Foxtail Wind Energy Center
Final Eagle Report

DICKEY COUNTY, NORTH DAKOTA

Prepared for

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EXECUTIVE SUMMARY

NextEra Energy Resources, LLC (NextEra) is planning to develop the Foxtail Wind Energy Center (Project) located in Dickey County, North Dakota. NextEra is committed to environmental due diligence and has contracted Tetra Tech, Inc. (Tetra Tech) to conduct eagle use surveys for the Project. The objective of the eagle use surveys is to document eagle use and movements at the Project Area, consisting of the Project turbines plus a surrounding 1-kilometer (km; 0.62 mile [mi]), buffer for one full year. Tetra Tech used standardized protocols for the eagle use surveys designed to be responsive to the level of effort recommended in Tier 3 of the Voluntary Land-Based Wind Energy Guidelines and Version 2 of the Eagle Conservation Plan Guidance (ECPG).

In August 2014, 16 observation points, each with an 800-meter (m)-radius, were established within the original proposed turbine array plus a 1-km buffer (0.62 mi) as recommended in the ECPG. However, subsequent changes to the proposed turbine array after the observation points were established reduced spatial coverage of the 1-kilometer buffer around the proposed turbine locations. Therefore, in December 2014, four of the original point-count locations with poor coverage of the turbine buffer (Points 1, 3, 4, and 14) were removed and four additional point-count locations (Points 17, 18, 19, and 20) were established to provide more thorough coverage within the 1-kilometer buffer around the new turbine array. This resulted in a total of 16 point-count locations and spatial coverage of approximately 34 percent of the 1-km buffer around the originally considered turbine locations and 31 percent of the 1-km buffer surrounding the current (2017) locations. Eagle surveys were conducted for one hour at each point every other week from August 21, 2014 to September 4, 2015 for a total of 26 rounds of surveys. For each eagle observed, species, age class, time first and last observed, minimum and maximum flight heights, and flight behavior were recorded. Eagle flights were categorized as ≤ 200 meters (m) or >200 m above ground, based on the ECPG. The time an eagle spent flying within the 800-m radius plot at each of these height categories was recorded and rounded-up in one-minute intervals. Eagle exposure minutes recorded in this way are appropriate for projected mortality modeling per the ECPG.

General avian use surveys also were conducted in fall 2014 and spring 2015. Eagles observed during these weekly 20-minute surveys, but outside of the eagle use survey window were systematically quantified. A total of 12 survey weeks of general avian surveys between August 20th through November 6th, 2014, and March 17th through June 11th, 2015 were used to further measure eagle use. Flight paths were recorded for all eagle observations.

Two bald eagles (*Haliaeetus leucocephalus)* were observed during 416 hours of monitoring during the eagle use surveys and one bald eagle was observed during 64 hours of general avian use monitoring. A total of 6 eagle exposure minutes were recorded during the surveys and overall mean use of the surveyed area was 0.012 eagles per hour (total number of eagle minutes divided by the total number of observation hours). One additional bald eagle was observed incidentally during the surveys.

Based on the results of the eagle use surveys, eagle use of the Project Area appears to be low. Although incidental sightings of bald eagles indicate this species has the potential to occur episodically in the Project

Area, the species was not regularly observed during surveys and there is limited breeding, roosting and foraging habitat for bald eagles within the Project Area. Lakes and river systems outside the Project Area may provide suitable nesting and roosting habitat. Golden eagles (*Aquila chrysaetos*), which were not observed during these surveys, nest mainly west of the Missouri River in North Dakota and the species may pass through the vicinity of the Project Area but is unlikely to be resident.

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1.0 Introduction

NextEra Energy Resources, LLC (NextEra) is planning to develop the Foxtail Wind Energy Center (Project) located in Dickey County, North Dakota. (Figure 1). NextEra is committed to environmental due diligence and has contracted Tetra Tech, Inc. (Tetra Tech) to conduct eagle use surveys for the Project. The objective of the eagle use surveys is to document eagle use and movements at the Project Area within a footprint covered by Project turbines including a one-kilometer (km; 0.62 mile [mi]) buffer for one full year. Tetra Tech used standardized protocols for the eagle use surveys that were designed to be responsive to the level of effort recommended in Tier 3 of the *Voluntary Land-Based Wind Energy Guidelines* (WEG;USFWS 2012) and Version 2 of the *Eagle Conservation Plan Guidance* (ECPG; USFWS 2013).

