

Route Permit Application

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I. INTRODUCTION

This is an Application for a Route Permit for NextEra Energy, LLC (NextEra Energy). Although separate and apart from, it is to be reviewed in conjunction with the NextEra Energy's Certificate of Corridor Compatibility Application. In these Applications, NextEra Energy is seeking siting approval for a 230,000-Volt (230-kV) transmission line in Morton and Oliver Counties (**Figure 1**). The proposed 230-kV alternating current Oliver III Transmission Line will originate at the Morton County Wind Energy Center substation and will terminate at the Square Butte 230 kV Substation in Section 33, Township 142 North, Range 83 West. NextEra Energy is exempt from submitting an application for a Certificate of Site Compatibility for the Morton County Wind Energy Center because the generating capacity of the proposed facility is less than 60 MW. Because the Corridor and Route Applications have been consolidated for filing, and in order to avoid redundancies, many sections of this Route Permit Application refer back to the Certificate of Corridor Compatibility Application for analysis.

II. ANALYSIS ACCORDING TO PSC GUIDELINES

This application follows the format set forth in the North Dakota Public Service Commission (PSC) Application Guidelines For A Route Permit ("PSC Guidelines"), promulgated pursuant to the North Dakota Energy Conversion and Transmission Facility Siting Act, N.D.C.C. Chapter 49-22.

SECTION A. DESCRIPTION OF FACILITY

1. Type

See Section II.A.1 of the Certificate of Corridor Compatibility.

2. Product

See Section II.A.2 of the Certificate of Corridor Compatibility.

3. Size and Design

See Section II.A.3 of the Certificate of Corridor Compatibility. Structure designs are included in **Appendix B**.

4. Time Schedule

See Section II.A.4 of the Certificate of Corridor Compatibility.

5. Right-of-Way Preparation, Construction, and Reclamation Procedures

(This section is not specifically called for in the PSC Guidelines, but it is included to provide additional relevant information as contemplated under the Energy Conversion and Transmission Facility Siting Act, N.D.C.C. §49-22-08.1, Subd.e.)

The proposed route passes primarily through agricultural and pasture land along existing road rights-of-way and fenceline. Because there are very few obstructions within the proposed route, minimal right-of-way (ROW) preparations will be necessary. In those few areas where there is tree and shrub growth, ROW clearing may include cutting and removal. Where practicable, trees and low-growing vegetation will not be removed if future growth will not interfere with the

operation or maintenance of the line. There may be limited use of herbicides to remove or control the growth of vegetation in some areas. Herbaceous and smaller woody plants will not be disturbed, except for those that will be crushed unavoidably during structure installation. No critical threatened or endangered species habitat or otherwise sensitive vegetation will be permanently disturbed. There will be no machine clearing of vegetation within 50 feet of any river or stream, and ground cover vegetation near rivers or streams will not be disturbed.

Some structure locations may require soil analysis. Soil borings will be taken for the purpose of determining the soil properties for engineering analysis. These borings will be taken by an experienced geotechnical testing laboratory. The geotechnical drill rig will need access to the test sites.

The structures will be designed for installation at existing grades. Therefore, structure sites will not be graded or leveled, unless it is necessary to provide a reasonably level area for construction crews and equipment, such as digger/derrick trucks to auger holes for the structures, a crane for structure setting, and crew vehicles and bucket trucks for wire stringing and clipping operations.

Ground disturbances will be made during the setting of structures. These disturbances will occur during the boring of the hole used for setting the pole. Pole borings will extend into the subsurface approximately 20-22 feet and be approximately seven feet in diameter. Boring equipment will be used to facilitate the installation of the transmission foundation. Soil removed during boring activities will be spread around the base of the pole.

The largest disturbance during installation of the transmission structures will occur during the excavation of the self-supporting dead-end foundations. Foundations will extend into the subsurface approximately 25 to 30 feet and be approximately seven feet in diameter. Boring equipment will be used to facilitate the installation of transmission foundations. The foundations will be constructed of reinforced concrete with pre-fabricated anchor bolt cases placed in the boreholes. Soil removed during boring activities will be sloped around the structure after installation or in adjacent upland areas.

The most noticeable impact on the site will be land disturbance in the area of transmission structure construction to allow adequate room for operation of equipment. Following the structure installation the entire disturbed area will be groomed and seeded, including replacement of trees and herbaceous vegetation off the transmission line right-of-way. The anticipated area of disturbance at each tower site during construction will be a radius of up to 100 feet around each tower location.

In addition to the ROW along the route, temporary construction easements will be obtained from landowners for the duration of construction. These construction easements will be limited to any additional staging or laydown areas required outside of the transmission line route ROW. Where possible, staging and laydown areas will be located within the ROW and limited to previously disturbed or developed areas.

