animal response: In some studies, animal responses have been self reported by operators without validation of performance numbers.
- Lack of controls or appropriate points of comparison: Seasonal and year-to-year variations in animal performance as well as enormous farm-to-farm variability require careful and appropriate comparisons in order to establish which changes in the farm environment are related to which responses in performance.

Some notable field studies are summarized below.

Kirk (1984) reported on a field study in which stray voltage investigations were performed on 59 Michigan dairy farms. Levels exceeding 1 V alternating current were reported to have been found on 32 farms, although the exposure locations location and measurement methods were not specified. Information regarding somatic cell counts, prevalence of clinical mastitis, and response to corrective actions was collected at the time of the farm visit and from questionnaires sent to the farmers following farm visits. Statistical analysis indicated no significant relationship between the magnitude of stray voltage and milk production, or somatic cell counts. When on-farm, off-farm, and combination sources were consolidated into a single category and compared with no source of stray voltage (presumably less than the 1 V level?), animal behavior was found to be related to source of exposure, whereas the prevalence of mastitis and milk production decreases were not. On most of the farms where exposure levels were less than 1 V, the signs interpreted by the dairyman as being due to stray voltage could be explained by other factors. On farms where the milking machine was functioning properly and milking

technique was adequate and included post milking teat dipping, mastitis was rarely noted to be a serious problem even though voltage exposures exceeded 1 V. The authors concluded that these data supported the conclusion that exposures less than 1 V would not produce herd behavior, production or health problems and that there were many other causes for these symptoms. This study suffers from lack of appropriate exposure verification and lack of appropriate response verification (self reported).

Rodenburg (1984) reported on a survey of service entrance neutral to remote earth voltage measurements on 140 Ontario dairy farms. During a 24 hour monitoring period 80% of farms had peak voltages between the in excess of 1 V, 55% of farms in excess of 2 V and 28% of farms in excess of 3 V. The highest voltages were usually recorded during peak electrical load periods between 6 and 9 a.m. and 5 and 8 p.m. Cow contact voltage exceeded 0.5 V on 50% of farms, 1 V on 21% of farms and 2 V on 11% of farms. On 40% of the farms, cow contact voltages were very low in spite of the presence of voltage on the neutral because of poor electrical bonding of stabling. There was no report of the relationship between exposure levels and herd responses in this study but this study gives useful information on the occurrence of neutral to earth voltage on Ontario farms in the early 1980's.

Thornton (1984) reported on a survey of Alberta dairy farms with parlor milking systems and found that 11% had voltages over 1 V with faulty wiring as the most significant cause. There was no definite relationship between voltage levels and herd production. This study also provides an insight into the occurrence and sources of neutral to earth voltage levels on Canadian farms although it is unclear if appropriate cow-contact measurements were made.

Winter (1984) reported on a field survey of 40 farms that had installed a mitigation device called the Electronic Grounding Systems® or EGS. Initial exposure levels were not reported. There were self-reported changes in milk production, somatic cell count, frequency of mastitis, time required to milk, breeding efficiency and labor productivity. The authors noted that numerous other factors affect dairy herd performance and therefore may have influenced the results reported by the operators and that in some cases with good reductions in voltage there were no significant changes reported in herd performance. This study suffers from selection bias (only those farms purchasing a particular device included), lack of appropriate exposure verification, and lack of appropriate response verification (self reported).

Appleman (1987) reported on a statistical analysis of 84 Minnesota farms that had neutral isolators installed over the period of one year. Milk production 12 months after isolation was reported to be higher than prior to isolation and increasing more rapidly than regional averages. No other parameters studied showed significant change after isolation (average SCC, % of cows with high SCC, % of cows leaving the herd, heat detection, conception rate, calving interval). Initial exposure levels were not recorded, nor were exposure levels after isolation. This study suffers from possible selection bias (those farms that had neutral isolators installed may have been more likely to be experiencing problems and searching for solutions to these problems beyond isolation).

Albright (1991) reported on a study in which 30 Indiana dairy farms in 21 counties were checked for suspected stray voltage problems. Initial neutral-earth voltage levels at the service panel averaged 0.5 V. With all apparent electrical equipment turned on, the neutral-earth voltage levels averaged 1.1 V. Continuous monitoring on nine farms showed peak levels of 1.5 V. The installation of a Tingle voltage

Filter (TVF) on ten problem dairy farms was reported to have reduced neutral-earth voltage levels 11-fold. Major differences were found from farm to farm regarding dairy management abilities, as well as the state of electrical wiring and grounding. Nine of ten TVF herds were reported to have shown improvement in individual cow and group behavior although it was not clear how these behaviors were measured or reported or which specific behaviors improved. When comparing 12 months post installation to pre-TVF milk production data, herds were reported to show a slight increase in milk production, however, the time of year of intervention was not indicated and there did not appear to be a comparison with a 'control' group of farms. This study suffers from lack of appropriate exposure verification (only neutral-earth voltages, not cow-contact voltages measured). Many of the responses were not appropriately verified (either methods not described or self reported).

Hendrickson, (1991) conducted a field study in which cow contact voltage and current exposures were monitored 4 times/year on 110 randomly selected Wisconsin dairy farms. Dairy herd management practices were also analyzed and related to both production and voltage findings. Farms were grouped into low level and high level voltage exposure groups (greater than 0.5 V steady state or greater than 1.0 V spikes in cow contact locations = high level exposure) as well as low, middle and high milk production groups. Conclusions of this study included:

- *High level exposure was found on 34% of the survey farms on at least 1 of the quarterly checks.*
- *The high level exposure group included farms in all production groups (low, middle, and high) suggesting that rolling herd averages of greater than 18,000 lbs. can be achieved at this high exposure level.*
- *High level voltage was more common in the low and middle production groups than the high production group.*
- *The high production group displayed a significantly higher level of management intensity than the middle and low production groups suggesting that proven dairy herd management factors is key to achieving high levels of milk production regardless of the voltage exposure levels measured during the survey.*

This study had a reasonable sample size and farms were randomly selected. Exposure and response verification appear to be appropriate. The study cannot be used to establish cause and effect relationships but is a useful comparison to the types of responses observed in controlled studies.

3.10. USDA-ARS Handbook 696: Effects of electrical voltage/current on farm animals

USDA Handbook 696, issued in December 1991 is the result of a review of available research by 15 scientists. Most of the research relates to 60 Hz AC steady state voltage/current exposures. Figure 4 is reproduced from that publication and summarizes the researcher's conclusions regarding the levels of voltage and current that affect dairy cows.

The following specific conclusions are the consensus opinions of all contributors to the Handbook.

- Currents up to 4.0 mA do not appear to inhibit the milk ejection reflex, depress milk production significantly, or increase the incidence of mastitis or other diseases of the cow.
- It is doubtful that the milking machine plays a role in the exposure of cows to stray voltage. The voltage necessary to override the resistance of the milking path would be well in excess of neutral-to-earth voltages.
- Cows experience various health problems, including mastitis. Mastitis is a fact of life in the dairy industry, and it is caused by infection of the udder and not electricity.
- Factors such as milking machine problems, disease, poor sanitation, and nutritional disorders may cause cows to manifest any of the symptoms that are sometimes attributed to stray voltage/current exposure.
- While some pathway resistances approach 1000 ohms or more, worst-case resistance may be as low as 500 ohms.
- Cow contact voltages from low impedance sources should be kept less than 2 V to 4 V. (2 V corresponds to 4 mA, assuming 500 Ohm cow + contact resistance, 4V corresponds to 4 mA, assuming 1000 Ohm cow + contact resistance)

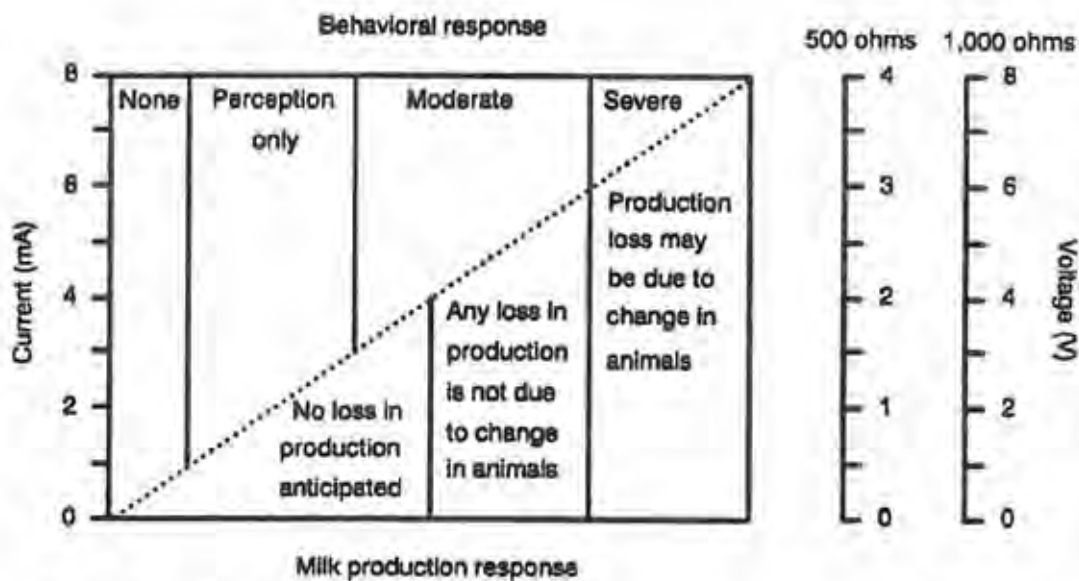


Figure 4. Behavioral and milk production responses to increasing current levels. The corresponding voltage scales on the right were estimated using a worst case circuit impedance (500 Ohms) and a more realistic impedance (1000 Ohms). (From USDA Handbook 696, Lefcourt 1991)

3.11. Studies after publication of USDA 696

In the 1990's the focus of research shifted to the effects of 'transient' 60 Hz voltage and currents and high frequency stimuli by research groups at Cornell University and the University of Wisconsin.

3.12. Cornell University II

A useful categorization of voltage/current exposures was developed based upon on-farm measurements (Aneshansley, 1997).

- Steady state 60 Hz AC voltages, greater than 1 second duration, typically 60 Hz power frequency. These steady state events can also have some harmonic content as well due to nonlinear loads.
- Momentary 60 Hz events of from 1 to 60 cycles of 60 Hz voltage/current, as occurs when a motor starts.
- Transients are events have a duration of less than 1 cycle of 60 Hz and are caused by arcing as switch contactors bounce, electric fence controllers which produce short duration pulses and other high frequency 'noise' produced by the operation of a variety of electrical devices.

A set of water bowl experiments were used to determine the current levels needed to cause a cow that was drinking, to stop drinking. These experiments examined the effect of different voltage waveforms and frequencies (Aneshansley, 1997; Aneshansley, 1999). All current levels for a response are given as the average of 16 cows with 4 replications of each treatment per cow. Events studied were

- steady state AC current from 60 to 30,000 Hz
 - higher frequencies required increased current to elicit response
- combinations of 60 and 180 Hz with different phase shifts (harmonics)
 - extreme waveform distortion can influence cow sensitivity
- short duration DC pulses
 - pulse duration less than 400 microseconds required higher current to elicit response
- DC offset combined 60 Hz current
 - DC offset had no effect on current sensitivity

The results of these studies agree well with neuro-electric theory (Reilly, 1998) and other experiments on high frequency exposures (Reinemann, 2005).

Holstein cows with a history of subclinical mastitis (cultured positive for *staphylococcus aureus*), were used to determine if seven day exposure to steady state voltages could trigger clinical mastitis (Gorewit, 1997). Cows were divided into four treatment groups of four cows each with constant voltage treatments of 0 V, 1 V, 2 V and 4 V applied continuously between water bowls and metal floor mats. Animals perceived voltages as evidenced by delays in drinking, which increased with voltage exposure

levels. Voltage exposure did not significantly influence milk production, milk composition, water intake, feed intake, blood chemistry, or blood serum concentrations of immune gamma globulins or cortisol. A trend existed for higher cortisol levels in those cows receiving voltage treatments, however. Milk production, somatic cell counts, milk fat and protein and IgM⁸ levels were higher in the 0 V and 1 V groups compared with the 2 V and 4 V treatment groups. This was most likely caused by the subclinical *staph.* infections present in the cows at the start of experimentation.

In a second mastitis experiment 16 lactating Holstein cows (8 receiving Bovine somatotropin [bST] and 8 bST free cows) were divided in to four treatment groups of four cows each and exposed to 0 V, 1 V, 2 V or 4 V of 60 Hz rms constant voltages applied continuously between water bowls and metal floor mats for seven days (Gorewit, 1999). All cows were exposed to *streptococcus uberis*⁹, as a post teat dip after milking. Voltage exposure did not significantly influence milk production, feed intake, water intake, SCC, milk fat or milk and protein. The authors concluded that steady state voltages of up to 4V, applied to water bowls, for 7 days, did not promote clinical mastitis in dairy cattle predisposed to mastitis during or after direct exposure of live bacteria to teat ends.

3.13. University of Wisconsin

A research program at the University of Wisconsin was initiated at the request of the Wisconsin Department of Agriculture, Trade and Consumer Protection (WDATCP) in 1991. A citizen's advisory board to the WDATCP, composed of parties with concerns about stray voltage, established the priorities for this research. The highest priority at the time this research was initiated was dairy cow response to short duration or 'transient' voltages.

Experimental procedures were developed by an animal behavior specialist to measure and detect behavioral responses to applied current pulses. A number of suspected behaviors were monitored by human observers. Computer-based data acquisition equipment was also used to monitor animal activity. For studies in which current pulses were applied from muzzle to 4-hooves, facial activity was the most sensitive behavioral response followed by front hoof lifting. Human observers' measurements of hoof lifting agreed well with automated recording of animal motion. Tail motion showed no statistically significant response to the current stimulus (Reinemann, 1999b).

The distribution of responses at 60 Hz and higher frequencies showed remarkable agreement neuro-electric models and numerous other studies that used a variety of methods to detect behavioral response thresholds (Reinemann 1999b). The range of sensitivity to a single-cycle, 60-Hz, current pulse for 120 cows ranged from 2.8 to 19 mA (measured from zero to peak) with a median response threshold of 9.6 mA. Cows were less sensitive (e.g., more current was required to elicit a response) to shorter duration or higher frequency waveforms over the frequency range from 60-Hz to 50,000 Hz. The median sensitivity for a single-cycle, 50-kHz pulse increased to 1308 mA (measured from zero to peak). The waveform and number of cycles of the stimulus for high frequency pulses also affected sensitivity. Cows did not respond to magnetic fields of up to 4 Gauss produced by current flow in metal structures

⁸ IgM or Immunoglobulin M, is by far the physically largest antibody in the human circulatory system. IgM antibodies in serum indicates recent infection

⁹ A highly contagious mastitis pathogen.

(Reinemann, 1995a). The maximum magnetic field exposure used in this study (4 Gauss) is extreme and hundreds of times higher than any conceivable farm exposure.

A series of experiments was performed to examine the sensitivity of dairy cattle to current pulses with multiple frequency components, specifically shorter duration pulses superimposed on a 60 Hz waveform (Reinemann, 2003b). Involuntary muscle contraction thresholds were determined for cows using the muzzle-hooves exposure pathway. There was no significant interaction between the longer duration component (1 cycle of 60 Hz current or a phase duration 1/120 of a second or 8.3 ms) and the shorter duration components (pulses with durations of 1.8 ms, 1.4 ms and 0.7 ms). The authors concluded that peak-to-peak and zero-to-peak measurements of current with multiple frequency components may over-estimate the sensitivity of dairy cattle to current pulses.

Further studies were conducted to determine the level of current, relative to the behavioral reaction threshold, required to affect cows' feed and water intake and milk production. Groups of eight cows were monitored for a 14-day pretreatment period followed by a 21-day treatment during which a single-cycle, 60-Hz transient current was applied to water bowls once every second, and a 14-day post treatment period (Reinemann, 2005). Cows in these experiments were exposed to the transient current whenever they attempted to drink. In practice, transient events are not typically present every time an animal attempts to eat or drink. Exposure levels were set relative to the sensitivity of individual animals to short duration exposure to take into account the wide range of sensitivities among cows. The exposure levels ranged from 7 mA to 20 mA (measured from zero to peak). Feed and water intake, milk production, somatic cell count, blood composition, and activity level were monitored during the experiment. Average changes in feed and water intake and milk production during the 21 day treatment period were not significant when compared with the 14-day pre-treatment period. No change in SCC was found for the animals at the highest exposure level. Animals showed an acclimation to the transient current exposure with avoidance behaviors most prominent immediately after exposure and reduced avoidance response with increasing exposure time.

Significant reductions in water and feed intake, and milk production were measured on the first three days of exposure for cows exposed to 150% of their reaction threshold current level. The current level required to elicit this short term reduction in water and feed intake and milk production was thus considerably higher than that to produce a behavioral response. Behavioral effects, as indicated by delay to drink and gross observation, were apparent during the first day of exposure at levels lower than those required to cause measurable changes in daily total water and feed intake or milk production. On average, an increase in the reaction threshold (cows became less sensitive) was observed between pre-treatment and post-treatment periods. This confirms results of previous studies and field observations noting rapid acclimation to voltages as well as changes in animal behaviors with no measurable decline in water or feed intake or milk production.

Short-term aversion to water was also observed in a second study when a single-cycle 6000 Hz current pulse (ranging from 60 to 150 mA zero-peak current) was applied to the water bowl (Reinemann, 1996). Reduced water consumption was again observed for current exposure levels 150% of the behavioral response threshold. Predictability of aversive response was improved over previous studies by taking into account individual animal sensitivity. This result clarifies previous experiments in which animals had

to be removed from experimental trials because of dramatic response. More consistency in behaviors was observed, and greater response was obtained when using a multiplicative current exposure scheme (150% of behavioral response threshold), than with an additive scheme (1.5 mA or 3 mA + behavioral response threshold). The responses were all explainable by avoidance of water bowls associated with the presence of an annoying stimulus rather than direct physiological effects.

A subsequent study investigated aversive response of a continuously-applied stimulus to intermittently-applied stimulus (Reinemann, 2004). A continuously applied current pulse at 150% of each cow's behavioral response threshold resulted in reduced the water consumption, while the intermittently applied pulse at the same current level did not result in reduced water intake. In order for current exposure to affect cows, the applied current must first be of sufficient level to cause avoidance behavior. In addition, these events must also occur often enough to cause animals to avoid water and/or feed.

The relationship between cow impedance and cow sensitivity was also examined in these studies. There was a trend for more sensitive cows to have higher resistance. Thus using the minimum threshold current for the population of cows combined with the minimum impedance from that same population will result in an overly conservative estimation of the minimum threshold contact voltage for that population. Measurement of cow contact voltage and current using a 500-Ohm shunt resistor have been shown in these laboratory studies as well as field studies to be a conservative estimate (worst case) of the current likely to flow through a cow.

There was no evidence from these studies that there was any direct physiological effect of voltage and current exposures below the levels at which a behavioral response could be documented nor at levels at which aversion to water and/or feed are first observed. The short term decreases in water and feed intake that was documented were consistent with aversive response to an unpleasant stimulus.

3.14. AgroParisTech

The most recent series of studies to examine the effects of stray voltage on farm animals was begun at the French Agricultural University, AgroParisTech, in 2005. Roussel (2007) determine the threshold level at which heifers perceive the electric shock, using an avoidance test. Twenty Holstein heifers were exposed in steps of 0.3 V up to 5 V applied to a feeding cup. Twenty additional heifers followed the same avoidance test but without any electricity applied. For exposures of 2.3 V or greater, the percentage of total feed eaten from the electrified feeder and the time spent eating in the electrified feeder decreased. Above 3 V heifers changed more quickly to the non-electrified feeder. Above 2 V heifers performed more muzzle-grooming and head shaking than the control group. The authors concluded that a voltage of 2.3V appeared to be the threshold at which avoidance behavior starts. Further research is underway study whether individual electrical resistance may explain some of the variability in the voltage threshold.

Rigalma (2007) reported on a 3-week period of 3.3 V exposures at metallic feeders in either a continuous or unpredictable manner with twenty electricity-naïve heifers or twenty heifers that had experienced voltage exposure previously. Heifers with unpredictable exposure tended to spend more time eating in the electrified feeder, made more abrupt head movements and more muzzle-grooming

behaviors than those in the continuous exposure group. Although no behavioral differences were observed between naïve and experienced heifers, the naïve heifers had higher cortisol concentrations on the first day when the voltage was applied. Naïve heifers with continuous exposure ate more and changed feeder quicker than the naïve heifers in the unpredictable exposure group. They concluded that heifers with unpredictable exposure had more difficulty in adapting and that past-experience seemed to reduce the response. Preliminary results (to be presented by Rigalma in 2008) suggest that unpredictable exposure may not offer sufficient time to the heifers to learn how to adapt.

A study has been initiated to examine behavioral and endocrine responses for a large sample size of lactating cows (about 100) in a free-stall barn environment. Studies have also just begun at Limoges University to remotely measure current flowing through cows in their normal farm environment. The results of these studies will be a valuable contribution to better understand the level and time patterns of current exposures in real-world farm conditions. Work is also being conducted on mitigation methods (personal communication with researchers at stray voltage conference in Limoges, France, November 2007).

3.15. Minnesota Science Advisors Study

In 1994 the Minnesota Legislature authorized the Minnesota Public Utilities Commission (MPUC) to establish a committee of science advisors in response to claims by The Electromagnetic Research Foundation (TERF) that electric currents in the earth from electric utility distribution systems are somehow responsible for problems with animal behavior, health and production problems of dairy cows. The Science Advisors were a multidisciplinary group with expertise in the fields of agricultural engineering, animal physiology, biochemistry, electrical engineering, electrochemistry, epidemiology, physics, soil science and veterinary science. These science advisors were assigned the following tasks:

- Review any evidence that might support the proposal that earth currents adversely affect dairy herd health and production.
- Determine whether further research in this area is warranted.
- Oversee any research proposed to resolve questions related to possible earth current effects.
- Provide recommendations to the PUC based on available evidence and the results of any research conducted with funds appropriated under the legislation.

A progress report was issued in January 1996 in which it was noted then that currents in the earth can only interact with dairy cows through their associated electric fields, magnetic fields and voltages, and that these parameters should be the focus of analysis, rather than earth currents per se. A survey of Minnesota and Wisconsin dairy operators was designed to obtain information on the specific types of herd health and production problems and to assess the extent to which owners of dairy herds attribute such problems to stray voltage or other causes. A field study was conducted to assess possible associations between selected electrical and non-electrical parameters and the presence or absence of persistent problems associated with dairy cow health and milk production. The MPUC also funded follow-up laboratory research at the University of Wisconsin.

Based on their study and analysis the science advisors reached the following conclusions (MPUC, 1998):

1. *"We have not found credible scientific evidence to verify the specific claim that currents in the earth or associated electrical parameters such as voltages, magnetic fields and electric fields, are causes of poor health and milk production in dairy herds."*
2. *"At the present time, there is no basis for altering the PUC-approved standards by which electric utilities distribute power onto or in the vicinity of individual dairy farms."*
3. *"There are many well-documented non-electrical factors that are known and accepted by the scientific community, and by most farmers as well, to cause dairy cow health and production problems. Among the most noteworthy stressors are poor nutrition, poor cow comfort and hygiene, and low or no use of vaccinations and related preventive veterinary practices. Those who want to improve performance of dairy herds should always address these factors."*

Other Notable conclusions were:

"It is important to note here that there is a difference between what is conceivable or possible and what is likely or probable. For example, a National Institute of Environmental Health and Safety committee concluded that there is a possible not a probable association between the presence of 60 Hz magnetic fields of 2-3 milliGauss or higher and childhood leukemia. In the 19-farm field study described in this report, the average AC magnetic fields measured inside the dairy barns were on the order of 0.5 milliGauss. Thus with the present body of evidence, it is our best judgment that magnetic fields from earth currents or any other contributory sources in the dairy barn are not of sufficient levels to cause any health or production problems in dairy cows."

"At the present time, there is only one electrical condition that is well documented in the peer reviewed, published literature to influence adversely cow behavior, health or milk production under specific circumstances. That is cow contact stray voltage."

While each of the Science Advisors accepted the final report and recommendations, one of the science advisors published a paper with his personal follow-up analysis of the Science Advisors Report (Polk, 2001). Some of the conclusions from this paper were:

- *At present it is not known whether and how the long-term exposure to step voltages above 9 mV can affect health and/or milk production of dairy cows. This can only be established by laboratory experiments where major variables known to affect animal health can be controlled.*
- *It appears desirable to measure soil resistivity when a dairy farmer reports possible electricity related cow health and production problems*
- *The author alone is responsible for the analysis presented here and the conclusions drawn.*

The analysis in this paper consists of a series of more than twenty T-tests was done on a limited data set. Statistical theory indicates that if a p value of 0.5 is used as a test of significance, one of 20 tests would show significance due to chance correlation. The correlation between Milk/per/cow/day and

voltage exposure during low use hours was claimed to be significant ($p=0.0418$) but is highly influenced by one outlier in the rather small data set and when this outlier is removed the correlation is not significant. The correlation is in the best case extremely weak, and in the reasonable case is nonexistent. Many other differences in management factors were more significant than voltage exposure during the low voltage period. Dr. Polk's paper does not refute any of the original science advisors conclusions and there is insufficient evidence in the 2001 analysis to challenge the original conclusions of the Science Advisors Report, of which he was an author. Another Science Advisor published a statement (Stetson, 2003) in which he indicated that Polk (2001) apparently used a limited selection of data from the Science Advisor Report and misinterpreted the data from the farms with the stall mats. Dr. Polk died in 2000 so he is not able to defend his published comments.

3.16. University of Wisconsin II

Controlled laboratory studies at the University of Wisconsin were commissioned by the MPUC to investigate a hypothesis developed by the Science Advisors. In these studies stress hormones and immune function response of dairy cows exposed to low-level step potentials were examined. A first series of experiments was performed to measure behavioral responses and changes in blood cortisol concentration of cows exposed to 60-Hz electrical current applied from front to rear hooves (Reinemann, 2003c). Cortisol levels did not increase in response to short-term current exposure at levels up to 150% of the behavioral reaction threshold. Cortisol concentrations were found, however, to increase in response to hoof trimming. These results confirm several previous studies indicating that behavioral changes are a more sensitive indicator of response to short-term electrical current exposure than blood cortisol levels.

Milking performance of cows subjected to electrical current during milking and two common milking machine problems were documented (Reinemann, 2003a). The first experiment used 32 cows in a 2x2 factorial design with exposure to 1 mA (60-Hz rms) of electrical current from front to back hooves during milking and a pulsation failure (no massage phase) as treatments. A second experiment used 16 cows in a 2x2 factorial design with exposure to 1 mA (60-Hz rms) of electrical current from front to back hooves during milking and excessively aged milking machine liners as treatments. The main effect of current exposure was not statistically significant for milk yield, average milk flow rate, maximum milk flow rate, cow activity, and strip yield. The main effect of pulsation failure was significant for cow activity (5.8 fewer weight shifts during a milking). The main effect of aged liners was significant for milk yield (2.2 kg increase), average flow rate (0.3 kg/min reduction), maximum flow rate (1.2 kg/min reduction), and liner slips (26 more per milking). The significance of some interactive effects appeared to indicate that current exposure had a mitigating effect on the changes caused by the milking machine problems. These interactions were not consistent across experiments, however, and in some cases were highly influenced by a few observations. This study adds further evidence to the body of literature showing that exposure to low-level step potential resulting in less than 1 mA rms of 60-Hz electrical current during milking is not a cause of cow discomfort or poor milking performance.

A third series of experiments were performed in which twelve mid-lactation dairy cattle were subjected to intermittent 60 Hz electrical currents of 1 mA rms from front to rear of stall for a period of 14 days (Reinemann, 1999a). An additional 12 cows were housed in identical stalls with no treatment. Electrical

monitoring indicated that achieved current was within 10% of target. Feed intake, water intake, milk production and rectal temperature were monitored daily and were unaffected by treatment. Behavioral measurements, including percentage of time lying and time to re-enter stalls after milking, were unaffected by treatment. Immune function was assessed by analyzing blood samples taken twice a week for thirteen different response variables. There was no statistically significant difference between control and treatment cows for any of the main response variables. The difference between the control and treatment cows was statistically significant for one of the secondary response variables but did not appear to be consistent with other observations. Collectively, these results suggest that exposure to 1 mA of current for two weeks had no significant effect on the immune function of dairy cattle.

3.17. Recent Dairy Field Studies.

Southwick (1992) reported on a dairy farm located in central New York State that was visited following complaints of electrical shock in the farmhouse shower and the milk house sink. As much as 2 V AC of potential difference was measured between the waterline and the cow platform (cow-contact voltage) and attributed mainly to a utility source. The farm's electrical service was modified so that the farmstead could be connected or disconnected from the primary neutral wire at 2-week intervals for 12 weeks. When connected to the primary neutral wire, voltage between waterline and floor ranged between 0 and 1.8 V. When disconnected from primary neutral wire, voltage between waterline and floor was less than 0.1 V. There was no difference in mean milk production, bulk tank milk somatic cell count, or water consumption among periods when cows were exposed or unexposed to voltage. Although not statistically significant the values for somatic cell count were lower and water consumption was higher when cows were exposed to voltage than when they were not. This field study is notable in that the exposures and responses were appropriately verified and a switchback design was used to avoid confounding with time (to reduce the influence of the many other factors that can affect dairy cow health and production).

Reines (1998) presented data from more than 2900 stray voltage investigations performed in Wisconsin. The data collected includes electrical characteristics of both the distribution and on-farm wiring systems as well as rolling herd average milk production and bulk tank average somatic cell counts. More than 85% of the first investigations reported maximum primary and secondary neutral-to-earth voltages less than 2 V. More than 90% of investigations reported maximum cow contact voltages less than 1 V. The correlation between electrical parameters was as expected from electrical theory. However, specific measurement of each parameter is required because predictive ability is low. Indicators such as ground per mile, primary neutral or secondary neutral-to-earth voltages are not good predictors of cow contact voltage. This is probably due to the prevalence of on farm sources, which can either add or subtract from primary sources. It is imperative to properly identify the voltage sources and their interaction before implementing mitigation. There was no meaningful correlation between primary neutral-to-earth voltage, secondary neutral-to-earth voltage, cow contact voltage, or ground rod current and either rolling herd average milk production or somatic cell count ($r < 0.02$). The correlation between the monthly average somatic cell count reported by stray voltage investigators and by the USDA for all farms in the Midwest ($r = 0.58$) was an order of magnitude higher than for any electrical parameter.

Inappropriate conclusions about changes in somatic cell count and milk production can be drawn if these seasonal trends are not taken into account.

The Public Service Commission of Wisconsin has continued to collect data from stray voltage investigations. The most recent report (PSCW, 2007) presents charts and statistics from 8388 farm investigations. Only about 7% of these farms had cow contact voltage in excess of the PSCW level of concern of 1 V measured across a 500 Ohm resistor. Both cow contact current and primary neutral-to-earth voltages have decreased substantially since the early 1990's as the result of efforts by the PSWC and electric power suppliers. These data show no meaningful correlation between:

- current return ratio and elevated somatic cell count
- current return ratio and rolling herd average milk production levels
- cow contact current level and somatic cell count
- cow contact current level and rolling herd average milk production

This lack of correlation is consistent with experimental studies which indicate no expected cause and effect relationship between herd health and production at exposure levels below 1 V at animal contact locations. This continuing field survey is notable in its very large sample size. If voltage and/or current exposures did have a causal influence on dairy cow animal health and production, it should be apparent in this large sample. Because the vast majority of farms (93%) are below the 1 V (2 mA) level of concern, it is not surprising that there is no apparent trend in milk production or somatic cell count with increasing voltage exposure. This data set presents strong evidence of the lack of a dose/response relationship from extremely low exposures up to 1 V (2mA) exposures, confirming results from controlled studies indicating that dairy cow responses would not occur at these low exposure levels.

3.18. Other Species

The vast majority of stray voltage studies have been performed on dairy cows; however there are also a number of studies that have been performed on other species that have been summarized below.

3.18.1. Swine¹⁰

Gustafson (1986) reported that eight growing/finishing pigs exposed to 60 Hz electrical currents administered through a mouth-to-all-hooves showed a preference for a water source with no current

¹⁰ *The studies reported here are published works in which sheep were exposed to voltage and current levels typical of stray or tingle voltage. There have been other studies on swine with extremely high level of current exposure: Ziecik (1993) foot-shocks increased cortisol concentration in blood during the first hours of stimulation but at the end of treatment cortisol was even lower than in control animals. Sein (1994) transcranial electro-stimulation during 3 days shortened the pubescence period and increased the quantity of ovulated follicles in swine.*

compared to those at 0.25 mA and above. However, when no alternative source existed, greater than 3.0 mA was needed to affect drinking time and 4.0 mA to affect consumption.

Robert (1991) examined the effects stray voltage on 72 growing/finishing pigs by applying treatments of 0, 2 V or 5 V between the feeder or drinker and the metallic floor. During daytime, the applied potential difference of 5 V decreased the eating frequency in both feeding groups and the drinking frequency in restricted-fed pigs. Daily feed intake and average daily gain were lower in the 5 V group than in the 2 V and the control groups from 17 to 21 weeks of age. Gastric lesions, hematological and biochemical variables were not affected by either voltage level.

Matte (1992) measured the total body impedance (TBI) of 12 pigs between the ages of 9 and 22 weeks exposed to 2 V or 5 V of 60 Hz AC and flooring conditions of woven wire covered with water (WW) or dry (WD). TBI was higher at 2 V (1300 Ohms) than at 5 V (1091 Ohms) while the effect of age on TBI also depended on the age of pig and the wetness of the floor with values ranging from 3041 Ohms (WD) to 1031 Ohms (WW) at 10 weeks of age to 1036 Ohms (WD) to 778 (WW) at 18 weeks of age. The reduction in TBI with age could be explained by the increase of the contact area and of the pressure exerted by hooves on the floor, which are major factors influencing the quality of floor-hooves contact. In a second trial, TBI was measured for two 15 week-old pigs with 1 V and 2 V of current at frequencies of 60 Hz, 1000 Hz, 3000 Hz and 10,000 Hz on flooring surfaces WW, WD, and a copper plate covered with water (CW). No difference in TBI was found between the 1 V and the 2 V treatments while TBI at 60 Hz on CW was lower than on WD but similar to that measured on WW. As current frequency increased, the differences among surfaces disappeared. These results indicate that a greater amount of current could pass through the body of growing-finishing pigs as they get older and/or heavier. Among the studied factors affecting TBI, wetness of the floor and current frequency appeared to be the most important.

Robert (1992) evaluated the effects of 0 V, 5 V or 8 V applied between feeder or drinker and the metallic floor on 72 growing-finishing pigs. The total drinking time and the number of drinking bouts were lower in the 8 V group than in the 0 V group. The percentage of time spent drinking during light hours was reduced in the 5 V and 8 V groups at 18 and 20 wk. However, it was only between 14 and 16 weeks of age that water intake was lower in the voltage groups. There was no effect of voltage on mean daily feed intake and average daily gain over the whole fattening period. Behaviors were modified in the 8 V and 5 V groups while the metabolic profile, the frequency and the severity of gastric ulcerative lesions and the meat color were similar among the treatments.

Goodcharles (1993) subjected 72 pigs to 0 V plus 2 V pulses, 2 V plus 3 V pulses, 5 V plus 8 V applied between feeder or drinker and metal floor and a control with no voltage. Pulses were of 3 second duration. No major impact voltage exposure on health, growth or welfare of fattening pigs was observed. Some behavior changes were noted, however.

Kambic (1993) evaluated the effects of electrical stimulation on the mechanical properties of healing skin of 20 Hanford mini-pigs. Wounds were stimulated 2 hours per day, 5 days per week for 30 days. The

stiffness values for skin samples oriented parallel to the current flow were reduced by nearly half the values obtained for normal controls (a desirable condition). No adverse effects were reported.

Robert (1994) conducted an experiment to determine the current through pigs housed on different types of floor (woven wire, concrete, molded plastic, or plastic-coated metal) and under different flooring conditions (dry or wetted with urine). Current flow was higher in wet than in dry conditions and increased with age on the 4 floor types, as did the hoof contact area with floor and hoof pressure of pigs. In dry conditions, there was no measurable current flow on the 2 plastic floors. On all floor types, except dry plastic, the current flow increased with frequency of current, the highest values being on the woven wire floor. These data show how the contact impedance between the floor and the hooves varies as a function of floor conditions and can influence the amount of current through young and adult pigs.

Heyde (1995) measured galvanic DC voltages of 400 mV to 600 mV between the floor and farrowing crates, water bowls, and feed troughs. No link between voltage, behavior, and production was reported.

Kennedy (1995) measured heart rate and behaviors of gilts released into a field surrounded by an electric fence for the first time. Most contacts with the fence occurred in the first 10 minutes of the first day after which the pigs avoided the fence. The magnitude of the heart rate response did not diminish with subsequent shocks but increased with increasing gestation. The authors suggest that contact with an electric fence for the first time during pregnancy could contribute to reproductive upset.

Robert (1996) randomly assigned 120 gilts to three voltage treatments; 2 V steady with 5 V pulses, 5 V steady with 8 V pulses, and a control treatment. The steady voltage was applied 24 h/day while pulses of 3 sec duration were applied at irregular intervals. Gilts showed some behavioral response to voltage while the behavior of sows and suckling pigs was not affected. Water and feed intakes were similar among treatments, except during week 1 of lactation where feed intake was lower in the control group. It was concluded that exposures up to 8 V did not impair the welfare, reproductive performance, or health of sows and suckling pigs.

3.18.2. Sheep¹¹

Duvaux-Ponter (2005) performed an avoidance test to determine the threshold level at which sheep perceive the electric shock, and their behavioral responses. Ewes had free choice to eat from one of two metallic feeders. A voltage was then applied from to the feeder in which the ewe initially started to eat to a metal floor-plate on which the ewe stood. This allowed the ewe to change to the non-electrified feeder if it wanted to. The voltage was increased daily in steps of 0.5 V from 1 V up to 8 V. At 5.5 V and above, the ewes tended to spend more time eating and to eat more from the non-electrified feeder

¹¹ *The two studies reported here are the only published works in which sheep were exposed to voltage and current levels typical of stray or tingle voltage. There have been other studies on sheep with extremely high level of current exposure used for electro-immobilization during shearing (Rushen, 1986; Kuchel, 1990) intentionally stressful foot-shocking. (Domanski, 1986, 1989, 1992; Morris, 1997; Prsekop, 1984, 1985, 1986, 1990) electric fences for training (Cavani, 1994) and electro-acupuncture for analgesia (Bossut, 1986). These exposures generally produced pronounced behaviors and some produced hormonal responses.*

compared with the electrified feeder. The number of ewes which suddenly removed their heads while eating in the electrified feeder was higher at 4 V and 5 V compared to no voltage. The authors concluded that a voltage of 5.5 V appears to be the threshold at which avoidance behavior starts for a large number of the ewes, but that there were differences in the responsiveness of animals. Further research on resistance values was recommended to account for some of this variability. In a second study with the same methodology but using lambs, Duvaux-Ponter (2006) reported that they avoided feed bowls starting at a threshold of 5 V.

3.18.3. Poultry

Wilcox (1986) reported on a field study in a laying facility in which egg production and feed consumption were reduced by about 1/3 in the span of 1 week. Potentials of 0.8 to 0.9 V between the metal cage and water in the plastic cups and a 1.3 V to 1.5 V potential between the cage and a driven ground rod were measured. Reduction of voltage potentials was associated with water and feed consumption and egg production returning to normal levels. It was speculated that electrical disturbances could be a source of production loss in cage layers.

McFarlane (1988; 1989) studied the effects of electric shock on health, behavior, and performance of chicks. Chicks were exposed to currents increasing from 2.9 mA on Day 1 to 8.7 mA on Day 7, applied from one point on a foot to another. When exposed to this between 10 and 17 days of age, chicks' weight gain was reduced by 12%, feed intake by 5% and gain:feed by 8%. Chicks were reported to habituate to the shock over time. Effects of multiple concurrent stressors chicks was also studied using intermittent electric shock between 2.9 and 8.7 mA, ammonia, beak trimming, coccidiosis, heat stress and continuous noise as stressors. All stressors, except noise, decreased weight gain, feed intake and feed conversion efficiency. Performance results indicated that chicks responded to each stressor in the same fashion regardless of whether a stressor occurred singly or concurrently with up to five others.

Halvorsen (1989) reported on a field investigation of turkeys poults that experienced increased mortality. Alternating current voltage potentials of up to 2.5 V was detected between waterers and the floor. Reduction of voltage potentials was associated with resolution of the mortality problem. A series of experiments was subsequently conducted to determine the sensitivity of turkey poults to alternating current. It was concluded based on these experiments that the voltage levels measured at the farm did not cause the mortality experienced.

Villeneuve (1990) investigated the effects of both continuously applied voltages from 1 V to 9V in three separate experiments and randomly applied voltages from 3 V to 9 V in a fourth experiment. voltages were applied between the nipple drinker and the metallic cage on 30 hens laying hens per treatment. Each experiment lasted from 2 to 4 weeks. Up to 3 V of continuous exposure had no effect on laying rate, daily feed intake, or daily water intake. Exposures of up to 6 V also had no effect on laying rate but did influence feed and water behaviors at times but these differences were inconsistent and overall there was no effect of treatment. Randomly applied voltage of up to 9 V had no influence on laying rate, daily feed intake or daily water intake. The authors concluded that up to 9 V of continuous or randomly applied voltage does not impair egg production, and that the electrical resistance of hens from beak to foot was much higher than that of dairy cattle and pigs.

Vidali (1995; 1996) studied the effects of sinusoidal voltages applied between metallic nipple drinker and the metallic cage on 120 laying hens in 7 different experiments and chopped sinusoidal voltages on another group of 120 laying hens in 5 additional experiments. Neither sinusoidal nor chopped sinusoidal voltage differences as high as 18 V had an effect on the hens' production and behavior. The electrical resistance of 23- and 40-week-old hens was measured and found to vary between 350,000 and 544,000 Ohms.

Worley (2000a; 2000b; 2001) investigated concerns of poultry producers that the number of eggs that end up on floors and between slats rather than in nests may be related to voltage exposures. A field survey was done on 15 farms and reported that it was difficult to gauge the extent of the exposure problems because of the fluctuation in voltage levels. While there was no correlation between percent of floor eggs and the amount of voltage found, the author speculated that voltage may be a contributing factor to floor and slat egg problems. Subsequent experiments were performed in which mature and young hens were subjected to 0, 3, 6 or 9 V between slats and laying nests. These data indicated no difference in laying habits between any of the treatments and control pens, however all of the groups of hens (including the control groups) had a high incidence of laying eggs in locations other than the nest, indicating that factors other than the applied voltage may have been causing a floor egg problem.

3.19. Summary and Synthesis of Research

3.19.1. Compilation of Dairy Cow Responses to Current Dose

Figure 5 illustrates the combined results of studies on dairy cows in which an ascending series of 60 Hz current was applied through various body pathways until a behavioral response threshold was observed. These data were compiled from the following studies: Aneshansley, 1997, 1999; Craine, 1975; Currence, 1990; Gorewit, 1984; Lefcourt, 1982, 1986; Norell, 1985; Reinemann, 1995, 1996, 1999b, 2003b, 2003c; Whittlestone, 1975; Woolford, 1972; and represent 355 cows, in 15 separate experiments, by 9 research groups, across 31 years and two continents. The studies summarized in Figure 5 all verified that current flowing through an individual cow during the course of a series of tests in which the current dose was gradually increased until a pre-defined behavioral response was observed. These tests allow for the specification of response thresholds for individual animals. All of the response levels have been converted into equivalent 60 Hz rms steady state levels using relationships from measurement practice (e.g. 1 milliamp measured from zero-to-peak for a sinusoidal waveform = 0.707 mA rms) and from neuro-electric models with experimental verification (e.g. the response to a single cycle sinusoidal stimuli is equivalent to about 80% of the same waveform applied in a continuous or multiple cycle manner).

The green line in Figure 5 indicates a mild behavioral response noted by the researchers in those studies that were designed to determine this type of behavioral response threshold. The majority of these (from 10% to 90% of cows) fall between 3 and 8 mA of 60 Hz rms current with the 50th percentile just below 5 mA.

In some of these experiments, researchers increased the current exposures above the level required to achieve the first, mild behavioral response and recorded current level that produce stronger or more

pronounced behavioral responses. Many of the research groups noted rapid acclimation to the current levels just sufficient to produce subtle behavioral responses and increased current exposure levels in order to obtain a more repeatable (stronger or more pronounced behavioral) response. One study represented in this pronounced behavior group (Reinemann, 2003b) used involuntary muscle contraction was used as the response threshold when an ascending series of current was applied between muzzle and all hooves. The threshold of involuntary muscle contraction would be expected to occur at higher current does levels than the threshold of sensory stimulation. This threshold was chosen as being a more repeatable metric that the sensory response threshold for purposes of comparing responses to different current waveforms but was not judged to be painful to cows by trained observers. The sample of 125 cows represented by a discomfort behavioral response is indicated by the yellow line in Figure 5 with the 10% to 90% values spanning 4 mA to 9 mA and the 50th percentile at 6.5 mA.

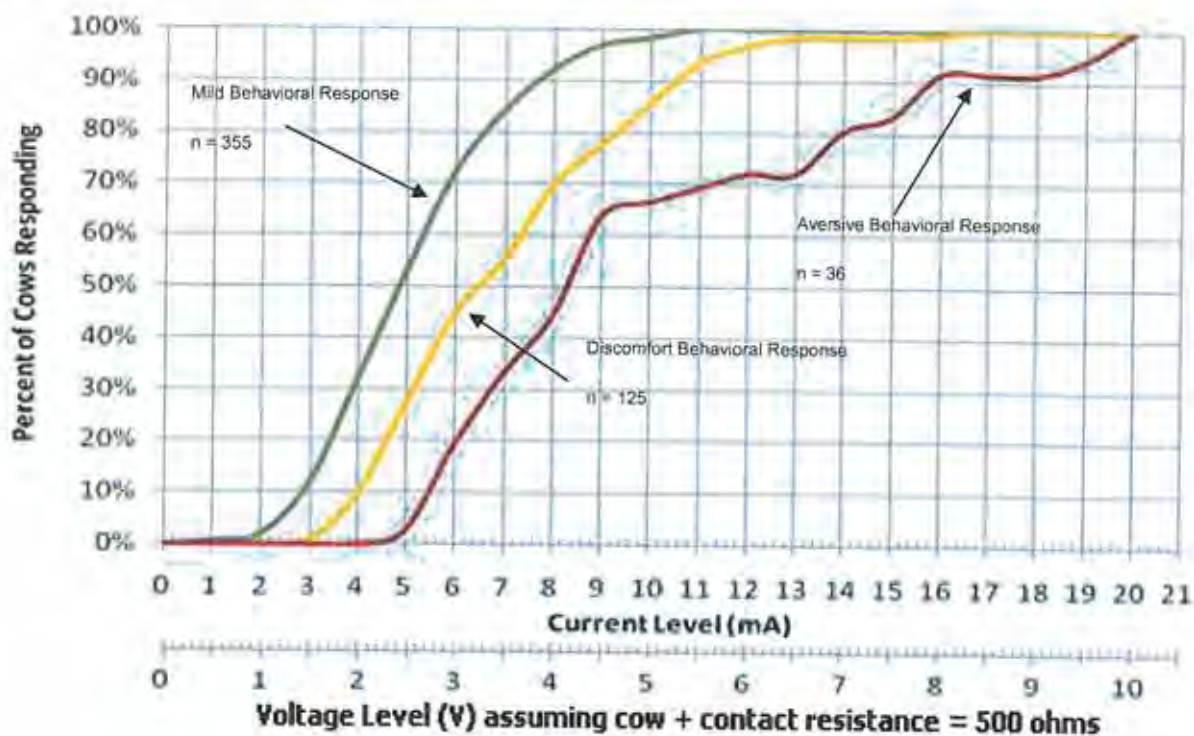


Figure 5. Summary of Behavioral Response thresholds for Dairy Cows exposed to ascending series of 60 Hz current exposures. Current is expressed in equivalent 60 Hz rms values.

Aversive response thresholds (stop drinking) and those studies in which researchers identified thresholds at which cows appeared to be in pain are indicated by the red line in Figure 5. This threshold has been documented by the least number of studies (36 cows) and fall in the range from about 5 mA up to 16 mA of current dose, with the 50th percentile just above 8 mA. The comparison of the 50th percentile values for these three response types give a good indication of the general relationship between sensation, motor response and annoyance, as is predicted by neuro-electric theory: first

behavior 5 mA, pronounced behavior 6.5 mA (or 1.3 times first behavior), aversion 8 mA (or 1.6 times first behavior).

Table 2. summarizes the experiments in which groups of cows were exposed to a constant current when attempting to eat or drink or during milking (depending on the specific experiment). The cows in these studies are not included in the summary presented in Figure 5 because an ascending series of current was not used to determine a response threshold. The individual responses of cows was also not generally reported in these studies, however, the researchers often noted the general pattern of responses (e.g. "some cows showed behavioral changes"). The experiments summarized in Table 2 represent over 260 cow tests (some cows were used in multiple experiments).

Table 2. Summary of experiments in which groups of cows were exposed to constant current stimulus when attempting to eat or drink, or during milking.

mA	Author	Year	# Cows	Exposure Pathway	Responses
1.0	Gustafson	1985	6	FH-RH on wet expanded metal plates	NC in hoof lifting (31% compared to 27% for control)
1.0	Gustafson	1985	6	Metallic mouth bit – AH on wet metal plates	NC in mouth Opening (7% compared to 8% for control)
1.0	Norell	1983	7	FH-RH on metal plates in water filled containers	NC in Hoof lifting (23% compared to 18% for control)
1.0	Norell	1983	7	Metallic mouth bit – AH on wet metal plates	Increased mouth opening (14% compared to 0% for control)
1.5	Gustafson	1985	6	Body (metal plate with gel) to AH on wet expanded metal plates	NC in behaviors (30% compared to 26% for control)
2.0	Gustafson	1985	6	FH-RH on wet expanded metal plates	NC in hoof lifting (24% compared to 27% for control)
2.0	Gustafson	1985	6	Metallic bit in mouth to AH on wet expanded metal plates	NC in mouth opening (18% compared to 8% for control)
2.0	Norell	1983	7	FH-RH on metal plates in water filled containers	NC in hoof lifting (25% compared to 18% for control)
2.0	Norell	1983	7	Metallic mouth bit – AH on wet metal plates	Increased mouth opening (30% compared to 0% for control)
2.5	Lefcourt	1986	7	Hock - Hock EKG patches	Mild Behaviors 2 of 7 cows. NC in heart rate, prolactin, glucocorticoids, epinephrine
3.0	Gustafson	1985	6	FH-RH on wet expanded metal plates	Increased hoof lifting (62% compared to 27% for control)
3.0	Gustafson	1985	6	Body (metal plate with gel) – AH on wet expanded metal plates	NC Behaviors (43% compared to 26% for control)
3.0	Gustafson	1985	6	Metallic mouth bit-AH on wet metal plates	Mouth Opening increased (42% compared to 8% for control)
3.0	Norell	1983	7	FH-RH on metal plates in water filled containers	Increased Hoof lifting (43% compared to 18% for control)
3.0	Norell	1983	7	Metallic mouth bit – AH on wet metal plates	Increased mouth opening (69% compared to 0% for control)
3.6	Lefcourt	1985	7	Hock-Hock EKG Patch, 5s on 25 s off during milking, 7 days	Some behavior change: NC in MY, milking time, or WMT; Oxytocin and Prolactin release delayed in some cows
4.0	Gorewit	1984	6	Udder-AH, during milking for 7 days	Some Behavior change: NC in MY or composition, peak milk flow, milking time, residual milk or SCC

4.0	Gorewit	1984	8	Sub-dermal spinal Electrode for 5 min. 6 times/day	Some Behaviors with acclimation, NC in MY, Milk composition, SCC, water or feed intake
4.0	Gorewit	1984	6	Sub-dermal Spinal Electrode before and during milking every other morning milking for 6 days	Increased heart rate and blood flow before milking but no effect on Heart rate and blood flow during milking
4.0	Gustafson	1985	6	FH-RH on wet expanded metal plates	Increased hoof lifting (66% compared to 27% for control)
4.0	Gustafson	1985	6	Metallic mouth bit-AH on wet metal plates	Increased mouth opening (60% compared to 8% for control)
4.0	Norell	1983	7	FH-RH on metal plates in water filled containers	Increased Hoof lifting (72%, compared to 18% for control, $p < 0.01$)
4.0	Norell	1983	7	Metallic mouth bit-AH, wet metal plates	Increased mouth opening (92% compared to 0% for control)
4.5	Gustafson	1985	6	Body (metal plate with gel) to 4 Hooves, wet expanded metal plates	NC in behavior (39% compared to 26% for control)
5.0	Aneshansley	1992	8	Copper Electrodes in teat cups to rear hooves on metal plate. During milking (L1 cows)	Behavioral Responses, NC in MY, composition or SCC; Reduced milking time
5.0	Gustafson	1985	6	FH-RH, wet expanded metal plates	Increased hoof lifting (84% compared to 27% for control)
5.0	Gustafson	1985	6	Metallic mouth bit-AH, wet metal plates	Increased mouth opening (74% compared to 8% for control)
5.0	Lefcourt	1982	5	Hock-Hock EKG Patch, before, during and after Milking	MY and milking time decreased with intermittent voltage, but not continuous voltage; NC in Oxytocin or catecholamine
5.0	Lefcourt	1986	7	Hock-Hock EKG Patch	7 of 7 cows show mild behaviors, NC in heart rate, prolactin, glucocorticoids, epinephrine
5.0	Norell	1983	7	FH-RH, on metal plates in water filled containers	Increased hoof lifting (97%, compared to 18% for control, $p < 0.01$)
5.0	Norell	1983	7	Metallic mouth bit - AH on wet metal plates	Increased mouth opening (98% compared to 0% for control)
5.0	Norell	1985	7	Muzzle pressing a metal plate - AH	Changes in Learned Behavior
6.0	Gustafson	1985	6	Body (metal plate with gel)- AH on wet expanded metal plates	Behavioral Change (49% compared to 26% for control)
6.0	Lefcourt	1985	6	Hock-Hock EKG Patch, 5s on 25 s off during milking, 7 days	1 cow could not be milked, behaviors in others; NC in MY, Milking Time, or WMT, Oxytocin and Prolactin release delayed in some cows
7.5	Gustafson	1985	6	Body (metal plate with gel) - AH on wet expanded metal plates	Behavioral Change (64% compared to 26% for control)
7.5	Lefcourt	1986	7	Hock-Hock EKG Patch,	7 of 7 cows show pronounced behaviors; NC in heart rate, prolactin, glucocorticoids, or epinephrine
8.0	Aneshansley	1992	8	Copper Electrodes in teat cups - RH on metal plate, During milking (ML)	Behavioral Responses, NC in MY, composition, SCC, or milking time
8.0	Gorewit	1984	6	Udder-AH, during milking for 7 days	Behavioral Responses, Slight increase in Cortisol and Oxytocin, NC in MY, Milking Time, Peak Milk Flow, Residual Milk, Protein, Fat, SCC
10.0	Lefcourt	1986	7	Hock-Hock EKG Patch,	2 of 7 cows show extreme behaviors, increased heart rate, epinephrine increased in 2 cows, NC in prolactin or glucocorticoids
12.0	Lefcourt	1985	3	Hock-Hock EKG Patch,, 5s on 25 s off during milking, 7 days	Extreme Behaviors in 3 cows, experiment stopped
12.5	Lefcourt	1986	7	Hock-Hock EKG Patch,	5 of 5 cows show strong behaviors

					increased heart rate, 2 of 2 cows increased epinephrine and glucocorticoids
<p>Notes: shading code: None = no change in behavior in any cows, Green = mild behaviors in some cows, Yellow = discomfort behavior in some cows, Red = aversion in some cows. NC = No Change, FH= Front Hooves, RH=Rear Hooves AH = All Hooves, L1 = 1st Lactation, ML = multiple Lactation, SCC = Somatic Cell Count, WMT = Wisconsin Mastitis Test. Prolactin is a hormone associated with lactation. Oxytocin, a similar hormone that triggers milk let-down. Glucocorticoids are hormones produced in the adrenal glands. Cortisol is the most important glucocorticoid that regulates a variety of important cardiovascular, metabolic, immunologic, and homeostatic functions. Catecholamines are hormones released by the adrenal glands in situations of stress, the most abundant of these are Epinephrine (Adrenaline), Norepinephrine and dopamine.</p>					

It is instructive to examine the group of behavioral responses that occurred below 2 mA of current dose. In an experiment by Lefcourt (1982) one cow showed a mild behavioral response to 0.7 mA of current applied to EKG patches from front to rear hocks on shaved areas of skin. It is possible that shaving of the contact areas resulted in a cut in the skin which would produce a current concentration and increased sensitivity. In one of the Norell (1983) experiments three of six cows changed plate pressing behaviors (muzzle to metal plate to receive feed) with an application of 1 mA on their first exposure to current applied in an ascending series of 0.25 mA increments (represented in Figure 5). In two subsequent exposures these cows did not change behaviors until currents of 2 to 3.5 mA were applied to the metal plate. In a second experiment by Norell (1983) cows were fitted with bits in their mouths and mouth opening was observed for 14% of the 50 exposures of 1 mA of current applied to 7 cows (Table 2). One cow out of a sample size of over 300 cows tested at the University of Wisconsin showed mild behavioral response to 1.4 mA of current applied to a metal clip in the cows' muzzle (represented in Figure 5). This study used subtle behaviors (eye blink, facial twitch) as a response threshold for current applied through a non-piercing nose clip. None of these were typical farm exposure condition. It is also possible that that a concentration of current may have occurred for these cows due to a small contact area on the muzzle plate, mouth bit or nose clip.

In summary, there may have been very few behavioral responses noted at levels between 1 mA and 2 mA of current dose, these have been for unusual exposure pathways, not typical of those occurring on farms. The vast majority of behavioral response thresholds have been documented to occur between current levels of 3 mA to 8 mA. The current levels at which the first subtle behaviors can be observed are unique to each animal and range by a factor of about 4:1 from the most sensitive to the least sensitive animal.

As the current flowing through an animal is gradually increased there is initially no response because the current density is insufficient to cause nerve stimulation. At some current threshold the action potential of sensory nerves is exceeded and mild behavioral responses can be documented by careful observation and comparison to control conditions. These mild behavioral responses would be difficult to detect in a farm setting as they would be exhibited by only a part any group of animals and would likely be lost in the normal behavioral modification from the many other stresses and group activities of farm animals. These mild behavioral reactions are not associated with changes in the physiological status of the animal (hormonal responses), do not produce aversive behaviors such as avoidance of water or feed consumption nor are they likely painful to the animal, but merely novel stimuli such as a tingling sensation.

As the current flowing through an animal is increased above the sensory nerve stimulation threshold the sensations produced by this externally applied electrical current increase in intensity and motor neurons begin to activate, resulting in involuntary muscle contraction (twitches). It is clear from the many studies done on cows and several studies done on swine and sheep that farm animals will develop adaptive strategies to deal with these stimuli which are likely experienced as moderately annoying at lower current levels and painful at higher current levels. For each individual cow the severity of behavioral response has been shown to increase as the current exposure is increased above this first response threshold and aversive behaviors occurring at levels about 1.5 to 1.6 times higher than this mild behavioral response threshold.

When animals are exposed to current levels that are capable of producing annoyance and aversion the resulting effects on farm operations depend upon the specific exposure locations and the time history of exposures. For example if the offending currents can only be accessed at locations that are not essential to daily animal activities, the effects are not likely to be important or perhaps not even observable because those animals who's individual annoyance sensitivity is exceeded will avoid this location or develop adaptive behaviors.

If the offending point of current exposure is present at some location that is necessary for the animals to make contact the responses depend on the timing of the current availability. For example, if the offending is only present for brief periods of the day (several voltage 'spikes') the result is likely to be minimal or non-existent. Animals that come into contact with annoying stimuli may be deterred from a positive motivator (food or water) for a short period but will resume normal behaviors quickly if the annoying stimuli are removed.

The most extreme response to electrical exposure will occur if the current flowing through the animal is of sufficient level to be painful and if the animals cannot avoid the offending current in the course of meeting their daily water or feed requirements. There are a number of studies which have documented delays in drinking behaviors which have been shown to occur at levels somewhat above behavioral response threshold levels and only in situations in which animals had no source of water other than the electrified location. Reduction in daily water or feed intake have also been documented but are evident only in similar forced exposure situations and at current levels above those required to produce delays in drinking or eating behaviors. This forced exposure may occur on a farm if the only source of water or feed has sufficient voltage difference between an animal contact point and the floor. The effects of this situation would be minimal or nonexistent if animal could meet their water or feed requirements in another location on the farm with lower electrical exposure levels. The application of a equipotential plane around animal waterers and feeding locations, as is required by electrical codes, is a simple electrical solution to minimize contact potentials (even when neutral voltage sources are considerable) at these critical locations on farms.

3.19.2. Compilation of Dairy Cow Responses to Constant voltage Exposures

Figure 6 illustrates the combined results of 28 tests on 11 cows in which an ascending series of 60 Hz voltage was applied through various body pathways until a behavioral response threshold was observed (Whittlestone, 1975; Lefcourt, 1982). There are many fewer data for this type of experiment as most

researchers quickly shifted from controlled voltage to controlled current exposures to characterize individual animal response thresholds in an attempt to improve repeatability of responses.

Most of the studies that used constant voltage exposure have report on group average rather than single animal responses but many of these studies give some indication behavioral responses. Table 3 presents a summary of experiments in which groups of cows were exposed to constant voltages while drinking, eating or during milking. Constant voltage exposure to groups of cows is more representative of exposure conditions encountered on a farm, in which voltage exposures are relatively constant but current dose will vary because of differences in cow body resistances and variations over time in contact resistances. Given the distribution of current sensitivities presented above, it would be expected that at moderate voltage levels some cows may show behavioral responses while others would not. Acclimation has also been noted by many researchers. This would manifest in a reduction in behavioral responses and aversion over time.

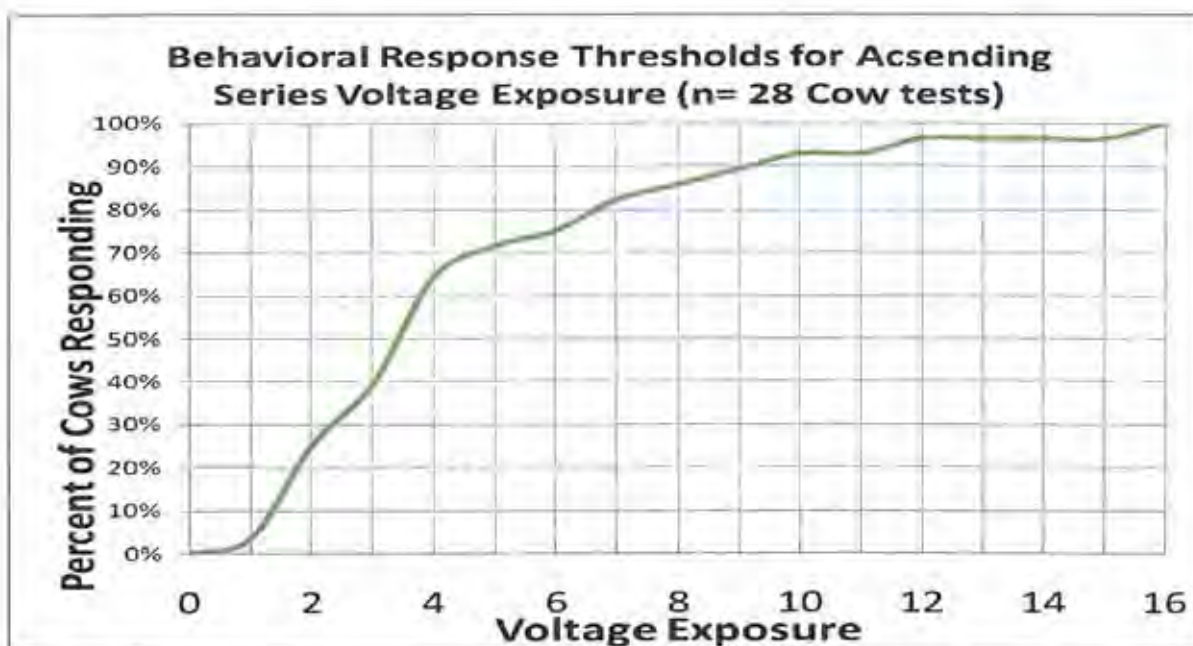


Figure 6. Summary of Dairy Cow Response Thresholds to Ascending voltage Series Exposure.

The data presented in Figure 6 is of limited value in establishing definitive response thresholds because these data represent a variety of exposure pathways, most not representative of farm conditions and relatively few cows. It is instructive to examine the responses that occurred below 2 V. Five of these were from an experiment by Lefcourt (1982) in which voltage was applied to EKG patches from front to rear hocks on shaved areas of skin. Another 2 cows were from the experiment by Whittlestone (1975) when voltage was applied between metal plates applied to cows' rumps with conductive gel. Neither of these conditions are representative of farm conditions.

A much large sample size is represented in the many studies in which groups of cows were exposed to constant voltages when attempting to drink or eat or during milking summarized in Table 3. These exposure conditions are more representative of farm conditions and represent over 800 cow tests (some cows were used in multiple experiments).

Table 3. Summary of experiments in which groups of cows were exposed to constant voltage when attempting to eat or drink, or during milking.