1.1 Regulatory Framework

Two federal environmental regulations pertain to potential eagle risk at wind energy facilities: the Migratory Bird Treaty Act (MBTA) of 1918 and the Bald and Golden Eagle Protection Act (BGEPA) of 1940. In addition, North Dakota has a statute that specifically prohibits any take or possession of bald and golden eagles or their parts.

The MBTA implements the Unites States' obligations under four treaties for the protection of migratory birds. The MBTA is administered by the USFWS, which maintains a list of all species protected by the MBTA (50 CFR 10.13). This list includes over 1,000 species of migratory birds, including eagles and other raptors, waterfowl, shorebirds, seabirds, wading birds, and passerines.

The MBTA makes it unlawful "by any means or in any manner, to pursue, hunt, take, capture, kill … possess, offer for sale, sell … purchase … ship, export, import …transport or cause to be transported… any migratory bird, any part, nest, or eggs of any such bird …" except as otherwise permitted under the regulations (16 U.S.C. 703). The USFWS has interpreted the MBTA to be a strict liability statute, meaning that proof of intent, knowledge, or negligence is not an element of an MBTA violation. Actions resulting in the "take" of a protected species, in the absence of a USFWS permit or regulatory authorization, are a violation.

The word "take" is defined by regulation as "to pursue, hunt, shoot, wound, kill, trap, capture, or collect, or attempt to pursue, hunt, shoot, wound, kill, trap, capture, or collect" (50 CFR 10.12). The MBTA does not have a provision directly prohibiting incidental takes and the definition of "take" does not include the broader terms of "harass" or "harm" that have been found to prohibit incidental takes under the Endangered Species Act. Indeed, in the historic context of the MBTA, and an interpretation supported by the U.S. Court of Appeals for the 8th Circuit, the term "take" refers to conduct directed at birds, such as hunting or poaching, and not on prohibiting lawful, commercial activity which may indirectly cause bird deaths (See U.S. v. Brigham Oil and Gas, L.P., 840 F.Supp. 2d 1202 (D. N.D. 2012)).

USFWS has established a permitting scheme for a variety of intentional activities, such as hunting and scientific research and has also worked with industries to find ways to minimize impacts to migratory

birds. Since the scope of USFWS' legal authority to regulate incidental takes remains unclear, as the 8th Circuit's interpretation is not accepted by all courts, USFWS has not been deterred from attempting to regulate incidental takes under the MBTA. USFWS has historically pursued individual prosecutions for incidental takes and more recently, has proposed an incidental permitting program.

The BGEPA prohibits the take of any bald eagle (*Haliaeetus leucocephalus*) or golden eagle (*Aquila chrysaetos*), alive or dead, including any part, nest, or egg. "Take" is defined as "pursue, shoot, shoot at, poison, wound, kill, capture, trap, collect, molest or disturb." "Disturb" means to agitate or bother an eagle to a degree that causes, or is likely to cause, 1) injury to an eagle; 2) a decrease in its productivity; or 3) nest abandonment, by substantially interfering with normal breeding, feeding, or sheltering behavior. Under 50 CFR §22.26 eagle take permits are available for incidental take associated with otherwise lawful activities including wind energy development (USFWS 2009, USFWS 2016). The ECPG outlining the recommended steps for wind energy projects applying for incidental take permits was released by USFWS in April 2013 (USFWS 2013). Since 2009, only one incidental take permit for golden eagles has been granted to a wind energy project, and no permits for incidental take of bald eagles at a wind energy facility have been issued.

State-level regulations are similar to federal law. North Dakota has a statute that specifically prohibits taking, killing, hunting, possessing, selling, purchasing, pursuing, shooting at, disturbing, capturing, or destroying any golden eagle, bald eagle, or any nest or egg thereof (North Dakota Century Code, Chapter 20.1-04-05). State collection permits, which are processed through the North Dakota Game and Fish Department (NDGF), are only issued for scientific purposes.

1.2 Eagles And Wind Energy

Bald eagles may occur in North Dakota as breeders, winter residents, migrants or year-round residents. In North Dakota the nesting period begins with nest building or maintenance in February and ends when the young fledge, typically in July (Johnson 2010). Nests are relatively close to water, typically less than 2 km (1.24 mi). Although bald eagle nests have historically been found primarily along the Missouri and Red Rivers (Johnson 2010), the number of bald eagle nests has increased in North Dakota over the last 20 years as the species continues to recover from population declines primarily attributed to environmental contaminants. Nesting bald eagles now occur in more than half of the counties in the state (NDGF 2014) and numbers have grown steadily to 140–150 active bald eagle nests to date (Johnson 2015). Most of the nests occur near streams and mid- to large-sized lakes, but eagles are also initiating nests in areas not considered traditional nesting habitat such as cottonwood trees surrounded by cropland or grassland (NDGF 2014). In North Dakota, peak breeding season occurs early April to July although active egg incubation may occur as early as March with peak incubation in April (NDGF 2012; NDGF 2014).