After structures have been erected, conductors will be installed by establishing stringing setup areas within the ROW. These stringing setup areas will be located approximately every two miles along the route. Conductors will be installed between setup areas using a "controlled tension method," which ensures that the cable comes off the reel at a constant tension without backlashes.

Conductor stringing operations will also require brief access to each structure to secure the conductor wires to the insulators or shield wire clamps once final line sag is established.

Stringing equipment generally consists of wire pullers, tensioners, conductor reels, shield wire reels, and stringing blocks. Stringing operations consist of pulling lightweight cables or ropes through the stringing sheaves located at every structure site. This cable or roper will be used to pull the conductors through the sheaves under sufficient tension to keep the conductor from coming into contact with the ground. Temporary guard or clearance poles will be installed over existing distribution or communication lines, streets, roads, highways, railways, or other obstructions after any necessary notifications are made and/or permits are obtained. This ensures that conductors will not obstruct traffic or come into contact with existing energized conductors or other cables, and protects the conductors from damage. Once a section of a line has been installed, temporary structures will be removed, holes backfilled, and the area of disturbance reseeded to produce the same cover that was removed.

Debris associated with the transmission line construction may include construction materials such as packaging material, insulator crates, conductor reels, and wrapping. This debris may also include excess excavated soil and removed vegetation. Materials with salvage value, including conductor reels, unused conductor and hardware, poles, and other materials, will be removed from the site for reuse. Excess soil and vegetation will be distributed along the transmission right-of-way, but will not be placed in wetlands or other aquatic resources. Solid waste will be temporarily stored within the ROW or within the temporary construction easements, and then transported to appropriate disposal facilities. Debris will be disposed of in accordance with local, state and federal regulations.

Limited ground disturbance at the structure sites is anticipated during construction. A main laydown yard for secure, temporary storage of materials and equipment will be established by the construction contractor in a previously disturbed or developed area, and will include sufficient space to lay down material and assemble structures or hardware. Other staging areas will be located within the ROW, and will be limited to the structure site areas for structure laydown and framing prior to structure installation. Disturbed areas will be restored to their original condition to the maximum extent practicable. Construction tasks would include the following:

- *Pre-Construction:* Includes activities such as environmental, geotechnical, cultural, avian, micro-siting, engineering, design, land procurement, various utility studies, and *major procurement*.
- *Surveying:* Initial line-survey work, consisting of aerial photography, survey control, route centerline location, profile surveys, and access surveys.
- *Steel-Pole Structures:* Vegetation would be removed from a limited area at structure locations. Once any vegetation is removed, holes would be drilled for structures using a truck-mounted auger.
- *Delivery and Assembly:* The slip-fit steel-pole structures would be transported to the erection sites on flatbed trucks and assembled. The footings of each would be backfilled with one and a half inch rock and tamped into place to prevent structure movement or settling. Final structure assembly and hardware placement would be completed using cranes and bucket trucks.

- *Conductor Installation:* Following erection of all structures, conductor and ground wires would be installed. Conductor would be pulled and tensioned from several locations (approximately every two miles) along with the transmission line route. Heavy, truck-mounted winches that also carry reels of conductor and cable would be used for pulling and tensioning work.
- Post-construction reclamation activities will generally include the following:
 - Cleaning up all construction sites, including removing and properly disposing of debris;
 - Removing all temporary facilities, including staging and laydown areas;
 - Employing appropriate erosion control measures; and
 - Reseeding disturbed areas (due to construction activities) with vegetation like that which was removed, and restoring the areas to their original condition to the extent possible.
- *Restoration:* Finally, all disturbed areas associated with transmission line construction would be restored to preconstruction condition. NextEra Energy will incorporate a tree replacement policy based on PSC's Tree and Shrub Mitigation Specifications.

6. Easement Acquisition

(This section is not specifically called for in the PSC Guidelines, but it is included to provide additional relevant information as contemplated under the Energy Conversion and Transmission Facility Siting Act, N.D.C.C. §49-22-08.1, Subd.f.)

NextEra Energy will compensate landowners for easements based on the land within the route encumbered upon and also for facilities (structures and down guys) placed in the encumbered transmission line route.

SECTION B. LOCATION

This section explains the considerations that contributed to NextEra Energy's selection of the proposed route. It describes the justification for NextEra Energy's location of the proposed route within the proposed Corridor. NextEra Energy's environmental policies are discussed in Section II.B.1 and included in **Appendix A**. The factors set forth in N.D.C.C. §49-22-09 are examined in Section II.B.2., and environmental and human health criteria are discussed and analyzed in Section II.B.4. Specific impacts of the proposed facility and mitigation of those impacts are provided in Section II.B.5.

1. NextEra Energy LLC's Company Policies

Discuss the utility's policies and commitments to limit the environmental impact of its facilities, including copies of board resolutions and management directives.