V	Author	Year	# Cows	Exposure Pathway and Duration	Responses
0.5	Gorewit	1989	6	Metallic Water Bowl to metal floor plate, 21 Days (0.6 to 1.3 mA)	No delay to drink, NC in daily water Intake, milk production or composition
1.0	Gorewit	1989	6	Metallic Water Bowl to metal floor plate, 21 Days (1.2 mA to 4.0 mA)	Delay to drink in some cows (average about 2 hrs), NC in daily water Intake, milk production or composition
1.0	Gorewit	1992	10	Metallic Water Bowl to FH on metal grid, full lactation	Delay to drink in some cows, NC in feed or water intake, SCC, MY or composition, health or reproductive performance
1.0	Gorewit	1997	4	Metallic Water Bow to FH on metal floor mats, 7 days	Unspecified delay to drink; NC in water or feed, MY or composition, SCC or <i>staph. aureus</i> infected quarters, blood chemistry, milk microbiology or cortisol.
1.0	Gorewit	1999	4	Metallic Water Bow to FH on metal floor mats, 7 days with <i>strep. uberis</i> mastitis challenge	NC in milk production, feed or water intake, SCC, milk fat or protein
1.0	Gumprich	1992	30	1 V morning and evening for 3 hrs each, 0.3 V other times of day from water bowl and stalls to metal grid at rear of stall, for 2 periods of one week each over 16 weeks	NC in behavior, daily milk production, milking time, water consumption, feed consumption, breeding, Increased milk fat
1.8	Southwick	1992	120	Switchback Farm Study, Maximum cow contact voltage measured waterline - floor	NC in water (although higher during exposure), milk production, SCC (although lower during exposure)
1.85	Craine	1975	30	Ascending 1.85 to 8 V water bowl – AH, 5 days (2-day recovery)	NC in water intake
2.0	Aneshansley	1992	7	Copper Electrodes in teatcups to RH on metal plate, During milking (L1)	NC in behavior, MY or composition, SCC or milking duration
2.0	Gorewit	1989	6	Metallic Water Bowl to metal floor plate, 21 Days (4.7 to 7.9 mA)	Delay to drink (average 3 hrs), NC in daily water Intake, MY or composition
2.0	Gorewit	1992	10	Metallic Water Bowl to FH on metal grid, full lactation	Delay to drink in some cows, NC in feed or water intake, SCC, MY or composition, health or reproductive performance
2.0	Gorewit	1997	4	Metallic Water Bow to FH on metal floor mats, 7 days	Unspecified delay to drink; NC in water or feed intake, MY or composition, SCC or <i>staph. aureus</i> infected quarters, blood chemistry, milk microbiology or cortisol.
2.0	Gorewit	1999	4	Metallic Water Bow to FH hooves on metal floor mats, 7 days with <i>strep. uberis</i> mastitis challenge	NC in milk production, feed or water intake, SCC, milk fat or protein
2.0	Rousell	2007	20	Metallic Feed Bowls to AH on metal floor plate (L1)	heifers performed muzzle-grooming (P<0.01) and head shaking
2.3	Rousell	2007	20	Metallic Feed Bowls to AH on metal floor plate (L1)	percentage feed eaten and time spent eating in the electrified feeder decreased

2.5	Gumprich	1992	30	water bowl and stalls to metal grid at rear of stall, 2.5 V morning and evening for 3 hrs each, 0.75 V other times of day from, for 2 periods of one week each over 16 weeks	NC in behavior, MY or composition, water or feed consumption, or breeding; 12 second longer milking time
3.0	Craine	1975	70	Free choice of Watering Devices with 0 V, 3 V, 6 V, or 8 V	Waterer nearest the cows always had highest water consumption regardless of voltage, average at 3-V waterer was 20% lower than control
3.0	Gorewit	1989	20	Metallic Water Bowl to metal floor plate, 2 Days (5.1 to 8.7 mA)	Average delay to drink 4 hrs; NC in daily total water intake
3.0	Rousell	2007	20	Metallic Feed Bowls to AH on metal floor plate (L1)	heifers changed more quickly to the non-electrified feeder
4.0	Aneshansley	1992	7	Copper Electrodes in teat cups to RH hooves on metal plate, During milking (L1)	Behavior changes, NC in MY or composition, SCC or milking duration
4.0	Aneshansley	1992	8	Copper Electrodes in teat cups to RH on metal plate, During milking (ML cows)	NC in behavior, MY, SCC or milking duration, 0.1% increase in Protein
4.0	Craine	1975	30	Ascending 1.85 to 8 V water bowl – AH, 5 days (2-day recovery)	Water suppression, gallons per drink increased, resumed normal drinking during the 2-day recovery period
4.0	Gorewit	1989	20	Metallic Water Bowl to metal floor plate, 2 Days (6.4 to 11.8 mA)	Average delay to drink 8 hrs; NC in daily total water intake
4.0	Gorewit	1989	6	Metallic Water Bowl to metal floor plate, 21 Days (5.5 to 12.1 mA)	2 Cows did not drink for 36 hrs and removed, Remaining cows average delay to drink about 8 hours, NC in daily total water, 7.5% decreased feed in 1 cow
4.0	Gorewit	1992	12	Metallic Water Bowl to FH on metal grid, full lactation	1 Cow and 1 heifer did not drink for 36 hrs and were replaced, Remaining 10 cows drank after some delay; NC in feed or water intake, MY or composition, SCC, health or reproductive performance
4.0	Gorewit	1997	4	Metallic Water Bow to FH on metal floor mats, 7 days	Unspecified delay to drink; NC in water or feed intake, MY or composition, SCC or <i>staph. aureus</i> infected quarters, blood chemistry, milk microbiology or cortisol;
4.0	Gorewit	1999	4	Metallic Water Bow to FH on metal floor mats, 7 days with <i>strep uberis</i> mastitis challenge	NC in MY, feed or water intake, SCC, milk fat or protein
5.0	Gorewit	1989	22	Metallic Water Bowl to metal floor plate, 2 Days (8.6 to 15.2 mA)	2 heifers did not drink for 36 hours and were replaced; remaining 20 cows showed Average delay to drink 8 hrs; NC in daily total water intake
5.0	Gumprich	1992	30	5 V morning and evening for 3 hrs each, 0.75 V other times of day from water bowl and stalls to metal grid at rear of stall, for 2 periods of one week each over 16 weeks	Reduced water intake and residual effect on milk production; NC in milking time, milk composition, feed consumption, or breeding
6.0	Craine	1975	30	Ascending 1.85 to 8 V water bowl – AH, 5 days (2-day recovery)	Water suppression, gallons per drink increased, resumed normal drinking during the 2-day recovery period
6.0	Craine	1975	70	Free choice of Watering Devices with 0 V, 3 V, 6 V, or 8 V	Waterer nearest the cows always had highest water consumption regardless of voltage, average water at 6-V waterer 66%

					lower than control
6.0	Gorewit	1989	22	Metallic Water Bowl to metal floor plate, 2 Days (9.2 to 17.4 mA)	2 heifers did not drink for 36 hours and were replaced; remaining 20 cows showed Average delay to drink 10 hrs; NC in daily total water intake
7.0	Craine	1976	30	Ascending 1.85 to 8 V water bowl – AH, 5 days (2-day recovery)	Water suppression, gallons per drink increased, resumed normal drinking during the 2-day recovery period
8.0	Aneshansley	1992	7	Copper Electrodes in teat cups to rear hooves on metal plate, During milking (L1 cows)	Behavior changes, NC in MY or composition, SCC or milking duration
8.0	Aneshansley	1992	8	Copper Electrodes in teat cups to RH on metal plate, During milking (ML cows)	Behavior changes, NC in MY or composition, SCC or milking duration
8.0	Craine	1975	70	Free choice of Watering Devices with 0 V, 3 V, 6 V, or 8 V	Waterer nearest the cows always had highest water consumption regardless of voltage; average water at 8 V waterers was lower than the control.
8.0	Craine	1977	30	Ascending 1.85 to 8 V water bowl – AH, 5 days (2-day recovery)	Discontinued after 1 day, many cows refused to drink.
16.0	Aneshansley	1992	8	Copper Electrodes in teat cups to RH on metal plate. During milking (ML cows)	Behavior changes, NC in MY or composition, SCC or milking duration

Notes: Response shading code: **None** = no change in behavior in any cows, **Green** = mild behaviors in some cows, **Yellow** = more pronounced behavior with delays to drink in some cows, **Red** = Strong aversion in some cows. **NC** = No Change, **FH** = Front Hooves, **RH** = Rear Hooves, **AH** = All Hooves, **L1** = 1st Lactation, **ML** = multiple Lactation, **SCC** = Somatic Cell Count, **WMT** = Wisconsin Mastitis Test. **Prolactin** is a hormone associated with lactation. **Oxytocin**, a similar hormone that triggers milk let-down. **Glucocorticoids** are hormones produced in the adrenal glands. **Cortisol** is the most important glucocorticoid that regulates a variety of important cardiovascular, metabolic, immunologic, and homeostatic functions. **Catecholamines** are hormones released by the adrenal glands in situations of stress, the most abundant of these are **Epinephrine (Adrenaline)**, **Norepinephrine** and **dopamine**.

The highest voltage exposures required to produce a behavioral response is in excess of 15 V. The vast majority of behavioral responses have been noted between 1 V and 8 V. It is instructive to further examine those studies that found behavioral modification at 1 V exposure levels. These were a series of studies performed at Cornell University in which the voltage was applied between a metallic water bowl and a metal plate on the floor in contact with cow's front hooves when drinking. The researchers noted mild behavioral modification of some delay to drink on the first day of voltage exposure but these mild behavioral responses were not shared by all cows and were not sufficient to alter the total daily water consumed by cows.

These studies were repeated several times with exposures of 1 V, 2 V and 4 V applied from water bowl to front hooves on a metal plate for varying amount of time ranging from several days up to a full lactation (305 days). It is clear from these repeated studies that mild behavioral responses were evident on the first day of exposure at the 1 V groups for some cows. As the voltage levels increased to 2 V more cows began to show behavior modification, and at 4 V the behavioral modification became again more apparent. There were several cows at the 4 V exposure level and several cows exposed to 6 V that refused to drink for 36 hours and were removed from the study. These cows represent only a small percentage of all cows tested and it was only at levels of 4 or 6 V that these dramatic aversions

occurred. Most cows adapted to these exposure levels in a way that did not change their total daily water consumption even on the first day of exposure.

3.19.3. The Solution to Contact Resistance

The combined data from constant voltage exposures representing over 850 cow tests and constant current exposures representing over 750 cow tests provides useful input to the problem of contact resistance. The vast majority of behavioral responses occur between current doses of 2 and 10 mA and between voltage exposures of 1 and 8 V. This implies a range real-world cow + contact resistance between 500 Ohms and 1000 Ohms as estimated by the authors of USDA handbook 696 (1991). There are a limited number of behavioral responses reported in the Cornell studies at 1 V exposure when the contact points were a metallic water bowl and metal plate in contact with cow's front hooves (that may have been wet because of its proximity to the water bowl). Spot checks of current delivered in these studies indicated that cow+contact resistance ranged between 250 Ohms (likely at those times in which the foot contact resistance was reduced to a negligible value on a clean, wet controlled metal plate) and 830 Ohms (likely at those times when the foot contact resistance was increased to a value in the range of 250 ohms for a dry metal plate and/or some debris present on the plate). The average cow + contact resistance in these spot checks was about 500 Ohms.

It is instructive to compare responses to the multiple Cornell studies that used 1 V, 2 V, and 4 V exposures to the New Liskeard Study that used exposures of 1 V, 2.5 V and 5 V continuously with periods of elevated voltages. The New Liskeard study used a more typical concrete contact surface for cow's rear hooves. They did not observe changes in the cows' behavior, feed consumption or production at the 1 V and 2.5 V exposure levels. They did observe some changes in the water and feeding behaviors at the 5 V exposure level but did not report the extreme aversion of a few cows refusing to drink for 36 hours as noted in the Cornell studies at the 4 V exposure level. This is consistent with higher cow+contact resistance and lower current dose produced by the more realistic concrete floor surface used in the New Liskeard studies compared to the metal plate used in the Cornell studies.

The results of the combined current dose response experiments, voltage exposure response experiments, and measurements of body and contact resistances is also consistent with the lowest (worst case) cow + contact resistance as low as 500 Ohms as estimated by the authors of USDA handbook 696 (Lefcourt, 1991) that may occur in some unusual situations on farms (firm application of the muzzle to a wet metallic watering device and hoof contact on a clean, wet, contoured metallic plate on the floor).

These studies on responses of dairy cows to electrical exposure agree well with each other and with predictions from neuro-electric theory and practice. There is a high degree of repeatability across studies in which exposures and responses have been appropriately quantified.

3.19.4. Animal Health and Production

Several studies have documented changes in animal productivity (dairy cow milk production, swine weight gain) but only as a result of current exposures well above those required to produce behavioral modification and only in forced exposure conditions. Likewise there have been some studies that have

documented increases in stress hormone levels in animals but these have occurred in only some animals and only at extreme exposure levels that also produce extreme behavioral responses.

The several studies that have been done to examine direct physiological responses at current exposure levels below the behavioral response threshold (Reinemann, 1999a; Sheffield, 2003). These studies were designed to examine a fundamentally different type of exposure than the relatively short duration exposures that might occur when animals are eating, drinking, being milked, or being moved between building transitions. The premise in these studies was that cows immune function might be affected by continuous exposure to low level voltage and current as might be produced by currents flowing in the earth; the hypothesis presented by the Minnesota Science advisors. In both of these studies, current was applied from front to rear hooves for 12 to 24 hours per day for periods of 2 or 3 weeks. The current dose in both of these studies was 1 mA, which was chosen to be below the behavioral response threshold for any cow (and indeed no behavioral responses were observed) but 100 to 1000 times higher than would be generated by currents flowing in the earth. In the first of these studies (Reinemann, 1999a) one of 13 response variables was statistically significant but did not appear to be entirely consistent with other observations. And physiological experts concluded that, collectively, these results suggest that exposure to 1 mA of 60 Hz electrical current for two weeks had no significant effect on immune function of dairy cattle.

In the second study (Sheffield, 2003) used a new technique to measure a several thousand gene expression responses to 1 mA of current exposure for 3 weeks. There were possible changes in 3 parameters, however, the researcher noted that most measures were not affected, suggesting that those that were could be Type I errors, due to the large number of hypotheses tested. To put this possible response in context, a recent study on gene expression in cows Moyes (2008) found that mastitis infection resulted in 2,104 differentially expressed genes. Sheffield (2003) concluded that these studies suggest that electrical impacts on immune function are of relatively small impact compared with infection and inflammation. Any effects observed appear to affect only a small subset of immune system regulators, compared with most disease processes, which affect a wider spectrum of regulators. As a result, impacts of electrical exposure on animal health and disease is likely to be difficult to detect reliably, particularly without examining large populations, and would therefore be undetectable on commercial farms.

Controlled research clearly indicates that while it is possible to induce physiological changes in dairy cows as the result of electrical exposures, these responses occur at exposure levels well above those that produce behavioral changes. The extensive field data collected by the PWSC (2007) provides further confirmation of these experimental results.

4. voltage/Current Sensitivity by Contact Location and Animal Type

4.1. Exposure at watering devices

Farm animals' Contact with watering devices has been the most widely studied area of stray voltage exposure. Water intake is essential for animal productivity and health. Metallic water pipes are required by electrical codes to be bonded, or electrically connected, to the grounded neutral system of a farm. This connection to the grounded neutral system provides a path for fault current in the event that an energized or 'live' wire comes into contact with metal pipes. This fault path allows the circuit breakers to activate and de-energize the faulted wire to prevent the risk of electrocution. This connection also provides a conduit for neutral voltage to access watering devices. Watering devices are therefore one of the more likely points of contact between farm animals and neutral to earth voltage.

4.1.1. Contact pathways and risk reduction

The watering device provides one contact point to the animals' mouth or muzzle. The resistance of this contact point is quite variable depending on the specific type or watering device. For example, in a large concrete tank from which cows can drink without making physical contact with the concrete, the contact resistance is quite high, as water is a relatively poor conductor of electricity. When drinking from a metallic water bowl, typical of a tie-stall or stanchion barn application, a large area of a cow's muzzle must make firm contact with a large metallic paddle in order to start the flow of water into the bowl. The contact resistance in this scenario is quite low. There are other types of watering devices that have intermediate muzzle contact resistance such as heated waterers that may use a float to control water levels. Some watering devices are made of plastic which is also a relative poor conductor of electric current.

The second contact point at watering locations is usually the floor surrounding the watering device. The contact resistance of this surface will be influenced by the type of flooring (usually concrete), the amount and type of debris that may be present on the floor and the wetness of the floor. The experiments that have been done using used flooring conditions designed to minimize this contact resistance (a clean, wet metal plate with some contouring to clean hooves and provide points of high pressure to facilitate a low resistance electrical connection) that it has not been possible to maintain this low resistance continuously and during the course of a day this contact resistance ranged from a few Ohms up to several hundred Ohms (Gorewit, 1992). Experiments that have been done using a more normal concrete floor have indicated that this contact resistance typically ranges between several hundred and several thousand Ohms depending mainly on the amount of water and/or urine standing on the floor surface.

The 'worst case' or lowest resistance value for the contact resistance recommended by the authors of USDA handbook 696 is about 150 Ohms. This combined with that average cow body resistance from muzzle to 4 hooves provides a cow + contact resistance of 500 Ohms. This value is supported well by experimental evidence and is a reasonable value to use for cow + contact resistance at watering devices. Exposure risks can be reduced by:

- Using watering devices that do not required firm contact with grounded metallic components, or using non metallic watering devices
- Avoid the use of electric heating elements in watering devices if possible.
- Provide an equipotential plane around watering devices containing electrified and/or electrically conductive materials, as required by electric codes.
- Providing good drainage around watering devices to avoid standing water and urine on floor surfaces
- Provide several watering locations that are easily accessible to animals in the event that voltage exposures are excessive at one of the watering locations.

4.1.2. Symptoms of exposure and other causes of these symptoms

The primary symptoms of stray voltages at watering are changes in drinking behaviors. Mild changes in drinking behaviors, such as reduced number of drinks per day and longer interval between drinks have been documented in several studies. These changes in behavior may not be sufficient to affect total daily water intake. More severe aversions have also been observed at extreme levels of voltage/current exposure resulting in depressed daily total water intake and in some cases refusal to drink for an entire day.

Experiments have shown that when given free choice, cows show a preference to warmed water over cold water (ground water temperature) which may be perceived as an avoidance of the cold water locations. There are a number of other sensory differences that may incline cows to show a preference to one watering location rather than another, which may be perceived as avoidance of that alternate source. Avoidance of watering locations could also be due to unpleasant tastes or smells, however, the powerful drive to drink will normally overcome all but the most foul of tastes.

Lapping or playing at a watering device has been attributed to stray voltage exposure, but no controlled study has ever confirmed this behavior in the presence of voltage/current exposure. Cows may demonstrate avoidance or modified drinking behaviors in response to group dominance challenges. Cows have been shown to develop what may appear to be unusual behaviors as a way to cope with stressors such as confinement and for many other unknown reasons.

There are well developed experimental techniques to establish cause and affect relationships between a specific stimulus and a specific behavior or avoidance. It is very difficult to establish these relationships on an operating farm unless careful measurement of behaviors is done and sources variability and confounding effects are controlled for.

4.1.3. voltage/Current Sensitivity levels

Cattle

Mild behavioral modification would be expected at current levels of 2 mA for the most sensitive dairy cows, 5 mA for 50% of cows, and about 8 mA for the least sensitive cows. Using a worst case cow+contact resistance of 500 Ohms at poorly drained, wet locations surrounding watering devices, this corresponds to voltage exposure levels from 1 V for the most sensitive, 2.5 V for 50% of cows and 4 V for the least sensitive cows. While these levels have been well documented for dairy cows, it is expected

that they would also apply to beef cattle. In well designed, constructed and managed facilities in which higher contact resistances are more typical this would correspond to voltage exposure levels of 2 V for the most sensitive cows, 6 V for 50% of cows and 8 V for the least sensitive cows.

Short term avoidance behaviors, which may result in short term depression of milk production, would be expected at about 3 mA for the most sensitive cattle (1.5 to 3 V), 7.5 mA (3.8 to 7.5 V) for 50% of cattle and 12 mA (6 to 12 V) for the least sensitive cattle. Reduction in water intake and resulting decreases in milk production would only be expected if there were no other source of water than that which applied this level of current during drinking and if the current dose were consentient enough during the course of a day so that cows could not fulfill their water needs during periods of low exposure.

Swine

Kennedy (1995) found that gilts adapted avoidance behavior within 10 minutes of contact with an electric fence. Drinking behavior changes were reported at levels of 3.0 mA (Gustafson, 1986) and at 5 V (Robert, 1992). Continuous exposure to 5 V with Intermittent exposure to 8 V produced some behavioral changes but did not change water intake (Goodcharles, 1993). Short term reduction in water intake has been observed at levels of 4.0 mA (Gustafson, 1986), and 8 V (Robert 1992) but that exposure up to 8 V did not impair the welfare, reproductive performance, or health of sows and suckling pigs (Robert 1996). The body + contact impedance of 12 pigs has been measured as 1031 Ohms on wet metallic flooring and 3041 Ohms on dry metallic flooring (Matte, 1992). Research thus suggests swine adapt to voltage exposure in a similar way to cattle behavioral modification in the range of 5 V in swine with avoidance behaviors at exposures of 8 V. The body + contact resistance for swine appears to be somewhat higher than for cows and 1000 Ohms appears to be a conservative value for measurement purposes.

Sheep

Ewes began to avoid electrified feed bowls when exposure levels exceeded 5.5 V (Duvaux-Ponter 2005). Lambs showed this same preferential behavior when exposure levels exceeded 5 V (Duvaux-Ponter, 2006). Neuro electric principles suggest that the current sensitivity of sheep is lower than for cows, but that their body resistance is higher than cows. Both of these would be expected because of their smaller body mass. The results from Duvaux-Ponter (2005, 2006) confirm that voltage exposure sensitivity for sheep are about twice those for cows. Future studies will provide better information on current sensitivity and body + contact resistance value.

Poultry

Exposures to voltages as high as 18 V had no effect on the hens' production and behavior. This is likely due to the very high electrical resistance of poultry which has been documented to be between 350,000 and 544,000 Ohms

4.2. Exposure at feeding devices

There have been relatively few studies that have specifically examined animal responses to voltage exposure at feeding devices. Notable in the literature are the recent studies performed in France by Roussel (2007) in which Holsteins showed preference for non-electrified feed bowls when exposures

exceeded 2.3 V, and by Rigalma (2007) in which behavioral modification (but not feed reduction) was noted at exposure levels of 3.3 V. These studies indicate that dairy cows have similar sensitivity to feeding exposures as to drinking exposures; however, the feed bowls used in these studies were not typical of those used in farm practice as they were specifically chosen to be small enough and deep enough so that cows would make contact with the electrified surface when eating.

While there are many ways in which feed is delivered to animals, it is relatively uncommon to have feeding devices that require animals to come into direct contact with metallic or conductive elements in order to obtain feed. Feeding locations also pose less of a risk because both mouth and floor contact resistances are typically higher than for watering locations because both are dryer and covered with a high resistance, dry feed or feed debris. Situations in which feed is placed on a concrete floor (feed manger) are unlikely location for problems because, even if an equipotential plane has not been purposefully installed, conductive elements are almost always present in concrete creating at least a partial equipotential plane in some areas of the barn.

The primary symptoms associated with voltage exposures at feeding locations would be the same sorts of avoidance behaviors produced by excessive voltage present at watering locations. These behaviors may be very difficult to observe in situations in which animals have free choice of several feeding locations and/or large feed mangers. The behaviors would be more apparent for situations in which animals had only one feeding location, as may occur for swine.

4.3. Exposure during milking

Several studies have been done on behavioral responses to voltage/current exposure during milking. Voltage exposures are less likely to occur for dairy cows in milking parlors than at drinking locations because the metallic components of milking parlor stalls are more likely to be bonded to conductive elements in concrete floors and the floors are more likely to contain a substantial number of conductive elements. This will act to reduce both touch and step potentials.

The milking machine has been shown to be a very unlikely pathway for problematic current flow because of the very large resistance values of the milk hose and milking machine components. Milking machine components, including the long and short milk tubes, long and short pulse tubes and milking liners are good electrical insulators. The mixture of milk and air in milk tubes also has relative high resistance resistances making milk hose resistance in the range of 30,000 Ohms to 80,000 Ohms (Gustafson, 1983) depending on the milk flow rate. Several studies have documented these resistance values and the unlikely path of voltage/current exposure through the milking machine unless source voltages are well in excess of those commonly considered stray voltage, up to hundreds of V for 60 Hz and thousands of V for high frequency sensing pulses.

Cows are not required to make muzzle contact with any metallic components during milking, except in the uncommon situations in which feed might be provided during milking. The contact resistance through a pathway that includes dairy cow's coat is much higher than for muzzle contact resistance because it is drier and hair covered, thus making stall to floor potentials of less concern than water bowl potentials.

Current sensitivity levels are similar for udder-hooves pathways as for muzzle-hooves pathways but cow+contact resistance values are typically higher. A cow + contact resistance value of 1000 Ohms or more is appropriate for milking machine exposure estimation. There are numerous behavioral symptoms associated with cow's unease during milking due to fear of operators, unfamiliar surroundings or aggressive or faulty milking machine settings. Very careful measurement technique and comparison with a negative control condition would be required to differentiate electrical exposures from the many other causes of behavioral modification during milking in a field situation.

4.4. Exposure at building transitions

Step potentials may occur at building transitions where animals are walking onto concrete floors or walking from one section of floor to another which are not electrically bonded by an equipotential plane. Cows are somewhat more sensitive to single hoof-single hoof exposures than to muzzle-to-all-hooves exposures

The contact points for this exposure is from front to rear hooves. The same considerations for hoof contact resistance as was discussed in the feeding exposure section apply here. If floors are well drained and contain organic debris, the hoof contact resistance can be considerable. Cows have been shown to be slightly more sensitive to currents applied from one front to one rear hoof than for muzzle-all-hooves pathway because of the concentration of current in one hoof.

The symptoms of step potential exposure would likely be cows' hesitation to cross budging entrances, exits, or transitions. The discomfort associated with step potentials less than 10 V would not cause most cows to completely avoid the transition but could cause balking at the transition and/or rapid passing through the transition. The author had a report of a milking parlor that had in excess of 50 V at the entrance to the milking parlor. The reported behavioral modification was cows hesitating at the entrance and then 'jumping' into and out of the parlor. There were no apparent effects on milk yield or milking performance, likely because cows had developed adaptive behaviors to avoid undue stress from voltage/current exposure and once the cows were inside the relatively well bonded milking parlor the step potential was eliminated.

There are also a number of other reasons that animals might hesitate to enter or leave a building or move from one part of a building to another including; changes in light levels, shadows on the floor that may appear as obstacles, exploration of a new environment, identification of dominant herd mates and changes in temperature or ventilation levels.

The consequences of a step potential at a building transition are not likely as problematic for animal performance as similarly annoying exposures at watering devices. This exposure pathway is much less of a concern with beef cattle, swine, sheep and poultry that typically stay in the same housing area during the day, than for dairy cows that are moved 2 or 3 times per day to a different building location for milking. Beef cattle are less likely to be housed in buildings that have a concentration of electrical equipment.

5. Mitigation Measures

The source of stray voltage is a voltage that is developed on the grounded neutral wiring network of a farm and/or the electric power delivery system. The magnitude of the voltage source is a product of the current flowing on the neutral system and the resistance of that neutral system. Grounding is provided to keep the voltage potential between the neutral system and the ground below levels that could be harmful to people or animals. Neutral-to-earth, or stray voltage sources can therefore be reduced in three fundamental ways:

- reduce the current flow on the neutral system,
- reduce the resistance of the neutral system, or
- Improve the grounding of the neutral system

Equipotential planes are effective in eliminating contact potentials even if substantial levels of neutral-to-earth voltage are present.

The first step in a competent stray voltage investigation is to determine the major sources of neutral-earth voltage. Any major faults or code violations in the wiring system that could pose an electrocution hazard or are a major source of neutral to earth voltage should be corrected immediately. If the wiring systems (farm and utility) are operating correctly then the above three actions can be assessed to determine which is most practical, safe and efficient way to reduce neutral-earth voltage.

5.1. On-Farm Mitigation Measures

The quality of the farm wiring system has the largest single influence on voltage exposure levels. Farm wiring has been shown to be a major contributor to voltage sources on farms (PSCW, 2007) and equipotential planes provide effective voltage reduction even when voltage sources are considerable.

5.1.1. Farm Wiring

Farm wiring codes are designed to protect the safety of both humans and animals from electrocution and also reduce the level of neutral voltage developed on a farm. The first step in reducing neutral voltage on a farm is to ensure that wiring practices conform to electrical codes. Electrical codes are designed to limit the voltage developed on neutral wires by properly sizing these wires for the intended load. Neutral currents can be reduced by balancing 120 V loads and converting 120 V equipment to 240 V equipment whenever possible. Making good electrical connections and making sure that these good electrical connections are maintained by the proper choice of wiring materials for wet and corrosive locations will reduce the resistance of the grounded neutral system and thereby reduce neutral to earth voltage levels.

5.1.2. Equipotential Planes

Equipotential planes are part of electrical code requirements in animal confinement areas. They are especially important in areas surrounding electrically heated waterers and watering devices that have

conductive elements that are part of the farms grounded neutral system (see section on exposures at watering devices). Equipotential planes reduce exposure from both on-farm and off-farm sources of contact voltage. Every new animal confinement building should be fitted with an equipotential plane. Retrofitting equipotential planes into existing floors can be difficult and expensive but is an effective way to reduce voltage exposures. While the first priority for minimizing stray voltage is to reduce the neutral voltage source, equipotential planes provide substantial exposure reductions and also provide 'insurance' in the event of a fault (broken wire, corrosion or loose connection) that could produce a substantial neutral voltage source.

5.1.3. On farm isolation, Filters, and voltage Suppression

There are a number of devices that have been developed to be installed on farms to reduce animal contact voltages. These technologies usually act to provide isolation or partial isolation of a farmstead or to actively cancel neutral voltages by the application of a 'negative' voltage. These devices can be expensive to install and have not enjoyed a large market penetration. This may be because while some of these devices do reduce contact voltages, they are rarely needed if farm wiring conforms to electric codes. Improving the quality of farm wiring is almost always a less expensive and safer way to reduce neutral voltages than the addition of special voltage reduction devices. These special devices also require additional testing and maintenance to ensure that they remain effective.

5.2. Utility Mitigation Measures

5.2.1. Distribution Wiring

Distribution sources of neutral voltage can be reduced by;

- Reducing neutral current (increasing distribution voltage and balancing 3-phase loads)
- Reducing neutral resistance (Improving the quality of connections and increasing conductor size)
- Improving neutral grounding

A thorough investigation and engineering analysis will provide a determination of whether the distribution line is operating according to its intended design and estimate of the magnitude of neutral-to-earth voltage reduction from each of these measures.

5.2.2. Neutral Isolation

Neutral isolation acts to decouple the distribution neutral system from the farm neutral system. Neutral isolation does not directly act to reduce neutral-to-earth voltage sources. Neutral isolation may change the relative magnitude of neutral-to-earth voltage appearing at different parts of the farm and distribution system and must be exercised with caution.

Neutral isolation does not directly act to reduce neutral-to-earth voltage sources. Neutral isolation will reduce off-farm sources of neutral-to-earth voltage from accessing animal contact points if, and only if, the off-farm sources are a substantial contribution to the animal contact voltage/current. The on-farm and off-farm neutral systems are normally connected and situations can arise in which an off-farm

source of neutral-to-earth voltage is acting to reduce an on-farm source of neutral-to-earth voltage. In these situations, neutral isolation can act to increase animal contact voltage/current on the farm. Neutral isolation also removes grounding from both the farm and utility distribution system. Care must be taken to ensure that both systems are adequately grounded when their interconnection is severed. The effects of neutral isolation on a distribution system depend on the number of services that are isolated relative to the total number of services on the feeder.

5.3. Mitigating Other Sources

Voltage sources from other utility services such as phone lines, water lines and gas lines can be transported to farms by interconnection with farm grounding systems. These grounding connections can also form a parallel path across isolation devices, rendering them ineffective. The procedures for mitigating these uncommon voltage sources are to identify the specific source voltage and a careful inspection and correction of grounded neutral networks.

6. Regulatory Approaches and Guidelines to Reducing the Impact of Stray voltage on Farm Operations

Several states have conducted scientific and technical reviews and held public hearings to address concerns and inform public policy on stray voltage issues. Some States have adopted regulations dealing with stray voltage while others have developed multi-agency and stakeholder groups to develop guidelines and standard practices. Following is a brief summary of the regulatory approaches and/or guidelines adopted by several states in the USA.

6.1. Wisconsin

The State of Wisconsin has a well established inter-agency cooperative program headed by the Rural Electric Power Services Program (formerly Stray voltage Program) jointly administered by the Public Service Commission of Wisconsin and the Wisconsin Department of Agriculture, Trade and Consumer Protection with research and educational support provided by the faculty from the University of Wisconsin-Madison and the University of Wisconsin Cooperative Extension service. These activities have resulted in the development of standardized measurement protocols and a long series of educational programs and publications. Public Service Commission of Wisconsin (PSCW) has also conducted several public hearings and investigations that have resulted in orders that define and regulate stray voltage.

Docket 05-EI-106 defines stray voltage is a special case of voltage in which the neutral to earth voltage is present across points (generally grounded metal objects) in which a current flow is produced when an animal comes into contact with them. These contact points can include any two conductive points which the animal may simultaneously contact to complete a circuit which allows current to flow. PSCW also adopted standardized tests and measurements to screen for the presence of stray voltage and to diagnose the source. The PSCW ordered the utilities to use these specific, standard tests and no others. The PSCW concluded that a specific testing protocol was necessary in order to:

1. provide a consistent systematic analysis which can readily be documented and duplicated,
2. avoid needless controversy over whether an adequate analysis was performed or whether the nature of the tests were valid, and
3. To best recognize the various interests of [all] parties working on a stray voltage analysis.

The standardized tests and measurements are set forth in the 106 Order. In the 106 Order, the PSCW established a level of concern for stray voltage in Wisconsin. The level of concern is the point at which the average cow's behavior may be adversely affected. The level of concern is expressed in mA (mA), the unit of measurement for current. As previously noted, stray voltage is the voltage difference between points. However, it is actually the current flowing through the animal that affects it and, therefore, the Commission finds that the level of concern should be stated in mA measurement unit of current flow.

In Docket 05-EI-115 the PSCW updated its earlier decisions about stray voltage and its effects on cows. In the 115 Order, the PSCW modified the level of concern in Wisconsin to take into account a customer's contribution of stray voltage. The level of concern in Wisconsin for stray voltage is 2 mA of current flowing through a cow. This level of concern is a conservative, preventative level and is well below

where a cow's behavior or milk production would be harmed. In its Ultimate Findings of Fact in the 115 Order, the PSCW found that the level of concern for stray voltage that the Commission established in docket 106 is extremely conservative, because only one percent of cows perceive the presence of 1.0 mA of electrical current.

Reasonable regulation for Wisconsin, a dairy state, is to set a stray voltage level of concern at a conservative, preventative level that is below the point where moderate avoidance behavior is likely to occur. A conservative, preventative level of concern in Wisconsin is 2.0 mA of AC RMS 60 Hz current, steady state. This level of concern is well below where a cow's behavior or milk production would be harmed.

Stray voltage can occur from both on-farm and off-farm sources, so it is reasonable to apply the 2.0 mA level of concern as an overall standard that includes both sources. It is also reasonable to split this 2.0 mA overall level of concern equally between the utility and the farmer. The utility's level of concern is therefore 1.0 mA, for stray voltage from off-farm sources, and the farmer's level of concern is 1.0 mA, for stray voltage from on-farm sources. If the utility's contribution of stray voltage exceeds 1.0 mA, the utility must reduce its contribution to 1.0 mA or below. If the stray voltage from on-farm sources exceeds 1.0 mA, the Commission recommends that the farmer improve the farm wiring, grounding or equipment or take other measures to reduce the level from these sources below 1.0 mA.

In the 115 Order, the PSCW determined that stray voltage measurements should be made using a 500 ohm resistor to approximate a cow's actual resistance. Using a 500 ohm resistor in the testing protocol is conservative, because it calculates stray voltage levels that equal or exceed the actual amount of current a cow in the barn would experience.

The PSCW relied on, and found persuasive, the United States Department of Agriculture's Effects of Electrical voltage/Current on Farm Animals, Agricultural Handbook No. 696: December 1991. In the 115 Order, the PSCW issued these Ultimate Findings of Fact concerning the Handbook:

- A scientific consensus exists about the effects of stray voltage.
- The major work published on this subject is the USDA Handbook.
- The conclusions in the USDA Handbook are still shared today by all of the authors.
- Figure 4 (in this document) from USDA Handbook 696 shows research results about the effect of steady state, 60 Hz current passing through a cow. This Figure indicates that 1 mA is the lowest threshold at which the most sensitive cows perceive the presence of electricity. Stray voltage at this level has no effect on milk production.
- Currents up to 4.0 mA do not appear to inhibit the milk ejection reflex, depress milk production significantly, or increase the incidence of mastitis or other diseases of the cow.
- Above 6.0 mA, a cow's behavioral response can become severe and the loss in milk production may be due to changes in the animal, such as increased stressed hormone levels.

Long-term and on-farm experiments conducted after the publication of the USDA Handbook confirm the Handbook's conclusions. The USDA Handbook's conclusions are reasonable and remain valuable today.

The level of concern set forth in the 115 Order applies to earth currents and ground currents. For a cow to be affected by electricity, current has to flow through the cow. The level of concern of 2.0 mA of current flowing through a cow applies regardless of the source of the current.

In Docket 05-EI-108 the PSCW investigated the effects of electromagnetic fields, direct currents, and ground currents on dairy cows. Earth currents are an inherent, inevitable, and unavoidable result of a multi-grounded neutral distribution system. On normally operated grounded wye distribution systems, both ground current and earth current will flow as a result of voltages on the grounding system. The Minnesota PUC had already established a scientific advisory panel and the PSCW worked with the PUC on that study and concurred with their conclusions (see below).

The PSCW also maintains an extensive database of on-farm stray voltage investigations that dates from 1989. Data from over 8000 first time on-farm investigations from investor owned utilities and electric cooperatives. These data were collected using a standardized measurement protocol developed by the PSCW which quantifies the highest level of animal-contact current on the farm, the contribution from on-farm and off-farm sources as well as many other electrical and herd production data.

6.1. Michigan

The State of Michigan's Public Service Commission defines a preventative action level as a steady state animal contact current that meets or exceeds 2 mA RMS using a nominal 500 ohms resistor at 60 Hz from all sources, including off-premises and on-premises sources.

Measurement Methods: The level of animal contact current shall be determined from measurements of animal contact voltage using Ohm's Law. The voltage measurement shall be made between 2 points, which an animal can simultaneously contact and under which animal contact voltage is most likely to occur. When measuring from the floor or earth, a single metallic plate with an area of 12 to 16 square inches shall be used to simulate the foot of the animal. One lead of the measuring instrument shall be connected to the plate, which shall be placed on the floor or earth where an animal may stand. The other lead of the measuring instrument shall be connected to a conductive object that an animal could reasonably contact while 1 of its feet is at the location of the plate. For all measurements of animal contact voltage a shunt resistor shall be used to simulate the resistance of the animal. A suitable material, such as a medical grade electrode contact gel, shall be used to simulate real conditions and maintain conductivity to the floor or earth for the duration of the testing period.

Action required to mitigate animal contact current: If the steady state animal contact current from all sources as measured by the utility in accordance with this rule meets or exceeds the preventive action level, and if the utility contribution exceeds 1 mA RMS, then the utility shall commence action within two business days, or at a mutually agreed upon time frame between the complainant and the utility, to reduce the utility contribution to 1 mA or less.

Further sections detail procedures for: Request for an investigation, Appointment of Experts, Request for a contested case hearing, Protocol to evaluate utility contribution.

6.3. Vermont

Scruton (2003) reported that in 1994 the legislature held hearings and a program was initiated with the Public Service Board, Public Service Department, Vermont Department of Agriculture, Food and Markets, The University of Vermont and Vermont Utilities. Utilities agreed to test all farms for stray voltage. Neutral isolation devices are installed, at the utilities' expense when neutral to earth voltage in excess of 0.5 V are encountered. If less than 0.5 V are found, the utility may install an isolator; or voltages will be monitored for a sufficient period to ensure that voltage does not exceed the 0.5 V threshold.

6.4. Idaho

In March 2005 the Idaho Legislature passed the Stray Current and voltage Remediation Act requiring the Idaho Public Utilities Commission to promulgate stray voltage rules. The Idaho Public Utilities Commission (IPUC) has developed Stray voltage Rules composed of four Major Sections:

- Qualifications of persons analyzing stray voltage data
- Calibration and standards of recording equipment
- Six stray voltage tests and data collection forms
- Analyzing data and conducting remediation actions, if required

The IPUC has accepted the following definitions of Stray Current and voltage as:

- a) Any steady state, sixty (60) hertz (Hz) (including harmonics thereof) root mean square (rms) alternating current (AC) less than twenty (20) mA through a five hundred (500) ohm resistor (i.e. shunt resistor) connected between cow contact points, as measured by a true rms meter; or
- b) Any steady state, sixty (60) Hz (including harmonics thereof), rms AC voltage of less than ten (10) V, across (in parallel with) a five hundred (500) ohm resistor (i.e. shunt resistor) connected between cow contact points, as measured by a true rms meter.
- c) Stray current and voltage is a normal, inherent and unavoidable result of electricity traveling through grounded electrical systems, including a dairy producer's on-farm system and a utility's distribution system. These systems are required by the National Electrical Code (NEC) and the National Electrical Safety Code (NESC) to be grounded to the earth to ensure safety and reliability.
- d) Unless the context otherwise requires, the term stray voltage shall mean stray current or stray voltage.

6.5. Minnesota

The Minnesota PUC assembled a team of Science Advisors study farmers' claims that electric currents in the earth from electric distribution systems caused behavior, health, and production problems in cows

in Minnesota. The Science Advisors were a multidisciplinary group with expertise in the fields of agricultural engineering, animal physiology, biochemistry, electrical engineering, electrochemistry, epidemiology, physics, soil science and veterinary science. The Science Advisors to the Minnesota PUC issued its Final Report to the Minnesota PUC in July 1998. In its Final Report, the Science Advisors to the Minnesota PUC reached three conclusions:

1. We have not found credible scientific evidence to verify the specific claim that currents in the earth or associated electrical parameters such as voltages, magnetic fields and electric currents, are causes of poor health and milk production in dairy herds.
2. At the present time there is no basis for altering the PUC approved standards by which electric utilities distribute power onto or in the vicinity of individual dairy farms.
3. There are many well-documented non-electrical factors that are known and accepted by the scientific community, and by most farmers as well, to cause dairy cow health and production problems. Among the most noteworthy stressors are poor nutrition, poor cow comfort and hygiene, and low or no use of vaccinations and related preventive veterinary practices. Those who want to improve performance of dairy herds should always address these factors.

6.6. New York

The New York State Stray voltage Committee was formed in the early 1980's as a forum for utility risk management personnel to share information about existing or potential litigation on 'stray voltage' (28). New York investor owned utilities shared experiences, solutions and research funded by the Stray voltage Research Council. In 1993 efforts were directed to neutral isolation devices for cable television and underground telephone services due to the expansion of cable television into traditionally agricultural areas and electric utilities found itself at odds with cable and telephone policies on bonding and grounding. The expertise of Cornell University was requested to develop a standardized test procedure and to outline required tests and test methods and allow the utilities to formalize the procedures based on their internal work rules. At this time the Empire State Electric Energy Research Council also funded additional research on 'the effects of transients and multiple stresses on dairy cows'. The New York State Stray voltage Committee continues to disseminate information and work with Cornell University, local, state, and federal agencies on stray voltage issues so that problems can be avoided rather than perpetuated.

6.7. Pennsylvania

The Pennsylvania State University began a research project for the Pennsylvania Department of Agriculture (PDA) in February 2001 to examine stray voltage issues on PA dairy farms (161). Based on the initial project findings a second project proposal was funded in 2002 to develop an interdisciplinary approach to respond to farmers' stray voltage concerns. This study found that less than 10% of investigations found stray voltage levels high enough to affect cow behavior. The author notes that while the instances that stray voltage directly affects animal performance is infrequent, the resources that farmer and utilities spend chasing stray voltage are significant, and that misinformation and

misdiagnoses of stray voltage and its symptoms are expensive to both farmers and utilities. The following steps were recommended:

1. Establish a statewide stray voltage task force with representatives from utilities, state government, extension, farm organizations, veterinarians, equipment suppliers, nutritionists and other service providers.
2. Establish a standard protocol for stray voltage investigation.
3. Establish a minimum threshold for mitigation.
4. Public and private collaboration on a multidisciplinary response to stray voltage complaints.
5. Education.

The final conclusions of the stray voltage committee were that it is in the best interest of utilities and farmers to accurately diagnose and identify problems that can be associated with stray voltage. For utilities, repeat service calls, customer dissatisfaction and litigation can all be the result of an unhappy farmer. For farmers, believing that stray voltage is the issue when it is not is costly because it delays solving the real problem.

Bibliography

- Albright, J. L., et al. (1991) Dairy farm analysis and solution of stray voltage problems. *Agri Practice*. 12(3)23-27
- Aneshansley, D. J., et al. (1990) Complex electrical impedance of cows: measurement and significance. ASAE Annual International Meeting Technical Paper. No. 90-3509
- Aneshansley, D. J., et al. (1992) Cow sensitivity to electricity during milking. *Journal of Dairy Science* 75(10)2733-2741
- Aneshansley, D. J., et al. (1995) Holstein cow impedance from muzzle to front, rear and all hooves. ASAE Annual International Meeting Technical Paper. No. 95-3621.
- Aneshansley, D. J., et al. (1997) Aversive Response of Dairy Cows to voltages/Currents on Waterers at Frequencies of 60 Hz and Above. ASAE Annual International Meeting Technical Paper. No. 97-3109
- Aneshansley, D. J., et al. (1999) Sensitivity of Holsteins to 60 Hz and Other Waveforms Present on Dairy Farms. ASAE Annual International Meeting Technical Paper. No. 99-3152: 13.
- Aneshansley, D. J. (2003). Stray voltage Research at Cornell University. NRAES: Stray voltage and Dairy Farms Conference Proceedings.
- Appleman, R. D., et al. (1985) Source of stray voltage and effect on cow health and performance. *Journal of Dairy Science* 68(6): 1554-1567.
- Appleman, R. D., et al. (1987) Production record analysis of dairy herd response to neutral isolation. ASAE Annual International Meeting Technical Paper: 12; 8 ref.
- Bergsten, C, et al. (1992) The Cleanliness of Cows Tied in Stalls and the Health of Their Hooves as Influenced by the Use of Electric Trainers. *Preventive Veterinary Medicine* 13(4): 229-238, 17 ref.
- Boandl, K. E., et al. (1989) Effects of Handling, Administration of a Local Anesthetic, and Electrical Dehorning on Plasma Cortisol in Holstein Calves. *Journal of Dairy Science* 72(8): 2193-7.
- Bossut, D. F. B., et al. (1986) Electro acupuncture-induced analgesia in sheep: measurement of cutaneous pain thresholds and plasma concentrations of prolactin and beta-endorphin immunoreactivity. *American Journal of Veterinary Research* 47(3): 669-676.
- Cavani, C., et al. (1994). Effects of electric fences on pasture utilization and productive performances in dairy ewes. *Progressi scientifici e tecnologici in tema di patologia e di allevamento degli ovini e dei caprin*. Societa Italiana di Patologia e di Allevamento degli Ovini e dei Caprini.
- Cloud, H. A., et al. (1987) Stray voltage problems with dairy cows. NCR Extension publication 125.
- Cook, M. A., et al. (2003) Stray voltage Database Synopsis: Wisconsin's Experience with Stray voltage and its Mitigation. NRAES: Stray voltage and Dairy Farms Conference Proceedings.
- Craine, L. B. (1975). Effects on mammals of grounded neutral voltage from distribution power lines. IEEE Rural Electric Power Conference.
- Currence, H. D., et al. (1990) Dairy cow and human sensitivity to short duration 60 Hertz currents. *Applied Engineering in Agriculture* 6(3): 349-353; 11 ref.
- Cutshaw, J. L., et al. (1990) Transcutaneous Electrical Nerve Stimulation of the Teat Does Not Activate Neuronal Pathways that Suppress Gonadotropin Release in Cows. *Journal of Animal Science* (abstract). 68(Suppl. 1)176.
- Dewes, H. F., et al. (1989) The detection and measurement of stray electrical leakages on dairy farms: effects on performance. *New Zealand Veterinary Journal* 37(3): 117-121; 19 ref.
- Dewes, H. F. (1997) Tech Report on stray voltage and effects on New Zealand farm dairies. Dairy Energy Programme, ECNZ, Hamilton, New Zealand.
- Domanski, E., et al. (1992). The dynamics of beta-endorphin release by the hypothalamic nuclei and pituitary gland in sheep under physiological and stress condition. *Experimental and Clinical Endocrinology* 99(1): 39-44.

- Domanski, E., et al. (1989). Effect of stress on the course of oestrous cycle and the release of luteinizing hormone; the role of endorphin in these processes. *Acta Physiol Pol.* 40(1): 64-73.
- Domanski, E., et al. (1986). Differential Behavioural and Hormonal Responses to Two Different Stressors (Footshocking and Immobilization) in Sheep. *Experimental and Clinical Endocrinology* 88(2): 165-172.
- Duvaux-Ponter, et al. (2005). Determination of a Stray voltage Threshold Leading To Aversion in Sheep. *International Society for Applied Ethology.*
- Duvaux-Ponter, et al. (2006). It Is Possible To Define The Aversiveness Threshold Of Stray voltage When Animals Are Allowed To Avoid It. *International Society for Applied Ethology.*
- Edmister, R. S. (2003). A Brief History of the New York State Stray voltage Committee. *NRAES: Stray voltage and Dairy Farms Conference Proceedings.*
- Eriksen, S. (1984). Stray voltage in Danish stables. *Laekstrom i danske stalde.: Laekstrom i danske stalde. Dansk Veterinaertidsskrift.* 67: 1233-1236. ill.
- Eyrich, H. and K. Zeeb (1989). Influence of the Cow Trainer on Oestrus in Dairy Cows. *Kuratorium Fuer Technik Und Bauwesen in Der Landwirtschaft, KTBL Schrift.*
- Fick, R. J. and T. C. Surbrook (1996). A Review of Stray voltage Research. *Extension Bulletin E-2606., Michigan Agricultural Electrical Council and Michigan State University Extension.*
- Godcharles, L., et al. (1993). Transient stray voltage: is it detrimental to growth performance, health status and welfare of market pigs? *Veterinary Research Communications* 17(1): 41-53; 26 ref.
- Gorewit, R. C. and D. J. Aneshansley (1999). Effects of steady state voltages on mastitis. *ASAE Annual International Meeting Technical Paper.* no. 99-3151.
- Gorewit, R. C. and D. J. Aneshansley (1997). Effects of Steady State voltages on Holstein Cows with Histories of Subclinical Mastitis. *ASAE Annual International Meeting Technical Paper.* no. 93-7110: 15.
- Gorewit, R. C., et al. (1992b). Effects of voltages on cows over a complete lactation. 2. Health and reproduction. *Journal of Dairy Science* 75(10)2726-2732: 2726-2732; 5 ref.
- Gorewit, R. C., et al. (1992a). Effects of voltages on cows over a complete lactation. 1. Milk yield and composition. *Journal of Dairy Science* 75(10): 2719-2725.
- Gorewit, R. C., et al. (1989). AC voltages on water bowls: effects on lactating Holsteins. *Journal of Dairy Science* 72(8)2184-2192: 2184-2192; 22 ref.
- Gorewit, R. C. and N. R. Scott (1986). Cardiovascular responses of cows given electrical current during milking. *Journal of Dairy Science* 69(4)1122-1127.(4): 1122-1127.
- Gorewit, R. C., et al. (1985). Responses of dairy cows to alternating electrical current administered semi randomly in a non-avoidance environment. *Journal of Dairy Science* 68(3)718-725: 718-725, 8 ref.
- Gorewit, R. C., et al. (1984). Effects of electrical current on milk production and animal health. *ASAE Annual International Meeting Technical Paper.* No. 84-3502: 20.
- Graves, R. E. and T. H. Wilson (2002). Stray voltage Issues in Pennsylvania. *ASAE Annual International Meeting Technical Paper.* no. 02-3118.
- Gregory, N. G. and S. B. Wotton (1994). Effect of Electrical Stunning Current on the Duration of Insensibility in Hens. *British Poultry Science* 35(3): 463-465.
- Gumprich, P. S. (1992a). Stray voltage Effects on Dairy Cattle, *New Liskeard College of Agricultural Technology.*
- Gumprich, P. S. (1992b). Stray voltage effects on dairy cattle. *Highlights of Agricultural and Food Research in Ontario.* 15(3): 20-24.
- Gumprich, P. S. and L. Giesen (1993). Stray voltage effect on somatic cell count of dairy cows. *NMC: National Mastitis Council, Proceedings.*
- Gustafson, R. J. (2003). Stray voltage Overview. *NRAES: Stray voltage and Dairy Farms Conference Proceedings.*

- Gustafson, R. J., et al. (1986). Electrical Current Sensitivity of Growing/Finishing Swine for Drinking. Transactions of the ASAE 29(2) 592-596.
- Gustafson, R. J., et al. (1985). Behavioral studies of dairy cow sensitivity to AC and DC electric currents. Transactions of the ASAE 28(5)(5): 1680-1685.
- Gustafson, R. J., et al. (1983). Electrical resistance of milking system components. Transactions of the ASAE 26(4): 1218-1221.
- Gustafson, R. J., et al. (1980). Neutral-to-earth voltages in dairy facilities: 2 case studies Effect on cows. ASAE Annual International Meeting Technical Paper: 19.
- Gustafson, R. J., et al. (1988). Dairy cow sensitivity to short duration electrical currents. ASAE Annual International Meeting Technical Paper. no. 88-3522: 21.
- Halvorson, D. A., et al. (1989). The effects of stray voltage on turkey poults. Avian Diseases 33(3): 582-585; 6 ref.
- Hartsell, D., et al. (1994). The Effects of Ground Currents on Dairy Cows: A Case Study. Bovine Practitioner. 28: 21-28.
- Hendrickson, R. C. and J. W. Patoch (1998a). AC earth current on dairy farms. ASAE Annual International Meeting Technical Paper. no. 98-3002: 18; 5 ref.
- Hendrickson, R. C. and J. W. Patoch (1998b). Electrical environment on 17 dairy farms. ASAE Annual International Meeting Technical Paper. no. 98-3001: 12.
- Hendrickson, S. R., et al. (1990). Occurrence of Neutral-to-Earth (N-E) voltage in the cow contact area and its relationship to milk production on randomly selected Wisconsin dairy farms: field survey. ASAE Annual International Meeting Technical Paper. no. 90-3507: 18.
- Hendrickson, S. R., et al. (1991). Occurrence of Neutral-to-Earth voltage in the Cow Contact Area and Its Relationship to Milk Production on Randomly Selected Wisconsin Dairy Farms. NMC: National Mastitis Council, Proceedings.
- Henke-Drenkard, D. V., et al. (1985). Milk production, health, behavior, and endocrine responses of cows exposed to electrical current during milking. Journal of Dairy Science 68(10)2694-2702
- Heyde, H. v. d., et al. (1995). Electrical tensions on farrowing house equipment. Transactions of the ASAE 38(2): 611-615.
- Hillman, D. (2003). Relationship of Electric Power Quality to Milk Production of Dairy Herds. ASAE Annual International Meeting Technical Paper. Paper No. 033116.
- Hultgren, J. (1989). Cows and electricity: Biological interaction and effects on cow behaviour, health and production of stray voltage, electric cow-trainers and high-voltage transmission lines. Faculty of Veterinary Medicine, Department of Animal Hygiene, Swedish University 69.
- Hultgren, J. (1990). Small electric currents affecting farm animals and man: a review with special reference to stray voltage. II. Physiological effects and the concept of stress. Veterinary Research Communications 14(4): 299-308.
- Hultgren, J. (1991). A Preliminary Study of Behavioural Methods for Assessing the Influence of Electric Cow-Trainers on Animal Health. Veterinary Research Communications 15(4): 291-300.
- Hultgren, J. (2001). Observational and Experimental Studies of the Influence of Housing Factors on the Behaviour and Health of Dairy Cows. Uppsala, Swedish University of Agricultural Sciences. Ph.D.
- Kambic, H. E., et al. (1993). Influence of AC and DC Electrical Stimulation on Wound Healing in Pigs: A Biomechanical Analysis. Journal of Investigative Surgery 6(6): 535-543.
- Kennedy, M. J., et al. (1995). A behavioural and physiological study of the responses of inexperienced gilts to electric fencing. 29th International Congress of the International Society for Applied Ethology Proceedings.
- Kirk, J. H., et al. (1984). Stray voltage on Michigan dairy farms. Journal of the American Veterinary Medical Association 185(4): 426-428; 7 ref.

- Klastrup, O. and J. F. Agger (1984). Stray voltage (laekstrom). [in cowsheds]. Dansk Veterinaertidsskrift. 67: 1228-1232. ill.
- Kuchel, T. R. (1990). Physiological and Biochemical Consequences of Electro-immobilisation in Conscious Sheep. Australian Veterinary Journal 67(2): 33-38.
- Lee, C., Prayaga, K., Reed, M., Henshall, J. (2007). Methods of training cattle to avoid a location using electrical cues. Applied Animal Behaviour Science 108(3-4): 11.
- Lefcourt, A. M. (1982). Behavioral responses of dairy cows subjected to Controlled voltages. Journal of Dairy Science 65(4)672-674: 672-674.
- Lefcourt, A. M. (1991). Effects of electrical voltage/current on farm animals. How to detect and remedy problems. USDA Handbook 696, U.S. Dept. of Agriculture, Washington, D.C., USA.
- Lefcourt, A. M. and R. M. Akers (1982). Endocrine responses of cows subjected to controlled voltages during milking. Journal of Dairy Science (abstract). 65, Suppl. 1: 177.
- Lefcourt, A. M., et al. (1985). Effects of intermittent electrical shock on responses related to milk ejection. Journal of Dairy Science 68(2)391-401(2): 391-401; 39 ref.
- Lefcourt, A. M., et al. (1986). Correlation of Indices of Stress with Intensity of Electrical Shock for Cows. Journal of Dairy Science 69(3)833-842.: 833-842.
- LeMire, S. D., et al. (1997). Dairy Cattle Drinking Behavior and Stray voltage Exposure. ASAE Annual International Meeting Technical Paper. no. 97-4012: 10.
- Malven, P. V., et al. (1984). Effects of naloxone and electroacupuncture treatment on plasma concentrates of LH [luteinizing hormone] in sheep. Journal of Endocrinology 101(1)75-80: 75-80.
- Martin, M. J. D., et al. (1989). Electric Shock Conditioning of Sheep to Avoid Feed Supplement Troughs in Field Investigations of Diet Supplementation. Australian Rangeland Journal 11(1): 44-46.
- Matte, J. J., et al. (1992). Factors affecting the electrical impedence of growing-finishing pigs. Canadian Agricultural Engineering 34(2): 189-193; 18 ref.
- Matte, J. J., et al. (1992). Stray voltage: Factors Affecting the Current Perceived by Growing Finishing Pigs. Journal of Animal Science 70 Suppl. 2: 170, Abstract 134.
- McFarlane, J. M. and S. E. Curtis (1988). Research Notes: System for Exposing Chicks to Experimental Intermittent Electric Shock. Poultry Science 67(12): 1791-1793.
- McFarlane, J. M., et al. (1989). Multiple Concurrent Stressors in Chicks: 1. Effect on Weight Gain, Feed Intake and Behavior. Poultry Science 68(4): 501-509.
- Morris, J. P. et al. (1997). Pain-related cerebral potentials in response to acute painful electrical stimulation in sheep. Australian Veterinary Journal 75(12): 883-886; 12 ref.
- Moyes, K. M. et al., (2008). Gene expression networks in bovine mammary tissue during a s. uberis intramammary infection challenge. Paper presented at the 2008 Annual meeting of the NMC.
- MPSC (2006). In the matter, on the Commission's own motion to consider the implementation of standards or other remedial measures relating to stray voltage. Michigan Public Service Commission.
- MPUC (1998). Final Report of the Science Advisors to the Minnesota Public Utilities Commission: Research Findings and Recommendations Regarding Claims of Possible Effects of Currents in the Earth on Dairy Cow Health and Milk Production. July 31,1998. Minnesota Public Utilities Commission.
- Norell, R. J., et al. (1983). Behavioral studies of dairy cattle sensitivity to electrical currents. Transactions of the ASAE 26(5): 1506-1511. ill.
- Pascoe, P. J. and W. N. McDonnell (1986). The noxious effects of electro-immobilization in adult Holstein cows: a pilot study. Canadian Journal of Veterinary Research 50(2): 275-279.
- Pehrson, B. (1992). The ban on the Use of Cow Trainers Must be Lifted for the Benefit of the Animals. Svensk Veterinartidning 44(15): 653-655, 5 ref.

- Phillips, D. S. M. (1962). Production of Cows May Be Affected by Small Electric Shocks From Milking Plants. *New Zealand Journal of Agriculture* 105: 221-25.
- Polk, C. (2001). Cows, Ground Surface Potentials and Earth Resistivity. *Bioelectromagnetics* 22(17-18): 7-18.
- Przekop, F., et al. (1984). The Effect of Prolonged Stress on the Oestrous Cycles and Prolactin Secretion in Sheep. *Animal Reproduction Science* 7(4): 333-342.
- Przekop, F., et al. (1990). Suppressive effect of beta-endorphin and naloxone on the secretion of cortisol under stress conditions in sheep. *Exp Clin Endocrinol* 95(2): 7.
- Przekop, F., et al. (1985). Changes in circadian rhythm and suppression of the plasma cortisol level after prolonged stress in the sheep. *Acta Endocrinol (Copenh)* 110(4): 6.
- PSCW (1989). Investigation on the Commission's Own Motion Into the Practices, Policies and Procedures concerning Stray voltage for Electric Distribution Utilities in Wisconsin: 75.
- PSCW (1996). Findings of Fact, Conclusion of Law, and Order 05-E1-115. PSCW Staff Report, Public Service Commission of Wisconsin. PSCW (2006). Electricity and You, Public Service Commission of Wisconsin.
- PSCW (2007). Stray voltage Data Update: The Latest Statistics from the PSCW Database. P. S. C. o. Wisconsin.
- Quigley, T. M., et al. (1990). Livestock control with electrical and audio stimulation. *Rangelands* 12(3): 152-155.
- Reilly, J. P. (1994). Transient current effects in stray voltage exposure: biophysical principles and mechanisms. ASAE Annual International Meeting Technical Paper. no. 94-3594: 21.
- Reilly, J. P. (1998). Applied Bioelectricity: from Electrical Stimulation to Electropathology. 563.
- Reinemann, D. J., et al. (2005). Water, Feed and Milk Production Response of Dairy Cattle Exposed to Transient Currents. *Transactions of the ASAE* 48(2).
- Reinemann, D. J., et al. (2004). Comparison of Dairy Cow Aversion to Continuous and Intermittent Current. *Transactions of the ASAE* 47(4): 1257-1260.
- Reinemann, D. J., et al. (2003a). Milking Performance of Dairy Cows Subjected to Electrical Current and Induced Milking Machine Problems. *Transactions of the ASAE* 45(3): 833-838.
- Reinemann, D. J., et al. (2003b). Sensitivity Testing Results: EPRI PEAC Sponsored Pulsed Current Impact Assessment Tests, University of Wisconsin-Madison.
- Reinemann, D. J., et al. (2003c). Comparison of Behavioral and Physiological Response of Cows Exposed to Electric Shock. *Transactions of the ASAE* 46(2): 507-512.
- Reinemann, D. J., et al. (1999a). Immune Function Response to Low-Level Electrical Current Exposure, Part III. Dairy Cow Response to Electrical Environment: Final Report to the Minnesota Public Utilities Commission.
- Reinemann, D. J., et al. (1999b). Dairy cow sensitivity to short duration electrical currents. *Transactions of the ASAE* 42(1): 215-222
- Reinemann, D. J., et al. (1996). Dairy Cow Sensitivity and Aversion to Short Duration Transient Currents. ASAE Annual International Meeting Technical Paper. no. 96-3087.
- Reinemann, D. J., et al. (1995a). Response of Dairy Cattle to Transient voltages and Magnetic Fields. *IEEE Transactions on Industry Applications*, 4: 708.
- Reinemann, D. J., et al. (1995b). Water, Feed and Milk Production Response of Dairy Cattle Exposed to Transient Currents. ASAE Annual International Meeting Technical Paper. no. 95-3276.
- Reines, R. S., M. A. Cook, et al. (1998). Putting stray voltage in perspective: the Wisconsin experience revisited. ASAE Annual International Meeting Technical Paper. no. 98-3004: 15; 4 ref.
- Rigalma, K., et al. (2007). Influence Of An Unpredictable Stressor On Behavioural And Physiological Responses Of Experienced Or Naïve Holstein Heifers. *International Society for Applied Ethology*.

- Rigalma, K., et al. (2008). Influence of predictability and past experience on behavioural and physiological responses to stray voltage in Holstein heifers [Influence de la prévisibilité et de l'expérience sur les réponses comportementales et physiologiques de génisses Holstein à l'application d'une tension électrique parasite]. *Rencontres Recherches Ruminants*, No. 14.
- Robert, S., et al. (1991). Effects of continuous stray voltage on health, growth, and welfare of fattening pigs. *Canadian Journal of Veterinary Research* 55(4): 371-376, 22 ref.
- Robert, S., et al. (1992). Stray voltage: its influence on swine production during the fattening period. *Canadian Journal of Animal Science* 72(3): 467-475; 26 ref.
- Robert, S., et al. (1994). Stray voltage: effects of voltage frequency, floor materials and wetness on electric currents through swine. *Canadian Agricultural Engineering* 36(1): 37-43; 19 ref.
- Robert, S., et al. (1996). Sensitivity of reproducing sows and suckling pigs to stray voltage. *American Journal of Veterinary Research* 57(8): 1245-1249; 21 ref.
- Roberts, J. R. and M. A. Cook (2003). Stray voltage Education; A Veterinarian's Perspective. NRAES: Stray voltage and Dairy Farms Conference Proceedings.
- Roberts, J. R., et al. (2003). Stray voltage and Water for Dairy Cattle. PSCW Staff Report, Public Service Commission of Wisconsin.
- Rodenburg, J. (1984). Tingle voltage: The Results of a Recent Study of 140 Ontario Dairy Farms. *Ontario Milk Producer*. July.
- Roussel, S., et al. (2007). Determination of a Stray voltage Threshold using Behavioral Measurements in Holstein Heifers. *International Society for Applied Ethology*.
- Rushen, J. (1986). Aversion of Sheep to Electro-Immobilization and Physical Restraint. *Applied Animal Behaviour Science* 15(4): 315-324.
- Rushen, J. (1991). Problems Associated With the Interpretation of Physiological Data in the Assessment of Animal Welfare. *Applied Animal Behaviour Science* 28(4): 381-86.
- Rushen, J. (1995). An Overview of Farm Animal Behaviour and its Applications. *Animal Science Research and Development: Moving Toward a New Century*, M. Ivan (Ed.).
- Scruton, D. L. (2003). Stray voltage - The Vermont Experience. NRAES: Stray voltage and Dairy Farms Conference Proceedings.
- Sein, O. B. (1994). Induction of Pubescence in Swine with the Using of Transcranial Electrostimulation [Transkranial Naya Ehlektrostimulyatsiya Polovoj Zrelosti u Svinok]. *Veterinariya*: 34-37, 12 ref.
- Sheffield, L.G. (2003) Impact of Low AC Currents on Immune Function of Dairy Cattle. Draft report to the Wisconsin Legislature.
- Sheldon, L. E. (1988). Experiences of an Independent Consultant Concerning Electric Fencing. ASAE Annual International Meeting Technical Paper. no. 88-6506.
- Simensen, E., et al. (1988). Effect of the Cow-Trainer on Cleanliness, Behaviour and Plasma Cortisol Levels in Dairy Cows. *Environment and Animal Health: Proceedings of the VIth International Congresson Animal Hygiene*.
- Southwick, L. H., et al. (1989). Association between neutral-to-earth and cow contact voltage on New York dairy farms. *Journal of Dairy Science* 72(9): 2417-2420; 21 ref.
- Southwick, L. H., et al. (1992). Milk production, water consumption, and somatic cell count responses of cows subject to one or two V of alternating current. *Journal of the American Veterinary Medical Association* 201(3)441-444(3): 441-444; 12 ref.
- Staehle, R. W., et al. (1998). Research Findings and Recommendations Regarding Claims of Possible Effects of Currents in the Earth on Dairy Cow Health and Milk Production: Final report of the science advisors to the Minnesota Public Utilities Commission.
- Stanek, D. E. (1988). Stray voltage and animal behavior. ASAE Annual International Meeting Technical Paper. no. 88-3521: 22.

- Stanek, D. E. and M. E. Monson (1991). Animal sensitivity to low voltage/current levels. ASAE Annual International Meeting Technical Paper. no. 91-4557: 10.
- Stetson, L. E. (2003). Minnesota Science Advisors Findings on the Effects of Ground Current on the Health and Productivity of Dairy Cows. NRAES: Stray voltage and Dairy Farms Conference Proceedings.
- Stringfellow, M. F. (2003). The Bad Science of Stray voltage. NRAES: Stray voltage and Dairy Farms Conference Proceedings.
- Thornton, E. (1984). A Study of stray voltages on Alberta Dairy Farms. ASAE Annual International Meeting Technical Paper. no. NR-84-309.
- Vidali, G., et al. (1995). Effects of normal sinusoidal electrical voltage and impulses on the behavior and performance of laying hens. *Canadian Journal of Animal Science* 75(3): 291-296.
- Vidali, G., et al. (1996). Effects of chopped sinusoidal voltages on the behavior and performance of laying hens. *Canadian Agricultural Engineering* 38(2): 99-105; 15 ref.
- Villeneuve, P. (1990). Does Stray voltage Affect Egg Production?
- White, S. S., et al. (1985). Use of electro-acupuncture as an analgesic for laparotomies in two dairy cows. *Australian Veterinary Journal* 62(2)(2): 52-54. ill.
- Whittlestone, W. G., et al. (1975). Electric shocks during machine milking. *New Zealand Veterinary Journal* 23(6): 105-108.
- Wilcox, G. C. and H. C. Jordon (1986). Stray voltage Affects Performance of Cage layers: A field Observation. *Poultry Science* (abstract). 65 Suppl. 1: 144.
- Wilson, D. J. and L. H. Southwick (2003). Cow Contact Current on Feeders and Milk Production Loss on a Dairy Farm: A Case Report. NRAES: Stray voltage and Dairy Farms Conference Proceedings.
- Wilson, T. H. (2003). Pennsylvania's Stray voltage Perspective. NRAES: Stray voltage and Dairy Farms Conference Proceedings.
- Winter, D. F. and W. K. Dick (1984). Field experience with the electronic grounding system for stray voltage reduction. ASAE Annual International Meeting Technical Paper. no. 84-3503: 13.
- Wohlt, J. E., et al. (1994). Cortisol Increases in Plasma of Holstein Heifer Calves, from Handling and Method of Electrical Dehorning. *Journal of Dairy Science* 77(12): 3725-3729.
- Woolford, M. W. (1972). Small voltage in milking plants. 2nd Seminar on Farm Machinery and Equipment Proceedings.
- Worley, J. W. and J. L. Wilson (2000a). Effects of stray voltage on laying habits of broiler breeders. *Applied Engineering in Agriculture* 16(6): 723-729; 11 ref.
- Worley, J. W. and J. L. Wilson (2000b). Influence of stray voltage on breeder hens: a field study. ASAE Annual International Meeting Technical Paper. no. 00-4129: 12.
- Worley, J. W. and J. L. Wilson (2001). Analysis of stray voltage on broiler breeder farms. *Journal of Applied Poultry Research* 10(4): 394-403.
- Ziecik, A. J., et al. (1993). Effect of Electrical Stress Stimuli on Lutenizing Hormone, Prolactin and Cortisol Secretion in Pigs. *Investigacion Agraria Produccion y Sanidad Animales* 8(3)269-280.

Stray Voltage

Causes of Stray Voltage

Stray voltage and its impacts on livestock and other confined animals have been studied in detail by state and federal agencies, universities, electric utilities, and numerous scientists since the late 1970s. The PSCW has opened investigations, encouraged the upgrade of rural distribution systems, established measurement protocols, and compiled a stray voltage database to track investigations, all in order to develop successful strategies for minimizing stray voltage in farm operations (<http://psc.wi.gov/utilityInfo/electric/strayVoltage.htm>). Over the decades, significant resources have been allocated to understand this issue.

Electrical systems, including farm systems and utility distribution systems, are grounded to the earth to ensure safety and reliability, as required by the National Electrical Safety Code and the National Electrical Code. Because of this, some current flows through the earth at each point where the electrical system is grounded and a small voltage develops. This voltage is called neutral-to-earth voltage (NEV). When NEV is measured between two objects that are simultaneously contacted by an animal, a current will flow through the animal and it is considered stray voltage. Animals may then receive a mild electrical shock that can cause a behavioral response. At low voltages, an animal may flinch with no other noticeable effect. At higher levels, avoidance or other negative behaviors may result. Stray voltage may not be noticeable to humans.

Low levels of alternating current (AC) voltage on the grounded conductors of a farm wiring system are a normal and unavoidable consequence of operating electrical farm equipment. In other words some levels of stray voltage will always be found on a farm. For example, a dairy cow may feel a small electric shock when it makes contact with an energized water trough. The issue of concern is stray voltage that occurs at a level that negatively affects an animal's behavior, health, and more specifically, milk production.

Stray voltage can be caused by a combination of on-farm and off-farm causes. One off-farm contributor to stray voltage is the operation of transmission lines in close proximity and parallel to a distribution line. As a means to minimize new transmission line impacts, new lines are often co-located near a distribution ROW or the distribution line is underbuilt on the new transmission poles. This configuration can contribute to stray voltage issues. To minimize the likelihood of stray voltage occurrences, utilities sometimes propose to relocate these paralleling distribution lines further away from the transmission line and/or burying the distribution line underground. Additionally, the PSCW may require the utility to conduct pre-construction and post-construction testing of potentially impacted farms and lines.

