Appendix X

Relative Merits Tables

West Section (1), (2)			Border Crossing					
Factor	**Element**	**Indicator**	Proposed Border Crossing-Blue/Orange Route	Border Crossing Pine Creek Variation	Border Crossing Hwy 310 Variation	Border Crossing 500kV Variation	Border Crossing 230kV Variation	NOTES
Human settlement	Displacement	Proximity to residences	See section on Human Settlement in the Border Crossing Variation Area for details					There would be no differences in the impacts for the alternatives.
Human settlement	Noise	Proximity to noise receptors	See section on Human Settlement in the Border Crossing Variation Area for details					There would be no differences in the impacts for the alternatives.
Human settlement	Air quality	Air emissions (criteria pollutants and greenhouse gases)	See section on Human Settlement in the Border Crossing Variation Area for details					There would be no differences in the impacts for the alternatives.
Human settlement	Property values	Proximity to residences	See section on Human Settlement in the Border Crossing Variation Area for details					There would be no differences in the impacts for the alternatives.
Human settlement	Electronic interference	Proximity to communication towers	See section on Human Settlement in the Border Crossing Variation Area for details					There would be no differences in the impacts for the alternatives.
Human settlement	Transportation and public services	Proximity to roadways, railways	See section on Human Settlement in the Border Crossing Variation Area for details					There would be no differences in the impacts for the alternatives.
Human settlement	Transportation and public services	Proximity to airstrips	See section on Human Settlement in the Border Crossing Variation Area for details					There would be no differences in the impacts for the alternatives.
Human settlement	Environmental justice	Minority populations, low-income populations	See section on Human Settlement in the Border Crossing Variation Area for details					There would be no differences in the impacts for the alternatives.
Human settlement	Environmental justice	Low-income populations	See section on Human Settlement in the Border Crossing Variation Area for details					There would be no differences in the impacts for the alternatives.
Human settlement	Socioeconomics	Population, employment, taxes and revenue generated, housing availability	See section on Human Settlement in the Border Crossing Variation Area for details					There would be no differences in the impacts for the alternatives.
Human settlement	Socioeconomics	Employment	See section on Human Settlement in the Border Crossing Variation Area for details					There would be no differences in the impacts for the alternatives.
Human settlement	Socioeconomics	Taxes and revenue generated	See section on Human Settlement in the Border Crossing Variation Area for details					There would be no differences in the impacts for the alternatives.
Human settlement	Socioeconomics	Housing availability	See section on Human Settlement in the Border Crossing Variation Area for details					There would be no differences in the impacts for the alternatives.

West Section (1), (2)			Border Crossing					
Factor	**Element**	**Indicator**	Proposed Border Crossing-Blue/Orange Route	Border Crossing Pine Creek Variation	Border Crossing Hwy 310 Variation	Border Crossing 500kV Variation	Border Crossing 230kV Variation	NOTES
Human settlement	Recreation and tourism	Proximity to recreational resources (county, state, and federal parks and forests, state Scientific and Natural Areas, state trails, scenic byways, and snowmobile and water trails)	See section on Human Settlement in the Border Crossing Variation Area for details					There would be no differences in the impacts for the alternatives.
Human settlement	Cultural values	Proximity to residences	See section on Human Settlement in the Border Crossing Variation Area for details					There would be no differences in the impacts for the alternatives.
Human settlement	**Aesthetics**	Proximity to residences (Count within 0-500, 0-1,000, & 0-1,500 ft from the anticipated alignment)	2--2--4	2--3--5	0--0--2	0--0--3	0--1--5	Border Crossing Hwy 310 Variation would pass by the least number of residences within 1,500 feet of the anticipated alignment. Border Crossing 500kV Variation and Border Crossing 230kV Variation would parallel an existing transmission line for their entire lengths.
Human settlement	**Land use compatibility**	Summary - land use type data and land ownership data						Border Crossing Pine Creek Variation would cross the most private land. An airstrip would be located within 1,500 feet from the anticipated alignment for the Border Crossing Hwy 310 Variation.
Human settlement	Land use compatibility	Land use type data (crosses USFWS Interest Lands or other features, e.g. airstrips)						An airstrip would be located within 1,500 feet from the anticipated alignment for the Border Crossing Hwy 310 Variation.
Human settlement	Land use compatibility	Land ownership type data - total acres in ROW (acres of public and private land in the ROW)	Total: 608 (436--172)	Total: 624 (381--243)	Total: 453 (300--153)	Total: 244 (131--113)	Total: 199 (97--102)	Border Crossing Pine Creek Variation would cross the most private land.
Public health and safety	Electric and magnetic Fields	Proximity to residences	See section on Public Health and Safety in the Border Crossing Variation Area for details					There would be no differences in the impacts for the alternatives.
Public health and safety	Implantable medical devices	Proximity to residences	See section on Public Health and Safety in the Border Crossing Variation Area for details					There would be no differences in the impacts for the alternatives.
Public health and safety	Stray voltage	Proximity to residences	See section on Public Health and Safety in the Border Crossing Variation Area for details					There would be no differences in the impacts for the alternatives.
Public health and safety	Induced voltage	Proximity to residences	See section on Public Health and Safety in the Border Crossing Variation Area for details					There would be no differences in the impacts for the alternatives.

West Section (1), (2)			Border Crossing					
Factor	**Element**	**Indicator**	Proposed Border Crossing-Blue/Orange Route	Border Crossing Pine Creek Variation	Border Crossing Hwy 310 Variation	Border Crossing 500kV Variation	Border Crossing 230kV Variation	NOTES
Public health and safety	Intentional destructive acts	Intentional destructive acts	See section on Public Health and Safety in the Border Crossing Variation Area for details					There would be no differences in the impacts for the alternatives.
Public health and safety	Environmental contamination	Registered sites of contamination	See section on Public Health and Safety in the Border Crossing Variation Area for details					There would be no differences in the impacts for the alternatives.
Public health and safety	Worker health and safety	Worker health and safety	See section on Public Health and Safety in the Border Crossing Variation Area for details					There would be no differences in the impacts for the alternatives.
Land based economies	**Agriculture**	Proximity to farmland - total acres in ROW (acres of prime farmland, farmland of statewide importance, and prime farmland if drained in ROW)	Total: 110 (3--4--103)	Total: 171 (3--4--164)	Total: 96 (3--4--89)	Total: 85 (9--0--76)	Total: 77 (5--<0.5--72)	Border Crossing Pine Creek Variation would cross the most farmland.
Land based economies	**Forestry**	Proximity to forest land (acres of state forest land in ROW)	394	339	294	120	96	Proposed Border Crossing-Blue/Orange Route, Border Crossing Pine Creek Variation, and Border Crossing Hwy 310 Variation would cross the most state forest land.
Land based economies	**Mining and mineral resources**	Proximity to state mining lease lands (active and/or expired/terminated; acres in ROW) and aggregate resources (count in ROW)	0--0	0--0	0--0	0--0	0--0	No active or expired mineral lease lands or aggregate resources are present in the ROW of any alternative.
Archaeological and historic architectural resources		Summary - proximity to archaeological and historic architectural resources						Border Crossing Pine Creek Variation and Border Crossing 500kV Variation would cross sections identified as containing known archaeological resources; the other alternatives do not cross any of these sections. There is one historic architectural site within 1,500 feet of the Border Crossing Hwy 310 Variation.
Archaeological and historic resources	Archaeological sites	Proximity to archaeological sites (count within 0-100 ft and 0-1,500 ft from the anticipated alignment)	0--0	1--2	0--0	1--1	0--0	Border Crossing Pine Creek Variation and Border Crossing 500kV Variation would cross sections identified as containing known archaeological sites; the other alternatives do any cross any of these sections.
Archaeological and historic resources	Historic architectural sites	Proximity to historic architectural sites (count within 0-100 ft, 0-1,500 ft, and 0-1 mile from the anticipated alignment)	0--0--0	0--0--0	0--1--1	0--0--0	0--0--0	There is one historic architectural site within 1,500 feet of the Border Crossing Hwy 310 Variation. The other alternatives do not have any known historic architectural sites within 1 mile.

West Section (1), (2)			Border Crossing					
Factor	**Element**	**Indicator**	Proposed Border Crossing-Blue/Orange Route	Border Crossing Pine Creek Variation	Border Crossing Hwy 310 Variation	Border Crossing 500kV Variation	Border Crossing 230kV Variation	NOTES
Natural environment	**Water resources**	Summary - proximity to watercourses, waterbodies, floodplains, and wetlands						Border Crossing Pine Creek Variation would cross the most watercourses/waterbodies; however, all crossings are expected to be spanned. Proposed Border Crossing-Blue/Orange Route, Border Crossing Pine Creek Variation, and Border Crossing Hwy 310 Variation ROWs would have areas of FEMA-designated floodplain that cannot be spanned. All alternatives would cross wetlands that are too large to span. Proposed Border Crossing-Blue/Orange Route has the most total wetland and the most forested wetland, requiring the most forested wetland type conversion. Border Crossing 500kV Variation would cross the most shrub wetland, requiring the most shrub wetland type conversion.
Natural environment	Water resources	Proximity to watercourses and waterbodies - Total number of crossings in ROW (number of PWI crossings, non-PWI crossings); - Trout stream (number of crossings)	Total: 19 (2--17) (0)	Total: 25 (3--22) (0)	Total: 17 (2--15) (0)	Total: 7 (0--7) (0)	Total: 9 (0--9) (0)	Border Crossing Pine Creek Variation would cross the most watercourses/waterbodies; however, all crossings are expected to be spanned.
Natural environment	Water resources	Proximity to floodplains - total acres of floodplain in ROW (acres of Zone A, acres of Zone B)	Total: 334 (329--5)	Total: 343 (343--0)	Total: 213 (213--0)	Total: 0	Total: 0	Proposed Border Crossing-Blue/Orange Route, Border Crossing Pine Creek Variation, and Border Crossing Hwy 310 Variation ROWs would cross areas of FEMA-designated floodplain that cannot be spanned; the Border Crossing 500kV Variation and Border Crossing Hwy 310 Variation would not cross floodplain.
Natural environment	Water resources	Proximity to wetlands (acres of PSS wetlands in ROW resulting in wetland type conversion)	94	94	93	107	49	Border Crossing 500kV Variation would cross the most shrub wetland.
Natural environment	Water resources	Proximity to wetlands (acres of PFO wetlands in ROW resulting in wetland type conversion)	150	96	65	30	23	Proposed Border Crossing-Blue/Orange Route would cross the most forested wetland.
Natural environment	Water resources	Proximity to wetlands (acres of total wetlands in ROW too large to span)	464	415	310	172	102	All alternatives would cross wetlands that are too large to span. Proposed Border Crossing-Blue/Orange Route has the most total wetland.
Natural environment	**Vegetation**	Cover type (acres of forested land cover in ROW)	411	369	288	184	125	Proposed Border Crossing-Blue/Orange Route, Border Crossing Pine Creek Variation, and Border Crossing Hwy 310 Variation cross the most forested land cover. These alternatives parallel minimal existing corridor.

West Section (1), (2)			Border Crossing					
Factor	**Element**	**Indicator**	Proposed Border Crossing-Blue/Orange Route	Border Crossing Pine Creek Variation	Border Crossing Hwy 310 Variation	Border Crossing 500kV Variation	Border Crossing 230kV Variation	NOTES
Natural environment	**Wildlife**	Proximity to wildlife resources - Wildlife Management Areas, Grassland Bird Conservation Areas, Important Bird Areas (acres in ROW) Proximity to shallow lakes (count in ROW), Gray Owl Management Area (count in 0-1,500 feet)	Acres: 25--81--0 Count: 0--0	Acres: 25--81--0 Count: 0--0	Acres: 0--81--0 Count: 0--1	Acres: 0--0--0 Count: 0--0	Acres: 0--0--0 Count: 0--0	Proposed Border Crossing-Blue/Orange Route, Border Crossing Pine Creek Variation, and Border Crossing Hwy 310 Variation cross a WMA and/or Grassland Bird Conservation Areas. Border Crossing Hwy 310 Variation has a Gray Owl Management Area located within 1,500 feet, but none of this area is within the ROW.
Rare and unique natural resources	**Federal and state listed species**	Summary - proximity of federal and state-listed species (based on the Natural Heritage Information System (NHIS) database)						Proposed Border Crossing-Blue/Orange Route, Border Crossing Pine Creek Variation, and Border Crossing Hwy 310 Variation have a NHIS record for a federal candidate species (Sprague's pipit) within 1 mile. Proposed Border Crossing-Blue/Orange Route and Border Crossing Pine Creek Variation have the most NHIS records within 1 mile, including records of state threatened or endangered species.
Rare and unique natural resources	Federally listed species	Federally-listed species (# of records within 1 mile)	1	1	1	0	0	Proposed Border Crossing-Blue/Orange Route, Border Crossing Pine Creek Variation, and Border Crossing Hwy 310 Variation have a NHIS record for a federal candidate species (Sprague's pipit) within 1 mile.
Rare and unique natural resources	State listed species	State-listed species (total # of NHIS records within 1 mile)	14	10	5	3	1	Proposed Border Crossing-Blue/Orange Route, Border Crossing Pine Creek Variation, and Border Crossing Hwy 310 Variation have the most NHIS records within 1 mile.
Rare and unique natural resources	State listed species	State-listed species (# of threatened and endangered NHIS records within 1 mile)	4	3	2	0	0	Proposed Border Crossing-Blue/Orange Route has the most threatened or endangered NHIS records within 1 mile, followed by the Border Crossing Pine Creek Variation and the Border Crossing Hwy 310 Variation.

West Section (1), (2)			Border Crossing					
Factor	**Element**	**Indicator**	Proposed Border Crossing-Blue/Orange Route	Border Crossing Pine Creek Variation	Border Crossing Hwy 310 Variation	Border Crossing 500kV Variation	Border Crossing 230kV Variation	NOTES
Rare and unique natural resources	**State rare communities**	Summary - proximity to Scientific and Natural Areas (SNA), SNA Watershed Protection Area (WPA), MBS Sites of Biodiversity Significance, MBS native plant communities, High Conservation Value Forest, and Ecologically Important Lowland Conifer stands						Proposed Border Crossing-Blue/Orange Route would be located within 1,500 feet of an SNA. Proposed Border Crossing-Blue/Orange Route, Border Crossing Pine Creek Variation, and Border Crossing Hwy 310 Variation would cross SNA WPAs. Proposed Border Crossing-Blue/Orange Route would cross the most MBS Sites of Biodiversity Significance, including those ranked outstanding or high, followed by the Border Crossing Pine Creek Variation and Border Crossing Hwy 310 Variation. Proposed Border Crossing-Blue/Orange Route would cross through the most MnDNR High Conservation Value Forest areas, followed by the Border Crossing Pine Creek Variation and the Border Crossing Hwy 310 Variation. Proposed Border Crossing-Blue/Orange Route would cross the most MBS native plant communities, followed by the Border Crossing Pine Creek Variation and the Border Crossing Hwy 310 Variation. Only the Border Crossing 230 kV Variation would avoid MBS native plant communities with a conservation status ranks of S2 or S3. Border Crossing 500 kV would parallel an existing corridor through these native plant communities.
Rare and unique natural resources	State rare communities	Proximity to Scientific and Natural Areas (SNAs) (Count within 1,500 feet) and SNA Watershed Protection Area (acres within ROW)	1--178	0--123	0--97	0--0	0--0	Proposed Border Crossing-Blue/Orange Route would be located within 1,500 feet of an SNA. The Proposed Border Crossing-Blue/Orange Route, Border Crossing Pine Creek Variation, and Border Crossing Hwy 310 Variation would cross SNA WPAs.
Rare and unique natural resources	State rare communities	Proximity to MBS Sites of Biodiversity Significance - (total acres within ROW)	381	326	265	162	91	Proposed Border Crossing-Blue/Orange Route would cross the most MBS Sites of Biodiversity Significance, followed by the Border Crossing Pine Creek Variation and Border Crossing Hwy 310 Variation.
Rare and unique natural resources	State rare communities	Proximity to MBS Sites of Biodiversity Significance - Rank Outstanding + High (acres within ROW)	124	69	73	62	42	Proposed Border Crossing-Blue/Orange Route would cross the most MBS Sites of Biodiversity Significance ranked outstanding or high. Border Crossing Pine Creek Variation and Border Crossing Hwy 310 Variation would cross more MBS Sites of Biodiversity Significance ranked outstanding or high than the other two alternatives.

West Section [1], [2]			Border Crossing					
Factor	**Element**	**Indicator**	Proposed Border Crossing-Blue/Orange Route	Border Crossing Pine Creek Variation	Border Crossing Hwy 310 Variation	Border Crossing 500kV Variation	Border Crossing 230kV Variation	NOTES
Rare and unique natural resources	State rare communities	Proximity to MnDNR High Conservation Value Forest, MnDNR Ecologically Important Lowland Conifer Areas (acres within ROW)	82--0	27--0	29--0	0--0	0--0	Proposed Border Crossing-Blue/Orange Route would cross through the most MnDNR High Conservation Value Forest areas, followed by the Border Crossing Pine Creek Variation and the Border Crossing Hwy 310 Variation.
Rare and unique natural resources	State rare communities	Proximity to MBS native plant communities (total acres in ROW)	124	68	69	60	34	Proposed Border Crossing-Blue/Orange Route would cross the most MBS native plant communities, followed by the Border Crossing Pine Creek Variation and the Border Crossing Hwy 310 Variation. The Border Crossing 230kV Variation and Border Crossing 500kV Variation would parallel existing corridor through these communities.
Rare and unique natural resources	State rare communities	Proximity to MBS native plant communities (acres of conservation status rank S2 and S3 communities in ROW)	22	16	20	29	0	All alternatives other than the Border Crossing 230 kV Variation would cross MBS native plant communities with a conservation status ranks of S2 or S3. Border Crossing 500kV Variation would parallel existing corridor through these communities.
Use or paralleling of existing rights-of-way		Proximity to high voltage transmission lines, roadways, and trails (percent of total length)	30	32	34	100	100	Border Crossing 230kV Variation and Border Crossing 500kV Variation parallel existing transmission line, roadway, and/or trail corridors for their entire lengths. The other alternatives would parallel existing corridors for approximately one-third of their lengths.
Electrical system reliability		Proximity to two or more high voltage transmission lines (percent of total length)	-	-	-	-	-	There are no issues with electrical reliability since there would not be three transmission lines paralleling the same corridor.
Costs of constructing, operating, and maintaining the facility which are dependent on design and route		Total construction cost[3]	$29,012,219	$29,292,118	$21,144,610	$11,512,144	$9,862,110	The alternatives cost less than the Proposed Border Crossing-Blue/Orange Route .

(1) Colors represent least impacts (green), moderate impacts (yellow), greatest impacts (red), and no impacts or similar impacts (gray) relative to the specific factor.

(2) Red text indicates information in these rows are included within the DEIS.

(3) Using the Applicant's methodology (see comment in Appendix U), the Applicant-proposed route is green; if the maximum cost of the alternative is less than the Applicant-proposed route - it is green; if the maximum cost of the alternative is up to 20% more than the Applicant-proposed route - it is yellow; if the maximum cost of the alternative is more than 20% above the cost of the Applicant-proposed route - it is red.

West Section (1), (2)			Roseau Lake WMA				Cedar Bend WMA		
Factor	Element	Indicator	Proposed Blue/Orange Route	Roseau Lake WMA Variation 1	Roseau Lake WMA Variation 2	NOTES	Proposed Blue/Orange Route	Cedar Bend WMA Variation	NOTES
Human settlement	Displacement	Proximity to residences	See section on Human Settlement in the Roseau Lake WMA Variation Area for details			There would be no differences in the impacts for the alternatives.	See section on Human Settlement in the Cedar Bend WMA Variation Area for details		There would be no differences in the impacts for the alternatives.
Human settlement	Noise	Proximity to noise receptors	See section on Human Settlement in the Roseau Lake WMA Variation Area for details			There would be no differences in the impacts for the alternatives.	See section on Human Settlement in the Cedar Bend WMA Variation Area for details		There would be no differences in the impacts for the alternatives.
Human settlement	Air quality	Air emissions (criteria pollutants and greenhouse gases)	See section on Human Settlement in the Roseau Lake WMA Variation Area for details			There would be no differences in the impacts for the alternatives.	See section on Human Settlement in the Cedar Bend WMA Variation Area for details		There would be no differences in the impacts for the alternatives.
Human settlement	Property values	Proximity to residences	See section on Human Settlement in the Roseau Lake WMA Variation Area for details			There would be no differences in the impacts for the alternatives.	See section on Human Settlement in the Cedar Bend WMA Variation Area for details		There would be no differences in the impacts for the alternatives.
Human settlement	Electronic interference	Proximity to communication towers	See section on Human Settlement in the Roseau Lake WMA Variation Area for details			There would be no differences in the impacts for the alternatives.	See section on Human Settlement in the Cedar Bend WMA Variation Area for details		There would be no differences in the impacts for the alternatives.
Human settlement	Transportation and public services	Proximity to roadways, railways	See section on Human Settlement in the Roseau Lake WMA Variation Area for details			There would be no differences in the impacts for the alternatives.	See section on Human Settlement in the Cedar Bend WMA Variation Area for details		There would be no differences in the impacts for the alternatives.
Human settlement	Transportation and public services	Proximity to airstrips	See section on Human Settlement in the Roseau Lake WMA Variation Area for details			There would be no differences in the impacts for the alternatives.	See section on Human Settlement in the Cedar Bend WMA Variation Area for details		There would be no differences in the impacts for the alternatives.
Human settlement	Environmental justice	Minority populations, low-income populations	See section on Human Settlement in the Roseau Lake WMA Variation Area for details			There would be no differences in the impacts for the alternatives.	See section on Human Settlement in the Cedar Bend WMA Variation Area for details		There would be no differences in the impacts for the alternatives.
Human settlement	Environmental justice	Low-income populations	See section on Human Settlement in the Roseau Lake WMA Variation Area for details			There would be no differences in the impacts for the alternatives.	See section on Human Settlement in the Cedar Bend WMA Variation Area for details		There would be no differences in the impacts for the alternatives.
Human settlement	Socioeconomics	Population, employment, taxes and revenue generated, housing availability	See section on Human Settlement in the Roseau Lake WMA Variation Area for details			There would be no differences in the impacts for the alternatives.	See section on Human Settlement in the Cedar Bend WMA Variation Area for details		There would be no differences in the impacts for the alternatives.
Human settlement	Socioeconomics	Employment	See section on Human Settlement in the Roseau Lake WMA Variation Area for details			There would be no differences in the impacts for the alternatives.	See section on Human Settlement in the Cedar Bend WMA Variation Area for details		There would be no differences in the impacts for the alternatives.
Human settlement	Socioeconomics	Taxes and revenue generated	See section on Human Settlement in the Roseau Lake WMA Variation Area for details			There would be no differences in the impacts for the alternatives.	See section on Human Settlement in the Cedar Bend WMA Variation Area for details		There would be no differences in the impacts for the alternatives.
Human settlement	Socioeconomics	Housing availability	See section on Human Settlement in the Roseau Lake WMA Variation Area for details			There would be no differences in the impacts for the alternatives.	See section on Human Settlement in the Cedar Bend WMA Variation Area for details		There would be no differences in the impacts for the alternatives.

