Xcel Energy
Boot Lake to Chain O Lakes Project
Environmental Assessment

Application of Northern States Power Company-Wisconsin for a Certificate of Authority to Construct the Boot Lake to Chain O Lakes 34.5 kV Transmission Line and Substation Project in Vilas County, Wisconsin

Public Service Commission of Wisconsin Docket 4220-CE-186
November 2023

Public Service Commission of Wisconsin
Division of Digital Access, Consumer, and Environmental Affairs
Office of Environmental Analysis

Contents

1. Introduction

On May 23, 2023 Northern States Power Company (Xcel Energy or applicant), filed an application with the Public Service Commission of Wisconsin (PSC or Commission) to receive a Certificate of Authority (CA) for the authority to construct a new 15.1-miles 34.5 kilovolt (kV) transmission line and two new substations in Vilas County, Wisconsin. The new substations would replace the existing Presque Isle and Rest Lake substations with the new Boot Lake and Chain O Lakes substations. The project would also include the removal of 8.1 miles of existing distribution line within the proposed project's right-of-way, removal of 0.3 mile of the transmission line connecting into the Presque Isle Substation, and the removal of two existing 34.5 kV substations.

1.1. Analysis for Wisconsin Environmental Policy Act Compliance

The proposed project is a Type III action under Wis. Admin. Code § PSC 4.10(3). An evaluation of a specific Type III proposal may indicate that the preparation of an environmental assessment (EA) is warranted to determine whether an environmental impact statement (EIS) is necessary under Wis. Admin. Stat. § 1.11.

This EA is being prepared for the proposed project. Wisconsin Admin. Code § PSC 4.20(1) states that an EA shall be a concise document that provides a factual investigation of the relevant areas of environmental concern in sufficient depth to permit a reasonably informed preliminary judgement of the environmental consequences of the proposed project. The EA shall include a recommendation whether the proposed project is a major action significantly affecting the quality of the human environment, within the meaning of Wis. Stat § 1.11(2)(c), for which an EIS is required. An EIS is required if an EA determines there are significant impacts to the environment as a result of the project.

When the EA is complete, a preliminary determination will be made on whether to undertake a full EIS before a final determination is made. At the time of the preliminary determination, the PSC shall make copies of the EA available to those persons that request it. The EA also describes ways of mitigating or avoiding some of the expected impacts and concludes with the evaluation of ten items described in Wis. Admin. Code § PSC 4.20(2)(d).

EA Scoping Notice

In accordance with Wis. Admin. Code § PSC 4.20(1m), public notice was given when the PSC commenced preparation of an EA. On June 12, 2023, PSC staff distributed an EA notification letter[1] to persons with demonstrated interest in the proposed project, or who had requested to receive this type of information. The announcement was also distributed to area legislators, the county, town, or municipal clerk for the project area, the county, town, village, or city chief

[1] PSC REF#: 470356 – EA Notification Letter

executive officer in the project area, local news media, and the regional planning commission. Clerks were requested to post the announcement publicly. The announcement described the proposed project, including a map, a PSC contact person, and indicated how comments may be submitted. The announcement specified a public comment period lasting at least 10 days, which began on the date that the announcement was distributed.

PSC staff solicited public comments about the proposed project during the EA scoping period from June 12, 2023 to July 3, 2023. Four public comments were received for this project. A summary of the received public comments is found in section 1.4, and the subject matter is found in other sections of the EA pertaining to the specific impacts discussed.

1.2. Environmental Assessment Scope

The Commission's Division of Digital Access, Consumer, and Environmental Affairs prepared this EA in cooperation with the Wisconsin Department of Natural Resources (WDNR) Office of Energy to determine if an EIS is necessary under Wis. Stat. § 1.11. A preliminary determination was made on November 10, 2023, concluding that preparation of an EIS was not necessary. This preliminary determination has a comment period ending on November 29, 2023.

The scope of the EA is to review and describe the expected or potential impacts the construction and operation of the proposed project would have on the environment. This includes impacts to the local residents and community as well as natural resources. The EA also addresses potential ways impacts could be avoided or mitigated. The analysis in the EA is provided to the public, intervenors, and the Commission to inform comments and decisions regarding the proposed project.

1.3. CA and Intervenors

The Commission issued a Notice of Investigation for the docket on November 3, 2023. No entity has requested to intervene in the docket.

1.4. Persons Contacted, Comments, and Permit Compliance

Wisconsin Admin. Code § PSC 4.20(2)(f) states that the EA shall include a list of other persons contacted and a summary of comments or other information received from them, including information regarding whether the proposed project complies with the regulations of other governmental units.

Contributors to EA

No other persons besides staff at the PSC and WDNR were contacted or involved in the preparation of this EA. The following DNR and Commission staff contributed to the EA:

- Kyle Feltes, PSC Environmental Analysis and Review Specialist
- Anna Edmunds, PSC Environmental Analysis and Review Specialist

- Geri Radermacher, DNR – Energy Project Liaison, assisted with EA sections on wetlands and waterway impacts and permit requirements
- Stacy Rowe, DNR – Conservation Biologist, Bureau of Environmental Analysis and Sustainability, assisted with EA sections on endangered resources
- Cheng Wu, PSC Public Service Engineer, assisted with EA sections on technical information
- Tyler Tomaszewski, PSC Environmental Analysis and Review Specialist, assisted with GIS analysis and maps

Public Comments

Four public comments were received in response to the EA notification letter. The comments raised a multitude of concerns regarding environmental impacts, community impacts, aesthetic impacts, and made suggestions of various actions that could be taken by the applicant to mitigate some of these anticipated impacts. The scoping period comments were used to inform the environmental review of potential data request topics and potential conditions that the Commission may find reasonable to include as part of the project if authorized. Individual issues addressed by public comments can be found in the appropriate sections of this EA.

Permit Compliance

The applicant must obtain all necessary permits and approvals before commencing construction activities. These may include but are not limited to the following:

- Public Service Commission of Wisconsin: Certificate of Authority
- Wisconsin Department of Natural Resources: Wetland/Waterways Utility Permit, Stormwater/Erosion Control NR216, Certified Endangered Resources Review, WPDES General Permit
- U.S. Fish and Wildlife Service (USFWS): Endangered Species Act, Bald and Golden Eagle Protection Act
- Wisconsin Department of Agriculture, Trade, and Consumer Protection: Agricultural Impact Notification/Agricultural Impact Statement
- Wisconsin Historical Society: Wis. Stat. 44.40 and Section 106 of National Historic Preservation Act
- U.S. Army Corps of Engineers: Section 404 Clean Water Act, Section 106 National Historic Preservation Act
- Vilas County: County Highway Utility Permit, Work in ROW Permit, Vehicle Weight and/or Load Permit, Driveway Access Permit, Shoreland Alteration Permit
- Manitowish Waters Township: Conditional Use Permit for the Chain O Lakes Substation

2. Project Description and Overview

In accordance with Wis. Admin. Code § PSC 4.20(2)(b), the EA includes an overview of the design of the facilities to be constructed, the construction process, and the project area. Additionally, Wisc. Admin. Code § PSC 4.20(2)(a) directs the EA to describe the purpose and need for the proposed projects.

2.1. Purpose and Need

The applicant states that constructing a new 15.1-mile 34.5 kV transmission line and substation improvements will increase electric reliability in the project area. The project is also anticipated to allow the system to transfer power from both directions, helping to prevent power outages. According to the application the proposed project's area consists of two radial transmission systems. In other words, multiple substations are interconnected using a single transmission line and receive transmission from a single source, exposing all substations away from the source to outages if one line or substation along the chain experiences an outage. Connection between these radial systems would allow for increased service reliability during planned or unplanned outages. A one-line diagram of the two systems and the proposed project are shown in Figure 2.1-1 of the application.

The applicant states that 1,500 customers in Presque Isle and 2,500 customers in Manitowish Waters are served by radial distribution sources. Xcel Energy proposes tying these areas together, allowing for a connection between sources and improvements in transmission reliability.

The need for the proposed project is not based on North American Electric Reliability Corporate (NERC) Planning Criteria and are instead intended to improve local reliability by mitigating the possibility of outages from occurring in the proposed project's area. Commission staff performed a power flow analysis using the PowerWorld Simulator 22 software. The applicant provided two summer 2027 planning year models, consisting of a base case and a model with the project implemented. Commission staff were able to simulate and validate the outage scenario described by the applicants; indeed, if one substation within either of the two radial systems experienced an outage, the rest of the branch would also experience outages. The implementation of the proposed transmission line connecting the terminals of both radial systems mitigated this issue by creating a loop, thereby providing an alternate source of transmission.

The proposed project would also address asset renewal of the applicant's Presque Isle Substation and Rest Lake Substation, which are reaching the end of their expected service life and require rebuilding. Presque Isle Substation was built in the 1970s and Rest Lake Substation was built in the 1960s and did not have any significant updates or modifications since their construction aside from general maintenance. In order to facilitate a new transmission line connecting the two substations, both substations would require expansion. However, both substations are located on parcels that the applicant does not own and are too small to allow for any substation expansion.

The applicant proposes tying two loose ends at once by rebuilding the two substations on new, larger parcels to allow for a new transmission line connection and connecting the two newly constructed substations, providing looped transmission service to both systems. This would address both the asset renewal need and the local reliability needs identified by the applicant.

The applicant estimates that the project would cost approximately $32.6 million to construct the transmission line, new substations, existing substation removals, and distribution line removal. All facilities proposed in this application are proposed to be solely owned by Xcel Energy. The applicant has indicated that the costs of this project will be shared across both Wisconsin and

Michigan ratepayers as determined by their Interchange Agreement approved by the Federal Energy Regulatory Commission. (PSC REF#: 482763).

2.2. Transmission Network Alternatives

The applicant studied two transmission network alternatives including the proposed solution and determined that the proposed project would be the most cost-effective solution to address the local reliability need in the project area while also addressing the asset renewal aspect of the project. The other alternative considered rebuilding the 88 kV and 34.5 kV transmission lines in order to reduce the risk of outages. However, due to the radial nature of the two systems, any work done would require either numerous planned outages or working on energized transmission lines. Additionally, the other studied alternative would provide lesser local reliability benefits at a higher estimated cost as it still would not address the radial nature of both systems. Additionally, the alternative would not address the asset renewal of the Presque Isle Substation and Rest Lake Substation, as the asset renewal would be a distribution-driven project.

2.3. Technical Description and Design

The proposed project would construct the new Boot Lake Substation in Presque Isles and Chain O Lakes Substation in Manitowish Waters to replace the aging Presque Isle Substation and Rest Lake Substation respectively. Accordingly, the proposed project also involves the decommissioning of the existing Presque Isle Substation and Rest Lake Substation and the removal of 0.3 miles of the existing 34.5 kV transmission line (W3634) between the existing Presque Isle Substation and the end of the proposed transmission line. The Presque Isle Substation consists of:

- One incoming 69 kV-capable transmission line operating at 34.5 kV;
- One 3.125 MVA, 69/34.5 kV-12.47/7.2 kV dual capacity power transformer;
- Two 12.5 kV distribution breakers;
- One 3.25 kVA main bus voltage regulator rated for 12.5 kV operation; and
- 4 MVAR of capacitor banks.