During the non-breeding season (September through mid-January [USFWS 2013]) bald eagles often gather in large numbers near open water areas where fish and other prey are abundant. Wintering bald eagles can be found roosting up to 32 km (20 mi) from foraging sites depending on abundance of prey (Buehler et al. 2000). m). Bald eagles are opportunistic foragers that prey primarily on fish but also feed on other aquatic and terrestrial vertebrates as well as on carrion (Buehler et al. 2000).

Golden eagle populations may be migratory or year-round residents and are found in all 48 states in the continental United States. Individuals from northern populations typically migrate south to winter in the southern region of the U.S. where some resident golden eagle populations also exist (Kochert et al. 2002). Both year-round and migratory golden eagles occur in North Dakota (NDGF 2015). Golden eagles in the western U.S. are most commonly associated with open and semi-open habitats such as shrublands, grasslands, woodland-brushlands, and coniferous forests as well as in farmland and riparian habitats (Kochert et al. 2002). Golden eagles in North Dakota nest mainly west of the Missouri River (Johnson 2015). Golden eagles nest on cliffs, utility poles, and in large trees in open areas from late January through August (Kochert et al. 2002). Peak breeding in the region occurs from April to late June (DeLong 2004, NDGF 2012). The species feeds upon a wide variety of prey but tends to hunt small to medium-sized mammals such as hares, rabbits, ground squirrels, marmots, and prairie dogs depending upon local availability (Bloom and Hawks 1982; Kochert et al. 2002).

Eagle fatalities resulting from collisions with wind turbines have been documented at wind energy projects and, in general, eagle use prior to construction was higher at projects that eventually reported eagle fatalities compared to projects with no eagle fatalities (USFWS 2012, Allison 2012). Eighty-five eagle mortalities (6 bald eagles and 79 golden eagles) associated with wind energy facilities within the United States were reported from 1997 through June 2012, excluding the Altamont Pass Wind Resource Area in California (Pagel et al. 2013.). To date, one bald eagle fatality has been reported at a wind energy facility in North Dakota (Thompson 2015). Additionally, no wind-energy related golden eagle mortalities have been reported in North Dakota. Golden eagles are believed to be more at risk of turbine collision because they hunt for land-based prey along topographic contours where turbines are often located, whereas bald eagles tend to focus their hunting efforts for fish and waterfowl in lakes and rivers (Buehler 2000; Kochert et al. 2002).

1.3 Project Description

The Project Area is located approximately 24 km (15 mi) northwest of Ellendale, in Dickey County, North Dakota and includes approximately 20,029 acres of privately owned land (Figure 1). The Project is anticipated to include up to 75 hybrid Vestas V-116 and V-110 wind turbines with a total generating capacity of up to 150 MW of electricity. Turbine locations are shown in Figure 2. Existing infrastructure in the Project Area includes overhead power lines, underground communication systems and cabling, a collection substation, an operations and maintenance (O&M) building, a meteorological evaluation (Met) tower, a construction laydown area, a batch plant, switchyard, weather stations, communication towers, access and county roads.

The Project Area is located in the Missouri Coteau sub-region of the Northwestern Glaciated Plains ecoregion (Bryce et al. 1996). The Northwestern Glaciated Plains ecoregion marks the western-most extent of continental glaciations and is characterized by significant surface irregularity and high concentrations of wetlands known as potholes. Streams and rivers are nearly absent, as are upland deciduous forests. The area has numerous open water sources consisting mostly of kettle ponds (shallow, sediment-filled bodies of water formed by retreating glaciers) in lowland areas. Land use on the Missouri

Coteau is a mixture of hay and spring wheat tilled agriculture in flatter areas, and cattle grazing on steeper slopes. Much of the native prairie has been largely replaced by wheat, alfalfa and other commercial crops over most of the ecoregion (Bryce et al. 1998. The Project Area is a mix of cattle pastures, agricultural lands, and remnant native prairie, and contains numerous wetlands that vary from shallow vegetated depressions to large ponds and intermittent creeks.