West Section (1), (2)			Roseau Lake WMA				Cedar Bend WMA		
Factor	**Element**	**Indicator**	Proposed Blue/Orange Route	Roseau Lake WMA Variation 1	Roseau Lake WMA Variation 2	NOTES	Proposed Blue/Orange Route	Cedar Bend WMA Variation	NOTES
Human settlement	Recreation and tourism	Proximity to recreational resources (county, state, and federal parks and forests, state Scientific and Natural Areas, state trails, scenic byways, and snowmobile and water trails)	See section on Human Settlement in the Roseau Lake WMA Variation Area for details			There would be no differences in the impacts for the alternatives.	See section on Human Settlement in the Cedar Bend WMA Variation Area for details		There would be no differences in the impacts for the alternatives.
Human settlement	Cultural values	Proximity to residences	See section on Human Settlement in the Roseau Lake WMA Variation Area for details			There would be no differences in the impacts for the alternatives.	See section on Human Settlement in the Cedar Bend WMA Variation Area for details		There would be no differences in the impacts for the alternatives.
Human settlement	**Aesthetics**	Proximity to residences (Count within 0-500, 0-1,000, & 0-1,500 ft from the anticipated alignment)	2--5--13	3--19--50	0--8--23	Roseau Lake WMA Variation 1 would pass by the most residences within 1,500 feet of the anticipated alignment. Roseau Lake WMA Variation 1 parallels the least amount of existing transmission line corridor.	0--5--11	16--52--101	Cedar Bend WMA Variation 1 would pass by more residences within 1,500 feet of the anticipated alignment. Both alternatives parallel transmission line corridors for their entire lengths.
Human settlement	**Land use compatibility**	Summary - land use type data and land ownership data				Roseau Lake WMA Variation 1 and Roseau Lake WMA Variation 2 would cross the most private land.			Proposed Blue/Orange Route would cross USFWS Interest Lands, while Cedar Bend WMA Variation would not. Cedar Bend WMA Variation would cross more private land.
Human settlement	Land use compatibility	Land use type data (crosses USFWS Interest Lands or other features, e.g. airstrips)				There are no land use compatibility issues identified for the alternatives.			Proposed Blue/Orange Route would cross USFWS Interest Lands (6 acres), while the Cedar Bend WMA Variation would not. Crossing this land would require obtaining a provisional special use permit for construction from the USFWS.
Human settlement	Land use compatibility	Land ownership type data - total acres in ROW (acres of public and private land in the ROW)	Total: 746 (453--293)	Total: 1,070 (6--1,064)	Total: 910 (145--765)	Roseau Lake WMA Variation 1 and 2 would cross the most private land.	Total: 599 (441--158)	Total: 476 (84--392)	Cedar Bend WMA Variation would cross more private land.
Public health and safety	Electric and magnetic Fields	Proximity to residences	See section on Public Health and Safety in the Roseau Lake WMA Variation Area for details			There would be no differences in the impacts for the alternatives.	See section on Public Health and Safety in the Cedar Bend WMA Variation Area for details		There would be no differences in the impacts for the alternatives.
Public health and safety	Implantable medical devices	Proximity to residences	See section on Public Health and Safety in the Roseau Lake WMA Variation Area for details			There would be no differences in the impacts for the alternatives.	See section on Public Health and Safety in the Cedar Bend WMA Variation Area for details		There would be no differences in the impacts for the alternatives.
Public health and safety	Stray voltage	Proximity to residences	See section on Public Health and Safety in the Roseau Lake WMA Variation Area for details			There would be no differences in the impacts for the alternatives.	See section on Public Health and Safety in the Cedar Bend WMA Variation Area for details		There would be no differences in the impacts for the alternatives.
Public health and safety	Induced voltage	Proximity to residences	See section on Public Health and Safety in the Roseau Lake WMA Variation Area for details			There would be no differences in the impacts for the alternatives.	See section on Public Health and Safety in the Cedar Bend WMA Variation Area for details		There would be no differences in the impacts for the alternatives.

West Section (1), (2)			Roseau Lake WMA				Cedar Bend WMA		
Factor	**Element**	**Indicator**	Proposed Blue/Orange Route	Roseau Lake WMA Variation 1	Roseau Lake WMA Variation 2	NOTES	Proposed Blue/Orange Route	Cedar Bend WMA Variation	NOTES
Public health and safety	Intentional destructive acts	Intentional destructive acts	See section on Public Health and Safety in the Roseau Lake WMA Variation Area for details			There would be no differences in the impacts for the alternatives.	See section on Public Health and Safety in the Cedar Bend WMA Variation Area for details		There would be no differences in the impacts for the alternatives.
Public health and safety	Environmental contamination	Registered sites of contamination	See section on Public Health and Safety in the Roseau Lake WMA Variation Area for details			There would be no differences in the impacts for the alternatives.	See section on Public Health and Safety in the Cedar Bend WMA Variation Area for details		There would be no differences in the impacts for the alternatives.
Public health and safety	Worker health and safety	Worker health and safety	See section on Public Health and Safety in the Roseau Lake WMA Variation Area for details			There would be no differences in the impacts for the alternatives.	See section on Public Health and Safety in the Cedar Bend WMA Variation Area for details		There would be no differences in the impacts for the alternatives.
Land based economies	**Agriculture**	Proximity to farmland - total acres in ROW (acres of prime farmland, farmland of statewide importance, and prime farmland if drained in ROW)	Total: 184 (18--23--143)	Total: 493 (84--21--388)	Total: 412 (33--23--356)	Roseau Lake WMA Variations 1 and 2 would cross the most amount of farmland.	Total: 101 (15--18--68)	Total: 192 (25--6--161)	All alternatives would cross a relatively similar amount of farmland.
Land based economies	**Forestry**	Proximity to forest land (acres of state forest land in ROW)	334	6	52	Proposed Blue/Orange Route would cross more state forest land, followed by Roseau Lake WMA Variation 2.	372	78	Proposed Blue/Orange Route would cross more state forest land.
Land based economies	**Mining and mineral resources**	Proximity to state mining lease lands (active and/or expired/terminated; acres in ROW) and aggregate resources (count in ROW)	0--0	0--0	0--0	No active or expired/terminated mineral lease lands or aggregate resources are present in the ROW of any alternative.	97--0	0--0	Proposed Blue/Orange Route would cross expired/terminated mineral lease lands; Cedar Bend WMA Variation would not cross any mineral lease lands.
Archaeological and historic architectural resources		Summary - proximity to archaeological and historic architectural resources				Roseau Lake WMA Variation 1 and Roseau Lake WMA Variation 2 would cross sections identified as containing known archaeological sites.			Cedar Bend WMA Variation would cross more sections identified as containing known archaeological sites. There are 8 historic architectural sites within 1 mile of the Cedar Bend WMA Variation, but none in the ROW.
Archaeological and historic resources	Archaeological sites	Proximity to archaeological sites (count within 0-100 ft and 0-1,500 ft from the anticipated alignment)	0--0	0--3	0--3	Roseau Lake WMA Variation 1 and Roseau Lake WMA Variation 2 would cross sections identified as containing known archaeological sites and have historic architectural sites present within 1 mile.	0--0	1--2	Cedar Bend WMA Variation would cross sections identified as containing known archaeological sites, while the Proposed Blue/Orange Route would not.
Archaeological and historic resources	Historic architectural sites	Proximity to historic architectural sites (count within 0-100 ft, 0-1,500 ft, and 0-1 mile from the anticipated alignment)	0--0--0	0--1--1	0--1--2	Roseau Lake WMA Variation 1 and Roseau Lake WMA Variation 2 have historic architectural sites present within 1 mile.	0--0--0	0--0--8	Cedar Bend WMA Variation has 8 historic architectural sites within 1 mile; no historic architectural sites have been identified within 1 mile of the Proposed Blue/Orange Route.

West Section (1), (2)			Roseau Lake WMA				Cedar Bend WMA		
Factor	**Element**	**Indicator**	Proposed Blue/Orange Route	Roseau Lake WMA Variation 1	Roseau Lake WMA Variation 2	NOTES	Proposed Blue/Orange Route	Cedar Bend WMA Variation	NOTES
Natural environment	**Water resources**	Summary - proximity to watercourses, waterbodies, floodplains, and wetlands				All alternatives would cross relatively similar numbers of watercourses/waterbodies, which are expected to be spanned. All alternatives would cross relatively similar areas of FEMA-designated floodplain areas that are too large to span. All alternatives would cross wetlands that are too large to span. Proposed Blue/Orange Route has the most total wetland. Proposed Blue/Orange Route would also have the most forested and shrub wetland; therefore, it would require the most wetland type conversion.			Both alternatives have the same number of crossings of watercourses and waterbodies, which are expected to be spanned. Cedar Bend WMA would cross floodplain that cannot be spanned. Proposed Blue/Orange Route would not cross floodplain. Both alternatives would cross wetlands that are too large to span. Proposed Blue/Orange Route has the most total wetland. Proposed Blue/Orange Route would also have the most forested and shrub wetland; therefore, it would require the most wetland type conversion.
Natural environment	Water resources	Proximity to watercourses and waterbodies - Total number of crossings in ROW (number of PWI crossings, non-PWI crossings); - Trout stream (number of crossings)	Total: 25 (2--23) (0)	Total: 48 (10--38) (0)	Total: 36 (3--33) (0)	All alternatives would cross relatively similar numbers of watercourses/waterbodies.	Total: 16 (4--12) (0)	Total: 16 (5--11) (0)	Both alternatives have same number of crossings, all of which are expected to be spanned.
Natural environment	Water resources	Proximity to floodplains - total acres of floodplain in ROW (acres of Zone A, acres of Zone B)	Total: 321 (321--0)	Total: 202 (200--2)	Total: 307 (304--3)	All alternatives would cross relatively similar areas of FEMA-designated floodplain areas that are too large to span.	Total: 0	Total: 32 (32--0)	Cedar Bend WMA would cross floodplain that cannot be spanned. Proposed Blue/Orange Route would not cross floodplain.
Natural environment	Water resources	Proximity to wetlands (acres of PSS wetlands in ROW resulting in wetland type conversion)	136	21	88	Proposed Blue/Orange route would cross the most shrub wetland.	128	14	Proposed Blue/Orange route would cross the most shrub wetland.
Natural environment	Water resources	Proximity to wetlands (acres of PFO wetlands in ROW resulting in wetland type conversion)	132	35	53	Proposed Blue/Orange Route would cross the most forested wetland.	253	95	Proposed Blue/Orange Route would cross the most forested wetland.
Natural environment	Water resources	Proximity to wetlands (acres of total wetlands in ROW too large to span)	547	102	272	All alternatives would cross wetlands that are too large to span. Proposed Blue/Orange Route has the most total wetland.	466	154	Both alternatives would cross wetlands that are too large to span. Proposed Blue/Orange Route has the most total wetland.
Natural environment	**Vegetation**	Cover type (acres of forested land cover in ROW)	515	156	275	Proposed Blue/Orange Route and Roseau Lake WMA Variation 2 would cross the most forested land cover.	543	266	Proposed Blue/Orange Route would cross more forested land cover.

West Section (1), (2)			Roseau Lake WMA				Cedar Bend WMA		
Factor	**Element**	**Indicator**	Proposed Blue/Orange Route	Roseau Lake WMA Variation 1	Roseau Lake WMA Variation 2	NOTES	Proposed Blue/Orange Route	Cedar Bend WMA Variation	NOTES
Natural environment	**Wildlife**	Proximity to wildlife resources - Wildlife Management Areas, Grassland Bird Conservation Areas, Important Bird Areas (acres in ROW) Proximity to shallow lakes (count in ROW), Gray Owl Management Area (count in 0-1,500 feet)	Acres: 69--131--0 Count: 0--0	Acres: 0--40--0 Count: 0--0	Acres: 44--220--0 Count: 0--0	Proposed Blue/Orange Route and Roseau Lake WMA Variation 2 cross a WMA and more acres of Grassland Bird Conservation Area.	Acres: 44--50--0 Count: 1--0	Acres: 0--10--0 Count: 0--0	Proposed Blue/Orange Route crosses a WMA, more acres of Grassland Bird Conservation Area, and crosses a shallow lake.
Rare and unique natural resources	**Federal and state listed species**	Summary - proximity of federal and state-listed species (based on the Natural Heritage Information System (NHIS) database)				Proposed Blue/Orange Route has a NHIS record for a federal candidate species (Sprague's pipit; also state-endangered) within 1 mile. Proposed Blue/Orange Route and Roseau Lake WMA Variation 2 have a state-threatened species documented within 1 mile.			There are no federally-listed species identified for these alternatives. Proposed Blue/Orange Route has more NHIS records within 1 mile, including threatened NHIS records.
Rare and unique natural resources	Federally listed species	Federally-listed species (# of records within 1 mile)	1	0	0	Proposed Blue/Orange Route has a NHIS record for a federal candidate species (Sprague's pipit) within 1 mile.	0	0	There are no federally-listed species identified for these alternatives.
Rare and unique natural resources	State listed species	State-listed species (total # of NHIS records within 1 mile)	7	4	5	All alternatives have a relatively similar number of NHIS records within 1 mile of them.	6	1	Proposed Blue/Orange Route has more NHIS records within 1 mile.
Rare and unique natural resources	State listed species	State-listed species (# of threatened and endangered NHIS records within 1 mile)	2	0	1	Proposed Blue/Orange Route and Roseau Lake WMA Variation 2 have threatened or endangered NHIS records within 1 mile. One of the 2 records for the Proposed Blue/Orange Route is the Sprague's pipit (state endangered), which is also accounted for above under Federally listed species.	2	0	Proposed Blue/Orange Route has 2 threatened NHIS records within 1 mile.

West Section (1), (2)			Roseau Lake WMA				Cedar Bend WMA		
Factor	**Element**	**Indicator**	Proposed Blue/Orange Route	Roseau Lake WMA Variation 1	Roseau Lake WMA Variation 2	NOTES	Proposed Blue/Orange Route	Cedar Bend WMA Variation	NOTES
Rare and unique natural resources	**State rare communities**	Summary - proximity to Scientific and Natural Areas (SNA), SNA Watershed Protection Area (WPA), MBS Sites of Biodiversity Significance, MBS native plant communities, High Conservation Value Forest, and Ecologically Important Lowland Conifer stands				Proposed Blue/Orange Route would be located close to an SNA, but not within 1,500 feet. Proposed Blue/Orange Route would cross the most acres of SNA WPAs than the variations. Proposed Blue/Orange Route and Roseau Lake WMA Variation 2 would cross the most acres of MBS Sites of Biodiversity Significance, including those ranked outstanding or high. Proposed Blue/Orange Route would cross the most acres of High Conservation Value Forest. Proposed Blue/Orange Route and Roseau Lake WMA Variation 2 would cross the most MBS native plant communities, including those with conservation status ranks of S2 and S3.			Proposed Blue/Orange Route would cross more MBS Sites of Biodiversity Significance (including outstanding or high rank), High Conservation Value Forest, and more MBS native plant communities, including communities with a conservation status rank of S2 and S3.
Rare and unique natural resources	State rare communities	Proximity to Scientific and Natural Areas (SNAs) (Count within 1,500 feet) and SNA Watershed Protection Area (acres within ROW)	0--117	0--6	0--6	Proposed Blue/Orange Route would be located close to an SNA, but not within 1,500 feet. Proposed Blue/Orange Route would cross the most acres of SNA WPAs than the variations.	0--0	0--0	No SNAs would be located within 1,500 feet of any alternative; neither alternative would cross an SNA WPA.
Rare and unique natural resources	State rare communities	Proximity to MBS Sites of Biodiversity Significance - (total acres within ROW)	404	14	153	Proposed Blue/Orange Route would cross the most acres of MBS Sites of Biodiversity Significance, followed by Roseau Lake WMA Variation 2.	454	112	Proposed Blue/Orange Route would cross more MBS Sites of Biodiversity Significance.
Rare and unique natural resources	State rare communities	Proximity to MBS Sites of Biodiversity Significance - Rank Outstanding + High (acres within ROW)	107	7	77	Proposed Blue/Orange Route and Roseau Lake WMA Variation 2 would cross the most acres of MBS Sites of Biodiversity Significance ranked outstanding or high.	43	0	Proposed Blue/Orange Route would cross MBS Sites of Biodiversity Significance ranked outstanding or high rank, while the Cedar Bend WMA Variation would not cross any of these sites.

West Section [1], [2]			Roseau Lake WMA				Cedar Bend WMA		
Factor	**Element**	**Indicator**	Proposed Blue/Orange Route	Roseau Lake WMA Variation 1	Roseau Lake WMA Variation 2	NOTES	Proposed Blue/Orange Route	Cedar Bend WMA Variation	NOTES
Rare and unique natural resources	State rare communities	Proximity to MnDNR High Conservation Value Forest, MnDNR Ecologically Important Lowland Conifer Areas (acres within ROW)	22--0	6--0	6--0	Proposed Blue/Orange Route would cross the most acres of High Conservation Value Forest.	8--0	0--0	Proposed Blue/Orange Route would cross High Conservation Value Forest; the Cedar Bend WMA Variation does not cross any of these areas.
Rare and unique natural resources	State rare communities	Proximity to MBS native plant communities (total acres in ROW)	107	5	75	Proposed Blue/Orange Route and Roseau Lake WMA Variation 2 would cross the most MBS native plant communities.	43	0	Proposed Blue/Orange Route would cross MBS native plant communities; the Cedar Bend WMA Variation does not cross any of these communities.
Rare and unique natural resources	State rare communities	Proximity to MBS native plant communities (acres of conservation status rank S2 and S3 communities in ROW)	39	0	22	Proposed Blue/Orange Route and Roseau Lake WMA Variation 2 would cross the most MBS native plant communities with conservation status ranks of S2 and S3.	22	0	Proposed Blue/Orange Route would cross MBS native plant communities with conservation status ranks of S2 and S3; the Cedar Bend WMA Variation does not cross any of these communities.
Use or paralleling of existing rights-of-way		Proximity to high voltage transmission lines, roadways, and trails (percent of total length)	52	11	43	Roseau Lake WMA Variation 1 would parallel the least existing transmission line, roadway, and/or trail corridor.	100	100	Both alternatives parallel existing transmission line, roadway, and/or trail corridors for their entire lengths.
Electrical system reliability		Proximity to two or more high voltage transmission lines (percent of total length)	-	-	-	There are no issues with electrical reliability since there would not be three transmission lines paralleling the same corridor.	-	-	There are no issues with electrical reliability since there would not be three transmission lines paralleling the same corridor.
Costs of constructing, operating, and maintaining the facility which are dependent on design and route		Total construction cost[3]	$33,247,089	$57,086,075	$46,162,144	The cost of the alternatives are more than 20% above the cost of the Proposed Blue/Orange Route.	$27,197,650	ranges from $22,860,378 to $23,172,312	The range of cost for the Cedar Bend WMA Variation is less than the cost of the Proposed Blue/Orange Route.

(1) Colors represent least impacts (green), moderate impacts (yellow), greatest impacts (red), and no impacts or similar impacts (gray) relative to the specific factor.

(2) Red text indicates information in these rows are included within the DEIS.

(3) Using the Applicant's methodology (see comment in Appendix U), the Applicant-proposed route is green; if the maximum cost of the alternative is less than the Applicant-proposed route - it is green; if the maximum cost of the alternative is up to 20% more than the Applicant-proposed route - it is yellow; if the maximum cost of the alternative is more than 20% above the cost of the Applicant-proposed route - it is red.

West Section (1), (2)			Beltrami North				Beltrami North Central						
Factor	Element	Indicator	Proposed Blue/Orange Route	Beltrami North Variation 1	Beltrami North Variation 2	NOTES	Proposed Blue/Orange Route	Beltrami North Central Variation 1	Beltrami North Central Variation 2	Beltrami North Central Variation 3	Beltrami North Central Variation 4	Beltrami North Central Variation 5	NOTES
Human settlement	Displacement	Proximity to residences	See section on Human Settlement in the Beltrami North Variation Area for details			There would be no differences in the impacts for the alternatives.	See section on Human Settlement in the Beltrami North Central Variation Area for details						There would be no differences in the impacts for the alternatives.
Human settlement	Noise	Proximity to noise receptors	See section on Human Settlement in the Beltrami North Variation Area for details			There would be no differences in the impacts for the alternatives.	See section on Human Settlement in the Beltrami North Central Variation Area for details						There would be no differences in the impacts for the alternatives.
Human settlement	Air quality	Air emissions (criteria pollutants and greenhouse gases)	See section on Human Settlement in the Beltrami North Variation Area for details			There would be no differences in the impacts for the alternatives.	See section on Human Settlement in the Beltrami North Central Variation Area for details						There would be no differences in the impacts for the alternatives.
Human settlement	Property values	Proximity to residences	See section on Human Settlement in the Beltrami North Variation Area for details			There would be no differences in the impacts for the alternatives.	See section on Human Settlement in the Beltrami North Central Variation Area for details						There would be no differences in the impacts for the alternatives.
Human settlement	Electronic interference	Proximity to communication towers	See section on Human Settlement in the Beltrami North Variation Area for details			There would be no differences in the impacts for the alternatives.	See section on Human Settlement in the Beltrami North Central Variation Area for details						There would be no differences in the impacts for the alternatives.
Human settlement	Transportation and public services	Proximity to roadways, railways	See section on Human Settlement in the Beltrami North Variation Area for details			There would be no differences in the impacts for the alternatives.	See section on Human Settlement in the Beltrami North Central Variation Area for details						There would be no differences in the impacts for the alternatives.
Human settlement	Transportation and public services	Proximity to airstrips	See section on Human Settlement in the Beltrami North Variation Area for details			There would be no differences in the impacts for the alternatives.	See section on Human Settlement in the Beltrami North Central Variation Area for details						There would be no differences in the impacts for the alternatives.
Human settlement	Environmental justice	Minority populations, low-income populations	See section on Human Settlement in the Beltrami North Variation Area for details			There would be no differences in the impacts for the alternatives.	See section on Human Settlement in the Beltrami North Central Variation Area for details						There would be no differences in the impacts for the alternatives.
Human settlement	Environmental justice	Low-income populations	See section on Human Settlement in the Beltrami North Variation Area for details			There would be no differences in the impacts for the alternatives.	See section on Human Settlement in the Beltrami North Central Variation Area for details						There would be no differences in the impacts for the alternatives.
Human settlement	Socioeconomics	Population, employment, taxes and revenue generated, housing availability	See section on Human Settlement in the Beltrami North Variation Area for details			There would be no differences in the impacts for the alternatives.	See section on Human Settlement in the Beltrami North Central Variation Area for details						There would be no differences in the impacts for the alternatives.
Human settlement	Socioeconomics	Employment	See section on Human Settlement in the Beltrami North Variation Area for details			There would be no differences in the impacts for the alternatives.	See section on Human Settlement in the Beltrami North Central Variation Area for details						There would be no differences in the impacts for the alternatives.
Human settlement	Socioeconomics	Taxes and revenue generated	See section on Human Settlement in the Beltrami North Variation Area for details			There would be no differences in the impacts for the alternatives.	See section on Human Settlement in the Beltrami North Central Variation Area for details						There would be no differences in the impacts for the alternatives.
Human settlement	Socioeconomics	Housing availability	See section on Human Settlement in the Beltrami North Variation Area for details			There would be no differences in the impacts for the alternatives.	See section on Human Settlement in the Beltrami North Central Variation Area for details						There would be no differences in the impacts for the alternatives.

West Section (1), (2)			Beltrami North				Beltrami North Central						
Factor	**Element**	**Indicator**	Proposed Blue/Orange Route	Beltrami North Variation 1	Beltrami North Variation 2	NOTES	Proposed Blue/Orange Route	Beltrami North Central Variation 1	Beltrami North Central Variation 2	Beltrami North Central Variation 3	Beltrami North Central Variation 4	Beltrami North Central Variation 5	NOTES
Human settlement	Recreation and tourism	Proximity to recreational resources (county, state, and federal parks and forests, state Scientific and Natural Areas, state trails, scenic byways, and snowmobile and water trails)	See section on Human Settlement in the Beltrami North Variation Area for details			There would be no differences in the impacts for the alternatives.	See section on Human Settlement in the Beltrami North Central Variation Area for details						There would be no differences in the impacts for the alternatives.
Human settlement	Cultural values	Proximity to residences	See section on Human Settlement in the Beltrami North Variation Area for details			There would be no differences in the impacts for the alternatives.	See section on Human Settlement in the Beltrami North Central Variation Area for details						There would be no differences in the impacts for the alternatives.
Human settlement	**Aesthetics**	Proximity to residences (Count within 0-500, 0-1,000, & 0-1,500 ft from the anticipated alignment)	0--2--3	0--0--6	0--0--1	Beltrami North Variation 1 would pass by the most residences within 1,500 feet of the anticipated alignment.	1--2--3	0--0--2	1--1--2	1--1--4	3--5--10	2--4--8	Beltrami North Central Variation 4 and Beltrami North Central Variation 5 would pass by the most residences within 1,500 feet of the anticipated alignment. Beltrami North Central Variation 4 would parallel existing corridor for more of its length than Beltrami North Central Variation 5.
Human settlement	**Land use compatibility**	Summary - land use type data and land ownership data				Proposed Blue/Orange Route would cross USFWS Interest Lands, while the other alternatives would not. Beltrami North Variation 1 would cross more private land.							Proposed Blue/Orange Route and Beltrami North Central Variation 2 would cross USFWS Interest Lands (18 acres and 1 acre, respectively). Beltrami North Central Variation 4 and Beltrami North Central Variation 5 would cross the most private land.
Human settlement	Land use compatibility	Land use type data (crosses USFWS Interest Lands or other features, e.g. airstrips)				The Proposed Blue/Orange Route would cross USFWS Interest Lands (6 acres), while the other alternatives would not. Crossing this land would require obtaining a provisional special use permit for construction from the USFWS.							Proposed Blue/Orange Route would cross USFWS Interest Lands (18 acres) but would parallel an existing transmission line corridor. Beltrami North Central Variation 2 would cross USFWS land (1 acre) and not parallel existing corridor. Crossing this land would require obtaining a provisional special use permit for construction from the USFWS.
Human settlement	Land use compatibility	Land ownership type data - total acres in ROW (acres of public and private land in the ROW)	Total: 400 (364--36)	Total: 383 (297--86)	Total: 477 (450--27)	Beltrami North Variation 1 would cross the most private land.	Total: 281 (213--68)	Total: 332 (217--115)	Total: 305 (246--59)	Total: 296 (184--112)	Total: 329 (178--151)	Total: 365 (210--155)	Beltrami North Central Variation 4 and Beltrami North Central Variation 5 would cross the most private land.
Public health and safety	Electric and magnetic Fields	Proximity to residences	See section on Public Health and Safety in the Beltrami North Variation Area for details			There would be no differences in the impacts for the alternatives.	See section on Public Health and Safety in the Beltrami North Central Variation Area for details						There would be no differences in the impacts for the alternatives.
Public health and safety	Implantable medical devices	Proximity to residences	See section on Public Health and Safety in the Beltrami North Variation Area for details			There would be no differences in the impacts for the alternatives.	See section on Public Health and Safety in the Beltrami North Central Variation Area for details						There would be no differences in the impacts for the alternatives.
Public health and safety	Stray voltage	Proximity to residences	See section on Public Health and Safety in the Beltrami North Variation Area for details			There would be no differences in the impacts for the alternatives.	See section on Public Health and Safety in the Beltrami North Central Variation Area for details						There would be no differences in the impacts for the alternatives.
Public health and safety	Induced voltage	Proximity to residences	See section on Public Health and Safety in the Beltrami North Variation Area for details			There would be no differences in the impacts for the alternatives.	See section on Public Health and Safety in the Beltrami North Central Variation Area for details						There would be no differences in the impacts for the alternatives.