The Rest Lake Substation consists of:

- One incoming 34.5 kV transmission line;
- One 7 MVA, 34.5 kV-12.47/7.2 kV power transformer;
- Two 3.25 kVA feeder voltage regulators rated for 12.5 kV operation; and
- 4 MVAR of capacitor banks.

The proposed project would also construct a new 15.1-mile 69 kV-capable transmission line between the two newly constructed substations within a new 75-foot-wide right-of-way (ROW). The applicant would work with landowners crossed by the proposed project to obtain new easements or modify existing easements where appropriate. Although the transmission line would be operated at 34.5 kV for the foreseeable future, the line would be built to 69 kV insulation standards so that no modifications would need to be made to the transmission lines should the line be upgraded to 69 kV in the future. Additionally, an existing 3-phase distribution line shares the proposed project's ROW in 23 noncontiguous segments. Fifteen segments (8.1 miles) of the existing distribution line shares the proposed project's ROW while eight segments

do not. In both cases, the segments would be removed and rebuilt on the newly constructed transmission poles as an underbuild design to avoid duplicative utility poles.

All of the approximately 287 newly constructed transmission structures are proposed to be self-supporting monopole structures ranging in height from 60 to 75 feet above the ground. No transmission structure designs would use down-guy wire supports. Approximately 85 percent of the proposed transmission structures would be wooden monopole structures embedded directly into the ground (i.e., direct-embed). Standard wooden poles would be embedded approximately 8 to 12 feet below the ground while laminated wood poles may require deeper embedment depths ranging from 10 to 15 feet. The other approximately 15 percent would be self-supporting steel monopole structures installed on reinforced concrete pier caissons. The concrete foundations would be approximately 7 feet in diameter extend up to 36 feet below the ground, with a single foot of reveal above the ground line. Depending on ROW and clearance limitations, the conductors on the structures would be arranged in either delta or vertical configuration. Delta configurations would have conductors on varying sides of the pole, as shown in Appendix C Figure 2. Vertical configurations would have all conductors on one side as shown in Appendix C Figure 3.

The proposed project would use 477 kilo circular mils (kcmil) aluminum conductor steel reinforced (ACSR) 26/7 (Hawk) conductor for all transmission line wires. The existing radial transmission lines W3626 and W3634 would disconnect from the existing Rest Lake Substation and Presque Isle Substation respectively and extended to terminate at the Chain O Lakes Substation and Boot Lake Substation respectively. Each monopole structure would have one shield wire atop the structure for lightning protection while one monopole structure alignment would carry a 48-count fiber optical ground wire (OPGW) for both lightning protection and a telecommunications path.

The distance between the proposed structures (i.e., span length) may be shorter than typical transmission line span lengths due to the presence of distribution underbuild on a majority of the length of the proposed transmission line. This would reduce the possibility of wire galloping events and may necessitate the use of round wire conductors. The underbuilt three-phase distribution line would use a single 336 ACSR 18/1 (Merlin) conductors each phase. The distribution neutral wires would use the 336 ACSR 18/1 (Merlin) wires for longer spans and 2/0 ACSR 6/1 (Quail) wire for shorter spans.

2.4. Project Location

Location of Routes and Associated Facilities

A map of the project location is included as Appendix A of this EA. The applicant proposes to construct a project that would connect two new substations in Vilas County, Wisconsin. The Chain O Lakes Substation is proposed to be located at the intersection of County Highway K and County Highway W near Manitowish Waters, Wisconsin. The Boot Lake Substation would be located approximately 0.2 miles southwest of the intersections of Highway W and Thoma Drive near Presque Isle, Wisconsin.

The transmission line structures would be located between substations in Manitowish Waters and Presque Isle. The transmission line largely would follow County roads from near Manitowish Waters to near Presque Isle. The project also would follow along Thoma Drive, Town Shed Road, Brunell Road, Strebe Road and Bucks Road. The proposed route also passes over Transfer Station Road and Discovery Lane in the southern portion of the route. Several portions of the route do not follow along existing roads or highways. The proposed project routes would share the majority of the project ROW with existing utility and transportation corridors. The applicant would generally use a 75-foot ROW for the proposed transmission line, portions of which would overlap with existing 30-foot distribution line ROW and 20-foot road ROW along County Highway W. A breakdown of new ROW widths and area impacted by route segment can be found in Appendix B Table 1 of the application. (PSC REF#: 468913). All route segments proposed to be constructed contain new ROW except for segments 16, 20, and 21.

The Rest Lake and Presque Isle substations that are proposed to be decommissioned are located on either end of the proposed route. The Rest Lake substation is located on a 0.1-acre parcel on Northern Highland State Forest land, approximately 0.1-mile west/northwest of the intersection of County Highway W and Tower Road. The Presque Isle substation is located on a 0.23-acre parcel between County Highway W to the east, and a steep bluff drop approximately 30-feet to the west. The Rest Lake substation fenced area is approximately 0.05-acre in size, and an additional 1.0-acre of upland temporary workspace may be required for removal of the substation equipment. The Presque Isle substation fenced area is approximately 0.04-acre in size, and an additional 0.5-acre of temporary workspace may be required for removal of equipment. The current land use of each site would be restored to fit its natural surroundings following completion of equipment removal.

Physical Landscape

The physiography, topography, and soils of the project area have been affected by glaciation. The project area is located within the Northern Highland geological region of Wisconsin. This region is characterized by moderately large hills and valleys with numerous small glacial kettle lakes and flowages, as well as bogs and forested wetlands. Most soils are sands and gravels with some loamy mantle, and organic soils of peat or muck in wetland areas. The bedrock in the region is predominantly igneous and metamorphic rock, generally covered by deposits of glacial drift at depths of 5 feet to over 100 feet.

The project area has variable topography with land cover being predominantly forested and developed with residences typically near lakes and waterways along the route. Unique landmarks within the project area would be the Northern Highland American Legion State Forest, five waterways, and one waterbody.

Land use in the proposed Chain O Lakes Substation site consists of forested wetland, upland forest, and developed land. The Boot Lake Substation site is classified as having developed and upland forest land use. The existing Rest Lake Substation site is classified as forested wetland, and the existing Presque Isle Substation site is currently developed but would be restored.

3. Environmental Effects

Wisconsin Admin. Code § PSC 4.20(2)(c) states that the EA shall include a description of the environmental factors that the proposed project affects most directly. Wisconsin Admin. Code § PSC 4.20(2)(d)(1) directs the EA to describe the proposed project's effects on geographically important or scarce resources, such as historic or cultural resources, scenic or recreational resources, prime farmland, threatened or endangered species, ecologically important areas, as well as the potential impacts to other environmental matters the Commission considers relevant.

3.1. Aesthetic Impacts

Overall, the project would increase the visual impacts of electric infrastructure. Some of the areas that the project would pass through already experience visual impacts due to existing infrastructure. In areas where there is no existing electric infrastructure, the project would introduce new visual impacts. The opinion of the aesthetic impact of the proposed project may vary depending on the viewer. Some people may not notice the new project, while other people may experience negative reactions to the change in the existing scenery. No scenic roads were identified in the project area, however a series of recreational bike and snowmobile trails occur throughout the project area. The recreational trails are discussed further in Section 3.14.

Public comments left by multiple individuals during the EA Scoping Period had expressed concerns of new aesthetic impacts imposed by the proposed substations and transmission line. The Chain O Lakes substation is proposed to be constructed next to County Road W, replacing the Rest Lake substation. One public commenter was concerned over the increased aesthetic impact imposed by the new location, as the Rest Lake substation is not viewable from the road due to the wooded landscape. As proposed, the Chain O Lakes substation would not be screened from the road by mature trees in the same way that the Rest Lake substation has been. Based on this public comment, staff had issued data requests that asked the applicant to discuss implementation of vegetation screening, proposed nighttime lighting of the substation, and the possibility of moving the substation to a less viewable portion of the parcel.

In response to the inquiry of vegetation screening, the applicant indicated that pollinator habitat would be used for aesthetic screening between Highway W and the Chain O Lakes substation. (PSC REF#: 475798). Appendix J of the application provides public concerns and the applicant's responses that were made prior to the Commission project filing. (PSC REF#: 468928). The vegetation screening of the Chain O Lakes substation is also discussed there, wherein the applicant states that the existing trees adjacent to the highway would be removed to allow transmission lines to cross into and out of the substation. The proposed pollinator habitat would provide aesthetic screening, however it may not be as effective in visually blocking or aesthetically altering the viewshed of the new substation.

The applicant also stated in response to the second data request that while a site lighting plan has not been prepared at the time of the response, Xcel Energy does not install lighting outside of a substation unless there is a security concern. The only light that would be on is required for safe access into the substation.

In response to the public commentor's request to move the Chain O Lakes substation within the parcel, the applicant stated that the substation could not be moved further from view of the highway due to delineated wetlands being present. The proposed location of the Chain O Lakes substation partly utilizes previously disturbed area that is covered in gravel, and moving the proposed location within the parcel could potentially cause a greater environmental impact to the surrounding forested or wetland areas.

3.2. Agriculture

The application states that agricultural land uses occur only within a small portion in the project area, and recent aerial imagery suggests that no portion of the project contains active agricultural land. No specialty agriculture has been identified within the project area. The agricultural lands within Vilas County produce vegetables harvested for sale, oats for grain, and forage crops. Agricultural land use was differentiated between crop land and specialty crops (cranberry bogs, vineyards, ginseng, orchards, tree farms, etc.). Fields or other areas with no evidence of recent tillage or agricultural production were not included as agricultural land.

Agricultural Land Impacts by the Project

The applicant states that the proposed route, removal segments, off-ROW access, and new or removal substation sites do not occur within crop land or specialty agricultural land. The Presque Isle Transfer Station laydown yard would impact 4.9 acres of cropland according to USGS data, however recent aerial imagery indicates that the laydown yard area has been developed into a mix of graveled area and manicured lawn, and therefore would not currently be used for crop cultivation. Lands used for pasture, hay fields, and fallow fields were not field verified to assess previous disturbance and were conservatively classified as grassland. The absence of any agricultural crop land and specialty crop land within the project area is reflected in the Application Appendix B Table 2.

No irrigation systems or drainage tile are currently known to occur within the proposed project area; the applicant had clarified that such practices are often not identified until after the easement acquisition process. The application states that they would work with landowners to avoid or minimize impacts to irrigation systems and drain tiles, if present, or make them whole if there are additional monetary burdens incurred as a result of the project.

Farmland Preservation Program

The project area would not occur within or affect any Agricultural Enterprise Areas or Farmland Preservation Program enrolled parcels.

Mitigation of Construction Impacts to Agricultural Lands

The applicant states that no agricultural land would be found within the project area except for the Town of Presque Isle Transfer Station laydown yard. Recent aerial imagery indicates that the entire laydown yard has been developed and is not actively being cultivated, therefore the applicant has stated no mitigation or minimization measures are currently planned for agricultural lands.