NextEra Energy has strong corporate environmental commitments. Its policies are designed to avoid and minimize environmental impacts of its facilities. NextEra Energy was ranked #1 by Innovest (an independent ranking firm) for its environmental commitment. Other policies ensure adherence to the National Electric Safety Code, efficient transfer of electricity, worker and public health and safety, and economical construction facilities to minimize rate increases to its customers. Relevant policies are discussed throughout this application and NextEra Energy's Wind's Safety and Environment Policy is included in **Appendix A**.

2. Factors Listed in N.D.C.C. §49-22-09

Discuss the factors listed in §49-22-09, N.D.C.C. to aid the Commission's evaluation of the proposed route.

The Energy Conversion and Transmission Facility Siting Act (N.D.C.C. §49-22-09) lists 11 factors designed to aid the Commission in its evaluation and designation of corridors and routes. This section discusses the actions NextEra Energy has taken or will take to address these factors. Specific information is also provided in later sections that describes the location and consideration of exclusion and avoidance areas, impacts to the environment, and mitigative measures.

- a. Available research and investigations relating to the effects of the location, construction, and operation of the proposed facility on public health and welfare, natural resources, and the environment.

Research and investigations relating to the effects of the location, construction, and operation of the proposed facility are referenced throughout this Application and the Certificate of Corridor Compatibility Application.

- b. The effects on new energy conversion and transmission technologies and systems designed to minimize adverse environmental effects.

NextEra Energy will follow the most current standards of the National Electric Safety Code (NESC). These state-of-the-art design standards help minimize adverse effects to the environment and ensure the safety and health of the public, as well as the employees and contractors who construct, operate and maintain the facilities. NextEra Energy will also follow safety policies that are even more stringent than NESC. These policies further

minimize environmental impacts, and ensure the safety of both the public and NextEra Energy's employees.

NextEra Energy has also followed their policies that require them to practice and promote environmental stewardship (**Appendix A**). NextEra Energy's policies were developed and are constantly revised to incorporate the most recent scientific and technological information available for electric transmission facilities.

- c. The potential for beneficial uses of waste energy from a proposed energy conversion facility.

This factor is not applicable to this transmission facility project.

- d. Adverse direct and indirect environmental effects which cannot be avoided should the proposed site or route be designated.

Unavoidable adverse environmental effects include the visual impacts associated with the Project as well as those impacts related to the placement of support structures and use of the land within the site. The visual character of the site will be changed due to the construction of the Project. In order to construct the line, support structures are necessary. The structures are expected to permanently impact approximately 602 square feet (0.014 acres) of land. This calculation is based on permanent ground disturbance for pole foundation structures of 7 ft in diameter; given a typical span of 680 ft between poles it is assumed that over 11 miles 86 poles would be constructed. During construction, up to 0.19 acres of land, including some agricultural land may be temporarily impacted.

NextEra Energy has conducted a pre-construction wetland inventory prior to construction. NextEra Energy will attempt to minimize impacts to wetlands and will obtain and follow any conditions of any required USFWS wetland permits or letter of authorization.

Woodlands and wooded areas, including shelterbelts, comprise 316.3 acres of the Corridor. Six acres of woodlands, wooded areas and shelterbelts are located along the route (the width of the route has been defined as a 60-foot area on either side of the center line). These areas will be avoided to the extent practicable. NextEra Energy will incorporate a tree replacement policy based on PSC's Tree and Shrub Mitigation Specifications.

Other unavoidable direct and indirect effects to agricultural lands along the route are described more fully in Section II.D.3.c(1) of the Certificate of Corridor Compatibility Application.

- e. Alternatives to the proposed site, Corridor, or route which are developed during the hearing process and which minimize adverse effects.

Other alternatives were considered for the transmission route. NextEra Energy believes that the proposed location is the most viable alternative. The route follows existing road rights-of-way and fenceline due to landowner preferences. NextEra Energy is committed to being flexible regarding route placement and will work closely with landowners and regulatory agencies to examine all reasonable alternatives to the preliminary layout. The site proposed for the new wind energy center has excellent wind resources and minimal environmental effects.

- f. Irreversible and irretrievable commitments of natural resources should the proposed site, Corridor, or route be designated.

Irreversible and irretrievable resource commitments are related to the use of nonrenewable resources and the effects that the use of these resources have on future generations. Irreversible effects primarily result from use or destruction of a specific resource that cannot be replaced within a reasonable time frame. Irretrievable resource commitments involve the loss in value of an affected resource that cannot be restored as a result of the action. There are few commitments of resources associated with this Project that are irreversible and irretrievable, but include those resources primarily related to construction.

Construction resources that will be used include aggregate resources, concrete, steel or wood for support structures, and hydrocarbon fuel. During construction, vehicles will be traveling to and from the site, utilizing hydrocarbon fuels.