West Section (1), (2)			Beltrami North				Beltrami North Central						
Factor	**Element**	**Indicator**	Proposed Blue/Orange Route	Beltrami North Variation 1	Beltrami North Variation 2	NOTES	Proposed Blue/Orange Route	Beltrami North Central Variation 1	Beltrami North Central Variation 2	Beltrami North Central Variation 3	Beltrami North Central Variation 4	Beltrami North Central Variation 5	NOTES
Public health and safety	Intentional destructive acts	Intentional destructive acts	See section on Public Health and Safety in the Beltrami North Variation Area for details			There would be no differences in the impacts for the alternatives.	See section on Public Health and Safety in the Beltrami North Central Variation Area for details						There would be no differences in the impacts for the alternatives.
Public health and safety	Environmental contamination	Registered sites of contamination	See section on Public Health and Safety in the Beltrami North Variation Area for details			There would be no differences in the impacts for the alternatives.	See section on Public Health and Safety in the Beltrami North Central Variation Area for details						There would be no differences in the impacts for the alternatives.
Public health and safety	Worker health and safety	Worker health and safety	See section on Public Health and Safety in the Beltrami North Variation Area for details			There would be no differences in the impacts for the alternatives.	See section on Public Health and Safety in the Beltrami North Central Variation Area for details						There would be no differences in the impacts for the alternatives.
Land based economies	**Agriculture**	Proximity to farmland - total acres in ROW (acres of prime farmland, farmland of statewide importance, and prime farmland if drained in ROW)	Total: 27 (0--0--27)	Total: 27 (8--0--19)	Total: 27 (<0.5--0--27)	All alternatives would cross a relatively similar amount of farmland.	Total: 6 (0--6--0)	Total: 5 (0--5--0)	Total: 0 (0--0--0)	Total: 5 (0--5--0)	Total: 39 (6--20--13)	Total: 39 (6--20--13)	Beltrami North Central Variation 4 and Beltrami North Central Variation 5 would cross the most farmland. Beltrami North Central Variation 4 would parallel existing transmission line, roadway, or trail corridor for 92% of its length.
Land based economies	**Forestry**	Proximity to forest land (acres of state forest land in ROW)	372	291	462	All alternatives would cross a relatively similar amount of state forest land.	224	237	255	184	178	230	All alternatives would cross similar amounts of state forest. The Proposed Blue/Orange Route and Beltrami North Central Variation 4 would parallel the most existing transmission line, roadway, or trail corridor.
Land based economies	**Mining and mineral resources**	Proximity to state mining lease lands (active and/or expired/terminated; acres in ROW) and aggregate resources (count in ROW)	97--0	97--0	152--0	All alternatives would cross a relatively similar amount of expired/terminated mineral lease lands.	0--0	0--0	0--0	0--0	0--0	0--0	No active or expired/terminated mineral lease lands or aggregate resources are present in the ROW of any alternative.
Archaeological and historic architectural resources		Summary - proximity to archaeological and historic architectural resources				Beltrami North Variation 2 crosses near more sections identified as containing known archaeological sites. There are 2 historic architectural sites within 1 mile of Beltrami North Variation 2.							There are no known archaeological sites that would be affected by the alternatives. Beltrami North Central Variation 4 and Beltrami North Central Variation 5 have one historic architectural site within 1 mile.
Archaeological and historic resources	Archaeological sites	Proximity to archaeological sites (count within 0-100 ft and 0-1,500 ft from the anticipated alignment)	0--0	0--0	1--2	Beltrami North Variation 2 crosses near sections identified as containing known archaeological sites; the other alternatives do not cross known archaeological sites.	0--0	0--0	0--0	0--0	0--0	0--0	There are no known archaeological sites that would be affected by the alternatives.
Archaeological and historic resources	Historic architectural sites	Proximity to historic architectural sites (count within 0-100 ft, 0-1,500 ft, and 0-1 mile from the anticipated alignment)	0--0--0	0--0--0	0--0--2	Beltrami North Variation 2 has 2 historic architectural sites within 1 mile; the other alternatives do not have known historic architectural sites within 1 mile.	0--0--0	0--0--0	0--0--0	0--0--0	0--0--1	0--0--1	Beltrami North Central Variation 4 and Beltrami North Central Variation 5 have one historic architectural site within 1 mile.

West Section (1), (2)			Beltrami North				Beltrami North Central						
Factor	**Element**	**Indicator**	Proposed Blue/Orange Route	Beltrami North Variation 1	Beltrami North Variation 2	NOTES	Proposed Blue/Orange Route	Beltrami North Central Variation 1	Beltrami North Central Variation 2	Beltrami North Central Variation 3	Beltrami North Central Variation 4	Beltrami North Central Variation 5	NOTES
Natural environment	**Water resources**	Summary - proximity to watercourses, waterbodies, floodplains, and wetlands				All alternatives would cross relatively similar numbers of watercourses/waterbodies. None of the alternatives would cross FEMA-designated floodplain. All alternatives would cross relatively similar areas of wetlands that are too large to span and would result in relatively similar areas of shrub and forested wetland type conversion.							All alternatives would cross relatively similar numbers of watercourses/waterbodies. All alternatives would cross relatively similar small areas of FEMA-designated floodplain that are expected to be spanned. All alternatives would cross relatively similar areas of wetlands that are too large to span and would result in relatively similar areas of shrub and forested wetland type conversion.
Natural environment	Water resources	Proximity to watercourses and waterbodies - Total number of crossings in ROW (number of PWI crossings, non-PWI crossings); - Trout stream (number of crossings)	Total: 11 (4--7) (0)	Total: 13 (9--4) (0)	Total: 15 (3--12) (0)	All alternatives would cross relatively similar numbers of watercourses/waterbodies.	Total: 5 (0--5) (0)	Total: 7 (3--4) (0)	Total: 6 (1--5) (0)	Total: 6 (2--4) (0)	Total: 9 (2--7) (0)	Total: 10 (3--7) (0)	All alternatives would cross relatively similar numbers of watercourses/waterbodies.
Natural environment	Water resources	Proximity to floodplains - total acres of floodplain in ROW (acres of Zone A, acres of Zone B)	Total: 0	Total: 0	Total: 0	None of the alternatives would cross FEMA-designated floodplains.	Total: 1 (1--0)	Total: 2 (2--0)	Total: 2 (2--0)	Total: 2 (2--0)	Total: 2 (2--0)	Total: 2 (2--0)	All alternatives would cross relatively similar small areas of FEMA-designated floodplain that are expected to be spanned.
Natural environment	Water resources	Proximity to wetlands (acres of PSS wetlands in ROW resulting in wetland type conversion)	87	99	128	All alternatives would cross relatively similar areas of shrub wetland.	130	97	118	115	108	90	All alternatives would cross relatively similar areas of shrub wetland.
Natural environment	Water resources	Proximity to wetlands (acres of PFO wetlands in ROW resulting in wetland type conversion)	213	185	217	All alternatives would cross relatively similar areas of forested wetland.	119	191	147	154	169	205	All alternatives would cross relatively similar areas of forested wetland.
Natural environment	Water resources	Proximity to wetlands (acres of total wetlands in ROW too large to span)	323	294	391	All alternatives would cross relatively similar areas of total wetland that are too large to span.	272	314	291	282	305	337	All alternatives would cross relatively similar areas of total wetland that are too large to span.
Natural environment	**Vegetation**	Cover type (acres of forested land cover in ROW)	389	367	473	All alternatives would cross a relatively similar amount of forested land cover. The Beltrami North Variation 2 parallels the least amount of existing transmission line, roadway, or trail corridor.	277	323	303	287	306	342	All alternatives would cross a relatively similar amount of forested land cover. The Proposed Blue/Orange Route and Beltrami North Central Variation 4 would parallel the most existing transmission line, roadway, or trail corridor.

West Section (1), (2)			Beltrami North				Beltrami North Central						
Factor	**Element**	**Indicator**	Proposed Blue/Orange Route	Beltrami North Variation 1	Beltrami North Variation 2	NOTES	Proposed Blue/Orange Route	Beltrami North Central Variation 1	Beltrami North Central Variation 2	Beltrami North Central Variation 3	Beltrami North Central Variation 4	Beltrami North Central Variation 5	NOTES
Natural environment	**Wildlife**	Proximity to wildlife resources - Wildlife Management Areas, Grassland Bird Conservation Areas, Important Bird Areas (acres in ROW) Proximity to shallow lakes (count in ROW), Gray Owl Management Area (count in 0-1,500 feet)	Acres: 0--0--0 Count: 1--0	Acres: 0--0--0 Count: 0--0	Acres: 0--0--23 Count: 1--0	Beltrami North Variation 2 would cross an Important Bird Area. Both the Proposed Blue/Orange Route and the Beltrami North Variation 1 cross a shallow lake but would parallel an existing corridor in this area.	Acres: 0--0--117 Count: 0--0	Acres: 0--0--31 Count: 0--0	Acres: 0--0--157 Count: 0--0	Acres: 0--0--31 Count: 0--0	Acres: 0--0--33 Count: 0--0	Acres: 0--0--33 Count: 0--0	Proposed Blue/Orange Route and Beltrami North Central Variation 2 cross more of the Big Bog Important Bird Area. The Proposed Blue/Orange Route would parallel existing corridor through this area while Beltrami North Central Variation 2 would not parallel existing corridor.
Rare and unique natural resources	**Federal and state listed species**	Summary - proximity of federal and state-listed species (based on the Natural Heritage Information System (NHIS) database)				There are no federally-listed species identified for these alternatives. Beltrami North Variation 2 has more NHIS records, including records of state threatened and/or endangered species, within 1 mile.							There are no federally-listed species identified for these alternatives. Beltrami North Central Variation 1 has the most NHIS records within 1 mile. All alternatives (except Beltrami North Central Variation 4) have threatened and endangered NHIS records within 1 mile.
Rare and unique natural resources	Federally listed species	Federally-listed species (# of records within 1 mile)	0	0	0	There are no federally-listed species identified for these alternatives.	0	0	0	0	0	0	There are no federally-listed species identified for these alternatives.
Rare and unique natural resources	State listed species	State-listed species (total # of NHIS records within 1 mile)	6	3	22	Beltrami North Variation 2 has the most NHIS records within 1 mile.	9	12	5	5	0	7	Beltrami North Central Variation 1 has the most NHIS records within 1 mile.
Rare and unique natural resources	State listed species	State-listed species (# of threatened and endangered NHIS records within 1 mile)	2	0	7	Beltrami North Variation 2 has the most NHIS records of threatened and/or endangered species within 1 mile.	2	3	2	2	0	1	All alternatives (except Beltrami North Central Variation 4) have threatened and endangered NHIS records within 1 mile.

West Section (1), (2)			Beltrami North				Beltrami North Central						
Factor	**Element**	**Indicator**	Proposed Blue/Orange Route	Beltrami North Variation 1	Beltrami North Variation 2	NOTES	Proposed Blue/Orange Route	Beltrami North Central Variation 1	Beltrami North Central Variation 2	Beltrami North Central Variation 3	Beltrami North Central Variation 4	Beltrami North Central Variation 5	NOTES
Rare and unique natural resources	**State rare communities**	Summary - proximity to Scientific and Natural Areas (SNA), SNA Watershed Protection Area (WPA), MBS Sites of Biodiversity Significance, MBS native plant communities, High Conservation Value Forest, and Ecologically Important Lowland Conifer stands				Beltrami North Variation 2 would cross the most MBS Sites of Biodiversity Significance ranked outstanding or high, followed by Beltrami North Variation 1. Both the Proposed Blue/Orange Route and Beltrami North Variation 2 would cross High Conservation Value Forest. Beltrami North Variation 2 would cross MBS native plant communities, including communities with a conservation status rank of S2 and S3, while the other alternatives would not cross any MBS native plant communities.							Beltrami North Central Variation 2 would cross a SNA WPA. Proposed Blue/Orange Route and Beltrami North Central Variation 2 would cross the most MBS Sites of Biodiversity Significance ranked outstanding or high. Proposed Blue/Orange Route and Beltrami North Central Variation 4 would parallel the most existing transmission line, roadway, or trail corridor.
Rare and unique natural resources	State rare communities	Proximity to Scientific and Natural Areas (SNAs) (Count within 1,500 feet) and SNA Watershed Protection Area (acres within ROW)	0--0	0--0	0--0	No SNAs would be located within 1,500 feet of any alternative; none of the alternatives would cross a SNA WPA.	0--0	0--0	0--23	0--0	0--0	0--0	Beltrami North Central Variation 2 would cross a SNA WPA, while the other alternatives do not cross a SNA or SNA WPA.
Rare and unique natural resources	State rare communities	Proximity to MBS Sites of Biodiversity Significance - (total acres within ROW)	369	276	460	All alternatives would cross relatively similar amounts of MBS Sites of Biodiversity Significance.	145	97	174	105	102	94	All alternatives would cross a relatively similar amount of MBS Sites of Biodiversity Significance. The Proposed Blue/Orange Route and Beltrami North Central Variation 4 would parallel the most existing transmission line, roadway, or trail corridor.
Rare and unique natural resources	State rare communities	Proximity to MBS Sites of Biodiversity Significance - Rank Outstanding + High (acres within ROW)	0	6	30	Beltrami North Variation 2 would cross the most MBS Sites of Biodiversity Significance ranked outstanding or high.	101	15	115	15	0	0	Proposed Blue/Orange Route and Beltrami North Central Variation 2 would cross the most MBS Sites of Biodiversity Significance ranked outstanding or high; these alternatives would parallel existing corridor through these areas. Beltrami North Central Variation 4 and Beltrami North Central Variation 5 would not cross MBS Sites of Biodiversity Significance ranked outstanding or high.

West Section [(1), (2)]			Beltrami North				Beltrami North Central						
Factor	**Element**	**Indicator**	Proposed Blue/Orange Route	Beltrami North Variation 1	Beltrami North Variation 2	NOTES	Proposed Blue/Orange Route	Beltrami North Central Variation 1	Beltrami North Central Variation 2	Beltrami North Central Variation 3	Beltrami North Central Variation 4	Beltrami North Central Variation 5	NOTES
Rare and unique natural resources	State rare communities	Proximity to MnDNR High Conservation Value Forest, MnDNR Ecologically Important Lowland Conifer Areas (acres within ROW)	8--0	0--0	8--0	Proposed Blue/Orange Route and Beltrami North Variation 2 each cross eight acres of High Conservation Value Forest. Both alternatives would cross along the edge, while paralleling an existing corridor.	0--0	0--0	0--0	0--0	0--0	0--0	There are no known High Conservation Value Forests that would be affected by the alternatives.
Rare and unique natural resources	State rare communities	Proximity to MBS native plant communities (total acres in ROW)	0	0	30	Beltrami North Variation 2 would cross MBS native plant communities, while the other alternatives would not cross these communities.	0	0	0	0	0	0	No MBS native plant community data are available for this area.
Rare and unique natural resources	State rare communities	Proximity to MBS native plant communities (acres of conservation status rank S2 and S3 communities in ROW)	0	0	8	Beltrami North Variation 2 would cross MBS native plant communities with conservation status ranks of S2 and S3, while the alternatives would not cross these communities.	0	0	0	0	0	0	No MBS native plant community data are available for this area.
Use or paralleling of existing rights-of-way		Proximity to high voltage transmission lines, roadways, and trails (percent of total length)	100	72	53	All alternatives would parallel existing transmission line, roadway, and/or trail corridor for at least one-half of their length.	100	48	49	70	92	70	Beltrami North Central Variation 1 and Beltrami North Central Variation 2 would parallel the least existing transmission line, roadway, and/or trail corridor.
Electrical system reliability		Proximity to two or more high voltage transmission lines (percent of total length)	-	-	-	There are no issues with electrical reliability since there would not be three transmission lines paralleling the same corridor.	-	-	-	-	-	-	There are no issues with electrical reliability since there would not be three transmission lines paralleling the same corridor.
Costs of constructing, operating, and maintaining the facility which are dependent on design and route		Total construction cost[(3)]	$18,984,370	ranges from $18,741,668 to $19,591,668	$24,571,721	The maximum cost for the Beltrami North Variation 1 is within 20% of the cost of the Proposed Blue/Orange Route. The cost of the Beltrami North Variation 2 is more than 20% above the cost of the Proposed Blue/Orange Route.	$12,574,123	ranges from $14,038,602 to $14,368,602	$14,478,550	ranges from $16,155,266 to $18,393,663	ranges from $17,168,969 to $25,069,516	ranges from $16,966,730 to $22,958,880	The maximum cost for the Beltrami North Central Variation 1 and Beltrami North Central Variation 2 are within 20% of the cost of the Proposed Blue/Orange Route. The cost of the Beltrami North Central Variation 3, Beltrami North Central Variation 4, and Beltrami North Central Variation 5 are more than 20% above the cost of the Proposed Blue/Orange Route.

(1) Colors represent least impacts (green), moderate impacts (yellow), greatest impacts (red), and no impacts or similar impacts (gray) relative to the specific factor.

(2) Red text indicates information in these rows are included within the DEIS.

(3) Using the Applicant's methodology (see comment in Appendix U), the Applicant-proposed route is green; if the maximum cost of the alternative is less than the Applicant-proposed route - it is green; if the maximum cost of the alternative is up to 20% more than the Applicant-proposed route - it is yellow; if the maximum cost of the alternative is more than 20% above the cost of the Applicant-proposed route - it is red.

Central Section [(1), (2)]			Pine Island			Beltrami South Central		
Factor	Element	Indicator	Proposed Blue Route	Proposed Orange Route	NOTES	Proposed Orange Route	Beltrami South Central Variation	NOTES
Human settlement	Displacement	Proximity to residences	See section on Human Settlement in the Pine Island Variation Area for details		There would be no differences in the impacts for the alternatives.	See section on Human Settlement in the Beltrami South Central Variation Area for details		There would be no differences in the impacts for the alternatives.
Human settlement	Noise	Proximity to noise receptors	See section on Human Settlement in the Pine Island Variation Area for details		There would be no differences in the impacts for the alternatives.	See section on Human Settlement in the Beltrami South Central Variation Area for details		There would be no differences in the impacts for the alternatives.
Human settlement	Air quality	Air emissions (criteria pollutants and greenhouse gases)	See section on Human Settlement in the Pine Island Variation Area for details		There would be no differences in the impacts for the alternatives.	See section on Human Settlement in the Beltrami South Central Variation Area for details		There would be no differences in the impacts for the alternatives.
Human settlement	Property values	Proximity to residences	See section on Human Settlement in the Pine Island Variation Area for details		There would be no differences in the impacts for the alternatives.	See section on Human Settlement in the Beltrami South Central Variation Area for details		There would be no differences in the impacts for the alternatives.
Human settlement	Electronic interference	Proximity to communication towers	See section on Human Settlement in the Pine Island Variation Area for details		There would be no differences in the impacts for the alternatives.	See section on Human Settlement in the Beltrami South Central Variation Area for details		There would be no differences in the impacts for the alternatives.
Human settlement	Transportation and public services	Proximity to roadways, railways	See section on Human Settlement in the Pine Island Variation Area for details		There would be no differences in the impacts for the alternatives.	See section on Human Settlement in the Beltrami South Central Variation Area for details		There would be no differences in the impacts for the alternatives.
Human settlement	Transportation and public services	Proximity to airstrips	See section on Human Settlement in the Pine Island Variation Area for details		There would be no differences in the impacts for the alternatives.	See section on Human Settlement in the Beltrami South Central Variation Area for details		There would be no differences in the impacts for the alternatives.
Human settlement	Environmental justice	Minority populations	See section on Human Settlement in the Pine Island Variation Area for details		There would be no differences in the impacts for the alternatives.	See section on Human Settlement in the Beltrami South Central Variation Area for details		There would be no differences in the impacts for the alternatives.
Human settlement	Environmental justice	Low-income populations	See section on Human Settlement in the Pine Island Variation Area for details		There would be no differences in the impacts for the alternatives.	See section on Human Settlement in the Beltrami South Central Variation Area for details		There would be no differences in the impacts for the alternatives.
Human settlement	Socioeconomics	Population	See section on Human Settlement in the Pine Island Variation Area for details		There would be no differences in the impacts for the alternatives.	See section on Human Settlement in the Beltrami South Central Variation Area for details		There would be no differences in the impacts for the alternatives.
Human settlement	Socioeconomics	Employment	See section on Human Settlement in the Pine Island Variation Area for details		There would be no differences in the impacts for the alternatives.	See section on Human Settlement in the Beltrami South Central Variation Area for details		There would be no differences in the impacts for the alternatives.
Human settlement	Socioeconomics	Taxes and revenue generated	See section on Human Settlement in the Pine Island Variation Area for details		There would be no differences in the impacts for the alternatives.	See section on Human Settlement in the Beltrami South Central Variation Area for details		There would be no differences in the impacts for the alternatives.
Human settlement	Socioeconomics	Housing availability	See section on Human Settlement in the Pine Island Variation Area for details		There would be no differences in the impacts for the alternatives.	See section on Human Settlement in the Beltrami South Central Variation Area for details		There would be no differences in the impacts for the alternatives.
Human settlement	Recreation and tourism	Proximity to recreational resources (county, state, and federal parks and forests, state Scientific and Natural Areas (SNAs), state trails, scenic byways, and snow and water trails)	See section on Human Settlement in the Pine Island Variation Area for details		There would be no differences in the impacts for the alternatives.	See section on Human Settlement in the Beltrami South Central Variation Area for details		There would be no differences in the impacts for the alternatives.
Human settlement	Cultural values	Proximity to residences	See section on Human Settlement in the Pine Island Variation Area for details		There would be no differences in the impacts for the alternatives.	See section on Human Settlement in the Beltrami South Central Variation Area for details		There would be no differences in the impacts for the alternatives.