Agricultural Impact Statement (AIS) Wisconsin Department of Agricultural, Trade, and Consumer Protection (DATCP)

The applicant stated that the project is exempt from an AIS, and therefore does not require an Agricultural Impact Notice or a release letter from DATCP, due to the project's designed operation at less than 100kV per Wis. Stat. § 32.035(2) and 196.491(1)(f).

Neutral-to-Earth (NEV) and Induced Voltage

No confined animal dairy operations would be located within ½ mile of the proposed centerline of each route segment. No agricultural buildings would be located within 300 feet of the proposed centerline of each route segment. The applicant states that they would construct the proposed facilities to minimize risk of induced voltage impacts and would work with owners of any potentially impacted facilities to address their concerns.

3.3. Airports

The application identified one airstrip, among both public and private airstrips, within a 5-mile search range of the proposed project. The Manitowish Waters Airport is a publicly owned airport accessible only by private or charter plane that would be located approximately two miles south of the Chain O'Lakes Substation, 1.2 miles south of the transmission line, and 0.4 miles south of a project laydown area.

Potential Construction Limitations and Permit Issues

The applicant provided structure location and details of the five structures closest to the airport to the Federal Aviation Administration (FAA). Xcel Energy does not anticipate impacts on airports as a result of this project. Final evaluation of the project will be completed with the FAA when project design plans are finalized.

3.4. Communication Towers

The applicant conducted a search of the Federal Communications Commission (FCC) database to identify communication towers withing one mile of the project area. The review found eleven towers within one-mile of the project area, including six FCC Registered Antenna Structures and five Land Mobile Private Transmission Towers. Locations of communication towers in relation to the project can be found in the application Appendix A, Figure 6. (PSC REF#: 468911). The tower closest to the project area is located within the proposed Presque Isle Transfer Station Laydown Yard, 0.8-mile from the nearest substation, and is an FCC Registered Antenna Structure. The tower closest to a proposed project substation is located 0.7-mile east of the Boot Lake substation. No impacts on television, cellular phones, or Global Positioning System (GPS) are anticipated as a result of this project. Minor effects on AM radio may occur within the ROW along the proposed transmission route.

3.5. Communication with Potentially Affected Public

The applicant states that they provided project 'Save the Date' mailings to 627 landowners and local officials in November of 2022, and again in January of 2023, to notify the recipients of upcoming open house dates. All landowners within 0.5-mile of each preliminary route option were notified. The applicant conducted one virtual open house in December of 2022, and one in-person open house in January of 2023. The applicant made available project-related information, contact information, photo simulations, a comment form, and project route maps, which were posted on the project website.

The applicant stated that the outreach conducted had provided opportunities to modify route options based on citizen feedback in advance of the submittal of the project application. Appendix J of the application provides public feedback from the open houses held and the applicant's responses. (PSC REF#: 468928). Alterations that the applicant committed to in the responses were included in the proposed project. Issues such as avoiding the removal of mature hemlock trees as requested in a public comment were among the responses provided. Some suggestions made by the public were not implemented into the project design, such as the request to install the new transmission line wholly underground instead of on the proposed monopole structures. The issue was raised during the EA Scoping Period as a public comment by the same individual, and in response a data request was issued. The applicant stated that they had not considered undergrounding the new transmission as a feasible option due to a multitude of reasons. (PSC REF#: 475798). Burying three-phase transmission lines of the proposed magnitude would reportedly greatly increase the cost, increase environmental impacts caused by excavation, require creating concrete vaults filled with oil to cool the buried transmission line, require backup lines, and increase outage times in the event of a fault due to the greater difficulty in locating the fault.

The applicant plans to provide additional information to nearby landowners through project mailers. Landowners can also receive project updates, including construction timelines, through the project website, quarterly reports on the PSC website, and through easement negotiations.

3.6. Community Income

This section is not applicable to this project because the proposed facilities are designed for operation at less than 345 kV.

3.7. Community Issues

Four public comments were received from the community during the public EA scoping comment period. No special community issues have been identified.

3.7.1. Environmental Justice and Sensitive Receptors

3.7.1.1. Sensitive Receptors

Sensitive receptors are mainly those individuals that are very young, elderly, or infirm. Local day care facilities, schools, hospitals, and elderly care facilities could have a greater potential to be affected by construction impacts such as dust, noise, and traffic hazards.

The proposed project would be in a rural, sparsely populated area. Seasonal residences and resorts are present between County Highway W and lakes in the surrounding area such as Boot Lake, Presque Isle Lake, Birch Lake, Tamarack Lake, North Turtle Lake, South Turtle Lake, and Rest Lake. Due to the project area occurring mostly along existing transmission and distribution line ROW near roadways, it is in proximity to many residences. There would be a total of 108 residences within 300 feet of the project transmission ROW centerline, as seen in the table below, six of which would be within 25 feet of the proposed centerline. (PSC REF#: 468920).

No churches or similar gathering locations would be located within 300 feet of the proposed project. The applicant had stated that one church, the St. Rita's Catholic Church, would be approximately 350 feet from the laydown yard #3 in the Town of Presque Isle. The church would be over 1,000 feet from the nearest project construction activity, which would consist of pole structure and transmission line removal.

Table 1. Residences within 300 feet of the Project ROW Centerline

	0 – 25 feet	26 – 50 feet	51 – 100 feet	101 – 150 feet	151 – 300 feet
New Segment	2	2	13	8	40
Removal Segment	4	1	7	6	25
Total Residences	6	3	20	14	65

3.7.1.2. Environmental Justice

Environmental justice is the fair treatment and meaningful involvement of all people regardless of race, color, national origin, or income, with respect to the development, implementation, and enforcement of environmental laws, regulations, and policies. A minority population consists of any geographic area in which minority representation is greater than the national average of 30 percent. According to 2020 US Census data, no minority groups in Vilas County are greater than 30 percent of the population.

The median household income for the State of Wisconsin is $67,125, and the poverty rate is 10.8%.[2] Vilas County has a slightly lower median household income than the overall State, with a median household income of $56,837. The poverty rate in the County is slightly higher than the overall rate in the State, with a rate of 11.5%.

Through a review of the population details available, there are no disproportionately high minority populations or disproportionately low-income populations identified near the facilities that would be adversely impacted by the proposed project. The project is not expected to cause adverse effects to human health or communities; therefore, no impacts are anticipated.

[2] 2020 data from data.census.gov

Table 2. Population and Income (2020 data from data.census.gov)[3]

Location	Vilas County
Population	23,763
Median Household Income	$56,837
Poverty Rate	11.5%

Table 3. Estimated Racial or Ethnic Distributions (2020 data from data.census.gov)[4]

Race or Ethnic Group	Vilas County
White alone	**87.3%**
White, not Hispanic or Latino	**85.7%**
Black or African American	**0.4%**
American Indian and Alaska Native	**10.1%**
Asian	**0.6%**
Hispanic or Latino	**2.7%**
Two or More Races	**1.6%**
Native Hawaiian and Other Pacific Islander	**----**

3.8. Conservation Easements

The applicant states that the project would not intersect any known conservation easements based on a review of conservation easement data available from the National Conservation Easement Database, U.S. Fish and Wildlife Service, Bureau of Community Financial Assistance, the Wisconsin Department of Natural Resources, U.S. Geological Survey GAP, and the Wisconsin Department of Agriculture Natural Resources Conservation Service.

3.9. Forested Land

The applicant stated that forested lands were identified and reviewed using USGS GAP national land cover data, adjusted to account for existing cleared ROW. Forested lands are defined as areas where woody landscape forms mostly closed stands (>20% canopy cover). Narrow windbreaks between agricultural areas are excluded from what is considered a forested area, however wooded areas adjacent to waterways are included.

[3] U.S. Census Bureau QuickFacts: Vilas County, Wisconsin

[4] U.S. Census Bureau QuickFacts: Vilas County, Wisconsin

Forested Land within ROW

The project would require the clearing of tall vegetation within the proposed ROW, as well as brush and trees along temporary construction access routes. The application states that tall-growing woody vegetation that may interfere with safe construction and safe and reliable operation of the transmission line would be removed. Woody vegetation would also be removed periodically within the project area and ROW through routine vegetation management activities during the operational life of the facility.

The proposed project area would contain approximately 22.6 acres of woodlands that would require clearing. Construction impacts in and around forested lands would be mitigated by using the chip and scatter method for woody vegetation to limit unnecessary hauling of spoil materials. Chipping and scattering would be limited to non-agricultural upland areas, and selectively in wetlands or floodplains if the chipped material does not exceed a specified depth and does not alter wetland hydrology. Chipped material may be used as ground protection along access paths to a depth of up to six inches in upland areas and would be spread to a depth of less than two inches upon abandonment of the access routes. In response to the first data request, the applicant had committed to conducting tree clearing and pruning activities between November 15 and March 31, which would mitigate potential impacts to federally-listed bat species as well as reduce the risk of spreading oak wilt. (PSC REF#: 472755). Rare species and invasive species and diseases are discussed further in their respective sections of this EA.

A summary of the forest acreage that would be impacted by the project is shown in the table below by project segment and is also in Appendix B Table 2 of the application. No impacts to forested land are proposed to occur for segment removals.

Table 1 Forest Impacts by Project Segment

Project Segment	Forest in Shared ROW (acres)	Forest in Shared ROW Requiring Clearing (acres)	Forest in New ROW (acres)
Chain O Lakes Substation			0.22
Boot Lake Substation			0.24
1			3.44
2			0.06
3			0.65
4			0.86
5			0.20
6A			1.52
7B			0.77
8			0.28
8-1			0.25
9A			0.04
10			0.18
11			0.19
12			0.11
12-2			0.18

13			2.22
13-1			0.67
16			0.00
17			1.02
18			0.90
19			0.01
20			0.00
21			0.01
22			0.56
23			8.49
Off ROW Access			8.08
Total:	**0.0**	**0.0**	**22.60**

Managed Forest Law (MFL) and Forest Crop Law (FCL)

The applicant obtained information from the Vilas County online mapping application to identify properties along the project route that contain areas enrolled in the MFL or the FCL programs. No FCL enrolled properties were identified within the project area. The new substation sites would not be placed in properties enrolled in the MFL or FCL programs, however the project transmission route would cross multiple properties enrolled in the MFL program. The applicant states that the project route crosses 12 properties enrolled, and two properties are directly adjacent (i.e., within 8 feet of the proposed ROW) to the project ROW. Within these 12 crossed properties, approximately 5.55 acres of forested area would be within proposed ROW. The extent of impacts to MFL program participation for the affected properties has not been determined by the applicant at the time of writing this EA. The extent to which any property is enrolled in the MFL program would be identified by the applicant during the easement negotiation process. The applicant states that if any landowner would be unable to continue MFL program participation, Xcel would compensate the landowner for the costs of withdrawal and any adverse tax consequences.