- g. The direct and indirect economic impacts of the proposed facility.

The direct and indirect economic impacts are primarily positive. To the extent that local contractors are used for portions of the construction, total wages and salaries paid to contractors and workers in Oliver and Morton Counties will contribute to the total personal income of the region. Additional personal income will be generated for residents in the county and the state by circulation and recirculation of dollars paid out by the Applicant as business expenditures and state and local taxes. Expenditures made for equipment, energy, fuel, and other products and services benefit businesses in the counties and the state.

Beneficial economic impacts of the construction and operation of the transmission line and associated wind energy generation facility include property tax, sales tax, and landowner payments. The development of wind energy in this region will be important in diversifying and strengthening the economic base of northeastern North Dakota. Additional revenues are expected from property and income taxes.

Continuing to establish the northeastern region of North Dakota as an important producer of alternative energy sources, may spur the development of wind-related businesses in the area, in turn contributing to the economic growth in the region.

- h. Existing plans of the state, local government, and private entities for other developments at or in the vicinity of the proposed site, Corridor, or route.

No conflicts are anticipated with existing state and local government development plans. NextEra Energy is not aware of any existing plans for other development within the proposed route. The proposed facility will enhance the reliability of the electrical system.

- i. The effect of the proposed site or route on existing scenic areas, historic sites and structures, and paleontological or archaeological sites.

There are no designated scenic areas in the proposed Route. See Section II.B.2 in the Certificate of Corridor Compatibility application for a description of historic and archaeological sites within the Corridor and route.

NextEra Energy is committed to minimize impacts to these resources and will avoid these resources and any additional resources identified throughout the life of the facility. If avoidance is not possible, NextEra Energy will work with the North Dakota SHPO to mitigate potential impacts.

- j. The effect of the proposed site or route on areas which are unique because of biological wealth or because they are habitats for rare and endangered species.

There are no designated unique areas within the proposed route.

- k. Problems raised by federal agencies, other state agencies, and local entities.

Please refer to Section II.B.4 of the Certificate of Corridor Compatibility application for agency comments regarding the proposed route.

3. Criteria Maps

Identify and map the criteria that led to the proposed route location within the designated Corridor.

See Section II.D.2 of the Application for a Certificate of the Corridor Compatibility Application and the Figures at the end of the Application.

4. Description of PSC criteria found along the proposed route

Discuss in detail the relative value of each criteria and how the location, construction, and operation of the facility will affect each criteria.

See Section II.D.3 of the Certificate of Corridor Compatibility Application and the Figures at the end of the Application.

5. Evaluation of criteria found along the proposed route

The criteria to be evaluated shall include at a minimum all of the following which are within the designated Corridor:

- a. Exclusion areas;**
- b. Avoidance areas;**
- c. Selection criteria;**
- d. Policy criteria;**
- e. Design and construction limitations; and**
- f. Economic considerations.**

The proposed transmission line route avoids the exclusion and avoidance areas to the maximum extent practical within the Corridor.

a. Exclusion areas

- (1) Designated or registered national: parks, memorial parks; historic sites and landmarks; natural landmarks; monuments; and wilderness areas.**

None of these areas are found within the proposed route. See Section II.D.3.a(1) of the Certificate of Corridor Compatibility application.

(2) Designated or registered state: parks; historic sites; monuments; historical markers; archaeological sites; and nature preserves.

The Class III pedestrian survey of the southern portion of the route identified one site on the route. See Section II.D.3.a(2) of the Certificate of Corridor Compatibility application and **Figure 2**. NextEra will complete the survey for the rest of the route and will microsite the transmission line to avoid this site and any others that are recommended for avoidance as part of the remaining survey.

(3) County parks and recreational areas; municipal parks; parks owned or administered by other governmental subdivisions.

None located along the proposed route. See Section II.D.3.a(3) of the Certificate of Corridor Compatibility application.

(4) Areas critical to the life stages of threatened or endangered animal or plant species.

None located along the proposed route. Whooping cranes are thought to have a low to low-moderate likelihood to occur in the Corridor due to the amount of suitable feeding and roosting sites and the relative attractiveness of the habitat compared to a 35-mile buffer area. See Section II.D.3.a(4) of the Certificate of Corridor Compatibility application.

(5) Areas where animal or plant species that are unique or rare to this state would be irreversibly damaged.

None located along the proposed route. Potential suitable habitat for two plant species of state concern, *Potamogeton vaginatus* (sheathed pondweed) and *Potamogeton amplifolius* (large-leaved pondweed), has been identified in the northern part of the Corridor (near Nelson Lake). Because both of these plants are aquatic, and impacts to waters will be avoided to the extent practicable, few or no impacts are anticipated. See Section II.D.3.a(5) of the Certificate of Corridor Compatibility application.

b. Avoidance Areas

(1) Designated or registered national: historic districts; wildlife areas; wild, scenic, or recreational rivers; wildlife refuges; and grasslands.