Central Section [(1), (2)]			Pine Island			Beltrami South Central		
Factor	**Element**	**Indicator**	Proposed Blue Route	Proposed Orange Route	NOTES	Proposed Orange Route	Beltrami South Central Variation	NOTES
Human settlement	**Aesthetics**	Proximity to residences (count within 0-500, 0-1,000, & 0-1,500 ft from the anticipated alignment)	1--9--14	0--0--2	Proposed Blue Route would pass by more residences within 1,500 feet of the anticipated alignment. Proposed Orange Route passes near the Big Bog Recreation Area, but is not visible.	0--0--0	0--0--0	No residences are present within 1,500 feet of the anticipated alignment for either alternative.
Human settlement	**Land use compatibility**	Summary - land use type data and land ownership data			Proposed Blue Route and Proposed Orange Route would cross USFWS Interest Lands (8 acres and 16 acres, respectively), but the Proposed Blue Route could avoid it by using the Silver Creek Alignment Modification. Proposed Orange Route passes near the Big Bog Recreation Area, but is not visible. Proposed Blue Route crosses more private land than the Proposed Orange Route.			Proposed Orange Route would cross USFWS Interest Lands (16 acres), while the Beltrami South Central Variation would not. Neither alternative would cross private land.
Human settlement	Land use compatibility	Land use type data (crosses USFWS Interest Lands or other features, e.g. airstrips)			Proposed Blue Route and Proposed Orange Route would cross USFWS Interest Lands (8 acres and 16 acres, respectively), but the Proposed Blue Route could avoid it by using the Silver Creek Alignment Modification. Proposed Orange Route passes near the Big Bog Recreation Area, but is not visible.			Proposed Orange Route would cross USFWS Interest Lands (16 acres), while the Beltrami South Central Variation would not. Crossing this land would require obtaining a provisional special use permit for construction from the USFWS.
Human settlement	Land use compatibility	Land ownership type data - total acres in ROW (acres of public and private land in the ROW)	Total: 2,661 (2,099--562)	Total: 2,556 (2,310--246)	Proposed Blue Route crosses more private land than the Proposed Orange Route.	Total: 30 (30--0)	Total: 43 (43--0)	Neither alternative would cross private land.
Public health and safety	Electric and magnetic Fields	Proximity to residences	See section on Public Health and Safety in the Pine Island Variation Area for details		There would be no differences in the impacts for the alternatives.	See section on Public Health and Safety in the Beltrami South Central Variation Area for details		There would be no differences in the impacts for the alternatives.
Public health and safety	Implantable medical devices	Proximity to residences	See section on Public Health and Safety in the Pine Island Variation Area for details		There would be no differences in the impacts for the alternatives.	See section on Public Health and Safety in the Beltrami South Central Variation Area for details		There would be no differences in the impacts for the alternatives.
Public health and safety	Stray voltage	Proximity to residences	See section on Public Health and Safety in the Pine Island Variation Area for details		There would be no differences in the impacts for the alternatives.	See section on Public Health and Safety in the Beltrami South Central Variation Area for details		There would be no differences in the impacts for the alternatives.
Public health and safety	Induced voltage	Proximity to residences	See section on Public Health and Safety in the Pine Island Variation Area for details		There would be no differences in the impacts for the alternatives.	See section on Public Health and Safety in the Beltrami South Central Variation Area for details		There would be no differences in the impacts for the alternatives.
Public health and safety	Intentional destructive acts	Intentional destructive acts	See section on Public Health and Safety in the Pine Island Variation Area for details		There would be no differences in the impacts for the alternatives.	See section on Public Health and Safety in the Beltrami South Central Variation Area for details		There would be no differences in the impacts for the alternatives.
Public health and safety	Environmental contamination	Registered sites of contamination	See section on Public Health and Safety in the Pine Island Variation Area for details		There would be no differences in the impacts for the alternatives.	See section on Public Health and Safety in the Beltrami South Central Variation Area for details		There would be no differences in the impacts for the alternatives.
Public health and safety	Worker health and safety	Worker health and safety	See section on Public Health and Safety in the Pine Island Variation Area for details		There would be no differences in the impacts for the alternatives.	See section on Public Health and Safety in the Beltrami South Central Variation Area for details		There would be no differences in the impacts for the alternatives.

Central Section [(1), (2)]			Pine Island			Beltrami South Central		
Factor	**Element**	**Indicator**	Proposed Blue Route	Proposed Orange Route	NOTES	Proposed Orange Route	Beltrami South Central Variation	NOTES
Land based economies	**Agriculture**	Proximity to farmland - total acres in ROW (acres of prime farmland, farmland of statewide importance, and prime farmland if drained in ROW)	Total: 666 (70--289--307)	Total: 693 (70--120--503)	Proposed Blue Route and Proposed Orange Route would cross a relatively similar amounts of farmland.	Total: 0 (0--0--0)	Total: 0 (0--0--0)	Neither alternative would cross farmland.
Land based economies	**Forestry**	Proximity to forest land (acres of state forest land in ROW)	2,291	1,980	Proposed Blue Route and Proposed Orange Route would cross relatively similar amounts of state forest land.	30	43	Both alternatives cross relatively similar amounts of state forest land. Proposed Orange Route parallels existing corridor for its entire length.
Land based economies	**Mining and mineral resources**	Proximity to state mining lease lands (active and/or expired/terminated; acres in ROW) and aggregate resources (count in ROW)	1,205--0	370--2	Proposed Blue Route would cross more expired/terminated mineral lease lands. Proposed Orange route would pass in close proximity to more aggregate resources.	0--0	0--0	No active or expired/terminated mineral lease lands or aggregate resources are present in the ROW of any alternative.
Archaeological and historic architectural resources		Summary - proximity to archaeological and historic architectural resources			Proposed Blue Route would cross a section identified as containing known archaeological resources; Proposed Orange Route does not cross any of these sections. Proposed Orange Route has more historic architectural sites within 1 mile than the Proposed Blue Route.			There are no known archaeological or historic architectural resources that would be affected by the alternatives.
Archaeological and historic resources	Archaeological sites	Proximity to archaeological sites (count within 0-100 ft and 0-1,500 ft from the anticipated alignment)	0--1	0--0	Proposed Blue Route would cross a section identified as containing known archaeological sites; the Proposed Orange Route does not cross any of these sections.	0--0	0--0	There are no known archaeological sites that would be affected by the alternatives.
Archaeological and historic resources	Historic architectural sites	Proximity to historic architectural sites (count within 0-100 ft, 0-1,500 ft, and 0-1 mile from the anticipated alignment)	0--2--2	0--0--7	Proposed Orange Route has more historic architectural sites within 1 mile than the Proposed Blue Route.	0--0--0	0--0--0	There are no known historic architectural sites that would be affected by the alternatives.

Central Section [(1), (2)]			Pine Island			Beltrami South Central		
Factor	**Element**	**Indicator**	Proposed Blue Route	Proposed Orange Route	NOTES	Proposed Orange Route	Beltrami South Central Variation	NOTES
Natural environment	**Water resources**	Summary - proximity to watercourses, waterbodies, floodplains, and wetlands			Proposed Blue Route and Proposed Orange Route would cross similar numbers of watercourses/ waterbodies; however, the Proposed Blue Route would cross one trout stream. All crossings are expected to be spanned, although clearing vegetation adjacent to trout streams could result in increased water temperature, potentially resulting in less suitable trout habitat. Both alternatives would cross relatively similar areas of FEMA-designated floodplain areas that cannot be spanned. Both alternatives would cross relatively similar areas of wetlands that are too large to span and would result in relatively similar areas of shrub and forested wetland type conversion.			There are no differences between the alternatives for crossing watercourses, waterbodies, and floodplains. Proposed Orange Route and Beltrami South Central Variation would cross wetlands that are too large to span. Proposed Orange Route and Beltrami South Central Variation would cross relatively similar areas of wetlands that are too large to span would result in relatively similar areas of forest wetland type conversion. Beltrami South Central Variation would have the most shrub wetland; therefore, would require the most shrub wetland type conversion.
Natural environment	Water resources	Proximity to watercourses and waterbodies - Total number of crossings in ROW (number of PWI crossings, non-PWI crossings); - Trout stream (number of crossings)	Total: 66 (18--48); (1)	Total: 71 (25--46); (0)	Proposed Blue Route and Proposed Orange Route would cross similar numbers of watercourses/waterbodies; however, the Proposed Blue Route would cross one trout stream. All crossings are expected to be spanned, though clearing vegetation adjacent to trout streams could result in increased water temperature, potentially resulting in less suitable trout habitat.	Total: 0	Total: 0	There are no differences between the alternatives.
Natural environment	Water resources	Proximity to floodplains - total acres of floodplain in ROW (acres of Zone A, acres of Zone B)	Total: 20 (20--0)	Total: 11 (11--0)	Both alternatives would cross relatively similar areas of FEMA-designated floodplain areas that are too large to span;	Total: 0	Total: 0	There are no differences between the alternatives.
Natural environment	Water resources	Proximity to wetlands (acres of PSS wetlands in ROW resulting in wetland type conversion)	657	774	Both alternatives would cross relatively similar areas of shrub wetland.	8	28	Beltrami South Central Variation would cross the most shrub wetland.
Natural environment	Water resources	Proximity to wetlands (acres of PFO wetlands in ROW resulting in wetland type conversion)	1,240	1,039	Both alternatives would cross relatively similar areas of forested wetland.	20	11	Both alternatives would cross relatively similar areas of forested wetland.
Natural environment	Water resources	Proximity to wetlands (acres of total wetlands in ROW too large to span)	2,102	1,875	Both alternatives would cross relatively similar areas of total wetland that are too large to span.	30	43	Both alternatives would cross relatively similar areas of total wetland that are too large to span.

Central Section (1), (2)			Pine Island			Beltrami South Central		
Factor	**Element**	**Indicator**	Proposed Blue Route	Proposed Orange Route	NOTES	Proposed Orange Route	Beltrami South Central Variation	NOTES
Natural environment	**Vegetation**	Cover type (acres of forested land cover in ROW)	2,554	2,520	Proposed Blue Route and Proposed Orange Route would cross a relatively similar amount of forested land cover.	30	43	Both alternatives would cross a relatively similar amounts of forested land cover. Proposed Orange Route parallels existing corridor for its entire length.
Natural environment	**Wildlife**	Proximity to wildlife resources - Wildlife Management Areas, Important Bird Areas (acres in ROW) Proximity to shallow lakes (count in ROW)	49--1,405--0	274--1,722--0	Both alternatives would cross a WMA and Important Bird Area. Proposed Orange Route would cross a greater portion of these areas.	0--30--0	0--43--0	Both alternatives would cross a relatively similar amount of Important Bird Area. Proposed Orange Route parallels existing corridor for its entire length.
Rare and unique natural resources	**Federal and state listed species**	Summary - proximity of federal and state-listed species (based on the Natural Heritage Information System (NHIS) database)			There are no federally-listed species identified for these alternatives. Both alternatives would cross critical habitat designated for gray wolf. Proposed Orange Route has more threatened and endangered NHIS records within 1 mile.			There are no federally-listed species identified for these alternatives. Both alternatives have the same number of NHIS records within 1 mile.
Rare and unique natural resources	Federally listed species	Federally-listed species (# of records within 1 mile), designated critical habitat (miles crossed)	0--60	0--85	Both alternatives would cross relatively similar amounts of critical habitat designated for gray wolf.	0--0	0--0	There are no federally-listed species identified for these alternatives. Neither alternative would cross critical habitat designated for gray wolf.
Rare and unique natural resources	State listed species	State-listed species (total # of NHIS records within 1 mile)	16	21	Both alternatives have a relatively similar number of NHIS records within 1 mile.	8	8	Both alternatives have the same number of NHIS records within 1 mile.
Rare and unique natural resources	State listed species	State-listed species (# of threatened and endangered NHIS records within 1 mile)	2	6	The Proposed Orange Route has more threatened and endangered NHIS records within 1 mile.	3	3	Both alternatives have the same number of threatened and endangered NHIS records within 1 mile.

Central Section [(1), (2)]			Pine Island			Beltrami South Central		
Factor	**Element**	**Indicator**	Proposed Blue Route	Proposed Orange Route	NOTES	Proposed Orange Route	Beltrami South Central Variation	NOTES
Rare and unique natural resources	**State rare communities**	Summary - proximity to Scientific and Natural Areas (SNAs), SNA Watershed Protection Area (WPA), MBS Sites of Biodiversity Significance, MBS native plant communities, High Conservation Value Forest, and Ecologically Important Lowland Conifer stands			Proposed Blue Route and Proposed Orange Route would have an SNA within 1,500 feet; however, the Proposed Blue Route would parallel an existing corridor in this area, while the Proposed Orange Route would not. Proposed Orange Route would cross more SNA WPAs. Proposed Blue Route would cross more Ecologically Important Lowland Conifer Areas.			Both alternatives would cross a relatively similar amount of MBS Sites of Biodiversity Significance. Proposed Orange Route would parallel existing corridor for its entire length.
Rare and unique natural resources	State rare communities	Proximity to Scientific and Natural Areas (SNAs) (count within 1,500 feet) and SNA Watershed Protection Area (acres within ROW)	1--125	1--247	Proposed Blue Route would have 100 acres of a SNA within 1,500 feet and the Proposed Orange Route would have 50 acres of a SNA within 1,500 feet; neither alternative has an SNA within its ROW. Proposed Blue Route would parallel an existing corridor in this area, while the Proposed Orange Route would require new corridor. Proposed Orange Route would cross more acres of SNA WPAs.	0--0	0--0	No SNAs would be located within 1,500 feet of any alternative; no alternative would cross an SNA WPA.
Rare and unique natural resources	State rare communities	Proximity to MBS Sites of Biodiversity Significance (total acres within ROW)	1,514	1,639	Both alternatives would cross a relatively similar amount of MBS Sites of Biodiversity Significance.	30	43	Both alternatives would cross a relatively similar amount of MBS Sites of Biodiversity Significance.
Rare and unique natural resources	State rare communities	Proximity to MnDNR High Conservation Value Forest, MnDNR Ecologically Important Lowland Conifer Areas (acres within ROW)	0--29	0--5	Proposed Blue Route would cross more Ecologically Important Lowland Conifer Areas.	0--0	0--0	There are no known Ecologically Important Lowland Conifer Areas that would be affected by the alternatives.
Rare and unique natural resources	State rare communities	Proximity to MBS native plant communities (total acres in ROW)	-	-	No MBS native plant community data are available for this area.	-	-	No MBS native plant community data are available for this area.

Central Section [1], [2]			Pine Island			Beltrami South Central		
Factor	**Element**	**Indicator**	Proposed Blue Route	Proposed Orange Route	NOTES	Proposed Orange Route	Beltrami South Central Variation	NOTES
Use or paralleling of existing rights-of-way		Proximity to high voltage transmission lines, roadways, and trails (percent of total length)	40	23	Both alternatives would parallel existing transmission line, roadway, and/or trail corridor.	100	0	Proposed Orange Route would parallel an existing transmission line, roadway, and/or trail corridor for the entire length. Beltrami South Central Variation would not parallel any corridors.
Electrical system reliability		Proximity to two or more high voltage transmission lines (percent of total length)	-	-	There are no issues with electrical reliability since there would not be three transmission lines paralleling the same corridor.	-	-	There are no issues with electrical reliability since there would not be three transmission lines paralleling the same corridor.
Costs of constructing, operating, and maintaining the facility which are dependent on design and route		Total construction cost[3]	$118,546,237	ranges from $112,884,087 to $118,876,237	The cost of the alternative is within 20% of the cost of the Proposed Blue Route.	$1,214,573	$3,440,123	The cost of the alternative is more than 20% above the cost of the Proposed Orange Route.

(1) Colors represent least impacts (green), moderate impacts (yellow), greatest impacts (red), and no impacts or similar impacts (gray) relative to the specific factor.

(2) Red text indicates information in these rows are included within the DEIS.

(3) Using the Applicant's methodology (see comment in Appendix U), the Applicant-proposed route is green; if the maximum cost of the alternative is less than the Applicant-proposed route - it is green; if the maximum cost of the alternative is up to 20% more than the Applicant-proposed route - it is yellow; if the maximum cost of the alternative is more than 20% above the cost of the Applicant-proposed route - it is red.

Central Section [(1), (2)]			Beltrami South			North Black River		
Factor	Element	Indicator	Proposed Orange Route	Beltrami South Variation	NOTES	Proposed Blue Route	North Black River Variation	NOTES
Human settlement	Displacement	Proximity to residences	See section on Human Settlement in the Beltrami South Variation Area for details		There would be no differences in the impacts for the alternatives.	See section on Human Settlement in the North Black River Variation Area for details		There would be no differences in the impacts for the alternatives.
Human settlement	Noise	Proximity to noise receptors	See section on Human Settlement in the Beltrami South Variation Area for details		There would be no differences in the impacts for the alternatives.	See section on Human Settlement in the North Black River Variation Area for details		There would be no differences in the impacts for the alternatives.
Human settlement	Air quality	Air emissions (criteria pollutants and greenhouse gases)	See section on Human Settlement in the Beltrami South Variation Area for details		There would be no differences in the impacts for the alternatives.	See section on Human Settlement in the North Black River Variation Area for details		There would be no differences in the impacts for the alternatives.
Human settlement	Property values	Proximity to residences	See section on Human Settlement in the Beltrami South Variation Area for details		There would be no differences in the impacts for the alternatives.	See section on Human Settlement in the North Black River Variation Area for details		There would be no differences in the impacts for the alternatives.
Human settlement	Electronic interference	Proximity to communication towers	See section on Human Settlement in the Beltrami South Variation Area for details		There would be no differences in the impacts for the alternatives.	See section on Human Settlement in the North Black River Variation Area for details		There would be no differences in the impacts for the alternatives.
Human settlement	Transportation and public services	Proximity to roadways, railways	See section on Human Settlement in the Beltrami South Variation Area for details		There would be no differences in the impacts for the alternatives.	See section on Human Settlement in the North Black River Variation Area for details		There would be no differences in the impacts for the alternatives.
Human settlement	Transportation and public services	Proximity to airstrips	See section on Human Settlement in the Beltrami South Variation Area for details		There would be no differences in the impacts for the alternatives.	See section on Human Settlement in the North Black River Variation Area for details		There would be no differences in the impacts for the alternatives.
Human settlement	Environmental justice	Minority populations	See section on Human Settlement in the Beltrami South Variation Area for details		There would be no differences in the impacts for the alternatives.	See section on Human Settlement in the North Black River Variation Area for details		There would be no differences in the impacts for the alternatives.
Human settlement	Environmental justice	Low-income populations	See section on Human Settlement in the Beltrami South Variation Area for details		There would be no differences in the impacts for the alternatives.	See section on Human Settlement in the North Black River Variation Area for details		There would be no differences in the impacts for the alternatives.
Human settlement	Socioeconomics	Population	See section on Human Settlement in the Beltrami South Variation Area for details		There would be no differences in the impacts for the alternatives.	See section on Human Settlement in the North Black River Variation Area for details		There would be no differences in the impacts for the alternatives.
Human settlement	Socioeconomics	Employment	See section on Human Settlement in the Beltrami South Variation Area for details		There would be no differences in the impacts for the alternatives.	See section on Human Settlement in the North Black River Variation Area for details		There would be no differences in the impacts for the alternatives.
Human settlement	Socioeconomics	Taxes and revenue generated	See section on Human Settlement in the Beltrami South Variation Area for details		There would be no differences in the impacts for the alternatives.	See section on Human Settlement in the North Black River Variation Area for details		There would be no differences in the impacts for the alternatives.
Human settlement	Socioeconomics	Housing availability	See section on Human Settlement in the Beltrami South Variation Area for details		There would be no differences in the impacts for the alternatives.	See section on Human Settlement in the North Black River Variation Area for details		There would be no differences in the impacts for the alternatives.
Human settlement	Recreation and tourism	Proximity to recreational resources (county, state, and federal parks and forests, state Scientific and Natural Areas (SNAs), state trails, scenic byways, and snow and water trails)	See section on Human Settlement in the Beltrami South Variation Area for details		There would be no differences in the impacts for the alternatives.	See section on Human Settlement in the North Black River Variation Area for details		There would be no differences in the impacts for the alternatives.
Human settlement	Cultural values	Proximity to residences	See section on Human Settlement in the Beltrami South Variation Area for details		There would be no differences in the impacts for the alternatives.	See section on Human Settlement in the North Black River Variation Area for details		There would be no differences in the impacts for the alternatives.

Central Section [(1), (2)]			Beltrami South			North Black River		
Factor	**Element**	**Indicator**	Proposed Orange Route	Beltrami South Variation	NOTES	Proposed Blue Route	North Black River Variation	NOTES
Human settlement	**Aesthetics**	Proximity to residences (count within 0-500, 0-1,000, & 0-1,500 ft from the anticipated alignment)	0--0--0	0--0--0	No residences are present within 1,500 feet of the anticipated alignment for either alternative.	0--0--1	3--4--5	North Black River Variation would pass by more residences within 1,500 feet of the anticipated alignment. North Black River would parallel existing transmission line corridor for its entire length.
Human settlement	**Land use compatibility**	Summary - land use type data and land ownership data			Beltrami South Variation would avoid USFWS Interest Lands. It is unknown whether the anticipated alignment of the Proposed Orange Route would impact USFWS Interest Lands; land surveys would need to be completed to determine impacts. Beltrami South Variation would cross more private land.			North Black River Variation would cross more private land.
Human settlement	Land use compatibility	Land use type data (crosses USFWS Interest Lands or other features, e.g. airstrips)			Beltrami South Variation would avoid USFWS Interest Lands. It is unknown whether the anticipated alignment of the Proposed Orange Route would impact USFWS land; land surveys would need to be completed to determine impacts.			There are no land use compatibility issues identified for the alternatives.
Human settlement	Land use compatibility	Land ownership type data - total acres in ROW (acres of public and private land in the ROW)	Total: 136 (136--0)	Total: 183 (181--2)	Beltrami South Variation would cross more private land.	Total: 204 (184--20)	Total: 223 (158--65)	North Black River Variation would cross more private land.
Public health and safety	Electric and magnetic Fields	Proximity to residences	See section on Public Health and Safety in the Beltrami South Variation Area for details		There would be no differences in the impacts for the alternatives.	See section on Public Health and Safety in the North Black River Variation Area for details		There would be no differences in the impacts for the alternatives.
Public health and safety	Implantable medical devices	Proximity to residences	See section on Public Health and Safety in the Beltrami South Variation Area for details		There would be no differences in the impacts for the alternatives.	See section on Public Health and Safety in the North Black River Variation Area for details		There would be no differences in the impacts for the alternatives.
Public health and safety	Stray voltage	Proximity to residences	See section on Public Health and Safety in the Beltrami South Variation Area for details		There would be no differences in the impacts for the alternatives.	See section on Public Health and Safety in the North Black River Variation Area for details		There would be no differences in the impacts for the alternatives.
Public health and safety	Induced voltage	Proximity to residences	See section on Public Health and Safety in the Beltrami South Variation Area for details		There would be no differences in the impacts for the alternatives.	See section on Public Health and Safety in the North Black River Variation Area for details		There would be no differences in the impacts for the alternatives.
Public health and safety	Intentional destructive acts	Intentional destructive acts	See section on Public Health and Safety in the Beltrami South Variation Area for details		There would be no differences in the impacts for the alternatives.	See section on Public Health and Safety in the North Black River Variation Area for details		There would be no differences in the impacts for the alternatives.
Public health and safety	Environmental contamination	Registered sites of contamination	See section on Public Health and Safety in the Beltrami South Variation Area for details		There would be no differences in the impacts for the alternatives.	See section on Public Health and Safety in the North Black River Variation Area for details		There would be no differences in the impacts for the alternatives.
Public health and safety	Worker health and safety	Worker health and safety	See section on Public Health and Safety in the Beltrami South Variation Area for details		There would be no differences in the impacts for the alternatives.	See section on Public Health and Safety in the North Black River Variation Area for details		There would be no differences in the impacts for the alternatives.

Central Section [(1), (2)]			Beltrami South			North Black River		
Factor	**Element**	**Indicator**	Proposed Orange Route	Beltrami South Variation	NOTES	Proposed Blue Route	North Black River Variation	NOTES
Land based economies	**Agriculture**	Proximity to farmland - total acres in ROW (acres of prime farmland, farmland of statewide importance, and prime farmland if drained in ROW)	Total: 0 (0--0--0)	Total: 0 (0--0--0)	Neither alternative would cross farmland.	Total: 41 (0--29--12)	Total: 64 (0--14--50)	Both alternatives would cross a relatively similar amount of farmland.
Land based economies	**Forestry**	Proximity to forest land (acres of state forest land in ROW)	136	183	Both alternatives cross relatively similar amounts of state forest land. Proposed Orange Route would parallel an existing transmission line corridor for its entire length.	188	156	Both alternatives would cross a relatively similar amount of state forest land. North Black River Variation would parallel an existing transmission line corridor for its entire length.
Land based economies	**Mining and mineral resources**	Proximity to state mining lease lands (active and/or expired/terminated; acres in ROW) and aggregate resources (count in ROW)	58--0	287--0	Beltrami South Variation crosses more expired/terminated mineral lease lands.	405--0	362--0	Both alternatives would cross a relatively similar amount of expired/terminated mineral lease lands. North Black River Variation would parallel an existing transmission line corridor for its entire length.
Archaeological and historic architectural resources		Summary - proximity to archaeological and historic architectural resources			There are no known archaeological and historic architectural resources that would be affected by the alternatives.			There are no known archaeological and historic architectural resources that would be affected by the alternatives.
Archaeological and historic resources	Archaeological sites	Proximity to archaeological sites (count within 0-100 ft and 0-1,500 ft from the anticipated alignment)	0--0	0--0	There are no known archaeological sites that would be affected by the alternatives.	0--0	0--0	There are no known archaeological sites that would be affected by the alternatives.
Archaeological and historic resources	Historic architectural sites	Proximity to historic architectural sites (count within 0-100 ft, 0-1,500 ft, and 0-1 mile from the anticipated alignment)	0--0--0	0--0--0	There are no known historic architectural sites that would be affected by the alternatives.	0--0--0	0--0--0	There are no known historic architectural sites that would be affected by the alternatives.