3.10. Grasslands

Grasslands are classified as any undeveloped landscape dominated by herbaceous (non-woody) vegetation, including prairie, pasture, old field, etc. The applicant quantified the amount of grassland present in the project area by using United States Geologic Survey Gap Analysis Project (GAP) metrics. According to the applicant, because pasture and hay areas were not verified in the field as previously disturbed, they were classified as grasslands. Approximately 25.2 acres of grassland are present within the right-of-way corridor where transmission line segments 1 through 26 are proposed. Approximately 13.2 acres of grassland are present where laydown yards are proposed, and 1.3 acres would be impacted by transmission removal segments. There are no grasslands identified in any substation sites. The applicant has not conducted a field survey of the project area, but anticipates that species such as ryegrass, brome, and clover could be present in the rights-of-way.

The grassland impacted by the project is expected to have been previously disturbed by agricultural or livestock activity. To minimize impacts to grasslands, the applicant states that

they would plan to limit construction impacts to only off-ROW access roads and the transmission line ROW. The applicant also indicated that construction practices would follow best management practices for invasive species mitigation, which would help prevent damage to grasslands. Refer to the invasive species section of the EA for specific mitigation techniques.

A summary of the grassland acreage that would be impacted by the project is shown in section 6.2 of the CA application (PSC REF#: 468909). A summary of the grassland acreage that would be impacted is shown in the table below as well as in Appendix B Table 2 of the application (PSC REF#: 468914).

Table 2 Grassland Impacts by Project Segment

Project Segment	Grassland in Shared ROW (acres)	Grassland in New ROW (acres)
Chain O Lakes Substation	N/A	
Boot Lake Substation	N/A	
1	2.23	
2		
3	0.36	
4	0.03	
5	0.48	
6A	0.36	
7B	1.15	
8	0.25	
8-1	0.21	
9A	0.09	
10	0.09	
11	0.08	
12	0.32	
12-2	0.14	
13	3.53	
13-1	0.35	
16	7.17	
17	1.48	
18	1.81	
19	0.27	
20	1.92	
21	1.76	
22	0.52	
23	0.55	
Removal Segment 1	0.04	N/A
Removal Segment 2	0.40	N/A
Removal Segment 3	0.08	N/A
Removal Segment 4	0.04	N/A
Removal Segment 5	0.07	N/A
Removal Segment 6		N/A
Removal Segment 7	0.48	N/A
Removal Segment 8	0.14	N/A
Removal Segment 9	0.05	N/A
Off ROW Access		
Ben Peck Laydown Yard		8.98
Town of Presque Isle Transfer Station Laydown Yard		2.33
Town of Presque Isle Vacant Lots Laydown Yard		
Liability Company ILG Peterson Laydown Yard		1.87
Total:	**26.44**	**13.18**

3.11. Historic Resources

Pursuant to Wis. Stat. § 44.40, the applicant conducted a review of the project area to determine the potential presence of archaeological and historic sites. The applicant's consultant, Merjent, conducted a review utilizing the Wisconsin Historic Preservation Database (WHPD), focusing on cultural resources, architectural/historic resources, and previously recorded archaeological and burial sites within or adjacent to the Project Area of Potential Effects (APE). The APE was defined as a 400-foot-wide corridor surrounding the proposed facilities. According to this review, seven previously reported archaeological sites, three human burial sites, and nine architectural/historic resources are known to be located within a one-mile buffer of the project APE. No properties listed for the National Register of Historic Places (NRHP) are found within the project APE. Two recorded historic standing structures are within the APE, however both are reported to have been demolished. Eight historic standing structures are located within one mile of the project APE; some of which are not eligible for listing on the NRHP, however not all have been assessed for eligibility. In response to a data request the applicant confirmed that field verifications to identify standing historic structures with potential to be impacted by the project would be conducted, and results provided to applicable agencies, by the end of the third quarter of 2023. (PSC REF#: 472755). The applicant stated that due to mature tree cover surrounding the project area, and the recorded aboveground architectural resources being located outside of the 400-foot buffer around the proposed project ROW, it would be unlikely that project activities would be seen from the historic resources. Due to the existing visual screening and distance to resources, no direct or indirect impacts are anticipated to be caused by the project. No project modifications have been proposed to reduce potential impacts to these resources.

3.12. Invasive Species

Targeted surveys to identify all invasive species present were not conducted prior to application submittal. The applicant stated plans to conduct invasive plant species field investigations prior to construction if the project is approved. The presence of plant species was documented during wetland delineations conducted in 2021, however the surveys only occurred at the two proposed substation sites. One invasive plant species regulated by Wis. Admin. Code ch. NR 40 was observed during the wetland delineation field surveys: the Hybrid Cattail (*Typha X Glauca*), which is Restricted under NR 40.

The project's location in Vilas County exists within the established state distribution of Oak wilt disease (*Bretziella fagacearum*). It is also within the quarantine zone to prevent the spread of the Spongy moth (*Lymantria dispar*). The entire state of Wisconsin is under quarantine for the Emerald ash borer (*Agrilus planipennis*).

Invasive Species Mitigation Methods

The applicant would follow BMPs to comply with Wis. Admin. Code ch. NR 40 and Commission requirements as specified in Wis. Admin. Code § PSC 113.0511 to prevent the introduction of invasive species to uninfected areas and limit the spread of invasive species already present onsite. Additionally, these practices would minimize the potential introduction, spread or transport of invasive species to off-site locations. BMPs used would throughout the project area based on the degree of invasiveness, severity of the current infestation, and

susceptibility of non-infested areas to invasion. Typical BMPs that may be used during construction include the following:

- Avoidance through construction timing and alternative access
- Proper management of construction vehicles and materials (i.e. storage, cleaning)
- Minimizing ground disturbance
- Placing a barrier between construction vehicles and plants (i.e. construction matting)
- Proper storage and disposal of plant materials
- Re-seeding or promoting native regeneration
- Leaving cut vegetation on site where it is cut (i.e. mowing shrubs)

The applicant would conduct the clearing or pruning of trees between November 15 and March 31 to reduce the risk of spreading of oak wilt. This restriction in accordance with Wis. Admin. Code § PSC 113.0511, which applies restrictions in rural areas from April 15 through July 1 in order to minimize the spread of oak wilt disease. During this period pruning paint must be applied to all final cuts on oak trees immediately after cutting, and stumps may be treated with herbicide to prevent sprouting in place of painting the stumps. If a tree is dead at the time of cutting, no treatment is necessary.

Standard practices that minimize the spread of emerald ash borer include avoiding the movement of ash wood (logs, posts, pulpwood, bark, slash, and chipped wood from tree clearing) from emerald ash borer quarantine areas to non-quarantine areas, as per Wis. Admin. Code § ATCP 21.17. Similarly, standard practices to avoid the spread of the spongy moth include avoiding movement of wood from spongy moth quarantine areas to non-quarantine areas, as per Wis. Admin. Code § ATCP 21.10.

3.13. Land Use Plans

The applicant addressed several local county and town land use plans in the application, which includes the Vilas County Comprehensive Plan, Vilas County Land and Water Resource Management Plan, Vilas County Farmland Preservation Program (FPP), Vilas County Outdoor Recreation Plan (ORP), and the Towns of Manitowish Waters, Winchester, and Presque Isle Comprehensive Plans.

The Vilas County Comprehensive Plan shows future woodland land use with portions of Residential and Commercial uses currently surrounding the project area, with anticipated growth in Commercial, Rural Residential, and Outdoor Recreation land uses in areas crossed by the project. The Vilas County Comprehensive Plan also states that to support the intended future growth within the county, reliable and efficient utility services would be required.

The Vilas County Farmland Preservation Program shows that the project predominantly crosses areas parcels identified as non-farmland preservation areas, however several eligible Farmland Preservation Areas totaling approximately 11.2 acres would be impacted. Landowner participation in the program is voluntary and not publicly available, therefore the applicant would not be aware of enrolled properties until the project's easement acquisition process is initiated with landowners. The applicant has stated they are not aware of any properties with

existing farmland agreements that restrict land use that would be crossed by the proposed project, removal segments, or new substation sites.

The project area is located partly within state forest areas, as well as potentially lands funded by federal monies called Land and Water Conservation (LAWCON) lands. DNR staff were contacted to determine whether LAWCON lands would be impacted by the project, but at the time of writing this EA it has not been determined by DNR staff whether LAWCON lands would be directly affected.

No specific restrictions to utility corridor development are noted in the land use plans for each of the three Towns, the Vilas County Land and Water Resource Management Plan, or the Vilas County Outdoor Recreation Plan. Overall, no known conflicts with existing zoning or land use plans were identified for the proposed project.

3.14. Parks and Recreation Areas

The project transmission line ROW primarily runs parallel to County Highway W and overlaps with recreational bike trails, snowmobile trails, and ATV/UTV trails that would be temporarily impacted by the project. The transmission line would also impact the Northern Highland American Legion State Forest, the North Lakeland Discovery Center, the Tamarack Lake Boat Access, South Turtle Lake Boat Access, and the Sportsman's Motel and Resort. The applicant had stated that during construction, there may be short term traffic interruptions along the Heart of Vilas County Hike and Bike Trail and the Presque Isle to Winchester Bike Route. The bike trails were indicated, in the application and by public comments, to be highly utilized seasonal tourist attractions in the area.

Users of the hike and bike trails may be temporarily affected by an increase in noise and visual impacts cause by construction activities in the area. No long-term impacts to the trail are anticipated as a part of the project. In response to a data request, the applicant assured an intention to maintain access to the paved bicycle trails throughout the construction process. Signage and occasional composite matting would be used to make users aware of construction activity and keep trails safe for public use.

Future expansion of the bike trail between Winchester and Presque Isle has been mentioned as a concern for one local resident who submitted a public comment. Although no formal plans have been provided for a trail expansion, the applicant believes that a future trail would likely be compatible with the proposed project due to the current paved bike trails being installed adjacent to their existing three-phase distribution line. (PSC REF#: 475798). The applicant also stated that depending on the location of a potential bike trail extension, Xcel Energy would obtain transmission line easements on private property and/or a permit from the Vilas County Highway Department to utilize road ROW.

Snowmobile trails in the surrounding area may be temporarily impacted during construction. The proposed route, off-ROW access roads, and removal segments would cross snowmobile trails. The applicant has committed to notifying County officials and local snowmobile clubs of construction activity, and to placing signage warning of potential construction impacts intended for recreational trail users during winter months. The applicant also stated in response to the

second data request that snowmobile trails would be identified during final pole spotting so to avoid restricting any access locations, therefore recreational use and State Forest Timber Management hauling would not be restricted for the operational lifespan of the project.

The North Lakeland Discovery Center is a nature-based education and community center located within the state forest, with the only access point being Discovery Lane off of County Highway W. Driveway access to the Discovery Center would be crossed by Segment 1. Although the application states that Discovery Lane is planned for use as Off-ROW access during construction, a response to the second data request states that Xcel Energy does not plan to use Discovery Lane as an access route. Commitment to avoiding use of Discovery Lane for construction access would ensure that public use of the Discover Center is not impeded. The proposed access for the rebuild is within the existing 3 phase distribution corridor to avoid any recreational trail impacts.

The boat access points and the Sportsman's Motel and Resort would be temporarily impacted by project construction. The Tamarack Lake boat access is located approximately 50 feet north of Segment 16, which crosses the driveway to the boat access. The South Turtle Lake boat access is located approximately 0.2 mile west of Removal Segment 3, which crosses Chicago Avenue, the road to the boat access. The Sportsman's Motel and Resort is located on the west side of County Highway W. Removal Segment 3 crosses the driveway to the resort, and Segment 13 and its off-ROW access are located on the opposite side of County Highway W from the resort.