Potential Impacts of Stray Voltage

Herd problems can be difficult to diagnose. There are many factors to consider such as the herd's environment, diet, and health. Dairy cow behaviors that may indicate the presence of stray voltage include nervousness at milking time, increased milking time, decreased milk production, increased Somatic Cell Count, increased defecation or urination during milking, hesitation in approaching waterers or feeders, a reluctance to enter the barn or milking parlor, or an eagerness to leave the barn. Some of these symptoms are interrelated. For example, a dairy cow that does not drink sufficient water due to shocks may have decreased milk production. However, these same symptoms can be caused by other factors that are unrelated to stray voltage such as increased mastitis or milk-withholding problems for farms with milking parlors or in barns with milk pipelines. If stray voltage is suspected to be the cause of herd problems, the farm should be tested.

In 1996, the PSCW established a stray voltage “level of concern” of 2 milliamps (PSCW docket 05-EI-115). The level of concern is not intended as a “damage” level but as a very conservative, below-the-injury level, below the point where moderate avoidance behavior is likely to occur, and well below where a cow’s behavior or milk production would be affected. The PSCW and DATCP consider that at this level of current, some form of mitigative action should be taken on the farmer’s behalf.

The level of concern is further defined with respect to how it should be reduced. If a utility distribution system contributes one milliamp or more to stray voltage on a farm, the utility must take corrective action to reduce its contribution to below the one milliamp level. If the farm electrical system contributes more than one milliamp, the farmer may want to consider taking corrective measures to reduce the level below one milliamp.

Mitigation of Stray Voltage

When stray voltage is a concern, electrical measurement in confined livestock areas should be done using the established PSCW-approved testing procedures with appropriate equipment. These testing protocols have been developed to collect a reasonable set of data useful in the analysis of the quantity and quality of stray voltage that may be present under a variety of conditions, and the source (including on-farm versus off-farm sources) of such stray voltage.

Field research shows that cow contact current is often dependent on both on- and off-farm electrical power systems. A common on-farm source of stray voltage is the inappropriate interconnection of equipment grounding conductors with the neutral conductors of the farm wiring system. Mitigation of stray voltage can be achieved through a variety of proven and acceptable methods, such as additional grounding or the installation of an equipotential plane.

Farm operators may receive additional technical assistance from the Wisconsin Rural Electric Power Services (REPS) program (as defined and authorized by Wis. Stat. §§ 93.41 and 196.857). The REPS program is jointly managed by the PSCW and DATCP. DATCP (http://datcp.wi.gov/Farms/Wisconsin_Farm_Center/Farm_Rewiring/Stray_Voltage/index.aspx) provides an ombudsman, veterinarian, an energy technical advisor, and a program assistant to the REPS program. REPS staff provides information about stray voltage and power quality issues; work to answer regulatory questions; conduct on-farm and distribution system investigations that can assist farmers in working with the utility or electrician to resolve a power quality concern; provide a format for dispute resolution; and continue to research electrical issues. REPS staff also works with farmers, their veterinarians and nutritionists to resolve herd health and production problems.

Water Resources

Potential Impacts to Surface Waters

Waterways in the form of creeks, streams, rivers, and lakes are abundant throughout Wisconsin. Many of these waters have been designated as special resources that have state, regional, or national significance. Construction and operation of a transmission line across these resources may have both short-term and long-term effects. The type and significance of the impact is dependent on the characteristics of the water resource and the transmission line design. Waterway use, physical features such as channel width, herbaceous plant cover, and water quality, recreational use, and the scenic quality of the river and its surrounding landscape are important factors in assessing potential impacts.

Appendix M

MPCA What's In My Neighborhood Sites

Table M-1 MPCA's "What's in my Neighborhood Listed Sites in the Proposed Project Area

County	MPCA Site Name	Type	Status	Description	Nearest Project Route	Section	Approximate Distance to Centerline (feet)
Roseau	U.S. Customs Building	Leak Site	Inactive	Fuel Oil 1 & 2 release Site closure: June 2001 No offsite contamination	Border Crossing Hwy 310 Variation in Border Crossing Variation Area	West	400
	Mende Auto Body & Muffler	Haz Waste Site	Active	Small to Minimal Quantity Generator	Proposed Blue/Orange Route in the Roseau Lake WMA Variation Area	West	1,735
	Ray Horner Farm	Feedlot	Active	Registered feedlot with 10 or more animal units (AU)	Proposed Blue/Orange Route in the Roseau Lake WMA Variation Area	West	1,720
	Knudson Brothers Farm Inc	Tank Site	Inactive	Tank Data not available	Cedar Bend WMA Variation in the Cedar Bend Variation Area	West	660
	Quentin Grittner Farm	Feedlot	Active	Registered feedlot with 10 or more animal units (AU)	Roseau Lake WMA Variation 1 in the Roseau Lake WMA Variation Area	West	1,285
	Skoglund Farm	Feedlot	Active	Registered feedlot with 10 or more animal units (AU)	Roseau Lake WMA Variation 1 in the Roseau Lake WMA Variation Area	West	476
	Nelson Residence	Leak Site	Inactive	Petroleum tank release. Site closure: May 2013	Roseau Lake WMA Variation 1 in the Roseau Lake WMA Variation Area	West	1,900
	Harvey Johnson Farm	Feedlot	Active	Registered feedlot with 10 or more animal units (AU)	Border Crossing 500kV Variation in the Border Crossing Variation Area	West	2,094
	Williams Dump Site	Investigation and Cleanup	Inactive	State Assessment Site Unpermitted Dump Site closure: June 1978	Beltrami North Central Variation 4 in the Beltrami North Central Variation Area	West	116
	Calvin Carson Farm	Feedlot	Active	Registered feedlot with 10 or more animal units (AU)	Beltrami North Central Variation 4 in the Beltrami North Central Variation Area	West	1,226

Table M-1 MPCA's "What's in my Neighborhood Listed Sites in the Proposed Project Area

County	MPCA Site Name	Type	Status	Description	Nearest Project Route	Section	Approximate Distance to Centerline (feet)
Lake of the Woods	Northstar Electric Cooperative	Haz Waste Site	Active	Small to Minimal Quantity Generator	Proposed Blue Route in the Pine Island Variation Area	Central	812
	MNDOT Truck Station	Leak Site (1504)	Inactive	Gasoline release. Groundwater cont. Closure date: 09/26/1995 Remaining soil contamination Offsite contamination unknown	Proposed Blue Route in the Pine Island Variation Area	Central	812
	Petal Pushers	Leak Site	Inactive	Diesel; Gasoline Leaded Release. Closure date: 02/23/2001 Remaining soil contamination Offsite contamination unknown	Proposed Blue Route in the Pine Island Variation Area	Central	812
Koochiching	Northome Modified Sanitary Landfill	Investigation and Cleanup	Active	State Assessment Site SA 7935 (Active) Unpermitted Dump Site REM04735 (Inactive)	J2 Segment Option Variation in the J2 Variation Area	Central	680
	Northome Modified Sanitary Landfill	Solid Waste	Inactive	Landfill Closed (SW-225). Owned by MPCA. Groundwater Monitoring Data.	J2 Segment Option Variation in the J2 Variation Area	Central	680
	Northome Modified Sanitary Landfill	Industrial Stormwater Permit	Inactive	Industrial SW Permit Termination: 03/17/2000	J2 Segment Option Variation in the J2 Variation Area	Central	680
Koochiching	Northome Modified Sanitary Landfill	Industrial Stormwater Permit	Active	ISW No Exposure Exclusion. Effective Start: 12/15/2010	J2 Segment Option Variation in the J2 Variation Area	Central	680

Table M-1 MPCA's "What's in my Neighborhood Listed Sites in the Proposed Project Area

County	MPCA Site Name	Type	Status	Description	Nearest Project Route	Section	Approximate Distance to Centerline (feet)
Itasca	Loman Dump	Investigation and Cleanup	Active	State Assessment Site SA 7925 (Active) Unpermitted Dump Site REM04478 (Inactive)	J2 Segment Option Variation in the J2 Variation Area	Central	62
	Balsam Lake II Dump	Investigation and Cleanup	Active	State Assessment Site SA 7858 (Active) Unpermitted Dump Site REM03558 (Inactive)	Proposed Orange Route in the Balsam Variation Area	East	530
	Balsam Store	Tank Site	Inactive	Last site inspection: 05/05/2014 Field Citation MPCA - Closure date: 07/15/14	Proposed Orange Route in the Balsam Variation Area	East	1,710
	Former Balsam Store	Leak Site	Inactive	Diesel; Gasoline, Unleaded release Site Closure: 09/12/2014 Contaminated Soils Remaining Offsite Contamination	Proposed Orange Route in the Balsam Variation Area	East	2,012
	Former Balsam Store	Tank Site	Inactive	Last tank removal: 11/16/1998 Last site inspection: 04/08/1999	Proposed Orange Route in the Balsam Variation Area	East	2,012
Itasca	Rhunde Media	Leak Site	Inactive	Fuel Oil 1 & 2; Gasoline release. Site closure: 12/31/1997 Unknown soil and offsite contamination	Proposed Blue/Orange Route near Taconite	East	2,078
	Bray Lake Outlying Canister	Solid Waste	Active	Permit-by-Rule landfill. Facility permit: 10/24/2010 Inspection: 09/24/2010	Proposed Blue Route in the Balsam Variation Area	East	1,312

Table M-1 MPCA's "What's in my Neighborhood Listed Sites in the Proposed Project Area

County	MPCA Site Name	Type	Status	Description	Nearest Project Route	Section	Approximate Distance to Centerline (feet)
	Bray Lake Demolition & Disposal	Solid Waste	Active	Open Landfill. Facility permit: 08/06/2008 Last routine inspection: 07/17/12	Proposed Blue Route in the Balsam Variation Area	East	1,600
	MNDOT District 1b Deer Lake	Haz Waste Site	Active	Small to Minimal Quantity Generator	Proposed Blue Route in the Pine Island Variation Area	Central	775
	Wamp Lake Dump	Investigation and Cleanup	Inactive	State Assessment Site SA 7862 (Inactive) Unpermitted Dump Site REM05349 (Inactive)	Effie Variation in the Effie Variation Area	East	1,834
	Reckinger Solid Waste Site	Solid Waste	Inactive	Permit-by-Rule landfill.	East Bear Lake Variation in the East Bear Lake Variation Area	East	1,710
	Balsam Elementary School	Leak Site	Inactive	Fuel Oil 1 & 2 release. Site closure: 01/02/2004 Contaminated Soils Remaining	Balsam Variation in the Balsam Variation Area	East	610
	Iron Range Sanitary Landfill	Investigation and Cleanup	Active	State Assessment Site SA 7864 (Active) Unpermitted Dump Site REM04283 (Inactive)	Balsam Variation in the Balsam Variation Area	East	2,074
	Iron Range Sanitary Landfill	Solid Waste	Inactive	Landfill Closed . Owned by MPCA. Groundwater Monitoring Data (EDA - 2764).	Balsam Variation in the Balsam Variation Area	East	2,074
Itasca	Iron Range Sanitary Landfill	Industrial Stormwater Permit	Active	ISW No Exposure Exclusion. Effective Start: 12/15/2010	Balsam Variation in the Balsam Variation Area	East	2,074

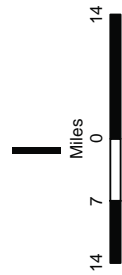
Source: Minnesota Pollution Control Agency 2015.

Appendix N

Photo Simulations

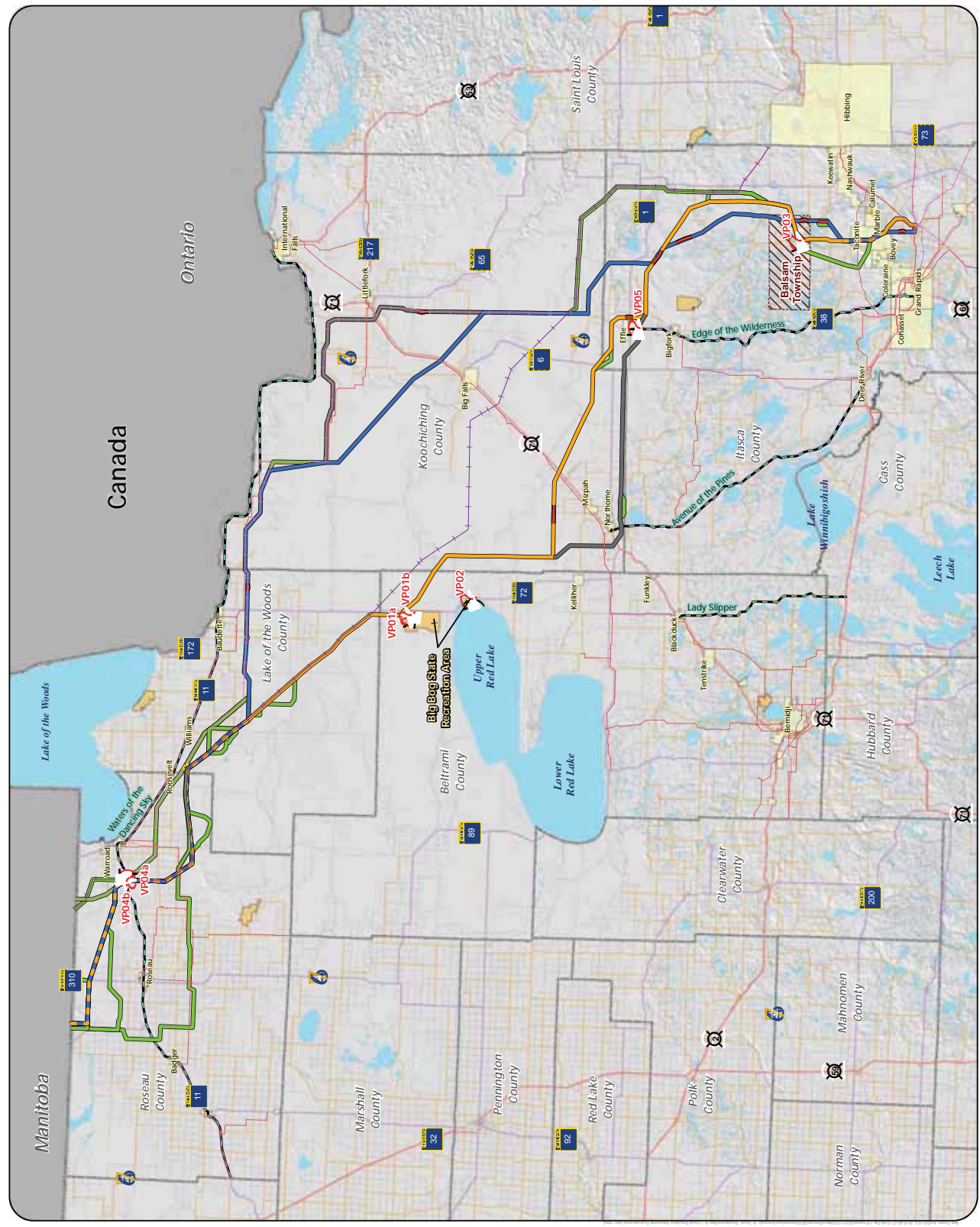
Visual Simulation Viewpoint
 Big Bog State Recreation Area Fire Tower

- Proposed Routes**
- Blue/Orange Route
 - Blue Route
 - Orange Route
 - Segment Option
- Alternatives**
- Route Variation
 - Route Variation Hop
 - Alignment Modification
- Existing Transmission Lines**
- 69 or 115 kV
 - 230 kV
 - 500 kV
- Streets and Highways**
- US Highway
 - State Trunk Highway
 - County State Aid Highway
 - Local Road
 - State Park
 - Balsam Township
- Boundaries**
- Municipal Boundary
 - County Boundary
 - International Boundary



Map N-1

**VISUAL SIMULATION
 VIEWPOINTS OVERVIEW**
 Great Northern Transmission Line
 Draft Environmental Impact Statement





Viewpoint 01a - Bog Boardwalk, Lookout off Highway 72, Looking Northeast - Existing View

Viewpoint 01a - Bog Boardwalk, Lookout off Highway 72, Looking Northeast - Existing View



BARR Engineering
Civil Engineering

Viewpoint 01a -
Boardwalk, Lookout
off Highway 72
Looking Northeast

Project No. 2018-001



DATE: 10/15/2018
DRAWN BY: J. HARRIS
CHECKED BY: J. HARRIS
PROJECT NO.: 2018-001
SHEET NO.: 101



SCALE: 1" = 100'
DATE: 10/15/2018
DRAWN BY: J. HARRIS
CHECKED BY: J. HARRIS
PROJECT NO.: 2018-001
SHEET NO.: 101

TRUESCAPE
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Phone: 303.440.0000
www.truescape.com



Viewpoint 01a - Bag Boardwalk, Lookout off Highway 72, Looking Northeast - Proposed View

Viewpoint 01a - Bag Boardwalk, Lookout off Highway 72, Looking Northeast - Proposed View



BARR Engineering
Civil Engineering

Viewpoint 01a - Bag Boardwalk, Lookout off Highway 72, Looking Northeast - Proposed View



Viewpoint 01a - Bag Boardwalk, Lookout off Highway 72, Looking Northeast - Proposed View

Viewpoint 01a - Bag Boardwalk, Lookout off Highway 72, Looking Northeast - Proposed View



Viewpoint 01a - Bag Boardwalk, Lookout off Highway 72, Looking Northeast - Proposed View

Viewpoint 01a - Bag Boardwalk, Lookout off Highway 72, Looking Northeast - Proposed View

Viewpoint 01a - Bag Boardwalk, Lookout off Highway 72, Looking Northeast - Proposed View



Viewpoint 01a - Bog Boardwalk, Lookout off Highway 72, Looking Northeast - Proposed View with Color Overlay to Highlight transmission line behind existing vegetation

Viewpoint 01a - Bog Boardwalk, Lookout off Highway 72, Looking Northeast - Proposed View with Color Overlay to Highlight transmission line behind existing vegetation

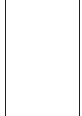


BARR Engineering
Civil Engineering

Viewpoint 01a
Lookout off Highway 72
Looking Northeast



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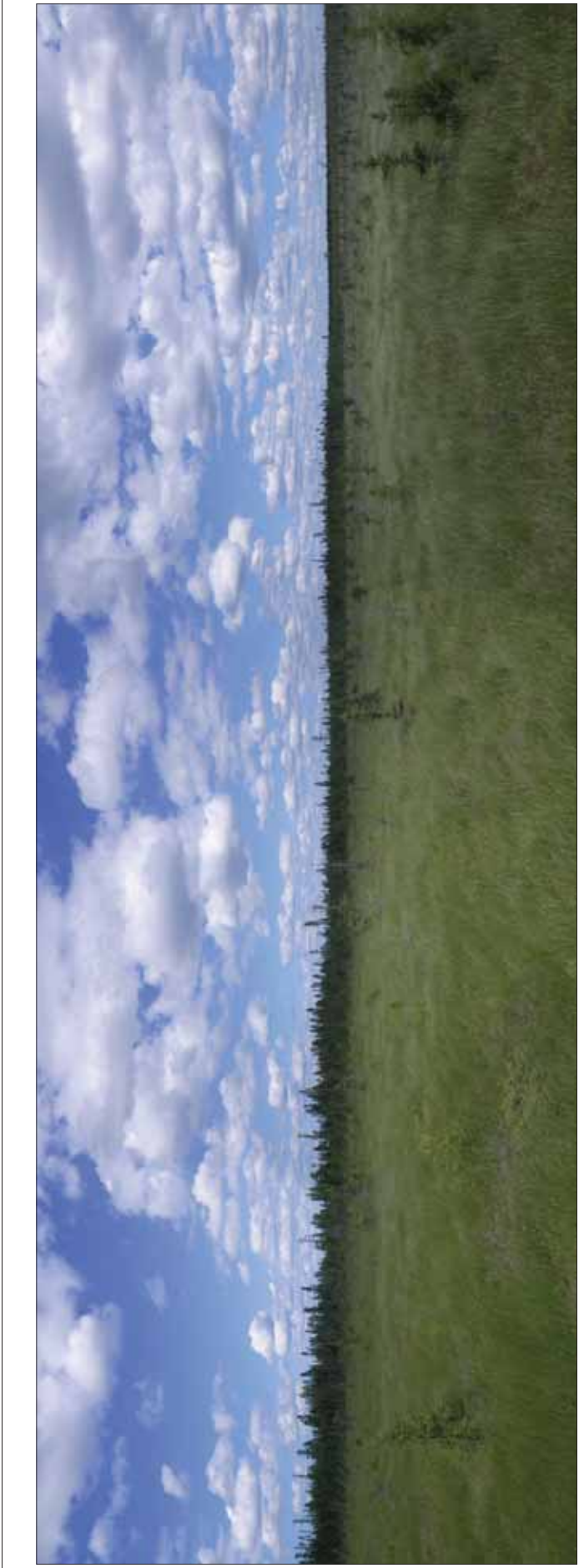
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Viewpoint 01b - Bog Boardwalk, Lookout off Highway 72 Looking Northeast - Existing View

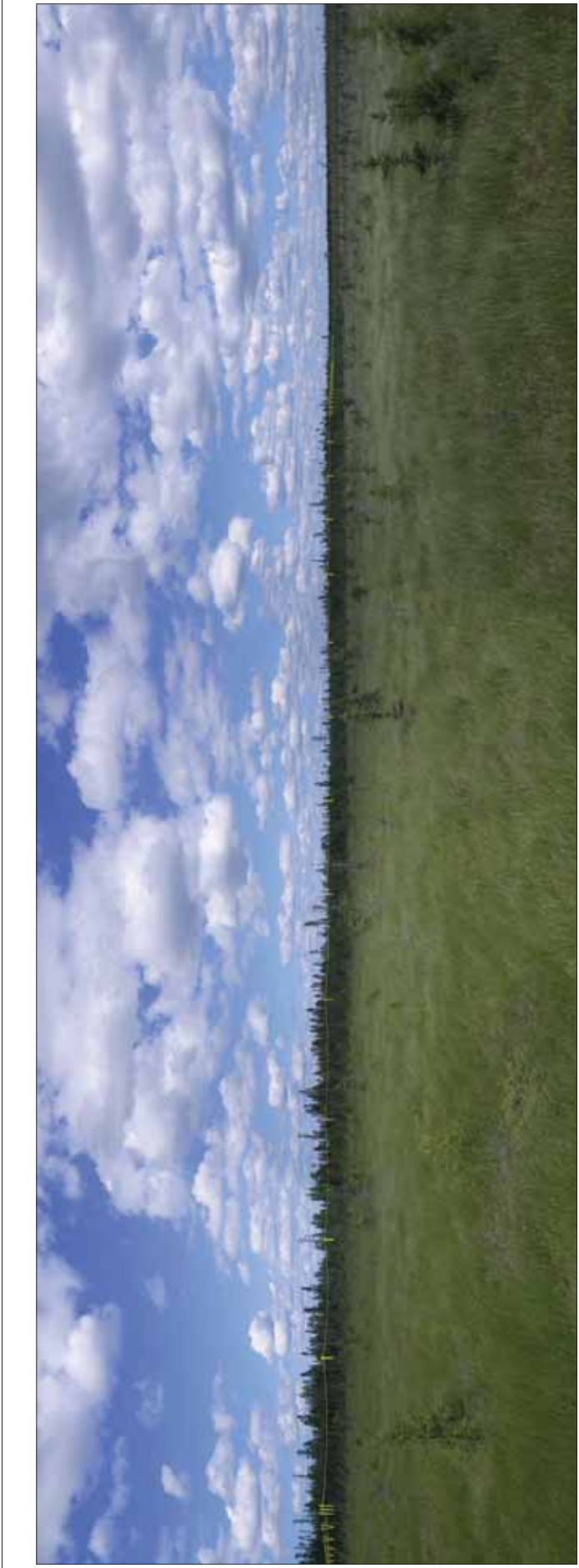
	<p>BARR Environmental One Woodbury Road Westborough, MA 01581 Phone: 508.853.8800 Fax: 508.853.8801 www.barr.com</p>
<p>PROJECT BARR Environmental One Woodbury Road Westborough, MA 01581 Phone: 508.853.8800 Fax: 508.853.8801 www.barr.com</p>	<p>DATE 08/15/2011</p>
<p>TRUESCAPE Landscape Architecture</p>	



Viewpoint 01b - Bog Boardwalk, Lookout off Highway 72 Looking Northeast - Proposed View

View of the site from the proposed viewpoint, showing the proposed site location and the surrounding landscape.

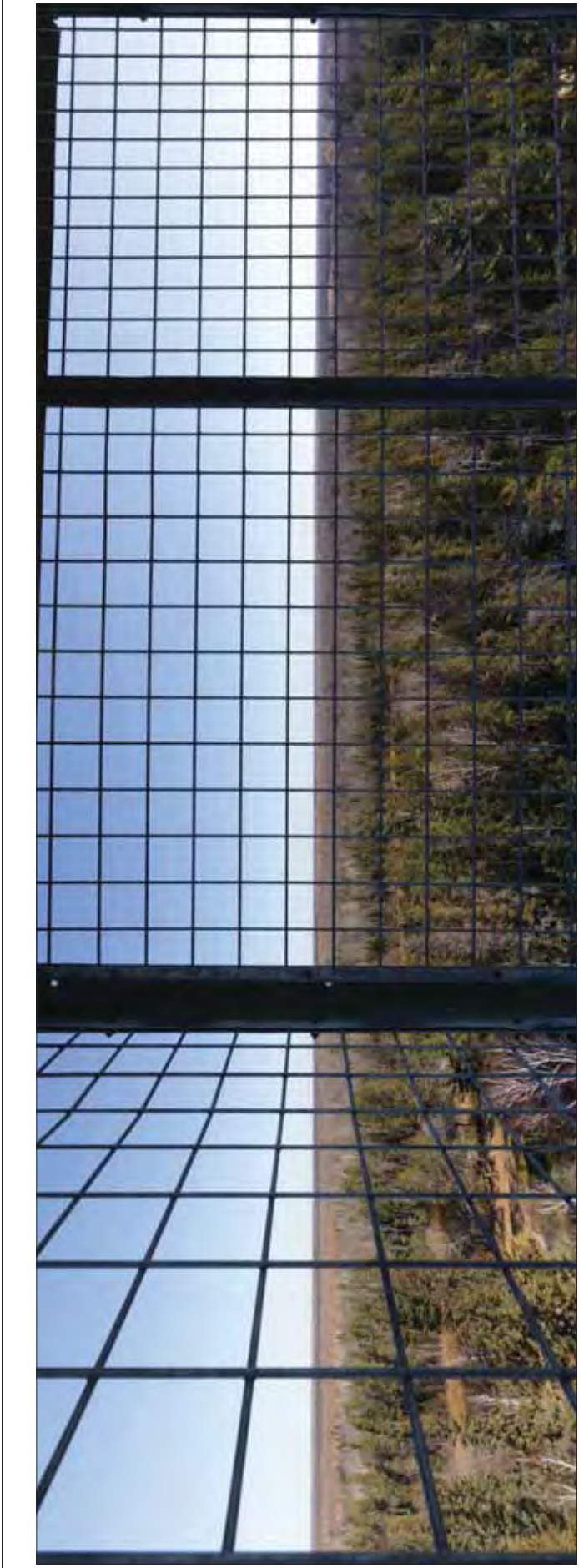
	<p>BARR Engineering & Architecture</p>	<p>Viewpoint 01b Bog Boardwalk, Lookout off Highway 72 Looking Northeast</p>		<p>Viewpoint 01b Bog Boardwalk, Lookout off Highway 72 Looking Northeast</p>			<p>TRUESCAPE Landscape Architecture</p>
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Viewpoint 01b - Bog Boardwalk, Lookout off Highway 72 Looking Northeast - Proposed View with Color Overlay to Highlight transmission line behind existing vegetation

View of the proposed transmission line from a vantage point located along the Boardwalk off Highway 72, looking northeast. The color overlay highlights the proposed transmission line location behind the existing vegetation.

	<p>BARR Engineering Inc. 1000 Highway 72 Bog Boardwalk Looking East (see page 1)</p>		<p>Viewpoint 01b Bog Boardwalk Looking East (see page 1)</p>	<p>TRUESCAPE Landscape Architecture Inc.</p>
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Viewpoint 02 - Big Bag Recreation Area Fire Lookout Tower Looking East Southeast - Proposed View

View of the proposed tower and surrounding landscape from the proposed viewing platform.



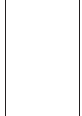
BARR Engineering Inc

Viewpoint 02
Big Bag Recreation Area
Fire Lookout Tower
Looking East Southeast

Scale: 1:1000



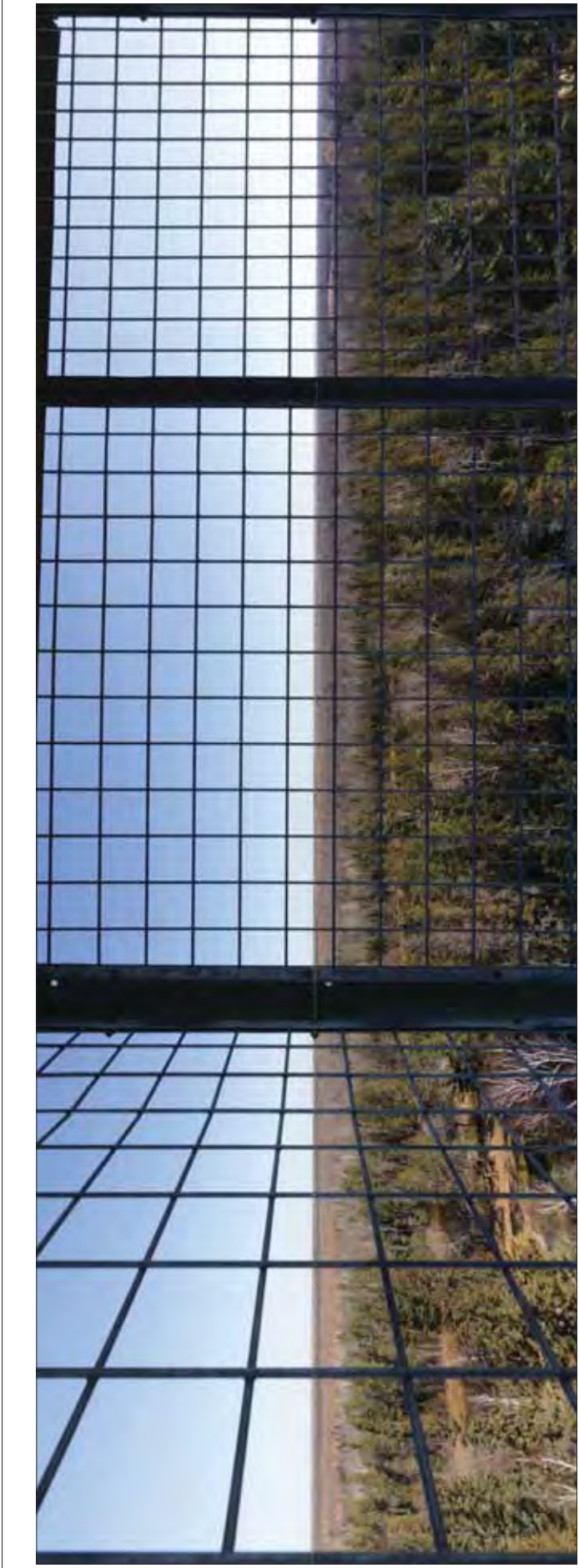
Project Name: Big Bag Recreation Area Fire Lookout Tower
Project Location: Big Bag Recreation Area, Big Bag, BC
Project Number: 2023-001
Scale: 1:1000
Date: 2023-01-15



Notes:
1. All dimensions are in millimeters.
2. The tower is to be constructed of steel.
3. The tower is to be painted in a dark color.
4. The tower is to be located on a concrete pad.
5. The tower is to be accessible by a paved path.

Prepared by: [Name]
Checked by: [Name]
Approved by: [Name]

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Viewpoint 02 - Big Bag Recreation Area Fire Lookout Tower Looking East Southeast - Proposed View with Color Overlay to Highlight transmission line in distance

Viewpoint 02 - Big Bag Recreation Area Fire Lookout Tower Looking East Southeast - Proposed View with Color Overlay to Highlight transmission line in distance



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Viewpoint 03
 Big Bag Recreation Area Fire Lookout Tower
 Looking East Southeast

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Viewpoint 03 - Reserve off Sevier Highway near Balsam Memorial Hall Looking East Northeast - Existing View

Scale: 1" = 100'

North Arrow

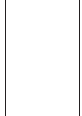


EABR
Engineering Architecture Building Research

Viewpoint 03
Reserve off Sevier Highway
near Balsam Memorial Hall
Looking East Northeast



PROJECT INFORMATION
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 PROJECT LOCATION: Balsam, North Carolina
 PROJECT NUMBER: 20-00000000-0000-0000
 PROJECT DATE: 10/2020

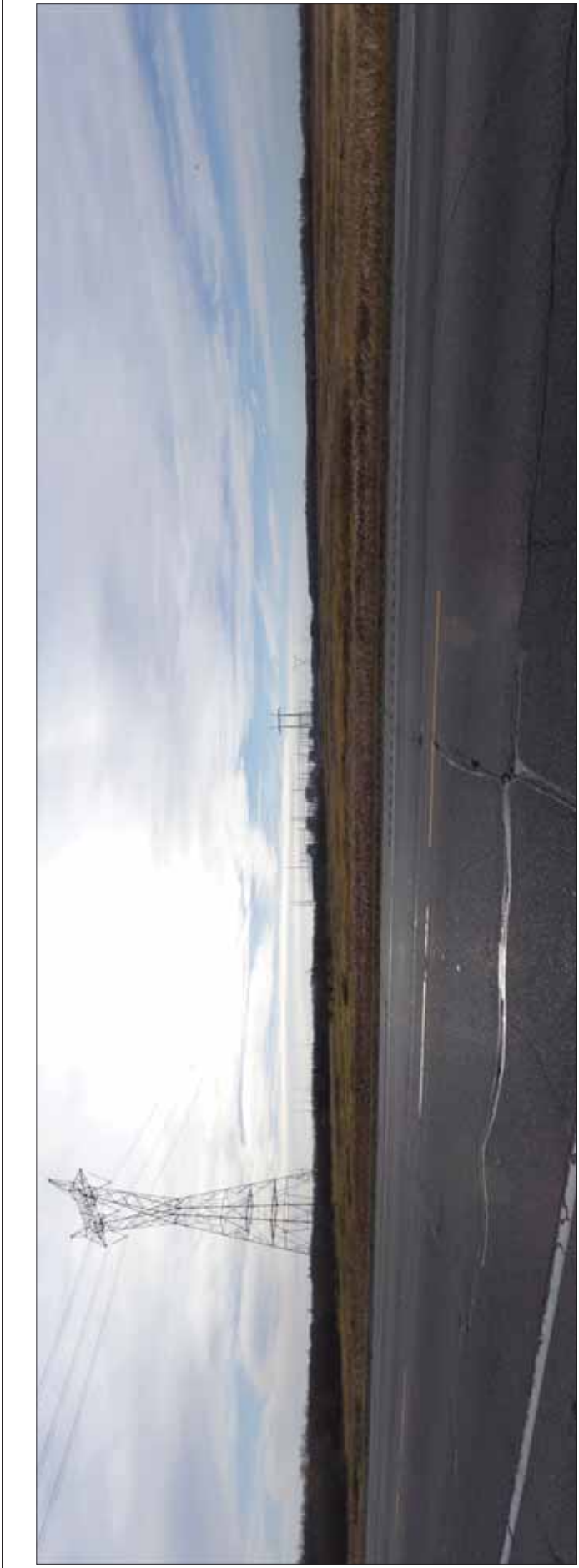


SCALE
 1" = 100'

PROJECT INFORMATION
 PROJECT NAME: Balsam Memorial Hall
 PROJECT LOCATION: Balsam, North Carolina
 PROJECT NUMBER: 20-00000000-0000-0000
 PROJECT DATE: 10/2020

TRUESCAPE
 Landscape Architecture

10/2020



Viewpoint 04a - Highway 11 near Substation Looking Southeast - Existing View



BARR Engineering
Civil & Environmental

Viewpoint 04a

Highway 11 near Substation
Looking Southeast

Existing
 Proposed
 Not Shown



PROJECT NO. 15-0001
 DRAWING NO. 15-0001-001-001
 DATE: 08/14/2015
 SCALE: AS SHOWN
 PROJECT LOCATION: 28-38000-0000-0000-0000
 DRAWING TITLE: 15-0001-001-001



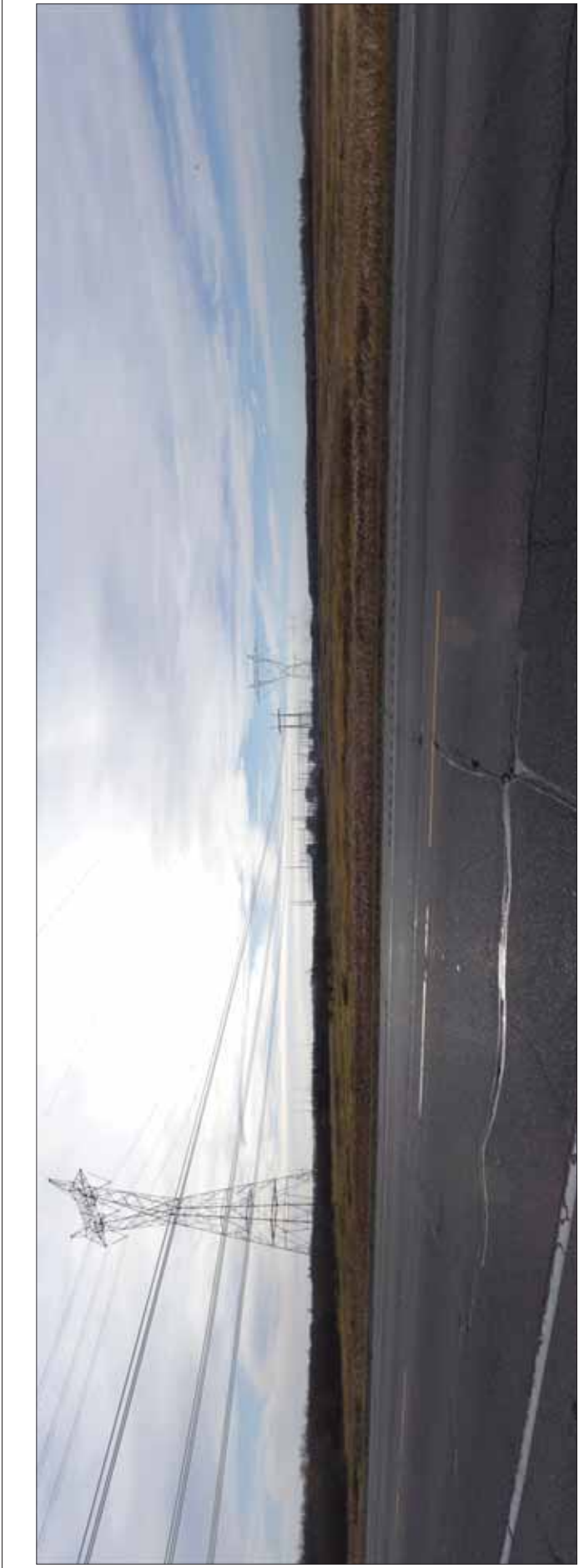
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 1. THIS DRAWING IS A PRELIMINARY DESIGN.
 2. THIS DRAWING IS NOT TO BE USED FOR CONSTRUCTION.
 3. THIS DRAWING IS NOT TO BE USED FOR PERMITTING.
 4. THIS DRAWING IS NOT TO BE USED FOR MARKETING.
 5. THIS DRAWING IS NOT TO BE USED FOR ANY OTHER PURPOSE.
 6. THIS DRAWING IS NOT TO BE USED FOR ANY OTHER PURPOSE.

PROJECT LOCATION: 28-38000-0000-0000-0000
 DRAWING NO. 15-0001-001-001



TRUESCAPE
Landscape Architecture

TRUESCAPE
 10000 Highway 11, Suite 100
 Surrey, BC V3W 2G9
 Phone: 604.582.0000



Viewpoint 04a - Highway 11 near Substation Looking Southeast - Proposed View



BARR Engineering
Civil Engineering

Viewpoint 04a

Highway 11 near Substation
Looking Southeast

Proposed
 Existing
 Highway



PROJECT NO. 2018-001
 PROJECT NAME: Highway 11
 PROJECT LOCATION: Highway 11 near Substation
 PROJECT PHASE: Design
 PROJECT STATUS: In Progress
 PROJECT START DATE: 2018-01-01
 PROJECT END DATE: 2018-12-31

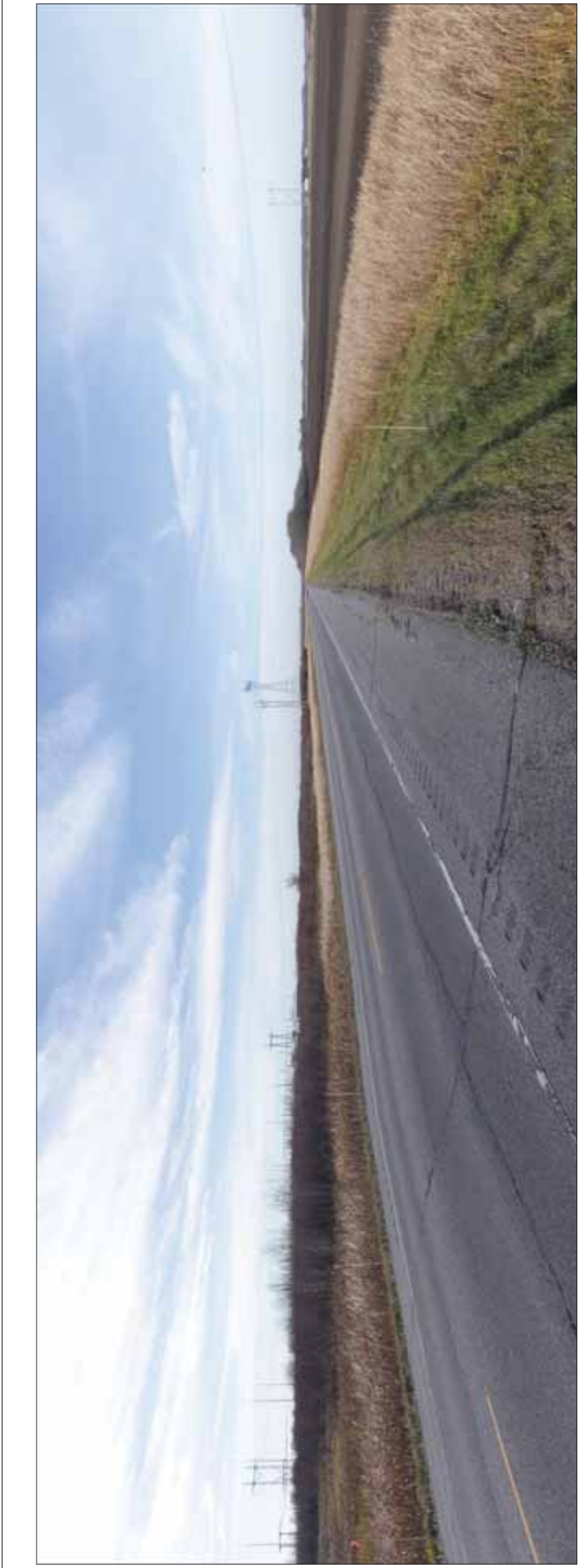


SCALE: 1:100
 DATE: 2018-01-01
 DRAWN BY: J. Smith
 CHECKED BY: M. Jones
 APPROVED BY: P. Brown

PROJECT NO. 2018-001
 PROJECT NAME: Highway 11
 PROJECT LOCATION: Highway 11 near Substation
 PROJECT PHASE: Design
 PROJECT STATUS: In Progress
 PROJECT START DATE: 2018-01-01
 PROJECT END DATE: 2018-12-31

PROJECT NO. 2018-001
 PROJECT NAME: Highway 11
 PROJECT LOCATION: Highway 11 near Substation
 PROJECT PHASE: Design
 PROJECT STATUS: In Progress
 PROJECT START DATE: 2018-01-01
 PROJECT END DATE: 2018-12-31

TRUESCAPE
 Landscape Architecture
 1000 West Broadway, Suite 100
 Vancouver, BC V6H 4G1
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Viewpoint 04b - Highway 11 near Substation Looking West Southwest - Existing View

View of the proposed project from a nearby road
 showing the location of the proposed project



BARR Engineering
 Civil Engineering

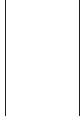
Viewpoint 04b

Highway 11 near Substation
 Looking West Southwest

Project No. 15-00000000000000000000



DATE: 11/11/2015
 TIME: 11:00 AM
 PROJECT: 15-00000000000000000000
 DRAWING: 15-00000000000000000000-001
 SHEET: 15-00000000000000000000-001-001



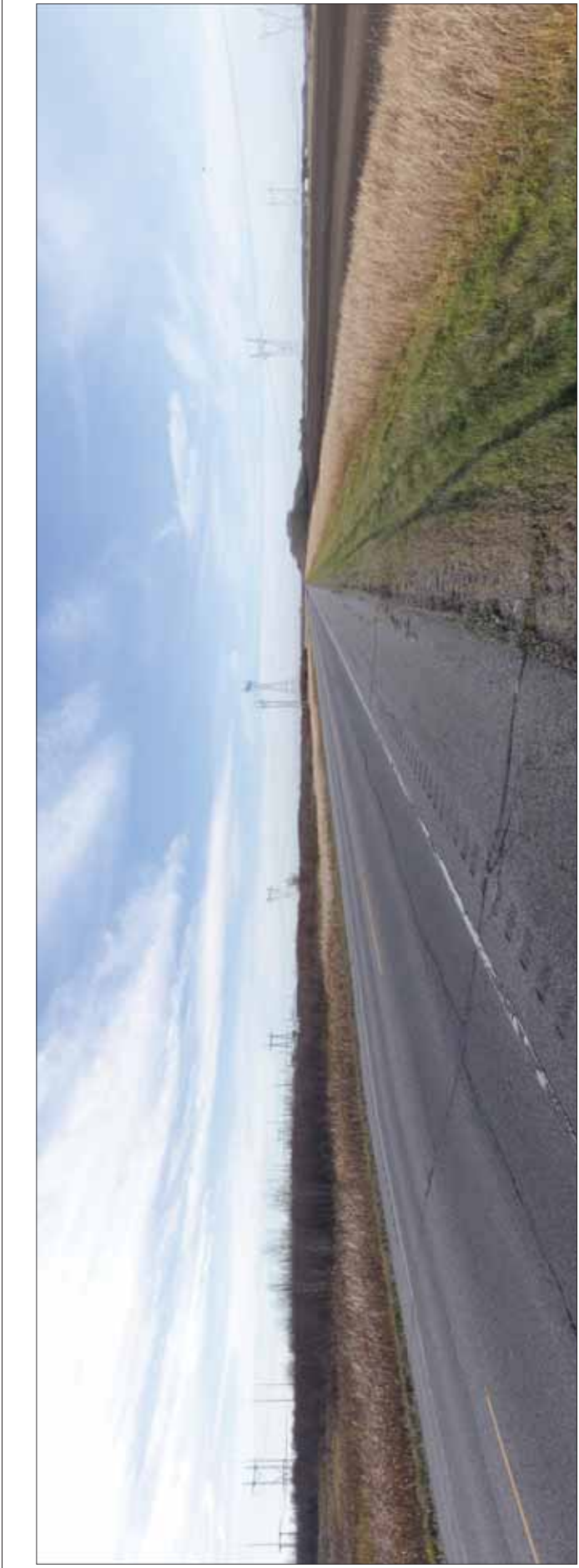
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PROJECT: 15-00000000000000000000
 DRAWING: 15-00000000000000000000-001
 SHEET: 15-00000000000000000000-001-001

PROJECT: 15-00000000000000000000
 DRAWING: 15-00000000000000000000-001
 SHEET: 15-00000000000000000000-001-001

TRUESCAPE
 Landscape Architecture

15-00000000000000000000-001-001



Viewpoint 04b - Highway 11 near Substation Looking West Southwest - Proposed View

Viewpoint 04b - Highway 11 near Substation Looking West Southwest - Proposed View

Viewpoint 04b - Highway 11 near Substation Looking West Southwest - Proposed View

Viewpoint 04b - Highway 11 near Substation Looking West Southwest - Proposed View

	BARR Engineering One Main Street Westport, OH 44091 Phone: 440.350.1234 Fax: 440.350.1235 Email: info@barr.com
	TRUESCAPE Landscape Architecture 10000 Main Street Westport, OH 44091 Phone: 440.350.1234 Email: info@truescape.com



Viewpoint 05 - Highway 38, South of Effie Looking East - Proposed View

Scale: 1" = 100'

North Arrow

Map of Viewpoint 05 - Highway 38, South of Effie

Map of Viewpoint 05 - Highway 38, South of Effie

Map of Viewpoint 05 - Highway 38, South of Effie

	BARR Engineering One Viewpoint 05 Highway 38, South of Effie Looking East		PROJECT NO.: DATE: DRAWN BY: CHECKED BY: SCALE:		PROJECT NO.: DATE: DRAWN BY: CHECKED BY: SCALE:	TRUESCAPE Landscape Architecture 1000 Highway 38, South of Effie Effie, ND 58535 Phone: (701) 775-1234 Fax: (701) 775-1234
	PROJECT NO.: DATE: DRAWN BY: CHECKED BY: SCALE:					



Viewpoint 05 - Highway 38, South of Effie Looking East - Proposed View with Color Overlay to Highlight transmission line behind existing vegetation

Map of Viewpoint 05, Viewpoint 05, 4.5 km SW of Highway 38, Effie, Saskatchewan

	BARR Engineering One Viewpoint 05 Highway 38, South of Effie Looking East		ADDRESS: Viewpoint 05 Highway 38, South of Effie Looking East Effie, Saskatchewan S0A 0A0 CANADA	PROJECT NAME: Viewpoint 05 Highway 38, South of Effie Looking East	DATE: 2023-10-10	DRAWN BY: J. [Name] CHECKED BY: M. [Name]	PROJECT NO.: 2023-10-10	SCALE: 1:1	SHEET NO.: 1 of 1	TRUESCAPE Landscape Architecture 1000 - 10th Street SW Calgary, Alberta T2P 1G1 Canada Phone: 403.243.8888 Email: info@truescape.ca Website: www.truescape.ca
	PROJECT NO.: 2023-10-10									

Appendix O

Agricultural Impact Mitigation Plan (AIMP) Example



ITC Midwest LLC
Agricultural Impact Mitigation Plan
Minnesota – Iowa 345 kV
Transmission Project and Associated Facilities
in Jackson, Martin, and Faribault Counties



Docket Nos. ET6675/CN-12-1053 & ET6675/TL-12-1337

April 29, 2014

Introduction

ITC Midwest LLC (“ITC Midwest”) developed this Agricultural Impact Mitigation Plan (“AIMP”) with the Minnesota Department of Agriculture (“MDA”) in compliance with Minnesota Statutes Section 216E.10, subdivision 3(b). The AIMP identifies measures ITC Midwest will take during construction of its Minnesota – Iowa 345 kV Transmission Project in Jackson, Martin, and Faribault counties, Minnesota (“Project”) to avoid, mitigate, minimize, repair, or provide compensation for impacts on Agricultural Land. The AIMP and its provisions will be implemented during construction and restoration activities that ITC Midwest undertakes for the Project prior to filing notice of completion of construction with the Minnesota Public Utilities Commission.

Capitalized words and other defined terms have the meanings given to them in this AIMP and its appendix. Use of “Landowner” in this AIMP may be construed to read “Landowner and/or Tenant.”

This AIMP and its construction standards and policies apply only to construction activities occurring on privately owned Agricultural Land. If agricultural tile is encountered, whether on Non-Agricultural Land or Agricultural Land, ITC Midwest will implement construction standards relating to the repair of tile on Agricultural Lands discussed further in this AIMP. Portions of this AIMP that identify standards and policies as they apply to Organic Agricultural Land apply only to the types of lands defined in the National Organic Program Rules (7 C.F.R. Parts 205.100; 205.101, and 205.202). Further, construction standards and policies identified in this AIMP can be modified through Easement or other agreement between ITC Midwest and the Landowner of Agricultural Land, as appropriate. In such case, the Easement or other agreement will control.

Generally

ITC Midwest will negotiate in good faith with each Landowner of Agricultural Land to secure an agreement containing the conditions or provisions necessary to implement the provisions of this AIMP. The mitigative actions set forth in this AIMP are subject to negotiation and approval or change by Landowner of Agricultural Land, so long as such changes are negotiated with and acceptable to ITC Midwest. Mitigative actions will be executed by qualified contractors retained by ITC Midwest, unless otherwise specified or agreed upon by Landowner. ITC Midwest and Landowner may agree that certain activities will be performed by Landowner. ITC Midwest maintains a damage claim policy outlining compensation policies for damage to property, including but not limited to crop damages, and will provide a copy of this policy to the Landowner during Easement acquisition negotiations.

ITC Midwest's DEIS Comment Letter

Unless otherwise specified in this AIMP or in an Easement or other agreement negotiated between ITC Midwest and Landowner, construction standards and policies or mitigative actions will be implemented within 90 days after completion of Final Clean-up activities on Agricultural Land. Weather conditions or other circumstances identified by mutual agreement between Landowner and ITC Midwest may delay implementation of mitigative actions after final cleanup. Where practicable, ITC Midwest may make temporary repairs. These temporary repairs may be made to minimize additional property damage or interference with the Landowner's access to the subject Agricultural Land.

ITC Midwest or its contractors will implement the construction standards and policies or mitigative actions identified within this AIMP so long as such activities do not conflict with any applicable Federal or State rules, regulations, permits, licenses, approvals, or conditions obtained by ITC Midwest for the Project. Should any activity within this AIMP be determined to be unenforceable due to Federal or State rules, regulations, permits, licenses, approvals, or conditions, ITC Midwest will inform the Landowner and will identify a reasonable alternative activity.

Prior to Right-of-Way preparation for, or construction of, the Project, ITC Midwest will make a good faith effort to provide each Landowner with contact information, including a phone number and address, that can be used to contact ITC Midwest regarding any impacts to Agricultural Land or other construction-related concern or question. ITC Midwest will provide updated information to the Landowner within a reasonable time of any change to ITC Midwest contacts.

Construction Standards

Mitigative Actions

ITC Midwest will reasonably restore and/or compensate Landowner, as appropriate, for damages caused by ITC Midwest as a result of transmission line construction, and as outlined in this plan. ITC Midwest will decide whether to restore land and/or compensate Landowner after a discussion with the Landowner.

Advance Notice of Access

ITC Midwest will make good faith efforts to provide notice to the Landowner in advance of the commencement of construction activities on Agricultural Land. Notice may include personal contact, email, letter, or telephone contact.

Agricultural Monitor

An Agricultural Monitor shall be retained and funded by ITC Midwest but will report directly to the MDA. The Agricultural Monitor's primary function will be to audit ITC Midwest's compliance with this AIMP. The Agricultural Monitor will not have the authority to direct construction activities and will not have authority to stop

construction. The Agricultural Monitor will notify ITC Midwest's Inspector if s/he believes a compliance issue has been identified. The Agricultural Monitor will have full access to Agricultural Land crossed by the Project and will have the option of attending meetings where construction on Agricultural Land is discussed. Specific duties of the Agricultural Monitor will include, but are not limited to the following:

1. Participate in preconstruction training activities sponsored by ITC Midwest.
2. Monitor construction and restoration activities on Agricultural Land for compliance with provisions of this AIMP.
3. Report instances of noncompliance with the AIMP to ITC Midwest's Inspector.
4. Prepare regular compliance reports and submit to MDA, as requested by the MDA.
5. Coordinate communication of Landowner concerns to the MDA, if necessary.
6. Maintain a written log of Landowner concerns reported by the ITC Midwest Inspector and/or land rights agent regarding compliance with this AIMP. The written log should record whether the Agricultural Monitor reported each logged concern to the MDA.
7. Be responsible for determining whether weather conditions have caused the soil to become so wet that the activity to alleviate compaction would reduce the future production capacity of the land and advising ITC Midwest's Inspector of these conditions. ITC Midwest will be solely responsible in making the decision on whether it will proceed with construction under these conditions. Compensation for Landowner, as appropriate, will be determined as described in the "Procedures for Determination of Damages and Compensation" section of this AIMP.
8. In disputes between ITC Midwest and a Landowner over restoration, advise the MDA on whether the agricultural restoration is reasonably adequate in consultation with the ITC Midwest Inspector and ITC land agent.

Qualifications and Selection of the Agricultural Monitor

The Agricultural Monitor will have a bachelor's degree in agronomy, soil science or equivalent work experience. The Agricultural Monitor will have demonstrated practical experience with pipeline or electric transmission line construction and restoration on Agricultural Land. The MDA and ITC Midwest will jointly select the Agricultural Monitor.

ITC Midwest's DEIS Comment Letter

ITC Midwest Inspector

The ITC Midwest's Inspector will:

1. Be full-time member of ITC Midwest inspection team.
2. Be responsible for verifying ITC Midwest compliance with provisions of this AIMP during construction.
3. Work collaboratively with other members of ITC Midwest's construction team, land right agents, and the Agricultural Monitor in achieving compliance with this AIMP.
4. Observe construction activities on Agricultural Land on a regular basis.
5. Have the authority to stop construction activities that are determined to be out of compliance with provisions of this AIMP.
6. Document instances of noncompliance and work with construction personnel to identify and implement appropriate corrective actions as needed.
7. Provide construction personnel with training on provisions of this AIMP before construction begins.
8. Provide construction personnel with field training on specific topics as needed.

Pole Placement

During the design of the Project, ITC Midwest's engineering, land rights and permitting staff will seek input from Landowner, as practicable, to address pole placement issues. Prior to construction, the land rights agents will review the staked pole locations with the Landowner when requested to do so by the Landowner.

Pole Removal

If the Project is constructed along an existing 69 kV or 161 kV transmission line, and ITC Midwest determines the existing facilities can be reasonably co-located, ITC Midwest may remove existing transmission line structures. For transmission line structures that do not have a footing, ITC Midwest will extract the pole from the ground if possible. In the event a pole cannot be extracted by pulling, ITC Midwest will excavate an area to uncover approximately 60 percent of the buried pole and an attempt will be made to extricate an excavated pole entirely. If an excavated pole cannot be removed in its entirety, the pole will either be cut off at the excavated depth (in the range of approximately five feet) or pushed over if the pole cannot be cut. If an existing transmission structure to be removed for purposes of the Project has a concrete footing, ITC Midwest will work with the Landowner to determine at what depth the footing must be removed so farming operations can continue on the property.

If ITC Midwest removes an existing pole, all support anchors for the structure will be removed. In these instances, ITC Midwest will work with the Landowner to identify any tile lines located near anchors prior to removal of the anchors. Additionally, if any damage to tile occurs as a result of pole or anchor removal, ITC Midwest will adhere to the "Agricultural Tile" section of this AIMP.

Substation Construction

The Project will require construction and/or expansion at two substation locations. During construction and expansion of the Huntley and Lakefield substations, respectively, ITC Midwest will segregate Topsoil that must be removed for ground work. At ITC Midwest's sole discretion, excess Topsoil may be made available to a Landowner who wishes to use this Topsoil on his or her property. If the Topsoil is made available to a Landowner in other areas of the Project, it will be provided "as is" and the Landowner, not ITC Midwest, will be responsible for verifying that the quality of the Topsoil meets the Landowner's farming requirements. The Landowner is solely responsible for obtaining any required local, state, or federal permits or permissions that may be necessary for the placement of Topsoil on his or her property.

Agricultural Tile

ITC Midwest will contact an affected Landowner for their knowledge of tile locations prior to installation of the transmission line. ITC Midwest will attempt to identify tile if the Landowner does not know if tile is located at the proposed pole location. Tile that is damaged, cut, or removed as a result of ITC Midwest's location efforts will be promptly repaired. The repair will be reported to the Inspector.

If tile is damaged by Project construction, the tile will be repaired –with materials of the same quality as that which was damaged. If tiles on or adjacent to the transmission line construction area are adversely affected by construction, ITC Midwest will take such actions as are necessary to restore the tile function, including the relocation, reconfiguration, and replacement of the existing tile. ITC Midwest will correct tile repairs, as needed, after completion of the transmission line construction, provided the repairs were made by ITC Midwest or their agents or designees.

The affected Landowner may elect to negotiate a fair settlement with ITC Midwest for the Landowner to undertake the responsibility for repair, relocation, reconfiguration, or replacement of damaged tile. In the event the Landowner chooses to undertake the responsibility for repair, relocation, reconfiguration, or replacement of the damaged tile, ITC Midwest will have no further liability for the identified damaged tile.

The following standards and policies apply to the tile repairs completed by ITC Midwest:

ITC Midwest's DEIS Comment Letter

1. Tiles will be repaired with materials of the same or better quality as that which was damaged.
2. If water is flowing through a damaged tile, temporary repairs will be promptly installed and maintained until such time that permanent repairs can be made.
3. Before completing permanent tile repairs in an area where a Landowner, the Agricultural Monitor, or ITC Midwest has identified a potential concern arising from Project construction, tiles will be examined within the work area to check for tile that might have been damaged by construction equipment. If tiles are found to be damaged, they will be repaired so they operate as well after construction as before construction began.
4. ITC Midwest will make efforts to complete permanent tile repairs within a reasonable timeframe after Final Clean-up, taking into account weather and soil conditions.
5. Following completion of the Final Clean-up and damage settlement, ITC Midwest will be responsible for correcting and repairing tile breaks, or other damages to tile systems that are discovered on the Right-of-Way to the extent that such breaks are the result of Project construction. These damages are usually discovered after the first significant rain event. ITC Midwest will provide the Landowner with contact information should tile damage issues be identified after Final Clean-up. ITC Midwest will not be responsible for tile repairs performed by the Landowner.

ITC Midwest will be responsible for installing additional tile or other drainage measures, including adding topsoil, as necessary to properly drain wet areas along the Right-of-Way caused by the construction of the Project.

Soil Compaction/Rutting

Compaction will be alleviated as practicable on cropland traversed by construction equipment. ITC Midwest will work with the Landowner to alleviate compaction during suitable weather conditions in a mutually agreeable manner.

ITC Midwest will repair damage incurred due to compaction, ruts, erosion, and/or washing of soil caused by electric line construction. If, by mutual agreement, the Landowner repairs such damage, ITC Midwest will reimburse the Landowner for the reasonable cost of labor and the use of equipment to repair damage incurred due to compaction, ruts, erosion, and/or washing of soil caused by electric line construction. ITC Midwest will make such payments within a reasonable period of time following completion of project construction and after receiving a statement substantiating the Landowner's repair costs.

ITC Midwest will pay for the reasonable cost of repairs to the Landowner's equipment if the equipment is damaged during repair of compaction, ruts, erosion, and/or washing of soil by materials or debris ITC Midwest left on the right of way during construction.

If there is a dispute between the Landowner and ITC Midwest as to what areas need to be ripped or chiseled, the depth at which compacted areas should be ripped or chiseled, or the necessity for, or rates of, lime, fertilizer, and organic material application, ITC Midwest will consult with the Agricultural Monitor prior to making a final decision.

Excess Soil and Rocks

Excess soil and rock will be removed from the site unless otherwise requested by the Landowner. After Final Clean-up and restoration of Agricultural Lands, ITC Midwest will make good faith efforts to obtain written acknowledgement of completion of such activities from the Landowner.

Construction Debris

ITC Midwest will remove construction-related debris and material which is not an integral part of the transmission line from the Landowner's property at ITC Midwest's cost. Such material may include excess construction materials or litter generated by the construction crews.

Procedures for Determination of Damages and Compensation

ITC Midwest will maintain a procedure for processing Landowner claims for construction-related damages, including but not limited to crop damages. The procedure is intended to standardize and minimize Landowner concerns regarding the recovery of damages, to provide a degree of certainty and predictability for Landowner and ITC Midwest, and to foster good relationships among ITC Midwest and Landowner over the long term. A copy of the procedure will be provided to Landowner during Easement acquisition negotiations.

Damage claim negotiations between ITC Midwest and any affected Landowner will be voluntary in nature. ITC Midwest will offer to compensate Landowners according to the terms of ITC Midwest's damage claim policy in effect at the time the Easement is executed and recorded. The compensation offered is only an offer to settle, and the offer shall not be introduced in any proceeding brought by the Landowner to establish the amount of damages ITC Midwest must pay.

Weed Control

When requested, ITC Midwest will work with neighboring Landowner to determine adequate weed control measures on lands owned by ITC Midwest for substation facilities. The intent of such weed control measures is to prevent the spread of weeds

ITC Midwest's DEIS Comment Letter

onto adjacent Agricultural Land. Any weed control spraying will be in accordance with State of Minnesota regulations.

Soil Conservation Practices

Soil conservation practices such as terraces and grassed waterways which are damaged by the transmission line's construction will be restored to their pre-construction condition as near as possible. ITC Midwest will attempt to work with the Landowner to identify and document the pre-construction conditions of these features.

Irrigation

If the transmission line and/or temporary work areas intersect an operational (or soon to be operational) spray irrigation system, ITC Midwest will work with the Landowner to establish an acceptable amount of time the irrigation system may be out of service.

If, as a result of the transmission line construction activities, an irrigation system interruption results in crop damages either on the Right-of-Way or off the Right-of-Way, compensation to Landowner, as appropriate, will be determined as described in "Procedures for Determination of Damages and Compensation" section of this AIMP.

If it is feasible and mutually acceptable to ITC Midwest and the Landowner, temporary measures will be implemented to allow an irrigation system to continue to operate across land on which the transmission line is also being constructed. ITC Midwest will not allow an irrigation system to continue operation across land on which the transmission line is also being constructed if the ITC Midwest Inspector, land agent, or field supervisor determine that such operation would be unsafe.

Temporary Roads

The location of temporary roads to be used for construction purposes will be discussed with the Landowner.

- A. The temporary roads will be designed so as to not impede proper drainage and will be built to mitigate soil erosion on or near the temporary roads.
- B. After Final Clean-up, temporary roads may be left intact through mutual agreement of the Landowner and ITC Midwest unless otherwise restricted by Federal, State, or local regulations.
- C. If a temporary road is to be removed, the Agricultural Land upon which the temporary road is constructed will be returned to its previous use and restored to equivalent condition as existed prior to construction.

Organic Farms

ITC Midwest recognizes that Organic Agricultural Land is a unique feature of the landscape and will treat this land with a similar level of care as other sensitive environmental features. This section identifies mitigation measures that apply specifically to farms that are Organic Certified or farms that are in active transition to become Organic Certified, and is intended to address the unique management and certification requirements of these operations. This section supplements and is in addition to all other protections provided in this AIMP.

The provisions of this section will only apply to Organic Agricultural Land for which the Landowner has provided to ITC Midwest a true, correct and current version of the Organic System Plan within 60 days after the signing of the Easement or 60 days after the first contact by ITC Midwest after the Commission issues a Route Permit, whichever occurs first.

Organic System Plan

ITC Midwest recognizes the importance of the individualized Organic System Plan to the Organic Certification process. ITC Midwest will work with the Landowner, the Landowner's Certifying Agent, and/or a mutually acceptable third-party Organic consultant to identify site-specific construction practices that will minimize the potential for Decertification as a result of construction activities. Possible practices may include, but are not limited to: equipment cleaning, planting a deep-rooted cover crop in lieu of mechanical decompaction, applications of composted manure or rock phosphate, preventing the introduction of disease vectors from tobacco use, restoration and replacement of beneficial bird and insect habitat, maintenance of organic buffer zones, use of organic seeds for any cover crop, or similar measures. ITC Midwest recognizes that Organic System Plans are proprietary in nature and will respect the need for confidentiality.

Prohibited Substances

ITC Midwest will avoid the application of Prohibited Substances onto Organic Agricultural Land. No herbicides, pesticides, fertilizers or seed will be applied to Organic Agricultural Land unless requested and approved by the Landowner. Likewise, ITC Midwest will avoid refueling, fuel or lubricant storage, or routine equipment maintenance on Organic Agricultural Land. Equipment will be checked prior to entry to make sure that fuel, hydraulic and lubrication systems are in good working order before working on Organic Agricultural Land. If Prohibited Substances are used on land adjacent to Organic Agricultural Land, these substances will be used in such a way as to prevent them from entering Organic Agricultural Land.

Temporary Road Impacts

Topsoil and Subsoil layers that are removed during construction on Organic Agricultural Land for temporary road impacts will be stored separately and replaced in the proper sequence after the transmission line is installed. Unless otherwise specified in the site-specific plan described above, ITC Midwest will not use this soil for other purposes, including creating access ramps at road crossings. No Topsoil or Subsoil (other than incidental amounts) may be removed from Organic Agricultural Land. Likewise, Organic Agricultural Land will not be used for storage of soil from non-Organic Agricultural Land.

Erosion Control

On Organic Agricultural Land, ITC Midwest will, to the extent feasible, implement erosion control methods consistent with the Landowner's Organic System Plan. On land adjacent to Organic Agricultural Land, ITC Midwest' erosion control procedures will be designed so that sediment from adjacent non-Organic Agricultural Land will not flow along the Right-of-Way and be deposited on Organic Agricultural Land. Treated lumber, non-organic hay bales, non-approved metal fence posts, etc. will not be used for erosion control on Organic Agricultural Land.

Weed Control

On Organic Agricultural Land, if ITC Midwest determines weed control is necessary during construction activities, ITC Midwest will, to the extent feasible, implement weed control methods consistent with the Landowner's Organic System Plan. Prohibited Substances will not be used for weed control within 50 feet of posted Organic Agricultural Land.