Central Section [(1), (2)]			Beltrami South			North Black River		
Factor	**Element**	**Indicator**	Proposed Orange Route	Beltrami South Variation	NOTES	Proposed Blue Route	North Black River Variation	NOTES
Natural environment	**Water resources**	Summary - proximity to watercourses, waterbodies, floodplains, and wetlands			There are no differences between the alternatives for crossing watercourses, waterbodies, or floodplains. Both alternatives would cross relatively similar areas of wetlands that are too large to span and would result in relatively similar areas of shrub and forested wetland type conversion.			There would be no differences between the alternatives for crossing watercourses, waterbodies, and floodplains. Both alternatives would cross relatively similar areas of wetlands that are too large to span and would result in relatively similar areas of shrub and forested wetland type conversion.
Natural environment	Water resources	Proximity to watercourses and waterbodies - Total number of crossings in ROW (number of PWI crossings, non-PWI crossings); - Trout stream (number of crossings)	Total: 0	Total: 0	There are no differences between the alternatives.	Total: 4 (0--4) (0)	Total: 4 (0--4) (0)	There are no differences between the alternatives.
Natural environment	Water resources	Proximity to floodplains - total acres of floodplain in ROW (acres of Zone A, acres of Zone B)	Total: 0	Total: 0	There are no differences between the alternatives.	Total: 0	Total: 0	There are no differences between the alternatives.
Natural environment	Water resources	Proximity to wetlands (acres of PSS wetlands in ROW resulting in wetland type conversion)	40	20	Both alternatives would cross relatively similar areas of shrub wetland.	72	83	Both alternatives would cross relatively similar areas of shrub wetland.
Natural environment	Water resources	Proximity to wetlands (acres of PFO wetlands in ROW resulting in wetland type conversion)	93	160	Both alternatives would cross relatively similar areas of forested wetland.	113	73	Both alternatives would cross relatively similar areas of forested wetland.
Natural environment	Water resources	Proximity to wetlands (acres of total wetlands in ROW too large to span)	136	183	Both alternatives would cross relatively similar areas of total wetland that are too large to span.	193	198	Both alternatives would cross relatively similar areas of total wetland that are too large to span.

Central Section [(1), (2)]			Beltrami South			North Black River		
Factor	**Element**	**Indicator**	Proposed Orange Route	Beltrami South Variation	NOTES	Proposed Blue Route	North Black River Variation	NOTES
Natural environment	**Vegetation**	Cover type (acres of forested land cover in ROW)	135	183	Both alternatives would cross relatively similar amounts of state forest land. Proposed Orange Route would parallel an existing transmission line corridor for its entire length.	204	197	Both alternatives would cross a relatively similar amount of forested land cover. North Black River Variation would parallel an existing transmission line corridor for its entire length.
Natural environment	**Wildlife**	Proximity to wildlife resources - Wildlife Management Areas, Important Bird Areas (acres in ROW) Proximity to shallow lakes (count in ROW)	0--136--0	0--183--0	Both alternatives would cross a relatively similar amount of Important Bird Area. Proposed Orange Route would parallel existing corridor for its entire length.	0--191--0	0--214--0	Both alternatives would cross a relatively similar amount of Important Bird Area. North Black River Variation would parallel an existing transmission line corridor for its entire length.
Rare and unique natural resources	**Federal and state listed species**	Summary - proximity of federal and state-listed species (based on the Natural Heritage Information System (NHIS) database)			There are no federally-listed species identified for these alternatives. Both alternatives cross minimal amounts of critical habitat designated for gray wolf, with Beltrami South Variation crossing slightly more than the Proposed Orange Route. Beltrami South Variation has more NHIS records within 1 mile, including a NHIS record for a threatened species.			There are no federally-listed species identified for these alternatives. The alternatives avoid critical habitat designated for gray wolf. There are no documented NHIS records within 1 mile of these alternatives.
Rare and unique natural resources	Federally listed species	Federally-listed species (# of records within 1 mile), designated critical habitat (miles crossed)	0--1	0--3	There are no federally-listed species identified for these alternatives. The alternatives cross minimal amounts of critical habitat designated for gray wolf, with Beltrami South Variation crossing slightly more than the Proposed Orange Route.	0--0	0--0	There are no federally-listed species identified for these alternatives. Neither alternative would cross critical habitat designated for gray wolf.
Rare and unique natural resources	State listed species	State-listed species (total # of NHIS records within 1 mile)	1	4	Beltrami South Variation has more NHIS records within 1 mile.	0	0	There are no NHIS records within 1 mile of these alternatives.
Rare and unique natural resources	State listed species	State-listed species (# of threatened and endangered NHIS records within 1 mile)	0	1	Beltrami South Variation has one threatened NHIS record within 1 mile.	0	0	No threatened or endangered NHIS records have been documented within 1 mile of either alternative.

Central Section [(1), (2)]			Beltrami South			North Black River		
Factor	**Element**	**Indicator**	Proposed Orange Route	Beltrami South Variation	NOTES	Proposed Blue Route	North Black River Variation	NOTES
Rare and unique natural resources	**State rare communities**	Summary - proximity to Scientific and Natural Areas (SNAs), SNA Watershed Protection Area (WPA), MBS Sites of Biodiversity Significance, MBS native plant communities, High Conservation Value Forest, and Ecologically Important Lowland Conifer stands			Both alternatives would cross a relatively similar amount of MBS Sites of Biodiversity Significance. Proposed Orange Route would parallel an existing transmission line corridor for its entire length.			Both alternatives would cross a relatively similar amount of a SNA WPA and MBS Sites of Biodiversity Significance. North Black River Variation would parallel an existing transmission line corridor for its entire length.
Rare and unique natural resources	State rare communities	Proximity to Scientific and Natural Areas (SNAs) (count within 1,500 feet) and SNA Watershed Protection Area (acres within ROW)	0--0	0--0	No SNAs would be located within 1,500 feet of any alternative; no alternative would cross an SNA WPA.	0--86	0--94	Both alternatives would cross a relatively similar amount of a SNA WPA. North Black River Variation would parallel an existing transmission line corridor for its entire length.
Rare and unique natural resources	State rare communities	Proximity to MBS Sites of Biodiversity Significance (total acres within ROW)	120	161	Both alternatives would cross a relatively similar amount of MBS Sites of Biodiversity Significance. The Proposed Orange Route would parallel an existing transmission line corridor for its entire length.	165	109	Both alternatives would cross a relatively similar amount of MBS Sites of Biodiversity Significance. North Black River Variation would parallel an existing transmission line corridor for its entire length.
Rare and unique natural resources	State rare communities	Proximity to MnDNR High Conservation Value Forest, MnDNR Ecologically Important Lowland Conifer Areas (acres within ROW)	0--0	0--0	There are no known Ecologically Important Lowland Conifer Areas that would be affected by the alternatives.	0--0	0--0	There are no known Ecologically Important Lowland Conifer Areas that would be affected by the alternatives.
Rare and unique natural resources	State rare communities	Proximity to MBS native plant communities (total acres in ROW)	-	-	No MBS native plant communities data are available for this area.	-	-	No MBS native plant community data are available for this area.

Central Section [1], [2]			Beltrami South			North Black River		
Factor	**Element**	**Indicator**	Proposed Orange Route	Beltrami South Variation	NOTES	Proposed Blue Route	North Black River Variation	NOTES
Use or paralleling of existing rights-of-way		Proximity to high voltage transmission lines, roadways, and trails (percent of total length)	100	0	Proposed Orange Route would parallel an existing transmission line, roadway, and/or trail corridor for the entire length. Beltrami South Variation would not parallel any corridors.	0	100	North Black River Variation would parallel an existing transmission line, roadway, and/or trail corridor for its entire length. Proposed Blue Route would not parallel any corridors.
Electrical system reliability		Proximity to two or more high voltage transmission lines (percent of total length)	-	-	There are no issues with electrical reliability since there would not be three transmission lines paralleling the same corridor.	-	-	There are no issues with electrical reliability since there would not be three transmission lines paralleling the same corridor.
Costs of constructing, operating, and maintaining the facility which are dependent on design and route		Total construction cost[3]	$5,805,518	$9,925,396	The cost of the alternative is more than 20% above the cost of the Proposed Orange Route.	$9,893,560	$10,552,560	The cost of the alternative is within 20% of the cost of the Proposed Blue Route.

(1) Colors represent least impacts (green), moderate impacts (yellow), greatest impacts (red), and no impacts or similar impacts (gray) relative to the specific factor.

(2) Red text indicates information in these rows are included within the DEIS.

(3) Using the Applicant's methodology (see comment in Appendix U), the Applicant-proposed route is green; if the maximum cost of the alternative is less than the Applicant-proposed route - it is green; if the maximum cost of the alternative is up to 20% more than the Applicant-proposed route - it is yellow; if the maximum cost of the alternative is more than 20% above the cost of the Applicant-proposed route - it is red.

Central Section (1), (2)			**C2 Segment Option**			**J2 Segment Option**		
Factor	**Element**	**Indicator**	Proposed Blue Route	C2 Segment Option Variation	NOTES	Proposed Orange Route	J2 Segment Option Variation	NOTES
Human settlement	Displacement	Proximity to residences	See section on Human Settlement in the C2 Segment Option Variation Area for details		There would be no differences in the impacts for the alternatives.	See section on Human Settlement in the J2 Segment Option Variation Area for details		There would be no differences in the impacts for the alternatives.
Human settlement	Noise	Proximity to noise receptors	See section on Human Settlement in the C2 Segment Option Variation Area for details		There would be no differences in the impacts for the alternatives.	See section on Human Settlement in the J2 Segment Option Variation Area for details		There would be no differences in the impacts for the alternatives.
Human settlement	Air quality	Air emissions (criteria pollutants and greenhouse gases)	See section on Human Settlement in the C2 Segment Option Variation Area for details		There would be no differences in the impacts for the alternatives.	See section on Human Settlement in the J2 Segment Option Variation Area for details		There would be no differences in the impacts for the alternatives.
Human settlement	Property values	Proximity to residences	See section on Human Settlement in the C2 Segment Option Variation Area for details		There would be no differences in the impacts for the alternatives.	See section on Human Settlement in the J2 Segment Option Variation Area for details		There would be no differences in the impacts for the alternatives.
Human settlement	Electronic interference	Proximity to communication towers	See section on Human Settlement in the C2 Segment Option Variation Area for details		There would be no differences in the impacts for the alternatives.	See section on Human Settlement in the J2 Segment Option Variation Area for details		There would be no differences in the impacts for the alternatives.
Human settlement	Transportation and public services	Proximity to roadways, railways	See section on Human Settlement in the C2 Segment Option Variation Area for details		There would be no differences in the impacts for the alternatives.	See section on Human Settlement in the J2 Segment Option Variation Area for details		There would be no differences in the impacts for the alternatives.
Human settlement	Transportation and public services	Proximity to airstrips	See section on Human Settlement in the C2 Segment Option Variation Area for details		There would be no differences in the impacts for the alternatives.	See section on Human Settlement in the J2 Segment Option Variation Area for details		There would be no differences in the impacts for the alternatives.
Human settlement	Environmental justice	Minority populations	See section on Human Settlement in the C2 Segment Option Variation Area for details		There would be no differences in the impacts for the alternatives.	See section on Human Settlement in the J2 Segment Option Variation Area for details		There would be no differences in the impacts for the alternatives.
Human settlement	Environmental justice	Low-income populations	See section on Human Settlement in the C2 Segment Option Variation Area for details		There would be no differences in the impacts for the alternatives.	See section on Human Settlement in the J2 Segment Option Variation Area for details		There would be no differences in the impacts for the alternatives.
Human settlement	Socioeconomics	Population	See section on Human Settlement in the C2 Segment Option Variation Area for details		There would be no differences in the impacts for the alternatives.	See section on Human Settlement in the J2 Segment Option Variation Area for details		There would be no differences in the impacts for the alternatives.
Human settlement	Socioeconomics	Employment	See section on Human Settlement in the C2 Segment Option Variation Area for details		There would be no differences in the impacts for the alternatives.	See section on Human Settlement in the J2 Segment Option Variation Area for details		There would be no differences in the impacts for the alternatives.
Human settlement	Socioeconomics	Taxes and revenue generated	See section on Human Settlement in the C2 Segment Option Variation Area for details		There would be no differences in the impacts for the alternatives.	See section on Human Settlement in the J2 Segment Option Variation Area for details		There would be no differences in the impacts for the alternatives.
Human settlement	Socioeconomics	Housing availability	See section on Human Settlement in the C2 Segment Option Variation Area for details		There would be no differences in the impacts for the alternatives.	See section on Human Settlement in the J2 Segment Option Variation Area for details		There would be no differences in the impacts for the alternatives.
Human settlement	Recreation and tourism	Proximity to recreational resources (county, state, and federal parks and forests, state Scientific and Natural Areas (SNAs), state trails, scenic byways, and snow and water trails)	See section on Human Settlement in the C2 Segment Option Variation Area for details		There would be no differences in the impacts for the alternatives.	See section on Human Settlement in the J2 Segment Option Variation Area for details		There would be no differences in the impacts for the alternatives.
Human settlement	Cultural values	Proximity to residences	See section on Human Settlement in the C2 Segment Option Variation Area for details		There would be no differences in the impacts for the alternatives.	See section on Human Settlement in the J2 Segment Option Variation Area for details		There would be no differences in the impacts for the alternatives.

Central Section [(1), (2)]			C2 Segment Option			J2 Segment Option		
Factor	**Element**	**Indicator**	Proposed Blue Route	C2 Segment Option Variation	NOTES	Proposed Orange Route	J2 Segment Option Variation	NOTES
Human settlement	**Aesthetics**	Proximity to residences (count within 0-500, 0-1,000, & 0-1,500 ft from the anticipated alignment)	0--0--0	4--14--29	C2 Segment Option Variation would pass by more residences within 1,500 feet of the anticipated alignment. C2 Segment Option Variation would parallel existing transmission line corridor for the majority of its length.	0--0--0	1--5--6	J2 Segment Option Variation would pass by more residences within 1,500 feet of the anticipated alignment.
Human settlement	**Land use compatibility**	Summary - land use type data and land ownership data			C2 Segment Option Variation would pass near an airstrip, but could avoid potential impacts by using the Airstrip Alignment Modification. C2 Segment Option Variation would cross more private land.			J2 Segment Option Variation would cross USFWS Interest Lands (28 acres) and would cross more private land.
Human settlement	Land use compatibility	Land use type data (crosses USFWS Interest Lands or other features, e.g. airstrips)			C2 Segment Option Variation would pass near an airstrip, but could avoid potential impacts by using the Airstrip Alignment Modification			J2 Segment Option Variation would cross USFWS Interest Lands (28 acres), while the Proposed Orange Route would not. Crossing this land would require obtaining a provisional special use permit for construction from the USFWS.
Human settlement	Land use compatibility	Land ownership type data - total acres in ROW (acres of public and private land in the ROW)	Total: 797 (731--66)	Total: 1,116 (654--462)	C2 Segment Option Variation would cross more private land.	Total: 1,024 (945--79)	Total: 1,096 (867--229)	J2 Segment Option Variation would cross more private land.
Public health and safety	Electric and magnetic Fields	Proximity to residences	See section on Public Health and Safety in the C2 Segment Option Variation Area for details		There would be no differences in the impacts for the alternatives.	See section on Public Health in the J2 Segment Option Variation Area for details		There would be no differences in the impacts for the alternatives.
Public health and safety	Implantable medical devices	Proximity to residences	See section on Public Health and Safety in the C2 Segment Option Variation Area for details		There would be no differences in the impacts for the alternatives.	See section on Public Health in the J2 Segment Option Variation Area for details		There would be no differences in the impacts for the alternatives.
Public health and safety	Stray voltage	Proximity to residences	See section on Public Health and Safety in the C2 Segment Option Variation Area for details		There would be no differences in the impacts for the alternatives.	See section on Public Health in the J2 Segment Option Variation Area for details		There would be no differences in the impacts for the alternatives.
Public health and safety	Induced voltage	Proximity to residences	See section on Public Health and Safety in the C2 Segment Option Variation Area for details		There would be no differences in the impacts for the alternatives.	See section on Public Health in the J2 Segment Option Variation Area for details		There would be no differences in the impacts for the alternatives.
Public health and safety	Intentional destructive acts	Intentional destructive acts	See section on Public Health and Safety in the C2 Segment Option Variation Area for details		There would be no differences in the impacts for the alternatives.	See section on Public Health in the J2 Segment Option Variation Area for details		There would be no differences in the impacts for the alternatives.
Public health and safety	Environmental contamination	Registered sites of contamination	See section on Public Health and Safety in the C2 Segment Option Variation Area for details		There would be no differences in the impacts for the alternatives.	See section on Public Health in the J2 Segment Option Variation Area for details		There would be no differences in the impacts for the alternatives.
Public health and safety	Worker health and safety	Worker health and safety	See section on Public Health and Safety in the C2 Segment Option Variation Area for details		There would be no differences in the impacts for the alternatives.	See section on Public Health in the J2 Segment Option Variation Area for details		There would be no differences in the impacts for the alternatives.

Central Section [(1), (2)]			C2 Segment Option			J2 Segment Option		
Factor	**Element**	**Indicator**	Proposed Blue Route	C2 Segment Option Variation	NOTES	Proposed Orange Route	J2 Segment Option Variation	NOTES
Land based economies	**Agriculture**	Proximity to farmland - total acres in ROW (acres of prime farmland, farmland of statewide importance, and prime farmland if drained in ROW)	Total: 172 (2--78--92)	Total: 326 25--177--124	Both alternatives would cross farmland. C2 Segment Option Variation would parallel existing transmission line corridor for the majority of its length, while the Proposed Blue Route would not parallel any existing corridor.	Total: 494 (61--60--373)	Total: 700 (159--241--300)	Both alternatives would cross a relatively similar amount of farmland.
Land based economies	**Forestry**	Proximity to forest land (acres of state forest land in ROW)	797	274	Proposed Blue Route would cross more state forest land.	851	715	Both alternatives would cross a relatively similar amount of state forest land.
Land based economies	**Mining and mineral resources**	Proximity to state mining lease lands (active and/or expired/terminated; acres in ROW) and aggregate resources (count in ROW)	16--0	67--0	C2 Segment Option Variation would cross more expired/terminated mineral lease lands.	82--2	73--1	Both alternatives would cross a relatively similar amount of expired/terminated mineral lease lands. The Proposed Orange Route would pass by more aggregate resources.
Archaeological and historic architectural resources		Summary - proximity to archaeological and historic architectural resources			There are no known archaeological and historic architectural resources that would be affected by the alternatives.			J2 Segment Option Variation has more historic architectural sites within 1 mile than the Proposed Orange Route. There are no known archaeological sites that would be affected by the alternatives.
Archaeological and historic resources	Archaeological sites	Proximity to archaeological sites (count within 0-100 ft and 0-1,500 ft from the anticipated alignment)	0--0	0--0	There are no known archaeological sites that would be affected by the alternatives.	0--0	0--0	There are no known archaeological sites that would be affected by the alternatives.
Archaeological and historic resources	Historic architectural sites	Proximity to historic architectural sites (count within 0-100 ft, 0-1,500 ft, and 0-1 mile from the anticipated alignment)	0--0--0	0--0--0	There are no known historic architectural sites that would be affected by the alternatives.	0--0--2	0--2--7	J2 Segment Option Variation has more historic architectural sites within 1 mile than the Proposed Orange Route.

Central Section (1), (2)			**C2 Segment Option**			**J2 Segment Option**		
Factor	**Element**	**Indicator**	Proposed Blue Route	C2 Segment Option Variation	NOTES	Proposed Orange Route	J2 Segment Option Variation	NOTES
Natural environment	**Water resources**	Summary - proximity to watercourses, waterbodies, floodplains, and wetlands			Proposed Blue Route would cross the most watercourses/waterbodies; however, all crossings are expected to be spanned. Proposed Blue Route and the C2 Segment Option Variation cross FEMA-designated floodplain areas, C2 Segment Option Variation would cross the most floodplain. Both alternatives would cross relatively similar areas of wetlands that are too large to span and would result in relatively similar areas of shrub and forested wetland type conversion.			Both alternatives would cross relatively similar numbers of watercourses/waterbodies, all of which are expected to be spanned. Proposed Orange Route would cross FEMA-designated floodplains; however the areas are small and would be spanned. Both alternatives would cross relatively similar areas of wetlands that are too large to span and would result in relatively similar areas of shrub and forested wetland type conversion.
Natural environment	Water resources	Proximity to watercourses and waterbodies - Total number of crossings in ROW (number of PWI crossings, non-PWI crossings); - Trout stream (number of crossings)	Total: 17 (5--12) (0)	Total: 8 (3--5) (0)	Proposed Blue Route would cross the most watercourses/waterbodies; however, all crossings are expected to be spanned.	Total: 30 (6--24) (0)	Total: 39 (3--36) (0)	Both alternatives would cross relatively similar numbers of watercourses/waterbodies.
Natural environment	Water resources	Proximity to floodplains - total acres of floodplain in ROW (acres of Zone A, acres of Zone B)	Total: 8 (8--0)	Total: 28 (28--0)	Proposed Blue Route and the C2 Segment Option Variation cross FEMA-designated floodplain areas large enough that they cannot be spanned; C2 Segment Option Variation would cross the most floodplain.	Total: 3 (3--0)	Total: 0	Proposed Orange Route would cross FEMA-designated floodplains; however the areas are small and are expected to be spanned.
Natural environment	Water resources	Proximity to wetlands (acres of PSS wetlands in ROW resulting in wetland type conversion)	80	175	C2 Segment Option Variation would cross the most shrub wetland.	96	97	Both alternatives would cross relatively similar areas of shrub wetland.
Natural environment	Water resources	Proximity to wetlands (acres of PFO wetlands in ROW resulting in wetland type conversion)	633	585	Both alternatives would cross relatively similar areas of forested wetland.	388	215	Both alternatives would cross relatively similar areas of forested wetland.
Natural environment	Water resources	Proximity to wetlands (acres of total wetlands in ROW too large to span)	728	829	Both alternatives would cross relatively similar areas of total wetland that are too large to span.	509	353	Both alternatives would cross relatively similar areas of total wetland that are too large to span.

Central Section [(1), (2)]			C2 Segment Option			J2 Segment Option		
Factor	**Element**	**Indicator**	Proposed Blue Route	C2 Segment Option Variation	NOTES	Proposed Orange Route	J2 Segment Option Variation	NOTES
Natural environment	**Vegetation**	Cover type (acres of forested land cover in ROW)	789	1,080	Both alternatives would cross a relatively similar amount of forested land cover. C2 Segment Option Variation would parallel existing transmission line corridors for most of its length, while the Proposed Blue Route would not parallel any existing corridor.	1,007	1,063	Both alternatives would cross a relatively similar amount of forested land cover.
Natural environment	**Wildlife**	Proximity to wildlife resources - Wildlife Management Areas, Important Bird Areas (acres in ROW) Proximity to shallow lakes (count in ROW)	0--469--0	0--406--0	Both alternatives would cross a relatively similar amount of Important Bird Area. C2 Segment Option Variation would parallel existing transmission line corridors for most of its length, while the Proposed Blue Route would not parallel any existing corridor.	0--262--0	0--72--0	Proposed Orange Route would cross more Important Bird Area.
Rare and unique natural resources	**Federal and state listed species**	Summary - proximity of federal and state-listed species (based on the Natural Heritage Information System (NHIS) database)			There are no federally-listed species identified for these alternatives. Both alternatives would cross the same amount of critical habitat designated for gray wolf. Both alternatives have the same number of NHIS records within 1 mile; however, the C2 Segment Option Variation has a NHIS record for a state-threatened species.			There are no federally-listed species identified for these alternatives. Proposed Orange Route crosses more critical habitat designated for gray wolf. Proposed Orange Route has more NHIS records within 1 mile. Proposed Orange Route has 2 threatened NHIS records within 1 mile.
Rare and unique natural resources	Federally listed species	Federally-listed species (# of records within 1 mile), designated critical habitat (miles crossed)	0--32	0--32	There are no federally-listed species identified for these alternatives. The alternatives would cross a relatively similar amount of critical habitat designated for gray wolf.C2 Segment Option Variation would parallel an existing transmission line corridor for most of its length.	0--42	0--13	There are no federally-listed species identified for these alternatives. Proposed Orange Route crosses more critical habitat designated for gray wolf.
Rare and unique natural resources	State listed species	State-listed species (total # of NHIS records within 1 mile)	4	4	Both alternatives have the same number of NHIS records within 1 mile.	4	1	Proposed Orange Route has more NHIS records of rare species within 1 mile.
Rare and unique natural resources	State listed species	State-listed species (# of threatened and endangered NHIS records within 1 mile)	0	1	C2 Segment Option Variation has one threatened NHIS record within 1 mile.	2	0	Proposed Orange Route has 2 threatened NHIS records within 1 mile.