3.15. Rare Species and Natural Communities

The state's Endangered Species Law, Wis. Stat. § 29.604, makes it illegal to take, transport, possess, process, or sell any wild animal that is included on the Wisconsin Endangered and Threatened Species List. In addition, it is illegal to remove, transport, carry away, cut, root up, sever, injure or destroy a wild plant on the Wisconsin Endangered and Threatened Species List on public lands. Although utility practices are exempted from the taking prohibitions of listed plant species on public lands, it may still be prudent for the applicant to actively avoid activities in certain areas that are known to host rare plants. The Federal Endangered Species Act (ESA) protects all federally listed animals from direct killing, taking, or other activities that may be detrimental to the species. Federally listed plants have similar protection, but the direct killing or taking prohibitions are limited to federal lands or when federal funds/permits are necessary. In addition, there may be other state and federal laws protecting rare species including the federal Migratory Bird Treaty Act, the federal Bald and Golden Eagle Protection Act, and the Protected Wild Animals (NR 10.02 WI Admin Code).

A certified Endangered Resources (ER) Review was completed for the project area (ER Log #23-200). The review was checked, modified (if needed), and approved by DNR staff in the ER Review Program. The review is based off information from the Natural Heritage Inventory (NHI) database, maintained by the DNR's Bureau of Natural Heritage Conservation, to identify any endangered, threatened, or special concern species, natural communities, and animal concentration sites in the project area and within one- and two-mile buffers from the project area.

While the NHI database contains known records for endangered resources, most areas of the state have not been surveyed extensively or recently, so the NHI data should not be solely relied

upon, particularly in areas dominated by private lands. In areas where suitable habitat exists for protected species, but occurrences have not been recorded in the NHI database, there may be recommended activities that could mitigate or avoid potential impacts to protected species.

If approved, this project would begin construction over a year from the certified ER review date. DNR regularly updates the NHI database as new species records are discovered and when previous records are checked to determine if the species is still present. If the project is approved, the applicants should conduct an updated review within a year of the construction start date to determine if any change to the ER Review is necessary. An ER Review should also be completed annually for ongoing maintenance and mowing activities.

The ER Review for the Boot Lake to Chain O Lakes 34.5 kV transmission line and substation project determined there are several species located within the search buffers of the proposed project area. While many of these endangered resources will not be impacted, some of these species would have required and recommended actions to ensure impacts are avoided and/or minimized. They include:

- One natural community
- One state listed herptile
- Two state listed and five special concern bird species
- Bald eagle
- One special concern bumble bee
- One state listed plant species

The DNR provided recommended actions to protect the special concern species. Impacts to these resources can be minimized or even avoided by:

- Conducting presence/absence surveys for the birds and if observed, avoiding or minimizing disturbance to suitable habitat during the birds' nesting season
- Avoiding areas of suitable habitat for the plant species or if suitable habitat will be impacted, then conducting presence/absence surveys and avoiding individual plants if they are found
- Utilizing proper erosion control and invasive species BMPs when working within or adjacent to the natural communities
- Conducting work during the bumble bee's inactive season and using a native pollinator mix during restoration

In response to the first data request, the applicant had committed to completing a list of impact mitigation and avoidance actions that would address the recommended actions. (PSC REF#: 472755).

In addition, there are two species which require follow-up actions to ensure compliance with state and federal endangered species laws which include:

- Following the WDNR's Broad Incidental Take Authorization (BITA) for the state listed herptile. These actions may include installing herp exclusion fencing or avoiding certain habitats at certain times of the year. If the BITA cannot be followed, an individual ITA will be required.

- Conducting presence/absence surveys for the state listed birds and if observed, avoiding or minimizing disturbance to suitable habitat during the birds' nesting season. If surveys aren't conducted, avoiding work during the nesting season would also be avoidance.

Based on the information available from the DNR and USFWS, the project layout, and planned activities as described in the application, this project is not expected to have a significant impact on endangered or threatened species so long as the above required actions are followed. DNR recommended actions should be done as practicable to further decrease the risk of impacts to rare species and the applicant has agreed to follow most, if not all of those recommended actions. In addition, the applicant has agreed to conduct all tree clearing work from November 15 – March 31 which will avoid impacts to most nesting birds and federally listed bat species.

3.16. Residential and Urban Areas

Populated Areas

A total of sixty-five residences are located within three-hundred feet of the proposed project ROW centerline. A total of forty-three homes would be located within 300 feet of the removal segments. There are no schools, hospitals, or daycare centers within 300 feet of the proposed center line. The nearest daycare is approximately one mile, the nearest school approximately four miles, and the nearest hospital approximately nineteen miles from the proposed route.

Noise

The applicant states that noise levels from construction would be equivalent to highway traffic and truck equipment. Construction noise levels in laydown yards would be similar to local truck traffic and equipment noise. Public comments expressed concerns of potential increased noise impacts to the surrounding area caused by the proposed substations. In response to data requests, the applicant had stated that they are not planning to conduct a noise study at the proposed substation locations, nor do they plan to implement noise mitigation measures beyond native grass and wildflower screening. (PSC REF#: 475798, PSC REF#: 481823). According to the applicant, the transformer would be the loudest continuously operating device in the substation, which is expected to be below 60 decibels adjacent to the transformer.

Noise from construction, trucks, and equipment would mostly occur between the hours of 7:00 am and 6:00 pm. Xcel Energy states that Xcel and any contractor would be cognizant of construction noise levels in the project area.

Dust

Due to the use of access roads and ground disturbing construction activity, dust may be generated as a result of the project. Dust impacts would be mitigated by wetting the access roads and work areas. The applicant may also apply a polymer to exposed soil to mitigate for impacts from dust.

Construction equipment tracking mud onto roads may also occur as a result of this project. To mitigate mud, the applicant states that tracking pads and graveled approaches would be installed

to minimize the amount of mud tracked onto roads. Manual or powered road sweepers would also be used to remove mud from public and private drives when tracked out of the construction areas. The frequency of road sweeping would depend on traffic volume in and out of the ROW, however would be removed daily at a minimum.

Construction Work

Construction is anticipated to occur between third quarter of 2025 to third quarter of 2026. Work on the project is anticipated to occur during daylight hours and typically in an eight-to-twelve-hour workday. The applicant notes that work during daylight hours in anticipated unless night work is specifically required.

Road Congestion

Construction vehicles would use public roads to access the ROW. Construction vehicles may be parked on roads during construction on occasion. The applicant notes that they will minimize the number of vehicles parked on the roads and adhere to all traffic control measures. Lane closures could be necessary throughout construction.

Impacts to Driveways

The applicant has stated they would not impact any driveways without landowner permission. The applicant would ensure residence driveways are not blocked with equipment during construction.

3.17. Restoration

Restoration activities planned for this project include the removal of construction matting, temporary span bridges, and debris left in the project area. The applicant's restoration plan would also include reseeding and preparation for reseeding. The applicant describes that site restoration and re-vegetation will be dependent on the degree of disturbance caused by construction activities. They intend to develop a site-specific restoration plan that would be implemented as soon as possible after the completion of construction. In some parts of the project area, natural re-growth of disturbed areas may be allowed. In other areas, where there are no signs of regrowth after the first month of the next growing season, restoration and re-vegetation using an appropriate seed mix may be used. Throughout project implementation, the applicant plans to inspect re-vegetation and restoration activities to ensure compliance with Wis. Admin. Code Ch. NR 216 and the Wisconsin Pollution Discharge Elimination System (WPDES) general permit conditions. Site specific restoration plans would be included in the Stormwater permit application submitted to the DNR. Any areas of ground disturbance would be monitored until vegetative cover reaches 70% of its pre-existing condition.

In the two substation removal portions, the applicant describes that they would revegetate the area with a native pollinator seed mix or cool season grass. In the transmission removal segments, once the removal and restoration of the segments occurs, the applicant would release the easement rights. The removal segments cross over approximately 80.4 acres of State of Wisconsin land, which would be restored, revegetated, and be able to be used for non-utility uses

after construction. In the Northern American Highland Legion Lands (removal segments 2 and 6) where transmission removal would occur, the applicant states that they would recycle the removed transmission wire, pull the poles out of the ground, backfill with native soil, and reseed any disturbed areas. Stormwater management protocols would be implemented throughout the removal segments.

Planned restoration of wetland areas and impacts are discussed in the wetland section of this EA.

3.18. Waterways

Waterways in the form of creeks, streams, rivers, and lakes are abundant throughout Wisconsin and provide for many recreational activities as well as habitat for aquatic species. Wisconsin has more than 12,600 rivers and streams that meander their way through 84,000 miles of varying terrain. About 32,000 miles of these streams perennially or continuously run throughout the year while the remainder flow intermittently during spring and other high-water times.

3.18.1. Waterway Identification and Quality

Waterway field surveys were conducted concurrently with the wetland delineations at both the proposed substation locations and none were identified within the proposed substation project areas. Waterway field surveys have not occurred within the transmission line ROW corridor (including within the pole installation and removal sections and on-ROW access roads), the off-ROW access roads, laydown yards, or temporary workspaces for removal of the existing substations. As such, waterways were identified through desktop review by evaluating aerial imagery and the 24K hydro layer of the DNR Surface Water Data Viewer.

There are 5 total waterways (s01 to s05) and 1 waterbody (o01) within the proposed project area. No waterways or waterbodies within the proposed project area are designated as Outstanding or Exceptional Resource Waters, Trout Streams, Wild Rice Waters, and/or Wild or Scenic Rivers. The one waterbody present is designated as a Priority Navigable Water because it is less than 50-acres in size.

3.18.2. Potential Waterway Impacts

Construction activities conducted near and across waterways has the potential to impact water quality and aquatic species habitat.

The use of heavy equipment on waterway banks may also cause soil compaction. Withdrawal of surface water for structure foundation construction may temporarily impact waterways. Constructing in areas with seeps and springs may temporarily alter the surface and subsurface hydrology feeding waterways. Overhead transmission lines may also have an aesthetic impact on the natural scenic beauty of the waterway. Transmission facilities may also pose a potential collision hazard for waterfowl and other large birds, especially when located in a migratory corridor. Recreational use such as sight-seeing, boating, fishing, or bird watching could be adversely affected by new transmission facilities.