None are located along the route. See Section II.D.3.b(1) of the Certificate of Corridor Compatibility application.

(2) Designated or registered state: wild, scenic or recreational rivers; game refuges; game management areas; management areas; forests; forest management lands; and grasslands.

None are located along the route. See Section II.D.3.b(2) of the Certificate of Corridor Compatibility.

(3) Historical resources which are not specifically designated as exclusion or avoidance areas.

See Section II.D.3.b(3) of the Certificate of Corridor Compatibility.

(4) Areas which are geologically unstable.

None are located along the proposed route. See Section II.D.3.b(4) of the Certificate of Corridor Compatibility.

(5) Within five hundred feet [152.4 meters] of a residence, school, or place of business. This criterion shall not apply to a water pipeline transmission facility.

One occupied and two abandoned farmsteads are located within the southern part of the proposed Corridor. Locations of these structures are depicted on **Figure 3**. A written waiver from the landowner of the occupied residence is included as **Appendix F**. See Section II.D.3.b(5) of the Certificate of Corridor Compatibility.

(6) Reservoirs and municipal water supplies.

According to NWI data, surface water accounts for approximately 0.8 acres of the route. The transmission line route will be microsited to avoid wetlands and surface waters to the extent practicable. See Section II.D.3.b(6) of the Certificate of Corridor Compatibility.

(7) Water sources for organized rural water districts.

There are no rural water districts within the proposed route. See Section II.D.3.b(7) of the Certificate of Corridor Compatibility.

(8) Irrigated Land

Information on irrigated land inside the Corridor was not available from the SWC Water Permit Retrieval System. The Corridor is primarily pastureland and during the wetlands and cultural field surveys, no irrigation systems or wells were observed along the proposed route, however only the southern portion of the route was surveyed. See Section II.D.3.b(8) of the Certificate of Corridor Compatibility.

(9) Areas of recreational significance which are not designated as exclusion areas.

Nelson Lake reaches within the northern part of the proposed Corridor and provides recreation for residents and visitors. Impacts to recreation will be visual in nature. See Section II.D.3.b(9) of the Certificate of Corridor Compatibility.

c. Selection Criteria

(1) The impact upon agriculture:

a) Agricultural production.

During construction, agricultural production within the route will not be affected except within certain areas along the route and at selected staging locations. Long-term impacts are expected to be minimal. See Section II.D.3.c(1)(a) of the Certificate of Corridor Compatibility.

b) Family farms and ranches.

The main impact to family farms and ranches would be temporary and minimal disturbance to agricultural land as noted above. Landowners will be compensated through an easement payment for any potential loss of land and crop production. See Section II.D.3.c(1)(b) of the Certificate of Corridor Compatibility.

c) Land which the owner can demonstrate has soil, topography, drainage, and an available water supply that cause the land to be economically suitable for irrigation.

The route is located primarily along existing road rights-of-way and pastureland fenceline. See Section II.D.3.c(1)(c) of the Certificate of Corridor Compatibility.

(2) The impact upon:

d) Noise-sensitive land uses

Noise-sensitive land uses along the route include residences. As shown on **Figure 3**, there is one active farmstead along the southern part of the route. See Section II.D.3.c(2)(a) of the Certificate of Corridor Compatibility.

e) The visual effect on the adjacent area

The proposed facility will be visible to landowners and community residents who live near the proposed facility. There are existing transmission lines, a power plant, and a substation near the proposed route. See Section II.D.3.c(2)(b) of the Certificate of Corridor Compatibility.

f) Extractive and storage resources

There are two gravel pits at the northern end of the Corridor near Nelson Lake (**Figure 4**). See Section II.D.3.c(2)(c) of the Certificate of Corridor Compatibility.

g) Wetlands, woodlands, and wooded areas

Wetlands occur along the proposed route. See Section II.D.3.c(2)(d) of the Certificate of Corridor Compatibility (**Figure 3**).

h) Radio and television reception, and other communication or electronic control facilities

Potential impacts of proposed construction and operation of the transmission line on existing telecommunications infrastructure within Morton and Oliver Counties will be assessed by NextEra Energy. Due to a conversion of full-power television stations in 2009 from analog to digital, television reception disruption may become more uncommon. No adverse impacts are anticipated. See Section II.D.3.c(2)(e) of the Certificate of Corridor Compatibility.

i) Human health and safety

The proposed facility will be constructed to meet or exceed the standards of the National Electrical Safety Code. Also, NextEra Energy will follow “prudent avoidance” methods to EMF exposure, such as encouraging conservation, encouraging distributed generation, and continue to monitor EMF research. See Section II.D.3.c(2)(f) of the Certificate of Corridor Compatibility.