Central Section [(1), (2)]			C2 Segment Option			J2 Segment Option		
Factor	**Element**	**Indicator**	Proposed Blue Route	C2 Segment Option Variation	NOTES	Proposed Orange Route	J2 Segment Option Variation	NOTES
Rare and unique natural resources	**State rare communities**	Summary - proximity to Scientific and Natural Areas (SNAs), SNA Watershed Protection Area (WPA), MBS Sites of Biodiversity Significance, MBS native plant communities, High Conservation Value Forest, and Ecologically Important Lowland Conifer stands			C2 Segment Option Variation would have an SNA within 1,500 feet; however, it would not have an SNA within its ROW. The C2 Segment Option Variation also passes through a SNA WPA. Both alternatives would cross a relatively similar amount of MBS Sites of Biodiversity Significance and Ecologically Important Lowland Conifer Areas. C2 Segment Option Variation would parallel existing transmission line corridors for most of its length, while the Proposed Blue Route would not parallel any existing corridor.			Proposed Orange Route would cross more MBS Sites of Biodiversity Significance.
Rare and unique natural resources	State rare communities	Proximity to Scientific and Natural Areas (SNAs) (count within 1,500 feet) and SNA Watershed Protection Area (acres within ROW)	0--0	1--26	C2 Segment Option Variation has 150 acres of SNA within 1,500 feet, while no SNAs are within 1,500 feet of the Proposed Blue Route. The C2 Segment Option Variation would pass through a SNA WPA.	0--0	0--0	No SNAs would be located within 1,500 feet of any alternative; no alternative would cross an SNA WPA.
Rare and unique natural resources	State rare communities	Proximity to MBS Sites of Biodiversity Significance (total acres within ROW)	642	510	Both alternatives would cross a relatively similar amount of MBS Sites of Biodiversity Significance. C2 Segment Option Variation would parallel existing transmission line corridors for most of its length, while the Proposed Blue Route would not parallel any existing corridor.	489	185	Proposed Orange Route would cross more MBS Sites of Biodiversity Significance.
Rare and unique natural resources	State rare communities	Proximity to MnDNR High Conservation Value Forest, MnDNR Ecologically Important Lowland Conifer Areas (acres within ROW)	0--7	0--6	Both alternatives would cross a relatively similar amount of Ecologically Important Lowland Conifer Areas. C2 Segment Option Variation would parallel existing transmission line corridors for most of its length, while the Proposed Blue Route would not parallel any existing corridor.	0--0	0--0	There are no known Ecologically Important Lowland Conifer Areas that would be affected by the alternatives.
Rare and unique natural resources	State rare communities	Proximity to MBS native plant communities (total acres in ROW)	-	-	No MBS native plant community data are available for this area.	-	-	No MBS native plant community data are available for this area.

Central Section [1], [2]			C2 Segment Option			J2 Segment Option		
Factor	**Element**	**Indicator**	Proposed Blue Route	C2 Segment Option Variation	NOTES	Proposed Orange Route	J2 Segment Option Variation	NOTES
Use or paralleling of existing rights-of-way		Proximity to high voltage transmission lines, roadways, and trails (percent of total length)	0	81	C2 Segment Option Variation would parallel an existing transmission line, roadway, and/or trail corridor for most of its length. Proposed Blue Route would not parallel any existing transmission line, roadway, or trail corridor.	0	0	Neither alternative would parallel existing transmission line, roadways, or trails corridors.
Electrical system reliability		Proximity to two or more high voltage transmission lines (percent of total length)	-	-	There are no issues with electrical reliability since there would not be three transmission lines paralleling the same corridor.	-	-	There are no issues with electrical reliability since there would not be three transmission lines paralleling the same corridor.
Costs of constructing, operating, and maintaining the facility which are dependent on design and route		Total construction cost[3]	$35,769,239	$54,466,435	The cost of the alternative is more than 20% above the cost of the Proposed Blue Route.	$48,706,641	$52,128,879	The cost of the alternative is within 20% of the cost of the Proposed Orange Route.

(1) Colors represent least impacts (green), moderate impacts (yellow), greatest impacts (red), and no impacts or similar impacts (gray) relative to the specific factor.

(2) Red text indicates information in these rows are included within the DEIS.

(3) Using the Applicant's methodology (see comment in Appendix U), the Applicant-proposed route is green; if the maximum cost of the alternative is less than the Applicant-proposed route - it is green; if the maximum cost of the alternative is up to 20% more than the Applicant-proposed route - it is yellow; if the maximum cost of the alternative is more than 20% above the cost of the Applicant-proposed route - it is red.

Central Section [(1), (2)]			Northome			Cutfoot		
Factor	Element	Indicator	J2 Segment Option Variation	Northome Variation	NOTES	Proposed Orange Route	Cutfoot Variation	NOTES
Human settlement	Displacement	Proximity to residences	See section on Human Settlement in the Northome Variation Area for details		There would be no differences in the impacts for the alternatives.	See section on Human Settlement in the Cutfoot Variation Area for details		There would be no differences in the impacts for the alternatives.
Human settlement	Noise	Proximity to noise receptors	See section on Human Settlement in the Northome Variation Area for details		There would be no differences in the impacts for the alternatives.	See section on Human Settlement in the Cutfoot Variation Area for details		There would be no differences in the impacts for the alternatives.
Human settlement	Air quality	Air emissions (criteria pollutants and greenhouse gases)	See section on Human Settlement in the Northome Variation Area for details		There would be no differences in the impacts for the alternatives.	See section on Human Settlement in the Cutfoot Variation Area for details		There would be no differences in the impacts for the alternatives.
Human settlement	Property values	Proximity to residences	See section on Human Settlement in the Northome Variation Area for details		There would be no differences in the impacts for the alternatives.	See section on Human Settlement in the Cutfoot Variation Area for details		There would be no differences in the impacts for the alternatives.
Human settlement	Electronic interference	Proximity to communication towers	See section on Human Settlement in the Northome Variation Area for details		There would be no differences in the impacts for the alternatives.	See section on Human Settlement in the Cutfoot Variation Area for details		There would be no differences in the impacts for the alternatives.
Human settlement	Transportation and public services	Proximity to roadways, railways	See section on Human Settlement in the Northome Variation Area for details		There would be no differences in the impacts for the alternatives.	See section on Human Settlement in the Cutfoot Variation Area for details		There would be no differences in the impacts for the alternatives.
Human settlement	Transportation and public services	Proximity to airstrips	See section on Human Settlement in the Northome Variation Area for details		There would be no differences in the impacts for the alternatives.	See section on Human Settlement in the Cutfoot Variation Area for details		There would be no differences in the impacts for the alternatives.
Human settlement	Environmental justice	Minority populations	See section on Human Settlement in the Northome Variation Area for details		There would be no differences in the impacts for the alternatives.	See section on Human Settlement in the Cutfoot Variation Area for details		There would be no differences in the impacts for the alternatives.
Human settlement	Environmental justice	Low-income populations	See section on Human Settlement in the Northome Variation Area for details		There would be no differences in the impacts for the alternatives.	See section on Human Settlement in the Cutfoot Variation Area for details		There would be no differences in the impacts for the alternatives.
Human settlement	Socioeconomics	Population	See section on Human Settlement in the Northome Variation Area for details		There would be no differences in the impacts for the alternatives.	See section on Human Settlement in the Cutfoot Variation Area for details		There would be no differences in the impacts for the alternatives.
Human settlement	Socioeconomics	Employment	See section on Human Settlement in the Northome Variation Area for details		There would be no differences in the impacts for the alternatives.	See section on Human Settlement in the Cutfoot Variation Area for details		There would be no differences in the impacts for the alternatives.
Human settlement	Socioeconomics	Taxes and revenue generated	See section on Human Settlement in the Northome Variation Area for details		There would be no differences in the impacts for the alternatives.	See section on Human Settlement in the Cutfoot Variation Area for details		There would be no differences in the impacts for the alternatives.
Human settlement	Socioeconomics	Housing availability	See section on Human Settlement in the Northome Variation Area for details		There would be no differences in the impacts for the alternatives.	See section on Human Settlement in the Cutfoot Variation Area for details		There would be no differences in the impacts for the alternatives.
Human settlement	Recreation and tourism	Proximity to recreational resources (county, state, and federal parks and forests, state Scientific and Natural Areas (SNAs), state trails, scenic byways, and snow and water trails)	See section on Human Settlement in the Northome Variation Area for details		There would be no differences in the impacts for the alternatives.	See section on Human Settlement in the Cutfoot Variation Area for details		There would be no differences in the impacts for the alternatives.
Human settlement	Cultural values	Proximity to residences	See section on Human Settlement in the Northome Variation Area for details		There would be no differences in the impacts for the alternatives.	See section on Human Settlement in the Cutfoot Variation Area for details		There would be no differences in the impacts for the alternatives.

Central Section [(1), (2)]			Northome			Cutfoot		
Factor	**Element**	**Indicator**	J2 Segment Option Variation	Northome Variation	NOTES	Proposed Orange Route	Cutfoot Variation	NOTES
Human settlement	**Aesthetics**	Proximity to residences (count within 0-500, 0-1,000, & 0-1,500 ft from the anticipated alignment)	0--0--0	0--0--0	No residences are present within 1,500 feet of the anticipated alignment for either alternative.	0--0--0	0--0--0	No residences are present within 1,500 feet of the anticipated alignment for either alternative.
Human settlement	**Land use compatibility**	Summary - land use type data and land ownership data			J2 Segment Option Variation would cross USFWS Interest Lands (28 acres). Both alternatives would cross a relatively similar amount of private land.			The Cutfoot Variation would cross more private land.
Human settlement	Land use compatibility	Land use type data (crosses USFWS Interest Lands or other features, e.g. airstrips)			J2 Segment Option Variation would cross USFWS Interest Lands (28 acres), while the Northome Variation would not. Crossing this land would require obtaining a provisional special use permit for construction from the USFWS.			There are no land use compatibility issues identified for the alternatives.
Human settlement	Land use compatibility	Land ownership type data - total acres in ROW (acres of public and private land in the ROW)	Total: 91 (67--25)	Total: 99 (81--18)	Both alternatives would cross a relatively similar amount of private land.	Total: 103 (95--8)	Total: 116 (93--23)	The Cutfoot Variation would cross more private land.
Public health and safety	Electric and magnetic Fields	Proximity to residences	See section on Public Health and Safety in the Northome Variation Area for details		There would be no differences in the impacts for the alternatives.	See section on Public Health and Safety in the Cutfoot Variation Area for details		There would be no differences in the impacts for the alternatives.
Public health and safety	Implantable medical devices	Proximity to residences	See section on Public Health and Safety in the Northome Variation Area for details		There would be no differences in the impacts for the alternatives.	See section on Public Health and Safety in the Cutfoot Variation Area for details		There would be no differences in the impacts for the alternatives.
Public health and safety	Stray voltage	Proximity to residences	See section on Public Health and Safety in the Northome Variation Area for details		There would be no differences in the impacts for the alternatives.	See section on Public Health and Safety in the Cutfoot Variation Area for details		There would be no differences in the impacts for the alternatives.
Public health and safety	Induced voltage	Proximity to residences	See section on Public Health and Safety in the Northome Variation Area for details		There would be no differences in the impacts for the alternatives.	See section on Public Health and Safety in the Cutfoot Variation Area for details		There would be no differences in the impacts for the alternatives.
Public health and safety	Intentional destructive acts	Intentional destructive acts	See section on Public Health and Safety in the Northome Variation Area for details		There would be no differences in the impacts for the alternatives.	See section on Public Health and Safety in the Cutfoot Variation Area for details		There would be no differences in the impacts for the alternatives.
Public health and safety	Environmental contamination	Registered sites of contamination	See section on Public Health and Safety in the Northome Variation Area for details		There would be no differences in the impacts for the alternatives.	See section on Public Health and Safety in the Cutfoot Variation Area for details		There would be no differences in the impacts for the alternatives.
Public health and safety	Worker health and safety	Worker health and safety	See section on Public Health and Safety in the Northome Variation Area for details		There would be no differences in the impacts for the alternatives.	See section on Public Health and Safety in the Cutfoot Variation Area for details		There would be no differences in the impacts for the alternatives.

Central Section [(1), (2)]			Northome			Cutfoot		
Factor	**Element**	**Indicator**	J2 Segment Option Variation	Northome Variation	NOTES	Proposed Orange Route	Cutfoot Variation	NOTES
Land based economies	**Agriculture**	Proximity to farmland - total acres in ROW (acres of prime farmland, farmland of statewide importance, and prime farmland if drained in ROW)	Total: 61 (20--39--2)	Total: 71 (28--28--15)	Both alternatives cross a relatively similar amount of farmland.	Total: 55 (0--2--53)	Total: 36 (0--4--32)	Both alternatives would cross a relatively similar amount of farmland.
Land based economies	**Forestry**	Proximity to forest land (acres of state forest land in ROW)	<0.5	<0.5	Both alternatives would cross minimal state forest land.	103	116	Both alternatives would cross a relatively similar amount of state forest land.
Land based economies	**Mining and mineral resources**	Proximity to state mining lease lands (active and/or expired/terminated; acres in ROW) and aggregate resources (count in ROW)	0--0	0--0	No active or expired/terminated mineral lease lands or aggregate resources are present in the ROW of any alternative.	29--1	4--1	Proposed Orange Route would cross more expired/terminated mineral lease lands. Both alternatives have aggregate resources within the ROW.
Archaeological and historic architectural resources		Summary - proximity to archaeological and historic architectural resources			Northome Variation would cross a section identified with a known archaeological resource. There are no known historic architectural sites that would be affected by either alternative.			There are no known archaeological or historic architectural resources that would be affected by the alternatives.
Archaeological and historic resources	Archaeological sites	Proximity to archaeological sites (count within 0-100 ft and 0-1,500 ft from the anticipated alignment)	0--0	0--1	Northome Variation would cross a section identified as containing known archaeological sites.	0--0	0--0	There are no known archaeological sites that would be affected by the alternatives.
Archaeological and historic resources	Historic architectural sites	Proximity to historic architectural sites (count within 0-100 ft, 0-1,500 ft, and 0-1 mile from the anticipated alignment)	0--0--0	0--0--0	There are no known historic architectural sites that would be affected by either alternative.	0--0--0	0--0--0	There are no known historic architectural sites that would be affected by the alternatives.

Central Section [(1), (2)]			Northome			Cutfoot		
Factor	**Element**	**Indicator**	J2 Segment Option Variation	Northome Variation	NOTES	Proposed Orange Route	Cutfoot Variation	NOTES
Natural environment	**Water resources**	Summary - proximity to watercourses, waterbodies, floodplains, and wetlands			J2 Segment Option Variation would cross the most watercourses/waterbodies; however, all crossings are expected to be spanned. There would be no differences between the alternatives for crossing floodplains. J2 Segment Option Variation and Northome would cross relatively similar areas of wetlands that are too large to span and would result in relatively similar areas of forest wetland type conversion. J2 Segment Option Variation would have the most shrub wetland; therefore, would require the most shrub wetland type conversion.			Proposed Orange Route would cross the most watercourses/waterbodies; however, all crossings are expected to be spanned. There would be no differences between the alternatives for crossing floodplains. Both alternatives would cross relatively similar areas of wetlands that are too large to span and would result in relatively similar areas of shrub and forested wetland type conversion.
Natural environment	Water resources	Proximity to watercourses and waterbodies - Total number of crossings in ROW (number of PWI crossings, non-PWI crossings); - Trout stream (number of crossings)	Total: 6 (0--6) (0)	Total: 2 (1--1) (0)	J2 Segment Option Variation would cross the most watercourses/waterbodies; however, all crossings are expected to be spanned.	Total: 2 (0--2) (0)	Total: 0	Proposed Orange Route would cross the most watercourses/waterbodies; however, all crossings are expected to be spanned.
Natural environment	Water resources	Proximity to floodplains - total acres of floodplain in ROW (acres of Zone A, acres of Zone B)	Total: 0	Total: 0	There would be no differences between the alternatives.	Total: 0	Total: 0	There are no differences between the alternatives.
Natural environment	Water resources	Proximity to wetlands (acres of PSS wetlands in ROW resulting in wetland type conversion)	6	2	J2 Segment Option Variation would cross the most shrub wetland.	3	5	Both alternatives would cross relatively similar areas of shrub wetland.
Natural environment	Water resources	Proximity to wetlands (acres of PFO wetlands in ROW resulting in wetland type conversion)	8	6	Both alternatives would cross relatively similar areas of forested wetland.	49	59	Both alternatives would cross relatively similar areas of forested wetland.
Natural environment	Water resources	Proximity to wetlands (acres of total wetlands in ROW too large to span)	23	14	Both alternatives would cross relatively similar areas of total wetland that are too large to span.	57	67	Both alternatives would cross relatively similar areas of total wetland that are too large to span.

Central Section (1), (2)			Northome			Cutfoot		
Factor	**Element**	**Indicator**	J2 Segment Option Variation	Northome Variation	NOTES	Proposed Orange Route	Cutfoot Variation	NOTES
Natural environment	**Vegetation**	Cover type (acres of forested land cover in ROW)	89	96	Both alternatives would cross a relatively similar amount of forested land cover.	99	115	Both alternatives would cross a relatively similar amount of forested land cover.
Natural environment	**Wildlife**	Proximity to wildlife resources - Wildlife Management Areas, Important Bird Areas (acres in ROW) Proximity to shallow lakes (count in ROW)	0--0--0	0--0--1	Northome Variation would cross a shallow lake.	0--0--0	0--0--0	Neither alternative would cross designated wildlife resources.
Rare and unique natural resources	**Federal and state listed species**	Summary - proximity of federal and state-listed species (based on the Natural Heritage Information System (NHIS) database)			There are no federally-listed species identified for these alternatives. There are no documented NHIS records within 1 mile of these alternatives.			There are no federally-listed species identified for these alternatives. Both alternatives would cross minimal amounts of critical habitat designated for gray wolf. There are no NHIS records within 1 mile of these alternatives.
Rare and unique natural resources	Federally listed species	Federally-listed species (# of records within 1 mile), designated critical habitat (miles crossed)	0--0	0--0	There are no federally-listed species identified for these alternatives. Neither alternative would cross critical habitat designated for gray wolf.	0--4	0--5	There are no federally-listed species identified for these alternatives. Both alternatives would cross minimal amounts of critical habitat designated for gray wolf.
Rare and unique natural resources	State listed species	State-listed species (total # of NHIS records within 1 mile)	0	0	There are no NHIS records within 1 mile of these alternatives.	0	0	There are no NHIS records within 1 mile of these alternatives.
Rare and unique natural resources	State listed species	State-listed species (# of threatened and endangered NHIS records within 1 mile)	0	0	No threatened or endangered NHIS records have been documented within 1 mile of either alternative.	0	0	No threatened or endangered NHIS records have been documented within 1 mile of either alternative.

Central Section (1), (2)			Northome			Cutfoot		
Factor	**Element**	**Indicator**	J2 Segment Option Variation	Northome Variation	NOTES	Proposed Orange Route	Cutfoot Variation	NOTES
Rare and unique natural resources	**State rare communities**	Summary - proximity to Scientific and Natural Areas (SNAs), SNA Watershed Protection Area (WPA), MBS Sites of Biodiversity Significance, MBS native plant communities, High Conservation Value Forest, and Ecologically Important Lowland Conifer stands			No records of rare resources or communities have been documented in the ROW of either alternative.			Cutfoot Variation would cross more MBS Sites of Biodiversity Significance.
Rare and unique natural resources	State rare communities	Proximity to Scientific and Natural Areas (SNAs) (count within 1,500 feet) and SNA Watershed Protection Area (acres within ROW)	0--0	0--0	No SNAs would be located within 1,500 feet of any alternative; no alternative would cross an SNA Watershed Protection Area (WPA).	0--0	0--0	No SNAs would be located within 1,500 feet of any alternative; no alternative would cross an SNA Watershed Protection Areas (WPAs).
Rare and unique natural resources	State rare communities	Proximity to MBS Sites of Biodiversity Significance (total acres within ROW)	0	0	No MBS Sites of Biodiversity Significance are present within the ROW of either alternative.	43	60	Both alternatives would cross a relatively similar amount of MBS Sites of Biodiversity Significance.
Rare and unique natural resources	State rare communities	Proximity to MnDNR High Conservation Value Forest, MnDNR Ecologically Important Lowland Conifer Areas (acres within ROW)	0--0	0--0	There are no known Ecologically Important Lowland Conifer Areas that would be affected by the alternatives.	0--0	0--0	There are no known Ecologically Important Lowland Conifer Areas that would be affected by the alternatives.
Rare and unique natural resources	State rare communities	Proximity to MBS native plant communities (total acres in ROW)	-	-	No MBS native plant community data are available for this area.	-	-	No MBS native plant community data are available for this area.

Central Section [1], [2]			Northome			Cutfoot		
Factor	**Element**	**Indicator**	J2 Segment Option Variation	Northome Variation	NOTES	Proposed Orange Route	Cutfoot Variation	NOTES
Use or paralleling of existing rights-of-way		Proximity to high voltage transmission lines, roadways, and trails (percent of total length)	0	0	Neither alternative would parallel existing transmission line, roadways, or trails corridors.	0	0	Neither alternative would parallel existing transmission line, roadways, or trails corridors.
Electrical system reliability		Proximity to two or more high voltage transmission lines (percent of total length)	-	-	There are no issues with electrical reliability since there would not be three transmission lines paralleling the same corridor.	-	-	There are no issues with electrical reliability since there would not be three transmission lines paralleling the same corridor.
Costs of constructing, operating, and maintaining the facility which are dependent on design and route		Total construction cost[3]	$4,192,942	$6,385,615	The cost of the alternative is more than 20% above the cost of the Proposed Blue Route.	$5,640,538	$6,222,257	The cost of the alternative is within 20% of the cost of the Proposed Orange Route.

(1) Colors represent least impacts (green), moderate impacts (yellow), greatest impacts (red), and no impacts or similar impacts (gray) relative to the specific factor.

(2) Red text indicates information in these rows are included within the DEIS.

(3) Using the Applicant's methodology (see comment in Appendix U), the Applicant-proposed route is green; if the maximum cost of the alternative is less than the Applicant-proposed route - it is green; if the maximum cost of the alternative is up to 20% more than the Applicant-proposed route - it is yellow; if the maximum cost of the alternative is more than 20% above the cost of the Applicant-proposed route - it is red.

East Section (1), (2)			Effie			
Factor	Element	Indicator	Proposed Blue Route	Proposed Orange Route	Effie Variation	NOTES
Human settlement	Displacement	Proximity to residences	See section on Human Settlement in the Effie Variation Area for details			There would be no differences in the impacts for the alternatives.
Human settlement	Noise	Proximity to noise receptors	See section on Human Settlement in the Effie Variation Area for details			There would be no differences in the impacts for the alternatives.
Human settlement	Air quality	Air emissions (criteria pollutants and greenhouse gases)	See section on Human Settlement in the Effie Variation Area for details			There would be no differences in the impacts for the alternatives.
Human settlement	Property values	Proximity to residences	See section on Human Settlement in the Effie Variation Area for details			There would be no differences in the impacts for the alternatives.
Human settlement	Electronic interference	Proximity to communication towers	See section on Human Settlement in the Effie Variation Area for details			There would be no differences in the impacts for the alternatives.
Human settlement	Transportation and public services	Proximity to roadways and railways	See section on Human Settlement in the Effie Variation Area for details			There would be no differences in the impacts for the alternatives.
Human settlement	Transportation and public services	Proximity to airstrips	See section on Human Settlement in the Effie Variation Area for details			There would be no differences in the impacts for the alternatives.
Human settlement	Environmental justice	Minority populations	See section on Human Settlement in the Effie Variation Area for details			There would be no differences in the impacts for the alternatives.
Human settlement	Environmental justice	Low-income populations	See section on Human Settlement in the Effie Variation Area for details			There would be no differences in the impacts for the alternatives.
Human settlement	Socioeconomics	Population	See section on Human Settlement in the Effie Variation Area for details			There would be no differences in the impacts for the alternatives.
Human settlement	Socioeconomics	Employment	See section on Human Settlement in the Effie Variation Area for details			There would be no differences in the impacts for the alternatives.
Human settlement	Socioeconomics	Taxes and revenue generated	See section on Human Settlement in the Effie Variation Area for details			There would be no differences in the impacts for the alternatives.
Human settlement	Socioeconomics	Housing availability	See section on Human Settlement in the Effie Variation Area for details			There would be no differences in the impacts for the alternatives.