Along the proposed pole installation and removal routes, a total of 5 waterway/waterbody crossings would require the installation of a temporary clear span bridge (TCSB) to accommodate equipment access for vegetation clearing, construction, and site restoration. Access through the ROW to conduct construction activities often requires the installation of TCSB's to avoid equipment driving on the bed of waterways. TCSB's typically consist of timber mats placed across the waterway to allow equipment traffic to cross waterways. TCSB's should be located to avoid unique or sensitive portions of these waterways, (*e.g.*, riffles, pools, spawning beds, etc.). They span from top-of-bank to top-of-bank, above the ordinary high-water mark, and do not require a support structure on the bed of the waterway. The impacts of the TCSB placement and removal should be minimal if constructed properly. Potential impacts are expected to be short-term and can include disturbance to the bank of the waterway, cutting of riparian vegetation, disruption to the invertebrates, fish and wildlife associated with the waterway, sedimentation into the waterway, and public access limitations. If improperly installed or maintained, TCSB's may damage banks and cause erosion, or be overtopped or dislodged, and back up water. TCSB's have the potential to temporarily impact navigation in the waterway. Under NR 320.04(1), Wisconsin Administrative Code, a 5-foot clearance must be maintained between the water and TCSB, unless the requirements in NR 320.04(3) can be met, including providing portage for anyone navigating the waterway. To protect fish spawning habitat and migration, TCSB's cannot be installed and/or removed during the fish spawning timing restriction periods, which is March 1 to June 15 for the waterways/waterbody associated with this project. The applicant stated that the placement and removal of the TCSB's would comply with these waterway-specific timing restrictions, unless the local DNR Fisheries Biologist reviews the waiver request and determines that these timing restrictions can be waived.

Vegetation clearing along waterways within the proposed transmission line ROW would be necessary and the ROW would be maintained in a permanently herbaceous state for the operation and safety of the transmission line. Much of the proposed ROW corridor overlaps an existing distribution line corridor which has been previously cleared, so additional vegetation clearing would be minimized. The following riparian vegetation clearing would be proposed:

- Waterway s01-Rainbow Creek: This area is located within the existing 30-foot transmission line ROW corridor. Approximately 10 additional feet of clearing will be required, on the north side of the existing corridor. Visual impacts from the waterway are not anticipated, as most of the area at the waterway crossing is already cleared from the existing distribution line and County Highway W.
- Waterway s02-Unnamed Tributary to Presque Isle Lake: This area is not located within the existing 30-foot transmission line ROW corridor. As such, the 75-foot ROW corridor would be cleared. Visual impacts from the waterway are not anticipated, as the area immediately south is already cleared from the existing distribution line and County Highway W
- Waterway s03-Unnamed tributary to the South Branch of the Presque Isle River: This area is located within the existing 30-foot transmission line ROW corridor. Approximately 10 additional feet of clearing will be required on the north side of the existing corridor and 15 additional feet of clearing will be required on the south side. Visual impacts from the waterway are not anticipated, as the majority of the area at the waterway crossing is already cleared from the existing distribution line.

- Waterway s04 Little Birch Creek: This waterway is located within a pole removal section. As such, no clearing would be proposed.
- Waterbody o01 Unnamed Lake: This area is not located within the existing 30-foot transmission line ROW corridor. As such, the 75-foot ROW corridor would be cleared. Visual impacts from the waterbody are not anticipated, as the area immediately south is already cleared from the existing distribution line and County Highway W.
- Waterway s05-South Branch Presque Isle River: This area is not located within the existing 30-foot transmission line ROW corridor. As such, the entire 75-foot ROW corridor would be cleared. Visual impacts would be anticipated from users of the waterway as this area is currently fully vegetated.

In addition to the proposed vegetation clearing, a new transmission line aerial crossing of Waterway s05, the South Branch of the Presque Isle River, would occur. The proposed pole structures would be located outside of the waterway and it is not anticipated that the transmission line would impact public navigation of the waterway. This new overhead transmission line across the waterway would have an aesthetic impact on the natural scenic beauty of the waterway.

Forested and shrub areas along waterways provide a natural corridor for wildlife movement, help maintain soil moisture levels in waterway banks, provide bank stabilization, filter nutrient-laden sediments and other runoff, maintains cooler water temperatures, and encourages a diversity of vegetation and wildlife habitats. The removal of riparian vegetation can cause water temperatures to rise and negatively affect aquatic habitats, especially cold-water systems. Removing riparian vegetation may decrease shoreline protection and may lead to increased sedimentation to waterways. Vegetation disturbance along waterways can also lead to the infestation by invasive and nuisance species.

3.18.3. Waterway Impact Avoidance and Minimization

Avoidance

All attempts should first be made to avoid impacting waterways. Impacts to waterways can be avoided by routing the transmission line away from riparian corridors, adjusting pole structure placements to span waterways, and utilizing alternate access, including off-ROW access roads, and installation methods to avoid equipment access across waterways.

Minimization

Where complete waterway avoidance is not possible, waterway impacts should be minimized as much as possible. Construction and operation of transmission lines across waterways may have both short-term and long-term impacts. The type and significance of the impact is dependent on the characteristics of the waterway and the construction activities proposed. Physical features of the waterway are considered when assessing potential impacts to water quality, water quantity, habitat, recreational use, and the scenic quality of the waterway.

In order to minimize impacts to waterways, the following practices should be followed:

- Marking waterway boundaries.
- Minimizing the number of potential vehicle crossings of waterways by accessing the ROW on either side of the stream or from adjacent roads.
- Installing site-specific sediment and erosion control measures and devices prior to construction activities, and inspecting and mainta25ining them daily throughout all construction and restoration phases. This includes installation sediment control BMP's under and on the sides of TCSB's.
- Implementing a construction sequencing plan that minimizes the amount of land disturbed or exposed (susceptible to erosion) at one given time across the project.
- Leaving existing vegetative buffers undisturbed whenever possible and minimizing vegetation clearing in riparian zones.
- Isolating all soil piles from waterways with perimeter erosion control Best Management Practices (BMP's).
- Revegetating disturbed areas and areas of exposed soil as soon as possible.
- Landscaping to screen the structures from the view of river users.
- Maintaining shaded stream cover.
- Avoiding the use of herbicides near waterways, or utilizing herbicides approved for use in aquatic environments.
- Conducting surface and sub-surface assessments prior to construction, including hydrology and soil evaluations. Modify the engineering plans as needed to avoid and minimize long term impacts to surface and subsurface resources and to re-establish conditions post-construction.
- Preparing and implementing dewatering practices to prevent sedimentation into waterways.
- Avoiding the withdrawal of water from surface waters.
- Marking TCSB's to alert navigators.
- Restoring waterway banks to pre-existing conditions.
- Checking equipment for fluid leaks before crossing TCSB's.
- Anchoring TCSB's to prevent them washing away during high flow conditions.
- Monitoring TCSB's daily for debris and remove debris as necessary.
- Scheduling construction to avoid disrupting sensitive species.
- Limiting the amount of time necessary to complete construction.

The applicant has stated they will comply with fish timing restrictions unless waived by the fisheries biologist. The applicant also stated that if a 5-foot navigational clearance below TCSB's cannot be maintained, the requirements listed under NR 320.04(3), Wis. Admin. Code would be followed. The applicant also minimized riparian vegetation clearing by siting a large portion of the line within an existing utility corridor. The applicant would employ an environmental monitor during construction to conduct weekly inspections to monitor construction and ensure compliance with permit conditions. This environmental monitor should also conduct inspections to ensure that proper BMP's are employed, minimization measures are being followed, permit conditions are

met, and site restoration completed through the construction and post-construction phases.

3.18.4. Waterway Impact Permitting

DNR participates in the joint review process with the Commission, as detailed in Wis. Stat. § 30.025, with respect to wetlands, navigable waterways, and stormwater management. Wisconsin Stat. § 30.025 describes the DNR process for reviewing and permitting utility projects that require authorization from the Commission and DNR.

DNR is responsible for regulating impacts to navigable waterways and waterbodies under Chapter 30, Wisconsin Statutes, and Wisconsin Administrative Code. A Chapter 30.123 bridge permit would be required for this project. As proposed, the temporary clear span bridges would be permittable. The USACE and/or U.S. Fish and Wildlife Service (USFWS) might also require additional permits and approvals.

CAs granted by the Commission are often contingent upon an applicant's ability to secure all necessary permits from state and federal agencies. Likewise, any permit granted by DNR or USACE could be contingent on the implementation of all mitigation procedures ordered by the Commission in its CA authorization.

3.19. Wetlands

Wetlands provide vital functions that benefit society. Wetlands detain storm water runoff, enabling the slow recharge of groundwater resources and lowering downstream peak flood levels; filter sediments and pollutants from the air, precipitation, and upstream sources which results in higher water quality downstream; provide food, cover, and nesting habitat for many species of fish and wildlife; provide a recreational opportunity for bird watching and other wildlife viewing, hiking, and enjoying the aesthetics of the surrounding landscape. It is estimated that between one-quarter and one-third of all rare species in Wisconsin are found in wetlands.

Wetlands are a dynamic ecosystem and provide different functions depending on the type of wetland. The same wetland may even provide different functions from year to year and season to season. There are many different types of wetlands, typically characterized by the size, type of vegetation and amount of soil saturation or surface water found within them.

Standardized assessment methods are used to evaluate the extent to which a specific wetland may perform any given function. The presence or absence of specific characteristics is used to determine the importance of each functional value for the site in question. Wetland functional values are determined by assessing multiple physical, chemical, and biological parameters, such as floral diversity, fish and wildlife habitat, flood protection, water quality protection, shoreline protection, groundwater recharge and discharge, recreation, and aesthetics.

3.19.1. Wetland Identification and Quality

Wetlands within the proposed project area were identified using two methods: wetland delineation and conservative desktop determination. Wetland delineations utilize the criteria and methodology

described in the United States Army Corps of Engineers (USACE) *Corps of Engineers Wetlands Delineation Manual, Technical Report Y-87-1 (1987)* and the *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Northcentral and Northeast Region*. Conservative desktop determinations include reviewing Wisconsin Wetland Inventory (WWI) mapping, aerial photography, and Natural Resources Conservation Service (NRCS) soil survey mapping and conservatively assuming hydric soils and mapped wetland and wetland signatures are wetland.

A wetland delineation for portions of the proposed project area was performed by a DNR-assured wetland delineator in August 2021. The wetland delineation areas included the proposed Boot Lake Substation Survey Area and the proposed Chain O'Lakes Substation Survey Area. The conservative desktop review areas included all of the other project components, including the transmission line ROW for the pole install and removal, the off-ROW access roads, the laydown yards, and the temporary workspaces associated with the removal of the existing Rest Lake Substation and the Presque Isle Substation. The entire project area would be field delineated to refine wetland boundaries prior to construction.

Forty-four wetlands were identified within the overall proposed project area totaling approximately 21 acres. The 44 wetlands were identified through conservative desktop review within the transmission line ROW for the install and removal as well as the off-ROW access roads. There were no wetlands identified within the four proposed laydown yards or within the temporary workspaces associated with the removal of the existing Rest Lake Substation and the Presque Isle Substation. An additional seven wetlands were identified through wetland delineation within the Boot Lake Substation survey area and Chain O lakes substation survey area, but outside of the project area. The survey area for the wetland delineation was larger than the areas of the proposed substations sites, therefore, wetlands within the wetland delineation survey area, but outside of the proposed footprint of the substation project area, are not further discussed in this assessment.

The wetland types within the proposed project area were assigned utilizing desktop resources. In the areas of mapped WWI, the wetland type was assumed to match the type identified within the WWI data. In the areas mapped by the soil type, the soil data does not provide a wetland type, therefore wetland type was assigned as herbaceous or forested based on a review of aerial imagery. The wetlands within the project area are comprised of emergent/herbaceous, shrub and forested types.