2.0 Methods

2.1 Eagle Use Surveys

In August 2014, 16 observation points, each with an 800-meter-radius, were established within the original proposed turbine array plus a 1-km buffer (0.62 mi) as recommended in the ECPG. (Figure 2). However, subsequent changes to the proposed turbine array after the observation points were established reduced spatial coverage of the 1-kilometer buffer around the proposed turbine locations. Therefore, in December 2014, four of the original observation points with poor coverage of the turbine buffer (Points 1, 3, 4, and 14) were removed and four additional observation points (Points 17, 18, 19, and 20) were established to provide more thorough coverage within the 1-kilometer buffer around the new turbine array (Figure 2). This resulted in spatial coverage of approximately 34 percent of the 1-kilometer buffer around turbine locations as proposed in 2015 and 31 percent coverage of the 1-kilometer buffer around the current (2017) turbine locations (Figure 2). Despite adding and dropping of observation points, the number of observation points remained un-changed at 16 points throughout the study. .

Eagle surveys were generally conducted on 2-3 consecutive days, depending on the season, every other week from August 18, 2014 to September 1, 2015 for a total of 26 rounds of surveys. During each round of surveys, a biologist monitored each point for one hour. Surveys were conducted during daylight hours and the order in which points were surveyed was altered between subsequent rounds so that each point was surveyed at different times of the day over the course of the year, for representative sampling throughout all ours of the day. Surveys were not conducted if fog or cloud cover reduced visibility to less than 400 m horizontal distance or less than 200 m vertical distance.

During each survey, the biologist continuously scanned the surrounding landscape for eagle activity using an unlimited viewshed. For each eagle observed, the biologist recorded the species, age class (i.e., adult or immature) time first and last observed, minimum and maximum flight heights, and flight behavior. Tera Tech categorized eagle flights as less than or equal to 200 or greater than 200 m above ground, following the recommendations in the ECPG. The time an observed eagle spent flying within the 800-m radius circular plot at each of these height categories was recorded and rounded-up in one-minute intervals and converted into eagle exposure minutes for projected fatality modeling per ECPG. Eagle exposure minutes are the number of minutes that an eagle was observed below 200 m within the 800-m-radius plot. Flight paths were drawn for each eagle on a topographic map of the Project Area and later digitized using Geographic Information System (GIS) software. Although the flight paths of all observed eagles were

recorded regardless of distance from the observer, eagle exposure minutes were limited to those flight paths below 200 m and within the 800-m-radius plots, per the ECPG.

2.2 General Avian Use Surveys

General avian use surveys were also implemented in August 2014 to determine spatial and temporal patterns of the general avian community within the Project Area during migration seasons (Tetra Tech 2015a). Weekly surveys were conducted in fall 2014 and spring 2015 at the same set of 16 observation points utilized for eagle use surveys, (Figure 2). These surveys were conducted concurrently with eagle surveys during the first 20 minutes of the eagle survey on dates when both surveys overlapped. However, because general avian use surveys were conducted weekly and eagle use surveys were conducted every other week, general avian use surveys provided an opportunity to systematically collect eagle data outside of the eagle use survey times. Therefore, eagle use was also measured during the general avian surveys in the weeks that eagle use surveys were not conducted. A total of 12 survey weeks between August 20th and November 6th, 2014, and March 17th and June 11th, 2015 were utilized for quantifying eagle use within the 1-km turbine buffer (Table 2).

During general avian use surveys, each point was monitored for 20 minutes. Data were collected on all birds detected within the 800 m radius of the point-count location. The biologist continuously recorded any visual or auditory observations of birds throughout the 20 minute window and recorded: species, number of individuals, time of observation, height above ground, behavior, and estimated flight heights and distances using existing reference points such as meteorological towers and local transmission lines, as well as landscape contours shown on topographic maps. Flight direction was recorded for individuals making directional flights. Eagle flight paths were drawn on a topographic map of the point location and vicinity and later digitized using GIS software.

Because only the time of first observation is recorded under the general avian protocol, eagle observations were translated into eagle minutes by applying the ratio of eagle minutes to observation hours derived from the eagle use study to the number of hours accrued during the general avian use study. The ratio applied was 0.0002 eagle minutes/survey hours. Similar to eagle use surveys, eagle exposure minutes were limited to those flight paths below 200 m and within the 800-m-radius plots, per the ECPG.

2.3 Incidental Observations

Eagles observed within the Project Area and/or 1-km turbine buffer but outside of the survey period, such as when the biologist was traveling between observation points, were recorded as incidental observations. Flight paths and exposure minutes were not recorded for incidental eagle observations. The incidental eagle observations are presented in this report as supplemental information to the overall activity by eagles within the Project Area. Incidental observations of other raptors, large birds, and avian species that were uncommon or unusual within the Project Area were also recorded.