East Section (1), (2)			Effie			
Factor	**Element**	**Indicator**	Proposed Blue Route	Proposed Orange Route	Effie Variation	NOTES
Human settlement	Recreation and tourism	Proximity to recreational resources (county, state, and federal parks and forests, state Scientific and Natural Areas, state trails, scenic byways, and snow and water trails)	See section on Human Settlement in the Effie Variation Area for details			There would be no differences in the impacts for the alternatives.
Human settlement	Cultural values	Proximity to residences	See section on Human Settlement in the Effie Variation Area for details			There would be no differences in the impacts for the alternatives.
Human settlement	**Aesthetics**	Proximity to residences (Count within 0-500, 0-1,000, & 0-1,500 ft from the anticipated alignment)	0--1--4	1--2--5	2--12--16	Effie Variation would pass by the most residences within 1,500 feet of the anticipated alignment.
Human settlement	**Land use compatibility**	Summary - land use type data and land ownership data				There are no land use compatibility issues identified for the alternatives. All alternatives cross a relatively similar amount of private land.
Human settlement	Land use compatibility	Land use type data (crosses USFWS Interest Lands or other features, e.g. airstrips)				There are no land use compatibility issues identified for the alternatives.
Human settlement	Land use compatibility	Land ownership type data - total acres in ROW (acres of public and private land in the ROW)	Total: 997 (655--342)	Total: 1,081 (698--383)	Total: 1,209 (772--437)	All alternatives cross a relatively similar amount of private land.
Public health and safety	Electric and magnetic Fields	Proximity to residences	See section on Public Health and Safety in the Effie Variation Area for details			There would be no differences in the impacts for the alternatives.
Public health and safety	Implantable medical devices	Proximity to residences	See section on Public Health and Safety in the Effie Variation Area for details			There would be no differences in the impacts for the alternatives.
Public health and safety	Stray voltage	Proximity to residences	See section on Public Health and Safety in the Effie Variation Area for details			There would be no differences in the impacts for the alternatives.
Public health and safety	Induced voltage	Proximity to residences	See section on Public Health and Safety in the Effie Variation Area for details			There would be no differences in the impacts for the alternatives.
Public health and safety	Intentional destructive acts	Intentional destructive acts	See section on Public Health and Safety in the Effie Variation Area for details			There would be no differences in the impacts for the alternatives.

East Section (1), (2)			Effie			
Factor	**Element**	**Indicator**	Proposed Blue Route	Proposed Orange Route	Effie Variation	NOTES
Public health and safety	Environmental contamination	Registered sites of contamination	See section on Public Health and Safety in the Effie Variation Area for details			There would be no differences in the impacts for the alternatives.
Public health and safety	Worker health and safety	Worker health and safety	See section on Public Health and Safety in the Effie Variation Area for details			There would be no differences in the impacts for the alternatives.
Land based economies	**Agriculture**	Proximity to farmland - total acres in ROW (acres of prime farmland, farmland of statewide importance, and prime farmland if drained in ROW)	Total: 397 (118--121--158)	Total: 510 (223--123--164)	Total: 665 (195--159--311)	All alternatives would cross a relatively similar amount of farmland. Effie Variation parallels an existing transmission line corridor for 80% of its length. The other alternatives parallel minimal existing corridor.
Land based economies	**Forestry**	Proximity to forest land (acres of state forest land in ROW)	909	958	1086	All alternatives would cross a relatively similar amount of state forest land. Effie Variation parallels an existing transmission line corridor for 80% of its length. The other alternatives parallel minimal existing corridor.
Land based economies	**Mining and mineral resources**	Proximity to state mining lease lands (active and/or expired/terminated; acres in ROW) and aggregate resources (count in ROW)	647--0	819--0	824--0	All alternatives would cross a relatively similar amount of active and expired/terminated mineral lease lands.
Archaeological and historic architectural resources		Summary - proximity to archaeological and historic architectural resources				Effie Variation would cross sections identified as containing known archaeological sites, while the other alternatives would not. Effie Variation has more historic architectural sites within 1 mile than the Proposed Blue Route and Proposed Orange Route.
Archaeological and historic resources	Archaeological sites	Proximity to archaeological sites (count within 0-100 ft and 0-1,500 ft from the anticipated alignment)	0--0	0--0	1--2	Effie Variation would cross sections identified as containing known archaeological sites; the other alternatives would not cross any of these sections.
Archaeological and historic resources	Historic architectural sites	Proximity to historic architectural sites (count within 0-100 ft, 0-1,500 ft, and 0-1 mile from the anticipated alignment)	0--1--1	0--1--1	0--0--3	The Effie Variation has more historic architectural sites within 1 mile than the Proposed Blue Route and Proposed Orange Route.

East Section (1), (2)			Effie			
Factor	**Element**	**Indicator**	Proposed Blue Route	Proposed Orange Route	Effie Variation	NOTES
Natural environment	**Water resources**	Summary - proximity to watercourses, waterbodies, floodplains, and wetlands				Effie Variation would cross the most watercourses/waterbodies; including six trout streams. All crossings are expected to be spanned, although clearing vegetation adjacent to trout streams could result in increased water temperature, potentially resulting in less suitable trout habitat. Proposed Blue Route and the Proposed Orange Route would cross FEMA-designated floodplain; however the areas are small and would be spanned. All alternatives would cross relatively similar areas of wetlands that are too large to span and would result in relatively similar areas of shrub and forested wetland type conversion.
Natural environment	Water resources	Proximity to watercourses and waterbodies - Total number of crossings in ROW (number of PWI crossings, non-PWI crossings); - Trout stream (number of crossings)	Total: 19 (10--9) (0)	Total: 24 (13--11) (0)	Total: 28 (13--15) (6)	Effie Variation would cross the most watercourses/waterbodies; including six trout streams. All crossings are expected to be spanned, although clearing vegetation adjacent to trout streams could result in increased water temperature, potentially resulting in less suitable trout habitat.
Natural environment	Water resources	Proximity to floodplains - total acres of floodplain in ROW (acres of Zone A, acres of Zone B)	Total: 3 (3--0)	Total: 3 (3--0)	Total: 0	Proposed Blue Route and the Proposed Orange Route would cross FEMA-designated floodplains; however the areas are small and would be spanned.
Natural environment	Water resources	Proximity to wetlands (acres of PSS wetlands in ROW resulting in wetland type conversion)	164	155	104	All alternatives would cross relatively similar areas of shrub wetland.
Natural environment	Water resources	Proximity to wetlands (acres of PFO wetlands in ROW resulting in wetland type conversion)	255	217	273	All alternatives would cross relatively similar areas of forested wetland.
Natural environment	Water resources	Proximity to wetlands (acres of total wetlands in ROW too large to span)	443	391	413	All alternatives would cross relatively similar areas of total wetland that are too large to span.

East Section (1), (2)			Effie			
Factor	**Element**	**Indicator**	Proposed Blue Route	Proposed Orange Route	Effie Variation	NOTES
Natural environment	**Vegetation**	Cover type (acres of forested land cover in ROW)	978	1,047	1,164	All alternatives would cross a relatively similar amount of forested land cover. Effie Variation parallels an existing transmission line corridor for 80% of its length. The other alternatives parallel minimal existing corridor.
Natural environment	**Wildlife**	Proximity to wildlife resources - Important Bird Areas (acres in ROW)	69	69	0	Proposed Blue Route and Proposed Orange Route would cross Important Bird Area.
Rare and unique natural resources	**Federal and state listed species**	Summary - proximity of federal and state-listed species (based on the Natural Heritage Information System (NHIS) database)				The alternatives cross critical habitat designated for gray wolf. Proposed Orange Route has the most NHIS records within 1 mile. Proposed Blue Route has more NHIS records than the Effie Variation. Effie Variation would also minimize impacts by paralleling existing corridor.
Rare and unique natural resources	Federally listed species	Federally-listed species (# of records within 1 mile), designated critical habitat (miles crossed)	0--15	0--15	0--25	The alternatives cross a relatively similar amount of critical habitat designated for gray wolf. The Proposed Blue Route and Proposed Orange Route would cross along a new transmission line corridor, while the Effie Variation would parallel an existing transmission line corridor.
Rare and unique natural resources	State listed species	State-listed species (total # of NHIS records within 1 mile)	5	7	2	Proposed Orange Route and the Proposed Blue Route have the most NHIS records within 1 mile.
Rare and unique natural resources	State listed species	State-listed species (# of threatened and endangered NHIS records within 1 mile)	1	0	0	Proposed Orange Route has one threatened NHIS record within 1 mile.

East Section (1), (2)			Effie			
Factor	**Element**	**Indicator**	Proposed Blue Route	Proposed Orange Route	Effie Variation	NOTES
Rare and unique natural resources	**State rare communities**	Summary - proximity to Scientific and Natural Areas (SNAs), SNA Watershed Protection Areas, MBS Sites of Biodiversity Significance, MBS native plant communities, High Conservation Value Forest, and Ecologically Important Lowland Conifer stands				All alternatives would cross a relatively similar amount of MBS Sites of Biodiversity Significance.
Rare and unique natural resources	State rare communities	Proximity to Scientific and Natural Areas (SNAs) (Count within 1,500 feet) and SNA Watershed Protection Area (acres within ROW)	0--0	0--0	0--0	No SNAs would be located within 1,500 feet of any alternative; no alternative would cross an SNA WPA.
Rare and unique natural resources	State rare communities	Proximity to MBS Sites of Biodiversity Significance (total acres within ROW)	422	490	427	All alternatives would pass through a relatively similar amount of MBS Sites of Biodiversity Significance. Effie Variation parallels an existing transmission line corridor for 80% of its length. The other alternatives parallel minimal existing corridor.
Rare and unique natural resources	State rare communities	Proximity to MnDNR High Conservation Value Forest, MnDNR Ecologically Important Lowland Conifer Areas (acres within ROW)	0--0	0--0	0--0	There are no known High Conservation Value Forests, Ecologically Important Lowland Conifer Areas that would be affected by the alternatives.
Rare and unique natural resources	State rare communities	Proximity to MBS native plant communities (acres in ROW)	-	-	-	No MBS native plant community data are available for this area.

East Section [1], [2]			Effie			
Factor	**Element**	**Indicator**	Proposed Blue Route	Proposed Orange Route	Effie Variation	NOTES
Use or paralleling of existing rights-of-way		Proximity to high voltage transmission lines, roadways, and trails (percent of total length)	4	2	80	Effie Variation parallels an existing transmission line, roadway, and/or trail corridor for 80% of its length. The other alternatives parallel minimal existing corridor.
Electrical system reliability		Proximity to two or more high voltage transmission lines (percent of total length)	0	0	80	Effie Variation would parallel existing 500 kV and 230 kV transmission line corridors for the entire length.
Costs of constructing, operating, and maintain the facility which are dependent on design and route		Total construction cost[3]	$46,649,600	$49,488,323	$57,353,305	The cost for the Proposed Orange Route is within 20% of the cost of the Proposed Blue Route. The cost of the Effie Variation is more than 20% above the cost of the Proposed Blue Route.

(1) Colors represent least impacts (green), moderate impacts (yellow), greatest impacts (red), and no impacts or similar impacts (gray) relative to the specific factor.

(2) Red text indicates information in these rows are included within the DEIS.

(3) Using the Applicant's methodology (see comment in Appendix U), the Applicant-proposed route is green; if the maximum cost of the alternative is less than the Applicant-proposed route - it is green; if the maximum cost of the alternative is up to 20% more than the Applicant-proposed route - it is yellow; if the maximum cost of the alternative is more than 20% above the cost of the Applicant-proposed route - it is red.

East Section [(1), (2)]			East Bear Lake			Balsam			
Factor	Element	Indicator	Proposed Orange Route	East Bear Lake Variation	NOTES	Proposed Blue Route	Proposed Orange Route	Balsam Variation	NOTES
Human settlement	Displacement	Proximity to residences	See section on Human Settlement in the East Bear Lake Variation Area for details		There would be no differences in the impacts for the alternatives.	See section on Human Settlement in the Balsam Variation Area for details			There would be no differences in the impacts for the alternatives.
Human settlement	Noise	Proximity to noise receptors	See section on Human Settlement in the East Bear Lake Variation Area for details		There would be no differences in the impacts for the alternatives.	See section on Human Settlement in the Balsam Variation Area for details			There would be no differences in the impacts for the alternatives.
Human settlement	Air quality	Air emissions (criteria pollutants and greenhouse gases)	See section on Human Settlement in the East Bear Lake Variation Area for details		There would be no differences in the impacts for the alternatives.	See section on Human Settlement in the Balsam Variation Area for details			There would be no differences in the impacts for the alternatives.
Human settlement	Property values	Proximity to residences	See section on Human Settlement in the East Bear Lake Variation Area for details		There would be no differences in the impacts for the alternatives.	See section on Human Settlement in the Balsam Variation Area for details			There would be no differences in the impacts for the alternatives.
Human settlement	Electronic interference	Proximity to communication towers	See section on Human Settlement in the East Bear Lake Variation Area for details		There would be no differences in the impacts for the alternatives.	See section on Human Settlement in the Balsam Variation Area for details			There would be no differences in the impacts for the alternatives.
Human settlement	Transportation and public services	Proximity to roadways and railways	See section on Human Settlement in the East Bear Lake Variation Area for details		There would be no differences in the impacts for the alternatives.	See section on Human Settlement in the Balsam Variation Area for details			There would be no differences in the impacts for the alternatives.
Human settlement	Transportation and public services	Proximity to airstrips	See section on Human Settlement in the East Bear Lake Variation Area for details		There would be no differences in the impacts for the alternatives.	See section on Human Settlement in the Balsam Variation Area for details			There would be no differences in the impacts for the alternatives.
Human settlement	Environmental justice	Minority populations	See section on Human Settlement in the East Bear Lake Variation Area for details		There would be no differences in the impacts for the alternatives.	See section on Human Settlement in the Balsam Variation Area for details			There would be no differences in the impacts for the alternatives.
Human settlement	Environmental justice	Low-income populations	See section on Human Settlement in the East Bear Lake Variation Area for details		There would be no differences in the impacts for the alternatives.	See section on Human Settlement in the Balsam Variation Area for details			There would be no differences in the impacts for the alternatives.
Human settlement	Socioeconomics	Population	See section on Human Settlement in the East Bear Lake Variation Area for details		There would be no differences in the impacts for the alternatives.	See section on Human Settlement in the Balsam Variation Area for details			There would be no differences in the impacts for the alternatives.
Human settlement	Socioeconomics	Employment	See section on Human Settlement in the East Bear Lake Variation Area for details		There would be no differences in the impacts for the alternatives.	See section on Human Settlement in the Balsam Variation Area for details			There would be no differences in the impacts for the alternatives.
Human settlement	Socioeconomics	Taxes and revenue generated	See section on Human Settlement in the East Bear Lake Variation Area for details		There would be no differences in the impacts for the alternatives.	See section on Human Settlement in the Balsam Variation Area for details			There would be no differences in the impacts for the alternatives.
Human settlement	Socioeconomics	Housing availability	See section on Human Settlement in the East Bear Lake Variation Area for details		There would be no differences in the impacts for the alternatives.	See section on Human Settlement in the Balsam Variation Area for details			There would be no differences in the impacts for the alternatives.

East Section (1), (2)			East Bear Lake			Balsam			
Factor	**Element**	**Indicator**	Proposed Orange Route	East Bear Lake Variation	NOTES	Proposed Blue Route	Proposed Orange Route	Balsam Variation	NOTES
Human settlement	Recreation and tourism	Proximity to recreational resources (county, state, and federal parks and forests, state Scientific and Natural Areas, state trails, scenic byways, and snow and water trails)	See section on Human Settlement in the East Bear Lake Variation Area for details		There would be no differences in the impacts for the alternatives.	See section on Human Settlement in the Balsam Variation Area for details			There would be no differences in the impacts for the alternatives.
Human settlement	Cultural values	Proximity to residences	See section on Human Settlement in the East Bear Lake Variation Area for details		There would be no differences in the impacts for the alternatives.	See section on Human Settlement in the Balsam Variation Area for details			There would be no differences in the impacts for the alternatives.
Human settlement	**Aesthetics**	Proximity to residences (Count within 0-500, 0-1,000, & 0-1,500 ft from the anticipated alignment)	0--0--0	0--0--0	No residences are present within 1,500 feet of the anticipated alignment for either alternative.	0--3--7	2--10--21	2--6--12	Proposed Orange Route would pass by the most residences within 1,500 feet of the anticipated alignment.
Human settlement	**Land use compatibility**	Summary - land use type data and land ownership data			There are no land use compatibility issues identified for the alternatives. Neither alternative would cross private land.				There are no land use compatibility issues identified for the alternatives. All alternatives would cross a relatively similar amount of private land.
Human settlement	Land use compatibility	Land use type data (crosses USFWS Interest Lands or other features, e.g. airstrips)			There are no land use compatibility issues identified for the alternatives.				There are no land use compatibility issues identified for the alternatives.
Human settlement	Land use compatibility	Land ownership type data - total acres in ROW (acres of public and private land in the ROW)	Total: 217 (217--0)	Total: 256 (256--0)	Neither alternative would cross private land.	Total: 314 (55--260)	Total: 332 (38--294)	Total: 433 (107--326)	All alternatives would cross a relatively similar amount of private land.
Public health and safety	Electric and magnetic Fields	Proximity to residences	See section on Public Health and Safety in the East Bear Lake Variation Area for details		There would be no differences in the impacts for the alternatives.	See section on Public Health and Safety in the Balsam Variation Area for details			There would be no differences in the impacts for the alternatives.
Public health and safety	Implantable medical devices	Proximity to residences	See section on Public Health and Safety in the East Bear Lake Variation Area for details		There would be no differences in the impacts for the alternatives.	See section on Public Health and Safety in the Balsam Variation Area for details			There would be no differences in the impacts for the alternatives.
Public health and safety	Stray voltage	Proximity to residences	See section on Public Health and Safety in the East Bear Lake Variation Area for details		There would be no differences in the impacts for the alternatives.	See section on Public Health and Safety in the Balsam Variation Area for details			There would be no differences in the impacts for the alternatives.
Public health and safety	Induced voltage	Proximity to residences	See section on Public Health and Safety in the East Bear Lake Variation Area for details		There would be no differences in the impacts for the alternatives.	See section on Public Health and Safety in the Balsam Variation Area for details			There would be no differences in the impacts for the alternatives.
Public health and safety	Intentional destructive acts	Intentional destructive acts	See section on Public Health and Safety in the East Bear Lake Variation Area for details		There would be no differences in the impacts for the alternatives.	See section on Public Health and Safety in the Balsam Variation Area for details			There would be no differences in the impacts for the alternatives.

East Section (1), (2)			East Bear Lake			Balsam			
Factor	**Element**	**Indicator**	Proposed Orange Route	East Bear Lake Variation	NOTES	Proposed Blue Route	Proposed Orange Route	Balsam Variation	NOTES
Public health and safety	Environmental contamination	Registered sites of contamination	See section on Public Health and Safety in the East Bear Lake Variation Area for details		There would be no differences in the impacts for the alternatives.	See section on Public Health and Safety in the Balsam Variation Area for details			There would be no differences in the impacts for the alternatives.
Public health and safety	Worker health and safety	Worker health and safety	See section on Public Health and Safety in the East Bear Lake Variation Area for details		There would be no differences in the impacts for the alternatives.	See section on Public Health and Safety in the Balsam Variation Area for details			There would be no differences in the impacts for the alternatives.
Land based economies	**Agriculture**	Proximity to farmland - total acres in ROW (acres of prime farmland, farmland of statewide importance, and prime farmland if drained in ROW)	Total: 85 (84--0--1)	Total: 160 (124--0--36)	Both alternatives would cross a relatively similar amount of farmland. East Bear Lake Variation would parallel existing corridors for nearly half of its length.	Total: 206 (156--0--50)	Total: 217 (159--12--46)	Total: 203 (141--1--61)	All alternatives cross a relatively similar amount of farmland.
Land based economies	**Forestry**	Proximity to forest land (acres of state forest land in ROW)	217	256	Both alternatives would cross a relatively similar amount of state forest land. East Bear Lake Variation would parallel existing corridors for nearly half of its length.	0	0	0	None of the alternatives cross state forest land.
Land based economies	**Mining and mineral resources**	Proximity to state mining lease lands (active and/or expired/terminated; acres in ROW) and aggregate resources (count in ROW)	96--0	193--0	Both alternatives would cross a relatively similar amount of active and expired/terminated mineral lease lands. East Bear Lake Variation would parallel existing corridors for nearly half of its length.	0--0	0--0	89--0	Balsam Variation would cross active and expired/terminated mineral lease lands while the proposed routes would not cross any mineral lease lands.
Archaeological and historic architectural resources		Summary - proximity to archaeological and historic architectural resources			There are no known archaeological and historic architectural resources that would be affected by the alternatives.				Balsam Variation would cross a section identified as containing known archaeological sites, while the other alternatives would not. Balsam Variation has the most historic architectural sites within 1 mile.
Archaeological and historic resources	Archaeological sites	Proximity to archaeological sites (count within 0-100 ft and 0-1,500 ft from the anticipated alignment)	0--0	0--0	There are no known archaeological sites that would be affected by the alternatives.	0--0	0--0	0--1	Balsam, Variation would cross a section identified as containing known archaeological sites; the other alternatives would not cross any of these sections.
Archaeological and historic resources	Historic architectural sites	Proximity to historic architectural sites (count within 0-100 ft, 0-1,500 ft, and 0-1 mile from the anticipated alignment)	0--0--0	0--0--0	There are no known historic architectural sites that would be affected by the alternatives.	0--0--13	0--0--24	0--4--28	The Balsam Variation has the most historic architectural sites within 1 mile.

East Section (1), (2)			East Bear Lake			Balsam			
Factor	**Element**	**Indicator**	Proposed Orange Route	East Bear Lake Variation	NOTES	Proposed Blue Route	Proposed Orange Route	Balsam Variation	NOTES
Natural environment	**Water resources**	Summary - proximity to watercourses, waterbodies, floodplains, and wetlands			Both alternatives would cross relatively similar numbers of watercourses/waterbodies; however, all crossings are expected to be spanned. Neither alternative would cross FEMA-designated floodplain. Both alternatives would cross relatively similar areas of wetlands that are too large to span and would result in relatively similar areas of shrub and forested wetland type conversion.				All alternatives would cross relatively similar numbers of watercourses/waterbodies; however, all crossings are expected to be spanned. All alternatives would cross FEMA-designated floodplains; Proposed Orange Route would cross the most floodplain. All alternatives would cross relatively similar areas of wetlands that are too large to span and would result in relatively similar areas of shrub and forested wetland type conversion.
Natural environment	Water resources	Proximity to watercourses and waterbodies - Total number of crossings in ROW (number of PWI crossings, non-PWI crossings); - Trout stream (number of crossings)	Total: 4 (4--0) (0)	Total: 5 (2--3) (0)	Both alternatives would cross relatively similar numbers of watercourses/waterbodies; however, all crossings are expected to be spanned.	Total: 8 (7--1) (0)	Total: 9 (5--4) (0)	Total: 7 (4--3) (0)	All alternatives would cross relatively similar numbers of watercourses/waterbodies; however, all crossings are expected to be spanned.
Natural environment	Water resources	Proximity to floodplains - total acres of floodplain in ROW (acres of Zone A, acres of Zone B)	Total: 0	Total: 0	There are no differences between the alternatives.	Total: 0	Total: 26 (26--0)	Total: 22 (22--0)	All alternatives would cross FEMA-designated floodplain areas large enough that they cannot be spanned; Proposed Orange Route would cross the most floodplain.
Natural environment	Water resources	Proximity to wetlands (acres of PSS wetlands in ROW resulting in wetland type conversion)	64	40	Both alternatives would cross relatively similar areas of shrub wetland.	33	38	55	All alternatives would cross relatively similar areas of shrub wetland.
Natural environment	Water resources	Proximity to wetlands (acres of PFO wetlands in ROW resulting in wetland type conversion)	34	47	Both alternatives would cross relatively similar areas of forested wetland.	14	21	28	All alternatives would cross relatively similar areas of forested wetland.
Natural environment	Water resources	Proximity to wetlands (acres of total wetlands in ROW too large to span)	104	89	Both alternatives would cross relatively similar areas of total wetland that are too large to span.	54	69	96	All alternatives would cross relatively similar areas of total wetland that are too large to span.