Monitoring

In addition to the responsibilities of the Agricultural Monitor described in the AIMP, the following will apply:

- A. The Agricultural Monitor will monitor construction and restoration activities on Organic Agricultural Land for compliance with the provisions of this section and will document any activities that may result in Decertification.
- B. Instances of non-compliance will be documented according to Independent Organic Inspectors Association protocol consistent with the Landowner's Organic System Plan, and will be made available to the MDA, the Landowner, the Landowner's Certifying Agent, ITC Midwest Inspector and to ITC Midwest.

If the Agricultural Monitor is responsible for monitoring activities on Organic Agricultural Land, s/he will be trained, at ITC Midwest's expense, in organic inspection, by the Independent Organic Inspectors Association, unless the Agricultural Monitor received such training during the previous three years.

Compensation for Construction Damages

The settlement of damages will be based on crop yield and/or crop quality determination and the need for additional restoration measures. ITC Midwest will first work with the Landowner of Organic Agricultural Land to determine crop yield. In the event ITC Midwest and the Landowner of Organic Agricultural Land cannot determine crop yield, at ITC Midwest's expense, a mutually agreed upon professional agronomist will make crop yield determinations, and the MDA Fruit and Vegetable Inspection Unit will make crop quality determinations. If the crop yield and/or crop quality determinations indicate the need for soil testing, the testing will be conducted by a commercial laboratory that is properly certified to conduct the necessary tests and is mutually agreeable to ITC Midwest and the Landowner. Field work for soil testing will be conducted by a professional soil scientist or professional engineer licensed by the State of Minnesota. ITC Midwest will be responsible for the cost of sampling, testing and additional restoration activities, if needed. Additional restoration activities will be completed according to the terms of its damage claim policy in effect at the time the Easement is executed and recorded.

Compensation for Damages Due to Decertification

Should any portion of Organic Agricultural Land be Decertified as a result of construction activities, ITC Midwest will pay damages for crops and/or livestock within the area impacted by the lost Certification equal to the full difference between the market value of conventional crops and/or livestock and the market value of the organic crops and/or livestock lost for three years or the period of time necessary for the Landowner or Tenant to regain Certification, whichever comes first. The market value of the crop will be determined as set forth in the damage claim policy. At the request of ITC Midwest, the Landowner shall provide verification of its loss of organic Certification through the accredited certifying agent prior to any compensation for organic crop loss being paid.

ITC Midwest's DEIS Comment Letter

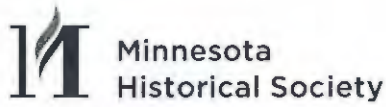
Definitions

Agricultural Land	Land that is actively managed for cropland, hayland, or pasture, and land in government set-aside programs.
Agricultural Monitor	Monitor retained and funded by ITC Midwest, reporting directly to the Minnesota Department of Agriculture (“MDA”) and responsible for auditing ITC Midwest’s compliance with provisions of this AIMP.
Certifying Agent	As defined by the National Organic Program Standards, Federal Regulations 7 CFR Part 205.2.
Cropland	Land actively managed for growing row crops, small grains, or hay.
Decertified or Decertification	Loss of Organic Certification.
Easement	The agreement(s) and/or interest in privately owned Agricultural Land held by ITC Midwest by virtue of which it has the right to construct, operate and maintain the transmission line together with such other rights and obligations as may be set forth in such agreement.
Final Clean-up	Transmission line activity that occurs after the power line has been constructed. Final Clean-up activities may include: removal of construction debris, de-compaction of soil as required, installation of permanent erosion control structures, final grading, and restoration of fences and required reseeding. Once Final Clean-up is finished, Landowner will be contacted to settle all damage issues and will be provided a form to sign acknowledging final construction settlement.
Inspector	Full-time on-site inspector retained by ITC Midwest to verify compliance with requirements of this AIMP during construction of the transmission line. The Inspector will have demonstrated experience with transmission line construction on Agricultural Land.
ITC Midwest	ITC Midwest LLC, a Michigan limited liability company. May also include agents and contractors of ITC Midwest, where appropriate.

Landowner	Person(s), or their representatives, holding legal title to Agricultural Land on the transmission line route from whom ITC Midwest is seeking, or has obtained, a temporary or permanent Easement. "Landowner" includes Tenant, if any.
Non-Agricultural Land	Any land that is not "Agricultural Land" as defined above.
Organic Agricultural Land	Farms or portions thereof described in 7 CFR Parts 205.100, 205.202, and 205.101.
Organic Buffer Zone	As defined by the National Organic Program Standards, Federal Regulations 7 CFR Part 205.2.
Organic Certification or Organic Certified	As defined by the National Organic Program Standards, Federal Regulations 7 CFR Part 205.100 and 7 CFR Part 205.101.
Organic System Plan	As defined by the National Organic Program Standards, Federal Regulations 7 CFR Part 205.2.
Prohibited Substance	As defined by the National Organic Program Standards, Federal Regulations 7 CFR Part 205.600 through 7 CFR 205.605 using the criteria provided in 7 USC 6517 and 7 USC 6518.
Right-of-Way	The Agricultural Land included in permanent and temporary Easements which ITC Midwest acquires for the purpose of constructing, operating and maintaining the transmission line.
Subsoil	Soil that is not Topsoil, and located immediately below Topsoil.
Tenant	Any Person(s) lawfully renting or sharing land for agricultural production which makes up the "Right-of-Way" as defined in this AIMP.
Tile	Artificial subsurface drainage system.
Topsoil	The uppermost horizon (layer) of the soil, typically with the darkest color and highest content of organic matter.

Appendix P

Cultural Resources Consultation and Report



STATE HISTORIC PRESERVATION OFFICE

August 11, 2014

Julie Ann Smith PhD
Office of Electricity Delivery and Energy Reliability
U.S. Department of Energy
Washington, DC 20585

RE: Proposed Great Northern Transmission Line (DOE/EIS-0499)
Multiple Counties, Minnesota
SHPO Number: 2013-2759

Dear Dr. Smith.

On 8 July 2014, our office received notification regarding the initiation of the process of environmental analysis under the National Environmental Policy Act (NEPA) which will culminate in preparation of an Environmental Impact Statement (EIS) for the Great Northern Transmission Line, which is proposed to be constructed from Roseau County to Itasca County in Minnesota.

While our office often participates in project environmental review under NEPA, it is typically coordinated, or concurrent with consultation pursuant to the responsibilities given the State Historic Preservation Officer by the National Historic Preservation Act of 1966 (NHPA) and implementing federal regulations at 36 CFR 800. We request that you provide clarification regarding the DOE's anticipated plan for compliance with Section 106 in coordination with NEPA, as outlined in 36 CFR 800.8.

Your letter indicates that the St. Paul District, U.S. Army Corps of Engineers will be a cooperating agency for this proposed project. They have not yet initiated consultation with our office on this undertaking.

We look forward to continuing consultation on this important project. Please feel free to contact me if you have any questions or concerns regarding this letter. I can be reached at 651-259-3456 or sarah.beimers@mnhs.org.

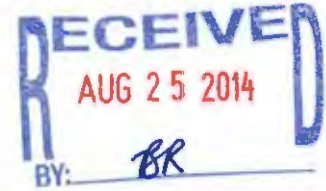
Sincerely,

Sarah J. Beimers, Manager
Government Programs and Compliance

cc: Tamara Cameron, St. Paul District, USACE
Jamie Loichinger, Advisory Council on Historic Preservation



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Department of Energy
Washington, DC 20585

November 19, 2014

Mr. Stephen Elliot
State Historic Preservation Officer
Minnesota Historical Society
345 Kellogg Boulevard West
St. Paul, MN 55102-1906

SUBJECT: Initiation Request for Section 106 Consultation under the National Historic Preservation Act (NHPA) for the proposed *Great Northern Transmission Line Project* (DOE/EIS-0499)

Dear Mr. Elliot:

The U.S. Department of Energy (DOE or the Department) is in the process of preparing its draft Environmental Impact Statement (EIS) for the proposed Great Northern Transmission Line (GNTL) project in Roseau, Lake of the Woods, Koochiching, and Itasca Counties in northern Minnesota. DOE is preparing its draft EIS pursuant to its obligations under the National Environmental Policy Act (NEPA) to evaluate environmental impacts of providing a Presidential permit to Minnesota Power for the construction, operation, maintenance, and connection of the portion of the transmission line within the United States. The proposed DOE federal action is the potential grant of a Presidential permit for the international border crossing requested by Minnesota Power as part of its proposal. This action has been determined by DOE to be an undertaking that has potential to cause adverse effects on historic properties per the Advisory Council on Historic Preservation's (ACHP's) NHPA implementing regulations at 36 CFR §800.3(a).

The Department is coordinating its compliance with Section 106 of the NHPA with its review under NEPA according to the process set out in 36 CFR §800.3(b). Per standing policy, DOE will explicitly solicit information from the public (via the NEPA process) regarding cultural and historic resources through its Notice of Availability of its draft EIS when published in the *Federal Register*. DOE will also make cultural resources reports and information publicly available on the GNTL project EIS website, as appropriate.

In this letter DOE provides you with a summary of the actions that the Department is taking to comply with Section 106 of the NHPA, including project background, efforts to identify historic properties potentially affected by the proposed GNTL project to date, a preliminary list of potentially affected historic properties listed or eligible for listing on the National Register of Historic Properties (NRHP), potential consulting parties. This letter also discusses DOE's initial proposal for direct and indirect Areas of Potential Effect (APEs) to be used in the Department's proposed phased approach to identification and evaluation of historic resources under Section 106. Furthermore, DOE is sending this letter as its official request for initiation of Section 106 consultation under NHPA with the Minnesota State

Historic Preservation Office (SHPO), and would appreciate your written reply within 30-days or as soon as possible.

Background

As you are aware, DOE sent a NEPA review information letter to your office on July 10, 2014, indicating that Minnesota Power applied to DOE for a Presidential permit to construct, operate, maintain, and connect an approximately 220-mile, overhead, single-circuit 500 kV AC transmission line between the Minnesota - Manitoba border crossing northwest of Roseau, Minnesota, and terminating at the existing Blackberry 230/115 kV Substation near Grand Rapids, Minnesota. Minnesota Power's proposal also includes associated substation facilities and transmission system modifications at the Blackberry Substation site, and construction of a new 500 kV Series Compensation Station (a structure which will house the 500 kV series capacitor banks necessary for reliable operation and performance of the proposed transmission line). A new Blackberry 500 kV Substation would be required for the proposed Project and would be constructed adjacent to and east of the existing Blackberry 230/115 kV Substation. The proposed GNTL project would carry hydropower generated by facilities operated by Manitoba Hydro, a Canadian electric utility.

DOE is a federal joint lead agency with the Minnesota Department of Commerce – Energy Environmental Review and Analysis (DOC-EERA) acting as state joint lead agency per 40 CFR 1501.5(b) in the preparation of the subject EIS. The U.S. Army Corps of Engineers, St. Paul District (USACE), the U.S. Fish and Wildlife Service, and the U.S. Environmental Protection Agency, Region 5, will be cooperating agencies to DOE and DOC-EERA in the preparation of this EIS.

DOE is the lead federal agency for purposes of compliance with Section 106, in accordance with 36 CFR § 800.2(a)(2), and will address the potential effects of the above identified NEPA cooperating agencies' (namely USACE's) proposed actions on historic and archaeological resources.

DOE documented a Notice of Intent (NOI) to prepare an EIS in the *Federal Register* on June 27, 2014 (79 FR 36493), with an open public scoping period which ended on August 15, 2014. The NOI specifically indicated that cultural and historic resources are being analyzed as part of the federal environmental review. While the proposed federal action (and undertaking) is the potential grant of a Presidential permit by DOE for the international border crossing, the proposed construction, operation, maintenance, and connection of the portion of the transmission line within the United States is a connected action to DOE's proposed action under NEPA. DOE is therefore analyzing the potential environmental impacts from the proposed federal action and the connected action in the EIS. For the purposes of compliance with Section 106 of the NHPA, DOE is considering the potential for adverse effects to cultural and historic properties for the proposed border crossing and entire length of the proposed transmission line.

Consulting Parties

In accordance with 36 CFR §800.2, DOE has identified potential consulting parties, including ACHP, SHPO, THPOs, the Applicant, local government representatives, other Native American entities, local historical societies, heritage preservation commissions, state

agencies, sites and museums, state-wide groups, national groups, and private individuals with a for the purposes of Section 106 consultation under NHPA. A list of consulting parties identified by DOE is enclosed with this letter for your review and input (*see enclosed Draft List of GNTL Section 106 Consulting Parties*). DOE requests that you and your staff provide the Department with feedback regarding any other potential Section 106 consulting parties for the GNTL project that may not have yet been identified or that should be included in this list of potential consulting parties. Your office's assistance in this matter at this time is greatly appreciated.

Tribal Outreach and Consultation

As proposed, the GNTL project does not directly involve tribal reservation lands or require a right-of-way grant or special use grant from tribes, however, the proposal is located in an area that was inhabited by numerous American Indians before Euro-American settlement. As a result the proposal has the potential to impact tribes with current or historic interest in the project area.

In accordance with its responsibilities under Section 106, NEPA, the American Indian Religious Freedom Act (16 U.S.C. 1996), the Archeological Resources Protection Act of 1979 (16 U.S.C. 470aa-mm), the Native American Graves Protection and Repatriation Act of 1990 (25 U.S.C. 3001, et. seq.), Executive Order 13175 *Consultation and Coordination with Indian Tribal Governments*, (November 6, 2000), and DOE's "American Indian and Alaska Native Tribal Government Policy," as set forth in DOE Order 1230.2 (October 2000), DOE initiated government-to-government consultation with tribes potentially affected by the proposed GNTL project via letter dated June 27, 2014. As a part of this effort, DOE held government-to-government tribal consultation meetings on July 15, 2014, in Red Lake, Minnesota, and on July 22, 2014, in Deer River, Minnesota. The purpose of these initial consultation meetings was to gain the opinions of tribes regarding the cultural values that tribes ascribe to the area and its resources, as well as to identify opinions of tribes that no longer live in the area.

A list of federally recognized American Indians and Tribal Historic Preservation Officers (THPOs) contacted by DOE as a part of these activities is provided in the attached *Draft List of GNTL Section 106 Consulting Parties*. DOE's government-to-government consultation activities with these tribes and THPOs are on-going.

Identification Efforts to Date

The proposed undertaking has the potential to affect historic properties either listed in, or eligible for, inclusion in the National Register of Historic Places. An initial cultural resources survey (i.e., desktop literature review) was performed by Minnesota Power as part of the GNTL project Presidential permit application to DOE. This survey considered a study area extending 1-mile on each side of the proposed GNTL Project's right-of-way (ROW) centerline, with preliminary potential direct effects analysis based on an anticipated 200-foot-wide ROW within 1000-3000 foot Route Alternatives.

The initial cultural resources survey study area encompassed two Route Alternatives and four (4) Segment Options. The Route Alternatives are the Blue Route and the Orange Routes. Segment Options include the Segment Option C1, Segment Option C2, Segment Option J1, and Segment Option J2 (*see enclosed Cultural Resources Study*).

As a part of this effort, your office responded to historic resources data (e.g., GIS shape files) requests by Minnesota Power in March 2013, July 2013, August 2013, and November 2013. Your office also provided input to Minnesota Power regarding the proposed GNTL project and suggestions for archaeological survey via a letter dated August 14, 2013.

An initial study of the NHRP listed or eligible properties found that one of the properties identified within 1-mile of the Blue Route is listed on the NRHP, however, four properties, all railroad or mining properties, are considered eligible for NRHP listing: the Great Northern Railway Gunn Line (IC-IRT-009), one segment of the Duluth, Missabi and Northern Railway (IC-IRT-010), the Holman Mine Stripping and Lean Ore Dump (IC-IRT-012), and the Brown Number 2 Mine Stripping Dump (IC-IRT-013).

The study also found that no properties identified within 1-mile of the Orange Route are listed on the NRHP, however, four properties, all railroad or mining properties, are considered eligible for NRHP listing: the Great Northern Railway Gunn Line (IC-IRT-009), one segment of the Duluth, Missabe and Northern Railway (IC-IRT-010), the Holman Mine Stripping and Lean Ore Dump (IC-IRT-012), and the Brown Number 2 Mine Stripping Dump (IC-IRT-013).

For the Segment Options C1, C2, and J1, this study indicated that there are no NRHP listed or eligible properties within the CR Study Area. While none of the properties identified within the Segment Option J2 CR Study Area are listed on the NRHP, two architectural properties within the CR Study Area have been evaluated as eligible for listing on the NRHP: two segments of Minnesota Highway 38 (IC-BFT-017 and IC-EFC- 015).

The GNTL Presidential permit application, including associated maps, drawings, and initial cultural resources study, can also be viewed or downloaded in its entirety from the DOE Office of Electricity Delivery and Energy Reliability (OE) program Web site at: <http://energy.gov/oe/downloads/application-presidential-permit-oe-docket-no-pp-398-great-northern-transmission-line>. However, I have attached “Appendix G- Cultural Resources Study” submitted as part of Minnesota Power’s Presidential permit application to this letter for your use and review.

In addition to efforts by Minnesota Power to identify historic resources potentially affected by the proposed GNTL project, DOE held eight NEPA public scoping meetings during its 45-day public scoping comment period from July 16 – July 24, 2014 (*see enclosed GNTL Regional Map*). The meetings held in the towns of Roseau, Baudette, Littlefork, International Falls, Kelliher, Bigfork, and Grand Rapids, Minnesota. DOE received four comments related to potential impacts from construction on historic resources along the proposed transmission routes, including such resources as the Conservation Corps Camp 53 site, historic logging sites, and Big Fork River historic and cultural areas. The *Great Northern Transmission Line Scoping Summary Report* (November 2014) is available on the DOE GNTL EIS Web site at: <http://www.greatnortherneis.org/Files/ScopingSummaryReportNOV2014.pdf>. Due to its overall size, a hardcopy of this report will be provided to you upon request in follow up to this letter.

Scope of Future Identification Efforts under Section 106–Area of Potential Effect (APE)

As mentioned above, the anticipated ROW for the proposed GNTL project is 200-foot-wide alignment located within a 1000-3000 foot-wide route alternative. In order to begin your consideration of DOE’s scope of identification efforts under Section 106 of the NHPA, the Department proposes a direct APE of the maximum width of a route alternative, an area of approximately 1000-3000 feet wide for each proposed Route Alternative. Using this as an initial point for scope of identification efforts (e.g., Phase 1A survey efforts) would allow for flexibility in siting of the final alignment within the approved route alternative. Once the final alignment is determined by the Minnesota Public Utilities Commission, DOE would propose a direct APE as the 200-foot wide alignment for detailed identification and evaluation efforts. The direct APE for identifying terrestrial historic properties and below grade archeological resources would include those areas outside of the ROW that may be impacted by construction, access roads, material and equipment storage areas, or any other physical disturbances necessary during construction of the project.

At this time, DOE would also like SHPO to contemplate the extent of an indirect APE for assessing the potential for adverse visual effects of the proposed GNTL project on terrestrial historic properties. The Department typically proposes an indirect APE for overhead transmission lines of this size and complexity to be approximately one-mile on either side of the center line (will vary with topography) of the proposed right-of-way once the final alignment is established. DOE looks forward to future discussions with you and other consulting parties about these proposed direct and indirect APEs for the GNTL project, and understands that no final direct and indirect APE determinations may be made at this time.

DOE Identification of Historic Properties – Programmatic Agreement (PA)

Because DOE is currently considering alternatives under NEPA for the proposed GNTL project that are large linear tracts of land encompassed in Minnesota Power’s proposed Blue and Orange Route Alternatives and four Route Segment Options (C1, C2, J1, and J2), DOE has determined that a phased approach for Section 106 identification and evaluation efforts in accordance with the process set forth in 36 CFR §800.4(b)(2) is appropriate. The Department therefore proposes the execution of a programmatic agreement (PA) pursuant to 36 CFR §800.14(b) to properly defer final identification and evaluation of historic properties. A programmatic agreement for the GNTL project would delineate the process by which the likely presence of historic properties within the APE for each alternative under consideration through background research, consultation, and appropriate level of field investigation is performed, while taking into consideration the magnitude of the undertaking and its likely effects, and the views of SHPO, THPO(s) and any other consulting.

DOE has attached a preliminary draft PA for the GNTL project to this letter for your review and consideration. This preliminary draft PA is offered as a starting point for Section 106 consultation discussions with SHPO and consulting parties in considering DOE’s proposed phased approach to identification and evaluation of historic and cultural properties potentially affected by the proposed GNTL project (*see enclosed Preliminary Draft PA*).

In close, DOE currently seeks your concurrence on initiating its Section 106 consultation process for the proposed Great Northern Transmission Line project. DOE also seeks any

information or suggestions that your office may have with regard to potential consulting parties or tribes that are included in the attached consulting parties list, or if you have additional information that should be considered at this time. Please provide your Section 106 initiation concurrence and any material information that you may have in writing so that it may be added to the administrative record to evidence DOE's compliance with Section 106 consultation responsibilities.

I very much look forward to working with you and your staff in the near future and appreciate your assistance in this effort. I will be traveling on GNTL project business to St. Paul from December 2-4, 2014, and would like to have an opportunity to introduce myself in person to you and your staff. I hope there will be time in your schedule and staff resources for this meeting to occur, and will be in contact with your staff via email and/or phone in an effort to schedule such an opportunity if possible.

If you have any questions or concerns, please contact me at any time at Juliea.Smith@hq.doe.gov or (202) 586-7668.

Yours very truly,



Julie Ann Smith, PhD
Principal NEPA Document Manager
National Electricity Delivery Division, OE-20
Office of Electricity Delivery and
Energy Reliability
U.S. Department of Energy

Enclosed:

- GNTL Project Regional Map (from NEPA Scoping Summary Report)
- Cultural Resources Study (Appendix G from DOE Presidential permit application)
- Draft List GNTL Section 106 Consulting Parties
- Preliminary Draft PA

Cc: Charlene Dwin Vaughn, Advisory Council on Historic Preservation

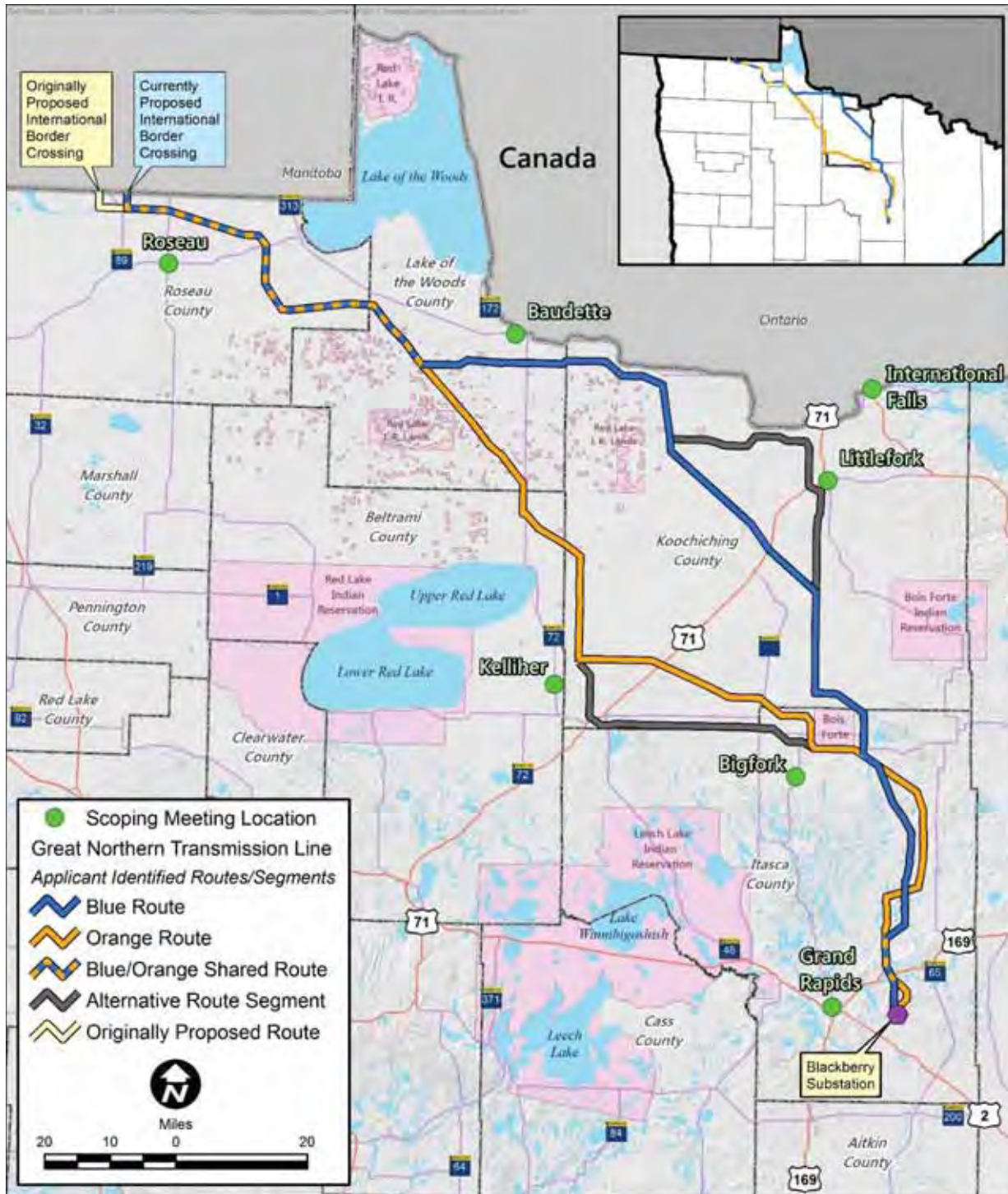


Figure 1-1 Project Regional Map

List of Great Northern Transmission Line Project Section 106 Consulting Parties

Federal Agencies

- Department of Energy (*Lead Section 106 Federal Agency*)
- US Army Corps of Engineers – St. Paul District/Bemidji Field Office
- US Fish and Wildlife Service – Twin Cities Ecological Field Office (Region 3)
- US Environmental Protection Agency (Region 5)
- Advisory Council on Historic Preservation

National Groups/Entities (not Federal agencies)

- National Trust for Historic Preservation

State Agencies

- Minnesota State Historic Preservation Office
- Minnesota Department of Commerce – Energy Environmental Review and Analysis

Statewide Groups/Entities (not State agencies)

- Preservation Alliance of Minnesota

Representatives of Local Governments

Beltrami County

- Territory of Upper Red Lake
- Township of Waskish (Chairman)

Itasca County

- City of Effie (Mayor)
- City of Taconite (Mayor)
- Township of Ardenhurst (Township Supervisor)
- Township of Balsam (Township Supervisor)
- Township of Bigfork (Township Supervisor)
- Township of Carpenter (Township Supervisor B)
- Territory of Effie
- Township of Grattan (Township Supervisor)
- Township of Greenway (Township Supervisor)
- Township of Iron Range
- Township of Lawrence (Supervisor A)
- Township of Liberty
- Territory of Little Sand Lake
- Township of Nashwauk (Supervisor B)
- Township of Nore (Supervisor A)
- Territory of Northeast Itasca
- Township of Pomroy (Supervisor A)
- Township of Trout Lake (Supervisor)

Koochiching County

- City of Northome (Mayor)
- Territory of East Koochiching
- Territory of Northome

Koochiching County (continued)

- Territory of Northwest Koochiching
- Territory of Rainy Lake
- Territory of South Koochiching

Lake of the Woods County

- Territory of Beltrami Forest
- Territory of Rainy River

Roseau County

- Township of Cedarbend (Township Chairman)
- Township of Dieter (Township Chairman)
- Township of Jadis (Township Chairman)
- Township of Lake (Township Chairman)
- Territory of North Roseau
- Township of Pohlitz (Township Chairman)
- Territory of Southeast Roseau

Applicant

- Minnesota Power

Local Historic Societies/Agencies

- Beltrami County Historical Society (President)
- Itasca County Historical Society (Executive Director)
- Koochiching Museums/Koochiching County Historical Society (Executive Director)
- Lake of the Woods County Historical Society (Executive Director)
- Roseau County Historical Society (Director)
- Saum School Museum
- Warroad Historical Society/Heritage Center (President)
- Northeast Minnesota Historical Center Collections (UMD Archivist/Special Collections Curator)
- Iron Range Research Center (IRRC) (Archivist)

Tribal Groups

- The Great Lakes Indian Fish and Wildlife Commission
- Midwest Alliance of Sovereign Tribes
- The Midwest Treaty Network
- Native American Fish & Wildlife Society

Individuals/Presidential permit Intervenors (non-NEPA) per the DOE Presidential permit regulations at 10 CFR Part 250

- Curtis Erickson
- Richard Libby
- Carol Overland
- Robert Oveson

Federally Recognized American Indian Tribes/THPOs contacted by DOE


A. T. Rusty	Stafne	Chairperson Cultural Resources	Assiniboine and Sioux Tribes of the Fort Peck Reservation
Darrell "Curley"	Youpee	Department Director	Assiniboine and Sioux Tribes of the Fort Peck Reservation
Edith	Leoso	THPO	Bad River Band of the Lake Superior Tribe of Chippewa Indians
Mike	Wiggins	Chairperson	Bad River Band of the Lake Superior Tribe of Chippewa Indians
Rosemary	Berens	THPO	Bois Forte Band of Chippewa Indians
Kevin	Leecy	Chairperson	Bois Forte Band of Chippewa Indians
Dave	Larson		Bois Forte Tribal Government-Nett Lake
Kevin	Keckler	Chairperson	Cheyenne River Sioux Tribe
Steve	Vance	THPO	Cheyenne River Sioux Tribe
Duane	Big Eagle Sr.	Chairperson	Crow Creek Sioux Tribe of the Crow Creek Reservation
Anthony	Rider	President	Flandreau Santee Sioux Tribe of South Dakota
James	Weston	THPO	Flandreau Santee Sioux Tribe of South Dakota
Sean	Copeland		Fond du Lac Band of Lake Superior Chippewa
LeRoy	Defoe	THPO	Fond du Lac Band of Lake Superior Chippewa
Karen	Diver	Chairperson	Fond du Lac Band of Lake Superior Chippewa
Melissa	Cook	THPO	Forest County Potawatomi Community WI
Harold	Frank	Chairperson	Forest County Potawatomi Community WI
Victoria	Raske	THPO	Grand Portage Band of Lake Superior Chippewa
Kenneth	Meshigwad	Chairperson	Hannahville Indian Community Michigan
Warren	Schwartz Jr.	President	Keweenaw Bay Indian Community Michigan
Louis	Taylor	Chairperson	Lac Courte Orilles Band of Lake Superior Chippewa Indians of Wisconsin
Thomas	Maulson	President	Lac du Flambeau Band of Lake Superior Chippewa Indians of the Lac du Flambe
Melinda	Young	THPO	Lac du Flambeau Band of Lake Superior Chippewa Indians of the Lac du Flambe
James	Williams Jr.	Chairperson	Lac Vieux Desert Band of Lake Superior Chippewa Indians Michigan
Gina	Lemon	THPO (acting)	Leech Lake Band of Ojibwe
Aurthur	LaRose	Chairperson	Leech Lake Band of the Minnesota Chippewa Tribe MN

Federally Recognized American Indian Tribes/THPOs contacted by DOE

Carri	Jones	Chairwoman	Leech Lake Band of Ojibwe
Robbie M.	Howe-Bebeau	Representative	Leech Lake Reservation
Arthur	Rose	Chairman	Leech Lake Reservation
Steve	White	Representative	Leech Lake Reservation
Eugene	Whitebird	Representative	Leech Lake Reservation
Michael	Jandreau	Chairperson	Lower Brule Sioux Tribe of the Lower Brule Reservation
Anthony	Morse	THPO	Lower Sioux Indian Community MN
Denny	Prescott	President	Lower Sioux Indian Community MN
Natalie	Weyaus	THPO	Mille Lacs Band of Ojibwe MN
Melanie	Benjamin	Chief Executive	Mille Lacs Band of Ojibwe MN
Norman	Deschampe	President	Minnesota Chippewa Tribe MN
Wilmer	Mesteth	THPO	Oglala Sioux Tribal Council of the Pine Ridge Reservation
	Yellow Bird-		
John	Steele	President	Oglala Sioux Tribal Council of the Pine Ridge Reservation
Audrey	Bennett	NAGPA	Prairie Island Indian Community in the State of Minnesota
		Cultural Resource	
Whitney	White	Representative	Prairie Island Indian Community in the State of Minnesota
Victoria	Winfrey	President	Prairie Island Indian Community in the State of Minnesota
Larry	Balber	THPO	Red Cliff Band of Lake Superior Chippewa Indians WI
Kathryn	Beauleiu	NAGPRA	Red Lake Band of Chippewa Indians Minnesota
Floyd	Jourdain	Chairperson	Red Lake Band of Chippewa Indians Minnesota
Rodney	Bordeaux	President	Rosebud Sioux Tribe of the Rosebud Indian Reservation
Russell	Eagle Bear	THPO	Rosebud Sioux Tribe of the Rosebud Indian Reservation
Richard	Thomas	THPO	Santee Sioux of Nebraska
Roger	Trudell	Chairman/ Leader	Santee Sioux of Nebraska
Stanely	Crooks	Chairperson	Shakopee Mdewakanton Sioux Community MN
Diane	Desrosier	THPO	Sisseton- Wahpeton Oyate of the Lake Traverse Reservation
Robert	Shepherd	Chairperson	Sisseton- Wahpeton Oyate of the Lake Traverse Reservation
Garland	McGeshick	Chairperson	Sokaogon Chippewa Community WI
Myra	Pearson	Chairperson	Spirit Lake Tribe North Dakota

Federally Recognized American Indian Tribes/THPOs contacted by DOE

		Cultural Resource	
Darrell	Smith	Program Manager	Spirit Lake Tribe North Dakota
Waste"Win	Young	THPO	Standing Rock Sioux Tribe
Charles	Murphy	Chairperson	Standing Rock Sioux Tribe
Elgin	Crows Breast	THPO	Three Affiliated Tribes of the Fort Berthold Reservation
Tex "Red Tipped Arrow"*****	Hall	Chairman	Three Affiliated Tribes of the Fort Berthold Reservation
Kade	Ferris	THPO	Turtle Mountain Band of Chippewa
Merle	St. Clair	Chairperson	Turtle Mountain Band of Chippewa
Kevin	Jensvoid	Chairperson	Upper Sioux Community of Minnesota
Marlow	LaBatte	THPO	Upper Sioux Community of Minnesota
Dennis	Gill		Wahpekute Band of Dakota
Tom	McCauley	THPO	White Earth Band of MN Chippewa Tribe MN
Erma	Vizenor	Chairperson	White Earth Band of MN Chippewa Tribe MN
Lana	Gravatt	THPO	Yankton Sioux Tribe



Phase Ia Cultural Resources Investigations for the Proposed Great Northern Transmission Line, Roseau, Lake of the Woods, Beltrami, Koochiching, and Itasca Counties, Minnesota

Submitted to
Louise Segroves
Barr Engineering
Minneapolis, Minnesota

Prepared by
Amanda Gronhovd, MS, RPA
10,000 Lakes Archaeology, Inc.
South St. Paul, Minnesota

March 26, 2015

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Introduction

10,000 Lakes Archaeology, Inc. (10,000 Lakes) conducted Phase Ia background research for the proposed Great Northern Transmission Line in February and March 2015. The project extends from the United States - Canada border in Roseau County to east of Grand Rapids, Itasca County, Minnesota. The proposed project extends through Roseau, Lake of the Woods, Beltrami, Koochiching, and Itasca Counties. The project area was examined for recorded archaeological or historic sites and areas with a moderate to high potential for containing unrecorded archaeological sites. The archaeological and historic site files and maps were examined at the Minnesota Historical Society, State Historic Preservation Office, and Office of the State Archaeologist.

Cultural History

The Minnesota State Historic Preservation Office (SHPO) has developed several historic contexts for the state of Minnesota and the Upper Midwest. These contexts examine Minnesota's recent (historic) and distant (precontact) past and are based on decades of archaeological and historic research. They are designed to help generally describe and interpret the history of the state and give basic insight into the prevailing theories pertaining to the precontact and historic communities existing in specific locations and at discrete points of time.

The cultural histories focusing solely on American Indian communities are divided into three major traditions: Paleoindian, Archaic, and Woodland. These traditions are defined on the basis of significant changes in how American Indian communities lived. The cultural histories that integrate American Indian and Euroamerican history are generally divided into the Contact and Post-Contact Periods. These contexts range from the first contact between Europeans and American Indians during European exploration in the region, through Euroamerican settlement of traditionally American Indian lands.

Paleoindian Tradition (12,000 to 8,000 Before Present [B.P.]

The Paleoindian Tradition refers to the period of time at the close of the Pleistocene and into the Holocene when American Indian communities were small, mobile, and focused on hunting. Archaeological evidence from Paleoindian sites throughout the central United States and Canada indicates that these communities hunted a limited number of large animals in a variety of environmental settings. As the Pleistocene ended and the Holocene began, the megafauna (e.g., mammoth) gradually died out. This caused the Paleoindian people to shift their focus to primarily hunting the largest remaining species, bison. In addition to bison, it is likely that gathering wild plant foods and hunting smaller animals also contributed significantly to the diet of the Paleoindian people.

The distinctive stone tools made by the Paleoindians included large lanceolate projectile points, which changed through time (Figure 1). The projectile points that were made by the early Paleoindians are often fluted, meaning a channel was created from the base

running up the middle of the point (see Clovis and Folsom in Figure 3), as opposed to those made later which were not (see Plainview in Figure 4). Because Paleoindian communities were very small and nomadic, archaeologists have found only sparse, scattered evidence of the Paleoindian people.

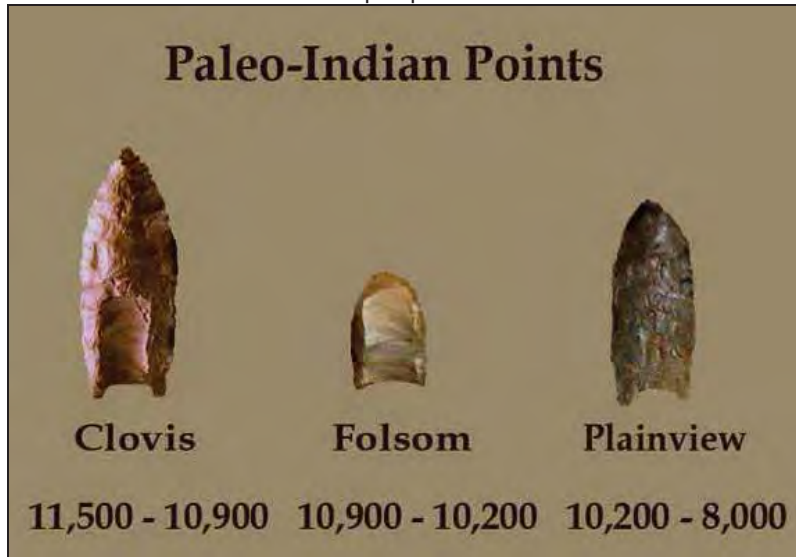


Figure 1. Paleoindian projectile points (Eddins n.d.).

Archaic Tradition (8,000 to 2,800 B.P.)

Shifts in diet and settlement patterns define the transition to the Archaic Tradition. During this period, archaeological evidence suggests that native people were adapting to environmental changes by using more diverse plant and animal resources, and creating and using a broader range of tools including new projectile point forms, atlatls (spear thrower that allowed spears to be thrown farther and with more force), copper tools and ground and pecked stone tools. Although some research suggests that community size increased during the Archaic period, other archaeological evidence counters that assumption, suggesting that community sizes remained small and that day-to-day activities took place at a series of seasonal camps (Anfinson 1987; 1997).

During this period, Archaic people began developing regional differences within their material culture. In Minnesota, this variation appears to have been tied to the natural environment, specifically the plant communities. These variations focused on the "Plains Archaic" in the western prairies, "Eastern Archaic" in the deciduous forest, "Lake-Forest Archaic" in the transitional zone between the deciduous and boreal forest areas, and the "Shield Archaic" in the boreal forest areas of the northeast. As with Paleoindian sites, Archaic sites are relatively small and ephemeral.

Woodland Tradition (2,800 B.P. to European Contact)

Throughout the Midwest, the Woodland Tradition is generally divided into three periods: Early, Middle and Late; however, Anfinson (1987) has suggested that a division into Initial and Terminal periods might be more appropriate in Minnesota. Archaeological research indicates that in many ways, life for communities during the Woodland Tradition remained similar to those of the Archaic period, with a dependence upon a diverse, seasonal resource base of plants and animals (Anfinson 1987:222; Johnson 1988). The transition to the Initial Woodland Tradition occurred when American Indians began manufacturing ceramic vessels, using bows and arrows, constructing earthen burial mounds, and cultivating and harvesting select plant species. The adoption of ceramics by the Woodland American Indians might have caused significant changes in many aspects of this culture, the foremost being subsistence strategies (Boszhardt et al. 1986:258) (Figure 2).

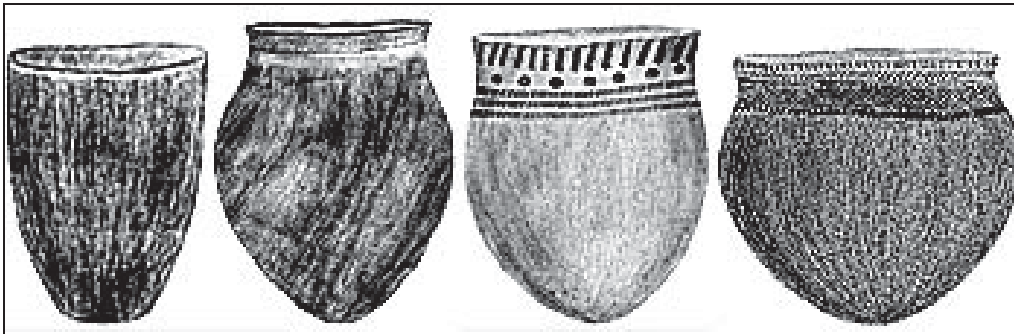


Figure 2. Woodland ceramic pots (MVAC n.d.).

Populations began to grow, marking the transition into the Late or Terminal Woodland period. Settlement patterns shift to larger, more permanent villages typically located near rivers. One possible reason for this is that toward the end of Woodland Period, American Indians became increasingly efficient in how they acquired food. The subsistence strategies of these people incorporated hunting and gathering with limited agriculture focusing on specific plants. Ceramic vessels differed from previous types in form and decoration. Woodland period communities were situated in locations that ranged from focusing on a specific resource to general environments capable of sustaining a large community for a long time.

Site types assigned to the Woodland Tradition throughout the region range from cemeteries and small, limited use sites to extensive village and habitation sites.

Contact/Postcontact Period (1630 to Present)

This period generally refers to the span of time extending from the first European explorations until intensive Euroamerican settlement of the region. Minnesota's historical period began in 1673 when French explorers Marquette and Joliet discovered the upper portion of the Mississippi River. Ten years later, Catholic Missionary Father Louis

Hennepin returned to France to write the first book about Minnesota, *Description de la Louisiane*, telling his story of exploring Minnesota and of being held captive by the Dakota Indians (Figure 3).



Figure 3. Father Hennepin at St. Anthony Falls (Minnesota Historical Society 1903)

The territory containing modern-day Minnesota was claimed by Spain, France, Great Britain, and eventually the United States. Lieutenant Zebulon Montgomery Pike led the first United States expedition through Minnesota in 1805. Fort St. Anthony (later Ft. Snelling) was completed between 1819 and 1824, and in 1836, the Wisconsin Territory, including a portion of Minnesota, was formed. Minnesota became a territory in 1849 and achieved statehood on May 11, 1858. The fur trade drove much of the European exploration and settlement in Minnesota through the mid-1800s.

As white settlers came to Minnesota, the state's economy and numerous industries began developing. One of the earliest industries to peak in Minnesota was the lumber industry (Figure 4). The extensive white pine forests of northern Minnesota brought industrialists, capital, and settlers to the state. Lumbering peaked between 1899 and 1905 and eventually the loggers moved out of Minnesota as the forests were obliterated.



Figure 4. Logging at St. Anthony Falls (Minnesota Historical Society 1870).

Agriculture, specifically wheat farming, was also a key industry in Minnesota. The huge wheat farms in central western and southern Minnesota caused mills to spring up along waterways across the state. The most notable milling center was Minneapolis, which ultimately dominated the world in wheat and flour processing until the 1930s.

In addition to lumber and milling, Minnesota was also a leader in iron mining. Looking at the industries and economy of northeastern Minnesota today, one might have difficulty imagining the area prior to the iron ore industry. Mining and the iron industry created the towns, built the roads, and brought the people to the heavily wooded and remote northeastern Minnesota of the late 19th century. Iron ore shipments were sent from Michigan's Upper Peninsula nearly three decades earlier, but once the Minnesota iron lodes were discovered, the state quickly established a dominant position atop the iron ore production hierarchy.

Associated archaeological and historic site types categorized in the Contact/Postcontact Period include standing structures as well as archaeological sites.

Recorded Cultural Resources in the Vicinity of the Proposed Project

During the background research, *10,000 Lakes* examined the Minnesota Archaeological Site Files at the Office of the State Archaeologist (OSA) and SHPO, and Minnesota Architectural History Site Files at SHPO. This research revealed that 34 archaeological sites

have been recorded within one mile of the proposed project, nine of which are within 1,000 feet or less of the project centerline (Table 1). Five (21KCo, 21ROaa, 21ROao, 21ROd, and 21ROs) are in or adjacent to the project corridor.

Table 1. Archaeological sites located within 1 mile of the proposed project area.

Distance from EIS Align. (FEET)	Label	Site Type	Site description
3511.7	21IC0092	Precontact	Lithic scatter
3044.8	21IC0093	Precontact	Lithic scatter
948.5	21IC0095	Precontact	Utilized flake
2052.5	21IC0096	Precontact	Lithic scatter
3875.7	21IC0099	Precontact	Single artifact
4926.1	21IC0274	Precontact	
1124.7	21ICaju	Historic	Logging camp
4691.2	21KC0062	Precontact	Lithic scatter
1936.1	21KC0072	Precontact	Single artifact
341.5	21Kcc	Precontact	Possible mounds
0.0	21KCo	Precontact	Artifact scatter
3924.7	21RO0002	Precontact	Lithic scatter
1675.2	21RO0004	Precontact	Artifact scatter, cemetery
5133.0	21RO0005	Precontact	
1382.6	21RO0006	Precontact	Points and hammerstone
2588.2	21RO0014	Precontact	Cord-marked ceramics, artifact scatter, Cemetery
4946.5	21RO0016	Precontact	Lithic scatter, structural ruin
1092.3	21RO0018	Precontact	Lithics, hammerstone, fire cracked rock
2042.1	21RO0021	Precontact	Artifact scatter
4015.4	21RO0024	Precontact	Lithic scatter
2674.9	21RO0025	Precontact	Artifact scatter, cemetery
4525.1	21RO0031	Historic	
3256.4	21RO0032	Historic	
578.1	21RO0033	Historic	Homestead ca 1910-1940s
0.0	21ROaa	Precontact	Artifact scatter
1351.4	21ROaf	Precontact	Cemetery
0.0	21ROao		
0.0	21ROd	Precontact	Toothed spear point and small copper point
3883.4	21ROh	Precontact	
3905.2	21ROm	Precontact	Fishing spear and adze

1289.3	21ROo	Precontact	Single artifact
0.0	21ROs	Precontact - Archaic (4-6,000 years old)	Adze and <i>Bison occidentalis</i>
770.2	21ROu	Precontact	Projectile points and ceramics
1157.6	FS8	Precontact	Projectile point

In addition to the recorded archaeological sites, 72 historic resources have been recorded within one mile of the proposed project area, 11 of which are within 1,000 feet of the proposed project area (Table 1).

Table 2. Historic sites located within 1 mile of the proposed project area.

Distance from EIS Align. (FEET)	Inventory #	Site Name	Address
4850.3	IC-BAL-007	Conservative Mennonite Ch	NE corner Mn. Hwy. 7 & Co. Rd. 333
1790.1	IC-BAL-009	Spur Station	NE corner Mn. Hwy. 7 & Mn. Hwy. 8
2019.1	IC-BAL-010	T.J.'s Family Restaurant	1259 Scenic Hwy.
1309.3	IC-BAL-011	Alvar and Norma Hupila Hs	1281 Scenic Hwy.
630.6	IC-BAL-012	Balsam School	1290 Scenic Hwy.
106.8	IC-BAL-013	Balsam Bible Chapel	1300 Scenic Hwy.
2208.8	IC-BAL-014	Bersons Markat	off Mn. Hwy. 7
2944.0	IC-BAL-015	Robert E. Bergstrom Hs	1350 Scenic Hwy.
3237.0	IC-BAL-016	Kevin & Cynthia Malmquist Hs	102 Issac Lake Lane N.
4305.2	IC-BAL-022	Donna E. Wodahl Hs	1388 Scenic Hwy.
1615.5	IC-BAL-024	Bridge No. 7419	CR 336 over Prairie River
4478.5	IC-BAL-025	Bridge No. 7000	CSAH 8 over Prairie River
3515.1	IC-BEA-008	Hansen Log Hs	off Mn. Hwy. 65
3495.8	IC-BEA-009	Anderson Log Hs	off Mn. Hwy. 65
4511.6	IC-CAR-008	Bridge 88223	State .1 mi W of CR 541
594.3	IC-CAR-009	Deer Creek Dam	Deer Creek, northern Itasca County
1611.2	IC-EFC-006	storage shed	xxx Mn. Hwy. 38
5108.3	IC-EFC-007	Mn/DOT Service Building	xxx Mn. Hwy. 38
4422.0	IC-EFC-016	William Anderson Hs	xxx Mn. Hwy. 38
3614.8	IC-EFC-017	House	xxx Mn. Hwy. 38
4611.9	IC-IRT-008	Holman Mine Line to the Trout Lake Washing Plant	

2746.6	IC-IRT-009	Great Northern Railway Nashwauk-Gunn Line	
1557.5	IC-IRT-010	Duluth, Missabe & Northern Railway Alborn Branch Line	
4784.4	IC-IRT-013	Brown No. 2 Mine Stripping Dump	
2031.8	IC-IRT-016	Rhude Media Plant	xxxx TH 169
2178.9	IC-IRT-017	House	6670 US 169
1903.1	IC-IRT-018	House	6708 US 169
3850.2	IC-IRT-027	DM&N/DM&IR Railroad Corridor to Arcturus Mine	
2976.5	IC-IRT-029	Arcturus Mine Stripping Dump	
737.4	IC-IRT-030	DM&N/DM&IR Corridor to Arcturus Concentrator	
578.5	IC-IRT-031	Arcturus Mine Gravel Pit	
2775.9	IC-IRT-032	Arcturus Mine Lean Ore Dump	
3916.4	IC-IRT-033	Arcturus Mine Stripping Dump	
1616.8	IC-IRT-034	House	6730 US Hwy 169
639.5	IC-IRT-035	House	6826 US Hwy 169
3133.1	IC-IRT-037	Holman-Cliffs Mine Pit	
632.0	IC-IRT-038	Holman-Cliffs Mine	
4607.9	IC-IRT-039	Holman-Cliffs Stripping Dump	
4842.6	IC-IRT-039	Holman-Cliffs Stripping Dump	
4875.0	IC-IRT-041	Cleveland-Cliffs Concentrator Plant Site	
2114.7	IC-NWT-003	Bridge No. 88159	CSAH 8 over unnamed stream
3384.8	IC-TCC-005	Bridge No. L3811	CSAH 7 under BN Inc
2351.0	IC-TLT-004	Abandoned Log Hs & Barn	off Co. Hwy. 70
2464.9	IC-TLT-005	Jacob Edward Johnson Farmstead	off Co. Hwy. 70
2063.7	IC-TLT-009	Finnish Log Barn & Building	off Co. Hwy. 10
3847.6	IC-TLT-010	Trout Lake Apostolic Lutheran Ch	off Co. Hwy. 10
3933.4	IC-TLT-011	School & Teacherage	off Co. Hwy. 10
3621.5	IC-UOG-013	log barn	off Co. Rd. 445
3574.0	IC-UOG-043	Old Fredheim Lutheran Ch (moved)	Co. Rd. 42
3730.8	IC-UOG-044	Gunderson Homestead Cabin	off Co. Rd. 42
2924.7	IC-UOG-045	Winans Log Barn	off Co. Rd. 42
2500.4	IC-UOG-046	Kinn Farmhouse	off Co. Rd. 42

177.4	IC-UOG-074	Joyce Dahlberg Farmstead	xxx Mn. Hwy. 38
712.7	IC-UOG-075	Donna Gillespie Hs	xxx Mn. Hwy. 38
4010.3	IC-UOG-086	Bridge No. 7073	carries unpaved CSAH 42 over Bigfork River 4 M NE of Bigfork
3278.7	KC-UOG-031	Flowing Well	off U.S. Hwy. 71
4988.2	KC-UOG-035	Lumber Camp	of Co. Rd. 54
342.6	KC-UOG-070	Bridge No. 3570	carries CH 18 over East Fork of Rapid River
3163.2	LW-UOG-038	school	off Co. Hwy. 14
4663.3	RO-CDR-001	Cedarbend Surveyors Cabin	off Co. Hwy. 12
1181.7	RO-DET-002	town hall	off Mn. Hwy. 18
3938.7	RO-JAD-002	Bridge No. L9057	TR 142 over unnamed ditch
3945.1	RO-LAO-001	log building	off Mn. Hwy. 11
3881.5	RO-LAO-002	log building	off Mn. Hwy. 11
3954.5	RO-LAO-003	log building	off Mn. Hwy. 11
4653.9	RO-LAO-005	Bridge No. 3741	TR 26 over unnamed stream
4310.0	RO-LAO-007	Bridge No. 3743	TR 26 over unnamed stream
4283.5	RO-LAO-008	Bridge No. 3744	TR 26 over unnamed stream
381.4	RO-ROC-018	Roseau Land Port of Entry	41967 Hwy 310
5192.7	RO-RSC-001	school	xxx Main St.
3169.6	RO-UOG-002	Clear River (ghost town)	off Co. Hwy. 5
3273.9	RO-UOG-004	Clear River Forestry Office	off Co. Hwy. 5

Evaluations, Conclusions, and Recommendations

The Phase Ia background research revealed that 35 archaeological sites and 72 historic sites are recorded within one mile of the proposed project. Ten of these archaeological sites are located within 1,000 feet of the proposed project and six are either adjacent to or within the proposed project corridor. In addition to the recorded sites, this research defined areas with a high potential for unrecorded archaeological sites along the proposed corridor.

High potential areas are defined by considering many factors such as proximity to water and topography. Archaeological sites are more likely to be found near water (including historic or precontact water bodies), on prominent topographic features, and near recorded archaeological sites; however these are not the only locations archaeological sites could be located. In a wet setting such as the current project area, county ditches, and intermittent or seasonally flowing streams were not considered indicators for high potential archaeological areas.

Areas with low potential for archaeological sites include wetlands and areas with slopes over 20%. In order to delineate wetlands across this rather wet landscape, the National Wetlands Inventory for the region was used to help determine areas with low potential (MnDNR 2015). Areas mapped as wetlands were generally excluded as having high potential unless other factors were present, such as large rivers, prominent landforms, or stream confluences.

For historic structures, the Area of Potential Effect (APE) includes those areas within or adjacent to the proposed project as well as those areas visible from the proposed project area. Historic resources are investigated by conducting archival research as well as an on-site examination of the historic properties. Sources examined during property-specific archival research might include local and county histories, plat maps, insurance maps, and historic photographs.

Phase I archaeological survey methods typically involve pedestrian survey in areas where over 25% of the ground surface is visible (e.g. agricultural fields) in transects at five to 15-meter (m) intervals, as appropriate. In areas where less than 25% of the ground surface is visible, or where buried archaeological sites have a high probability of existing, archaeologists excavate shovel tests. These excavations measure 30 to 40 centimeters in diameter and are placed at 15-m intervals within areas of moderate and high potential, as appropriate. Soil is screened through ¼-inch mesh hardware cloth to determine if cultural materials are present.

Based on the results of the background research and mapping, it appears as though the proposed project area has 123 areas with a high to moderate potential for archaeological sites totaling approximately 59 miles of corridor (Appendix 1).

Bibliography

Anfinson, S.F.

1987 *The Prehistory of the Prairie Lake Region of the Northwestern Plains*. Ph.D. dissertation, Department of Anthropology, University of Minnesota, Minneapolis.

1997 *Southwestern Minnesota Archaeology*. Minnesota Prehistoric Archaeology Series No. 14. Minnesota Historical Society, St. Paul.

Boszhardt, Robert F., James L. Theler, and Thomas F. Kehoe

1986 "The Early Woodland Stage." In *Introduction to Wisconsin Archaeology: Background for Cultural Resource Planning*. *The Wisconsin Archaeologist* 67(3-4):243-262.

Eddins, O. Ned

n.d. *Pre-Historic Paleo-Indian Migration*.

http://www.mountainsofstone.com/Prehistoric_indians.htm.

Johnson, Elden

1988 *Prehistoric Peoples of Minnesota, third edition*. Minnesota Historical Society, St. Paul.

Minnesota Department of Natural Resources (MnDNR)

2015 "National Wetlands Inventory Polygons (GIS Layer)." Minnesota Department of Natural Resources. St. Paul, Minnesota. <https://gisdata.mn.gov/dataset/water-nat-wetlands-inventory> Website viewed March 2015.

Minnesota Historical Society

1870 *Logging near St. Anthony Falls, Minneapolis*. Minnesota Historical Society Archives Photograph Collection. Location no. MH5.9 MP4.33 r94. Negative no. 9371-A.

1903 *Hennepin at the Falls of St. Anthony, A.D. 1680*. Lithographer: J. N. Marchand (1875-1921). Minnesota Historical Society Archives Art Collection. Location no. AV1983.149.4. Negative no. 75232.

Mississippi Valley Archaeology Center (MVAC)

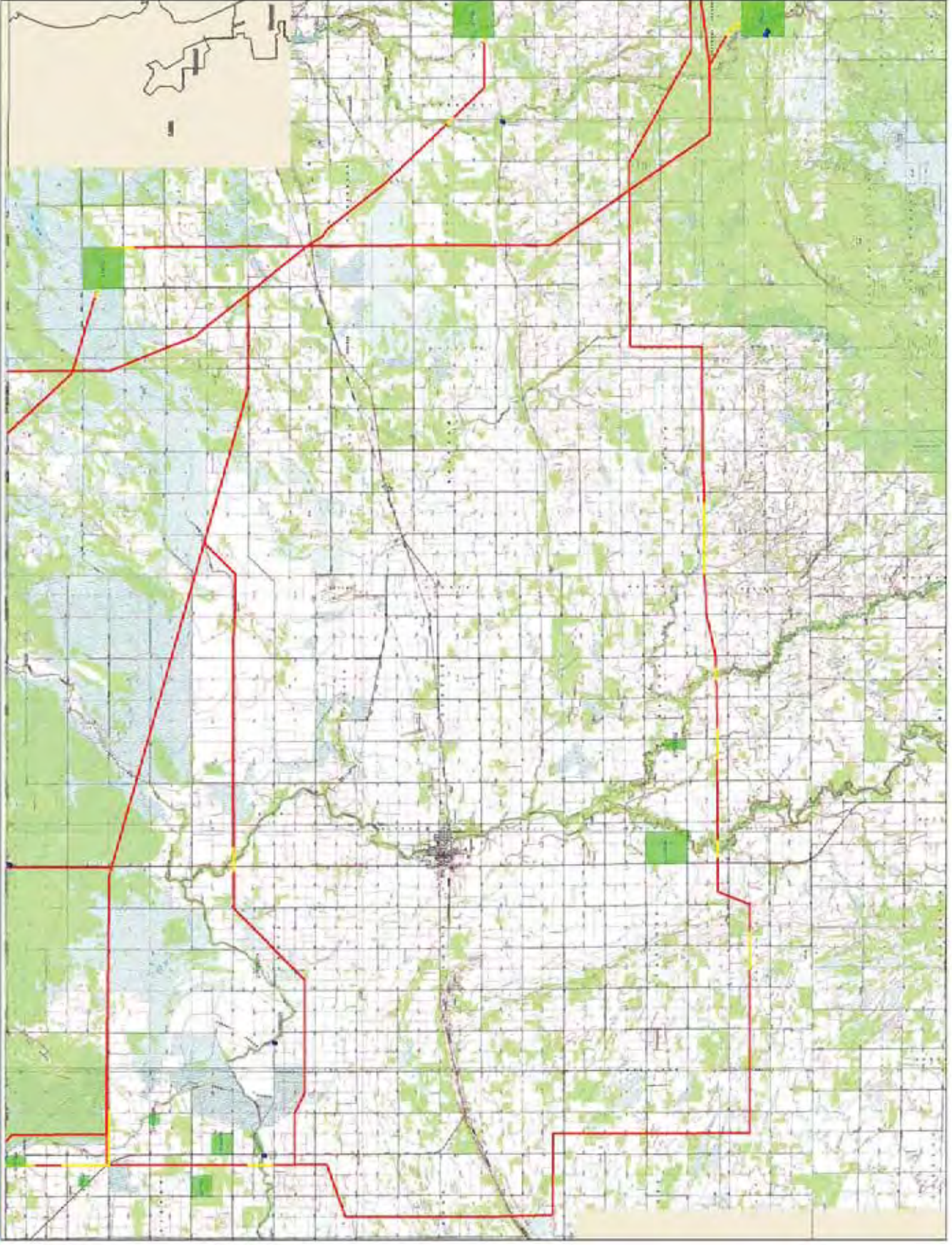
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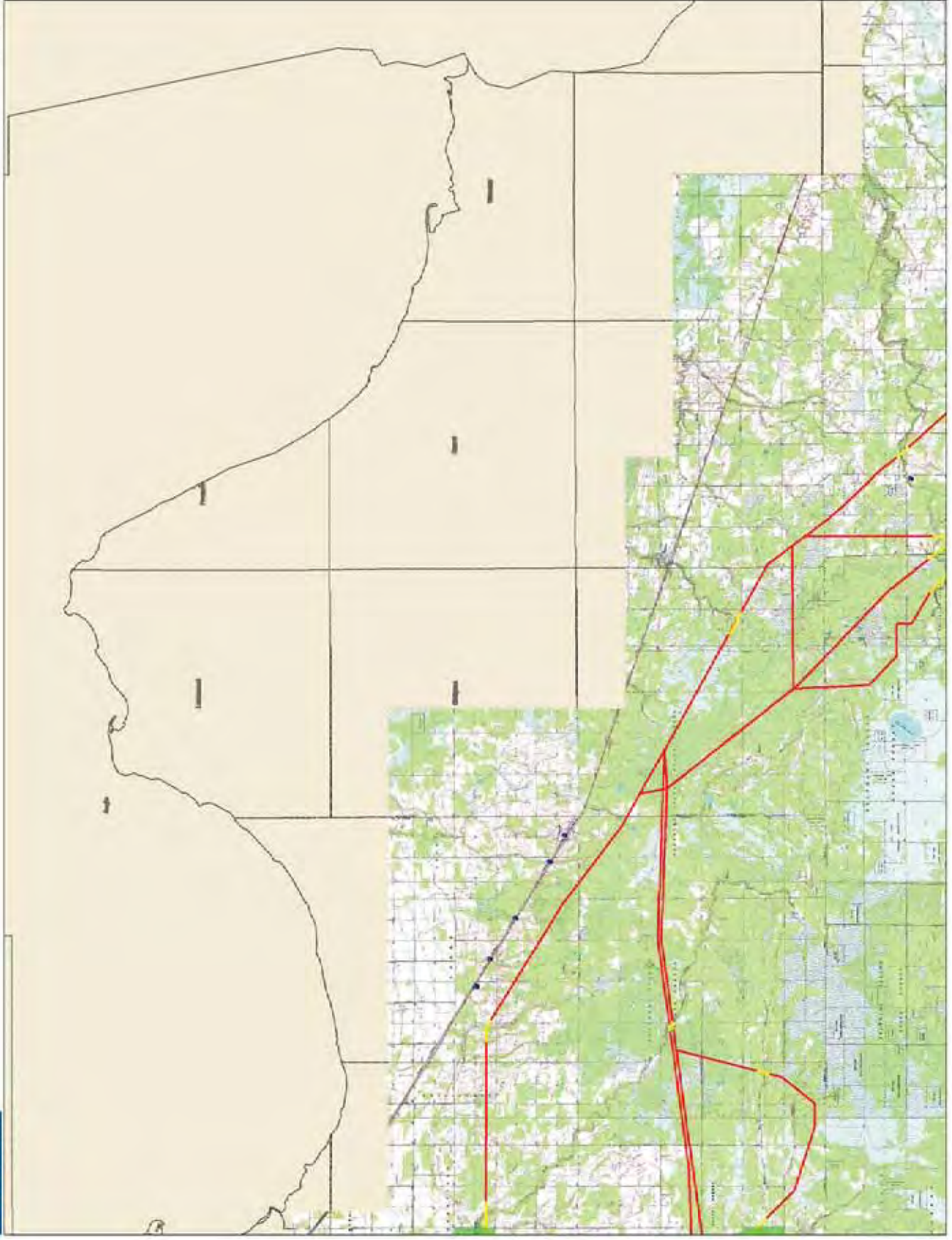
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LaCrosse, Wisconsin. Website viewed on December 14, 2010.

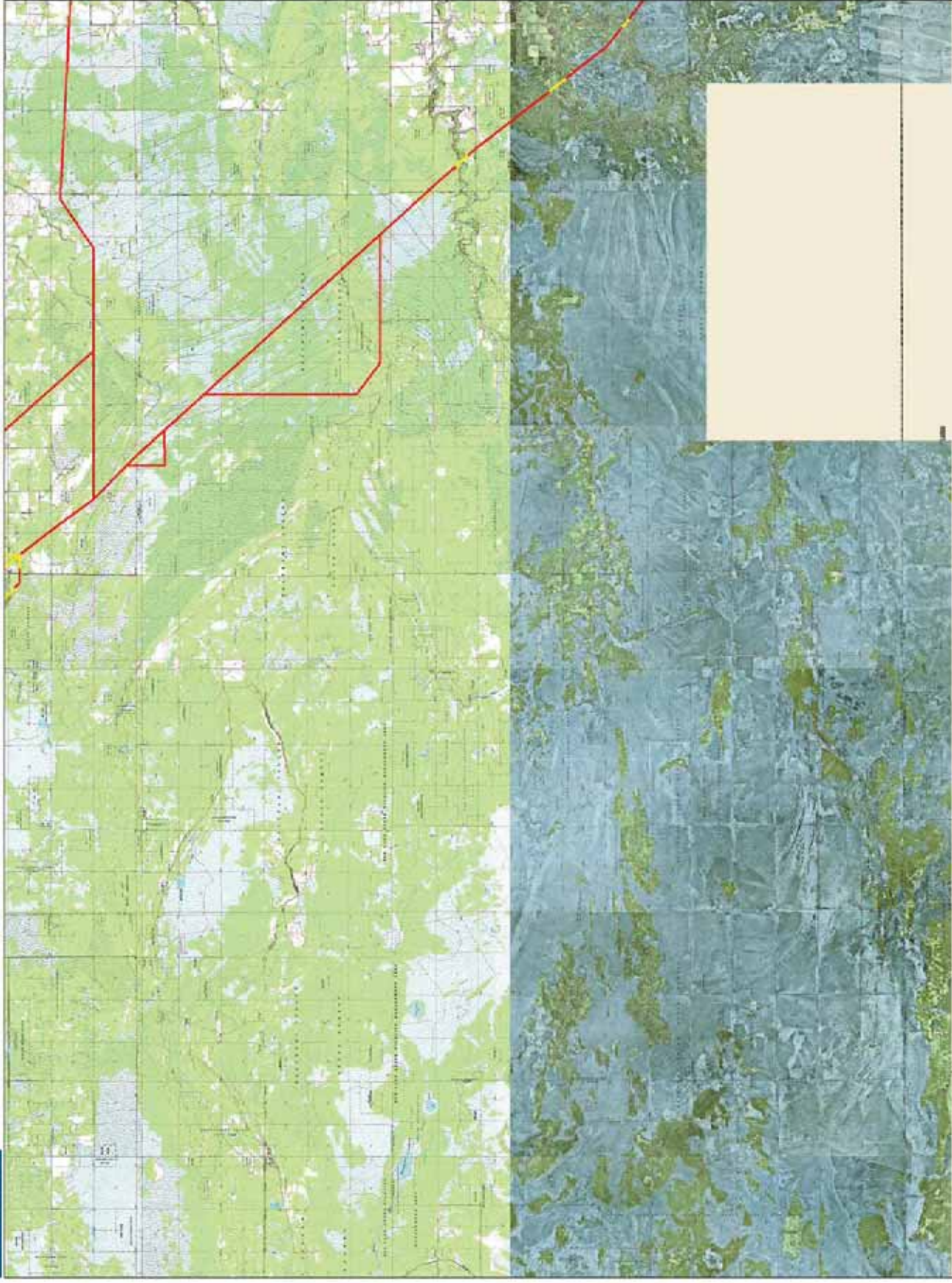
Appendix A: Maps

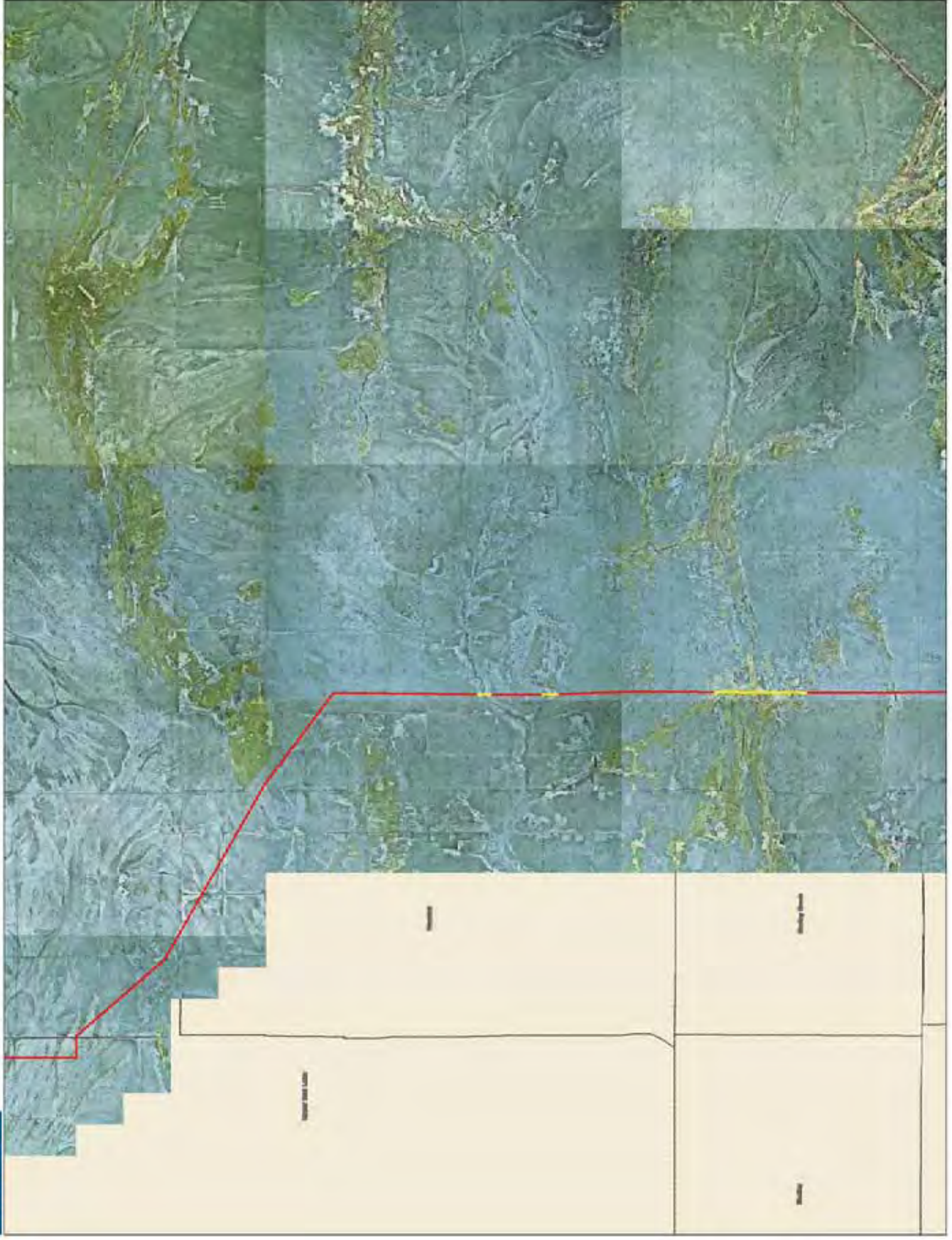
Maps move from the northwest end to the south/southeast.