3.0 Results

3.1 Eagle Use Surveys

Two adult bald eagles were observed during 416 hours of monitoring during the eagle use surveys (Table 1). These two eagles accrued five eagle exposure minutes. Both eagles were observed flying relatively low to the ground in the morning of March 17, 2015 (Figure 2). The first bald eagle, observed at Point 20, flew in a northeastern direction between six and 10 meters aboveground, visible for one minute. The second bald eagle, observed at Point 8, flew southward between four and eight meters aboveground, visible for four minutes. Overall mean use, calculated as the total number of exposure minutes divided by the total number of observation hours, was 0.012 eagles per hour. No golden eagles were observed during the surveys.

3.2 General Avian Use Surveys

One bald eagle was observed during 64 hours of observations during the general avian use survey dates that did not coincide with eagle use surveys (Table 2). This sub-adult bald eagle was observed near Point 4, flying between 25 and 45 meters aboveground moving in variable directions on September 26, 2014 (Figure 2). This eagle was observed below 200 m and within the 800 m survey radius and accrued one eagle exposure minute. To calculate this result, Tetra Tech applied the 0.0002 ratio of eagle minutes to survey hours to the 64 hours of observation accrued during general avian point count surveys ([0.0002 eagles per minute*64 hours]*60 minutes = 0.77 eagle minutes). Tetra Tech then rounded up to one full eagle minute.

Table 1. Eagle Activity Recorded During Eagle Use Surveys at the Foxtail Wind Energy Center, August 21, 2014 to September 4, 2015.

Survey Round	Dates	Hours of Survey	Flights observed		Exposure Minutes: Minutes Below 200 m and Within 800-m of Observation Point		Minutes Above 200 m and Within 800-m of Observation Point	
			Bald Eagle	Golden Eagle	Bald Eagle	Golden Eagle	Bald Eagle	Golden Eagle
1	8/21-8/23, 2014	16	0	0	0	0	0	0
2	9/6-7, 2014	16	0	0	0	0	0	0
3	9/17-18, 2014	16	0	0	0	0	0	0
4	10/2 -3, 2014	16	0	0	0	0	0	0
5	10/15-16, 2014	16	0	0	0	0	0	0
6	10/29-30, 2014	16	0	0	0	0	0	0
7	11/12-13, 2014	16	0	0	0	0	0	0
8	11/24-25, 2014	16	0	0	0	0	0	0
9	12/16-12/18, 2014	16	0	0	0	0	0	0
10	1/6 -1/8, 2015	16	0	0	0	0	0	0
11	2/2-3, 2015	16	0	0	0	0	0	0
12	2/17-18, 2015	16	0	0	0	0	0	0
13	3/5-6, 2015	16	0	0	0	0	0	0
14	3/17 -18, 2015	16	2	0	5	0	0	0

Survey Round	Dates	Hours of Survey	Flights observed		Exposure Minutes: Minutes Below 200 m and Within 800-m of Observation Point		Minutes Above 200 m and Within 800-m of Observation Point	
			Bald Eagle	Golden Eagle	Bald Eagle	Golden Eagle	Bald Eagle	Golden Eagle
15	3/30, 2015	16	0	0	0	0	0	0
16	4/13-14, 2015	16	0	0	0	0	0	0
17	4/29-30, 2015	16	0	0	0	0	0	0
18	5/14-15, 2015	16	0	0	0	0	0	0
19	5/27-28, 2015	16	0	0	0	0	0	0
20	6/10-11, 2015	16	0	0	0	0	0	0
21	6/23-24, 2015	16	0	0	0	0	0	0
22	7/8-9, 2015	16	0	0	0	0	0	0
23	7/23-24, 2015	16	0	0	0	0	0	0
24	8/7-8, 2015	16	0	0	0	0	0	0
25	8/19-20, 2015	16	0	0	0	0	0	0
26	9/3-4, 2015	16	0	0	0	0	0	0
TOTAL		**416**	**2**	**0**	**5**	**0**	**0**	**0**

Table 2. Eagle Activity Recorded During General Avian Use Surveys at the Foxtail Wind Energy Center, Fall 2014 and Spring 2015.