j) Animal health and safety

Tetra Tech conducted raptor nest searches for parts of the route in June 2008. Two raptor nests were found in the southern part of the route (**Figure 2**). Livestock impacts will be avoided as discussed in Section II.D.3.c.1 of the Certificate of Corridor Compatibility.

k) Plant life

NextEra Energy will avoid existing trees and shrubs as practicable. NextEra Energy will use best management practices (BMPs) during construction and operation to minimize impacts. If impacts to trees or shrubs cannot be avoided, the individual trees or shrubs will be replaced. Temporarily disturbed areas will be reseeded per PSC’s Tree and Shrub Mitigation Specifications. See Section II.D.3.c(2)(h) of the Certificate of Corridor Compatibility.

d. Policy Criteria

See Section II.D.3.d of the Certificate of Corridor Compatibility Application.

e. Summary of Criteria in Proposed Corridor and Route

See Section II.D.3.e of the Certificate of Corridor Compatibility Application.

f. Design and Construction Limitations

See Section II.D.3.f of the Certificate of Corridor Compatibility Application.

g. Economic Considerations

See Section II.D.3.g of the Certificate of Corridor Compatibility Application.

6. Environmental Impacts and Mitigation

Discuss the mitigative measures that will be taken to minimize adverse impacts which result from the location, construction, and operation of the facility.

This section summarizes potential environmental impacts of the proposed facility, especially those that are not covered in the above listed criteria, and details mitigation measures.

a. Physical Environment

(1) Topography and geology

Topography and geology will not be affected along the route.

(2) Mineable Resources

There are t gravel pits at the northern end of the route.

(3) Water Resources

NextEra Energy will follow construction guidelines and recommendations of the North Dakota Department of Health. This includes the use of mesh or burlap to hold soil during construction; establishing vegetative cover on disturbed or newly constructed areas; and following safe storage and handling procedures to prevent contamination of water from fuel spillage, lubricants, and chemicals.

(4) Soils

To minimize the amount of soil compaction during construction, access roads will be kept to the minimum necessary for construction equipment. When soils are exposed, NextEra Energy will employ appropriate erosion control measures. Practices will include placement of sediment barriers downstream of construction and revegetation as soon as possible after construction. Compaction will be alleviated by tilling as necessary following construction. However, such measures are not expected to be necessary to reestablish vegetation.

(5) Atmospheric Conditions

There are two potential atmospheric impacts from the proposed facility construction: 1) excess dust from construction, and 2) noise. Dust levels will be monitored during the construction process and if excess dust is noted, water will be sprayed to suppress it. Also, ensuring that heavy equipment has proper muffling systems will minimize noise during construction.

b. Biological Environment

(1) Vegetation

The route is located primarily along exiting road rights-of-way and fenceline along undeveloped pastureland. Construction of the transmission line will result in some temporary effects to native and non-native grasslands. Where disturbance is

significant, effects can be mitigated by reseeding of the trenched areas with native grasses and legumes following completion of construction activities.

NextEra Energy will use BMPs during construction and operation of the transmission line to protect topsoil and adjacent resources and to minimize soil erosion. Practices may include containing excavated material, protecting exposed soil, stabilizing restored material, and revegetating rangelands with native species.

(2) Fish and Wildlife

Wildlife in the vicinity of the route consists of birds, mammals, fish, reptiles, amphibians, and insects, both resident and migratory. Species present in the vicinity are associated with agricultural fields, pasture grasslands, and wetland areas. Common mammals in the vicinity include mule deer (*Odocoileus hemionus*), white-tailed deer (*Odocoileus virginianus*), pronghorned antelope (*Antilocapra americana*), and white-tailed jack rabbit (*Lepus townsendii campanius*).

Avian Migration and Potential Occurrence in the Project Area

Many species of waterfowl, raptors, shorebirds, and grassland birds are known to migrate through the vicinity of the proposed facility, as North Dakota lies within the Central Flyway. The likelihood of bird/transmission line interactions is determined by a number of factors including visibility and weather. Inclement weather and low cloud ceilings force migrating birds to fly at lower altitudes, thereby putting them at greater risk for adverse interactions with transmission lines (NWCC 2004).

Raptors

Only a small amount of woodlands is present in the vicinity of the route which could provide good roosting and perching habitat for raptors. Based on the available cover present within the vicinity, prey densities are expected to be the highest in unfragmented areas of native grassland and large wetland areas. However, cropped areas may also be attractive to rodent prey species utilizing waste grain as a food resource. Raptors observed during the site visit include red-tailed hawks, Swainson's hawks, northern harriers and American kestrel. Swainson's hawk and northern harriers are a conservation priority at the North Dakota state level.