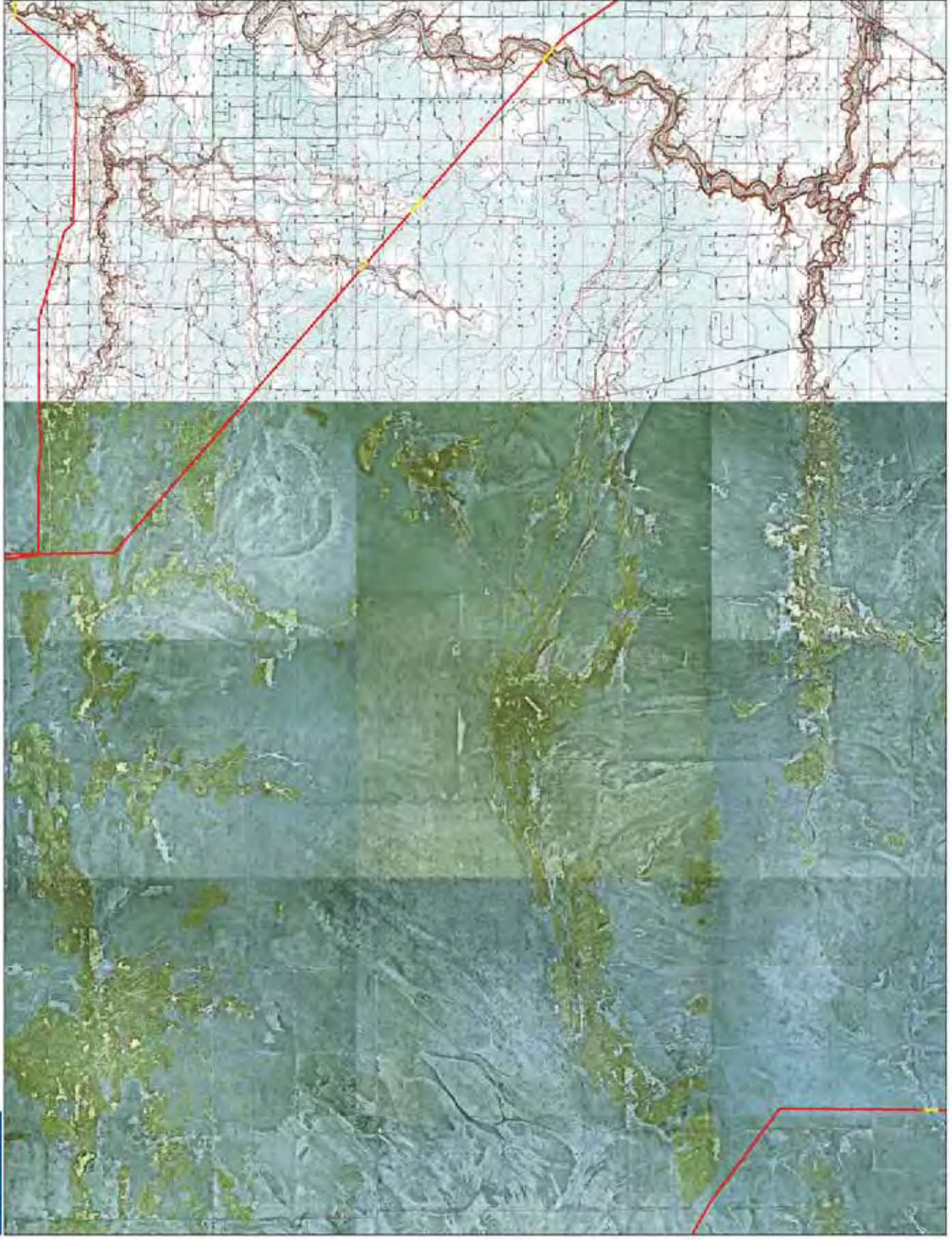
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- High potential areas depicted in yellow
- Historic sites depicted as blue dots
- Archaeological sites depicted as green polygons
- Archaeological points depicted as red flags

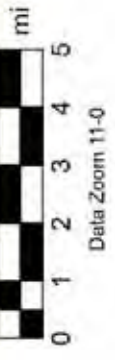
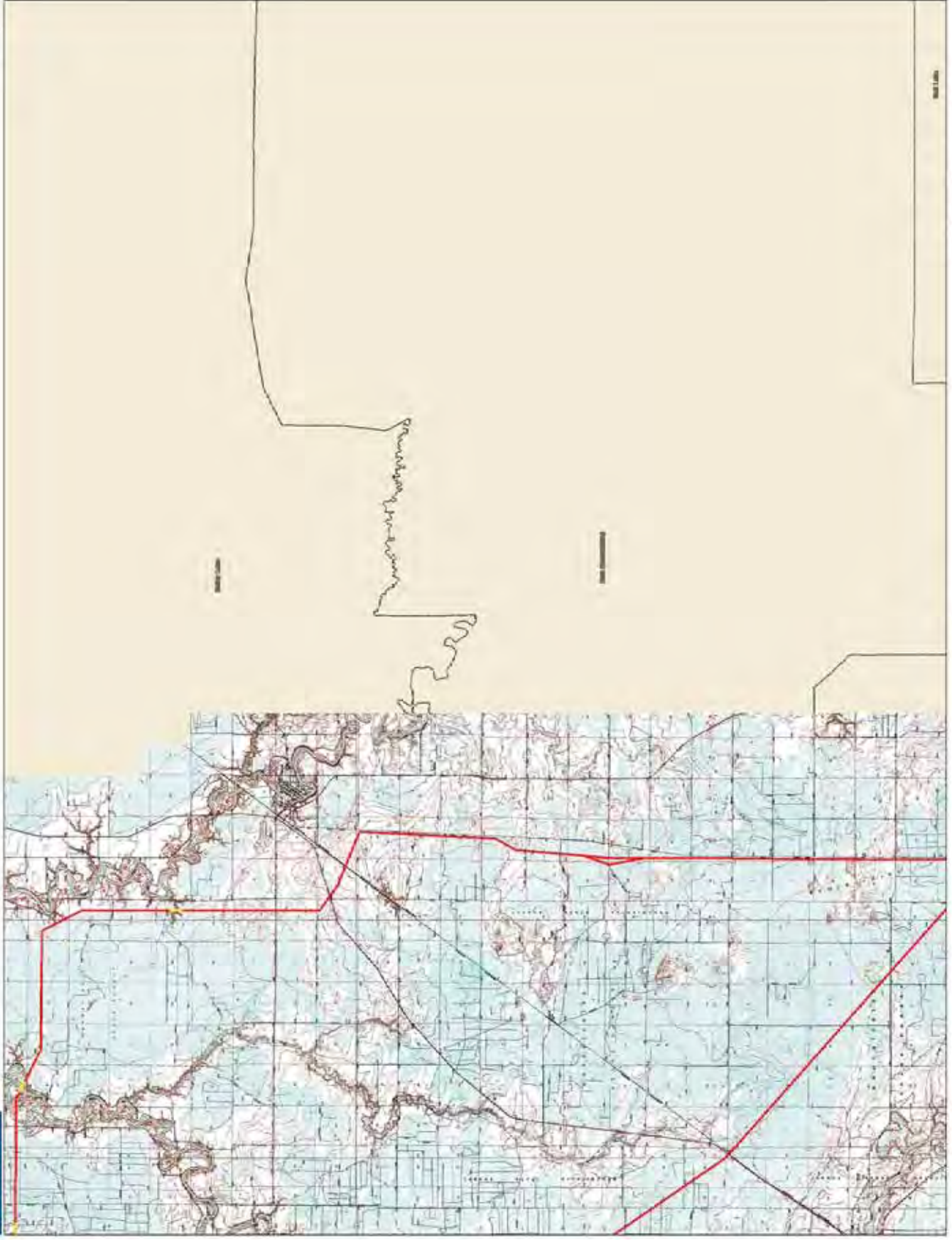












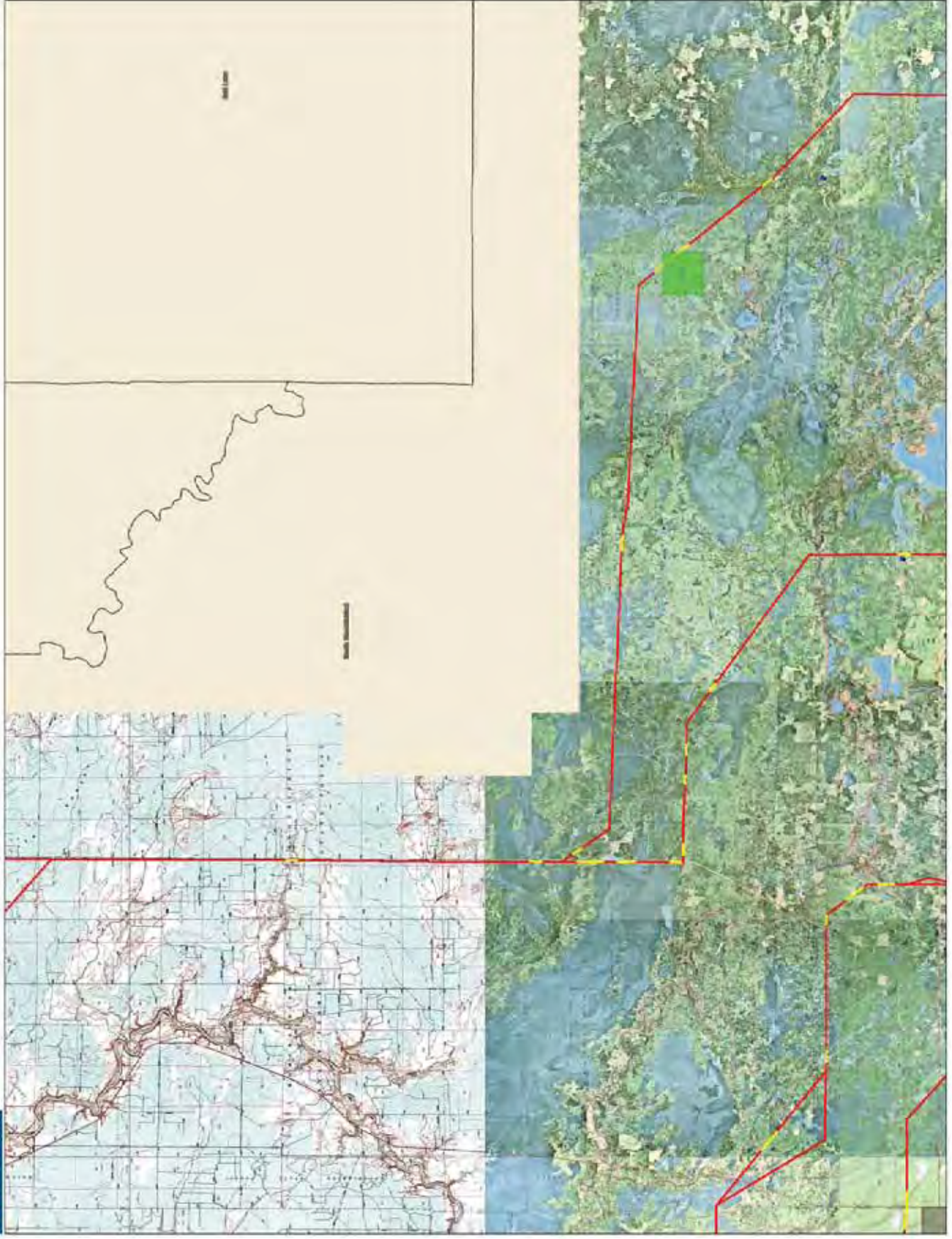


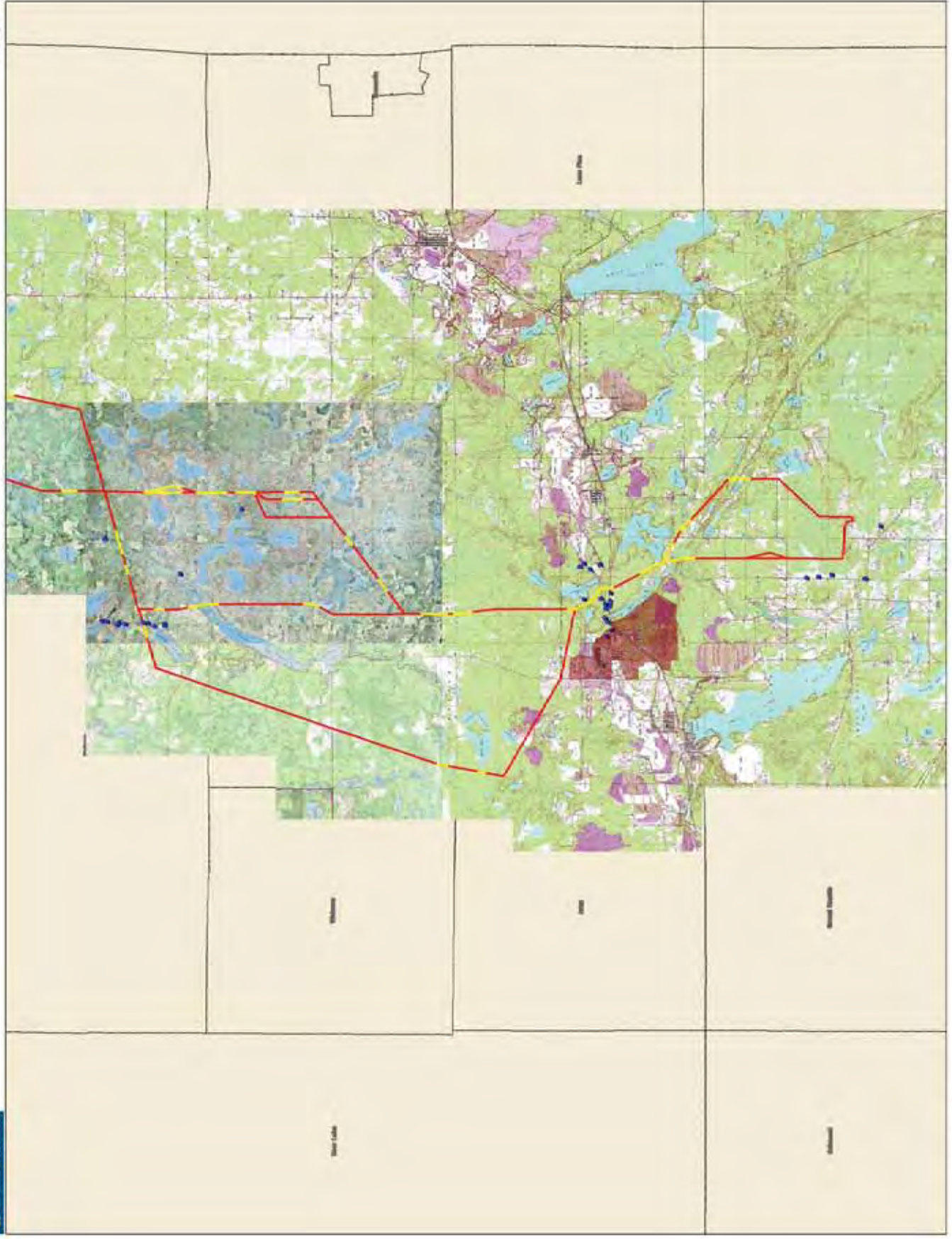
XMap® 7



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STATE HISTORIC PRESERVATION OFFICE

December 30, 2014

Ms. Julie Ann Smith
National Electricity Delivery Division, OE-20
Office of Electricity Deliver and Energy Reliability
US Department of Energy
Washington, DC 20585

RE: Great Northern Transmission Line project (DOE/EIS -0499)
Multiple Counties, Minnesota
SHPO Number: 2013-2759

Dear Ms. Smith:

Thank you for the opportunity to comment on the above project. Information received in our office on 1 December 2014 has been reviewed pursuant to the responsibilities given the State Historic Preservation Officer by Section 106 of the National Historic Preservation Act of 1966 and implementing federal regulations at 36 CFR 800.

Per 36 CFR 800.3, we concur with the Department of Energy's (DOE) determination that the proposed Federal action, issuance of a Presidential permit for the international border crossing of the Great Northern Transmission Line (GNTL), constitutes an undertaking with the potential to cause effects on historic properties. Your agency has indicated that, for purposes of Section 106, the undertaking includes the border crossing and the entire length of the 220-mile overhead transmission line project, which is proposed to be constructed between the Minnesota-Manitoba international border northwest of Roseau in Roseau County to the existing Blackberry Substation near Grand Rapids in Itasca County. We appreciate the clarification provided in your November 19th letter which indicates that the Department of Energy will assume the role of lead federal agency in completing the Section 106 review.

Thank you for providing a summary of your agency's plan for public participation in the Section 106 process for this undertaking. It is our understanding that you will coordinate this with the process set forth under the National Environmental Policy Act (NEPA). Regarding your initial identification of potential consulting parties in the Section 106 process, we feel that the list you have provided thus far is comprehensive and sufficient. We suggest that your agency also consider the following two (2) state entities:

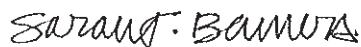
- Office of the State Archaeologist, Minnesota Department of Administration
- Minnesota Indian Affairs Council

Due to the consideration of several alternatives for the transmission line route and the extent of the linear corridor, we agree with your agency's proposal to develop and execute a programmatic agreement (PA) for this undertaking, pursuant to 36 CFR 800.14(b) and in consultation with our office and other consulting parties.

We have taken into consideration your agency's initial proposal for determining the areas of potential effect (APE) for both direct and indirect effects as provided in your November 19th letter. We look forward to continuing consultation on this matter as the APE will need to be determined prior to execution of a programmatic agreement.

Please feel free to contact me at 651-259-3456 or sarah.beimers@mnhs.org if you have any questions or concerns regarding our comment letter.

Sincerely,



Sarah J. Beimers, Manager
Government Programs and Compliance



Department of Energy
Washington, DC 20585

January 14, 2015

Mags Rheude
US Fish and Wildlife Service
Twin Cities Ecological Field Office (Region 3)
4101 American Boulevard East
Bloomington, MN 55425

SUBJECT: Invitation to Consult on the Proposed Great Northern Transmission Line Project

Dear Mags Rheude,

The purpose of this letter is to ensure that the US Fish and Wildlife Service, Twin Cities Ecological Field Office (Region 3) is aware that the Department of Energy (DOE) is initiating the Section 106 consultation process on the proposed Great Northern Transmission Line (GNTL) project to determine any potential adverse effects on historic properties pursuant to Section 106 of the National Historic Preservation Act of 1966 (NHPA) and 36 CFR Part 800, "Protection of Historic Properties." The DOE invites you to consult with us, as provided for by Section 106 and its implementing regulations.

The DOE is meeting its obligations under the NHPA concurrently with the preparation of an environmental impact statement (EIS) pursuant to the National Environmental Policy Act of 1969 (NEPA). Minnesota Power is also seeking authorizations from the U.S. Army Corps of Engineers – St. Paul District (USACE), a cooperating agency to DOE in the preparation of the above mentioned EIS. DOE is acting as the lead federal agency for purposes of compliance with Section 106 for the NEPA cooperating agencies (per 36 CFR § 800.2(a)(2)).

As you are aware, Minnesota Power applied to DOE for a Presidential permit to construct, operate, maintain, and connect an approximately 220-mile, overhead, single-circuit 500 kV AC transmission line between the Minnesota - Manitoba border crossing northwest of Roseau, Minnesota, and terminating at the existing Blackberry 230/115 kV Substation near Grand Rapids, Minnesota. Minnesota Power's proposal also includes associated substation facilities and transmission system modifications at the Blackberry Substation site, and construction of a new 500 kV Series Compensation Station (a structure which will house the 500 kV series capacitor banks necessary for reliable operation and performance of the proposed transmission line). A new Blackberry 500 kV Substation would be required for the proposed Project and would be constructed adjacent to and east of the existing Blackberry 230/115 kV Substation.

For more information on DOE's NEPA review and preparation of the EIS, please visit the DOE GNTL EIS website at <http://www.GreatNorthernEIS.org>. Future information from the DOE, relevant to the Section 106 consultation (once underway), will also be posted to this website.

Under Section 106, the DOE must identify and consider the potential effects of its actions on historic properties through a collaborative framework (consultation) to identify historic properties potentially affected by the proposed project, assess its effects, and seek ways to avoid, minimize or mitigate any adverse effects to historic properties (36 CFR §800.1(a)). In addition to the State Historic Preservation Officer (SHPO), federally recognized Indian tribes, and the Advisory Council on Historic Preservation (ACHP), Section 106 consulting parties may include certain individuals and organizations with a demonstrated interest in the undertaking due to the nature of their legal or economic relation to the

undertaking or affected properties, or their concern with the undertaking's effects on historic properties (36 CFR §800.2).

DOE would like to obtain information from you about historic properties, including those of cultural importance to your agency, in or near the project area, and also to provide you an opportunity to identify your concerns about such properties, including the identification of potential mitigation measures. Your assistance in the identification and evaluation of historic properties will provide us the opportunity to resolve any adverse effects this undertaking may have on these properties. If available, we would welcome any information on the location and importance of archaeological sites, historic structures, and any other localities of interest to you that are known to occur in or near the proposed project area.

If you would like to participate in the Section 106 consultation process, please confirm within 30 calendar days of the date of this letter, by sending a letter accepting this invitation to act as a Section 106 consulting party for the proposed GNTL project that identifies a primary point of contact for your agency, either as an attachment to an email at Juliea.Smith@hq.doe.gov, or by postal mail to 1000 Independence Avenue, SW, Washington, D.C., 20585. If no response is received within the time specified, the DOE will remove your agency from the Section 106 consulting party list for this project.

If you have questions regarding the DOE's on-going review of the proposed GNTL project, or your participation as a Section 106 consulting party, please contact me at any time at the above email address or (202) 586-7668.

Yours very truly,



Julie Ann Smith, PhD
Principal NEPA Document Manager
National Electricity Delivery Division, OE-20
Office of Electricity Delivery and
Energy Reliability
U.S. Department of Energy

Enclosed:

- GNTL Project Regional Map (from GNTL Scoping Summary Report)



Department of Energy
Washington, DC 20585

January 14, 2015

Jaime Loichinger
Office of Federal Agency Programs
Advisory Council on Historic Preservation
1100 Pennsylvania Avenue, NW, Suite 803
Old Post Office Building
Washington, DC 20004

SUBJECT: Invitation to Consult on the Proposed Great Northern Transmission Line Project

Dear Jaime Loichinger,

The purpose of this letter is to ensure that the Office of Federal Agency Programs, Advisory Council on Historic Preservation is aware that the Department of Energy (DOE) is initiating the Section 106 consultation process on the proposed Great Northern Transmission Line (GNTL) project to determine any potential adverse effects on historic properties pursuant to Section 106 of the National Historic Preservation Act of 1966 (NHPA) and 36 CFR Part 800, "Protection of Historic Properties." The DOE invites you to consult with us, as provided for by Section 106 and its implementing regulations.

The DOE is meeting its obligations under the NHPA concurrently with the preparation of an environmental impact statement (EIS) pursuant to the National Environmental Policy Act of 1969 (NEPA). Minnesota Power is also seeking authorizations from the U.S. Army Corps of Engineers – St. Paul District (USACE), a cooperating agency to DOE in the preparation of the above mentioned EIS. DOE is acting as the lead federal agency for purposes of compliance with Section 106 for the NEPA cooperating agencies (per 36 CFR § 800.2(a)(2)).

As you are aware, Minnesota Power applied to DOE for a Presidential permit to construct, operate, maintain, and connect an approximately 220-mile, overhead, single-circuit 500 kV AC transmission line between the Minnesota - Manitoba border crossing northwest of Roseau, Minnesota, and terminating at the existing Blackberry 230/115 kV Substation near Grand Rapids, Minnesota. Minnesota Power's proposal also includes associated substation facilities and transmission system modifications at the Blackberry Substation site, and construction of a new 500 kV Series Compensation Station (a structure which will house the 500 kV series capacitor banks necessary for reliable operation and performance of the proposed transmission line). A new Blackberry 500 kV Substation would be required for the proposed Project and would be constructed adjacent to and east of the existing Blackberry 230/115 kV Substation.

For more information on DOE's NEPA review and preparation of the EIS, please visit the DOE GNTL EIS website at <http://www.GreatNorthernEIS.org>. Future information from the DOE, relevant to the Section 106 consultation (once underway), will also be posted to this website.

Under Section 106, the DOE must identify and consider the potential effects of its actions on historic properties through a collaborative framework (consultation) to identify historic properties potentially affected by the proposed project, assess its effects, and seek ways to avoid, minimize or mitigate any adverse effects to historic properties (36 CFR §800.1(a)). In addition to the State Historic Preservation Officer (SHPO), federally recognized Indian tribes, and the Advisory Council on Historic Preservation (ACHP), Section 106 consulting parties may include certain individuals and organizations with a

demonstrated interest in the undertaking due to the nature of their legal or economic relation to the undertaking or affected properties, or their concern with the undertaking's effects on historic properties (36 CFR §800.2).

DOE would like to obtain information from you about historic properties, including those of cultural importance to your organization and its members, in or near the project area, and also to provide you an opportunity to identify your concerns about such properties, including the identification of potential mitigation measures. Your assistance in the identification and evaluation of historic properties will provide us the opportunity to resolve any adverse effects this undertaking may have on these properties. If available, we would welcome any information on the location and importance of archaeological sites, historic structures, and any other localities of interest to you that are known to occur in or near the proposed project area.

If you would like to participate in the Section 106 consultation process as a Section 106 consulting party, please confirm within 30 calendar days of the date of this letter, by sending a letter accepting this invitation that identifies a primary point of contact for your agency, either as an attachment to an email at Juliea.Smith@hq.doe.gov, or by postal mail to 1000 Independence Avenue, SW, Washington, D.C., 20585. If no response is received within the time specified, the DOE will remove your agency from the Section 106 consulting party list for this project.

If you have questions regarding the DOE's on-going review of the proposed GNTL project, or your participation as a Section 106 consulting party, please contact me at any time at the above email address or (202) 586-7668.

Yours very truly,



Julie Ann Smith, PhD
Principal NEPA Document Manager
National Electricity Delivery Division, OE-20
Office of Electricity Delivery and
Energy Reliability
U.S. Department of Energy

Enclosed:

- GNTL Project Regional Map (from GNTL Scoping Summary Report)



Department of Energy
Washington, DC 20585

January 14, 2015

Stephen Elliott
Minnesota Historical Society
345 Kellogg Boulevard West
St. Paul, MN 55102-1903

SUBJECT: Invitation to Consult on the Proposed Great Northern Transmission Line Project

Dear Stephen Elliott,

The purpose of this letter is to ensure that the Minnesota Historical Society is aware that the Department of Energy (DOE) is initiating the Section 106 consultation process on the proposed Great Northern Transmission Line (GNTL) project to determine any potential adverse effects on historic properties pursuant to Section 106 of the National Historic Preservation Act of 1966 (NHPA) and 36 CFR Part 800, "Protection of Historic Properties." The DOE invites you to consult with us, as provided for by Section 106 and its implementing regulations.

The DOE is meeting its obligations under the NHPA concurrently with the preparation of an environmental impact statement (EIS) pursuant to the National Environmental Policy Act of 1969 (NEPA). Minnesota Power is also seeking authorizations from the U.S. Army Corps of Engineers – St. Paul District (USACE), a cooperating agency to DOE in the preparation of the above mentioned EIS. DOE is acting as the lead federal agency for purposes of compliance with Section 106 for the NEPA cooperating agencies (per 36 CFR § 800.2(a)(2)).

As you are aware, Minnesota Power applied to DOE for a Presidential permit to construct, operate, maintain, and connect an approximately 220-mile, overhead, single-circuit 500 kV AC transmission line between the Minnesota - Manitoba border crossing northwest of Roseau, Minnesota, and terminating at the existing Blackberry 230/115 kV Substation near Grand Rapids, Minnesota. Minnesota Power's proposal also includes associated substation facilities and transmission system modifications at the Blackberry Substation site, and construction of a new 500 kV Series Compensation Station (a structure which will house the 500 kV series capacitor banks necessary for reliable operation and performance of the proposed transmission line). A new Blackberry 500 kV Substation would be required for the proposed Project and would be constructed adjacent to and east of the existing Blackberry 230/115 kV Substation.

For more information on DOE's NEPA review and preparation of the EIS, please visit the DOE GNTL EIS website at <http://www.GreatNorthernEIS.org>. Future information from the DOE, relevant to the Section 106 consultation (once underway), will also be posted to this website.

Under Section 106, the DOE must identify and consider the potential effects of its actions on historic properties through a collaborative framework (consultation) to identify historic properties potentially affected by the proposed project, assess its effects, and seek ways to avoid, minimize or mitigate any adverse effects to historic properties (36 CFR §800.1(a)). In addition to the State Historic Preservation Officer (SHPO), federally recognized Indian tribes, and the Advisory Council on Historic Preservation (ACHP), Section 106 consulting parties may include certain individuals and organizations with a demonstrated interest in the undertaking due to the nature of their legal or economic relation to the

undertaking or affected properties, or their concern with the undertaking's effects on historic properties (36 CFR §800.2).

DOE would like to obtain information from you about historic properties, including those of cultural importance to your organization and its members, in or near the project area, and also to provide you an opportunity to identify your concerns about such properties, including the identification of potential mitigation measures. Your assistance in the identification and evaluation of historic properties will provide us the opportunity to resolve any adverse effects this undertaking may have on these properties. If available, we would welcome any information on the location and importance of archaeological sites, historic structures, and any other localities of interest to you that are known to occur in or near the proposed project area.

If you would like to participate in the Section 106 consultation process as a Section 106 consulting party, please confirm within 30 calendar days of the date of this letter, by sending a letter accepting this invitation that identifies a primary point of contact for your agency, either as an attachment to an email at Juliea.Smith@hq.doe.gov, or by postal mail to 1000 Independence Avenue, SW, Washington, D.C., 20585. If no response is received within the time specified, the DOE will remove your agency from the Section 106 consulting party list for this project.

If you have questions regarding the DOE's on-going review of the proposed GNTL project, or your participation as a Section 106 consulting party, please contact me at any time at the above email address or (202) 586-7668.

Yours very truly,

A handwritten signature in black ink that reads "Julie A. Smith". The signature is written in a cursive, flowing style.

Julie Ann Smith, PhD
Principal NEPA Document Manager
National Electricity Delivery Division, OE-20
Office of Electricity Delivery and
Energy Reliability
U.S. Department of Energy

Enclosed:

- GNTL Project Regional Map (from GNTL Scoping Summary Report)



Department of Energy
Washington, DC 20585

January 13, 2015

Minnesota Archaeological Society
Fort Snelling History Center
Ft. Snelling, MN 55111-4061

SUBJECT: Invitation to Consult on the Proposed Great Northern Transmission Line Project

Dear Sir or Madam,

The purpose of this letter is to ensure that the Minnesota Archaeological Society is aware that Minnesota Power, an operating division of ALLETE, Inc., has applied to the U.S. Department of Energy's (DOE's) Office of Electricity Delivery and Energy Reliability for a Presidential permit to construct, operate, maintain, and connect an electric transmission line across the U.S.-Canada border. Pursuant to Section 106 of the National Historic Preservation Act of 1966 (NHPA) and 36 CFR Part 800, "Protection of Historic Properties," the DOE is initiating the Section 106 consultation process on the proposed Great Northern Transmission Line (GNTL) project to determine any potential adverse effects on historic properties. The DOE invites you to consult with us, as provided for by Section 106 and its implementing regulations.

The DOE is meeting its obligations under the NHPA concurrently with the preparation of an environmental impact statement (EIS) pursuant to the National Environmental Policy Act of 1969 (NEPA). DOE is a federal joint lead agency with the Minnesota Department of Commerce – Energy Environmental Review and Analysis (DOC-EERA) acting as state joint lead agency per 40 CFR 1501.5(b) in the preparation of the subject EIS. Minnesota Power is also seeking authorizations from the U.S. Army Corps of Engineers – St. Paul District (USACE), a cooperating agency to DOE in the preparation of the above mentioned EIS. DOE is also acting as the lead federal agency for purposes of compliance with Section 106 for the NEPA cooperating agencies (per 36 CFR § 800.2(a)(2)).

Minnesota Power applied to DOE for a Presidential permit to construct, operate, maintain, and connect an approximately 220-mile, overhead, single-circuit 500 kV AC transmission line between the Minnesota - Manitoba border crossing northwest of Roseau, Minnesota, and terminating at the existing Blackberry 230/115 kV Substation near Grand Rapids, Minnesota. Minnesota Power's proposal also includes associated substation facilities and transmission system modifications at the Blackberry Substation site, and construction of a new 500 kV Series Compensation Station (a structure which will house the 500 kV series capacitor banks necessary for reliable operation and performance of the proposed transmission line). A new Blackberry 500 kV Substation would be required for the proposed Project and would be constructed adjacent to and east of the existing Blackberry 230/115 kV Substation. The proposed GNTL project would carry hydropower generated by facilities operated by Manitoba Hydro, a Canadian electric utility.

DOE documented a Notice of Intent (NOI) to prepare an EIS in the *Federal Register* on June 27, 2014 (79 FR 36493), with an open public scoping period which ended on August 15, 2014. As a part of its scoping efforts, DOE held eight NEPA public scoping meetings from July 16 – July 24, 2014 (see enclosed *GNTL Regional Map*). For more information on DOE's NEPA review and preparation of the EIS, please visit the DOE GNTL EIS website at <http://www.GreatNorthernEIS.org>. The GNTL Presidential permit application (including an initial cultural resources study), NOI and the

Great Northern Transmission Line Scoping Summary Report (November 2014), can be viewed on this website.

Under Section 106, the DOE must identify and consider the potential effects of its actions on historic properties through a collaborative framework (consultation) to identify historic properties potentially affected by the proposed project, assess its effects, and seek ways to avoid, minimize or mitigate any adverse effects to historic properties (36 CFR §800.1(a)). In addition to the State Historic Preservation Officer (SHPO), federally recognized Indian tribes, and the Advisory Council on Historic Preservation (ACHP), Section 106 consulting parties may include certain individuals and organizations with a demonstrated interest in the undertaking due to the nature of their legal or economic relation to the undertaking or affected properties, or their concern with the undertaking's effects on historic properties (36 CFR §800.2).

The DOE would like to obtain information from you about historic properties, including those of cultural importance to your organization and its members, in or near the project area, and also to provide you an opportunity to identify your concerns about such properties, including the identification of potential mitigation measures. Your assistance in the identification and evaluation of historic properties will provide us the opportunity to resolve any adverse effects this undertaking may have on these properties. If available, we would welcome any information on the location and importance of archaeological sites, historic structures, and any other localities of interest to you that are known to occur in or near the proposed project area.

If you would like to participate in the Section 106 consultation process, please confirm within 30 calendar days of the date of this letter, by sending a letter accepting this invitation to act as a Section 106 consulting party for the proposed GNTL project, either as an attachment to an email at Juliea.Smith@hq.doe.gov, or by postal mail to 1000 Independence Avenue, SW, Washington, D.C., 20585. Please also include information for a primary point of contact for your organization (as applicable) in your acceptance letter. If you have any questions or concerns, please contact me at any time at the above email address or (202) 586-7668.

Yours very truly,



Julie Ann Smith, PhD
Principal NEPA Document Manager
National Electricity Delivery Division, OE-20
Office of Electricity Delivery and
Energy Reliability
U.S. Department of Energy

Enclosed:

- GNTL Project Regional Map (from GNTL Scoping Summary Report)



Department of Energy
Washington, DC 20585

January 13, 2015

Kay Mack
Beltrami County Administrator
County Administration Building
701 Minnesota Ave. NW Suite 200
Bemidjii, MN 56601

SUBJECT: Invitation to Consult on the Proposed Great Northern Transmission Line Project

Dear Kay Mack,

The purpose of this letter is to ensure that the Beltrami County Administrator is aware that Minnesota Power, an operating division of ALLETE, Inc., has applied to the U.S. Department of Energy's (DOE's) Office of Electricity Delivery and Energy Reliability for a Presidential permit to construct, operate, maintain, and connect an electric transmission line across the U.S.-Canada border. Pursuant to Section 106 of the National Historic Preservation Act of 1966 (NHPA) and 36 CFR Part 800, "Protection of Historic Properties," the DOE is initiating the Section 106 consultation process on the proposed Great Northern Transmission Line (GNTL) project to determine any potential adverse effects on historic properties. The DOE invites you to consult with us, as provided for by Section 106 and its implementing regulations.

The DOE is meeting its obligations under the NHPA concurrently with the preparation of an environmental impact statement (EIS) pursuant to the National Environmental Policy Act of 1969 (NEPA). DOE is a federal joint lead agency with the Minnesota Department of Commerce – Energy Environmental Review and Analysis (DOC-EERA) acting as state joint lead agency per 40 CFR 1501.5(b) in the preparation of the subject EIS. Minnesota Power is also seeking authorizations from the U.S. Army Corps of Engineers – St. Paul District (USACE), a cooperating agency to DOE in the preparation of the above mentioned EIS. DOE is also acting as the lead federal agency for purposes of compliance with Section 106 for the NEPA cooperating agencies (per 36 CFR § 800.2(a)(2)).

Minnesota Power applied to DOE for a Presidential permit to construct, operate, maintain, and connect an approximately 220-mile, overhead, single-circuit 500 kV AC transmission line between the Minnesota - Manitoba border crossing northwest of Roseau, Minnesota, and terminating at the existing Blackberry 230/115 kV Substation near Grand Rapids, Minnesota. Minnesota Power's proposal also includes associated substation facilities and transmission system modifications at the Blackberry Substation site, and construction of a new 500 kV Series Compensation Station (a structure which will house the 500 kV series capacitor banks necessary for reliable operation and performance of the proposed transmission line). A new Blackberry 500 kV Substation would be required for the proposed Project and would be constructed adjacent to and east of the existing Blackberry 230/115 kV Substation. The proposed GNTL project would carry hydropower generated by facilities operated by Manitoba Hydro, a Canadian electric utility.

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GNTL Presidential permit application (including an initial cultural resources study), NOI and the *Great Northern Transmission Line Scoping Summary Report* (November 2014), can be viewed on this website.

Under Section 106, the DOE must identify and consider the potential effects of its actions on historic properties through a collaborative framework (consultation) to identify historic properties potentially affected by the proposed project, assess its effects, and seek ways to avoid, minimize or mitigate any adverse effects to historic properties (36 CFR §800.1(a)). In addition to the State Historic Preservation Officer (SHPO), federally recognized Indian tribes, and the Advisory Council on Historic Preservation (ACHP), Section 106 consulting parties may include certain individuals and organizations with a demonstrated interest in the undertaking due to the nature of their legal or economic relation to the undertaking or affected properties, or their concern with the undertaking's effects on historic properties (36 CFR §800.2).

The DOE would like to obtain information from you about historic properties, including those of cultural importance to your organization and its members, in or near the project area, and also to provide you an opportunity to identify your concerns about such properties, including the identification of potential mitigation measures. Your assistance in the identification and evaluation of historic properties will provide us the opportunity to resolve any adverse effects this undertaking may have on these properties. If available, we would welcome any information on the location and importance of archaeological sites, historic structures, and any other localities of interest to you that are known to occur in or near the proposed project area.

If you would like to participate in the Section 106 consultation process, please confirm within 30 calendar days of the date of this letter, by sending a letter accepting this invitation to act as a Section 106 consulting party for the proposed GNTL project, either as an attachment to an email at Juliea.Smith@hq.doe.gov, or by postal mail to 1000 Independence Avenue, SW, Washington, D.C., 20585. Please also include information for a primary point of contact for your organization (as applicable) in your acceptance letter. If you have any questions or concerns, please contact me at any time at the above email address or (202) 586-7668.

Yours very truly,



Julie Ann Smith, PhD
Principal NEPA Document Manager
National Electricity Delivery Division, OE-20
Office of Electricity Delivery and
Energy Reliability
U.S. Department of Energy

Enclosed:

- GNTL Project Regional Map (from GNTL Scoping Summary Report)



Department of Energy
Washington, DC 20585

January 13, 2015

Raymond Berger
Waskish Town Board
56090 Waskish Road NE
Washish, MN 56685

SUBJECT: Invitation to Consult on the Proposed Great Northern Transmission Line Project

Dear Raymond Berger,

The purpose of this letter is to ensure that the Waskish Town Board is aware that Minnesota Power, an operating division of ALLETE, Inc., has applied to the U.S. Department of Energy's (DOE's) Office of Electricity Delivery and Energy Reliability for a Presidential permit to construct, operate, maintain, and connect an electric transmission line across the U.S.-Canada border. Pursuant to Section 106 of the National Historic Preservation Act of 1966 (NHPA) and 36 CFR Part 800, "Protection of Historic Properties," the DOE is initiating the Section 106 consultation process on the proposed Great Northern Transmission Line (GNTL) project to determine any potential adverse effects on historic properties. The DOE invites you to consult with us, as provided for by Section 106 and its implementing regulations.

The DOE is meeting its obligations under the NHPA concurrently with the preparation of an environmental impact statement (EIS) pursuant to the National Environmental Policy Act of 1969 (NEPA). DOE is a federal joint lead agency with the Minnesota Department of Commerce – Energy Environmental Review and Analysis (DOC-EERA) acting as state joint lead agency per 40 CFR 1501.5(b) in the preparation of the subject EIS. Minnesota Power is also seeking authorizations from the U.S. Army Corps of Engineers – St. Paul District (USACE), a cooperating agency to DOE in the preparation of the above mentioned EIS. DOE is also acting as the lead federal agency for purposes of compliance with Section 106 for the NEPA cooperating agencies (per 36 CFR § 800.2(a)(2)).

Minnesota Power applied to DOE for a Presidential permit to construct, operate, maintain, and connect an approximately 220-mile, overhead, single-circuit 500 kV AC transmission line between the Minnesota - Manitoba border crossing northwest of Roseau, Minnesota, and terminating at the existing Blackberry 230/115 kV Substation near Grand Rapids, Minnesota. Minnesota Power's proposal also includes associated substation facilities and transmission system modifications at the Blackberry Substation site, and construction of a new 500 kV Series Compensation Station (a structure which will house the 500 kV series capacitor banks necessary for reliable operation and performance of the proposed transmission line). A new Blackberry 500 kV Substation would be required for the proposed Project and would be constructed adjacent to and east of the existing Blackberry 230/115 kV Substation. The proposed GNTL project would carry hydropower generated by facilities operated by Manitoba Hydro, a Canadian electric utility.

DOE documented a Notice of Intent (NOI) to prepare an EIS in the *Federal Register* on June 27, 2014 (79 FR 36493), with an open public scoping period which ended on August 15, 2014. As a part of its scoping efforts, DOE held eight NEPA public scoping meetings from July 16 – July 24, 2014 (*see enclosed GNTL Regional Map*). For more information on DOE's NEPA review and preparation of the EIS, please visit the DOE GNTL EIS website at <http://www.GreatNorthernEIS.org>. The GNTL Presidential permit application (including an initial cultural resources study), NOI and the

Great Northern Transmission Line Scoping Summary Report (November 2014), can be viewed on this website.

Under Section 106, the DOE must identify and consider the potential effects of its actions on historic properties through a collaborative framework (consultation) to identify historic properties potentially affected by the proposed project, assess its effects, and seek ways to avoid, minimize or mitigate any adverse effects to historic properties (36 CFR §800.1(a)). In addition to the State Historic Preservation Officer (SHPO), federally recognized Indian tribes, and the Advisory Council on Historic Preservation (ACHP), Section 106 consulting parties may include certain individuals and organizations with a demonstrated interest in the undertaking due to the nature of their legal or economic relation to the undertaking or affected properties, or their concern with the undertaking's effects on historic properties (36 CFR §800.2).

The DOE would like to obtain information from you about historic properties, including those of cultural importance to your organization and its members, in or near the project area, and also to provide you an opportunity to identify your concerns about such properties, including the identification of potential mitigation measures. Your assistance in the identification and evaluation of historic properties will provide us the opportunity to resolve any adverse effects this undertaking may have on these properties. If available, we would welcome any information on the location and importance of archaeological sites, historic structures, and any other localities of interest to you that are known to occur in or near the proposed project area.

If you would like to participate in the Section 106 consultation process, please confirm within 30 calendar days of the date of this letter, by sending a letter accepting this invitation to act as a Section 106 consulting party for the proposed GNTL project, either as an attachment to an email at Juliea.Smith@hq.doe.gov, or by postal mail to 1000 Independence Avenue, SW, Washington, D.C., 20585. Please also include information for a primary point of contact for your organization (as applicable) in your acceptance letter. If you have any questions or concerns, please contact me at any time at the above email address or (202) 586-7668.

Yours very truly,



Julie Ann Smith, PhD
Principal NEPA Document Manager
National Electricity Delivery Division, OE-20
Office of Electricity Delivery and
Energy Reliability
U.S. Department of Energy

Enclosed:

- GNTL Project Regional Map (from GNTL Scoping Summary Report)



Department of Energy
Washington, DC 20585

January 13, 2015

Trish Klein
Itasca County Administrator
Administrative Service Office
123 NE 4th Street
Grand Rapids, MN 55744

SUBJECT: Invitation to Consult on the Proposed Great Northern Transmission Line Project

Dear Trish Klein,

The purpose of this letter is to ensure that the Itasca County Administrator is aware that Minnesota Power, an operating division of ALLETE, Inc., has applied to the U.S. Department of Energy's (DOE's) Office of Electricity Delivery and Energy Reliability for a Presidential permit to construct, operate, maintain, and connect an electric transmission line across the U.S.-Canada border. Pursuant to Section 106 of the National Historic Preservation Act of 1966 (NHPA) and 36 CFR Part 800, "Protection of Historic Properties," the DOE is initiating the Section 106 consultation process on the proposed Great Northern Transmission Line (GNTL) project to determine any potential adverse effects on historic properties. The DOE invites you to consult with us, as provided for by Section 106 and its implementing regulations.

The DOE is meeting its obligations under the NHPA concurrently with the preparation of an environmental impact statement (EIS) pursuant to the National Environmental Policy Act of 1969 (NEPA). DOE is a federal joint lead agency with the Minnesota Department of Commerce – Energy Environmental Review and Analysis (DOC-EERA) acting as state joint lead agency per 40 CFR 1501.5(b) in the preparation of the subject EIS. Minnesota Power is also seeking authorizations from the U.S. Army Corps of Engineers – St. Paul District (USACE), a cooperating agency to DOE in the preparation of the above mentioned EIS. DOE is also acting as the lead federal agency for purposes of compliance with Section 106 for the NEPA cooperating agencies (per 36 CFR § 800.2(a)(2)).

Minnesota Power applied to DOE for a Presidential permit to construct, operate, maintain, and connect an approximately 220-mile, overhead, single-circuit 500 kV AC transmission line between the Minnesota - Manitoba border crossing northwest of Roseau, Minnesota, and terminating at the existing Blackberry 230/115 kV Substation near Grand Rapids, Minnesota. Minnesota Power's proposal also includes associated substation facilities and transmission system modifications at the Blackberry Substation site, and construction of a new 500 kV Series Compensation Station (a structure which will house the 500 kV series capacitor banks necessary for reliable operation and performance of the proposed transmission line). A new Blackberry 500 kV Substation would be required for the proposed Project and would be constructed adjacent to and east of the existing Blackberry 230/115 kV Substation. The proposed GNTL project would carry hydropower generated by facilities operated by Manitoba Hydro, a Canadian electric utility.

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GNTL Presidential permit application (including an initial cultural resources study), NOI and the *Great Northern Transmission Line Scoping Summary Report* (November 2014), can be viewed on this website.

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Yours very truly,



Julie Ann Smith, PhD
Principal NEPA Document Manager
National Electricity Delivery Division, OE-20
Office of Electricity Delivery and
Energy Reliability
U.S. Department of Energy

Enclosed:

- GNTL Project Regional Map (from GNTL Scoping Summary Report)



Department of Energy
Washington, DC 20585

January 13, 2015

Matt David
City of Effie
Effie Town Office
PO Box 129
Effie, MN 56639

SUBJECT: Invitation to Consult on the Proposed Great Northern Transmission Line Project

Dear Matt David,

The purpose of this letter is to ensure that the City of Effie is aware that Minnesota Power, an operating division of ALLETE, Inc., has applied to the U.S. Department of Energy's (DOE's) Office of Electricity Delivery and Energy Reliability for a Presidential permit to construct, operate, maintain, and connect an electric transmission line across the U.S.-Canada border. Pursuant to Section 106 of the National Historic Preservation Act of 1966 (NHPA) and 36 CFR Part 800, "Protection of Historic Properties," the DOE is initiating the Section 106 consultation process on the proposed Great Northern Transmission Line (GNTL) project to determine any potential adverse effects on historic properties. The DOE invites you to consult with us, as provided for by Section 106 and its implementing regulations.

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Under Section 106, the DOE must identify and consider the potential effects of its actions on historic properties through a collaborative framework (consultation) to identify historic properties potentially affected by the proposed project, assess its effects, and seek ways to avoid, minimize or mitigate any adverse effects to historic properties (36 CFR §800.1(a)). In addition to the State Historic Preservation Officer (SHPO), federally recognized Indian tribes, and the Advisory Council on Historic Preservation (ACHP), Section 106 consulting parties may include certain individuals and organizations with a demonstrated interest in the undertaking due to the nature of their legal or economic relation to the undertaking or affected properties, or their concern with the undertaking's effects on historic properties (36 CFR §800.2).

The DOE would like to obtain information from you about historic properties, including those of cultural importance to your organization and its members, in or near the project area, and also to provide you an opportunity to identify your concerns about such properties, including the identification of potential mitigation measures. Your assistance in the identification and evaluation of historic properties will provide us the opportunity to resolve any adverse effects this undertaking may have on these properties. If available, we would welcome any information on the location and importance of archaeological sites, historic structures, and any other localities of interest to you that are known to occur in or near the proposed project area.

If you would like to participate in the Section 106 consultation process, please confirm within 30 calendar days of the date of this letter, by sending a letter accepting this invitation to act as a Section 106 consulting party for the proposed GNTL project, either as an attachment to an email at Juliea.Smith@hq.doe.gov, or by postal mail to 1000 Independence Avenue, SW, Washington, D.C., 20585. Please also include information for a primary point of contact for your organization (as applicable) in your acceptance letter. If you have any questions or concerns, please contact me at any time at the above email address or (202) 586-7668.

Yours very truly,



Julie Ann Smith, PhD
Principal NEPA Document Manager
National Electricity Delivery Division, OE-20
Office of Electricity Delivery and
Energy Reliability
U.S. Department of Energy

Enclosed:

- GNTL Project Regional Map (from GNTL Scoping Summary Report)



Department of Energy
Washington, DC 20585

January 13, 2015

Mike Troumbly
City of Taconite
Taconite Town Office
PO Box 137
Taconite, MN 55786

SUBJECT: Invitation to Consult on the Proposed Great Northern Transmission Line Project

Dear Mike Troumbly,

The purpose of this letter is to ensure that the City of Taconite is aware that Minnesota Power, an operating division of ALLETE, Inc., has applied to the U.S. Department of Energy's (DOE's) Office of Electricity Delivery and Energy Reliability for a Presidential permit to construct, operate, maintain, and connect an electric transmission line across the U.S.-Canada border. Pursuant to Section 106 of the National Historic Preservation Act of 1966 (NHPA) and 36 CFR Part 800, "Protection of Historic Properties," the DOE is initiating the Section 106 consultation process on the proposed Great Northern Transmission Line (GNTL) project to determine any potential adverse effects on historic properties. The DOE invites you to consult with us, as provided for by Section 106 and its implementing regulations.

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Yours very truly,



Julie Ann Smith, PhD
Principal NEPA Document Manager
National Electricity Delivery Division, OE-20
Office of Electricity Delivery and
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U.S. Department of Energy

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- GNTL Project Regional Map (from GNTL Scoping Summary Report)



Department of Energy
Washington, DC 20585

January 13, 2015

G. Andy Martin
Township of Ardenhurst
64185 Moose Bay Trail
Northome, MN 56661

SUBJECT: Invitation to Consult on the Proposed Great Northern Transmission Line Project

Dear G. Andy Martin,

The purpose of this letter is to ensure that the Township of Ardenhurst is aware that Minnesota Power, an operating division of ALLETE, Inc., has applied to the U.S. Department of Energy's (DOE's) Office of Electricity Delivery and Energy Reliability for a Presidential permit to construct, operate, maintain, and connect an electric transmission line across the U.S.-Canada border. Pursuant to Section 106 of the National Historic Preservation Act of 1966 (NHPA) and 36 CFR Part 800, "Protection of Historic Properties," the DOE is initiating the Section 106 consultation process on the proposed Great Northern Transmission Line (GNTL) project to determine any potential adverse effects on historic properties. The DOE invites you to consult with us, as provided for by Section 106 and its implementing regulations.

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Yours very truly,



Julie Ann Smith, PhD
Principal NEPA Document Manager
National Electricity Delivery Division, OE-20
Office of Electricity Delivery and
Energy Reliability
U.S. Department of Energy

Enclosed:

- GNTL Project Regional Map (from GNTL Scoping Summary Report)



Department of Energy
Washington, DC 20585

January 13, 2015

John Kannas
Township of Balsam
40874 County Road 336
Bovey, MN 55709

SUBJECT: Invitation to Consult on the Proposed Great Northern Transmission Line Project

Dear John Kannas,

The purpose of this letter is to ensure that the Township of Balsam is aware that Minnesota Power, an operating division of ALLETE, Inc., has applied to the U.S. Department of Energy's (DOE's) Office of Electricity Delivery and Energy Reliability for a Presidential permit to construct, operate, maintain, and connect an electric transmission line across the U.S.-Canada border. Pursuant to Section 106 of the National Historic Preservation Act of 1966 (NHPA) and 36 CFR Part 800, "Protection of Historic Properties," the DOE is initiating the Section 106 consultation process on the proposed Great Northern Transmission Line (GNTL) project to determine any potential adverse effects on historic properties. The DOE invites you to consult with us, as provided for by Section 106 and its implementing regulations.

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National Electricity Delivery Division, OE-20
Office of Electricity Delivery and
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U.S. Department of Energy

Enclosed:

- GNTL Project Regional Map (from GNTL Scoping Summary Report)



Department of Energy
Washington, DC 20585

January 13, 2015

Justin Root
Township of Bigfork
100 South State Highway 38
Bigfork, MN 56628

SUBJECT: Invitation to Consult on the Proposed Great Northern Transmission Line Project

Dear Justin Root,

The purpose of this letter is to ensure that the Township of Bigfork is aware that Minnesota Power, an operating division of ALLETE, Inc., has applied to the U.S. Department of Energy's (DOE's) Office of Electricity Delivery and Energy Reliability for a Presidential permit to construct, operate, maintain, and connect an electric transmission line across the U.S.-Canada border. Pursuant to Section 106 of the National Historic Preservation Act of 1966 (NHPA) and 36 CFR Part 800, "Protection of Historic Properties," the DOE is initiating the Section 106 consultation process on the proposed Great Northern Transmission Line (GNTL) project to determine any potential adverse effects on historic properties. The DOE invites you to consult with us, as provided for by Section 106 and its implementing regulations.

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National Electricity Delivery Division, OE-20
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Enclosed:

- GNTL Project Regional Map (from GNTL Scoping Summary Report)



Department of Energy
Washington, DC 20585

January 13, 2015

Bruce Scofield
Township of Carpenter
11032 Scofield Road
Togo, MN 55723

SUBJECT: Invitation to Consult on the Proposed Great Northern Transmission Line Project

Dear Bruce Scofield,

The purpose of this letter is to ensure that the Township of Carpenter is aware that Minnesota Power, an operating division of ALLETE, Inc., has applied to the U.S. Department of Energy's (DOE's) Office of Electricity Delivery and Energy Reliability for a Presidential permit to construct, operate, maintain, and connect an electric transmission line across the U.S.-Canada border. Pursuant to Section 106 of the National Historic Preservation Act of 1966 (NHPA) and 36 CFR Part 800, "Protection of Historic Properties," the DOE is initiating the Section 106 consultation process on the proposed Great Northern Transmission Line (GNTL) project to determine any potential adverse effects on historic properties. The DOE invites you to consult with us, as provided for by Section 106 and its implementing regulations.

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Julie Ann Smith, PhD
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National Electricity Delivery Division, OE-20
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Enclosed:

- GNTL Project Regional Map (from GNTL Scoping Summary Report)



Department of Energy
Washington, DC 20585

January 13, 2015

SUBJECT: Invitation to Consult on the Proposed Great Northern Transmission Line Project

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If you would like to participate in the Section 106 consultation process, please confirm within 30 calendar days of the date of this letter, by sending a letter accepting this invitation to act as a Section 106 consulting party for the proposed GNTL project, either as an attachment to an email at Juliea.Smith@hq.doe.gov, or by postal mail to 1000 Independence Avenue, SW, Washington, D.C., 20585. Please also include information for a primary point of contact for your organization (as applicable) in your acceptance letter. If you have any questions or concerns, please contact me at any time at the above email address or (202) 586-7668.

Yours very truly,



Julie Ann Smith, PhD
Principal NEPA Document Manager
National Electricity Delivery Division, OE-20
Office of Electricity Delivery and
Energy Reliability
U.S. Department of Energy

Enclosed:

- GNTL Project Regional Map (from GNTL Scoping Summary Report)



Department of Energy
Washington, DC 20585

January 13, 2015

Ted Winkelman
Township of Grattan
57124 County Road 31
Northome, MN 56661

SUBJECT: Invitation to Consult on the Proposed Great Northern Transmission Line Project

Dear Ted Winkelman,

The purpose of this letter is to ensure that the Township of Grattan is aware that Minnesota Power, an operating division of ALLETE, Inc., has applied to the U.S. Department of Energy's (DOE's) Office of Electricity Delivery and Energy Reliability for a Presidential permit to construct, operate, maintain, and connect an electric transmission line across the U.S.-Canada border. Pursuant to Section 106 of the National Historic Preservation Act of 1966 (NHPA) and 36 CFR Part 800, "Protection of Historic Properties," the DOE is initiating the Section 106 consultation process on the proposed Great Northern Transmission Line (GNTL) project to determine any potential adverse effects on historic properties. The DOE invites you to consult with us, as provided for by Section 106 and its implementing regulations.

The DOE is meeting its obligations under the NHPA concurrently with the preparation of an environmental impact statement (EIS) pursuant to the National Environmental Policy Act of 1969 (NEPA). DOE is a federal joint lead agency with the Minnesota Department of Commerce – Energy Environmental Review and Analysis (DOC-EERA) acting as state joint lead agency per 40 CFR 1501.5(b) in the preparation of the subject EIS. Minnesota Power is also seeking authorizations from the U.S. Army Corps of Engineers – St. Paul District (USACE), a cooperating agency to DOE in the preparation of the above mentioned EIS. DOE is also acting as the lead federal agency for purposes of compliance with Section 106 for the NEPA cooperating agencies (per 36 CFR § 800.2(a)(2)).

Minnesota Power applied to DOE for a Presidential permit to construct, operate, maintain, and connect an approximately 220-mile, overhead, single-circuit 500 kV AC transmission line between the Minnesota - Manitoba border crossing northwest of Roseau, Minnesota, and terminating at the existing Blackberry 230/115 kV Substation near Grand Rapids, Minnesota. Minnesota Power's proposal also includes associated substation facilities and transmission system modifications at the Blackberry Substation site, and construction of a new 500 kV Series Compensation Station (a structure which will house the 500 kV series capacitor banks necessary for reliable operation and performance of the proposed transmission line). A new Blackberry 500 kV Substation would be required for the proposed Project and would be constructed adjacent to and east of the existing Blackberry 230/115 kV Substation. The proposed GNTL project would carry hydropower generated by facilities operated by Manitoba Hydro, a Canadian electric utility.

DOE documented a Notice of Intent (NOI) to prepare an EIS in the *Federal Register* on June 27, 2014 (79 FR 36493), with an open public scoping period which ended on August 15, 2014. As a part of its scoping efforts, DOE held eight NEPA public scoping meetings from July 16 – July 24, 2014 (*see enclosed GNTL Regional Map*). For more information on DOE's NEPA review and preparation of the EIS, please visit the DOE GNTL EIS website at <http://www.GreatNorthernEIS.org>. The GNTL Presidential permit application (including an initial cultural resources study), NOI and the

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Yours very truly,



Julie Ann Smith, PhD
Principal NEPA Document Manager
National Electricity Delivery Division, OE-20
Office of Electricity Delivery and
Energy Reliability
U.S. Department of Energy

Enclosed:

- GNTL Project Regional Map (from GNTL Scoping Summary Report)



Department of Energy
Washington, DC 20585

January 13, 2015

Nicholas Matanich
Township of Greenway
PO Box 824
Calumet, MN 55716

SUBJECT: Invitation to Consult on the Proposed Great Northern Transmission Line Project

Dear Nicholas Matanich,

The purpose of this letter is to ensure that the Township of Greenway is aware that Minnesota Power, an operating division of ALLETE, Inc., has applied to the U.S. Department of Energy's (DOE's) Office of Electricity Delivery and Energy Reliability for a Presidential permit to construct, operate, maintain, and connect an electric transmission line across the U.S.-Canada border. Pursuant to Section 106 of the National Historic Preservation Act of 1966 (NHPA) and 36 CFR Part 800, "Protection of Historic Properties," the DOE is initiating the Section 106 consultation process on the proposed Great Northern Transmission Line (GNTL) project to determine any potential adverse effects on historic properties. The DOE invites you to consult with us, as provided for by Section 106 and its implementing regulations.

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Yours very truly,



Julie Ann Smith, PhD
Principal NEPA Document Manager
National Electricity Delivery Division, OE-20
Office of Electricity Delivery and
Energy Reliability
U.S. Department of Energy

Enclosed:

- GNTL Project Regional Map (from GNTL Scoping Summary Report)



Department of Energy
Washington, DC 20585

January 13, 2015

Township of Iron Range
33607 Scenic Hwy
Bovie, MN 55709

SUBJECT: Invitation to Consult on the Proposed Great Northern Transmission Line Project

Dear Sir or Madam,

The purpose of this letter is to ensure that the Township of Iron Range is aware that Minnesota Power, an operating division of ALLETE, Inc., has applied to the U.S. Department of Energy's (DOE's) Office of Electricity Delivery and Energy Reliability for a Presidential permit to construct, operate, maintain, and connect an electric transmission line across the U.S.-Canada border. Pursuant to Section 106 of the National Historic Preservation Act of 1966 (NHPA) and 36 CFR Part 800, "Protection of Historic Properties," the DOE is initiating the Section 106 consultation process on the proposed Great Northern Transmission Line (GNTL) project to determine any potential adverse effects on historic properties. The DOE invites you to consult with us, as provided for by Section 106 and its implementing regulations.

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Yours very truly,



Julie Ann Smith, PhD
Principal NEPA Document Manager
National Electricity Delivery Division, OE-20
Office of Electricity Delivery and
Energy Reliability
U.S. Department of Energy

Enclosed:

- GNTL Project Regional Map (from GNTL Scoping Summary Report)



Department of Energy
Washington, DC 20585

January 13, 2015

Frank Olson
Township of Lawrence
24867 County Road 57
Bovey, MN 55709

SUBJECT: Invitation to Consult on the Proposed Great Northern Transmission Line Project

Dear Frank Olson,

The purpose of this letter is to ensure that the Township of Lawrence is aware that Minnesota Power, an operating division of ALLETE, Inc., has applied to the U.S. Department of Energy's (DOE's) Office of Electricity Delivery and Energy Reliability for a Presidential permit to construct, operate, maintain, and connect an electric transmission line across the U.S.-Canada border. Pursuant to Section 106 of the National Historic Preservation Act of 1966 (NHPA) and 36 CFR Part 800, "Protection of Historic Properties," the DOE is initiating the Section 106 consultation process on the proposed Great Northern Transmission Line (GNTL) project to determine any potential adverse effects on historic properties. The DOE invites you to consult with us, as provided for by Section 106 and its implementing regulations.

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Yours very truly,



Julie Ann Smith, PhD
Principal NEPA Document Manager
National Electricity Delivery Division, OE-20
Office of Electricity Delivery and
Energy Reliability
U.S. Department of Energy

Enclosed:

- GNTL Project Regional Map (from GNTL Scoping Summary Report)



Department of Energy
Washington, DC 20585

January 13, 2015

Richard Curtis
Chairman, Township of Liberty
4315 Henry Lane NW
Bemidji, MN 56601

SUBJECT: Invitation to Consult on the Proposed Great Northern Transmission Line Project

Dear Mr. Curtis,

The purpose of this letter is to ensure that the Township of Liberty is aware that Minnesota Power, an operating division of ALLETE, Inc., has applied to the U.S. Department of Energy's (DOE's) Office of Electricity Delivery and Energy Reliability for a Presidential permit to construct, operate, maintain, and connect an electric transmission line across the U.S.-Canada border. Pursuant to Section 106 of the National Historic Preservation Act of 1966 (NHPA) and 36 CFR Part 800, "Protection of Historic Properties," the DOE is initiating the Section 106 consultation process on the proposed Great Northern Transmission Line (GNTL) project to determine any potential adverse effects on historic properties. The DOE invites you to consult with us, as provided for by Section 106 and its implementing regulations.

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Julie Ann Smith, PhD
Principal NEPA Document Manager
National Electricity Delivery Division, OE-20
Office of Electricity Delivery and
Energy Reliability
U.S. Department of Energy

Enclosed:

- GNTL Project Regional Map (from GNTL Scoping Summary Report)



Department of Energy
Washington, DC 20585

January 13, 2015

Little Sand Lake Association
P.O. Box 22262
St. Paul, MN 55122

SUBJECT: Invitation to Consult on the Proposed Great Northern Transmission Line Project

Dear Sir or Madam,

The purpose of this letter is to ensure that the Little Sand Lake Association is aware that Minnesota Power, an operating division of ALLETE, Inc., has applied to the U.S. Department of Energy's (DOE's) Office of Electricity Delivery and Energy Reliability for a Presidential permit to construct, operate, maintain, and connect an electric transmission line across the U.S.-Canada border. Pursuant to Section 106 of the National Historic Preservation Act of 1966 (NHPA) and 36 CFR Part 800, "Protection of Historic Properties," the DOE is initiating the Section 106 consultation process on the proposed Great Northern Transmission Line (GNTL) project to determine any potential adverse effects on historic properties. The DOE invites you to consult with us, as provided for by Section 106 and its implementing regulations.

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Yours very truly,



Julie Ann Smith, PhD
Principal NEPA Document Manager
National Electricity Delivery Division, OE-20
Office of Electricity Delivery and
Energy Reliability
U.S. Department of Energy

Enclosed:

- GNTL Project Regional Map (from GNTL Scoping Summary Report)



Department of Energy
Washington, DC 20585

January 13, 2015

Jeffery Ekholm
Township of Nashwauk
36666 Pleasantview Road
Nashwauk, MN 55769

SUBJECT: Invitation to Consult on the Proposed Great Northern Transmission Line Project

Dear Jeffery Ekholm,

The purpose of this letter is to ensure that the Township of Nashwauk is aware that Minnesota Power, an operating division of ALLETE, Inc., has applied to the U.S. Department of Energy's (DOE's) Office of Electricity Delivery and Energy Reliability for a Presidential permit to construct, operate, maintain, and connect an electric transmission line across the U.S.-Canada border. Pursuant to Section 106 of the National Historic Preservation Act of 1966 (NHPA) and 36 CFR Part 800, "Protection of Historic Properties," the DOE is initiating the Section 106 consultation process on the proposed Great Northern Transmission Line (GNTL) project to determine any potential adverse effects on historic properties. The DOE invites you to consult with us, as provided for by Section 106 and its implementing regulations.