Survey Round	Dates	Hours of Survey	Flights observed		Exposure Minutes: Minutes Below 200 m and Within 800-m of Observation Point		Minutes Above 200 m and Within 800-m of Observation Point	
			Bald Eagle	Golden Eagle	Bald Eagle	Golden Eagle	Bald Eagle	Golden Eagle
1	8/29/2014	5.3	0	0	0	0	0	0
2	9/12/2014	5.3	0	0	0	0	0	0
3	9/26/2015	5.3	1	0	1	0	0	0
4	10/8/2015	5.3	0	0	0	0	0	0
5	10/23/2015	5.3	0	0	0	0	0	0
6	11/5-6/2014	5.3	0	0	0	0	0	0
7	3/26/2015	5.3	0	0	0	0	0	0
8	4/8/2015	5.3	0	0	0	0	0	0
9	4/23/2015	5.3	0	0	0	0	0	0
10	5/8/2015	5.3	0	0	0	0	0	0
11	5/21/2015	5.3	0	0	0	0	0	0
12	6/3/2015	5.3	0	0	0	0	0	0
TOTAL		**64**	**1**	**0**	**1**	**0**	**0**	**0**

3.3 Eagle Use and General Avian Use Combined Survey Results

Three bald eagles were observed during a total of 480 hours of monitoring within the Project Area. Combined, these eagles accrued a total of six exposure minutes and had a mean use of 0.013 eagles observed per hour.

3.4 Incidental Observations

3.4.1 Incidental Eagle Observations

One bald eagle was observed incidentally during the eagle use surveys (Figure 2). On March 18, one sub-adult bald eagle was observed near Point 9, flying between five and seven m aboveground. This eagle was observed after completion of the survey at that point. Initially observed flying within the count circle, the eagle flew in an eastward direction out of the circle.

3.4.2 Other Incidental Observations

Seventeen avian species other than eagles were observed incidentally during the eagle use surveys presented in order of descending number of individuals: snow goose, snow bunting, Canadian goose, ring-necked pheasant, sharp-tailed grouse, horned lark, red-tailed hawk, American white pelican, Swainson's hawk, northern harrier, great blue heron, great egret, snowy owl, turkey vulture, great horned owl, Cooper's hawk, and blue jay. None of these species are listed as endangered or threatened by the USFWS or the State of North Dakota.

4.0 Discussion

The low number of bald eagle and lack of golden eagle observations during the eagle use surveys suggest there is low use of the Project Area by eagles. The intensity of the annual survey effort (every other week for 26 weeks for 416 total ours, plus 64 hours of additional systematic survey time during general avian use surveys capturing migration) underscores this low use. A total of four bald were observed throughout the duration of the year-long eagle use survey and migration-focused general avian use surveys (three during standardized surveys and one observed incidentally). One of the bald eagles was observed during the fall while the other three bald eagles were observed in the spring (all during the March 17-18, 2015 survey period). The timing of these observations (migration seasons) and the lack of bald eagle nests within a 10-mile radius of the Project Area (Tetra Tech 2015a) suggests that the bald eagles observed at the Project were likely migrants or non-breeding adults rather than local breeders.

During an aerial raptor nest survey conducted on March 26, 2015, and additional 43 bald eagles were observed within a 10-mile radius of the Project Area (Figure 3; Tetra Tech 2015a). The majority of these observations occurred to the east of the north-south escarpment which runs the length of the Project Area (Figure 3). The timing of these observations roughly corresponded to the spring migration period. Only two of the bald eagles observed during the aerial survey were within or adjacent to the Project Area;

one bald eagle was observed within the Project Area and one was approximately 100 m to the west of the Project Area (Figure 3). Most of the bald eagles were observed flying, but 3 groups composed of 4-8 individuals were perched in trees at distances greater than 4 miles from the Project Area (Figure 3). All of the eagle observations from the aerial nest survey occurred on the same day, and most likely represent a seasonal influx of migrant eagles to the area that may be associated with migrating waterfowl (a major prey item of bald eagles), and further support the likelihood of the migrant status of eagles observed during the eagle use survey. If this interpretation is correct, then risk to eagles from the Project may be episodic, corresponding to periods of migratory movement.

Although the number of bald eagles seen outside the Project area during the nest survey indicates the potential for bald eagles to pass through the Project Area, the results of the full year of eagle use surveys suggest that this movement is uncommon or occurs away from the Project. Given the intensity of sampling effort, the eagle use surveys likely captured the level of use of bald eagles expected within the Project Area. Additionally, most of the bald eagle observations from the aerial survey occurred to the east of the Project Area. Bald eagle use may be lower within the Project Area than in the surrounding vicinity due to a lower concentration of water bodies within the Project Area.

Identifying general areas within a wind project where eagle use is highest could provide insight into areas where collision risk is highest. Eagle use was low throughout the Project Area, with two of the four eagles observed recorded in the west-central portion of the Project Area. This portion of the Project Area is in proximity to Wood Lake, a medium sized lake approximately 2 km (1.2 mi) to the east of Point 20 which may provide limited foraging opportunities. Bald eagles are often associated with larger water bodies and typically nest, roost and forage within proximity of these features (Aron 2005). No eagle nests were detected within a 10-mile radius of the Project Area, and although many small-scale prairie pothole lakes are scattered throughout the western portion of the Project Area, it is not anticipated that general areas within the Project Area would attract bald eagles because of the absence of large rivers or lakes preferred by the species.