The functional values of the wetland identified within the project area are generally low to medium based on the available desktop data. Many of the wetlands are located adjacent to and within roadside ditches and waterways, and as such may provide flood storage and stormwater values. Floristic diversity may be lessened due to impacts from the adjacent roads and road ROW maintenance. The roadside wetlands could provide an opportunity for diverse plant species and could provide habitat and a corridor for a variety of wildlife species. No wetlands identified within the project area are designated as Areas of Special Natural Resource Interest (ASNRI).

3.19.2. Potential Wetland Impacts

Temporary Wetland Fill

A total of 33 wetlands, totaling 6.33 acres, would be temporarily impacted by the use of construction matting in order to avoid soil mixing and/or rutting in wetlands from the operation of construction equipment and stockpiling of material. Construction matting is proposed for all temporary access roads (both on and off-ROW) in wetland and a 14-foot-wide width matting width was utilized to calculate the wetland impact. Wetland construction matting is proposed along access roads and the transmission line ROW for the pole removal segments (approximately 4.12 acres) and along the transmission line ROW for the pole installation segments (approximately 2.21 acres, each pole requires an approximate 50-foot-long by 50-foot-wide (2,500 square feet) area of temporary disturbance to support installation). The applicant stated it is not anticipated that the placement of construction matting in any wetland would exceed 60 consecutive days during the growing season.

Construction matting is utilized to spread the distribution of equipment weight when crossing wetlands during the growing season or when wetlands were not stable or not frozen, as heavy machinery used for construction would crush wetland vegetation and damage wetland soils, causing soil compaction, rutting, and soil mixing. Soil compaction would be minimized using construction matting and constructing during frozen ground conditions but may still occur. Soil compaction reduces the water-holding capacity of the soil and may result in increased runoff. Compacted soils would result in a change in vegetation by potentially reducing plant diversity and promoting the growth of invasive species. Construction matting would also be used as a staging area around pole replacements to temporarily stockpile excess material and to operate equipment from. The construction matting would act as a barrier between the workspace and the wetland, minimizing potential impacts to the wetland.

Wetland soils consist of primarily organic matter (decomposed plant material) which forms very slowly. If disturbed by digging, filling, and compaction, these soils would not readily recover and would not easily be repaired. Operating equipment in wetland would also endanger amphibians and other aquatic life. Changes in flow in the shallow groundwater system may also occur due to compaction from heavy equipment, and for surface water flow from the placement of construction mats in wetlands.

Permanent Wetland Fill

A total of 69 pole structures are proposed within 19 wetlands along the project route. Permanent wetland impact from the placement of pole structures is anticipated to be equal to 252.72 square feet (0.01 acre).

Permanent wetland fill results in the loss of wetland acreage and the values wetlands provide. Temporary impacts to wetland hydrology (the vertical and horizontal movement of water through the soil) can occur during pole installation and associated dewatering activities. Dewatering activities to temporarily remove water from the foundation hole could include pit-trench dewatering or the use of high-capacity wells. Dewatering of wetlands during construction may cause a temporary loss of water but these zones should replenish after the structure is

placed. The placement of the structure foundation in a wetland should have no long-term effect on either infiltration of water or the natural flow of either groundwater or surface water through wetlands. Water seeking to infiltrate will likely move laterally over the top of the relatively impervious structure and continue downward along the side. Water flowing horizontally in the aquifer will likely diverge at the upgradient end of the structure and converge on the downgradient side. Geotechnical boring work would occur pre-construction if the project is approved. This survey work would help identify underlaying soil and groundwater conditions, including the location of springs and seeps. If seeps and springs are impacted from the foundation installation, it is anticipated that water would redirect around the foundation.

Forested Wetland Conversion

Forested wetlands are present within the proposed project area. Clearing and removal of brush and trees of the proposed right-of-way (ROW) width would occur in preparation for construction to facilitate construction equipment access and ensure safe clearances between vegetation and the transmission line. The entire width of the ROW would be continuously cleared and permanently maintained throughout the operation life of the project. Total wetland conversion impacts for the project would be 15.52 acres. Forested wetland conversion was minimized by utilizing existing distribution corridors and road ROW.

Clearing of wetlands dominated by woody vegetation would result in a conversion from forested wetland into herbaceous wetland and may impact wildlife habitat, impair wetland functional values, and increase the occurrence of invasive species. Clearing would also lead to fragmentation of wetland complexes and may impact wildlife habitat. Removing riparian wetland vegetation may decrease shoreline protection and may lead to increased sedimentation to wetlands and waterways.

The applicant stated that trees and other vegetation would be cut at or slightly above the ground surface using mechanized mowers, harvesters, or by hand. Stump removal would not occur in wetlands. To minimize disturbance to the ground surface, clearing would occur during frozen ground conditions. Woody vegetation would either by hauled off-site, scattered in place, or chipped and scattered. The depth of material chipped and scattered in wetland would not exceed 2-inches in depth as to not obstruct water flow, negatively impact regeneration of plants, or alter the elevation of the wetlands. Woody materials left on site would degrade over time and would not be expected to have long-term impacts on the hydrology of and function of the wetlands.

Environmental monitors would be employed to observe the depth of the chipped or cut woody material during clearing. After construction, cleared areas would be regularly monitored to assess revegetation progress.

3.19.3. Wetland Impact Avoidance and Minimization

Avoidance

All attempts should first be made to avoid impacting wetlands. Impacts to wetlands would be avoided by routing the transmission line away from wetlands, adjusting structure placements to

completely span wetlands, avoiding equipment access across wetlands wherever possible, and siting off-ROW access roads, laydown yards, substations, and staging areas outside of wetlands.

The purpose of the project is to improve electric reliability to communities in northern Wisconsin. The applicant stated costs, logistics, and available technology (engineering alternatives, construction methods and materials) were considered throughout the routing process. The avoidance of wetlands would not be practicable due to the location of wetlands relative to length of the project. The applicant stated that the project would minimize wetland impacts to the extent practicable through careful attention to access routing, consideration of off-ROW access, types of equipment used, construction time of year, sedimentation control, and the implementation of other relevant site-specific measures.

Minimization

Where complete wetland avoidance is not possible due to engineering constraints, existing infrastructure, or other factors, wetland impacts should be minimized as much as possible. Construction and maintenance of transmission lines would impact wetland functional values or would cause wetlands to be converted into another wetland type. The degree and nature of impacts to wetlands depend on factors such as the type of wetland, quality of the wetland, ground conditions at the time of construction, and the type and duration of construction activities. Short-term wetland impacts would become long-term impacts if the construction phase were not well managed, or if restoration techniques were not properly applied.

Construction methods that minimize impacts to wetlands include:

- Conducting construction activities when wetland soils are frozen or stable and vegetation is dormant.
- Using construction matting and wide-track vehicles with equipment crossing of wetlands when wetlands are not stable or not frozen.
- Using adjacent roadways and existing off-ROW access roads for access when possible.
- Siting structures and access roads on the edges of wetlands rather than in the middle of wetland to avoid fragmenting wetland complexes.
- Reducing the construction workspace in wetlands.
- Installing site-specific sediment and erosion control measures and devices prior to construction activities, with daily inspections and maintenance throughout all construction and restoration phases.
- Implementing a construction sequencing plan that minimizes the amount of land disturbed or exposed (susceptible to erosion) at one given time across the project.
- Marking the boundary of wetlands.
- Using alternative construction methods and equipment such as helicopters, marsh buggies, and vibratory caisson foundations.
- Preparing and implementing an invasive species management plan that identifies known areas of invasive species populations, addresses site restoration activities, and includes specific protocols to minimize the spread of invasive species.

- Minimizing the amount of vegetation clearing in wetland and conversion of wetland types.
- Removing all brush piles, wood chips, and woody debris from wetlands following clearing activities.
- Conducting surface and sub-surface assessments prior to construction, including hydrology and soil evaluations. This includes modifying the engineering plans, as needed, to avoid and minimize long term impacts to surface and subsurface resources and to re-establish conditions post-construction.
- Preparing and implementing dewatering practices that prevent sedimentation into wetlands.
- Revegetating disturbed areas and areas of exposed soil as soon as possible and seeding with a cover crop and/or native seed mix to help prevent the establishment of invasive species.
- Scheduling construction to avoid disrupting sensitive species.
- Limiting the amount of time necessary to complete construction.
- Developing a detailed, site-specific post-construction restoration plan.
- Developing a detailed, site-specific invasive species management plan.
    - Limiting forested wetland clearing areas to the proposed ROW.
    - Developing a site-specific matting and post-construction restoration plan for areas of forested wetland clearing.
    - Developing a detailed, interim site stabilization plan for the time in between forested wetland clearing and other construction activities.

The applicant stated the project would minimize wetland impacts to the extent practicable. Much of the route overlaps an existing distribution corridor, which would reduce wetland conversion impacts. The applicant stated that fragmentation of undisturbed wetlands would be minimized due to the collation of the proposed transmission line with the existing distribution corridor and public roads.

The applicant stated wetlands impacted by the project would be minimized by one or more of the following methods:

- Marking the boundaries of wetlands prior to the start of construction so contractors are aware of the location of the resource.
- Utilizing existing roads or ROW.
- Minimizing the number of wetland crossings.
- Reducing the width of access roads through wetlands to 14-feet.
- Completing wetland construction during dry or frozen conditions.
- Using ice roads.
- Distributing axle loads over a larger surface area thereby reducing the bearing pressure on wetland soils
- Using construction equipment with low ground pressure tires or tracks.
- Placing construction matting to help minimize soil and vegetation disturbances.
- Implementing BMP's (such as silt fencing, straw logs) around structure work areas, near wetlands, and near access paths.

- Implementing protective measures to prevent the introduction of invasive species to uninfected areas and limit the spread of invasive species already present onsite.
- Limiting the placement of construction mattin in wetland to less than 60 consecutive days between May 15th and November 15th.
- Clearing vegetation during winter months, during frozen and/or stable conditions.

Wetland Restoration

Site restoration would consist of returning areas impacted by the construction back to their original condition, if not better. Restoration would typically occur in any disturbed areas within easements or ROW, temporary construction areas, staging areas or laydown yards, off-ROW access roads, and any other areas used for project-related activities. Site restoration, including re-vegetation, of the disturbed areas would be completed as soon as possible following construction. Sediment and erosion control devices would be installed before ground disturbance occurs. Forested wetlands within the permanent transmission line ROW would not be restored to a forested canopy as they would be kept in a permanently herbaceous state for the operation and safety of the transmission line.

The applicant stated wetland access routes would not require permanent fill and once construction would be complete, the access routes utilized for the project would be restored to pre-construction conditions.

After construction activities would be completed, temporary matting that was placed in wetlands would be removed and the ground surface would be restored to the previous condition to the extent practicable. The applicant stated areas of soil disturbance adjacent to and within wetlands would be restored upon completion of work activities. For areas with minimal disturbance (e.g., along a lightly travelled access path), the stabilization approach may include monitoring and allowing the area to revegetate naturally without seeding or mulching. The applicant states that if bare, exposed ground is observed upon mat removal and/or project completion, wetlands will be seeded with a cover crop (e.g., annual oats, annual rye) to stabilize and help prevent invasive species infestation while allowing the natural seedbank to establish perineal vegetation and achieve revegetation standards. If mat removal occurs during the non-growing season, but prior to snow cover, a dormant seed will be used for quick growth in the following spring.