The DOE is meeting its obligations under the NHPA concurrently with the preparation of an environmental impact statement (EIS) pursuant to the National Environmental Policy Act of 1969 (NEPA). DOE is a federal joint lead agency with the Minnesota Department of Commerce – Energy Environmental Review and Analysis (DOC-EERA) acting as state joint lead agency per 40 CFR 1501.5(b) in the preparation of the subject EIS. Minnesota Power is also seeking authorizations from the U.S. Army Corps of Engineers – St. Paul District (USACE), a cooperating agency to DOE in the preparation of the above mentioned EIS. DOE is also acting as the lead federal agency for purposes of compliance with Section 106 for the NEPA cooperating agencies (per 36 CFR § 800.2(a)(2)).

Minnesota Power applied to DOE for a Presidential permit to construct, operate, maintain, and connect an approximately 220-mile, overhead, single-circuit 500 kV AC transmission line between the Minnesota - Manitoba border crossing northwest of Roseau, Minnesota, and terminating at the existing Blackberry 230/115 kV Substation near Grand Rapids, Minnesota. Minnesota Power's proposal also includes associated substation facilities and transmission system modifications at the Blackberry Substation site, and construction of a new 500 kV Series Compensation Station (a structure which will house the 500 kV series capacitor banks necessary for reliable operation and performance of the proposed transmission line). A new Blackberry 500 kV Substation would be required for the proposed Project and would be constructed adjacent to and east of the existing Blackberry 230/115 kV Substation. The proposed GNTL project would carry hydropower generated by facilities operated by Manitoba Hydro, a Canadian electric utility.

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Under Section 106, the DOE must identify and consider the potential effects of its actions on historic properties through a collaborative framework (consultation) to identify historic properties potentially affected by the proposed project, assess its effects, and seek ways to avoid, minimize or mitigate any adverse effects to historic properties (36 CFR §800.1(a)). In addition to the State Historic Preservation Officer (SHPO), federally recognized Indian tribes, and the Advisory Council on Historic Preservation (ACHP), Section 106 consulting parties may include certain individuals and organizations with a demonstrated interest in the undertaking due to the nature of their legal or economic relation to the undertaking or affected properties, or their concern with the undertaking's effects on historic properties (36 CFR §800.2).

The DOE would like to obtain information from you about historic properties, including those of cultural importance to your organization and its members, in or near the project area, and also to provide you an opportunity to identify your concerns about such properties, including the identification of potential mitigation measures. Your assistance in the identification and evaluation of historic properties will provide us the opportunity to resolve any adverse effects this undertaking may have on these properties. If available, we would welcome any information on the location and importance of archaeological sites, historic structures, and any other localities of interest to you that are known to occur in or near the proposed project area.

If you would like to participate in the Section 106 consultation process, please confirm within 30 calendar days of the date of this letter, by sending a letter accepting this invitation to act as a Section 106 consulting party for the proposed GNTL project, either as an attachment to an email at Juliea.Smith@hq.doe.gov, or by postal mail to 1000 Independence Avenue, SW, Washington, D.C., 20585. Please also include information for a primary point of contact for your organization (as applicable) in your acceptance letter. If you have any questions or concerns, please contact me at any time at the above email address or (202) 586-7668.

Yours very truly,



Julie Ann Smith, PhD
Principal NEPA Document Manager
National Electricity Delivery Division, OE-20
Office of Electricity Delivery and
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Department of Energy
Washington, DC 20585

January 13, 2015

Daniel Grundmeier
Township of Nore
64065 US Highway 71
Blackduck, MN 56630

SUBJECT: Invitation to Consult on the Proposed Great Northern Transmission Line Project

Dear Daniel Grundmeier,

The purpose of this letter is to ensure that the Township of Nore is aware that Minnesota Power, an operating division of ALLETE, Inc., has applied to the U.S. Department of Energy's (DOE's) Office of Electricity Delivery and Energy Reliability for a Presidential permit to construct, operate, maintain, and connect an electric transmission line across the U.S.-Canada border. Pursuant to Section 106 of the National Historic Preservation Act of 1966 (NHPA) and 36 CFR Part 800, "Protection of Historic Properties," the DOE is initiating the Section 106 consultation process on the proposed Great Northern Transmission Line (GNTL) project to determine any potential adverse effects on historic properties. The DOE invites you to consult with us, as provided for by Section 106 and its implementing regulations.

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Principal NEPA Document Manager
National Electricity Delivery Division, OE-20
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January 13, 2015

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Department of Energy
Washington, DC 20585

January 13, 2015

Rick Ferguson
Township of Pomroy
53176 County Road 31
Northome, MN 56661

SUBJECT: Invitation to Consult on the Proposed Great Northern Transmission Line Project

Dear Rick Ferguson,

The purpose of this letter is to ensure that the Township of Pomroy is aware that Minnesota Power, an operating division of ALLETE, Inc., has applied to the U.S. Department of Energy's (DOE's) Office of Electricity Delivery and Energy Reliability for a Presidential permit to construct, operate, maintain, and connect an electric transmission line across the U.S.-Canada border. Pursuant to Section 106 of the National Historic Preservation Act of 1966 (NHPA) and 36 CFR Part 800, "Protection of Historic Properties," the DOE is initiating the Section 106 consultation process on the proposed Great Northern Transmission Line (GNTL) project to determine any potential adverse effects on historic properties. The DOE invites you to consult with us, as provided for by Section 106 and its implementing regulations.

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Department of Energy
Washington, DC 20585

January 13, 2015

Pamela Perry
Township of Trout Lake
26439 Birch Drive
Bovey, MN 55709

SUBJECT: Invitation to Consult on the Proposed Great Northern Transmission Line Project

Dear Pamela Perry,

The purpose of this letter is to ensure that the Township of Trout Lake is aware that Minnesota Power, an operating division of ALLETE, Inc., has applied to the U.S. Department of Energy's (DOE's) Office of Electricity Delivery and Energy Reliability for a Presidential permit to construct, operate, maintain, and connect an electric transmission line across the U.S.-Canada border. Pursuant to Section 106 of the National Historic Preservation Act of 1966 (NHPA) and 36 CFR Part 800, "Protection of Historic Properties," the DOE is initiating the Section 106 consultation process on the proposed Great Northern Transmission Line (GNTL) project to determine any potential adverse effects on historic properties. The DOE invites you to consult with us, as provided for by Section 106 and its implementing regulations.

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Department of Energy
Washington, DC 20585

January 13, 2015

Teresa Briggs
Koochiching County Administration
Koochiching County Courthouse
715 4th Street
International Falls, MN 56649

SUBJECT: Invitation to Consult on the Proposed Great Northern Transmission Line Project

Dear Teresa Briggs,

The purpose of this letter is to ensure that the Koochiching County is aware that Minnesota Power, an operating division of ALLETE, Inc., has applied to the U.S. Department of Energy's (DOE's) Office of Electricity Delivery and Energy Reliability for a Presidential permit to construct, operate, maintain, and connect an electric transmission line across the U.S.-Canada border. Pursuant to Section 106 of the National Historic Preservation Act of 1966 (NHPA) and 36 CFR Part 800, "Protection of Historic Properties," the DOE is initiating the Section 106 consultation process on the proposed Great Northern Transmission Line (GNTL) project to determine any potential adverse effects on historic properties. The DOE invites you to consult with us, as provided for by Section 106 and its implementing regulations.

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January 13, 2015

Larry Salmonson
City of Northome
Northome City Hall
12068 Main Street
Northome, MN 56661

SUBJECT: Invitation to Consult on the Proposed Great Northern Transmission Line Project

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Yours very truly,



Julie Ann Smith, PhD
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National Electricity Delivery Division, OE-20
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U.S. Department of Energy

Enclosed:

- GNTL Project Regional Map (from GNTL Scoping Summary Report)



Department of Energy
Washington, DC 20585

January 13, 2015

SUBJECT: Invitation to Consult on the Proposed Great Northern Transmission Line Project

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Washington, DC 20585

January 13, 2015

Patricia Beckel
Lake of the Woods County Board of Commissioners
Lake of the Woods County Government Center
206 8th Avenue SE
Baudette, MN 56623

SUBJECT: Invitation to Consult on the Proposed Great Northern Transmission Line Project

Dear Patricia Beckel,

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Under Section 106, the DOE must identify and consider the potential effects of its actions on historic properties through a collaborative framework (consultation) to identify historic properties potentially affected by the proposed project, assess its effects, and seek ways to avoid, minimize or mitigate any adverse effects to historic properties (36 CFR §800.1(a)). In addition to the State Historic Preservation Officer (SHPO), federally recognized Indian tribes, and the Advisory Council on Historic Preservation (ACHP), Section 106 consulting parties may include certain individuals and organizations with a demonstrated interest in the undertaking due to the nature of their legal or economic relation to the undertaking or affected properties, or their concern with the undertaking's effects on historic properties (36 CFR §800.2).

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If you would like to participate in the Section 106 consultation process, please confirm within 30 calendar days of the date of this letter, by sending a letter accepting this invitation to act as a Section 106 consulting party for the proposed GNTL project, either as an attachment to an email at Juliea.Smith@hq.doe.gov, or by postal mail to 1000 Independence Avenue, SW, Washington, D.C., 20585. Please also include information for a primary point of contact for your organization (as applicable) in your acceptance letter. If you have any questions or concerns, please contact me at any time at the above email address or (202) 586-7668.

Yours very truly,



Julie Ann Smith, PhD
Principal NEPA Document Manager
National Electricity Delivery Division, OE-20
Office of Electricity Delivery and
Energy Reliability
U.S. Department of Energy

Enclosed:

- GNTL Project Regional Map (from GNTL Scoping Summary Report)



Department of Energy
Washington, DC 20585

January 13, 2015

SUBJECT: Invitation to Consult on the Proposed Great Northern Transmission Line Project

Dear Sir or Madam,

The purpose of this letter is to ensure that you are aware that Minnesota Power, an operating division of ALLETE, Inc., has applied to the U.S. Department of Energy's (DOE's) Office of Electricity Delivery and Energy Reliability for a Presidential permit to construct, operate, maintain, and connect an electric transmission line across the U.S.-Canada border. Pursuant to Section 106 of the National Historic Preservation Act of 1966 (NHPA) and 36 CFR Part 800, "Protection of Historic Properties," the DOE is initiating the Section 106 consultation process on the proposed Great Northern Transmission Line (GNTL) project to determine any potential adverse effects on historic properties. The DOE invites you to consult with us, as provided for by Section 106 and its implementing regulations.

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Department of Energy
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Department of Energy
Washington, DC 20585

January 13, 2015

Glenda Phillipe
Roseau County Board of Commissioners
Roseau County Courthouse
606 5th Avenue SW
Roseau, MN 56751

SUBJECT: Invitation to Consult on the Proposed Great Northern Transmission Line Project

Dear Glenda Phillipe,

The purpose of this letter is to ensure that the Roseau County Board of Commissioners is aware that Minnesota Power, an operating division of ALLETE, Inc., has applied to the U.S. Department of Energy's (DOE's) Office of Electricity Delivery and Energy Reliability for a Presidential permit to construct, operate, maintain, and connect an electric transmission line across the U.S.-Canada border. Pursuant to Section 106 of the National Historic Preservation Act of 1966 (NHPA) and 36 CFR Part 800, "Protection of Historic Properties," the DOE is initiating the Section 106 consultation process on the proposed Great Northern Transmission Line (GNTL) project to determine any potential adverse effects on historic properties. The DOE invites you to consult with us, as provided for by Section 106 and its implementing regulations.

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National Electricity Delivery Division, OE-20
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U.S. Department of Energy

Enclosed:

- GNTL Project Regional Map (from GNTL Scoping Summary Report)



Department of Energy
Washington, DC 20585

January 13, 2015

Warren Lovejoy
Township of Cedarbend
28925 530th Avenue
Warroad, MN 56763

SUBJECT: Invitation to Consult on the Proposed Great Northern Transmission Line Project

Dear Warren Lovejoy,

The purpose of this letter is to ensure that the Township of Cedarbend is aware that Minnesota Power, an operating division of ALLETE, Inc., has applied to the U.S. Department of Energy's (DOE's) Office of Electricity Delivery and Energy Reliability for a Presidential permit to construct, operate, maintain, and connect an electric transmission line across the U.S.-Canada border. Pursuant to Section 106 of the National Historic Preservation Act of 1966 (NHPA) and 36 CFR Part 800, "Protection of Historic Properties," the DOE is initiating the Section 106 consultation process on the proposed Great Northern Transmission Line (GNTL) project to determine any potential adverse effects on historic properties. The DOE invites you to consult with us, as provided for by Section 106 and its implementing regulations.

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Department of Energy
Washington, DC 20585

January 13, 2015

Warren Stoe
Township of Dieter
28459 370th Street
Roseau, MN 56751

SUBJECT: Invitation to Consult on the Proposed Great Northern Transmission Line Project

Dear Warren Stoe,

The purpose of this letter is to ensure that the Township of Dieter is aware that Minnesota Power, an operating division of ALLETE, Inc., has applied to the U.S. Department of Energy's (DOE's) Office of Electricity Delivery and Energy Reliability for a Presidential permit to construct, operate, maintain, and connect an electric transmission line across the U.S.-Canada border. Pursuant to Section 106 of the National Historic Preservation Act of 1966 (NHPA) and 36 CFR Part 800, "Protection of Historic Properties," the DOE is initiating the Section 106 consultation process on the proposed Great Northern Transmission Line (GNTL) project to determine any potential adverse effects on historic properties. The DOE invites you to consult with us, as provided for by Section 106 and its implementing regulations.

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Department of Energy
Washington, DC 20585

January 13, 2015

Greg Halvorson
Township of Jadis
33911 State Highway 310
Roseau, MN 56751

SUBJECT: Invitation to Consult on the Proposed Great Northern Transmission Line Project

Dear Greg Halvorson,

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Under Section 106, the DOE must identify and consider the potential effects of its actions on historic properties through a collaborative framework (consultation) to identify historic properties potentially affected by the proposed project, assess its effects, and seek ways to avoid, minimize or mitigate any adverse effects to historic properties (36 CFR §800.1(a)). In addition to the State Historic Preservation Officer (SHPO), federally recognized Indian tribes, and the Advisory Council on Historic Preservation (ACHP), Section 106 consulting parties may include certain individuals and organizations with a demonstrated interest in the undertaking due to the nature of their legal or economic relation to the undertaking or affected properties, or their concern with the undertaking's effects on historic properties (36 CFR §800.2).

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If you would like to participate in the Section 106 consultation process, please confirm within 30 calendar days of the date of this letter, by sending a letter accepting this invitation to act as a Section 106 consulting party for the proposed GNTL project, either as an attachment to an email at Juliea.Smith@hq.doe.gov, or by postal mail to 1000 Independence Avenue, SW, Washington, D.C., 20585. Please also include information for a primary point of contact for your organization (as applicable) in your acceptance letter. If you have any questions or concerns, please contact me at any time at the above email address or (202) 586-7668.

Yours very truly,



Julie Ann Smith, PhD
Principal NEPA Document Manager
National Electricity Delivery Division, OE-20
Office of Electricity Delivery and
Energy Reliability
U.S. Department of Energy

Enclosed:

- GNTL Project Regional Map (from GNTL Scoping Summary Report)



Department of Energy
Washington, DC 20585

January 13, 2015

Greg Boynton
Township of Lake
56264 County Road 137
Warroad, MN 56763

SUBJECT: Invitation to Consult on the Proposed Great Northern Transmission Line Project

Dear Greg Boynton,

The purpose of this letter is to ensure that the Township of Lake is aware that Minnesota Power, an operating division of ALLETE, Inc., has applied to the U.S. Department of Energy's (DOE's) Office of Electricity Delivery and Energy Reliability for a Presidential permit to construct, operate, maintain, and connect an electric transmission line across the U.S.-Canada border. Pursuant to Section 106 of the National Historic Preservation Act of 1966 (NHPA) and 36 CFR Part 800, "Protection of Historic Properties," the DOE is initiating the Section 106 consultation process on the proposed Great Northern Transmission Line (GNTL) project to determine any potential adverse effects on historic properties. The DOE invites you to consult with us, as provided for by Section 106 and its implementing regulations.

The DOE is meeting its obligations under the NHPA concurrently with the preparation of an environmental impact statement (EIS) pursuant to the National Environmental Policy Act of 1969 (NEPA). DOE is a federal joint lead agency with the Minnesota Department of Commerce – Energy Environmental Review and Analysis (DOC-EERA) acting as state joint lead agency per 40 CFR 1501.5(b) in the preparation of the subject EIS. Minnesota Power is also seeking authorizations from the U.S. Army Corps of Engineers – St. Paul District (USACE), a cooperating agency to DOE in the preparation of the above mentioned EIS. DOE is also acting as the lead federal agency for purposes of compliance with Section 106 for the NEPA cooperating agencies (per 36 CFR § 800.2(a)(2)).

Minnesota Power applied to DOE for a Presidential permit to construct, operate, maintain, and connect an approximately 220-mile, overhead, single-circuit 500 kV AC transmission line between the Minnesota - Manitoba border crossing northwest of Roseau, Minnesota, and terminating at the existing Blackberry 230/115 kV Substation near Grand Rapids, Minnesota. Minnesota Power's proposal also includes associated substation facilities and transmission system modifications at the Blackberry Substation site, and construction of a new 500 kV Series Compensation Station (a structure which will house the 500 kV series capacitor banks necessary for reliable operation and performance of the proposed transmission line). A new Blackberry 500 kV Substation would be required for the proposed Project and would be constructed adjacent to and east of the existing Blackberry 230/115 kV Substation. The proposed GNTL project would carry hydropower generated by facilities operated by Manitoba Hydro, a Canadian electric utility.

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Department of Energy
Washington, DC 20585

January 13, 2015

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National Electricity Delivery Division, OE-20
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Department of Energy
Washington, DC 20585

January 13, 2015

Rose Ann Lee
Township of Pohlitz
25489 County Road 10
Badger, MN 56714

SUBJECT: Invitation to Consult on the Proposed Great Northern Transmission Line Project

Dear Rose Ann Lee,

The purpose of this letter is to ensure that the Township of Pohlitz is aware that Minnesota Power, an operating division of ALLETE, Inc., has applied to the U.S. Department of Energy's (DOE's) Office of Electricity Delivery and Energy Reliability for a Presidential permit to construct, operate, maintain, and connect an electric transmission line across the U.S.-Canada border. Pursuant to Section 106 of the National Historic Preservation Act of 1966 (NHPA) and 36 CFR Part 800, "Protection of Historic Properties," the DOE is initiating the Section 106 consultation process on the proposed Great Northern Transmission Line (GNTL) project to determine any potential adverse effects on historic properties. The DOE invites you to consult with us, as provided for by Section 106 and its implementing regulations.

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Julie Ann Smith, PhD
Principal NEPA Document Manager
National Electricity Delivery Division, OE-20
Office of Electricity Delivery and
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- GNTL Project Regional Map (from GNTL Scoping Summary Report)



Department of Energy
Washington, DC 20585

January 13, 2015

SUBJECT: Invitation to Consult on the Proposed Great Northern Transmission Line Project

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Department of Energy
Washington, DC 20585

January 13, 2015

Jim Atkinson
Minnesota Power
30 West Superior Street
Duluth, MN 55802

SUBJECT: Invitation to Consult on the Proposed Great Northern Transmission Line Project

Dear Jim Atkinson,

Pursuant to Section 106 of the National Historic Preservation Act of 1966 (NHPA) and 36 CFR Part 800, "Protection of Historic Properties," the DOE is initiating the Section 106 consultation process on the proposed Great Northern Transmission Line (GNTL) project to determine any potential adverse effects on historic properties. The DOE invites you to consult with us as the project proponent as provided for by Section 106 and its implementing regulations.

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Department of Energy
Washington, DC 20585

January 13, 2015

Annamarie Hill
Minnesota Indian Affairs Council (St. Paul Office)
161 Saint Anthony Ave., Suite 919
St. Paul, MN 55103

SUBJECT: Invitation to Consult on the Proposed Great Northern Transmission Line Project

Dear Annamarie Hill,

The purpose of this letter is to ensure that the Minnesota Indian Affairs Council (St. Paul Office) is aware that Minnesota Power, an operating division of ALLETE, Inc., has applied to the U.S. Department of Energy's (DOE's) Office of Electricity Delivery and Energy Reliability for a Presidential permit to construct, operate, maintain, and connect an electric transmission line across the U.S.-Canada border. Pursuant to Section 106 of the National Historic Preservation Act of 1966 (NHPA) and 36 CFR Part 800, "Protection of Historic Properties," the DOE is initiating the Section 106 consultation process on the proposed Great Northern Transmission Line (GNTL) project to determine any potential adverse effects on historic properties. The DOE invites you to consult with us, as provided for by Section 106 and its implementing regulations.

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Principal NEPA Document Manager
National Electricity Delivery Division, OE-20
Office of Electricity Delivery and
Energy Reliability
U.S. Department of Energy

Enclosed:

- GNTL Project Regional Map (from GNTL Scoping Summary Report)



Department of Energy
Washington, DC 20585

January 13, 2015

Jim Jones
Minnesota Indian Affairs Council (Bemidji Office)
3801 Bemidji Avenue NW, Suite 5
Bemidji, MN 56601

SUBJECT: Invitation to Consult on the Proposed Great Northern Transmission Line Project

Dear Jim Jones,

The purpose of this letter is to ensure that the Minnesota Indian Affairs Council (Bemidji Office) is aware that Minnesota Power, an operating division of ALLETE, Inc., has applied to the U.S. Department of Energy's (DOE's) Office of Electricity Delivery and Energy Reliability for a Presidential permit to construct, operate, maintain, and connect an electric transmission line across the U.S.-Canada border. Pursuant to Section 106 of the National Historic Preservation Act of 1966 (NHPA) and 36 CFR Part 800, "Protection of Historic Properties," the DOE is initiating the Section 106 consultation process on the proposed Great Northern Transmission Line (GNTL) project to determine any potential adverse effects on historic properties. The DOE invites you to consult with us, as provided for by Section 106 and its implementing regulations.

The DOE is meeting its obligations under the NHPA concurrently with the preparation of an environmental impact statement (EIS) pursuant to the National Environmental Policy Act of 1969 (NEPA). DOE is a federal joint lead agency with the Minnesota Department of Commerce – Energy Environmental Review and Analysis (DOC-EERA) acting as state joint lead agency per 40 CFR 1501.5(b) in the preparation of the subject EIS. Minnesota Power is also seeking authorizations from the U.S. Army Corps of Engineers – St. Paul District (USACE), a cooperating agency to DOE in the preparation of the above mentioned EIS. DOE is also acting as the lead federal agency for purposes of compliance with Section 106 for the NEPA cooperating agencies (per 36 CFR § 800.2(a)(2)).

Minnesota Power applied to DOE for a Presidential permit to construct, operate, maintain, and connect an approximately 220-mile, overhead, single-circuit 500 kV AC transmission line between the Minnesota - Manitoba border crossing northwest of Roseau, Minnesota, and terminating at the existing Blackberry 230/115 kV Substation near Grand Rapids, Minnesota. Minnesota Power's proposal also includes associated substation facilities and transmission system modifications at the Blackberry Substation site, and construction of a new 500 kV Series Compensation Station (a structure which will house the 500 kV series capacitor banks necessary for reliable operation and performance of the proposed transmission line). A new Blackberry 500 kV Substation would be required for the proposed Project and would be constructed adjacent to and east of the existing Blackberry 230/115 kV Substation. The proposed GNTL project would carry hydropower generated by facilities operated by Manitoba Hydro, a Canadian electric utility.

DOE documented a Notice of Intent (NOI) to prepare an EIS in the *Federal Register* on June 27, 2014 (79 FR 36493), with an open public scoping period which ended on August 15, 2014. As a part of its scoping efforts, DOE held eight NEPA public scoping meetings from July 16 – July 24, 2014 (*see enclosed GNTL Regional Map*). For more information on DOE's NEPA review and preparation of the EIS, please visit the DOE GNTL EIS website at <http://www.GreatNorthernEIS.org>. The GNTL Presidential permit application (including an initial cultural resources study), NOI and the

Great Northern Transmission Line Scoping Summary Report (November 2014), can be viewed on this website.

Under Section 106, the DOE must identify and consider the potential effects of its actions on historic properties through a collaborative framework (consultation) to identify historic properties potentially affected by the proposed project, assess its effects, and seek ways to avoid, minimize or mitigate any adverse effects to historic properties (36 CFR §800.1(a)). In addition to the State Historic Preservation Officer (SHPO), federally recognized Indian tribes, and the Advisory Council on Historic Preservation (ACHP), Section 106 consulting parties may include certain individuals and organizations with a demonstrated interest in the undertaking due to the nature of their legal or economic relation to the undertaking or affected properties, or their concern with the undertaking's effects on historic properties (36 CFR §800.2).

The DOE would like to obtain information from you about historic properties, including those of cultural importance to your organization and its members, in or near the project area, and also to provide you an opportunity to identify your concerns about such properties, including the identification of potential mitigation measures. Your assistance in the identification and evaluation of historic properties will provide us the opportunity to resolve any adverse effects this undertaking may have on these properties. If available, we would welcome any information on the location and importance of archaeological sites, historic structures, and any other localities of interest to you that are known to occur in or near the proposed project area.

If you would like to participate in the Section 106 consultation process, please confirm within 30 calendar days of the date of this letter, by sending a letter accepting this invitation to act as a Section 106 consulting party for the proposed GNTL project, either as an attachment to an email at Juliea.Smith@hq.doe.gov, or by postal mail to 1000 Independence Avenue, SW, Washington, D.C., 20585. Please also include information for a primary point of contact for your organization (as applicable) in your acceptance letter. If you have any questions or concerns, please contact me at any time at the above email address or (202) 586-7668.

Yours very truly,



Julie Ann Smith, PhD
Principal NEPA Document Manager
National Electricity Delivery Division, OE-20
Office of Electricity Delivery and
Energy Reliability
U.S. Department of Energy

Enclosed:

- GNTL Project Regional Map (from GNTL Scoping Summary Report)



Department of Energy
Washington, DC 20585

January 13, 2015

Linda Lemmer
Beltrami County Administrator
130 Minnesota Avenue SW
Bemidjii, MN 56601

SUBJECT: Invitation to Consult on the Proposed Great Northern Transmission Line Project

Dear Linda Lemmer,

The purpose of this letter is to ensure that Beltrami County is aware that Minnesota Power, an operating division of ALLETE, Inc., has applied to the U.S. Department of Energy's (DOE's) Office of Electricity Delivery and Energy Reliability for a Presidential permit to construct, operate, maintain, and connect an electric transmission line across the U.S.-Canada border. Pursuant to Section 106 of the National Historic Preservation Act of 1966 (NHPA) and 36 CFR Part 800, "Protection of Historic Properties," the DOE is initiating the Section 106 consultation process on the proposed Great Northern Transmission Line (GNTL) project to determine any potential adverse effects on historic properties. The DOE invites you to consult with us, as provided for by Section 106 and its implementing regulations.

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If you would like to participate in the Section 106 consultation process, please confirm within 30 calendar days of the date of this letter, by sending a letter accepting this invitation to act as a Section 106 consulting party for the proposed GNTL project, either as an attachment to an email at Juliea.Smith@hq.doe.gov, or by postal mail to 1000 Independence Avenue, SW, Washington, D.C., 20585. Please also include information for a primary point of contact for your organization (as applicable) in your acceptance letter. If you have any questions or concerns, please contact me at any time at the above email address or (202) 586-7668.

Yours very truly,



Julie Ann Smith, PhD
Principal NEPA Document Manager
National Electricity Delivery Division, OE-20
Office of Electricity Delivery and
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Department of Energy
Washington, DC 20585

January 13, 2015

Lilah Crowe
Itasca County Historical Society
201 North Pokegama Avenue
Grand Rapids, MN 55744

SUBJECT: Invitation to Consult on the Proposed Great Northern Transmission Line Project

Dear Lilah Crowe,

The purpose of this letter is to ensure that the Itasca County Historical Society is aware that Minnesota Power, an operating division of ALLETE, Inc., has applied to the U.S. Department of Energy's (DOE's) Office of Electricity Delivery and Energy Reliability for a Presidential permit to construct, operate, maintain, and connect an electric transmission line across the U.S.-Canada border. Pursuant to Section 106 of the National Historic Preservation Act of 1966 (NHPA) and 36 CFR Part 800, "Protection of Historic Properties," the DOE is initiating the Section 106 consultation process on the proposed Great Northern Transmission Line (GNTL) project to determine any potential adverse effects on historic properties. The DOE invites you to consult with us, as provided for by Section 106 and its implementing regulations.

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Yours very truly,



Julie Ann Smith, PhD
Principal NEPA Document Manager
National Electricity Delivery Division, OE-20
Office of Electricity Delivery and
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Department of Energy
Washington, DC 20585

January 13, 2015

Edgar Oerichbauer
Koochiching County Historical Society
214 6th Avenue
International Falls, MN 56649

SUBJECT: Invitation to Consult on the Proposed Great Northern Transmission Line Project

Dear Edgar Oerichbauer,

The purpose of this letter is to ensure that the Koochiching County Historical Society is aware that Minnesota Power, an operating division of ALLETE, Inc., has applied to the U.S. Department of Energy's (DOE's) Office of Electricity Delivery and Energy Reliability for a Presidential permit to construct, operate, maintain, and connect an electric transmission line across the U.S.-Canada border. Pursuant to Section 106 of the National Historic Preservation Act of 1966 (NHPA) and 36 CFR Part 800, "Protection of Historic Properties," the DOE is initiating the Section 106 consultation process on the proposed Great Northern Transmission Line (GNTL) project to determine any potential adverse effects on historic properties. The DOE invites you to consult with us, as provided for by Section 106 and its implementing regulations.

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Yours very truly,



Julie Ann Smith, PhD
Principal NEPA Document Manager
National Electricity Delivery Division, OE-20
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- GNTL Project Regional Map (from GNTL Scoping Summary Report)



Department of Energy
Washington, DC 20585

January 13, 2015

Marlys Hearst
Lake of the Woods County Historical Society
206 8th Avenue SE, Suite 150
119 8th Avenue SE
Baudette, MN 56623

SUBJECT: Invitation to Consult on the Proposed Great Northern Transmission Line Project

Dear Marlys Hearst,

The purpose of this letter is to ensure that the Lake of the Woods County Historical Society is aware that Minnesota Power, an operating division of ALLETE, Inc., has applied to the U.S. Department of Energy's (DOE's) Office of Electricity Delivery and Energy Reliability for a Presidential permit to construct, operate, maintain, and connect an electric transmission line across the U.S.-Canada border. Pursuant to Section 106 of the National Historic Preservation Act of 1966 (NHPA) and 36 CFR Part 800, "Protection of Historic Properties," the DOE is initiating the Section 106 consultation process on the proposed Great Northern Transmission Line (GNTL) project to determine any potential adverse effects on historic properties. The DOE invites you to consult with us, as provided for by Section 106 and its implementing regulations.

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Julie Ann Smith, PhD
Principal NEPA Document Manager
National Electricity Delivery Division, OE-20
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Energy Reliability
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Enclosed:

- GNTL Project Regional Map (from GNTL Scoping Summary Report)



Department of Energy
Washington, DC 20585

January 13, 2015

Britt Dahl
Roseau County Historical Society
121 Center Street East
Suite 101
Roseau, MN 56751

SUBJECT: Invitation to Consult on the Proposed Great Northern Transmission Line Project

Dear Britt Dahl,

The purpose of this letter is to ensure that the Roseau County Historical Society is aware that Minnesota Power, an operating division of ALLETE, Inc., has applied to the U.S. Department of Energy's (DOE's) Office of Electricity Delivery and Energy Reliability for a Presidential permit to construct, operate, maintain, and connect an electric transmission line across the U.S.-Canada border. Pursuant to Section 106 of the National Historic Preservation Act of 1966 (NHPA) and 36 CFR Part 800, "Protection of Historic Properties," the DOE is initiating the Section 106 consultation process on the proposed Great Northern Transmission Line (GNTL) project to determine any potential adverse effects on historic properties. The DOE invites you to consult with us, as provided for by Section 106 and its implementing regulations.

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Principal NEPA Document Manager
National Electricity Delivery Division, OE-20
Office of Electricity Delivery and
Energy Reliability
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Enclosed:

- GNTL Project Regional Map (from GNTL Scoping Summary Report)



Department of Energy
Washington, DC 20585

January 13, 2015

Eva Stengal
12956 Twin Oaks Road NE
Saum, MN 56650

SUBJECT: Invitation to Consult on the Proposed Great Northern Transmission Line Project

Dear Eva Stengal,

The purpose of this letter is to ensure that you are aware that Minnesota Power, an operating division of ALLETE, Inc., has applied to the U.S. Department of Energy's (DOE's) Office of Electricity Delivery and Energy Reliability for a Presidential permit to construct, operate, maintain, and connect an electric transmission line across the U.S.-Canada border. Pursuant to Section 106 of the National Historic Preservation Act of 1966 (NHPA) and 36 CFR Part 800, "Protection of Historic Properties," the DOE is initiating the Section 106 consultation process on the proposed Great Northern Transmission Line (GNTL) project to determine any potential adverse effects on historic properties. The DOE invites you to consult with us, as provided for by Section 106 and its implementing regulations.

The DOE is meeting its obligations under the NHPA concurrently with the preparation of an environmental impact statement (EIS) pursuant to the National Environmental Policy Act of 1969 (NEPA). DOE is a federal joint lead agency with the Minnesota Department of Commerce – Energy Environmental Review and Analysis (DOC-EERA) acting as state joint lead agency per 40 CFR 1501.5(b) in the preparation of the subject EIS. Minnesota Power is also seeking authorizations from the U.S. Army Corps of Engineers – St. Paul District (USACE), a cooperating agency to DOE in the preparation of the above mentioned EIS. DOE is also acting as the lead federal agency for purposes of compliance with Section 106 for the NEPA cooperating agencies (per 36 CFR § 800.2(a)(2)).

Minnesota Power applied to DOE for a Presidential permit to construct, operate, maintain, and connect an approximately 220-mile, overhead, single-circuit 500 kV AC transmission line between the Minnesota - Manitoba border crossing northwest of Roseau, Minnesota, and terminating at the existing Blackberry 230/115 kV Substation near Grand Rapids, Minnesota. Minnesota Power's proposal also includes associated substation facilities and transmission system modifications at the Blackberry Substation site, and construction of a new 500 kV Series Compensation Station (a structure which will house the 500 kV series capacitor banks necessary for reliable operation and performance of the proposed transmission line). A new Blackberry 500 kV Substation would be required for the proposed Project and would be constructed adjacent to and east of the existing Blackberry 230/115 kV Substation. The proposed GNTL project would carry hydropower generated by facilities operated by Manitoba Hydro, a Canadian electric utility.

DOE documented a Notice of Intent (NOI) to prepare an EIS in the *Federal Register* on June 27, 2014 (79 FR 36493), with an open public scoping period which ended on August 15, 2014. As a part of its scoping efforts, DOE held eight NEPA public scoping meetings from July 16 – July 24, 2014 (*see enclosed GNTL Regional Map*). For more information on DOE's NEPA review and preparation of the EIS, please visit the DOE GNTL EIS website at <http://www.GreatNorthernEIS.org>. The GNTL Presidential permit application (including an initial cultural resources study), NOI and the *Great Northern Transmission Line Scoping Summary Report* (November 2014), can be viewed on

this website.

Under Section 106, the DOE must identify and consider the potential effects of its actions on historic properties through a collaborative framework (consultation) to identify historic properties potentially affected by the proposed project, assess its effects, and seek ways to avoid, minimize or mitigate any adverse effects to historic properties (36 CFR §800.1(a)). In addition to the State Historic Preservation Officer (SHPO), federally recognized Indian tribes, and the Advisory Council on Historic Preservation (ACHP), Section 106 consulting parties may include certain individuals and organizations with a demonstrated interest in the undertaking due to the nature of their legal or economic relation to the undertaking or affected properties, or their concern with the undertaking's effects on historic properties (36 CFR §800.2).

The DOE would like to obtain information from you about historic properties, including those of cultural importance to your organization and its members, in or near the project area, and also to provide you an opportunity to identify your concerns about such properties, including the identification of potential mitigation measures. Your assistance in the identification and evaluation of historic properties will provide us the opportunity to resolve any adverse effects this undertaking may have on these properties. If available, we would welcome any information on the location and importance of archaeological sites, historic structures, and any other localities of interest to you that are known to occur in or near the proposed project area.

If you would like to participate in the Section 106 consultation process, please confirm within 30 calendar days of the date of this letter, by sending a letter accepting this invitation to act as a Section 106 consulting party for the proposed GNTL project, either as an attachment to an email at Juliea.Smith@hq.doe.gov, or by postal mail to 1000 Independence Avenue, SW, Washington, D.C., 20585. Please also include information for a primary point of contact for your organization (as applicable) in your acceptance letter. If you have any questions or concerns, please contact me at any time at the above email address or (202) 586-7668.

Yours very truly,



Julie Ann Smith, PhD
Principal NEPA Document Manager
National Electricity Delivery Division, OE-20
Office of Electricity Delivery and
Energy Reliability
U.S. Department of Energy

Enclosed:

- GNTL Project Regional Map (from GNTL Scoping Summary Report)



Department of Energy
Washington, DC 20585

January 13, 2015

Ruth Stukel
202 Miane Avenue NE
Box 688
Warroad, MN 56763

SUBJECT: Invitation to Consult on the Proposed Great Northern Transmission Line Project

Dear Ruth Stukel,

The purpose of this letter is to ensure that you are aware that Minnesota Power, an operating division of ALLETE, Inc., has applied to the U.S. Department of Energy's (DOE's) Office of Electricity Delivery and Energy Reliability for a Presidential permit to construct, operate, maintain, and connect an electric transmission line across the U.S.-Canada border. Pursuant to Section 106 of the National Historic Preservation Act of 1966 (NHPA) and 36 CFR Part 800, "Protection of Historic Properties," the DOE is initiating the Section 106 consultation process on the proposed Great Northern Transmission Line (GNTL) project to determine any potential adverse effects on historic properties. The DOE invites you to consult with us, as provided for by Section 106 and its implementing regulations.

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Yours very truly,



Julie Ann Smith, PhD
Principal NEPA Document Manager
National Electricity Delivery Division, OE-20
Office of Electricity Delivery and
Energy Reliability
U.S. Department of Energy

Enclosed:

- GNTL Project Regional Map (from GNTL Scoping Summary Report)



Department of Energy
Washington, DC 20585

January 13, 2015

Patricia Maus
Archives and Special Collections
University of Minnesota Duluth Library
416 Library Drive
Duluth, MN 55812

SUBJECT: Invitation to Consult on the Proposed Great Northern Transmission Line Project

Dear Patricia Maus,

The purpose of this letter is to ensure that the University of Minnesota Duluth Library is aware that Minnesota Power, an operating division of ALLETE, Inc., has applied to the U.S. Department of Energy's (DOE's) Office of Electricity Delivery and Energy Reliability for a Presidential permit to construct, operate, maintain, and connect an electric transmission line across the U.S.-Canada border. Pursuant to Section 106 of the National Historic Preservation Act of 1966 (NHPA) and 36 CFR Part 800, "Protection of Historic Properties," the DOE is initiating the Section 106 consultation process on the proposed Great Northern Transmission Line (GNTL) project to determine any potential adverse effects on historic properties. The DOE invites you to consult with us, as provided for by Section 106 and its implementing regulations.

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Yours very truly,



Julie Ann Smith, PhD
Principal NEPA Document Manager
National Electricity Delivery Division, OE-20
Office of Electricity Delivery and
Energy Reliability
U.S. Department of Energy

Enclosed:

- GNTL Project Regional Map (from GNTL Scoping Summary Report)



Department of Energy
Washington, DC 20585

January 13, 2015

Christopher Welter
1005 Discovery Drive
Chisholm, MN 55719

SUBJECT: Invitation to Consult on the Proposed Great Northern Transmission Line Project

Dear Christopher Welter,

The purpose of this letter is to ensure that you are aware that Minnesota Power, an operating division of ALLETE, Inc., has applied to the U.S. Department of Energy's (DOE's) Office of Electricity Delivery and Energy Reliability for a Presidential permit to construct, operate, maintain, and connect an electric transmission line across the U.S.-Canada border. Pursuant to Section 106 of the National Historic Preservation Act of 1966 (NHPA) and 36 CFR Part 800, "Protection of Historic Properties," the DOE is initiating the Section 106 consultation process on the proposed Great Northern Transmission Line (GNTL) project to determine any potential adverse effects on historic properties. The DOE invites you to consult with us, as provided for by Section 106 and its implementing regulations.

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Minnesota Power applied to DOE for a Presidential permit to construct, operate, maintain, and connect an approximately 220-mile, overhead, single-circuit 500 kV AC transmission line between the Minnesota - Manitoba border crossing northwest of Roseau, Minnesota, and terminating at the existing Blackberry 230/115 kV Substation near Grand Rapids, Minnesota. Minnesota Power's proposal also includes associated substation facilities and transmission system modifications at the Blackberry Substation site, and construction of a new 500 kV Series Compensation Station (a structure which will house the 500 kV series capacitor banks necessary for reliable operation and performance of the proposed transmission line). A new Blackberry 500 kV Substation would be required for the proposed Project and would be constructed adjacent to and east of the existing Blackberry 230/115 kV Substation. The proposed GNTL project would carry hydropower generated by facilities operated by Manitoba Hydro, a Canadian electric utility.

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this website.

Under Section 106, the DOE must identify and consider the potential effects of its actions on historic properties through a collaborative framework (consultation) to identify historic properties potentially affected by the proposed project, assess its effects, and seek ways to avoid, minimize or mitigate any adverse effects to historic properties (36 CFR §800.1(a)). In addition to the State Historic Preservation Officer (SHPO), federally recognized Indian tribes, and the Advisory Council on Historic Preservation (ACHP), Section 106 consulting parties may include certain individuals and organizations with a demonstrated interest in the undertaking due to the nature of their legal or economic relation to the undertaking or affected properties, or their concern with the undertaking's effects on historic properties (36 CFR §800.2).

The DOE would like to obtain information from you about historic properties, including those of cultural importance to your organization and its members, in or near the project area, and also to provide you an opportunity to identify your concerns about such properties, including the identification of potential mitigation measures. Your assistance in the identification and evaluation of historic properties will provide us the opportunity to resolve any adverse effects this undertaking may have on these properties. If available, we would welcome any information on the location and importance of archaeological sites, historic structures, and any other localities of interest to you that are known to occur in or near the proposed project area.

If you would like to participate in the Section 106 consultation process, please confirm within 30 calendar days of the date of this letter, by sending a letter accepting this invitation to act as a Section 106 consulting party for the proposed GNTL project, either as an attachment to an email at Juliea.Smith@hq.doe.gov, or by postal mail to 1000 Independence Avenue, SW, Washington, D.C., 20585. Please also include information for a primary point of contact for your organization (as applicable) in your acceptance letter. If you have any questions or concerns, please contact me at any time at the above email address or (202) 586-7668.

Yours very truly,



Julie Ann Smith, PhD
Principal NEPA Document Manager
National Electricity Delivery Division, OE-20
Office of Electricity Delivery and
Energy Reliability
U.S. Department of Energy

Enclosed:

- GNTL Project Regional Map (from GNTL Scoping Summary Report)



Department of Energy
Washington, DC 20585

January 14, 2015

Bill Storm
Minnesota Department of Commerce
Energy Environmental Review and Analysis
85 7th Place East, Suite 500
Saint Paul, MN 55101

SUBJECT: Invitation to Consult on the Proposed Great Northern Transmission Line Project

Dear Bill Storm,

The purpose of this letter is to ensure that the MN Department of Commerce is aware that the Department of Energy (DOE) is initiating the Section 106 consultation process on the proposed Great Northern Transmission Line (GNTL) project to determine any potential adverse effects on historic properties pursuant to Section 106 of the National Historic Preservation Act of 1966 (NHPA) and 36 CFR Part 800, "Protection of Historic Properties." The DOE invites you to consult with us, as provided for by Section 106 and its implementing regulations.

The DOE is meeting its obligations under the NHPA concurrently with the preparation of an environmental impact statement (EIS) pursuant to the National Environmental Policy Act of 1969 (NEPA). Minnesota Power is also seeking authorizations from the U.S. Army Corps of Engineers – St. Paul District (USACE), a cooperating agency to DOE in the preparation of the above mentioned EIS. DOE is acting as the lead federal agency for purposes of compliance with Section 106 for the NEPA cooperating agencies (per 36 CFR § 800.2(a)(2)).

As you are aware, Minnesota Power applied to DOE for a Presidential permit to construct, operate, maintain, and connect an approximately 220-mile, overhead, single-circuit 500 kV AC transmission line between the Minnesota - Manitoba border crossing northwest of Roseau, Minnesota, and terminating at the existing Blackberry 230/115 kV Substation near Grand Rapids, Minnesota. Minnesota Power's proposal also includes associated substation facilities and transmission system modifications at the Blackberry Substation site, and construction of a new 500 kV Series Compensation Station (a structure which will house the 500 kV series capacitor banks necessary for reliable operation and performance of the proposed transmission line). A new Blackberry 500 kV Substation would be required for the proposed Project and would be constructed adjacent to and east of the existing Blackberry 230/115 kV Substation.

For more information on DOE's NEPA review and preparation of the EIS, please visit the DOE GNTL EIS website at <http://www.GreatNorthernEIS.org>. Future information from the DOE, relevant to the Section 106 consultation (once underway), will also be posted to this website.

Under Section 106, the DOE must identify and consider the potential effects of its actions on historic properties through a collaborative framework (consultation) to identify historic properties potentially affected by the proposed project, assess its effects, and seek ways to avoid, minimize or mitigate any adverse effects to historic properties (36 CFR §800.1(a)). In addition to the State Historic Preservation Officer (SHPO), federally recognized Indian tribes, and the Advisory Council on Historic Preservation (ACHP), Section 106 consulting parties may include certain individuals and organizations with a demonstrated interest in the undertaking due to the nature of their legal or economic relation to the

undertaking or affected properties, or their concern with the undertaking's effects on historic properties (36 CFR §800.2).

DOE would like to obtain information from you about historic properties, including those of cultural importance to your agency and its constituents, in or near the project area, and also to provide you an opportunity to identify your concerns about such properties, including the identification of potential mitigation measures. Your assistance in the identification and evaluation of historic properties will provide us the opportunity to resolve any adverse effects this undertaking may have on these properties. If available, we would welcome any information on the location and importance of archaeological sites, historic structures, and any other localities of interest to you that are known to occur in or near the proposed project area.

If you would like to participate in the Section 106 consultation process as a Section 106 consulting party, please confirm within 30 calendar days of the date of this letter, by sending a letter accepting this invitation that identifies a primary point of contact for your agency, either as an attachment to an email at Juliea.Smith@hq.doe.gov, or by postal mail to 1000 Independence Avenue, SW, Washington, D.C., 20585. If no response is received within the time specified, the DOE will remove your agency from the Section 106 consulting party list for this project.

If you have questions regarding the DOE's on-going review of the proposed GNTL project, or your participation as a Section 106 consulting party, please contact me at any time at the above email address or (202) 586-7668.

Yours very truly,

A handwritten signature in black ink that reads "Julie A. Smith". The signature is written in a cursive, flowing style.

Julie Ann Smith, PhD
Principal NEPA Document Manager
National Electricity Delivery Division, OE-20
Office of Electricity Delivery and
Energy Reliability
U.S. Department of Energy



Department of Energy
Washington, DC 20585

January 13, 2015

Doug Gasek
75 W 5th Street
416 Landmark Center
St. Paul, MN 55102

SUBJECT: Invitation to Consult on the Proposed Great Northern Transmission Line Project

Dear Doug Gasek,

The purpose of this letter is to ensure that you are aware that Minnesota Power, an operating division of ALLETE, Inc., has applied to the U.S. Department of Energy's (DOE's) Office of Electricity Delivery and Energy Reliability for a Presidential permit to construct, operate, maintain, and connect an electric transmission line across the U.S.-Canada border. Pursuant to Section 106 of the National Historic Preservation Act of 1966 (NHPA) and 36 CFR Part 800, "Protection of Historic Properties," the DOE is initiating the Section 106 consultation process on the proposed Great Northern Transmission Line (GNTL) project to determine any potential adverse effects on historic properties. The DOE invites you to consult with us, as provided for by Section 106 and its implementing regulations.

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Yours very truly,



Julie Ann Smith, PhD
Principal NEPA Document Manager
National Electricity Delivery Division, OE-20
Office of Electricity Delivery and
Energy Reliability
U.S. Department of Energy

Enclosed:

- GNTL Project Regional Map (from GNTL Scoping Summary Report)



Department of Energy
Washington, DC 20585

January 13, 2015

Elizabeth Merritt
National Trust for Historic Preservation
1785 Massachusetts Ave. NW
Washington, DC 20036-2117

SUBJECT: Invitation to Consult on the Proposed Great Northern Transmission Line Project

Dear Elizabeth Merritt,

The purpose of this letter is to ensure that the National Trust for Historic Preservation is aware that Minnesota Power, an operating division of ALLETE, Inc., has applied to the U.S. Department of Energy's (DOE's) Office of Electricity Delivery and Energy Reliability for a Presidential permit to construct, operate, maintain, and connect an electric transmission line across the U.S.-Canada border. Pursuant to Section 106 of the National Historic Preservation Act of 1966 (NHPA) and 36 CFR Part 800, "Protection of Historic Properties," the DOE is initiating the Section 106 consultation process on the proposed Great Northern Transmission Line (GNTL) project to determine any potential adverse effects on historic properties. The DOE invites you to consult with us, as provided for by Section 106 and its implementing regulations.

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Minnesota Power applied to DOE for a Presidential permit to construct, operate, maintain, and connect an approximately 220-mile, overhead, single-circuit 500 kV AC transmission line between the Minnesota - Manitoba border crossing northwest of Roseau, Minnesota, and terminating at the existing Blackberry 230/115 kV Substation near Grand Rapids, Minnesota. Minnesota Power's proposal also includes associated substation facilities and transmission system modifications at the Blackberry Substation site, and construction of a new 500 kV Series Compensation Station (a structure which will house the 500 kV series capacitor banks necessary for reliable operation and performance of the proposed transmission line). A new Blackberry 500 kV Substation would be required for the proposed Project and would be constructed adjacent to and east of the existing Blackberry 230/115 kV Substation. The proposed GNTL project would carry hydropower generated by facilities operated by Manitoba Hydro, a Canadian electric utility.

DOE documented a Notice of Intent (NOI) to prepare an EIS in the *Federal Register* on June 27, 2014 (79 FR 36493), with an open public scoping period which ended on August 15, 2014. As a part of its scoping efforts, DOE held eight NEPA public scoping meetings from July 16 – July 24, 2014 (*see enclosed GNTL Regional Map*). For more information on DOE's NEPA review and preparation of the EIS, please visit the DOE GNTL EIS website at <http://www.GreatNorthernEIS.org>. The GNTL Presidential permit application (including an initial cultural resources study), NOI and the

Great Northern Transmission Line Scoping Summary Report (November 2014), can be viewed on this website.

Under Section 106, the DOE must identify and consider the potential effects of its actions on historic properties through a collaborative framework (consultation) to identify historic properties potentially affected by the proposed project, assess its effects, and seek ways to avoid, minimize or mitigate any adverse effects to historic properties (36 CFR §800.1(a)). In addition to the State Historic Preservation Officer (SHPO), federally recognized Indian tribes, and the Advisory Council on Historic Preservation (ACHP), Section 106 consulting parties may include certain individuals and organizations with a demonstrated interest in the undertaking due to the nature of their legal or economic relation to the undertaking or affected properties, or their concern with the undertaking's effects on historic properties (36 CFR §800.2).

The DOE would like to obtain information from you about historic properties, including those of cultural importance to your organization and its members, in or near the project area, and also to provide you an opportunity to identify your concerns about such properties, including the identification of potential mitigation measures. Your assistance in the identification and evaluation of historic properties will provide us the opportunity to resolve any adverse effects this undertaking may have on these properties. If available, we would welcome any information on the location and importance of archaeological sites, historic structures, and any other localities of interest to you that are known to occur in or near the proposed project area.

If you would like to participate in the Section 106 consultation process, please confirm within 30 calendar days of the date of this letter, by sending a letter accepting this invitation to act as a Section 106 consulting party for the proposed GNTL project, either as an attachment to an email at Juliea.Smith@hq.doe.gov, or by postal mail to 1000 Independence Avenue, SW, Washington, D.C., 20585. Please also include information for a primary point of contact for your organization (as applicable) in your acceptance letter. If you have any questions or concerns, please contact me at any time at the above email address or (202) 586-7668.

Yours very truly,



Julie Ann Smith, PhD
Principal NEPA Document Manager
National Electricity Delivery Division, OE-20
Office of Electricity Delivery and
Energy Reliability
U.S. Department of Energy

Enclosed:

- GNTL Project Regional Map (from GNTL Scoping Summary Report)

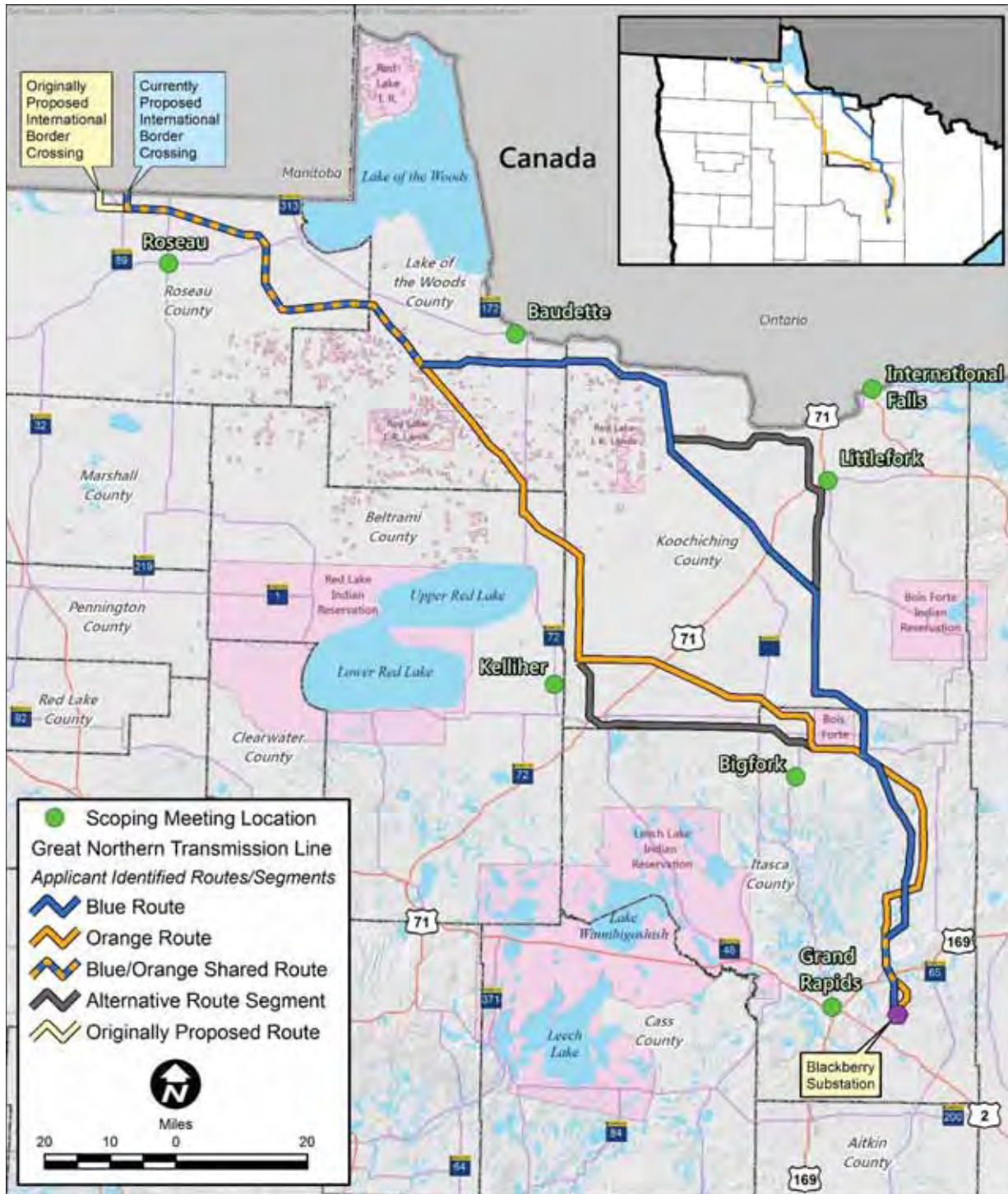


Figure 1-1 Project Regional Map

Kay L. Mack
BELTRAMI COUNTY
ADMINISTRATOR
701 Minnesota Ave NW, STE 200
Bemidji, MN 56601-3178
Telephone: 218-333-4109
FAX: 218-333-4246



Jan 21, 2015

Julie Ann Smith
NEPA Document Manager
Dear Ms. Smith:

Beltrami County will act as a Section 106 consulting party for the proposed GNTL project. It is only the orange route that would impact a small portion of NE Beltrami County.

The contact person for this would be:

Kay Mack, Administrator
701 Minnesota Ave NW, Ste 200
Bemidji, MN 56601

kay.mack@co.beltrami.mn.us

While I do not think that there will be much historical or cultural impacts to Beltrami County, I do appreciate your including us.

Sincerely,

Kay Mack
Kay L. Mack



Department of Energy
Washington, DC 20585

January 14, 2015

Jim Atkinson
Minnesota Power
30 West Superior Street
Duluth, MN 55802

SUBJECT: Invitation to Consult on the Proposed Great Northern Transmission Line Project

Dear Jim Atkinson,

Pursuant to Section 106 of the National Historic Preservation Act of 1966 (NHPA) and 36 CFR Part 800, "Protection of Historic Properties," the DOE is initiating the Section 106 consultation process on the proposed Great Northern Transmission Line (GNTL) project to determine any potential adverse effects on historic properties. The DOE invites you to consult with us as the an applicant for a Federal permit as provided for by Section 106 and its implementing regulations at 36 CFR § 800.2(b)(4).

The DOE is meeting its obligations under the NHPA concurrently with the preparation of an environmental impact statement (EIS) pursuant to the National Environmental Policy Act of 1969 (NEPA). Because Minnesota Power is seeking authorizations from the U.S. Army Corps of Engineers – St. Paul District (USACE) and U.S. Fish and Wildlife Service, cooperating agencies to DOE in the preparation of the above mentioned EIS, DOE is also acting as the lead federal agency for purposes of compliance with Section 106 for the NEPA cooperating agencies (per 36 CFR § 800.2(a)(2)).

Under Section 106, the DOE must identify and consider the potential effects of its actions on historic properties through a collaborative framework (consultation) to identify historic properties potentially affected by the proposed project, assess its effects, and seek ways to avoid, minimize or mitigate any adverse effects to historic properties (36 CFR §800.1(a)). In addition to the State Historic Preservation Officer (SHPO), federally recognized Indian tribes, and the Advisory Council on Historic Preservation (ACHP), the applicant for Federal assistance, permits licenses or other approvals, Section 106 consulting parties may include certain individuals and organizations with a demonstrated interest in the undertaking due to the nature of their legal or economic relation to the undertaking or affected properties, or their concern with the undertaking's effects on historic properties (36 CFR §800.2). General information about the Section 106 process is available through the ACHP website at www.achp.org.

In order to properly document Minnesota Power's participation in the Section 106 process, please confirm within 30 calendar days of the date of this letter, please send a

letter accepting this invitation to act as a Section 106 consulting party for the proposed GNTL project, either as an attachment to an email at Juliea.Smith@hq.doe.gov, or by postal mail to 1000 Independence Avenue, SW, Washington, D.C., 20585. Please also include information for a primary point of contact for Minnesota Power in Section 106 consultations in your acceptance letter.

If you have any questions or concerns, please contact me at any time at the above email address or (202) 586-7668.

Yours very truly,

A handwritten signature in black ink that reads "Julie A. Smith". The signature is written in a cursive, flowing style.

Julie Ann Smith, PhD
Principal NEPA Document Manager
National Electricity Delivery Division, OE-
20
Office of Electricity Delivery and
Energy Reliability
U.S. Department of Energy



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

February 3, 2015

VIA E-MAIL and U.S. MAIL

Juliea Smith
Department of Energy
1000 Independence Avenue, S.W.
Washington, D.C., 20585

Re: Minnesota Power Acceptance Letter for Section 106 Consultation

Dear Ms. Smith,

Minnesota Power is in receipt of the United States Department of Energy's ("DOE") January 14, 2015 letter inviting Minnesota Power to consult on the Section 106 process for the Great Northern Transmission Line Project. As the applicant, Minnesota Power accepts this invitation and looks forward to continuing the active engagement with DOE and other stakeholders for the Great Northern Transmission Line Project. Please consider Jim Atkinson the primary project contact and myself, David Moeller, the second project contact.

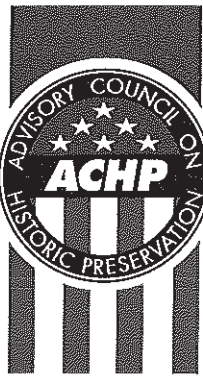
Please contact me if you have any questions or need additional information.

Yours truly,

David R. Moeller

DRM:sr
Cc: Jim Atkinson





Preserving America's Heritage

July 25, 2014

Ms. Julie Ann Smith, PhD
Principal NEPA Document Manager
U.S. Department of Energy
Office of Electricity Delivery and Energy Reliability
National Electricity Delivery Division
1000 Independence Avenue, SW
Washington, DC 20585

Ref: *Proposed Great Northern Transmission Line Project
State of Minnesota*

Dear Dr. Smith:

On July 14, 2014, the Advisory Council on Historic Preservation (ACHP) received notice from the U.S. Department of Energy (DOE) that it intends to develop an Environmental Impact Statement (EIS) pursuant to the National Environmental Policy Act (NEPA) for the Great Northern Transmission Line (GNTL) project. As we understand, the project consists of the issuance of a permit to Minnesota Power (applicant) for the construction, operation, maintenance and connection of approximately 220 miles of overhead transmission lines. DOE has sent this notice to the ACHP to ensure that we are aware of the project and invite us to participate in the ongoing environmental analysis.

While we appreciate this notice, it is unclear how it relates to DOE's compliance with Section 106 of the National Historic Preservation Act (NHPA) and its implementing regulations, "Protection of Historic Properties" (36 CFR Part 800). Since the notice only references compliance with NEPA, we request that DOE clarify its intent to coordinate the NEPA and NHPA reviews. If DOE intends to use the substitution process contained within our regulations at 36 CFR Part 800.8(c), then DOE will need to notify the Minnesota State Historic Preservation Officer (SHPO) as well as the ACHP of this decision. If DOE intends to coordinate its Section 106 review with its NEPA review, then we request that DOE make the appropriate findings of effect for this undertaking in consultation with the SHPO and other consulting parties. Should DOE make a finding of adverse effect, please notify the ACHP in accordance with 36 CFR Part 800.11(e).

To assist DOE in making its decision regarding coordination or substitution of NEPA and NHPA, we refer you to the handbook we jointly published with the Council on Environmental Quality (CEQ) in March 2013. We suggest you consider using the checklist contained within the handbook as it outlines the questions DOE should contemplate when determining how it will best comply with Section 106.

We look forward to receiving DOE's response. If you have any questions about our comments, please contact Ms. Jaime Loichinger at (202) 517-0219 or via email at jloichinger@achp.gov.

Sincerely,

A handwritten signature in cursive script that reads "Charlene Dwin Vaughn".

Charlene Dwin Vaughn, AICP
Assistant Director
Office of Federal Agency Programs
Federal Permitting, Licensing and Assistance Section



Department of Energy
Washington, DC 20585

November 22, 2014

Charlene Dwin Vaughn, AICP
Assistant Director, Office of Federal Agency Programs
Federal Permitting, Licensing and Assistance Section
Advisory Council on Historic Preservation
401 F Street NW, Suite 308
Washington, D.C. 20001-2637

SUBJECT: Section 106 Consultation under the National Historic Preservation Act (NHPA) for the proposed *Great Northern Transmission Line Project* (DOE/EIS-0499)

Dear Ms. Vaughn:

This letter is in response to your letter of July 25, 2014, to the U.S. Department of Energy (DOE or the Department) regarding DOE's compliance with Section 106 of the National Historic Preservation Act (NHPA) and its implementing regulations, "Protection of Historic Properties" (36 CFR Part 800). The intent of this correspondence is to respond directly to the questions you pose in your letter as well as to update you as to the status of DOE's notification to and request for concurrence for initiation of the Section 106 consultation process with the Minnesota State Historic Preservation Officer (SHPO). In addition, DOE is providing notification to the Advisory Council on Historic Preservation (ACHP) of its intent to utilize a programmatic agreement to properly comply with the requirements of the NHPA implementing regulations identified above.

As you are aware, DOE is in the process of preparing its draft Environmental Impact Statement (EIS) for the proposed Great Northern Transmission Line (GNTL) project in Roseau, Lake of the Woods, Koochiching, and Itasca Counties in northern Minnesota. DOE is preparing its draft EIS pursuant to its obligations under the National Environmental Policy Act (NEPA) to evaluate environmental impacts of providing a Presidential permit to Minnesota Power for the construction, operation, maintenance, and connection of the portion of the transmission line within the United States. The proposed DOE federal action is the potential grant of a Presidential permit for the international border crossing requested by Minnesota Power as part of its proposal. This action has been determined by DOE to be an undertaking that has potential to cause adverse effects on historic properties as defined in implementing regulations at 36 CFR §800.16(y).

The Department is coordinating its compliance with Section 106 of the NHPA with its review under NEPA according to the process set out in 36 CFR §800.3(b). DOE documented a Notice of Intent (NOI) to prepare an EIS in the *Federal Register* on June 27, 2014 (79 FR 36493), which specifically indicated that cultural and historic resources are being analyzed as part of the federal environmental review. Per standing policy, DOE will continue to explicitly solicit information from the public (via the NEPA process) regarding cultural and historic resources through its Notice of Availability of its draft EIS when

published in the *Federal Register*. DOE will also make cultural resources reports and information publicly available on the GNTL project EIS website, as appropriate.

On November 21, 2014, DOE sent a letter to the MN SHPO requesting formal initiation of the Section 106 consultation process for the proposed GNTL project. A copy of that letter is enclosed for your information. If you would also like a copy of the supporting materials referenced in the initiation request letter to MN SHPO, the Department will gladly provide those to you upon request.

Because DOE is currently considering several alternatives under NEPA for the proposed GNTL project that are large linear tracts of land and the resultant complexity of its analysis, DOE has determined that a phased approach for Section 106 identification and evaluation efforts in accordance with the process set forth in 36 CFR §800.4(b)(2) is appropriate. The Department, therefore, proposes the execution of a programmatic agreement (PA) pursuant to 36 CFR §800.14(b) in order to properly defer final identification and evaluation of historic properties under Section 106. A programmatic agreement for the GNTL project would delineate the process by which the likely presence of historic properties within the APE for each alternative under consideration through background research, consultation, with an appropriate level of field investigation to be performed, while taking into consideration the magnitude of the undertaking and its likely effects, and the views of the Council, SHPO, THPO(s), Indian Tribes, and other consulting parties.

In close, DOE appreciates your response to our July 14, 2014, notification letter regarding the Great Northern Transmission Line Project EIS (DOE/EIS-0499) and associated advice contained therein. The Department would appreciate any information, further guidance, and/or concurrence in writing on whether its proposal for a phased approach to identification and evaluation through the execution of a PA is appropriate in this case so that DOE may properly document its compliance with Section 106 of the NHPA in its administrative record.

I very much look forward to working with you and your staff in the future and appreciate your assistance in this effort. If you have any questions or concerns, please contact me at any time at Juliea.Smith@hq.doe.gov or (202) 586-7668.

Yours very truly,

Julie Ann Smith, PhD
Principal NEPA Document Manager
National Electricity Delivery Division, OE-20
Office of Electricity Delivery and
Energy Reliability
U.S. Department of Energy

Enc: DOE Section 106 Initiation Request Letter to MN SHPO (November 21, 2014)



Department of Energy
Washington, DC 20585

November 21, 2014

Mr. Stephen Elliot
State Historic Preservation Officer
Minnesota Historical Society
345 Kellogg Boulevard West
St. Paul, MN 55102-1906

SUBJECT: Initiation Request for Section 106 Consultation under the National Historic Preservation Act (NHPA) for the proposed *Great Northern Transmission Line Project* (DOE/EIS-0499)

Dear Mr. Elliot:

The U.S. Department of Energy (DOE or the Department) is in the process of preparing its draft Environmental Impact Statement (EIS) for the proposed Great Northern Transmission Line (GNTL) project in Roseau, Lake of the Woods, Koochiching, and Itasca Counties in northern Minnesota. DOE is preparing its draft EIS pursuant to its obligations under the National Environmental Policy Act (NEPA) to evaluate environmental impacts of providing a Presidential permit to Minnesota Power for the construction, operation, maintenance, and connection of the portion of the transmission line within the United States. The proposed DOE federal action is the potential grant of a Presidential permit for the international border crossing requested by Minnesota Power as part of its proposal. This action has been determined by DOE to be an undertaking that has potential to cause adverse effects on historic properties per the Advisory Council on Historic Preservation's (ACHP's) NHPA implementing regulations at 36 CFR §800.3(a).

The Department is coordinating its compliance with Section 106 of the NHPA with its review under NEPA according to the process set out in 36 CFR §800.3(b). Per standing policy, DOE will explicitly solicit information from the public (via the NEPA process) regarding cultural and historic resources through its Notice of Availability of its draft EIS when published in the *Federal Register*. DOE will also make cultural resources reports and information publicly available on the GNTL project EIS website, as appropriate.