East Section (1), (2)			East Bear Lake			Balsam			
Factor	**Element**	**Indicator**	Proposed Orange Route	East Bear Lake Variation	NOTES	Proposed Blue Route	Proposed Orange Route	Balsam Variation	NOTES
Natural environment	**Vegetation**	Cover type (acres of forested land cover in ROW)	216	251	Both alternatives would cross a relatively similar amount of forested land cover. East Bear Lake Variation would parallel existing corridors for nearly half of its length.	299	318	401	All alternatives would cross a relatively similar amount of forested land cover. Balsam Variation parallels existing transmission line, roadway, or field corridor for a greater proportion of its length than the proposed routes.
Natural environment	**Wildlife**	Proximity to wildlife resources - Important Bird Areas (acres in ROW)	0	0	Neither alternative would cross designated wildlife resources.	0	0	0	None of the alternatives would cross designated wildlife resources.
Rare and unique natural resources	**Federal and state listed species**	Summary - proximity of federal and state-listed species (based on the Natural Heritage Information System (NHIS) database)			There are no federally-listed species identified for these alternatives. All alternatives would have a relatively similar number of NHIS records within 1 mile. Neither alternative has threatened or endangered NHIS records within 1 mile.				There are no federally-listed species identified for these alternatives. The alternatives have the same number of NHIS records within 1 mile, none of which are threatened or endangered species.
Rare and unique natural resources	Federally listed species	Federally-listed species (# of records within 1 mile), designated critical habitat (miles crossed)	0--0	0--0	There are no federally-listed species identified for these alternatives. Neither alternative would cross critical habitat designated for gray wolf.	0--0	0--0	0--0	There are no federally-listed species identified for these alternatives. None of the alternatives would cross critical habitat designated for gray wolf.
Rare and unique natural resources	State listed species	State-listed species (total # of NHIS records within 1 mile)	3	2	Both alternatives have a relatively similar amount of NHIS records within 1 mile.	2	2	2	All alternatives have the same number of documented NHIS records within 1 mile.
Rare and unique natural resources	State listed species	State-listed species (# of threatened and endangered NHIS records within 1 mile)	0	0	Neither alternative has threatened or endangered NHIS records within 1 mile.	0	0	0	None of the alternatives have a threatened or endangered NHIS record within 1 mile.

East Section (1), (2)			East Bear Lake			Balsam			
Factor	**Element**	**Indicator**	Proposed Orange Route	East Bear Lake Variation	NOTES	Proposed Blue Route	Proposed Orange Route	Balsam Variation	NOTES
Rare and unique natural resources	**State rare communities**	Summary - proximity to Scientific and Natural Areas (SNAs), SNA Watershed Protection Areas, MBS Sites of Biodiversity Significance, MBS native plant communities, High Conservation Value Forest, and Ecologically Important Lowland Conifer stands			Both alternatives would cross a relatively similar amount of MBS Sites of Biodiversity Significance.				All alternatives would cross a relatively similar amount of MBS Sites of Biodiversity Significance.
Rare and unique natural resources	State rare communities	Proximity to Scientific and Natural Areas (SNAs) (Count within 1,500 feet) and SNA Watershed Protection Area (acres within ROW)	0--0	0--0	No SNAs would be located within 1,500 feet of any alternative; no alternative would cross an SNA Watershed Protection Areas (WPAs).	0--0	0--0	0--0	No SNAs would be located within 1,500 feet of any alternative; no alternative would cross an SNA WPA.
Rare and unique natural resources	State rare communities	Proximity to MBS Sites of Biodiversity Significance (total acres within ROW)	217	255	Both alternatives would pass through a relatively similar amount of MBS Sites of Biodiversity Significance.	78	105	95	All alternatives would cross a relatively similar amount of MBS Sites of Biodiversity Significance.
Rare and unique natural resources	State rare communities	Proximity to MnDNR High Conservation Value Forest, MnDNR Ecologically Important Lowland Conifer Areas (acres within ROW)	0--0	0--0	There are no known High Conservation Value Forests, Ecologically Important Lowland Conifer Areas that would be affected by the alternatives.	0--0	0--0	0--0	There are no known High Conservation Value Forests, Ecologically Important Lowland Conifer Areas that would be affected by the alternatives.
Rare and unique natural resources	State rare communities	Proximity to MBS native plant communities (acres in ROW)	-	-	No MBS native plant community data are available for this area.	-	-	-	No MBS native plant community data are available for this area.

East Section [1], [2]			East Bear Lake			Balsam			
Factor	Element	Indicator	Proposed Orange Route	East Bear Lake Variation	NOTES	Proposed Blue Route	Proposed Orange Route	Balsam Variation	NOTES
Use or paralleling of existing rights-of-way		Proximity to high voltage transmission lines, roadways, and trails (percent of total length)	0	42	East Bear Lake Variation would parallel existing transmission line, roadway, and/or trail corridor, while the Proposed Orange Route would not parallel these corridors.	21	17	36	All alternatives would parallel existing transmission line, roadway, and/or trail corridor. Balsam Variation would be located in an abandoned transmission line corridor for 66% of it's length.
Electrical system reliability		Proximity to two or more high voltage transmission lines (percent of total length)	0	42	East Bear Lake Variation would parallel existing 500 kV and 230 kV transmission line corridors for 42% of its length.	15	14	0	Proposed Blue Route and Proposed Orange Route would parallel two existing 115 kV transmission line corridors for 15% of their lengths.
Costs of constructing, operating, and maintain the facility which are dependent on design and route		Total construction cost[3]	$9,736,790	$13,279,079	The cost of the East Bear Lake Variation is more than 20% above the cost of the Proposed Orange Route.	$15,121,621	$16,018,490	$19,502,472	The cost for the Proposed Orange Route is within 20% of the cost of the Proposed Blue Route. The cost of the Balsam Variation is more than 20% above the cost of the Proposed Blue Route.

(1) Colors represent least impacts (green), moderate impacts (yellow), greatest impacts (red), and no impacts or similar impacts (gray) relative to the specific factor.

(2) Red text indicates information in these rows are included within the DEIS.

(3) Using the Applicant's methodology (see comment in Appendix U), the Applicant-proposed route is green; if the maximum cost of the alternative is less than the Applicant-proposed route - it is green; if the maximum cost of the alternative is up to 20% more than the Applicant-proposed route - it is yellow; if the maximum cost of the alternative is more than 20% above the cost of the Applicant-proposed route - it is red.

East Section (1), (2)			Dead Man's Pond			Blackberry		
Factor	Element	Indicator	Proposed Blue Route	Dead Man's Pond Variation	NOTES	Proposed Blue Route	Proposed Orange Route	NOTES
Human settlement	Displacement	Proximity to residences	See section on Human Settlement in the Dead Man's Pond Variation Area for details		There would be no differences in the impacts for the alternatives.	See section on Human Settlement in the Blackberry Variation Area for details		There would be no differences in the impacts for the alternatives.
Human settlement	Noise	Proximity to noise receptors	See section on Human Settlement in the Dead Man's Pond Variation Area for details		There would be no differences in the impacts for the alternatives.	See section on Human Settlement in the Blackberry Variation Area for details		There would be no differences in the impacts for the alternatives.
Human settlement	Air quality	Air emissions (criteria pollutants and greenhouse gases)	See section on Human Settlement in the Dead Man's Pond Variation Area for details		There would be no differences in the impacts for the alternatives.	See section on Human Settlement in the Blackberry Variation Area for details		There would be no differences in the impacts for the alternatives.
Human settlement	Property values	Proximity to residences	See section on Human Settlement in the Dead Man's Pond Variation Area for details		There would be no differences in the impacts for the alternatives.	See section on Human Settlement in the Blackberry Variation Area for details		There would be no differences in the impacts for the alternatives.
Human settlement	Electronic interference	Proximity to communication towers	See section on Human Settlement in the Dead Man's Pond Variation Area for details		There would be no differences in the impacts for the alternatives.	See section on Human Settlement in the Blackberry Variation Area for details		There would be no differences in the impacts for the alternatives.
Human settlement	Transportation and public services	Proximity to roadways and railways	See section on Human Settlement in the Dead Man's Pond Variation Area for details		There would be no differences in the impacts for the alternatives.	See section on Human Settlement in the Blackberry Variation Area for details		There would be no differences in the impacts for the alternatives.
Human settlement	Transportation and public services	Proximity to airstrips	See section on Human Settlement in the Dead Man's Pond Variation Area for details		There would be no differences in the impacts for the alternatives.	See section on Human Settlement in the Blackberry Variation Area for details		There would be no differences in the impacts for the alternatives.
Human settlement	Environmental justice	Minority populations	See section on Human Settlement in the Dead Man's Pond Variation Area for details		There would be no differences in the impacts for the alternatives.	See section on Human Settlement in the Blackberry Variation Area for details		There would be no differences in the impacts for the alternatives.
Human settlement	Environmental justice	Low-income populations	See section on Human Settlement in the Dead Man's Pond Variation Area for details		There would be no differences in the impacts for the alternatives.	See section on Human Settlement in the Blackberry Variation Area for details		There would be no differences in the impacts for the alternatives.
Human settlement	Socioeconomics	Population	See section on Human Settlement in the Dead Man's Pond Variation Area for details		There would be no differences in the impacts for the alternatives.	See section on Human Settlement in the Blackberry Variation Area for details		There would be no differences in the impacts for the alternatives.
Human settlement	Socioeconomics	Employment	See section on Human Settlement in the Dead Man's Pond Variation Area for details		There would be no differences in the impacts for the alternatives.	See section on Human Settlement in the Blackberry Variation Area for details		There would be no differences in the impacts for the alternatives.
Human settlement	Socioeconomics	Taxes and revenue generated	See section on Human Settlement in the Dead Man's Pond Variation Area for details		There would be no differences in the impacts for the alternatives.	See section on Human Settlement in the Blackberry Variation Area for details		There would be no differences in the impacts for the alternatives.
Human settlement	Socioeconomics	Housing availability	See section on Human Settlement in the Dead Man's Pond Variation Area for details		There would be no differences in the impacts for the alternatives.	See section on Human Settlement in the Blackberry Variation Area for details		There would be no differences in the impacts for the alternatives.

East Section (1), (2)			Dead Man's Pond			Blackberry		
Factor	**Element**	**Indicator**	Proposed Blue Route	Dead Man's Pond Variation	NOTES	Proposed Blue Route	Proposed Orange Route	NOTES
Human settlement	Recreation and tourism	Proximity to recreational resources (county, state, and federal parks and forests, state Scientific and Natural Areas, state trails, scenic byways, and snow and water trails)	See section on Human Settlement in the Dead Man's Pond Variation Area for details		There would be no differences in the impacts for the alternatives.	See section on Human Settlement in the Blackberry Variation Area for details		There would be no differences in the impacts for the alternatives.
Human settlement	Cultural values	Proximity to residences	See section on Human Settlement in the Dead Man's Pond Variation Area for details		There would be no differences in the impacts for the alternatives.	See section on Human Settlement in the Blackberry Variation Area for details		There would be no differences in the impacts for the alternatives.
Human settlement	**Aesthetics**	Proximity to residences (Count within 0-500, 0-1,000, & 0-1,500 ft from the anticipated alignment)	0--1--2	0--1--4	Dead Man's Pond Variation would pass by more residences within 1,500 feet of the anticipated alignment.	2--6--11	0--5--22	Proposed Orange Route would pass by more residences within 1,500 feet of the anticipated alignment.
Human settlement	**Land use compatibility**	Summary - land use type data and land ownership data			There are no land use compatibility issues identified for the alternatives. Both alternatives would cross a relatively similar amount of private land.			There are no land use compatibility issues identified for the alternatives. Both alternatives would cross a relatively similar amount of private land.
Human settlement	Land use compatibility	Land use type data (crosses USFWS Interest Lands or other features, e.g. airstrips)			There are no land use compatibility issues identified for the alternatives.			There are no land use compatibility issues identified for the alternatives.
Human settlement	Land use compatibility	Land ownership type data - total acres in ROW (acres of public and private land in the ROW)	Total: 54 (19--35)	Total: 56 (37--19)	Both alternatives would cross a relatively similar amount of private land.	Total: 133 (41--92)	Total: 147 (54--93)	Both alternatives would cross a relatively similar amount of private land.
Public health and safety	Electric and magnetic Fields	Proximity to residences	See section on Public Health and Safety in the Dead Man's Pond Variation Area for details		There would be no differences in the impacts for the alternatives.	See section on Public Health and Safety in the Blackberry Variation Area for details		There would be no differences in the impacts for the alternatives.
Public health and safety	Implantable medical devices	Proximity to residences	See section on Public Health and Safety in the Dead Man's Pond Variation Area for details		There would be no differences in the impacts for the alternatives.	See section on Public Health and Safety in the Blackberry Variation Area for details		There would be no differences in the impacts for the alternatives.
Public health and safety	Stray voltage	Proximity to residences	See section on Public Health and Safety in the Dead Man's Pond Variation Area for details		There would be no differences in the impacts for the alternatives.	See section on Public Health and Safety in the Blackberry Variation Area for details		There would be no differences in the impacts for the alternatives.
Public health and safety	Induced voltage	Proximity to residences	See section on Public Health and Safety in the Dead Man's Pond Variation Area for details		There would be no differences in the impacts for the alternatives.	See section on Public Health and Safety in the Blackberry Variation Area for details		There would be no differences in the impacts for the alternatives.
Public health and safety	Intentional destructive acts	Intentional destructive acts	See section on Public Health and Safety in the Dead Man's Pond Variation Area for details		There would be no differences in the impacts for the alternatives.	See section on Public Health and Safety in the Blackberry Variation Area for details		There would be no differences in the impacts for the alternatives.

East Section (1), (2)			Dead Man's Pond			Blackberry		
Factor	**Element**	**Indicator**	Proposed Blue Route	Dead Man's Pond Variation	NOTES	Proposed Blue Route	Proposed Orange Route	NOTES
Public health and safety	Environmental contamination	Registered sites of contamination	See section on Public Health and Safety in the Dead Man's Pond Variation Area for details		There would be no differences in the impacts for the alternatives.	See section on Public Health and Safety in the Blackberry Variation Area for details		There would be no differences in the impacts for the alternatives.
Public health and safety	Worker health and safety	Worker health and safety	See section on Public Health and Safety in the Dead Man's Pond Variation Area for details		There would be no differences in the impacts for the alternatives.	See section on Public Health and Safety in the Blackberry Variation Area for details		There would be no differences in the impacts for the alternatives.
Land based economies	**Agriculture**	Proximity to farmland - total acres in ROW (acres of prime farmland, farmland of statewide importance, and prime farmland if drained in ROW)	Total: 20 (11--0--9)	Total: 39 (38--0--1)	Both alternatives would cross a relatively similar amount of farmland.	Total: 82 (59--11--12)	Total: 90 (80--2--8)	Both alternatives would cross a relatively similar amount of farmland.
Land based economies	**Forestry**	Proximity to forest land (acres of state forest land in ROW)	0	0	Neither alternative would cross state forest land.	0	0	Neither alternative would cross state forest land.
Land based economies	**Mining and mineral resources**	Proximity to state mining lease lands (active and/or expired/terminated; acres in ROW) and aggregate resources (count in ROW)	0--0	0--0	No active or expired/terminated mineral lease lands or aggregate resources are present in the ROW of any alternative.	37--0	33--0	Proximity to expired/terminated mineral lease lands are relatively similar between the alternatives.
Archaeological and historic architectural resources		Summary - proximity to archaeological and historic architectural resources			There are no known archaeological sites that would be affected by the alternatives. Both alternatives have 1 historic architectural site within 1 mile.			There are no known archaeological resources that would be affected by the alternatives. Proposed Blue Route has more historic architectural sites within 1 mile.
Archaeological and historic resources	Archaeological sites	Proximity to archaeological sites (count within 0-100 ft and 0-1,500 ft from the anticipated alignment)	0--0	0--0	There are no known archaeological sites that would be affected by the alternatives.	0--0	0--0	There are no known archaeological sites that would be affected by the alternatives.
Archaeological and historic resources	Historic architectural sites	Proximity to historic architectural sites (count within 0-100 ft, 0-1,500 ft, and 0-1 mile from the anticipated alignment)	0--0--1	0--0--1	Both alternatives have a historic architectural resource within 1 mile.	0--0--6	0--0--1	Proposed Blue Route has more historic architectural sites within 1 mile.

East Section (1), (2)			Dead Man's Pond			Blackberry		
Factor	**Element**	**Indicator**	Proposed Blue Route	Dead Man's Pond Variation	NOTES	Proposed Blue Route	Proposed Orange Route	NOTES
Natural environment	**Water resources**	Summary - proximity to watercourses, waterbodies, floodplains, and wetlands			There would be no differences between the alternatives for crossing watercourses, waterbodies, and floodplains. Proposed Blue Route would cross wetlands that are too large to span, while Dead Man's Pond Variation would be able to span wetlands. Both alternatives would result in relatively similar areas of forested wetland type conversion. Proposed Blue Route would have the most shrub wetland; therefore, would require the most shrub wetland type conversion.			Proposed Orange Route would cross the most watercourses/waterbodies; however, all crossings are expected to be spanned. There would be no differences between the alternatives for crossing floodplains. Both alternatives would cross relatively similar areas of wetlands that are too large to span and would result in relatively similar areas of forested wetland type conversion. Proposed Blue Route would have the most shrub wetland; therefore, would require the most shrub wetland type conversion.
Natural environment	Water resources	Proximity to watercourses and waterbodies - Total number of crossings in ROW (number of PWI crossings, non-PWI crossings); - Trout stream (number of crossings)	Total: 0	Total: 0	There are no differences between the alternatives.	Total: 1 (1--0) (0)	Total: 3 (3--0) (0)	Proposed Orange Route would cross the most watercourses/waterbodies; however, all crossings are expected to be spanned.
Natural environment	Water resources	Proximity to floodplains - total acres of floodplain in ROW (acres of Zone A, acres of Zone B)	Total: 0	Total: 0	There are no differences between the alternatives.	Total: 0	Total: 0	There are no differences between the alternatives.
Natural environment	Water resources	Proximity to wetlands (acres of PSS wetlands in ROW resulting in wetland type conversion)	11	2	Proposed Blue Route would cross the most shrub wetland.	15	10	Proposed Blue Route would cross the most shrub wetland.
Natural environment	Water resources	Proximity to wetlands (acres of PFO wetlands in ROW resulting in wetland type conversion)	3	2	Both alternatives would cross relatively similar areas of forested wetland.	36	29	Both alternatives would cross relatively similar areas of forested wetland.
Natural environment	Water resources	Proximity to wetlands (acres of total wetlands in ROW too large to span)	14	4	Proposed Blue Route would cross wetlands that are too large to span, while Dean Man's Pond Variation would be able to span wetlands.	51	40	Both alternatives would cross relatively similar areas of total wetland that are too large to span.

East Section (1), (2)			Dead Man's Pond			Blackberry		
Factor	**Element**	**Indicator**	Proposed Blue Route	Dead Man's Pond Variation	NOTES	Proposed Blue Route	Proposed Orange Route	NOTES
Natural environment	**Vegetation**	Cover type (acres of forested land cover in ROW)	50	54	Both alternatives would cross a relatively similar amount of forested land cover.	129	130	Both alternatives would cross a relatively similar amount of forested land cover. Proposed Orange Route parallels more existing transmission line corridor.
Natural environment	**Wildlife**	Proximity to wildlife resources - Important Bird Areas (acres in ROW)	0	0	Neither alternative would cross designated wildlife resources.	0	0	Neither alternative would cross designated wildlife resources.
Rare and unique natural resources	**Federal and state listed species**	Summary - proximity of federal and state-listed species (based on the Natural Heritage Information System (NHIS) database)			There are no federally-listed species identified for these alternatives. There is 1 threatened NHIS record within 1 mile of the Dead Man's Pond Variation. However, this species is a fish and because it is anticipated that all waterbodies and watercourses would be spanned, impacts to this aquatic species are not expected.			There are no federally-listed species identified for these alternatives. Both alternatives have a relatively similar number of NHIS records, including threatened or endangered NHIS records, within 1 mile.
Rare and unique natural resources	Federally listed species	Federally-listed species (# of records within 1 mile), designated critical habitat (miles crossed)	0--0	0--0	There are no federally-listed species identified for these alternatives. Neither alternative would cross critical habitat designated for gray wolf.	0--0	0--0	There are no federally-listed species identified for these alternatives. Neither alternative would cross critical habitat designated for gray wolf.
Rare and unique natural resources	State listed species	State-listed species (total # of NHIS records within 1 mile)	0	1	There is 1 NHIS record within 1 mile of the Dead Man's Pond Variation. However, this species is a fish and because it is anticipated that all waterbodies and watercourses would be spanned, impacts to this aquatic species are not expected.	2	3	Both alternatives have a relatively similar number of NHIS records within 1 mile.
Rare and unique natural resources	State listed species	State-listed species (# of threatened and endangered NHIS records within 1 mile)	0	1	There is 1 threatened NHIS record within 1 mile of the Dead Man's Pond Variation. However, this species is a fish and because it is anticipated that all waterbodies and watercourses would be spanned, impacts to this aquatic species are not expected.	2	2	Both alternatives have a relatively similar number of threatened or endangered NHIS records within 1 mile.

East Section (1), (2)			Dead Man's Pond			Blackberry		
Factor	**Element**	**Indicator**	Proposed Blue Route	Dead Man's Pond Variation	NOTES	Proposed Blue Route	Proposed Orange Route	NOTES
Rare and unique natural resources	**State rare communities**	Summary - proximity to Scientific and Natural Areas (SNAs), SNA Watershed Protection Areas, MBS Sites of Biodiversity Significance, MBS native plant communities, High Conservation Value Forest, and Ecologically Important Lowland Conifer stands			No known rare and unique natural resources were identified for the alternatives.			Both alternatives would cross a relatively similar amount of MBS Sites of Biodiversity Significance.
Rare and unique natural resources	State rare communities	Proximity to Scientific and Natural Areas (SNAs) (Count within 1,500 feet) and SNA Watershed Protection Area (acres within ROW)	0--0	0--0	Neither alternative has a SNA within 1,500 feet or an SNA WPA within the ROW.	0--0	0--0	No SNAs would be located within 1,500 feet of any alternative; no alternative would cross an SNA WPA.
Rare and unique natural resources	State rare communities	Proximity to MBS Sites of Biodiversity Significance (total acres within ROW)	0--0	0--0	No known MBS Sites of Biodiversity Significance were identified for the alternatives.	57	79	Both alternatives would cross a relatively similar amount of MBS Sites of Biodiversity Significance.
Rare and unique natural resources	State rare communities	Proximity to MnDNR High Conservation Value Forest, MnDNR Ecologically Important Lowland Conifer Areas (acres within ROW)	0--0	0--0	There are no known High Conservation Value Forests, Ecologically Important Lowland Conifer Areas that would be affected by the alternatives.	0--0	0--0	There are no known High Conservation Value Forests, Ecologically Important Lowland Conifer Areas that would be affected by the alternatives.
Rare and unique natural resources	State rare communities	Proximity to MBS native plant communities (acres in ROW)	-	-	No MBS native plant community data are available for this area.	-	-	No MBS native plant community data are available for this area.

East Section [1], [2]			Dead Man's Pond			Blackberry		
Factor	**Element**	**Indicator**	Proposed Blue Route	Dead Man's Pond Variation	NOTES	Proposed Blue Route	Proposed Orange Route	NOTES
Use or paralleling of existing rights-of-way		Proximity to high voltage transmission lines, roadways, and trails (percent of total length)	17	0	Proposed Blue Route parallels some existing transmission line, roadway, and/or trail corridor, while the Dead Man's Pond Variation does not parallel any of these existing corridors.	22	37	Both alternatives would parallel a relatively similar amount of transmission line, roadway, and/or trail corridor.
Electrical system reliability		Proximity to two or more high voltage transmission lines (percent of total length)	-	-	There are no issues with electrical reliability since there would not be three transmission lines paralleling the same corridor.	20	37	Both alternatives would parallel 2 existing high voltage transmission lines for a relatively similar proportion of their length.
Costs of constructing, operating, and maintain the facility which are dependent on design and route		Total construction cost[3]	$2,873,223	$4,409,841	The cost of the Dead Man's Pond Variation is more than 20% above the cost of the Proposed Blue Route.	$8,380,680	$10,148,060	The cost of the Proposed Orange Route is more than 20% above the cost of the Proposed Blue Route.

(1) Colors represent least impacts (green), moderate impacts (yellow), greatest impacts (red), and no impacts or similar impacts (gray) relative to the specific factor.

(2) Red text indicates information in these rows are included within the DEIS.

(3) Using the Applicant's methodology (see comment in Appendix U), the Applicant-proposed route is green; if the maximum cost of the alternative is less than the Applicant-proposed route - it is green; if the maximum cost of the alternative is up to 20% more than the Applicant-proposed route - it is yellow; if the maximum cost of the alternative is more than 20% above the cost of the Applicant-proposed route - it is red.