Changes to wetland hydrology and soils are not anticipated as a result of the project. The applicant stated wetland soil compaction would be evaluated post project and if compaction is observed, remediation options would be implemented after discussions with the WDNR.

Upon completion of restoration, the applicant would monitor each work location and access route to ensure stabilization and re-vegetation occurred; this would include monitoring until vegetative cover reaches 70%. The applicant stated that the following performance standards must be met to consider wetland areas successfully restored:

1. Vegetative cover of 70 percent uniform perennial vegetation.
2. Geomorphic wetland position shall be the same post-mat removal and may not be the result of soil compaction.
3. Surface water presence must be consistent with adjacent non-matted wetland areas post

mat removal.

3.19.4. Wetland Impact Permitting

DNR participates in the joint review process with the Commission, as detailed in Wis. Stat. § 30.025, with respect to wetlands, navigable waterways, and stormwater management. Wisconsin Stat. § 30.025 describes the DNR process for reviewing and permitting utility projects that require authorization from the Commission and DNR.

DNR is responsible for regulating the discharge of dredge and fill material into wetlands under Chapter 281.36, Wisconsin Statutes, and Wisconsin Administrative Code. A wetland fill individual permit would be required to authorize the proposed wetland impacts. Based on the application filing, the proposed regulated wetland impacts would be permittable under an individual permit. Compensatory wetland mitigation would not be required for this project, per 281.36 (3n)(d)2, Wis. Stats.

The USACE and/or U.S. Fish and Wildlife Service (USFWS) might also require additional permits and approvals.

CAs granted by the Commission are often contingent upon an applicant's ability to secure all necessary permits from state and federal agencies. Likewise, any permit granted by DNR or USACE could be contingent on the implementation of all mitigation procedures ordered by the Commission in its CA authorization.

4. Evaluation of Reasonable Alternatives

Wisconsin Admin. Code § PSC 4.20(2)(e) directs the EA to evaluate the reasonable alternatives to the proposed project and significant environmental consequences of the alternatives, including those alternatives that could avoid some or all of the proposed project's adverse environmental effects and the alternative of taking no action.

Transmission Based Alternatives

The applicant studied transmission system alternatives which would include:

- An upgrade of existing transmission circuits with larger capacity conductors
- Installation of capacitor banks
- Installation of new substation equipment
- New operating guides
- Smaller and less expensive lines in other locations
- Distribution networking and upgrades
- Distributed resources, including solar and other distributed resources

The applicant determined that the alternatives considered would not provide the same performance benefits as the proposed project at a similar cost. Due to the existing system being radial, no other transmission projects would achieve the same goals for the local system, therefore the proposed project is preferred. The potential environmental impacts associated with

these alternatives were not evaluated in as specific of detail as those associated with the proposed project. However, as these alternatives would still involve construction and upgrades to the transmission system, the potential impacts would generally be expected to be similar.

Non-transmission Based Alternatives

The applicant states that adding new energy generation resources would not eliminate all project needs. The fundamental problem for reliability in the project area is that the existing transmission infrastructure can only deliver electricity in one direction. Additionally, generation additions would not address the asset renewal needs for the Presque Isle and Rest Lake substations. Any non-transmission build option would have its own set of environmental impacts.

Renewable Energy Resources

The applicant states that both combustible and noncombustible renewable energy resources were dismissed as alternatives for the project. Due to the lack of backup transmission line to the study area, the applicant states that adding renewable resources would not address the reliability issues. Additionally, an outage on an existing radial element would disconnect both the residential customers as well as a renewable resource. Therefore, specific alternative renewable energy options were not explored further. Any renewable energy build option would have its own set of environmental impacts, especially if additional transmission to the area would be required.

Non-renewable Energy Resources

The applicant states that Xcel Energy has a goal of 80 percent carbon reduction from 2005 levels by 2030, and 100 percent reduction by 2050, therefore carbon-based resources were not studied as alternatives. Similar to statements made regarding renewable energy generation, non-renewable energy generation would not address the reliability issues caused by radial transmission systems that exist in the study area. Therefore, specific alternative non-renewable energy options were not explored further. Any non-renewable energy build option would have its own set of environmental impacts.

No-build Option

No-build options were not considered when evaluating the need and alternatives for the project due to the current reliability of the system. The applicant states that a single transmission outage can disconnect residential customers until the transmission line is restored. Therefore, no-build options were not explored further and are not a viable alternative to address system deficiencies.

Energy Conservation/Efficiency

The applicant states that since the project is driven by the two radial systems not having a backup transmission line, additional energy efficiency or demand response would not reduce, alter, or eliminate the need for the project. Therefore, alternatives involving energy conservation, additional energy efficiency, or demand response were not explored further.

5. Wisconsin Environmental Policy Act Determination

Wisconsin Admin. Code § 4.20(2)(d) identifies ten broad factors that are useful to consider when evaluating whether an EIS is warranted for a given Commission action. The following subsections consider and discuss each of the ten factors with respect to the proposed project.

Effects on Geographically Important or Scarce Resources

No geographically important or scarce resources were identified within the area to be affected by construction of the proposed project. If proposed mitigation actions are followed, the proposed project is not expected to significantly affect historic resources, scenic or recreational resources, threatened or endangered species, or ecologically important areas.

Conflicts with Federal, State, or Local Plans or Policies

The project is not in conflict with any known federal, state, or local plans or policies.

Significant Controversy Associated with the Proposed Project

Notice of the proposed project was sent to town and county government offices and local media, in addition to all potentially affected landowners. The PSC is not aware of any controversies regarding the type, magnitude, or significance of the expected environmental impacts related to the proposed project.

Irreversible Environmental Effects

Few aspects of the proposed project would be truly irreversible, although reversing project actions could incur significant costs and create additional disturbance and environmental effects. Impacts such as noise, air quality, disturbance to local residents, erosion, and removal of some vegetation would be temporary as a result of construction activities and would be irreversible.

New Environmental Effects

The proposed project would result in some new environmental impacts in the project area. Some of the proposed lines would follow existing corridors/ROW. Many of the impacts are anticipated to be temporary and comparable with the level and type of impacts that have been seen in similar construction projects undertaken throughout the state. These impacts include an alteration of the land use in the immediate vicinity of the project. The existing vegetation and land cover is expected to be altered by construction and maintenance activities associated with the project, including the creation of transmission ROW in many areas along the project; however, these impacts are not expected to result in a significant loss of habitat. No new environmental effects that have not been previously evaluated or considered by the Commission in prior project reviews are anticipated to occur as a result of this project. The new environmental impacts associated with this project are similar in nature to existing infrastructure in the project area, in general.

Unavoidable Environmental Effects

Construction of the proposed project would result in some environmental effects in the project area that could not be avoided by site selection or construction methods. Some of these could be reduced or minimized but would not be completely eliminated as a result of project activities. Transmission line construction, rebuilds, transmission line removal, substation removal, and substation construction would result in both temporary and permanent disturbance to soils, vegetation, and animal life in construction areas. Temporary unavoidable environmental effects would include disturbance to nearby residents due to noise, dust, traffic changes, and other construction actions.

Long-term unavoidable environmental effects include aesthetic impacts from the new transmission lines and new substations, vegetation clearing due to creation and maintenance of the infrastructure, and limits to land use in the immediate project area.

Precedent-Setting Nature of the Proposed Project

There are no environmental precedents, or precedents more generally, being set by the proposed project. The Commission has reviewed a range of similar projects in the past, and the type of project proposed falls within a similar scope to utility infrastructure projects previously reviewed and authorized.

Cumulative Effects of the Proposed Project

Cumulative effects resulting from the proposed project are expected to be minimal. Some vegetation would be cleared as a result of construction of the project, particularly in ROW areas requiring heavy trimming or removal of vegetation. Habitat fragmentation could have a cumulative effect of changing wildlife usage or patterns in the area, and potentially allow vegetation species composition changes, including possible invasive species. This proposed project would not be expected to directly lead to other, similar types of projects in the future.

A public comment received as part of the EA scoping suggested cumulative impacts associated with this project that could be related to purchase power agreements that have been executed between NSPW and Manitoba Hydro, which could be reinforcing or driving the need for proposed projects such as this and others. As described earlier in this document, this proposed project is being driven by the need for local electric system reliability and the need for power to flow in multiple directions to help alleviate power outages. Therefore, no cumulative impacts from this project are expected related to purchase power agreements between the two companies.

Foreclosure of Future Options

The proposed project and associated infrastructure would remove some land from any other use or environmental benefit it provides in its current state during the operational life of the project. It may be possible at some point in the future for the transmission line and substation facilities to be deconstructed, the land restored, and used for some other purpose. Land that is encumbered by an easement has express limits as to its allowable use.

Direct and Indirect Environmental Effects

There would be both direct and indirect environmental effects as a result of this project. The analysis of the proposed project by Commission staff assumes that the multiple construction methods and BMPs described in the applications and responses to data requests would be implemented. The proper use of mitigation techniques can greatly reduce impacts.
Direct effects would include construction of the project, which would involve soil disturbance, noise, vibration, traffic, and other temporary impacts. Trees would have to be cleared for construction and maintained clear for the life of the facilities. Following construction, direct effects would include new substation facilities, new transmission lines and pole structures, visual effects from the facilities, as well as removal of vegetation within the ROW. Indirect effects from the project could result from tree clearing and a change in habitat or habitat usage by living creatures. Soil disturbance during construction and any ongoing maintenance of the facilities or ROW in the future can create opportunities for invasive species to encroach and/or spread as a result of the disturbance.

6. Recommendation

This EA informs the Commissioners, the affected public, and other interested people about the proposed project and its potential environmental and social impacts. Through data requests, additional analyses, and a review of public comments, Commission staff has attempted to provide very thorough, factual, and up-to-date information about the project, potential impacts of the proposed project, and the mitigation measures that could address some of those potential impacts.

The EA concludes that construction and operation of the project would be likely to have a range of environmental effects. Commission staff has not identified any potential environmental effects of the proposed project that could be considered significant. This evaluation is arrived at assuming that some, if not all, of the mitigation measures proposed by the applicant and Commission or WDNR staff are used.

This assessment finds that approval and construction of this project is unlikely to have a significant impact on the human environment as defined by Wis. Stat. § 1.11, therefore the preparation of an EIS is not required.

___x____ Environmental review complete. Preparation of an environmental impact statement is not necessary.

_____ Prepare an environmental impact statement.

Submitted by: Kyle Feltes, PSC Environmental Analyst
Date: November 20, 2023

This environmental assessment complies with Wis. Stat. § 1.11, and Wis. Admin. Code § PSC 4.20.

Adam Ingwell
Environmental Affairs (WEPA) Coordinator – Supervisor
Date: December 5, 2023

7. Appendix A: Project Map