In this letter DOE provides you with a summary of the actions that the Department is taking to comply with Section 106 of the NHPA, including project background, efforts to identify historic properties potentially affected by the proposed GNTL project to date, a preliminary list of potentially affected historic properties listed or eligible for listing on the National Register of Historic Properties (NRHP), potential consulting parties. This letter also discusses DOE's initial proposal for direct and indirect Areas of Potential Effect (APEs) to be used in the Department's proposed phased approach to identification and evaluation of historic resources under Section 106. Furthermore, DOE is sending this letter as its official request for initiation of Section 106 consultation under NHPA with the Minnesota State

Historic Preservation Office (SHPO), and would appreciate your written reply within 30-days or as soon as possible.

Background

As you are aware, DOE sent a NEPA review information letter to your office on July 10, 2014, indicating that Minnesota Power applied to DOE for a Presidential permit to construct, operate, maintain, and connect an approximately 220-mile, overhead, single-circuit 500 kV AC transmission line between the Minnesota - Manitoba border crossing northwest of Roseau, Minnesota, and terminating at the existing Blackberry 230/115 kV Substation near Grand Rapids, Minnesota. Minnesota Power's proposal also includes associated substation facilities and transmission system modifications at the Blackberry Substation site, and construction of a new 500 kV Series Compensation Station (a structure which will house the 500 kV series capacitor banks necessary for reliable operation and performance of the proposed transmission line). A new Blackberry 500 kV Substation would be required for the proposed Project and would be constructed adjacent to and east of the existing Blackberry 230/115 kV Substation. The proposed GNTL project would carry hydropower generated by facilities operated by Manitoba Hydro, a Canadian electric utility.

DOE is a federal joint lead agency with the Minnesota Department of Commerce – Energy Environmental Review and Analysis (DOC-EERA) acting as state joint lead agency per 40 CFR 1501.5(b) in the preparation of the subject EIS. The U.S. Army Corps of Engineers, St. Paul District (USACE), the U.S. Fish and Wildlife Service, and the U.S. Environmental Protection Agency, Region 5, will be cooperating agencies to DOE and DOC-EERA in the preparation of this EIS.

DOE is the lead federal agency for purposes of compliance with Section 106, in accordance with 36 CFR § 800.2(a)(2), and will address the potential effects of the above identified NEPA cooperating agencies' (namely USACE's) proposed actions on historic and archaeological resources.

DOE documented a Notice of Intent (NOI) to prepare an EIS in the *Federal Register* on June 27, 2014 (79 FR 36493), with an open public scoping period which ended on August 15, 2014. The NOI specifically indicated that cultural and historic resources are being analyzed as part of the federal environmental review. While the proposed federal action (and undertaking) is the potential grant of a Presidential permit by DOE for the international border crossing, the proposed construction, operation, maintenance, and connection of the portion of the transmission line within the United States is a connected action to DOE's proposed action under NEPA. DOE is therefore analyzing the potential environmental impacts from the proposed federal action and the connected action in the EIS. For the purposes of compliance with Section 106 of the NHPA, DOE is considering the potential for adverse effects to cultural and historic properties for the proposed border crossing and entire length of the proposed transmission line.

Consulting Parties

In accordance with 36 CFR §800.2, DOE has identified potential consulting parties, including ACHP, SHPO, THPOs, the Applicant, local government representatives, other Native American entities, local historical societies, heritage preservation commissions, state

agencies, sites and museums, state-wide groups, national groups, and private individuals with a for the purposes of Section 106 consultation under NHPA. A list of consulting parties identified by DOE is enclosed with this letter for your review and input (*see enclosed Draft List of GNTL Section 106 Consulting Parties*). DOE requests that you and your staff provide the Department with feedback regarding any other potential Section 106 consulting parties for the GNTL project that may not have yet been identified or that should be included in this list of potential consulting parties. Your office's assistance in this matter at this time is greatly appreciated.

Tribal Outreach and Consultation

As proposed, the GNTL project does not directly involve tribal reservation lands or require a right-of-way grant or special use grant from tribes, however, the proposal is located in an area that was inhabited by numerous American Indians before Euro-American settlement. As a result the proposal has the potential to impact tribes with current or historic interest in the project area.

In accordance with its responsibilities under Section 106, NEPA, the American Indian Religious Freedom Act (16 U.S.C. 1996), the Archeological Resources Protection Act of 1979 (16 U.S.C. 470aa-mm), the Native American Graves Protection and Repatriation Act of 1990 (25 U.S.C. 3001, et. seq.), Executive Order 13175 *Consultation and Coordination with Indian Tribal Governments*, (November 6, 2000), and DOE's "American Indian and Alaska Native Tribal Government Policy," as set forth in DOE Order 1230.2 (October 2000), DOE initiated government-to-government consultation with tribes potentially affected by the proposed GNTL project via letter dated June 27, 2014. As a part of this effort, DOE held government-to-government tribal consultation meetings on July 15, 2014, in Red Lake, Minnesota, and on July 22, 2014, in Deer River, Minnesota. The purpose of these initial consultation meetings was to gain the opinions of tribes regarding the cultural values that tribes ascribe to the area and its resources, as well as to identify opinions of tribes that no longer live in the area.

A list of federally recognized American Indians and Tribal Historic Preservation Officers (THPOs) contacted by DOE as a part of these activities is provided in the attached *Draft List of GNTL Section 106 Consulting Parties*. DOE's government-to-government consultation activities with these tribes and THPOs are on-going.

Identification Efforts to Date

The proposed undertaking has the potential to affect historic properties either listed in, or eligible for, inclusion in the National Register of Historic Places. An initial cultural resources survey (i.e., desktop literature review) was performed by Minnesota Power as part of the GNTL project Presidential permit application to DOE. This survey considered a study area extending 1-mile on each side of the proposed GNTL Project's right-of-way (ROW) centerline, with preliminary potential direct effects analysis based on an anticipated 200-foot-wide ROW within 1000-3000 foot Route Alternatives.

The initial cultural resources survey study area encompassed two Route Alternatives and four (4) Segment Options. The Route Alternatives are the Blue Route and the Orange Routes. Segment Options include the Segment Option C1, Segment Option C2, Segment Option J1, and Segment Option J2 (*see enclosed Cultural Resources Study*).

As a part of this effort, your office responded to historic resources data (e.g., GIS shape files) requests by Minnesota Power in March 2013, July 2013, August 2013, and November 2013. Your office also provided input to Minnesota Power regarding the proposed GNTL project and suggestions for archaeological survey via a letter dated August 14, 2013.

An initial study of the NHRP listed or eligible properties found that one of the properties identified within 1-mile of the Blue Route is listed on the NRHP, however, four properties, all railroad or mining properties, are considered eligible for NRHP listing: the Great Northern Railway Gunn Line (IC-IRT-009), one segment of the Duluth, Missabi and Northern Railway (IC-IRT-010), the Holman Mine Stripping and Lean Ore Dump (IC-IRT-012), and the Brown Number 2 Mine Stripping Dump (IC-IRT-013).

The study also found that no properties identified within 1-mile of the Orange Route are listed on the NRHP, however, four properties, all railroad or mining properties, are considered eligible for NRHP listing: the Great Northern Railway Gunn Line (IC-IRT-009), one segment of the Duluth, Missabe and Northern Railway (IC-IRT-010), the Holman Mine Stripping and Lean Ore Dump (IC-IRT-012), and the Brown Number 2 Mine Stripping Dump (IC-IRT-013).

For the Segment Options C1, C2, and J1, this study indicated that there are no NRHP listed or eligible properties within the CR Study Area. While none of the properties identified within the Segment Option J2 CR Study Area are listed on the NRHP, two architectural properties within the CR Study Area have been evaluated as eligible for listing on the NRHP: two segments of Minnesota Highway 38 (IC-BFT-017 and IC-EFC- 015).

The GNTL Presidential permit application, including associated maps, drawings, and initial cultural resources study, can also be viewed or downloaded in its entirety from the DOE Office of Electricity Delivery and Energy Reliability (OE) program Web site at: <http://energy.gov/oe/downloads/application-presidential-permit-oe-docket-no-pp-398-great-northern-transmission-line>. However, I have attached “Appendix G- Cultural Resources Study” submitted as part of Minnesota Power’s Presidential permit application to this letter for your use and review.

In addition to efforts by Minnesota Power to identify historic resources potentially affected by the proposed GNTL project, DOE held eight NEPA public scoping meetings during its 45-day public scoping comment period from July 16 – July 24, 2014 (*see enclosed GNTL Regional Map*). The meetings held in the towns of Roseau, Baudette, Littlefork, International Falls, Kelliher, Bigfork, and Grand Rapids, Minnesota. DOE received four comments related to potential impacts from construction on historic resources along the proposed transmission routes, including such resources as the Conservation Corps Camp 53 site, historic logging sites, and Big Fork River historic and cultural areas. The *Great Northern Transmission Line Scoping Summary Report* (November 2014) is available on the DOE GNTL EIS Web site at: <http://www.greatnortherneis.org/Files/ScopingSummaryReportNOV2014.pdf>. Due to its overall size, a hardcopy of this report will be provided to you upon request in follow up to this letter.

Scope of Future Identification Efforts under Section 106–Area of Potential Effect (APE)

As mentioned above, the anticipated ROW for the proposed GNTL project is 200-foot-wide alignment located within a 1000-3000 foot-wide route alternative. In order to begin your consideration of DOE's scope of identification efforts under Section 106 of the NHPA, the Department proposes a direct APE of the maximum width of a route alternative, an area of approximately 1000-3000 feet wide for each proposed Route Alternative. Using this as an initial point for scope of identification efforts (e.g., Phase 1A survey efforts) would allow for flexibility in siting of the final alignment within the approved route alternative. Once the final alignment is determined by the Minnesota Public Utilities Commission, DOE would propose a direct APE as the 200-foot wide alignment for detailed identification and evaluation efforts. The direct APE for identifying terrestrial historic properties and below grade archeological resources would include those areas outside of the ROW that may be impacted by construction, access roads, material and equipment storage areas, or any other physical disturbances necessary during construction of the project.

At this time, DOE would also like SHPO to contemplate the extent of an indirect APE for assessing the potential for adverse visual effects of the proposed GNTL project on terrestrial historic properties. The Department typically proposes an indirect APE for overhead transmission lines of this size and complexity to be approximately one-mile on either side of the center line (will vary with topography) of the proposed right-of-way once the final alignment is established. DOE looks forward to future discussions with you and other consulting parties about these proposed direct and indirect APEs for the GNTL project, and understands that no final direct and indirect APE determinations may be made at this time.

DOE Identification of Historic Properties – Programmatic Agreement (PA)

Because DOE is currently considering alternatives under NEPA for the proposed GNTL project that are large linear tracts of land encompassed in Minnesota Power's proposed Blue and Orange Route Alternatives and four Route Segment Options (C1, C2, J1, and J2), DOE has determined that a phased approach for Section 106 identification and evaluation efforts in accordance with the process set forth in 36 CFR §800.4(b)(2) is appropriate. The Department therefore proposes the execution of a programmatic agreement (PA) pursuant to 36 CFR §800.14(b) to properly defer final identification and evaluation of historic properties. A programmatic agreement for the GNTL project would delineate the process by which the likely presence of historic properties within the APE for each alternative under consideration through background research, consultation, and appropriate level of field investigation is performed, while taking into consideration the magnitude of the undertaking and its likely effects, and the views of SHPO, THPO(s) and any other consulting.

DOE has attached a preliminary draft PA for the GNTL project to this letter for your review and consideration. This preliminary draft PA is offered as a starting point for Section 106 consultation discussions with SHPO and consulting parties in considering DOE's proposed phased approach to identification and evaluation of historic and cultural properties potentially affected by the proposed GNTL project (*see enclosed Preliminary Draft PA*).

In close, DOE currently seeks your concurrence on initiating its Section 106 consultation process for the proposed Great Northern Transmission Line project. DOE also seeks any

information or suggestions that your office may have with regard to potential consulting parties or tribes that are included in the attached consulting parties list, or if you have additional information that should be considered at this time. Please provide your Section 106 initiation concurrence and any material information that you may have in writing so that it may be added to the administrative record to evidence DOE's compliance with Section 106 consultation responsibilities.

I very much look forward to working with you and your staff in the near future and appreciate your assistance in this effort. I will be traveling on GNTL project business to St. Paul from December 2-4, 2014, and would like to have an opportunity to introduce myself in person to you and your staff. I hope there will be time in your schedule and staff resources for this meeting to occur, and will be in contact with your staff via email and/or phone in an effort to schedule such an opportunity if possible.

If you have any questions or concerns, please contact me at any time at Juliea.Smith@hq.doe.gov or (202) 586-7668.

Yours very truly,

A handwritten signature in black ink that reads "Julie A. Smith". The signature is written in a cursive, flowing style.

Julie Ann Smith, PhD
Principal NEPA Document Manager
National Electricity Delivery Division, OE-20
Office of Electricity Delivery and
Energy Reliability
U.S. Department of Energy

Enclosed:

- GNTL Project Regional Map (from NEPA Scoping Summary Report)
- Cultural Resources Study (Appendix G from DOE Presidential permit application)
- Draft List GNTL Section 106 Consulting Parties
- Preliminary Draft PA

Cc: Charlene Dwin Vaughn, Advisory Council on Historic Preservation

Appendix Q

USFWS and DOE Section 7 Consultation



Department of Energy
Washington, DC 20585

October 2, 2015

Lisa Mandell
U.S. Fish and Wildlife Service
4101 American Blvd. East
Bloomington, MN 55425

SUBJECT: Request for Consultation under Section 7 of the Endangered Species Act for the Great Northern Transmission Line Project

Dear Ms. Mandell:

The Department of Energy (DOE) Office of Electricity Delivery and Energy Reliability is responding to an application by Minnesota Power (Applicant) for a Presidential permit to construct, operate, maintain, and connect the proposed Great Northern Transmission Line (GNTL) Project. Enclosed is a Biological Assessment (BA) to initiate formal consultation under Section 7(a)(2) of the Endangered Species Act (ESA).

The BA has been prepared in accordance with the legal requirements set forth under regulations implementing Section 7 of the Federal Endangered Species Act (50 CFR 402; 16 U.S.C. 1536(c)). The description of the proposed GNTL Project in Section 2.0 includes measures and best management practices that would help avoid impacts on these species, including time of year restrictions, survey commitments prior to vegetation management actions (e.g., clearing), and avoidance of habitat. Section 6.0 of the BA provides a comprehensive analysis of impacts.

The DOE prepared the enclosed BA in support of the National Environmental Policy Act (NEPA) review of potential environmental impacts related to the proposed GNTL Project. This environmental review is also being conducted jointly with the state of Minnesota Department of Commerce – Energy and Environmental Regulatory Analysis (DOC-EERA) under the Minnesota Power Plan Siting Act (PPSA) in support of the Minnesota Public Utility's Commission Route Permit decision.

As described in the enclosed BA, the proposed GNTL Project would have no effect on the Poweshiek skipperling (*Oarisma Poweshiek*), piping plover (*Charadrius melodus*), or the western prairie fringed orchid (*Platanthera praeclara*). In addition, the proposed GNTL Project may affect but is unlikely to adversely affect the gray wolf (*Canis lupus*), Canada lynx (*Lynx canadensis*), and Sprague's pipit (*Anthus spragueii*). However, the proposed GNTL Project may affect, and is likely to adversely affect, the Northern long-eared bat (*Myotis septentrionalis*), as well as may affect, and is likely to adversely affect critical habitat designated for the Northern long-eared bat and gray wolf. Therefore, DOE requests formal consultation under Section 7 of the ESA be initiated at this time.

Please feel free to contact me at any time either by email at Juliea.Smith@hq.doe.gov or by phone at (202) 586-7668.

Yours very truly,

A handwritten signature in black ink that reads "Julie A. Smith". The signature is written in a cursive, flowing style.

Julie Ann Smith, PhD
Principal NEPA Document Manager
National Electricity Delivery Division, OE-20
Office of Electricity Delivery and
Energy Reliability
U.S. Department of Energy

Attch:

- GNTL Biological Assessment



Department of Energy
Washington, DC 20585

5 November 2014

Tony Sullins, Chief
Endangered Species Program
Midwest Region Ecological Services Office
U.S. Fish and Wildlife Service
5600 American Blvd. West, Suite 990
Bloomington, MN 55437-1458

SUBJECT: Proposed Great Northern Transmission Line Project

Dear Mr. Sullins:

The purpose of this letter is to initiate informal consultation under Section 7(a)(2) of the Endangered Species Act (ESA) for the proposed Great Northern Transmission Line (GNTL) Project. On April 15, 2014, Minnesota Power applied to DOE's Office of Electricity Delivery and Energy Reliability for a Presidential permit proposes to construct, operate, maintain, and connect a 220-mile, overhead, single-circuit 500 kV AC transmission line between the Minnesota-Manitoba border crossing northwest of Roseau, Minnesota, and the existing Blackberry 230/115 kV Substation near Grand Rapids, Minnesota. The Minnesota Power's proposal also includes associated substation facilities and transmission system modifications at the Blackberry Substation site, and construction of a new 500 kV Series Compensation Station (a structure which will house the 500 kV series capacitor banks necessary for reliable operation and performance of the proposed transmission line). A new Blackberry 500 kV Substation would be required for the proposed GNTL Project and would be constructed adjacent to and east of the existing Blackberry 230/115 kV Substation. The proposed GNTL Project would carry hydropower generated by facilities operated by Manitoba Hydro, a Canadian electric utility, and would support the regional electric grid.

DOE has determined that an Environmental Impact Statement (EIS) is the appropriate level of review under the National Environmental Policy Act (NEPA) for this proposed project, as was documented in our *Federal Register* Notice of Intent (NOI) to prepare an EIS on June 27, 2014 (79 FR 36493), with an open public scoping period ending on August 11, 2014. The proposed federal action is the potential grant of a Presidential permit for the international border crossing. The proposed construction, operation, maintenance, and connection of the portion of the transmission line within the United States is a connected action to DOE's proposed action. DOE will analyze potential environmental impacts from the proposed federal action and the connected action in the EIS. The NOI, along with background information, an opportunity to subscribe to our mailing list, and more, are available at <http://www.GreatNorthernEIS.org>.

The Great Northern Transmission Line Presidential permit application (OE Docket PP-398), including associated maps, drawings, and initial threatened and endangered species identification study, can also be viewed or downloaded in its entirety from the DOE Office of Electricity Delivery and Energy Reliability (OE) program Web site at: <http://energy.gov/oe/downloads/application-presidential-permit-oe-docket-no-pp-398-great-northern-transmission-line>.

In preparation of their Presidential permit, Minnesota Power collected unique and protected species information from the Minnesota Department of Natural Resources (DNR) Minnesota Biological Survey (MBS), Minnesota's Comprehensive Wildlife Conservation Strategy, USGS Gap Analysis Program (GAP) analysis, and other sources to identify habitats and species that could occur within or near the Study Area. The threatened and endangered species (including protected and candidate species) under the jurisdiction of the USFWS that are potentially located in the GNTL Project area include, but may not be limited to:

1. Canada lynx (*Lynx Canadensis*)
2. Piping plover (*Charadrius melodus*)
3. Western prairie fringed orchid (*Platanthera praeclara*)
4. Sprague's pipit (*Anthus spragueii*)
5. Dakota skipper (*Hesperia dacotae*)
6. Poweshiek skipperling (*Oarisma poweshiek*)
7. Northern long-eared bat (*Myotis septentrionalis*)

We would very much appreciate USFWS Endangered Species Program's review and approval of the above-listed potentially affected species, or request that your program provide DOE with a list of additional protected species that might be affected and any concerns relative to potential impacts of the proposed GNTL Project on federally-listed species.

DOE has also been engaged with the USFWS Twin Cities Field Office staff, and the field office is acting as a cooperating agency in the development of the EIS. We look forward to hearing from your office and to working with you and USFWS staff with regard to the proposed GNTL Project. Please feel free to contact me at any time either by e-mail at Juliea.Smith@hq.doe.gov or by phone at (202) 586-7668.

Yours very truly,



Julie Ann Smith, PhD
Principal NEPA Document Manager
National Electricity Delivery Division, OE-20
Office of Electricity Delivery and
Energy Reliability
U.S. Department of Energy

Cc:
Lisa Mandell, USFWS
Margaret Rheude, USFWS
Brian Mills, DOE NEPA Compliance Officer

Appendix R

Biological Assessment



Department of Energy
Washington, DC 20585

October 2, 2015

Lisa Mandell
U.S. Fish and Wildlife Service
4101 American Blvd. East
Bloomington, MN 55425

SUBJECT: Request for Consultation under Section 7 of the Endangered Species Act for the Great Northern Transmission Line Project

Dear Ms. Mandell:

The Department of Energy (DOE) Office of Electricity Delivery and Energy Reliability is responding to an application by Minnesota Power (Applicant) for a Presidential permit to construct, operate, maintain, and connect the proposed Great Northern Transmission Line (GNTL) Project. Enclosed is a Biological Assessment (BA) to initiate formal consultation under Section 7(a)(2) of the Endangered Species Act (ESA).

The BA has been prepared in accordance with the legal requirements set forth under regulations implementing Section 7 of the Federal Endangered Species Act (50 CFR 402; 16 U.S.C. 1536(c)). The description of the proposed GNTL Project in Section 2.0 includes measures and best management practices that would help avoid impacts on these species, including time of year restrictions, survey commitments prior to vegetation management actions (e.g., clearing), and avoidance of habitat. Section 6.0 of the BA provides a comprehensive analysis of impacts.

The DOE prepared the enclosed BA in support of the National Environmental Policy Act (NEPA) review of potential environmental impacts related to the proposed GNTL Project. This environmental review is also being conducted jointly with the state of Minnesota Department of Commerce – Energy and Environmental Regulatory Analysis (DOC-EERA) under the Minnesota Power Plan Siting Act (PPSA) in support of the Minnesota Public Utility's Commission Route Permit decision.

As described in the enclosed BA, the proposed GNTL Project would have no effect on the Poweshiek skipperling (*Oarisma Poweshiek*), piping plover (*Charadrius melodus*), or the western prairie fringed orchid (*Platanthera praeclara*). In addition, the proposed GNTL Project may affect but is unlikely to adversely affect the gray wolf (*Canis lupus*), Canada lynx (*Lynx canadensis*), and Sprague's pipit (*Anthus spragueii*). However, the proposed GNTL Project may affect, and is likely to adversely affect, the Northern long-eared bat (*Myotis septentrionalis*), as well as may affect, and is likely to adversely affect critical habitat designated for the Northern long-eared bat and gray wolf. Therefore, DOE requests formal consultation under Section 7 of the ESA be initiated at this time.

Please feel free to contact me at any time either by email at Juliea.Smith@hq.doe.gov or by phone at (202) 586-7668.

Yours very truly,

A handwritten signature in black ink that reads "Julie A. Smith". The signature is written in a cursive, flowing style.

Julie Ann Smith, PhD
Principal NEPA Document Manager
National Electricity Delivery Division, OE-20
Office of Electricity Delivery and
Energy Reliability
U.S. Department of Energy

Attch:

- GNTL Biological Assessment

Great Northern Transmission Line

Biological Assessment

Prepared for
U.S. Department of Energy
Office of Electricity Delivery and Energy Reliability

October, 2015

Great Northern Transmission Line

Biological Assessment

Prepared for
U.S. Department of Energy
Office of Electricity Delivery and Energy Reliability

October, 2015

Great Northern Transmission Line

Biological Assessment

October, 2015

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Summary

Minnesota Power, a regulated utility division of ALLETE, Inc., as the Applicant for a Presidential permit, proposes to develop the Great Northern Transmission Line Project (proposed Project) to connect renewable sources of power generation (hydroelectric) in Manitoba, Canada to northern Minnesota. This hydroelectric power would be used to off-set projected energy shortages across the region in northern Minnesota by 2020 and to complement the Applicant's wind energy investments in North Dakota. The Applicant estimates the total capital cost for the proposed Project would be between \$558 million and \$710 million (2013 dollars) and is projected to be in service by 2020. The Applicant estimates that the proposed Project would create 120 direct construction jobs during the approximate 4-year construction period.

The proposed Project would run from the Applicant's proposed international border crossing in Roseau County, Minnesota to the proposed Iron Range 500 kV Substation located just east of the existing Blackberry Substation near Grand Rapids, Minnesota. It would be located on all new 200-foot wide right of way (ROW) with a wider area required for certain spans at angle and corner structures, for guyed structures, or where special design requirements are dictated by topography. The proposed Iron Range 500 kV Substation would accommodate the required 500 kV interconnection. The Applicant is also proposing to construct a new 500 kV series compensation station, regeneration stations, permanent access roads, temporary access roads, laydown areas, and fly-in sites. The proposed Project would be owned and operated in the United States by the Applicant.

This Biological Assessment (BA) has been prepared in accordance with the legal requirements set forth under regulations implementing Section 7 of the Federal Endangered Species Act (ESA) (50 CFR 402; 16 U.S.C. 1536(c)). The purpose of this BA is to review the proposed Project in sufficient detail to determine if the proposed action may affect any federally threatened or endangered species and/or critical habitat.

Based on the description of the proposed Project in Section 2 of this BA and further described in the associated Environmental Impact Statement (EIS) (Department of Energy (DOE) 2015), the status of potentially affected federally-listed species in Section 4 of this BA, environmental baseline conditions in Section 5 of this BA, and the analysis of potential impacts in Section 6 of this BA, DOE concludes determinations of effect for the species and designated critical habitat that occur in the proposed Project area as identified in Table 1. Similarly, DOE concludes that the proposed Project would have no effect on the species and designated critical habitat identified in Table 2.

Table 1 Determination of Effect for Federally- Listed Species and Designated Critical Habitat Potentially Affected by the Proposed Project

Scientific Name	Common Name	ESA Status ⁽¹⁾	Determination of Effect
<i>Canis lupus</i>	Gray wolf	T	May affect, but not likely to adversely affect
<i>Lynx canadensis</i>	Canada lynx	T	May affect, but not likely to adversely affect
<i>Myotis septentrionalis</i>	Northern long-eared bat	T	May affect, likely to adversely affect
<i>Anthus spragueii</i>	Sprague's pipit	Can.	May affect, but not likely to adversely affect
Designated Critical Habitat			Determination of Effect
<i>Canis lupus</i> (gray wolf)			May affect, likely to adversely affect

(1) Endangered Species Act. "E" refers to federally-listed as endangered, "T" refers to federally-listed as threatened, "Can" refers to federal candidate species.

Table 2 Nearby Federally-Listed Species and Designated Critical Habitat Not Affected by the Proposed Project

Scientific Name	Common Name	ESA Status ⁽¹⁾
<i>Oarisma poweshiek</i>	Poweshiek skipperling	E
<i>Charadrius melodus</i>	Piping plover	T
<i>Platanthera praeclara</i>	Western prairie fringed orchid	T
Designated Critical Habitat		
<i>Lynx canadensis</i>	Canada lynx	T
<i>Charadrius melodus</i>	Piping plover	T
<i>Oarisma poweshiek</i> ⁽²⁾	Poweshiek skipperling	E

(1) Endangered Species Act. "E" refers to federally-listed as endangered, "T" refers to federally-listed as threatened, "Can" refers to federal candidate species.

(2) The U.S. Fish and Wildlife Service (USFWS) proposed designated critical habitat for Poweshiek skipperling October 24, 2013 in portions of Minnesota, Iowa, Michigan, Wisconsin, and the Dakotas.

1.0 Introduction

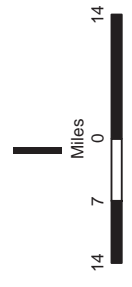
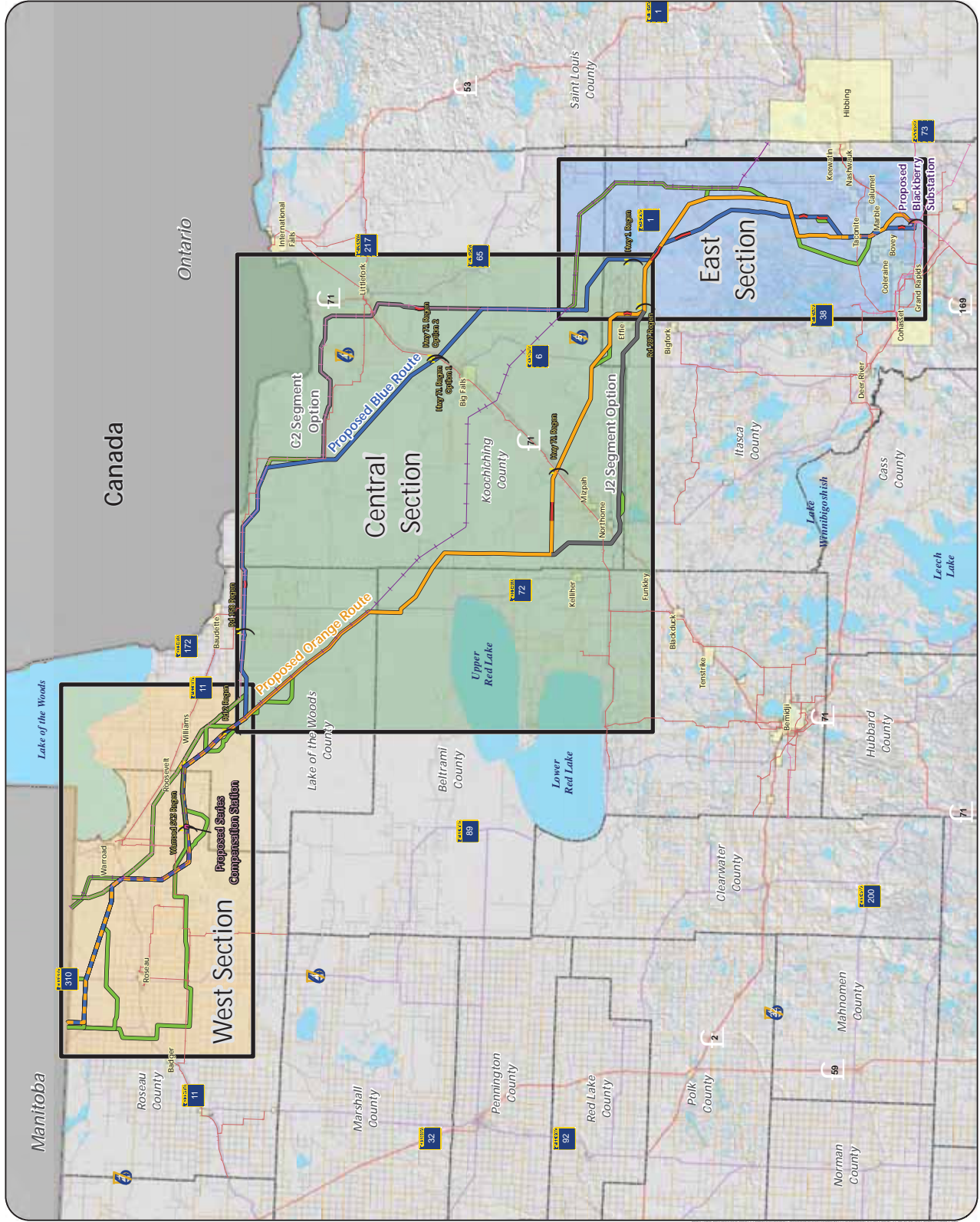
The purpose of this Biological Assessment (BA) is to evaluate the potential impacts of the proposed Great Northern Transmission Line Project (proposed Project) on federally-listed threatened or endangered species, and to comply with requirements of the Endangered Species Act (ESA) of 1973 (16 United States Code [U.S.C.] 1531-1534). The proposed Federal Action by the U.S. Department of Energy (DOE) is the issuance of a Presidential permit that would authorize Minnesota Power, a regulated utility division of ALLETE, Inc. (the Applicant) to construct, operate, and maintain the proposed Project crossing of the United States/Canada international border.

DOE has prepared an Environmental Impact Statement (EIS) for the proposed Project (DOE 2015) to comply with requirements of the National Environmental Policy Act. Therefore, DOE is preparing this BA as the lead Federal Action Agency for the proposed Project. The EIS contains additional details about the proposed Project and potential effects on the natural and human environment, and is incorporated into this BA by reference. The U.S. Army Corps of Engineers will evaluate potential impacts to navigable waters by the Federal Action and determine if issuance of a Clean Water Act Section 404 permit for the proposed Project is warranted. Other cooperating agencies involved with the EIS process include the U.S. Fish and Wildlife Service (USFWS), U.S. Environmental Protection Agency, the Minnesota Department of Natural Resources (MnDNR), and the Red Lake Band of Chippewa Indians.

The Applicant proposed to develop the Project to connect renewable sources of power generation (hydroelectric) in Manitoba, Canada to northern Minnesota. This hydroelectric power would be used to off-set projected energy shortages across the region in northern Minnesota by 2020 and to complement the Applicant's wind energy investments in North Dakota. The Applicant estimates the total capital cost for the proposed Project would be between \$558 million and \$710 million (2013 dollars) and is projected to be in service by 2020. The Applicant estimates that the proposed Project would create 120 direct construction jobs during the approximate 4-year construction period.

The proposed Project would travel from the Applicant's proposed international border crossing in Roseau County, Minnesota to the proposed Iron Range 500 kV Substation located just east of the existing Blackberry Substation near Grand Rapids, Minnesota (Map 1). It would be located on all new 200-foot wide right of way (ROW) with a wider area required for certain spans at angle and corner structures, for guyed structures, or where special design requirements are dictated by topography. The transmission towers would be steel lattice structures for the majority of the route, with the exact type of structure in any given location dependent on land type, land use, and potential effect on the surrounding landscape. Tower heights would range from approximately 100 feet to about 170 feet. In some instances, such as where the proposed Project crosses an existing transmission line, taller structures would be required. The proposed Iron Range 500 kV Substation would accommodate the required 500 kV interconnection. The Applicant is also proposing to construct a new 500 kV series compensation station, regeneration stations, permanent access roads, temporary access roads, laydown areas, and fly-in sites. The proposed Project would be owned and operated in the United States by the Applicant.

- Proposed Regeneration Site Location
- Proposed Blackberry Substation Location
- Proposed Series Compensation Station
- Proposed Routes**
- Blue/Orange Route
- Blue Route
- Orange Route
- Segment Option
- Alternatives**
- Route Variation
- Route Variation Hop
- Alignment Modification
- Existing Transmission Lines**
- 69 or 115 kV
- 230 kV
- 500 kV
- Streets and Highways**
- US Highway
- State Trunk Highway
- County State Aid Highway
- Local Road
- Project Section
- Municipal Boundary
- County Boundary
- International Boundary



Map 1

PROJECT OVERVIEW
Great Northern Transmission Line
Biological Assessment



On April 15, 2014, the Applicant applied to the DOE for a Presidential permit for the proposed Project pursuant to Executive Order (EO) 10485, as amended by Executive Order 12038, and the regulations codified at 10 Code of Federal Regulations (CFR) Part 205.320 et seq. (2000), "Application for Presidential Permit Authorizing the Construction, Connection, Operation, and Maintenance of Facilities for Transmission of Electric Energy at International Boundaries." On the same date, the Applicant also applied to the Minnesota Public Utilities Commission (MN PUC) for a Route Permit under the Minnesota Power Plant Siting Act. The proposed transmission line would run from the Applicant's proposed international border crossing in Roseau County, Minnesota to the proposed Iron Range 500 kV Substation located just east of the existing Blackberry Substation near Grand Rapids, Minnesota.

On October 29, 2014, the Applicant submitted an amendment to their Presidential permit and Route Permit applications to DOE and MN PUC, respectively, for the proposed Project as a result of new information. The amended Presidential permit application changed the location of the proposed international border crossing under DOE's consideration to latitude 49 00 00.00 N and longitude 95 54 50.49 W, roughly 2.9 miles east of Highway 89 in Roseau County, Minnesota. The proposed Project, as amended, is described in detail below in Section 2 of this BA.

1.1 Endangered Species Act Requirements

The ESA establishes procedures for the protection and conservation of threatened and endangered species and the ecosystems upon which they depend (i.e., designated critical habitat). The ESA describes several categories of federal status for plants and animals and their critical habitat, which have been designated by the USFWS. In addition to allowing the listing of species and subspecies, the ESA allows listing of "distinct population segments" (DPSs) of vertebrate species. A DPS is a portion of a species' or subspecies' population or range; DPS are defined geographically, rather than biologically.

An "endangered" species is defined as any species in danger of extinction throughout all or a large portion of its range. A "threatened" species is defined as any species likely to become an endangered species in the foreseeable future. A "candidate" species is defined as any species for which the USFWS has on file sufficient information on biological vulnerability and threat(s) to support issuance of a proposal to list, but issuance of a proposed rule is currently precluded by higher priority listing actions. "Critical habitat" is defined in the ESA as "a specific geographic area that is essential for the conservation of a threatened or endangered species and that could require special management or protection." Critical habitat can include an area that is not occupied by a species but is needed for the recovery of that species.

The USFWS has the responsibility for implementing the ESA. Federal agencies must consult with the USFWS, under Section 7(a)(2) of the ESA, on activities that may affect a federally-listed species. These interagency consultations, or Section 7 consultations, are designed to assist federal agencies in fulfilling their duty to ensure federal actions do not jeopardize the continued existence of a species or destroy or adversely modify critical habitat.

1.2 Consultation History

The following interactions between the DOE and the USFWS regarding the proposed Project have occurred prior to the preparation of this BA and have supported its development:

- March 14, 2014 – Letter from the USFWS to the Minnesota Department of Commerce (DOC) providing comments during the environmental impact statement (EIS) scoping process.
- August 4, 2014 – DOE met with USFWS and Minnesota Power in person to discuss the proposed transmission line and avoidance of USFWS interest lands.
- August 14, 2014 – Letter from USFWS to DOE providing comments on specific routing alternatives to be analyzed in the Draft EIS.
- November 5, 2014 – DOE sent letter to the USFWS initiating informal consultation under Section 7 of the ESA.
- March 3, 2015 – Email sent to the USFWS to request GIS data on Canada lynx and gray wolf.
- March 5, 2015 – Email response from the USFWS with wolf occupied township shapefile and wolf range shapefile attached.
- August 10, 2015 – Letter from USFWS to DOE providing comments on the Draft EIS during the public comment period.
- September 14, 2015 – DOE held a conference call with USFWS to discuss the initiation of formal consultation under Section 7 of the ESA.

2.0 Description of the Proposed Action

This section summarizes the key elements of the proposed Project, which was derived from the EIS (DOE 2015). The following items related to the proposed Project are defined and summarized in the sub-sections below: the alternatives considered and evaluated in the EIS, the Action Area and Study Area, details related to construction, maintenance, and operation, construction schedule, and impact and minimization and conservation measures.

2.1 Description of Alternatives Used in the Draft EIS Analysis

The proposed Project would include construction, operation, and maintenance of an approximately 220-mile long, 500-kilovolt (kV) overhead, single-circuit, alternating current (AC) electric transmission system. The Applicant identified two proposed routes; the Blue Route and the Orange Route, as identified on Map 1. Additional routing alternatives were developed during the proposed Project scoping process (see Appendix C in the EIS).

For purposes of understanding the routing alternatives associated with the proposed Project, and to facilitate the analysis in the EIS (DOE 2015), the proposed Project was divided into three geographical sections, including the West Section, Central Section, and East Section (Map 1). Within each geographical section, multiple “variation areas” were developed to address local issues across route alternatives or “variations.” Each variation area contains portions of the Applicant’s proposed route(s) and variations, which were developed from alternative route segments identified during the proposed Project scoping process (see Appendix C in the EIS). The EIS evaluated the potential environmental impacts and presents the results for the alternatives — proposed routes and variations — within each variation area.

Table 3 and Map 2 through Map 4 provide an overview of the geographic sections and the variation areas contained within them. Because potential effects on federally-listed species from the proposed Project would not differ between portions of the proposed routes and variations within a particular variation area, the BA does not go into detail on all route alternatives evaluated for the proposed Project. The EIS provides information on sections of the proposed routes, variations, and alignment modifications evaluated for the proposed Project (DOE 2015).

Table 3 Geographic Sections and Corresponding Variation Areas

Sections	Variation Areas
West Section (Roseau and Lake of the Woods counties)	Border Crossing Variation Area
	Roseau Lake WMA Variation Area
	Cedar Bend WMA Variation Area
	Beltrami North Variation Area
	Beltrami North Central Variation Area
Central Section (Lake of the Woods, Koochiching, Beltrami, and Itasca counties)	Pine Island Variation Area
	Beltrami South Central Variation Area
	Beltrami South Variation Area

Sections	Variation Areas
	North Black River Variation Area
	C2 Segment Option Variation Area
	J2 Segment Option Variation Area
	Northome Variation Area
	Cutfoot Variation Area
East Section (Koochiching and Itasca counties)	Effie Variation Area
	East Bear Lake Variation Area
	Balsam Variation Area
	Dead Man's Pond Variation Area
	Blackberry Variation Area

2.2 Associated Facilities

In addition to the proposed approximately 220-mile long, 500 kV overhead, single-circuit, AC electric transmission system, the Applicant also proposes a new Iron Range 500 kV Substation, located on the same site as the Applicant's existing Blackberry 230/115 kV Substation, adjacent to and east of the existing substation to accommodate the required 500 kV interconnection and to construct a new 500 kV series compensation station, and regeneration stations (Map 1). In addition, the Applicant would need to construct permanent access roads, temporary access roads, laydown areas, and fly-in sites; however, the detailed design and locations of these features would not be determined until the Presidential permit and Route Permit are issued by the DOE and Minnesota PUC, respectively.

2.3 Action Area and Study Area

The Action Area is defined in 50 CFR Part 402.02 as "all areas to be affected directly or indirectly by the Federal Action and not merely the immediate area involved in the action." The Action Area for federally-listed species in the proposed Project is 100 feet on either side of all proposed routes and variations, which is the anticipated ROW, and the footprints for the proposed Iron Range 500 kV Substation, new 500 kV series compensation station, and regeneration stations.

The Study Area for this BA includes all proposed routes and variations and associated facilities, as described above, plus a one-mile buffer around them.

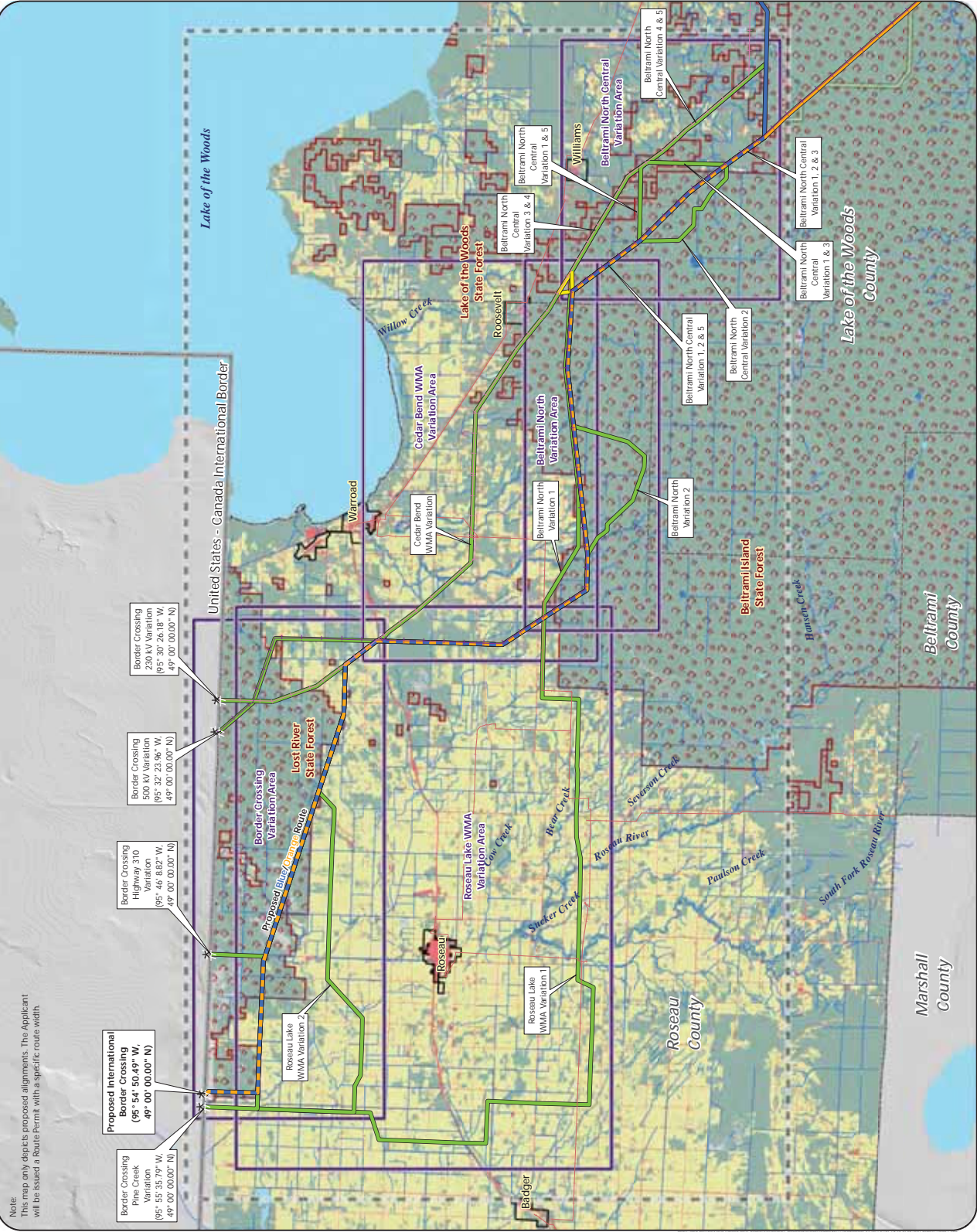
2.4 Construction

The following subsections describe the specific engineering details of the transmission system and how the Applicant proposes to install and operate the transmission line and facilities for the proposed Project.

2.4.1 Transmission Line

The Applicant is evaluating several structure types and configurations, including a self-supporting lattice structure, a lattice guyed-V structure, and a lattice guyed-delta structure. It is currently estimated that 4 to 5 structures would be needed per mile of transmission line and the structures would be placed

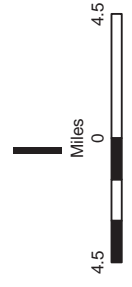
Note:
This map only depicts proposed alignments. The Applicant will be issued a route permit with a specific route width.



- * Border Crossing Point
- Proposed Routes**
- Blue/Orange Route
- Blue Route
- Orange Route
- Alternatives**
- Route Variation
- Route Variation Hop
- Existing Transmission Lines**
- 69 or 115 kV
- 230 kV
- 500 kV

- State Forest Boundary
- Variation Area
- Project Section
- Municipal Boundary
- County Boundary
- International Boundary
- Land Use/Land Cover**
- Developed or Disturbed Land
- Forested and/or Swamp Land
- Great Plains Grassland & Shrubland
- Agricultural Land
- Introduced & Semi Natural Vegetation

Note:
Callout box provides longitude and latitude coordinates in NAD83 for each border crossing location



Map 2

WEST SECTION OVERVIEW
Great Northern Transmission Line
Biological Assessment



approximately 1,000 to 1,700 feet apart, with a maximum span of 1,700 feet. The type of structure in any given location of transmission line would depend on land type and land use.

The structures would typically range in height from 100 to 170 feet, depending on the structure type and the terrain. In some instances, such as where the proposed Project crosses an existing transmission line, taller structures may be required. The structures would be placed approximately 1,200 to 1,700 feet apart, with a maximum span of 1,700 feet.

On cultivated land or in areas of intensive land use, the Applicant anticipates using self-supporting lattice structures. In other areas where guy wires would not significantly interfere with land use, the proposed Project may be installed on one of the guyed structure types. The area of permanent impact for guyed structures is anticipated to be 33 square feet per structure with a temporary construction disturbance footprint of approximately 0.92 acres per structure. Structure types are illustrated in Figure 1.

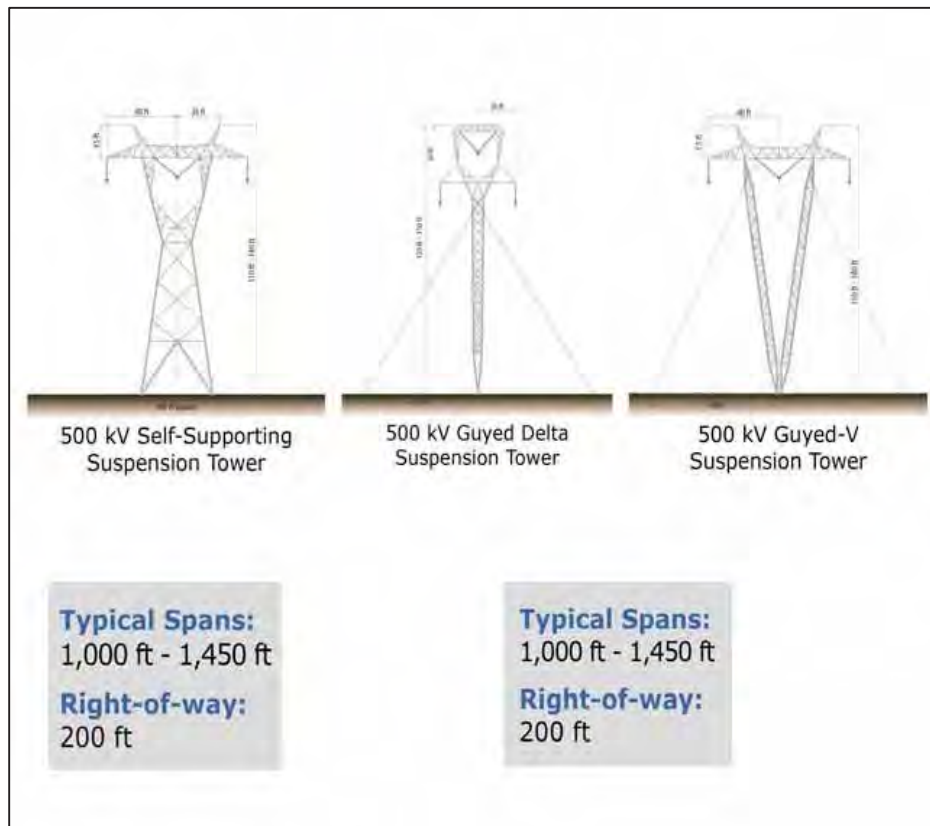


Figure 1 Structure Schematics

2.4.1.1 Vegetation Clearing

The Applicant would have to clear all woody vegetation and brush within the 200-foot-wide ROW to ensure that facilities can be safely and efficiently constructed, operated, and maintained. The Applicant has proposed to leave low-growing woody vegetation in wetlands within the outer one-third of the ROW. A reasonably level temporary access path is necessary so construction equipment can pass safely. At structure locations, a stable working surface free of tripping hazards is necessary for installing foundations and guy anchors and for assembling and erecting structures.

Vegetation would be cut at or slightly above the ground surface. Rootstock would be left in place to stabilize existing soils and to regenerate vegetation after construction. With the approval of the landowner or land manager, stumps of tall-growing species would be treated with an approved herbicide to discourage re-growth.

To minimize the potential for tire and chassis damage to construction equipment, and to maintain a safe, level, temporary access path during construction, incidental stumps would be removed.

Merchantable timber would be cut to standard log lengths and stacked along the ROW. To the extent practical, the Applicant would work with the landowner to determine a mutually agreeable means of disposing of the cleared material, such as chipping, burning, or stacking for landowner use or sale. Vegetation clearing debris (that is, unmerchantable trees, brush, and slash) may be cut and scattered, placed in windrow piles, chipped, or burned, depending on location.

In order to avoid potential direct impacts to the northern long-eared bat, the Applicant will avoid tree clearing during the bat's pup season of June and July. The Applicant intends to clear trees during the winter months, outside of the bat's maternal roosting period from April 1 through September 30, to the extent practicable; but tree clearing will likely be necessary during other times of the year. However, prior to clearing trees during the maternal roosting period (but outside of the pup season), the Applicant has agreed to conduct acoustical surveys (see Section 6.3 of this BA).

2.4.1.2 Construction Methodology

Construction materials would be hauled either directly to structure sites from the local highway or railroad network, or brought first to material staging areas and then to the structure sites. The transmission line components, including the structures, conductor, and hardware, are normally brought to the temporary staging areas on flatbed trucks. These materials are stored until needed and then loaded on flatbed trailers or special structure trailers for delivery to the structure site where they are unloaded for installation.

Where reinforced concrete foundations are required, large rubber-tired or track-mounted auger equipment is used to excavate a circular hole of the appropriate diameter and depth. In upland areas, excavated material would be spread evenly around the structure base to promote site drainage. Reinforcing steel and anchor bolts are set in position. Ready-mixed concrete is then placed in the excavation.

In wetland areas, a telescoping temporary steel caisson would be placed in the foundation hole to stabilize the soil walls. Water pumped from the excavation would be either 1) appropriately filtered prior to discharge at the site, 2) placed in tanker trucks or empty concrete trucks and hauled to a specially designated upland disposal area, or 3) brought back to the concrete batch plant for discharge. Concrete truck wash-water would be discharged only in specially designated upland disposal areas or at the concrete batch plant.

After the concrete is poured, the steel caisson is removed. In some situations, a permanent caisson may be required to stabilize the excavation. During drilling, a minimal amount of granular material (from an outside source) may be placed in the area between the caissons and the matting (if required at that location) to provide safe footing for construction personnel.

The Applicant and its contractors would remove construction waste and scrap on a regular schedule or at the end of each construction phase to minimize short-term visual impacts. Regular, frequent cleaning of construction equipment and vehicles on the ROW would occur. Restoration of cleared ROWs, storage areas, and access roads would minimize the extent of disturbed areas and limit the potential for dust generation.

2.4.1.3 Restoration/Re-vegetation

Following construction, the granular construction material would be leveled or removed to reinstate the original ground contours for re-vegetation of native species. Once the foundation concrete has been placed, excess excavated materials would be transported by truck to a suitable upland site for disposal. After allowing adequate curing time, the baseplate structures are bolted to the concrete foundations.

In some cases driven-piling foundations may be required, as well as temporary and permanent guy anchors, large rubber-tired or track-mounted pile-driving equipment would be used to install the foundation. Additional fixtures or a concrete pile cap may also be attached to the piling foundation as necessary for structure setting. Piling foundations generally result in little or no generation of spoils or dewatering requirements.

Once the structures have been completed and appropriate stringing equipment has been installed, wires can be strung. The wire-stringing process would begin in a set-up area prepared to accommodate the stringing equipment and materials, normally located near mid-span on the centerline of the ROW.

Using stringing blocks, pulley ropes and other equipment, and with careful monitoring by the construction crew, the wires are finally strung and clipped into place. If set-up areas in wetlands have unstable surface conditions, timber matting may need to be used. The Presidential permit and Route Permit applications provide a more detailed description of the wire-stringing process.

When the site is later restored, the granular material would be leveled or removed to reinstate the original ground contours for re-vegetation. Where rutting occurs, the Applicant would repair the surface before restoring ground vegetation. Soil compaction in cultivated areas would be treated and restored through tillage operations.

All areas of ground disturbance not permanently altered would be prepared for restoration and reseeded with an appropriate seed mix recommended by the appropriate agency's management or according to landowner requirements. The Applicant has indicated that they would continue to coordinate with MnDNR to minimize and avoid impacts on plant communities on state lands through adjustments to the anticipated ROW, permit conditions, and mitigation. Where forested areas are cleared, appropriate herbaceous native seed mixes from sources as close as possible to the impacted area would be used to

re-vegetate, as rapidly as possible, to prevent encroachment by non-native and noxious weed species. Where possible, reliance on natural re-vegetation would be encouraged (particularly in wetland areas).

2.4.2 Substation

The proposed Project would terminate at the proposed Iron Range 500 kV Substation, located on the same site as the Applicant's existing Blackberry 230/115 kV Substation, adjacent to and east of the existing substation (Map 1), and would be designed to accommodate the new 500 kV transmission line, 500/230 kV transformation, existing 230 kV transmission lines, and all associated 500 kV and 230 kV equipment. Existing 230 kV and 115 kV transmission lines currently located on the property would also need to be rerouted. The proposed Iron Range 500 kV Substation and access roads would permanently impact approximately 23 acres.

The new substation would be constructed in compliance with the applicable requirements of the National Electric Safety Code (NESC), Occupational Safety and Health Administration (OSHA), and state and local regulations. Designs would be completed by professional engineers who are licensed in Minnesota and have relevant experience. Contractors would be committed to safe working practices.

The final designs would consider local conditions and access considerations, and where warranted, would include safety provisions beyond the minimum requirements established in the various applicable safety codes. The designs would also strive to facilitate future maintenance.

2.4.3 500 kV Series Compensation Station

The proposed Project would also require a 500 kV series compensation station to be located within or adjacent to the final approved route (Map 1). The series compensation station would include the necessary 500 kV series capacitor banks and all associated 500 kV equipment. The 500 kV series compensation station would permanently impact approximately 6 acres.

The new series compensation station would be constructed in compliance with the applicable requirements of NESC, OSHA, and state and local regulations. Designs would be completed by professional engineers who are licensed in Minnesota and have relevant experience. Contractors would be committed to safe working practices.

The final designs would consider local conditions and access considerations, and where warranted, would include safety provisions beyond the minimum requirements established in the various applicable safety codes. The designs would also strive to facilitate future maintenance.

2.4.4 Regeneration Stations

The Applicant proposes to locate three regeneration stations within or adjacent to the final route approved by the MN PUC (Map 1). The sites would be 75 feet by 75 feet and located on uplands.

2.4.5 Permanent Access Roads

The Applicant proposes to establish a permanent “2-track” trail on uplands within the ROW as a result of construction traffic. This “2-track” trail would be unimproved and it is assumed that there would be no grading or filling for this permanent access.

2.4.6 Temporary Access Roads, Laydown Areas, and Fly-in Sites

The Applicant has indicated the need for constructing temporary access roads outside of the ROW; the anticipated access road width is 16 feet. The Applicant proposes to establish a main staging area for temporary storage of materials and equipment. Such an area would include sufficient space to lay down material and pre-assemble some structural components or hardware. Other staging areas located along the ROW would be limited to a structure site for lay down and framing prior to structure installation. In general, the laydown yards would be approximately 20 to 40 acres and would be located along suitable roadways approximately 40 to 50 miles apart and would be within five miles of the final route approved by the MN PUC. The Applicant has indicated that upland areas with prior disturbance would be preferred for siting staging areas; however, there may be some areas where this is not feasible and other areas would be used. Staging areas would be in place for at least one year and would be used to store equipment and materials and include the construction offices.

Similar to laydown yards, the Applicant proposes to establish fly-in yards that would be approximately 10 acres in size, located as near to the ROW as possible, and approximately 5 to 7 miles apart. Upland areas with prior disturbance would be preferred; however, there may be some areas where this is not feasible and other areas would be used. These sites would be in place for less than 1 year (likely 6 months) and would be used to assemble structures for sky crane construction. The Applicant would identify final fly-in locations during final design.

The Applicant proposes to establish temporary stringing sites within or adjacent to the final route approved by the MN PUC. The sites would be 200 feet by 600 feet with a two-mile spacing.

To the extent practicable, staging areas would be located and arranged in a manner to preserve trees and vegetation and restored to preconstruction conditions.

Temporary access roads outside of the ROW would be required. The Applicant would work with local property owners to identify suitable access locations. Temporary roads and other temporarily impacted areas would be restored as appropriate once construction is completed.

2.5 Maintenance and Operation

The following subsections describe how the Applicant proposes to maintain and operate the transmission line and facilities for the proposed Project.

2.5.1 Transmission Line

A transmission line must be inspected, maintained, and repaired over the entire life of the facility. The 500 kV transmission lines are generally inspected annually by foot, all-terrain vehicle, truck, or snowmobile, or

by air. Inspections are limited to the ROW and to those areas where obstruction or terrain may require off-ROW access.

Vegetation in the ROW that could interfere with operations must be removed. In most cases, the ROW would need to remain free of trees throughout construction and operation of the proposed Project; however, the Applicant has indicated that bushy shrubs and low-growing vegetation could be allowed to regenerate in portions of the ROW to reduce, though not eliminate, the visual impacts. Planting of visual screening would be considered on a case-by-case basis.

Vegetation maintenance for 500 kV transmission lines is typically on a 2- to 5-year cycle. Vegetation may be cleared using a combination of mechanical and hand clearing, and herbicides may be applied where allowed and approved by the landowner. Prior to maintaining vegetation in a particular area, the Applicant would make an effort to notify affected landowners.

2.5.2 Substation

Substation facilities must be regularly inspected, maintained, and repaired over the life of the facilities, and vegetation that might interfere with the safe and reliable operation of the facilities must be removed.

In order to minimize potential safety impacts, the substation facilities would have appropriate signage, would be fenced, and access would be limited to authorized personnel.

2.5.3 500 kV Series Compensation Station

The 500 kV series compensation station must be regularly inspected, maintained, and repaired over the life of it, and vegetation that might interfere with its safe and reliable operation would be removed.

In order to minimize potential safety impacts, the 500 kV series compensation station would have appropriate signage, would be fenced, and access would be limited to authorized personnel.

2.5.4 Regeneration Stations

The regeneration stations must be regularly inspected, maintained, and repaired over their lifespan, and vegetation that might interfere with their safe and reliable operation would be removed.

In order to minimize potential safety impacts, the regeneration stations would have appropriate signage, would be fenced, and access would be limited to authorized personnel.

2.5.5 Permanent Access Roads

Permanent access roads must be regularly inspected, maintained, and repaired over their lifespan, and vegetation that might interfere with their safe and reliable operation must be removed.

2.6 Construction and Schedule

The Applicant requires an in-service date of June 1, 2020. Currently, the Presidential permit and Route Permit approval process (including federal and state environmental review) would be completed by early 2016. Depending on the timing of other permits, construction is estimated to begin in 2017.

2.7 Impact Minimization and Conservation Measures

As part of the application development process, the Applicant detailed a number of industry-accepted best management practices (BMPs) that would be incorporated to avoid or minimize environmental impacts during construction and operation of the proposed Project. These BMPs are identified and summarized in the EIS, including but not limited to the following: vegetation management, including noxious weed and invasive species control, soil management, spill management, water resources management, and cultural resources management (DOE 2015).

Specific measures intended to avoid impacts on threatened or endangered species and their occupied habitats are summarized below.

2.7.1 Applicant-Proposed Avoidance and Minimization Measures

Section 2.13 of the EIS provides details of Applicant-proposed avoidance and minimization measures for the proposed Project (DOE 2015). Applicant-proposed measures that are applicable to federally-listed species are summarized here. The Applicant has indicated that they would retain an environmental inspector during project construction, responsible for understanding all of the conditions of the proposed Project's environmental permits and ensuring that contractors abide by these conditions.

The Applicant has indicated that construction crews would follow local, state, and federal regulations with regard to construction noise, dust, and timing. Construction crews would comply with local, state, and NESC standards regarding installation of facilities and standard construction practices. Established Applicant and industry safety procedures would be followed during and after construction of the proposed Project, including clear signage during all construction activities.

The Applicant has proposed to avoid or minimize impacts on federally-listed species and their occupied habitats across the proposed Project. In addition, measures developed through consultation with agencies including the USFWS and MnDNR would be included, if applicable.

The Applicant would develop an Avian Protection Plan, which would include an avian impact risk mitigation strategy. The Applicant would also incorporate industry best practices, which are consistent with Avian Powerline Interaction Committee's 2012 guidelines. The Applicant would work with the USFWS and MnDNR to identify potential locations for line marking, such as areas of high avian use, nest sites, feeding areas, and migratory corridors.

Surveys would be conducted prior to vegetation removal to avoid impacts on nesting birds and to avoid active nest sites of sensitive species. Appropriate construction windows would be incorporated into the

construction schedule to minimize impacts on species such as bald eagle and goshawk in areas where these species are found to be present.

If the ROW is not cleared or mowed in the fall or winter before the breeding season, the Applicant would have a qualified biologist conduct surveys for active nesting birds prior to construction. If active nesting locations are identified during the surveys, the Applicant proposes to avoid nest sites during the breeding season and to identify construction restraints that would avoid disturbance to nesting birds.

The Applicant would conduct surveys for sensitive plants during appropriate periods of the growing season to properly identify their presence and/or absence along the selected ROW. If sensitive plants or communities are identified during surveys, individual avoidance and minimization measures would be evaluated and submitted to the appropriate regulatory agencies prior to construction.

The Applicant would conduct surveys for native prairie areas and other sensitive plant communities such as calcareous fens along the selected ROW. If sensitive resources are encountered, construction plans that minimize the impacts, such as shifting structure locations or implementing construction techniques that avoid or minimize impacts on these resources, would be developed and submitted to the appropriate regulatory agencies prior to construction.

Avoidance measures may include shifting the location of structures or implementing construction techniques that avoid and/or minimize impacts on sensitive biological resources.

3.0 No Action Alternative

Under the No Action Alternative, environmental impacts associated with the proposed Project, including potential impacts on federally-listed species, would not occur.

4.0 Federally-Listed Species and Designated Critical Habitat

The USFWS technical assistance website was reviewed to determine if any federally-listed species or federally-designated critical habitats are known to be present in the counties located across the proposed Project area, including Roseau, Lake of the Woods, Koochiching, Beltrami, and Itasca counties (USFWS 2015a). The USFWS lists six species as occurring across the counties in the proposed Project area, including the federally-endangered Poweshiek skipperling (*Oarisma poweshiek*) butterfly in Roseau County and the federally threatened gray wolf (*Canis lupus*), Canada lynx (*Lynx canadensis*), and northern long-eared bat (*Myotis septentrionalis*) in all five counties; the federally threatened piping plover (*Charadrius melodus*) in Lake of the Woods County; and the federal candidate bird, Sprague's pipit (*Anthus spragueii*) in Roseau County (USFWS 2015a; Table 4).

The USFWS Information, Planning, and Conservation (IPaC) System was also queried to obtain a list of federally-listed species that could potentially be impacted by a transmission line project in Roseau, Lake of the Woods, Koochiching, Beltrami, and/or Itasca counties (USFWS 2015b). The IPaC query identified the gray wolf, Canada lynx, and the northern long-eared bat across all counties in the proposed Project area, piping plover in Lake of the Woods County, and the federally-threatened western prairie fringed orchid (*Platanthera praeclara*) in Roseau County.

Designated critical habitat associated with federally listed species consists of “the specific areas within the geographical area occupied by the species, at the time it is listed...on which are found within those physical or biological features (I) essential to the conservation of the species and (II) which may require special management considerations or protection” (50 CFR 1533[b][2]). Designated critical habitat for the gray wolf is present in the Action Area and Study Area (Map 5); however no other designated critical habitat for other federally-listed species is present in the Action Area or Study Area.

Table 4 Likelihood of Occurrence of Federally-Listed Species within Geographic Sections

Scientific Name	Common Name	ESA Status ⁽¹⁾	Critical Habitat		Possible Occurrence within Geographic Sections		
			Designated for Species?	Located within or adjacent to Proposed Action Area?	West Section (Roseau and Lake of the Woods Counties)	Central Section (Lake of the Woods, Koochiching, Beltrami, and Itasca Counties)	East Section (Koochiching and Itasca Counties)
<i>Oarisma poweshiek</i>	Poweshiek skipperling	E	No ⁽²⁾	No	Yes	No	No
<i>Canis lupus</i>	Gray wolf	T	Yes	Yes	Yes ⁽³⁾	Yes ⁽³⁾	Yes ⁽³⁾
<i>Charadrius melodus</i>	Piping plover	T	Yes	No	Yes ⁽³⁾	Yes ⁽³⁾	No
<i>Lynx canadensis</i>	Canada lynx	T	Yes	No	Yes ⁽³⁾	Yes ⁽³⁾	Yes ⁽³⁾
<i>Myotis septentrionalis</i>	Northern long-eared bat	T	No	No	Yes ⁽³⁾	Yes ⁽³⁾	Yes ⁽³⁾
<i>Platanthera⁽³⁾ praeclara</i>	Western prairie fringed orchid	T	No	No	Yes ⁽⁴⁾	No	No
<i>Anthus spragueii</i>	Sprague's pipit	Can.	No	No	Yes	No	No

(1) "E" refers to federally-listed as endangered, "T" refers to federally-listed as threatened, "Can" refers to federal candidate species.
 (2) The USFWS proposed designated critical habitat for Poweshiek skipperling October 24, 2013 in portions of Minnesota, Iowa, Michigan, Wisconsin, and the Dakotas.
 (3) The western prairie fringed orchid is not listed for counties in the proposed Project area but is listed in Kittson County, which is west of Roseau County. This species was identified by IPaC as a species that should be considered in the effects analysis for Roseau County.
 (4) Species identified in IPaC query.

4.1 Poweshiek Skipperling

The USFWS issued a ruling on October 24, 2014 listing the Poweshiek skipperling as endangered (79 Federal Register 63671-63748). Current populations are believed to be at very low numbers and it is possible the species is no longer present in Minnesota, Iowa, and the Dakotas (USFWS 2014a).

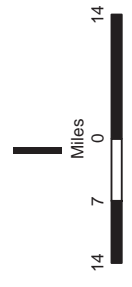
In 2014, the USFWS proposed 61 units of critical habitat for the Poweshiek skipperling, 18 of which occur in Minnesota (78 Federal Register 63625-63745).

4.1.1 Behavior and Life History

The Poweshiek skipperling is a small, dark butterfly measuring about one inch. The wing margins have light orange coloring and the underside of the wings have distinct white veins (USFWS 2014a).