Bats

Of the 46 bat species in the United States, 10 occur in North Dakota. Of these 10 species, 6 potentially occur within the Corridor based on current known distribution range. None of these species are federally listed as threatened or endangered or listed as state species of conservation concern. A bat likelihood of occurrence analysis was conducted for the Morton County Wind Energy Center and the Oliver III Transmission Line in November 2009 (Tetra Tech 2009c). The route contains more suitable habitat than the surrounding landscape. Although bats are not known to be a risk of collision with transmission lines, construction of the Oliver III Transmission

Line could result in the direct loss of bat foraging and roosting habitat. Avoiding direct impacts to forested areas and wetlands will minimize the loss of bat habitat.

Potential Impacts

Construction activities can destroy or disrupt wildlife habitat and allow for the introduction of unwanted plant species. Installation of the transmission lines would result in a temporary loss of wildlife habitat. Displaced wildlife would likely relocate to nearby unaffected areas in the vicinity until construction activities have been completed. In areas where disturbance is significant and natural regeneration of onsite plant propagules would not occur, the temporary loss of habitat may be mitigated by reseeded of the affected areas with native prairie plant species.

The impact of the facility on wildlife is thought to be minimal. NextEra Energy will implement measures to avoid and minimize effects to wildlife at the proposed site by siting facilities away from wetlands and woodlands to the extent possible and by marking the transmission line with bird diverter devices. In order to reduce collisions or electrocutions overhead power lines as aboveground collector structures and lines will be constructed using "bird-safe designs" per the Avian Power Line Interaction Committee (APLIC) recommendations. Timing of construction activities should give consideration to the nesting of migratory birds.

The following measures will be used, to the extent practicable, to help avoid potential impacts to wildlife within the Corridor during selection of the transmission line route and subsequent development and operation:

- NextEra Energy proposes avoidance of wetlands to the extent practicable.
- NextEra Energy will conduct pre-construction inventories of wetlands and cultural resources in the northern part of the Corridor once weather permits to minimize impacts at the site. Initial inventories of the southern part of the transmission corridor have been conducted. These inventory reports will be filed with the PSC and applicable agencies prior to construction of the Oliver III Transmission Line.
- NextEra Energy will implement a Wildlife Response Reporting System (WRRS) once transmission line construction is completed. The WRRS will include protocols for field technicians, during routine maintenance operations, to report and document avian mortalities.
- NextEra Energy will avoid or minimize disturbance of individual wetlands or drainage systems during construction and operation of the Project.
- NextEra Energy will protect existing trees and shrubs where practicable. If impacts are unavoidable, NextEra Energy will replace existing trees and shrubs unless directed otherwise by the landowner.
- NextEra Energy will maintain sound water and soil conservation practices during construction and operation of the Project to protect topsoil and adjacent resources and to minimize soil erosion. To minimize erosion during and after construction,

BMPs for erosion and sediment control (SN 19389 9/99) will be utilized. These practices include, temporary seeding, permanent seeding, mulching, filter strips, erosion blankets, and sod stabilization.

- NextEra Energy will revegetate non-cropland and pasture areas with seeding mix as recommended by USFWS and NRCS.
- NextEra Energy will inspect and control noxious weeds in the route and vicinity immediately after construction and periodically for the life of the facility.
- NextEra Energy is committed to minimizing wildlife impacts within the proposed Corridor. NextEra Energy will design their facility to minimize avian impacts by avoiding high-use wildlife habitat and infrastructure designed to minimize impacts.

(3) Rare and Endangered Species

Federally Listed Species

The Endangered Species Act requires the protection of species which are federally listed as threatened or endangered. Significant changes to the habitats of these species or projects that have the potential to result in “take” would require special permitting from the USFWS. According to the agency response letter from the USFWS, of the federally listed species known to occur within North Dakota, only the whooping crane is known to occur in the vicinity of the route. The whooping crane is an endangered species. Whooping cranes (*Grus americana*), spring and fall migrants in North Dakota, were first federally listed as Threatened in 1967 and federally listed as Endangered in 1970 (Canadian Wildlife Service and USFWS 2005). The primary threats to this species include loss of roosting and foraging habitat and collisions with power lines and fences. Whooping cranes are thought to have a low to low-moderate likelihood to occur in the Corridor due to the amount of suitable feeding and roosting sites and the relative attractiveness of the habitat compared to a 35-mile buffer area (Tetra Tech 2009b).

Native Prairie Habitats

A Native Prairie Survey was conducted for the Morton County Wind Energy Center in the fall of 2009 (Tetra Tech 2009a). The survey included only a small portion of the proposed transmission line, which primarily follows existing road rights-of-way and pastureland fenceline. The Native Prairie Survey classified approximately 76 percent of the Morton County Wind Energy Center as good habitat for the Dakota skipper, a species of butterfly which is currently classified as a federal candidate species.