4.1 Conclusions

Based on the full year of eagle use surveys conducted at the Project, eagle use within the Project Area, appears to be low during all seasons. The observation of 43 individual bald eagles during the March 2015 aerial raptor nest survey indicate that bald eagles have the potential to occur episodically in the Project Area, although it is likely that bald eagle use may be lower within the Project Area than in the surrounding vicinity due to low number of observations during surveys along with a lower concentration of water bodies that could provide nesting, roosting and foraging habitat within the Project Area. Golden eagles in North Dakota nest mainly west of the Missouri River and the species is unlikely to be resident in the vicinity of the Project.

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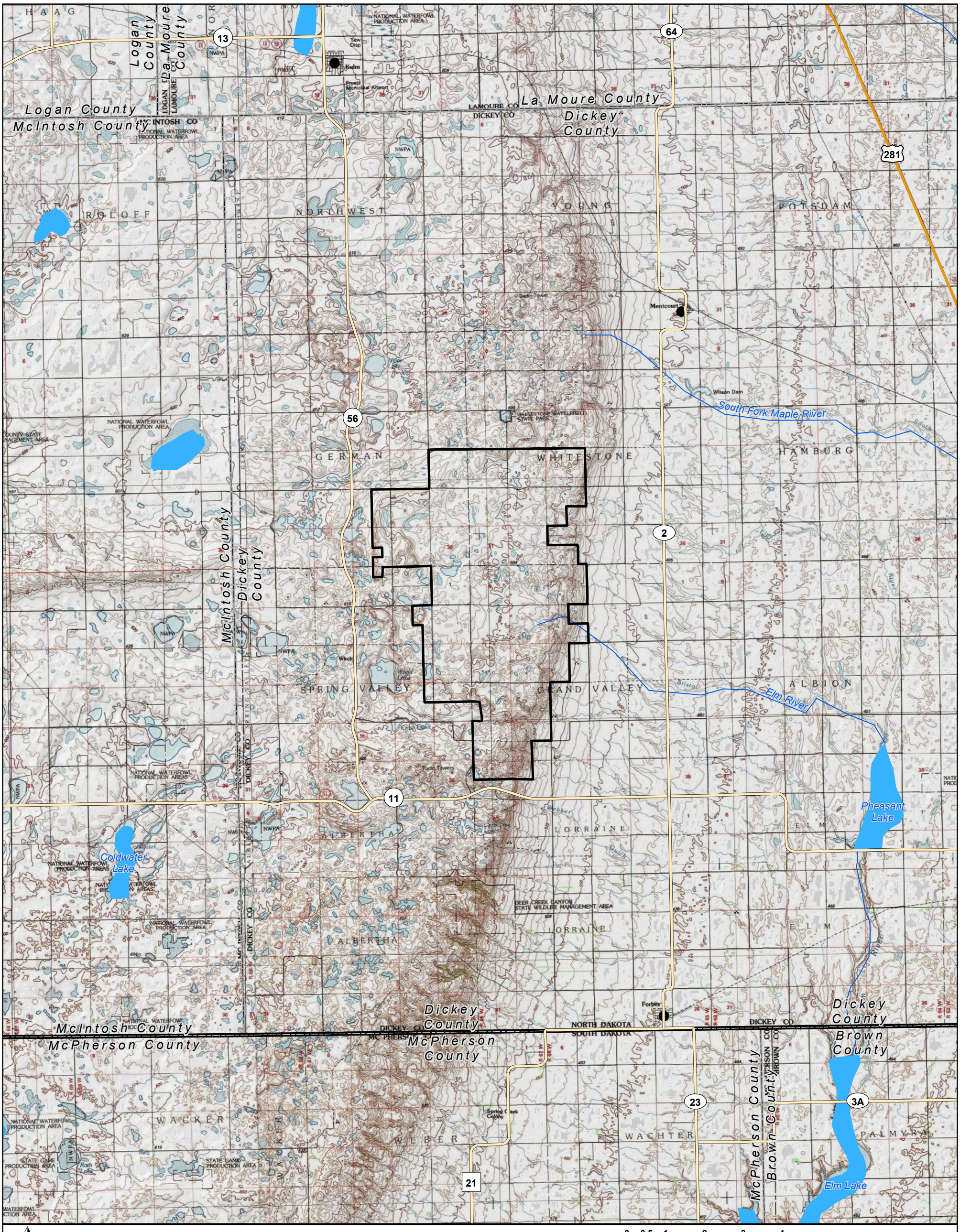