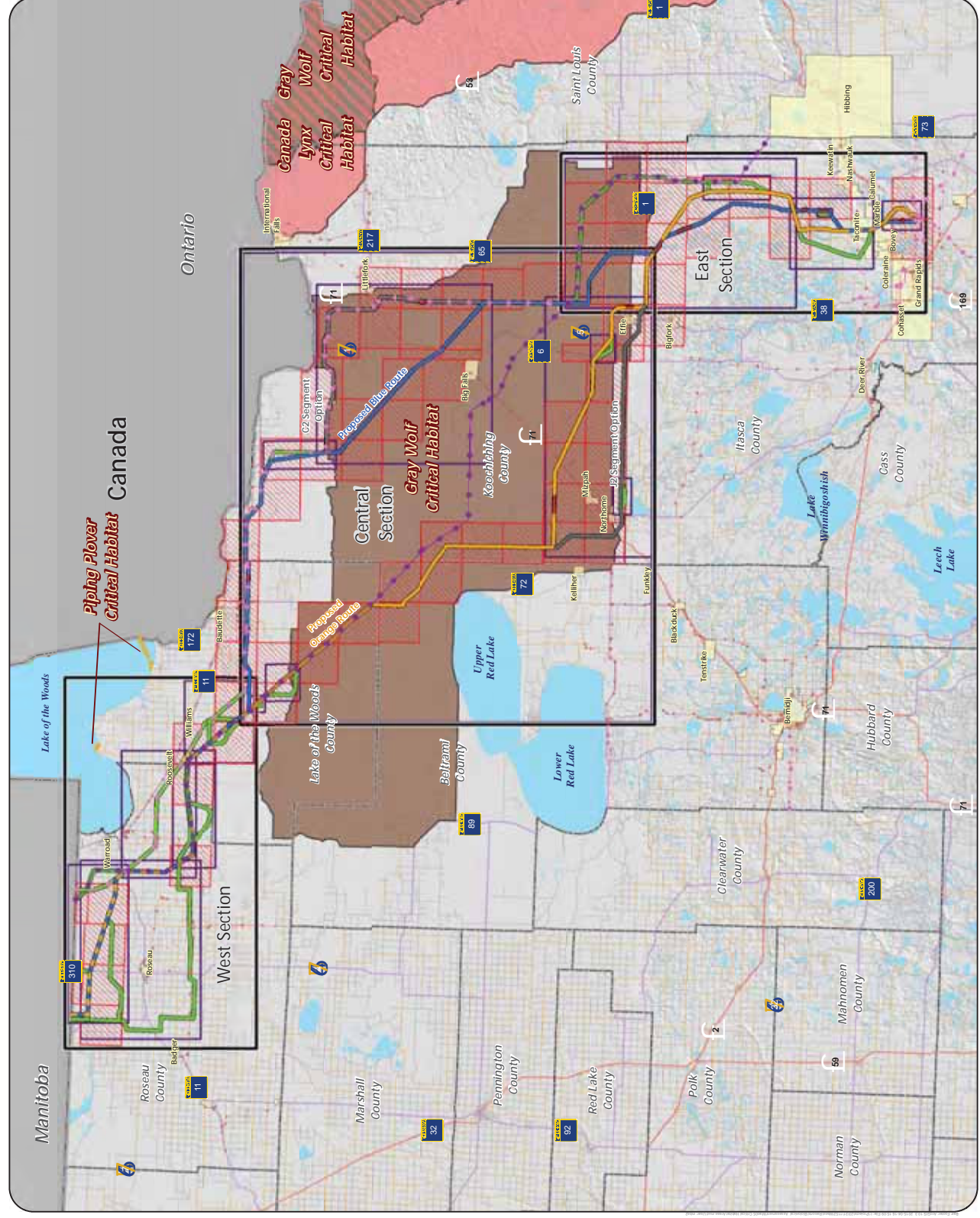
Adult butterflies feed on a variety of prairie flowers and lay their eggs on leaf blades. Larvae overwinter on the plants, usually near the base and resume activity in the spring until they pupate and emerge as adult butterflies. The species has one flight period and adults live for one to two weeks in mid-June to mid-July.

- Proposed Routes**
 - Blue/Orange Route
 - Blue Route
 - Orange Route
 - Segment Option
- Alternatives**
 - Route Variation
 - Route Variation Hop
 - Alignment Modification
- Existing Transmission Lines**
 - 69 or 115 kV
 - 230 kV
 - 500 kV
- Streets and Highways**
 - US Highway
 - State Trunk Highway
 - County State Aid Highway
 - Local Road
 - Variation Area
 - Project Section
 - Municipal Boundary
 - County Boundary
 - International Boundary
 - Wolf-Occupied Township
- Critical Habitat Extents**
 - Canada Lynx
 - Gray Wolf Critical Habitat
 - Piping Plover Critical Habitat



Map 5

CRITICAL HABITAT AREAS
Great Northern Transmission Line
Biological Assessment



4.1.2 Distribution and Habitat

Historically, the Poweshiek skipperling's range covered several states including North Dakota, South Dakota, Minnesota, Wisconsin, Michigan, Iowa, Illinois, and Indiana (USFWS 2014a) as well as Manitoba. Despite the large historic range, as of 2014, this species is known only to occur in Wisconsin, Michigan, and Manitoba and may very well be extirpated from Minnesota, the Dakotas, and Iowa.

The Poweshiek skipperling occupies high-quality tallgrass prairie in upland and low, moist areas. Suitable habitat for the Poweshiek skipperling is present in the Study Area; however, this habitat is limited and is only present in the far western portion of the Study Area.

4.1.3 Threats

The two primary threats to the Poweshiek skipperling are habitat loss and habitat fragmentation. Additionally, of the remaining habitat, the majority of it is not managed in ways that can support this species.

4.1.4 Occurrence in the Proposed Project Area

According to the MnDNR Natural Heritage Information System (NHIS) database, the nearest documented record of a Poweshiek skipperling is in southwest Roseau County, approximately 20 miles southwest of the westernmost variation in the Roseau Lake WMA Variation Area in the West Section.

No designated critical habitat has been finalized for this species; however, the nearest proposed designated critical habitat for the Poweshiek skipperling is located in Mahnommen County, Minnesota, which is over 60 miles from the Study Area.

4.1.5 Determination of Effects

Since the Poweshiek skipperling has not been documented in the Study Area and proposed critical designated habitat is not present in the Study Area, DOE has concluded that the proposed Project would have no effect on this species.

4.2 Gray Wolf

The gray wolf was federally listed as an endangered species in 1974 and was reclassified as threatened in 1977 (42 Federal Register 29527-29532). In 2011, the wolf was delisted by the USFWS (76 Federal Register 57943-57944). However, in 2014, a federal court reversed the USFWS decision to delist the gray wolf, restoring federal threatened status and designated critical habitat in Minnesota.

In April 2003, gray wolf populations in the United States were separated into three DPSs to more effectively manage the species. The Minnesota population was a designated portion of the Eastern DPS.

Critical habitat was designated for the gray wolf in 1978. Designated critical habitat was identified in Isle Royale National Park, Michigan, and Minnesota wolf management zones 1, 2, and 3. In northeastern and northcentral Minnesota, wolf management zones 1, 2, and 3 comprise approximately 9,800 square miles.

Much of the proposed Project area, including the Central Section and the northern part of the East Section, is located in wolf management zone 3 (Map 5).

While no specific primary constituent elements have been formalized for the gray wolf, the USFWS has identified five main factors critical to the long-term survival of gray wolf (USFWS 1992), these include:

- Large tracts of wild land with low human densities and minimal accessibility by humans;
- Ecologically sound management;
- Availability of adequate wild prey;
- Adequate understanding of wolf ecology and management, and
- Maintenance of populations that are either free of, or resistant to, parasites and diseases new to wolves or are large enough to successfully contend with their adverse effects.

4.2.1 Behavior and Life History

Gray wolves are the largest wild members of the canid family (*Canidae*) with adults ranging from 40 to 175 pounds, depending on sex and subspecies (Mech 1974). Wolves are carnivorous predators that prefer a diet of medium and large mammals. The primary prey species in Minnesota include white-tailed deer (*Odocoileus virginianus*) and moose (*Alces alces*), with smaller mammals, such as beaver (*Castor canadensis*) and snowshoe hare (*Lepus americanus*) as important secondary prey sources; small mammals and birds are also occasionally consumed (MnDNR 2015a).

Gray wolves are social animals, typically living in packs of 2 to 30 wolves, with packs in Minnesota ranging in size from four to eight wolves (Fuller 1989). Packs are primarily family groups consisting of a breeding pair, their pups from the current year, offspring from the previous year, and occasionally an unrelated wolf.

Gray wolves breed between February and March in Minnesota and normally only the top-ranking (alpha) male and female in each pack breeds (MnDNR 2015a). Litters are born from early April to May and range from four to seven pups (MnDNR 2015a).

4.2.2 Distribution and Habitat

Gray wolves are habitat generalists that depend on distribution of their prey, rather than the type, age, or structure of vegetation present. Gray wolves occupy a diversity of habitats, including forests, prairies, and swamps, reflecting their adaptability as a species (USFWS 2012). Wolf territory size is highly variable; in Minnesota, territory sizes range between 25 and 150 square miles (MnDNR 2015a).

Surveys of the Minnesota wolf population in Minnesota have been carried out since 1979. These surveys estimated that in Minnesota there were 1,235 wolves in 1979; 1,500 to 1,750 in 1989; 2,440 in 1998; 3,020 in 2004; 2,920 in 2008; 2,200 in 2012; and 2,420 in 2014 (Berg and Kuehn 1982, Fuller et al. 1992, Erb 2008, Erb and Samson 2013, 2014). From 1998 to present, the Minnesota wolf population is well above the

MnDNR minimum population threshold of 1,600 individuals to ensure long-term survival (MnDNR 2001). At present there are very few suitable areas in Minnesota that remain unoccupied by gray wolves (MnDNR 2015a).

4.2.3 Threats

The primary long-term threat to gray wolves in Minnesota is habitat reduction and destruction (MnDNR 2015a).

4.2.4 Occurrence in the Proposed Project Area

Gray wolves are known to be present throughout the vicinity of the proposed Project area, as indicated in the gray wolf occupied township data on Map 5 (Erb 2008, Erb and Samson 2013, 2014).

Much of the proposed Project area, including the Central Section and the northern part of the East Section, is located in designated critical habitat for gray wolf, specifically wolf management zone 3 (Map 5).

4.2.5 Determination of Effects

See Section 6.1, Section 8.1, and Section 8.2 of this BA for information on determination of effects.

4.3 Piping Plover

On December 11, 1985, the USFWS issued a final ruling listing the Great Plains and Atlantic populations of piping plover as threatened and the Great Lakes population of piping plover as endangered (50 Federal Register 50726-50734). The piping plovers nesting in Lake of the Woods, north of the Study Area, are part of the Great Plains Population.

Piping plover nesting surveys, which were conducted in 2006, reported 2,959 adult individuals in the Great Plains population (Elliot-Smith et al. 2009); however, only four adults were observed in Minnesota during the 2006 surveys (MnDNR 2015b). Nearly all of the Great Plains population breeds in North Dakota, Montana, and Southern Canada. Piping plover nesting surveys conducted in 2007 reported 63 breeding pairs in the Great Lakes population, which includes pairs nesting along and near the shores of Lake Superior in St. Louis County (USFWS 2014b). The Atlantic Coast population of piping plover is located well outside of the region in which the proposed Project is located.

The USFWS issued a final ruling designating critical habitat for the Great Plains piping plover on September 11, 2002. The critical habitat includes Rocky Point Wildlife Management Area, Morris Point, and Pine and Curry Island Scientific and Natural Area (SNA) (Map 5; 67 Federal Register 57638-57717).

4.3.1 Behavior and Life History

The piping plover is a small, stocky shorebird averaging 6 to 7 inches in length and weighing 2 ounces (National Geographic Society 1983). Adult males are distinguished by a dark band between eyes and a distinct single breast band. The color of the species is described as dry sand with light underparts and yellow or orange legs (Peterson 2008).

Piping plovers begin their breeding season in mid to late-April when males arrive at the breeding grounds and establish territories. These territories are defended, and when females arrive at the breeding grounds several weeks later, males engage in elaborate courtship rituals including aerial displays, whistling songs, and drumming of the feet (Hull 1981). Plovers exhibit site fidelity, returning to the same nesting location in consecutive years (Wilcox 1959). Nests are simple scrape depressions in sand and are often lined with pebbles, shells, or other debris thought to improve the camouflage (Wilcox 1959). The majority of breeding adults migrate south by mid to late summer, with juveniles remaining as late as mid-August (Cuthbert and Weins 1982).

4.3.2 Distribution and Habitat

The Northern Great Plains population range includes southern Alberta, southern Saskatchewan, and southern Manitoba, south to eastern Montana, North Dakota, South Dakota, southeastern Colorado, Iowa, Nebraska, and east to Lake of the Woods in north-central Minnesota. Most of the United States' pairs are in the Dakotas, Nebraska, and Montana (67 Federal Register 57638-57717). In Minnesota, the Northern Great Plains population is limited to one population in Lake of the Woods (Elliot-Smith, Haig, and Powers 2009).

Piping plovers primarily occupy open, sandy, sparsely vegetated areas (Peterson 2008). The physical primary constituent elements of critical habitat in Lake of the Woods include "sparsely vegetated and windswept sandy to gravelly islands, beaches, and peninsulas, and their interface with the water body" (67 Federal Register 57638-57717). No suitable piping plover habitat is present in the Study Area.

4.3.3 Threats

The primary threats to the piping plover are nesting habitat loss and degradation and human nest disturbance and animal predation (USFWS 1991).

4.3.4 Occurrence in the Proposed Project Area

According to the NHIS database, there is a breeding population of piping plover in Lake of the Woods, which is approximately 11 miles north of the northernmost variation in the Cedar Bend WMA Variation Area in the West Section.

Designated critical habitat for piping plover is present in Lake of the Woods, in three locations, including Rocky Point Wildlife Management Area and two locations in the Pine and Curry Island Scientific and Natural Area. All three areas of designated critical habitat for piping plover are located approximately 11 miles north/northeast of the Study Area.

4.3.5 Determination of Effects

Since the piping plover has not been documented in the Study Area and critical designated habitat is not present in the Study Area, DOE has concluded that the proposed Project would have no effect on this species.

4.4 Canada Lynx

The Canada lynx was listed as a federally threatened species in several states in the Northeast, Great Lakes Region (including Minnesota), and Southern Rockies in 2000 (65 Federal Register 16052-16086).

In 2006, the USFWS designated 317 square miles as critical habitat in Voyageurs National Park (71 Federal Register 66008-66061). In 2009, the USFWS re-designated lynx critical habitat to include portions of Cook, Koochiching, Lake, and St. Louis counties (74 Federal Register 8616-8702). A total of 8,065 square miles were designated as critical habitat in 2009 (74 Federal Register 8616-8702). Critical habitat designated for Canada lynx is not present in the proposed Project area; the nearest designated critical lynx habitat to the proposed Project area is identified on Map 5.

4.4.1 Behavior and Life History

The Canada lynx is a solitary forest-dwelling feline, 30 to 35 inches long and 14 to 31 pounds, similar in size and appearance to bobcats (*Lynx rufus*) (USFWS 2013). Snowshoe hare (*Lepus americanus*) represents the primary prey for Canada lynx. Canada lynx have long hind legs and large paws, which makes them highly adapted to hunting in deep snow typical of its range (USFWS 2013).

Canada lynx typically mate in March and April, and kittens are born from late April to mid-June. Litter sizes, ranging from one to six, and kitten survival correlate with snowshoe hare abundance. Litters of four or five and high kitten survival are common when hare numbers are high; when they are low, little or no reproduction may occur and few or no kittens survive to be recruited into the population.

4.4.2 Distribution and Habitat

The historical and present range of the Canada lynx, north of the contiguous U.S., includes Alaska and the portion of Canada extending from the Yukon and Northwest Territories south to the U.S. border and east to New Brunswick and Nova Scotia. In the contiguous U.S., Canada lynx historically occurred in Washington, Oregon, Montana, Wyoming, Idaho, Utah, and Colorado, Minnesota, Wisconsin, Michigan, New York, Vermont, New Hampshire, and Maine (USFWS 2013). The U.S. Forest Service (USFS) divides Canada lynx populations in the 48 contiguous states into the western Great Lakes population, eastern U.S. population, and the western U.S. population. Historically, Minnesota had the highest numbers of Canada lynx in the western Great Lakes population. In Minnesota, the majority of Canada lynx reports are from the northeastern portion of the state (MnDNR 2006). However, given the low densities of Canada lynx in Minnesota, it may be impossible to obtain an accurate population estimate (Moen 2009).

Based on a limited number of studies in northeastern Minnesota, the average home range for Canada lynx varies between 11 and 201 square miles for males, and 2 and 37 square miles for females (Burdett 2007). Male home ranges expand during the breeding season, perhaps due to males searching for females, while female home ranges contract (Moen et al. 2008).

Canada lynx inhabit boreal and mixed coniferous and deciduous forests, where snowshoe hare, their preferred prey, are present (USFWS 2013). Within these general forest types, Canada lynx are most likely to persist in areas that receive deep snow, for which the lynx is highly adapted. In the Great Lakes states,

Canada lynx records predominantly occur in boreal, coniferous, and mixed coniferous/deciduous vegetation types dominated by pine, balsam fir, black and white spruce, northern white cedar, tamarack, aspen, paper birch, conifer bogs and shrub swamps (USFWS 2000). Canada lynx denning habitat appears to be associated more with the availability of structural components of forests, such as blowdown, deadfalls and root wads, rather than forest cover type (USFWS 2000).

4.4.3 Threats

The Canada Lynx Conservation Assessment and Strategy (USFWS 2000) identifies the primary threats to Canada lynx productivity, mortality, and movement as follows:

Factors affecting productivity:

- Timber management practices, such as management for sawtimber production;
- Loss of habitat due to conversion to agriculture;
- Decline in fire disturbance, which has altered the spatial distribution of early successional habitats and the composition and structure of the mature forests.

Factors affecting mortality:

- Trapping;
- Increase in gray wolf population;
- Incidental or illegal shooting;
- Mortality due to vehicle collisions.

Factors affecting movement:

- Conversion to agriculture or forest types less suitable for lynx.

4.4.4 Occurrence in the Proposed Project Area

Although the majority of Canada lynx sighting in Minnesota have been found in St. Louis, Cook, and Lake counties (76 percent), Canada lynx sightings have also been documented in north-central Minnesota, including Roseau, Lake of the Woods, Koochiching, Itasca, and Beltrami counties, where the proposed Project is located (MnDNR 2006).

There is no designated critical habitat for Canada lynx in the proposed Project area. The nearest designated critical habitat for Canada lynx is approximately 11 miles east of the Study Area (Map 5).

4.4.5 Determination of Effects

See Section 6.2 and Section 8.1 of this BA for information on determination of effects.

4.5 Northern Long-Eared Bat

The northern long-eared bat was proposed for listing as a federally endangered species in 2013 (78 Federal Register 61046-61080). On April 2, 2015, the USFWS listed the northern long-eared bat as federally threatened under the ESA. Along with the listing, the USFWS announced an interim Section 4(d) rule, which exempts certain activities with no federal nexus from the ESA take prohibitions, provided certain conditions protective of northern long-eared bat hibernacula and roost trees are met (80 Federal Register 17974-18033).

4.5.1 Behavior and Life History

The northern long-eared bat is a medium-sized bat with a body length of 3 to 3.7 inches and a wingspan of 9 to 10 inches. The northern long-eared bat is distinguished from other bat species by its long ears (USFWS 2015c). Northern long-eared bats have delayed fertilization, with mating occurring prior to hibernation in the late summer or early fall and females storing sperm during hibernation until the following spring. Female bats then migrate to summer maternity sites and give birth to a single pup between late May and late July (USFWS 2015c). Young northern long-eared bats start flying 18 to 21 days after birth (USFWS 2015c).

Similar to other bat species, northern long-eared bats feed at dusk, primarily by flying through the understory of forested areas feeding on moths, flies, leafhoppers, caddisflies, and beetles.

4.5.2 Distribution and Habitat

The northern long-eared bat's range includes much of the eastern and north central United States, and all Canadian provinces from the Atlantic Ocean west to the southern Yukon Territory and eastern British Columbia.

Northern long-eared bats hibernate in caves and mines (hibernacula) during winter months (USFWS 2015c). In summer, northern long-eared bats roost singly (males and non-reproductive females) or in small groups (reproductive females) in live and dead trees with exfoliating bark, crevices, or hollows (USFWS 2015c). Northern long-eared bats appear to be flexible in selecting a roost, having been found in a variety of tree species with differing heights and diameters.

Linear corridors (i.e., edge habitat and forested riparian corridors) are important for northern long-eared bats as they use corridors to travel and forage (Wisconsin Department of Natural Resources 2013). Bats will migrate in the spring from hibernacula to summer roosts and return again in the fall, or fly from their roosts to feeding grounds following the linear corridors to maintain protection from wind and predation. In addition to the protection that linear corridors provide, this behavior may also allow bats more feeding opportunities because food is generally more abundant around these habitats.

The USFWS has not identified designated critical habitat for the northern long-eared bat at this time.

4.5.3 Threats

The primary threat to the northern long-eared bat is white-nose syndrome, caused by the fungus *Pseudogymnoascus destructans*, which infects skin of the muzzle, ears, and wings of bats during hibernation (USFWS 2015c; U.S. Geological Survey (USGS) 2015). Symptoms of white-nose syndrome were first documented in 2006 in New York and since then the disease has spread from the Northeast to the Midwest and Southeast. Based on hibernacula counts, numbers of northern long-eared bats have declined by up to 99 percent in the Northeast (USFWS 2015c).

Additional potential threats on northern long-eared bat populations include impacts to hibernacula, loss or degradation of summer habitat, and development and operation of wind farms (USFWS 2015c).

4.5.4 Occurrence in the Proposed Project Area

According to the NHIS database, the nearest documented record of a northern long-eared bat is in St. Louis County in the Soudan Underground Mine State Park, which is approximately 45 miles east of the Study Area. The Soudan Underground Mine State Park represents the largest hibernating colony of northern long-eared bats in Minnesota and contains at least 2,000 individuals (Nordquist et al. 2006). The April 2, 2015 USFWS announcement of the listing decision and interim 4(d) rule states that there are eleven documented hibernacula in Minnesota. One is the Sudan Mine, and the other is Mystery Cave in Fillmore County (80 Federal Register 17974-18033). The USFWS and the MnDNR have not published the locations of the other nine hibernacula in Minnesota.

The USFWS has deferred designation of critical habitat for the northern long-eared bat at this time. The northern long-eared bat is a habitat generalist, and identification of Primary Constituent Elements (PCEs) required for designation of critical habitat will require further research and effort by the USFWS.

Several recent studies have been conducted in Minnesota to further determine the abundance and distribution of the species in the state. These studies were summarized in the April 2, 2015 USFWS Federal Register announcement of the northern long-eared bat listing as follows:

In 2014, passive acoustic surveys conducted at a proposed new mining area in central St. Louis County detected the presence of northern long-eared bats at each of thirteen sites sampled, accounting for approximately 14 percent of all recorded bat calls. In addition, mist-net surveys conducted in 2014 at seven sites on Camp Ripley Training Center in Morrison County resulted in the capture of 24 northern long-eared bats, which was 55 percent of the total captures. In an additional field study, acoustic and mist-net data were collected in 2014 by a pipeline project proponent along a 300-mile corridor through the northern third of the state. Positive detections were recorded for Hubbard, Cass, Crow Wing, Aitkin and Carlton counties, and northern long-eared bats were the most common mist-netted species. Finally, mist-net surveys conducted in 2013 on the Kawishiwi District of the Superior National Forest resulted in the capture of 13 northern long-eared bats, or 38 percent of the total captures, over nine nights at eight sites (80 Federal Register 17974-18033).

4.5.5 Determination of Effects

See Section 6.3 and Section 8.1 of this BA for information on determination of effects.

4.6 Western Prairie Fringed Orchid

The USFWS issued a final ruling on September 28, 1989 listing the western prairie fringed orchid (*Platanthera praeclara*) as threatened (54 Federal Register 39858).

No critical habitat has been designated for the western prairie fringed orchid.

4.6.1 Behavior and Life History

The western prairie fringed orchid emerges between early May and mid-June in the northwestern part of Minnesota. Western prairie fringed orchid senesces in late September or earlier if soil moisture is low. This species flowers between early to mid-July. Flower stalks are up to 47 inches tall and each stalk has up to 40 white flowers that are approximately one inch long (USFWS 2004). This orchid produces a bud in late summer on its fleshy rhizome, which will remain dormant until the following spring when it will develop into the aerial stem. If the bud is damaged or fails to develop, no stem will be produced that spring. Rhizomes may survive and produce another bud in late summer, depending on nutrient reserves.

Western prairie fringe orchid pollinators in the northern part of the species' range include the bedstraw hawk moth (*Hyles gallii*), the wild cherry sphinx (*Sphinx drupiferarum*) the Achemon sphinx (*Eumorpha achemon*), and the non-native spurge hawk moth (*Hyles euphorbiae*). Not all flowers are pollinated every year, with 8 percent and 30 percent of flowers pollinated in Minnesota.

4.6.2 Distribution and Habitat

The western prairie fringed orchid occurs in the following ten counties in western and southern Minnesota: Clay, Dodge, Freeborn, Houston, Kandiyohi, Kittson, Mower, Norman, Pennington, Polk, and Rock (MnDNR 2015c). However, this species has not been documented in Houston, Freeborn, or Kandiyohi counties for several years and has possibly been extirpated from those areas (MnDNR 2015c). In Minnesota, the current distribution of western prairie fringed orchid closely corresponds with the distribution of specific habitat types based on geological and hydrological formations known as land type associations (LTA), namely, the Barnesville Beach Complex LTA in Clay, Norman, and Polk Counties; the Beach Ridges LTA in Pennington, Polk, and Red Lake Counties; the Gentilly Lake Plain LTA in Polk and Red Lake Counties; the Bronson Lake Plain LTA in Kittson County; the Trosky Till Plain LTA in Lincoln, Nobles, Pipestone, and Rock Counties; and the Blue Mounds LTA in Pipestone and Rock Counties (USFWS 2007).

The western prairie fringed orchid inhabits mesic to wet unplowed tallgrass prairies and meadows but have been found in old fields and roadside ditches (MnDNR 2015c, USFWS 2004).

4.6.3 Threats

The primary threat to this species is habitat loss, especially through conversion to cropland. Habitat degradation in the form of intensive haying, fire suppression, overgrazing, filling of wetlands, and associated increased competition from invasive plants also pose a significant threat to this species. Other

threats include human plant collection and environmental pollutants that impact the plant and its pollinating insects (USFWS 2004).

4.6.4 Occurrence in the Proposed Project Area

According to the MnDNR NHIS database, the nearest documented record of a western prairie fringed orchid is in Kittson County, approximately 27 miles west of the southwestern most variation in the Roseau Lake WMA Variation Area in the West Section.

4.6.5 Determination of Effects

Since the western prairie fringed orchid has not been documented in the Study Area and proposed critical designated habitat is not present in the Study Area, DOE has concluded that the proposed Project would have no effect on this species.

4.7 Sprague's Pipit

The USFWS announced a 12-month finding on a petition to list the Sprague's pipit as threatened or endangered on September 15, 2010. Although the USFWS determined listing was warranted, the agency elected to add the species to the list of candidate species until listing actions are taken on other, higher priority species (75 Federal Register 56028-56050). As a federal candidate species, Sprague's pipit is afforded no legal protection under the ESA.

As a candidate species, there is currently no critical habitat designated for this species.

4.7.1 Behavior and Life History

The Sprague's pipit is a pale, slender, secretive bird with a heavily-streaked back, white outer tail feathers, a thin bill, pinkish legs, and a buffy face and underparts (Peterson 2008). Sprague's pipit begins migrating north to breeding habitat in April, initiating breeding season in late April or early May. Male Sprague's pipits engage in towering, conspicuous display flights during the breeding season, often remaining in the air for hours at a time (Robbins 1998). Nests consist of a circle or cup of interwoven grasses in a slight depression (Baicich and Harrison 2005). Eggs have been found as early as June, and as late as August and September. It is widely believed that this species commonly double-broods in parts of its range. In September, Sprague's pipits gather in large flocks with horned larks and longspurs and begin southward migration (Bent 1950).

4.7.2 Distribution and Habitat

The breeding range of Sprague's pipit includes nearly all of North Dakota, northeastern Montana, northern South Dakota, and northwestern Minnesota. Breeding populations in Canada exist extensively in southeastern Alberta, southern Saskatchewan, and southwest Manitoba. An extrapolation of Breeding Bird Survey data indicates a range-wide estimated Sprague's pipit population of 870,000 (Rich, et al. 2004). Both the Breeding Bird Survey and the Christmas Bird Count indicate a long-term, sustained population decline.

Sprague's pipits prefer large patches of native grassland of intermediate height and sparse to intermediate vegetation density (Sutter 1996). Most research indicates Sprague's pipit is an area dependent species that requires tracts of suitable grasslands at least 145 hectares in size for nesting (Davis 2004).

4.7.3 Threats

Primary threats to the Sprague's pipit include habitat conversion and fragmentation (75 Federal Register 56025-56050).

4.7.4 Occurrence in the Proposed Project Area

According to the MnDNR NHIS database, the Sprague's pipit has been documented in the Study Area, in Roseau County. This record occurs within one mile of the proposed routes and/or variations in the Border Crossing and Roseau Lake WMA variation areas in the West Section.

As a candidate species, there is currently no critical habitat designated for this species.

4.7.5 Determination of Effects

See Section 6.4 and Section 8.1 of this BA for information on determination of effects.

5.0 Environmental Baseline Conditions

As discussed above in Section 2.1, the proposed Project was divided into three geographical sections for the EIS, including the West Section, Central Section, and East Section (Map 1). The boundaries of the three geographic sections were largely based on general ecological characteristics and population densities. In addition, the points at which the Proposed Route and variations were closely aligned to create common starting and ending points for comparison purposes was used to further define the geographic sections and the variation areas within those sections.

5.1 West Section

The West Section is located in Roseau and Lake of the Woods counties and consists of larger cities, rural residences, and privately-owned agricultural areas. In general, the West Section consists of agricultural land in the far western portion and transitions to forested peatlands/wetlands in the remainder of the section. Based on the USGS National Landscape Conservation System Gap Analysis Program (GAP), the dominant land cover types in the West Section include herbaceous agricultural vegetation, upland forests, and lowland swamps (Map 2). Upland forests are primarily dominated by aspen and birch, with lowland forests dominated by black spruce, tamarack, and/or northern white cedar.

According to the MnDNR and USFS ecological classification system, the West Section is primarily located in the Agassiz Lowlands subsection, which is located in the Northern Minnesota and Ontario Peatlands section of the Laurentian Mixed Forest Province (Map 6; MnDNR 2015d). This subsection is comprised of vast peatlands dominated by black spruce or tamarack and upland sand ridges dominated by aspen and birch or jack pine. The subsection is generally very flat and poorly drained. Past attempts at ditching and farming the peatlands have been largely unsuccessful and most of the subsection is uninhabited (MnDNR 2015d).

The western portion of the West Section is located in the Aspen Parklands subsection, which is located in the Lake Agassiz, Aspen Parklands section of the Tallgrass Aspen Parklands Province (Map 6; MnDNR 2015d). This subsection is considered a transitional landscape between prairies to the west and forests to the east and contains a mosaic of vegetation types including prairie, brushland, woodland, and forest. Peatlands are a common component in the subsection where the water table is near the ground surface (MnDNR 2015d).

Several state forests, including the Lost River State Forest, Beltrami Island State Forest, and Lake of the Woods State Forest, are located within or adjacent to variation areas in the West Section (Map 2). In addition, several sensitive ecological resources, such as SNAs, MnDNR-designated High Conservation Value Forest, Wildlife Management Areas (WMAs), Minnesota Biological Survey (MBS) Sites of Biodiversity Significance, and rare native plant communities are located within or adjacent to variation areas in the West Section.

Proposed Routes

- Blue/Orange Route
- Blue Route
- Orange Route
- Segment Option

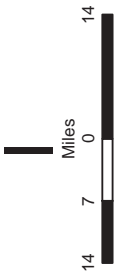
Alternatives

- Route Variation
- Route Variation Hop
- Alignment Modification

- Project Section
- Municipal Boundary
- County Boundary
- International Boundary

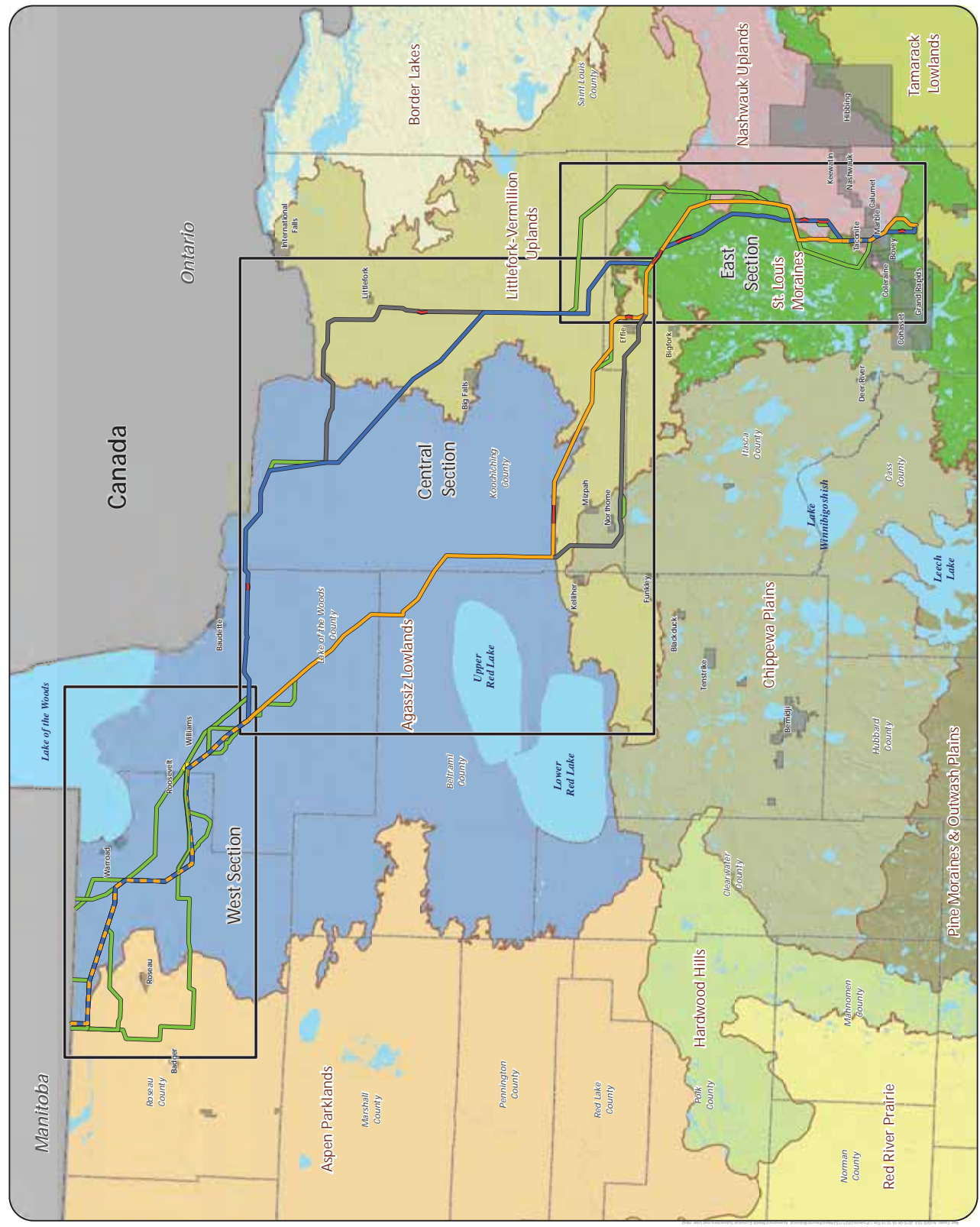
Ecological Subsections

- Agassiz Lowlands
- Aspen Parklands
- Border Lakes
- Chippewa Plains
- Hardwood Hills
- Littlefork-Vermillion Uplands
- Nashauk Uplands
- Pine Moraines & Outwash Plains
- Red River Prairie
- St. Louis Moraines
- Tamarack Lowlands



Map 6

ECOLOGICAL SUBSECTIONS
Great Northern Transmission Line
Biological Assessment



5.2 Central Section

The Central Section is located in southern Lake of the Woods County, northern Beltrami County, and Koochiching County and is characterized by low population densities, with large tracts of federal, state, and county owned lands present throughout the section. The economies of the Central Section include forestry and recreation, with little agriculture or manufacturing. In general, the Central Section is largely comprised of vast, flat, poorly drained peatlands and upland forested ridges. Based on USGS GAP data, the dominant land cover types in the Central Section include upland forests and lowland swamps (Map 3). Upland forests are primarily dominated by aspen and birch or white spruce, balsam fir, and hardwoods, with lowland forests dominated by black spruce, tamarack, and/or northern white cedar.

According to the MnDNR and USFS ecological classification system, the Central Section is primarily located in the Agassiz Lowlands and Littlefork-Vermillion Uplands subsections, which are located in the Northern Minnesota and Ontario Peatlands section of the Laurentian Mixed Forest Province (Map 6). A small part of the southern portion of this section is located in the Chippewa Plains subsection, which is located in the Northern Minnesota Drift and Lake Plains section of the Laurentian Mixed Forest Province (Map 6).

As indicated above for the West Section, the Agassiz Lowlands subsection is comprised of vast peatlands dominated by black spruce or tamarack and upland sand ridges dominated by aspen and birch or jack pine. The subsection is generally very flat and poorly drained.

The Littlefork-Vermillion Uplands subsection is a transition zone between the vast peatlands to the west and the shallow bedrock controlled, clayey soils to the east. Vegetation types include forests dominated by aspen-birch trending toward white pine, white spruce, and balsam fir. Forests in the eastern portion of the subsection are dominated by white pine, red pine, and jack pine. Poor and rich fens, black spruce bogs, and cedar-black ash swamps are typical in lowlands (MnDNR 2015d).

The Chippewa Plains subsection is comprised of level to gently-rolling till plain and lake plain settings, which form a mosaic of vegetation communities. Outwash plain settings tend toward sandy soils and support dry forest communities dominated by upland conifers. Vegetation communities in this subsection include upland conifer forest, shrub and woodland uplands, and non-forested wetlands (MnDNR 2015d).

Several state forests are located within or adjacent to variation areas in the Central Section, including the Beltrami Island State Forest, Lake of the Woods State Forest, Pine Island State Forest, Red Lake State Forest, Big Fork State Forest, Smokey Bear State Forest, George Washington State Forest, and Koochiching State Forest (Map 3). The Chippewa National Forest is located in the southern part of the Central Section (Map 3). In addition, several sensitive ecological resources, such as WMAs, SNAs, Ecologically Important Lowland Conifer Forests, and MBS Sites of Biodiversity Significance are located within or adjacent to variation areas in the Central Section.

5.3 East Section

The East Section is located in Itasca and Koochiching counties and has the highest population densities across the proposed Project. Large population centers such as Grand Rapids and the Iron Range cities

contain much of the population in this section. The economies of the communities in the East Section are centered on mining, tourism, and manufacturing, with relatively little agriculture. In general, the East Section transitions to steeper sloped forested landscapes with bogs, swamps, and lakes common. This area intersects the Mesabi Range, which is a narrow bedrock ridge trending from southwest to northeast and rising 200 to 400 feet above the surrounding land. Based on USGS GAP data, the dominant land cover types in the East Section include upland forests and lowland swamps (Map 4). Upland forests are primarily dominated by aspen and birch or white spruce, balsam fir, and hardwoods, with lowland forests dominated by black spruce, tamarack, and/or northern white cedar.

According to the MnDNR and USFS ecological classification system, the East Section is primarily located in three subsections of the Laurentian Mixed Forest Province (MnDNR 2015d). The Littlefork-Vermillion Uplands subsection, which is in the Northern Minnesota and Ontario Peatlands section, is located across the northern portion of the East Section (Map 6). The St. Louis Moraines subsection, which is in the Northern Minnesota Drift and Lake Plains section, covers the majority of the East Section (Map 6). The Nashwauk Uplands subsection, which is in Northern Superior Uplands section, covers the eastern portion of the East Section (Map 6).

As discussed above for the Central Section, the Littlefork-Vermillion Uplands subsection is a transition zone between the vast peatlands to the west and the shallow bedrock controlled, clayey soils to the east. Vegetation types include forests dominated by aspen-birch trending toward white pine, white spruce, and balsam fir. Forests in the eastern portion of the subsection are dominated by white pine, red pine, and jack pine. Poor and rich fens, black spruce bogs, and cedar-black ash swamps are typical in lowlands (MnDNR 2015d).

The St. Louis Moraines subsection is dominated by steep slopes on end moraine settings. White and red pine forests historically dominated the northern portions of the subsection, whereas northern hardwood and aspen forest dominated moraines to the south. Mixed deciduous and coniferous forests were common on moraines. Quaking aspen is currently the most dominant tree species in the subsection (MnDNR 2015d).

The Nashwauk Uplands subsection is dominated by Giant's Ridge, a narrow 200- to 400-foot-high bedrock feature extending northeast to southwest through the subsection. Glacial outwash plains, rolling till plains, and moraines of the Rainy Lobe glacier are the predominant landforms. Quaking aspen is currently the most dominant tree species in the subsection (MnDNR 2015d).

Several state forests are present in the East Section, including the Koochiching State Forest in the northern portion of the East Section, the George Washington State Forest in the central portion of the East Section, and a small part of the Bowstring State Forest in the western portion of the East Section (Map 4). The Chippewa National Forest is also located in the western part of the East Section; however none of the proposed routes or variations would come within a mile of it (Map 4). In addition, sensitive ecological resources, such as WMAs, Important Bird Areas, and MBS Sites of Biodiversity Significance are located within or adjacent to variation areas in the East Section.

6.0 Potential Effects on Federally-Listed Species

As discussed in Section 1 of this BA, the DOE has the responsibility under the ESA to determine whether or not the proposed Project would adversely affect federally-listed endangered or threatened species and/or their designated critical habitat.

Potential impacts on federally-listed species and designated critical habitat that could occur during construction and operation of the proposed Project are discussed in the subsections below. The Applicant has proposed measures to reduce potentially adverse impacts during construction and operations; these are described in Section 2.7.1 of this BA. DOE's determinations of effects are discussed throughout Section 6 of this BA and are summarized in Section 8. Section 7 of this BA presents a cumulative effects analysis of the proposed Project combined with other reasonably foreseeable actions on federally-listed species.

General Construction Impacts

During construction of the proposed Project, activities that generate noise and dust in the Action Area may cause disturbance to federally-listed species. Federally-listed species within or adjacent to the Action Area may be temporarily displaced and forced to utilize other habitats during construction. The proposed Project would require expansion of existing cleared corridors or the creation of new corridors in areas that are currently forest and shrubland. Clearing of woody vegetation could have adverse impacts on federally-listed species through loss, conversion, or fragmentation of habitat.

Conversion of vegetation structure alters species use by changing plant community composition and structure. When forested plant communities are converted to open communities, there are corresponding changes in wildlife communities. Federally-listed species that rely on well-developed forest canopies for nesting, foraging, or shelter may be permanently displaced from the portion of the landscape where this alteration occurs.

Habitat fragmentation reduces the size of contiguous blocks of vegetation, such as forest; this reduces the total area of contiguous habitat available to federally-listed species. Opportunistic and adaptable animals often succeed in highly fragmented habitats. Non-native invasive or pioneering plant species may encroach where disturbance provides a competitive advantage and an avenue of introduction, such as where habitat fragments occur. The alteration of plant community composition and structure can adversely affect those species that rely on the presence of certain plant species or vegetative cover. Fragmentation effects would be greatest where large contiguous blocks are broken up into smaller patches that reduce interior forest habitat necessary for some species. The effects of fragmentation would generally be greatest where new corridor is created, rather than where the transmission line parallels an existing corridor.

Operations and Maintenance Impacts

During operation and maintenance of the proposed Project, cleared areas would be permanently maintained to support low-stature vegetation in order to insure safe operation of the transmission line.

Routine clearing of vegetation in the Action Area may cause temporary displacement of federally-listed species foraging, breeding, or nesting in the Action Area or its vicinity.

Summary of Effects

Based on the analysis and the discussion of cumulative effects presented in Section 6 of this BA, DOE has concluded that any effects on the gray wolf, Canada lynx, and Sprague’s pipit would be insignificant or discountable, and that the proposed Project may affect but is not likely to adversely affect, these species. DOE has concluded that any effects on northern long-eared bat would be negative, and that the proposed Project may adversely affect this species. DOE has concluded that any effects on gray wolf designated critical habitat would be negative, and that the proposed Project may affect and likely adversely affect gray wolf designated critical habitat. Table 5 provides a summary of potential impacts on federally-listed species potentially resulting from the proposed Project.

Table 5 Determination of Effect for Federally- Listed Species and Designated Critical Habitat Potentially Affected by the Proposed Project

Scientific Name	Common Name	ESA Status ⁽¹⁾	Determination of Effect
<i>Canis lupus</i>	Gray wolf	T	May affect, but not likely to adversely affect
<i>Lynx canadensis</i>	Canada lynx	T	May affect, but not likely to adversely affect
<i>Myotis septentrionalis</i>	Northern long-eared bat	T	May affect, likely to adversely affect
<i>Anthus spragueii</i>	Sprague’s pipit	Can.	May affect, but not likely to adversely affect
Designated Critical Habitat			Determination of Effect
<i>Canis lupus</i> (gray wolf)			May affect, likely to adversely affect

(1) “E” refers to federally-listed as endangered, “T” refers to federally-listed as threatened, “Can” refers to federal candidate species.

6.1 Gray Wolf

As previously mentioned, gray wolves have been documented within the vicinity of the Study Area and designated critical habitat for gray wolf is present throughout the Central Section and in the northern portion of the East Section of the proposed Project.

6.1.1 Construction Impacts

No direct impacts on gray wolf individuals or populations are anticipated from construction of the proposed Project. Potential temporary indirect impacts associated with construction of the proposed Project could include displacement resulting from construction activities that generate disturbances such as noise and dust. It is likely that gray wolves and their prey would temporarily abandon habitats adjacent to where construction activity is occurring. Construction activity occurring adjacent to wolf dens during the breeding season could lead to reproductive failure or abandonment of offspring.

Potential long-term indirect impacts on gray wolves could result from loss, conversion, and fragmentation of habitat. The proposed Project would require permanent removal of forest within the 200-foot ROW (Action Area). At a maximum, approximately 2,100 acres of critical habitat designated for gray wolf would

be directly impacted during construction of the proposed Project; this represents approximately 0.04 percent of the critical habitat designated for gray wolf in the state of Minnesota. The removal of forest in the Action Area would reduce the amount of habitat available for wolves and their prey; however, given the abundance of forested habitat within and adjacent to the Study Area, the loss of forested habitat would not be significant.

Removal of forested land in the Action Area would result in habitat fragmentation, which could reduce the quality of gray wolf habitat, particularly in designated critical habitat in the Central Section and the northern portion of the East Section. The effects of fragmentation on gray wolves would generally be greatest where new corridors are created, rather than where the transmission line would parallel an existing corridor, where the forest has already been fragmented. However, the creation of corridors could create open habitat patches which may be favorable to deer and other gray wolf prey sources.

6.1.2 Operations and Maintenance Impacts

No direct impacts on wolf individuals or populations are anticipated from operation and maintenance of the proposed Project. Potential indirect impacts associated with operation and maintenance of the proposed Project could include temporary displacement of wolves and their prey until maintenance activities are completed. Human access would be limited to construction and maintenance activities.

6.2 Canada Lynx

According to the MnDNR Lynx Sightings Database (MnDNR 2006), Canada lynx have been documented within the counties where the proposed Project is located. As mentioned above, no designated critical habitat for Canada lynx is present in the Study Area (Map 5).

6.2.1 Construction Impacts

No direct impacts on Canada lynx individuals or populations are anticipated from construction of the proposed Project. Potential temporary indirect impacts associated with construction of the proposed Project could include displacement resulting from construction activities that generate disturbances such as noise and dust. It is likely that lynx and their prey would temporarily avoid habitats adjacent to construction areas. Construction activity occurring adjacent to Canada lynx dens during the breeding season could lead to reproductive failure or abandonment of offspring.

Potential long-term indirect impacts on Canada lynx could result from loss, conversion, and fragmentation of habitat. The proposed Project would require permanent removal of forest within the 200-foot ROW (Action Area). The removal of forest in the Action Area would reduce the amount of habitat available for Canada lynx and their primary prey, snowshoe hare; however, given the abundance of forested habitat within and adjacent to the Study Area, the loss of forested habitat would not be significant.

Removal of forested land in the Action Area would result in habitat fragmentation, which could reduce the quality of Canada lynx habitat and its primary prey, snowshoe hare. The effects of fragmentation on Canada lynx would likely be greatest where new corridors are created, rather than where the transmission line would parallel an existing corridor, where the forest has already been fragmented. In addition,

creation of new corridors may lead to an influx of coyotes, wolves, and other wildlife that would not typically inhabit these areas, which could lead to an increase in competition with Canada lynx for a limited supply of winter prey.

6.2.2 Operations and Maintenance Impacts

No direct impacts on Canada lynx individuals or populations are anticipated from operation and maintenance of the proposed Project. Potential indirect impacts associated with operation and maintenance of the proposed Project could include temporary displacement of Canada lynx and snowshoe hare until maintenance activities are completed. Human access would be limited to construction and maintenance activities.

6.3 Northern Long-Eared Bat

As mentioned above, according to the NHIS database, the nearest documented record of a northern long-eared bat is in St. Louis County in the Soudan Underground Mine State Park, which is approximately 45 miles east of the Study Area.

6.3.1 Construction Impacts

In order to avoid potential direct impacts to roosting northern long-eared bats and their pups, the Applicant has made a commitment to avoid tree clearing during the pup season in June and July. The Applicant intends to clear trees in the winter months, outside of the bat's maternal roosting period from April 1 through September 30, to the extent practicable, but will likely need to conduct tree clearing during other times of the year.

The Applicant has committed to conducting acoustical surveys to determine the utilization of potential northern long-eared bat habitat for clearing trees during the maternal roosting period, but outside of the pup season. The Applicant would conduct surveys for three nights for every one kilometer of suitable forested habitat. If no northern long-eared bats are detected during the surveys, forest clearing would be permitted in this area; if northern long-eared bats are detected, then a three mile buffer would be placed around the survey area and cutting would be prohibited outside of the winter months in this area.

6.3.2 Operations and Maintenance Impacts

There would be no direct impacts to northern long-eared bats anticipated from the operations or maintenance of the proposed Project. This is because tree clearing that may potentially affect northern long-eared bat would have occurred during construction, and would not expand during operations and maintenance. Woody vegetation encroaching upon the ROW between maintenance events would not be expected to reach the minimal tree diameter criteria (less than or equal to 3 inches diameter at breast height) for suitable northern long-eared bat summer roost habitat.

6.4 Sprague's Pipit

As mentioned above, the MnDNR database indicates that there is one documented sighting of a Sprague's pipit in the western part of the Study Area. Suitable habitat for Sprague's pipit is generally not present in the Central and East Sections. There is no designated critical habitat for Sprague's pipit.

6.4.1 Construction Impacts

No direct impacts on Sprague's pipit individuals or populations are anticipated from construction of the proposed Project. Potential temporary indirect impacts associated with construction of the proposed Project could include displacement resulting from construction activities that generate disturbances such as noise and dust. The impacts of noise and dust on wildlife are largely unknown. It is likely that Sprague's pipits would temporarily avoid habitats adjacent to construction areas. Construction activities occurring during the nesting season (April through August), could disturb Sprague's pipit nest sites within or adjacent to the Action Area. If an active Sprague's pipit nest is found during construction, the appropriate agencies would be contacted before any actions are taken to determine appropriate avoidance or minimization measures.

Potential permanent impacts on Sprague's pipit habitat could occur in areas where transmission line structures are placed in prairie or grassland habitat. Because Sprague's pipits inhabit prairie and grassland habitats, generally devoid of woody vegetation, removal of forested and shrubland in the Action Area is not likely to adversely affect this species. In contrast, creation of corridors could benefit Sprague's pipit by increasing available habitat, especially in the Central and East Sections, where prairie and grassland vegetation is not abundant.

6.4.2 Operations and Maintenance Impacts

No direct impacts on Sprague's pipit individuals or populations are anticipated from operation and maintenance of the proposed Project. Potential indirect impacts associated with operation and maintenance of the proposed Project could include temporary displacement of Sprague's pipit until maintenance activities are completed. Human access would be limited to construction and maintenance activities. Because Sprague's pipit is a ground-nesting bird, maintenance activities, such as ROW clearing, should be avoided during the nesting season in areas where suitable Sprague's pipit habitat is present within the ROW.

7.0 Cumulative Effects

Reasonably foreseeable future activities that might occur in the proposed Project area and an assessment of cumulative effects from such when combined with the proposed Project are described in Section 7 of the EIS (DOE 2015). State, local, and private activities (i.e., non-federal activities) that are reasonably certain to occur within the Action Area are provided below. The types of reasonably foreseeable future projects include roadways, railroad lines, industrial facilities, and energy projects such as power plants, transmission lines, and pipelines.

The Minnesota Department of Transportation (MnDOT) Statewide Transportation Improvement Program (STIP) identifies various transportation projects in the vicinity of the proposed Project for the period of 2015-2018 (MnDOT 2014). Review of the planned projects for MnDOT District 1 and District 2 identified that planned transportation projects generally consist of routine maintenance activities such as roadway re-surfacing, asphalt surface treatment, bridge repair, bituminous overlay, mill and overlay, concrete paving, railroad crossings, signage, and pedestrian/bike trail improvements. Based on the STIP, there are no major roadway projects presently planned or reasonably foreseeable within the vicinity of the proposed Project.

The Minnesota DOC project database was reviewed to identify any power plant, transmission line, pipeline, or wind projects currently open or permitted in the vicinity of the proposed Project. One power plant and the associated transmission line and natural gas pipeline (Excelsior Energy's Mesaba Project) and one 230 kV transmission line (Minnesota Power's Nashwauk Project) have been issued route permits by the MN PUC but have not yet been constructed. Sections of the approved routes for both of these projects are within the Applicant's proposed routes, and are reasonably foreseeable projects that could occur in the vicinity of the proposed Project, as described below:

- On March 12, 2010, the MN PUC issued a large electric power generating plant site permit to Excelsior Energy to construct the Mesaba Project in Itasca County. The Mesaba Project was originally proposed as a 1,200 megawatt (net) coal-feedstock integrated gasification combined cycle power plant. In addition to the site permit, the MN PUC also issued a pipeline permit and a route permit for a 345 kV transmission line to connect the proposed power plant into the Blackberry Substation. Construction has not started on the power plant, the natural gas pipeline, or the transmission line.

On May 31, 2012, the MN PUC received a letter from Excelsior Energy stating that it intends at this time to develop only the combined-cycle power block portion of the project, eliminating the syngas production portions (i.e., gasification island, air separation unit, coal/pet-coke feedstock handling and storage, syngas treating unit, sulfur recovery and tail gas recycle units, etc.) of the project and operating the facility as a natural gas-fueled combined-cycle. Excelsior Energy also indicated that it plans to construct the coal gasification island if and when it becomes feasible to do so from economic and regulatory standpoints. Minnesota Statute 216B.1694, Subdivision 3, states that the site and route permits and water appropriation approvals for an innovative energy project must also be deemed valid for a power plant meeting the requirements of paragraph (a)

and shall remain valid until the earlier of (i) four years from the date the final required state or federal preconstruction permit is issued or (ii) June 30, 2019.

The permitted route for Excelsior Energy's approximately 10-mile long 345 kV transmission line would be located within the Proposed Blue Route and Proposed Orange Route for about 1.2 miles in the Balsam Variation Area and would be within the entire length (approximately 5.5 miles) of the Proposed Blue Route in the Blackberry Variation Area.

- Under an agreement with the Nashwauk Public Utilities Commission, Minnesota Power constructed three of four 230 kV transmission lines and two 230 kV substations to supply electric power to an Essar Steel Minnesota project. A fourth transmission line has been permitted by the MN PUC but has not yet been constructed. This potential fourth transmission line would begin at the existing Minnesota Power 230 kV Blackberry Substation (Township 55 North, Range 23 West, Section 19) and continue northeast and parallel two existing Minnesota Power 115 kV transmission lines (the 63 Line and the 62 Line), terminating at the Essar Steel Minnesota project.

According to the MN PUC route permit, if this fourth transmission line for the Essar Steel Minnesota project is built, the existing 62 line, located west of the 63 Line, would be dismantled. The potential fourth 230 kV transmission line would then be constructed within the former 62 Line ROW and would, therefore, not result in the creation of a new ROW.

For this potential fourth 230 kV transmission line, the permitted route would be located within the Proposed Orange Route for approximately two miles, from the Blackberry Substation northeast to near the north end of Little Sand Lake.

There are also areas where iron ore is mined and extracted from previously developed stockpiles, basins, underground workings, or open pits ("scram" mining) near the west side of the Canisteo Pit, located approximately four to six miles west of the proposed routes and variations. The Balsam Variation, which is in the Balsam Variation Area, would cross a 115 kV transmission line recently constructed to serve one of these scram mining facilities. All other proposed routes and variations are located more than four miles east of existing or proposed scram mining facilities in the area.

Finally, the USFS, MnDNR, and counties work together to manage forest resources in the vicinity of the proposed Project, including negotiating private logging contracts on public land. Generally, forestry operations occur on both private and public land and involve harvesting of forests for merchantable timber sales on state land enrolled in MnDNR Forestry Timber Sales Program. Forestry operations on these public lands also include land management activities aimed at improving or maintaining attributes such as water quality, tree species and structural diversity, as well as wildlife habitat enhancement. In addition, Beltrami County and Itasca County, and the other project counties have developed forest management plans that provide the general framework for sustainable forestry, including logging activities.

7.1 Summary of Cumulative Effects

With the exception of scheduled MnDOT road maintenance activities and USFS and MnDNR forest management activities, the reasonably foreseeable future actions would all occur in the southern part of the East Section. In this location there is no designated critical habitat for gray wolf or any other federally-listed species. The Proposed Action when combined with other reasonably foreseeable actions would not contribute to cumulative adverse effects on federally-listed species as long as multiple projects are not constructed concurrently. If reasonably foreseeable projects are constructed independent of one another, cumulative adverse effects on gray wolf, Canada lynx, and northern long-eared bat are not expected to be significant because impacts for each project would be localized and forest habitat is abundant in the vicinity.

The proposed Project, when considered with any other project that may involve tree removal, could contribute to cumulative impacts to the gray wolf and Canada lynx, which rely on forested habitat. In addition, while white-nose syndrome is the primary threat to the northern long-eared bat, tree removal contributes to loss of habitat for the species. If trees are cleared simultaneously for multiple projects within close proximity to one another, cumulative impacts to these species could be significant. Avoidance, minimization, and mitigation measures for federally listed species would be coordinated with the USFWS.

The proposed Project when combined with other reasonably foreseeable actions would not contribute to cumulative adverse effects on Sprague's pipit. Prairie and grassland communities, the desirable Sprague's pipit habitat, are generally only present in the West Section and no reasonably foreseeable future actions are planned in this area.

8.0 Conclusions

8.1 Effects Determination for Federally-Listed Species

Based on the description of the proposed Project in Section 2 of this BA and further described in the associated EIS (DOE 2015), the status of species and environmental baseline described in Sections 4 and 5 of this BA, and the analysis of potential impacts in Section 6 of this BA, the DOE concludes the following:

- The proposed Project would have no effect on Poweshiek skipperling, piping plover, or the western prairie fringed orchid.
- The proposed Project may affect but is unlikely to adversely affect, the gray wolf. Clearing of forested land in the Action Area would result in a slight reduction of suitable gray wolf habitat. The habitat that would be lost is not uncommon in the surrounding areas or within northern Minnesota.
- The proposed Project may affect but is unlikely to adversely affect, the Canada lynx. Clearing of forested land in the Action Area would slightly reduce the amount of suitable habitat available for Canada lynx. The habitat that would be lost is not uncommon in the surrounding areas or within northern Minnesota, nor is it designated critical Canada lynx habitat.
- The proposed Project may affect, and is likely to adversely affect, the northern long-eared bat. The Applicant intends to clear trees in the winter months, to the extent practicable, and has made a commitment to avoid tree clearing during the pup season of June and July. As described in Section 6.3 of this BA, the Applicant has agreed to conduct acoustical surveys prior to clearing trees outside of the winter months.
- The proposed Project may affect but is unlikely to adversely affect, Sprague's pipit. There is minimal habitat present for this species within the Study Area and only one record has been documented in the Study Area. Available habitat may increase as a result of creation of open corridors with non-woody vegetation. If an active Sprague's pipit nest is found during construction or maintenance, the appropriate agencies would be contacted before any actions are taken to determine appropriate avoidance or minimization measures.

8.2 Effects Determination for Critical habitat

The proposed Project would travel through critical habitat designated for gray wolf. There is no designated or proposed critical habitat for Canada lynx, northern long-eared bat, or Sprague's pipit in the Study Area.

The proposed Project may affect and is likely to adversely affect critical habitat designated for gray wolf. Clearing forested land in the Action Area would reduce the amount of critical habitat in the region and statewide. The proposed Project would not adversely affect any of the critical factors identified by the USFWS for the long-term survival of gray wolf, as outlined above in Section 4.2 of this BA.

9.0 References

- Baichich, P.J., and C.J. Harrison. 2005. Nest, Eggs, and Nestlings of North American Birds. Princeton, NJ: Princeton University Press.
- Bent, A.C. 1950. Life histories of North American wagtails, shrikes, vireos, and their allies. US National Museum Bulletin, 197.
- Berg, W.E., and D.W. Kuehn. 1982. Ecology of Wolves in North-central Minnesota. Pages 4-11 *in* Wolves of the World: Perspectives of Behavior, Ecology, and Conservation (F.H. Harrington and P.C. Paquet, Editors). Noyes, Park Ridge, New Jersey.
- Burdett, C.L. 2007. Hierarchical Structure of Canada Lynx Space Use and Habitat Selection in Northeastern Minnesota. Ph.D. Dissertation, University of Minnesota, St. Paul.
- Cuthbert, F.J., and T Weins. 1982. Status and breeding biology of the piping plover in Lake of the Woods County. Report submitted to the Nongame Wildlife Program, Minnesota Department of Natural Resources.
- Davis, S.K. 2004. Area sensitivity in grassland passerines: effects of patch size, patch shape, and vegetation structure on bird abundance and occurrence in southern Saskatchewan. *Auk* 121:1130-1145.
- Department of Energy. 2015. Great Northern Transmission Line Draft Environmental Impact Statement
- Elliot-Smith, E., S. M. Haig, and B. M Powers. 2009. Data from the 2006 International Piping Plover Census." (USGS) Staff Published Research, no. 662.
- Erb, J. 2008. Distribution and abundance of Wolves in Minnesota, 2007-08. Minnesota Department of Natural Resources, Grand Rapids, Minnesota. 11 pp.
- Erb, J. and B. Sampson. 2014. Distribution and Abundance of Wolves in Minnesota, 2013-14. Minnesota Department of Natural Resources, St. Paul.
- Erb, J. and B. Sampson. 2013. Distribution and Abundance of Wolves in Minnesota, 2012-13. Minnesota Department of Natural Resources, St. Paul.
- Fuller, T.K., W.E. Berg, G.L. Radde, M.S. Lenarz, and G.B. Joselyn. 1992. A History and Current Estimate of Wolf Distribution and Numbers in Minnesota. *Wildlife Society Bulletin* 20:42-54.
- Hull, C. 1981. Great Lakes Piping Plover in Trouble. Lansing, MI: Michigan Department of Natural Resources.
- Mech, L.D. 1974. *Canis lupus*. American Society of Mammalogists, Mammalian Species No. 37. 6 pp.
- Minnesota Department of Natural Resources (MnDNR). 2015a. Rare Species Guide: *Canis lupus* (gray wolf). Accessed April, 2015 at: <http://www.dnr.state.mn.us/rsg/profile.html?action=elementDetail&selectedElement=AMAJA01030>

- MnDNR. 2015b. Rare Species Guide, *Charadrius melodus*. Accessed April 2015 at: <http://www.dnr.state.mn.us/rsg/profile.html?action=elementDetail&selectedElement=ABNNB03070>
- MnDNR. 2015c. Rare Species Guide, *Platanthera praeclara*. Accessed April 2015 at: <http://www.dnr.state.mn.us/rsg/profile.html?action=elementDetail&selectedElement=PMORC1Y0S0>
- MnDNR. 2015d. "Ecological Classification System: Ecological Land Classification Hierarchy." Accessed January 2015 at: <http://www.dnr.state.mn.us/ecs/index.html>.
- MnDNR. 2001. Minnesota Wolf management plan. Division of Wildlife, Minnesota Department of Natural Resources, St. Paul, Minnesota. 36 pp. + appendices.
- MnDNR. 2006. Lynx Sightings Database. Accessed April 2015 at: http://www.dnr.state.mn.us/eco/nhnrp/research/lynx_sightings.html
- Moen, R. 2009. Canada Lynx of the Great Lakes Region – 2009 Annual Report. Natural Resources Research Institute Technical Report No, NRRI/TR-2009-40. Duluth, Minnesota.
- Moen, R. G., Niemi, and C.L. Burdet. 2008. Canada Lynx in the Great Lakes Region: Final Report. Technical Report No. NRRI/TR-2008-14. Report Prepared for the USDA Forest Service, U.S. Geological Survey, and Minnesota Cooperative Fish and Wildlife Research Unit, and MDNR. Duluth, Minnesota.
- National Geographic Society. 1983. Field guide to the birds of North America. Washington, DC: National Geographic Society.
- Nordquist, G.E., K.A. Lynch, and C.A. Spak. 2006. Timing and Pattern of Bat Activity at Soudan Underground Mine. Minnesota Department of Natural Resources, Biological Report No. 88.
- Peterson, Roger Tory. 2008. Peterson Field Guide to Birds of North America. Boston: Houghton Mifflin.
- Rich, T. D., C. J. Beardmore, H. Berlanga, P. J. Blancher, M. S. W. Bradstreet, G. S. Butcher, D. W. Demarest, E. H. Dunn, W. C. Hunter, E. E. Iñigo-Elias, J. A. Kennedy, A. M. Martell, A. O. Panjabi, D. N. Pashley, K. V. Rosenberg, C. M. Rustay, J. S. Wendt, T. C. Will. 2004. Partners in Flight North American landbird conservation plan. Ithaca, NY: Cornell Lab of Ornithology.
- Robbins, M. B. 1998. Display behavior of male Sprague's Pipits." *Wilson Bulletin*, 435-438.
- Sutter, G.C. 1996. Habitat selection and prairie drought in relation to grassland bird community structure and the nesting ecology of Sprague's Pipit, *Anthus spragueii*. PhD Thesis, Regina: University of Regina, Regina, Saskatchewan.
- U.S. Fish and Wildlife Service (USFWS). 2015a. U.S. Fish and Wildlife Service. Endangered Species Program. Accessed February 2015 at: <http://www.fws.gov/midwest/endangered/lists/minnesot-cty.html>.
- USFWS. 2015b. Information, Planning, and Conservation System (IPaC). Accessed April 2015 at: <http://www.fws.gov/ipac/>
- USFWS. 2015c. Northern Long-eared Bat Fact Sheet. Accessed April 2015 at: <http://www.fws.gov/midwest/endangered/mammals/nleb/nlebFactSheet.html>

- USFWS. 2014a Poweshiek Skipperling Fact Sheet. Fact Sheet. Accessed February 2015 at:
<http://www.fws.gov/midwest/endangered/insects/posk/PoweshiekSkipperlingFactSheet.html>
- USFWS 2014b. Piping Plover-Great Lakes Population Breeding Pairs. Accessed February 2015 at:
<http://www.fws.gov/midwest/endangered/pipingplover/pipl2007pop.html>
- USFWS. 2013. Endangered Species Program. Canada Lynx Fact Sheet. Accessed April 2015 at:
<http://www.fws.gov/mountain-prairie/species/mammals/lynx/>
- USFWS. 2012. Endangered Species Program. Gray Wolf Fact Sheet. Accessed April 2015 at:
<http://www.fws.gov/midwest/wolf/grwofactsheets.htm>
- USFWS. 2007. Determining whether western prairie fringed orchid (*Platanthera praeclara*) may be present in a project area in Minnesota.
- USFWS. 2004. Prairie Fringed Orchids Fact Sheet. Accessed February 2015 at:
<http://www.fws.gov/midwest/endangered/plants/prairief.html>
- USFWS. 2000. Canada Lynx Conservation Assessment and Strategy.
- USFWS. 1992. Recovery Plan for the Eastern Timber Wolf. Twin Cities, Minnesota. 73 pages.
- USFWS. 1991. Endangered Species Facts: Piping Plover. Fact Sheet. Accessed February 2015 at:
<http://www.fws.gov/midwest/endangered/pipingplover/pipingpl.html>
- U.S. Geological Survey. 2015. National Wildlife Health Center: White-Nose Syndrome. Accessed April 2015 at: http://www.nwhc.usgs.gov/disease_information/white-nose_syndrome/

10.0 Acronyms

AC	alternating current
BA	Biological Assessment
BMP	best management practice
CFR	Code of Federal Regulations
DOC	Minnesota Department of Commerce
DOE	Department of Energy
DPS	Distinct Population Segment
EIS	Environmental Impact Statement
ESA	Endangered Species Act
IPAC	Information, Planning, and Conservation
kV	Kilovolt
MBS	Minnesota Biological Survey
MnDNR	Minnesota Department of Natural Resources
MnDOT	Minnesota Department of Transportation
MN PUC	Minnesota Public Utilities Commission
NESC	National Electric Safety Code
NHIS	Natural Heritage Information System
OSHA	Occupational Safety and Health Administration
ROW	right of way
SNA	Scientific and Natural Area
STIP	Statewide Transportation Improvement Program
USFS	United States Forest Service
USFWS	United States Fish and Wildlife Service

USGS United States Geological Survey

WMA Wildlife Management Area