No impacts are anticipated to rare and unique resources. NextEra Energy will avoid the resources identified to the extent practicable.

c. Cultural Environment

(1) Land Use

The proposed facility will have minimal short-term and long-term impacts to agricultural land use (see Section II.D.3.c(1) of the Corridor Certificate Application).

Short-term impacts will take place during construction. With utilization of proper construction and reclamation methods for cropland, rangeland and hay land, most land use will return to normal. Long-term impacts, if any, will be minimal and are likely only to affect grassland, shrubs and crop and hay land. Landowners will be compensated for these losses.

(2) Agriculture

Because agriculture is the dominant land use in the area, it will be important to monitor any potential impacts. Landowners will be compensated for crops or other assets damaged during construction. The proposed facility should not affect long-term productivity of the soil. The original contours will be maintained to keep existing drainage patterns intact (see Section II.D.3.c(1) of the Corridor Certificate Application).

(3) Community Services

The impact to community services will be as a result of construction activity and influx of contractor employees. NextEra Energy's personnel and contractors will be utilized for all construction activities. The communities within the vicinity of the proposed route have sufficient hotels and other services to handle the influx of workers.

(4) Transportation

County and township (section line) roads characterize the existing roadway infrastructure in and around the Corridor. Additionally, Interstate 94 runs east-west approximately 5.5 miles south of the route. The construction, placement, or maintenance of the proposed facility will temporarily affect transportation on these highways and roads. NextEra Energy will coordinate with state, county, and township officials to obtain acceptable crossing design methods and any necessary permits.

During wire stringing operations, temporary guard or clearance poles will be installed over existing distribution or communication lines, streets, roads, highways, railways, or other obstructions after any necessary notifications are made or permits obtained. This ensures that conductors will not obstruct traffic or come into contact with existing energized conductors or other cables, and protects the conductor from damage.

(5) Population and Economy

NextEra Energy's employees and contractors will design, construct and maintain the proposed facility. All workers will be either NextEra Energy employees or contract employees. It is possible that a contractor may hire a small number of local workers. No additional permanent jobs will be created by this action. The construction activities will provide a seasonal influx of additional dollars into the local

communities during the construction phase, and materials will be purchased from local vendors.

(6) Archaeological and Historical Sites

A Class I Cultural Resources Inventory (file search/literature review) was conducted by Tetra Tech on July 22-23, 2009 at the State Historical Society of North Dakota. This research was conducted for the proposed Morton County Wind Energy Center and the Oliver III Transmission Line route at that time. The records search included archaeological and architectural inventory forms, previous surveys, and National Register Inventory Forms. Other historic documents including General Land Office maps, available plat maps, and aerial photographs were searched for trails, roads, campsites, farmsteads, schools, churches, and other features that may be within the project area. A total of 23 archaeological sites were recorded within the transmission line Corridor, including 20 Native American stone feature sites, one Native American isolated find, one Euro-American mine, and one Euro-American farmstead (**Figure 2**). None of the sites have been evaluated for eligibility for the National Register of Historic Places (NRHP), except for the farmstead (Site No. 32OL0560), which was deemed ineligible. No architectural history surveys have been conducted within the Corridor and no previously documented architectural history properties have been identified.

A Class III Cultural Resource Inventory was begun in October 2009 and will be completed in spring 2010 in areas that would be directly impacted by the proposed Transmission Line. The survey only included the southern 3 miles of the Transmission Line due to lack of access in the northern portion of the route. The Cultural Class III Survey included a pedestrian survey, site delineation, site documentation, site evaluation, laboratory methods, and curation.

One site was found (Site No. 010) within the Corridor, approximately 0.45 miles east of the intersection of 30th Street and 35th Avenue (**Figure 2**). It is an abandoned Euro-American farmstead consisting of four foundations, one outbuilding, one corral, and one stone alignment. Tetra Tech recommends avoidance of this site. Disturbance to the site could be avoided by spanning the site and driving vehicles around it during construction. Tetra Tech recommends placing snow fence along the perimeter of the buffer in areas adjacent to ground-disturbing activities during construction.

Results of the survey will be used to avoid impacts to the cultural resources. The Cultural Resources Inventory Report will be submitted to PSC and the SHPO when complete.

7. Qualifications of People Involved in the Facility Route Location Study

See Section II.D.5 of the Certificate of Corridor Compatibility Application.

8. Maps

See Section II.D.2 of the Certificate of Corridor Compatibility Application and the Waiver of Procedures.

REFERENCES

See references section at the end of the Certificate of Corridor Compatibility Application.

DEFINITIONS

See definitions section at the end of the Certificate of Corridor Compatibility Application.