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0 0.5 1 2 3 4 Miles

Figure 1

Foxtail Wind Energy Center

NEXTera ENERGY RESOURCES

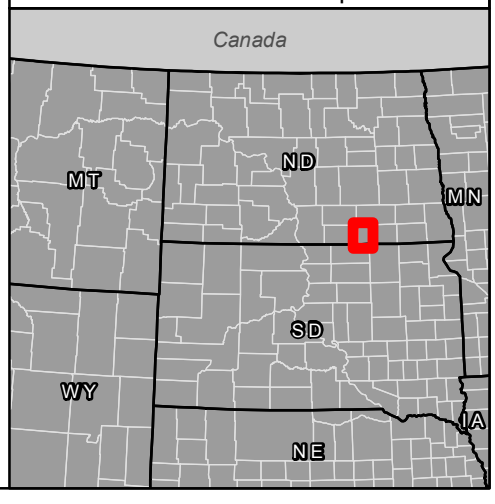
Project Location Updated August 2017

DICKEY COUNTY, ND

- Proposed Project Boundary (01-03-2017)
- Secondary Highway
- Secondary Road
- River/Stream
- Lake/Pond

TETRA TECH

Reference Map



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1:50,000 NAD 1983 StatePlane North Dakota South FIPS 3302 Feet

0 0.5 1 2 Miles

Figure 2

Foxtail Wind Energy Center

NEXTera ENERGY RESOURCES

Eagle Point-Count Locations and Observations Updated August 2017

DICKEY COUNTY, ND

Proposed Project Boundary (01-03-2017)

Proposed Turbines (07-14-2017)

Turbine 1km Buffer

Eagle Observation Below 200m

Eagle Use Survey

General Avian Use Survey

Incidental Bald Eagle

Eagle Survey Point (August 2014 to December 2014)

Eagle Survey Point (December 2014 to September 2015)

Eagle Survey Point (August 2014 - September 2015)

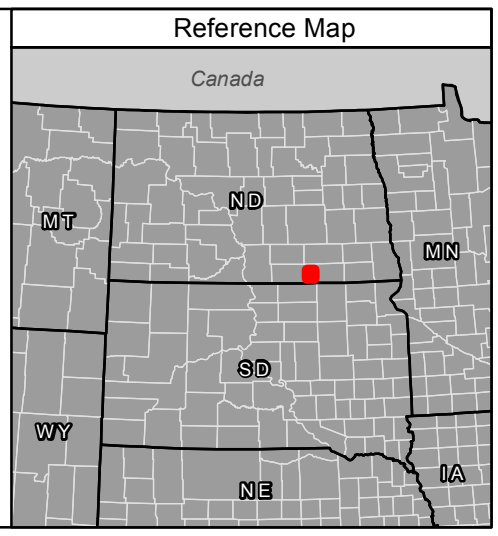
800-m Radius

800-m Radius

800-m Radius

TETRA TECH

Reference Map



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1:170,000 NAD 1983 StatePlane North Dakota South FIPS 3302 Feet

0 0.5 1 2 3 4 Miles

Figure 3

Foxtail Wind Energy Center

NEXTera ENERGY RESOURCES

Bald Eagles Observed during March 26, 2015 Aerial Raptor Nest Survey

DICKEY COUNTY, ND

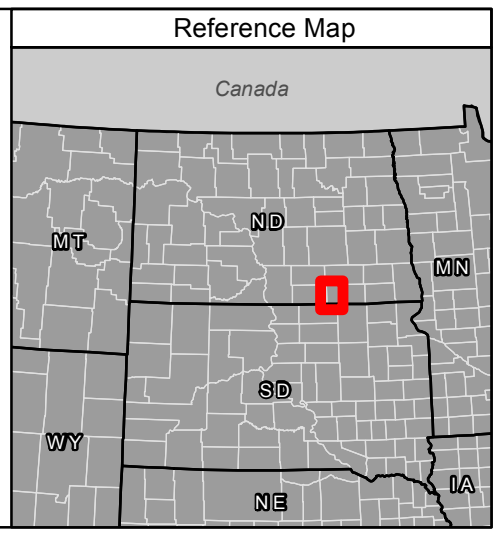
Proposed Project Boundary (01-03-2017)

Survey Area (10-mile Radius of Project Boundary)

Bald Eagle Observations

TETRA TECH

Reference Map



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