

**NORTH DAKOTA PUBLIC SERVICE COMMISSION
NORTHERN DIVIDE WIND, LLC
NORTHERN DIVIDE WIND ENERGY CENTER
APPLICATION FOR A CERTIFICATE OF SITE COMPATIBILITY
AND
NORTHERN DIVIDE 345 kV TRANSMISSION LINE CONSOLIDATED
APPLICATION FOR A CERTIFICATE OF CORRIDOR COMPATIBILITY AND
ROUTE PERMIT**

CASE NOS. PU-19-376 AND PU-19-377

APRIL 1, 2020

PART II

**PREPARED TESTIMONY OF
DUSTIN JONES**

1 **I. Introduction and Background**

2 **Q1. Please state your name, by whom you are employed, and your business address.**

3 A. My name is Dustin Jones. I am employed by NextEra Energy Resources, LLC
4 ("NextEra"). My business address is 708 Main Street, 10th Floor, Houston, Texas 77002.
5 I am filing this testimony on behalf of Northern Divide Wind, LLC ("Northern Divide
6 Wind"), an indirect, wholly-owned subsidiary of NextEra.

7 **Q2. What is your position with NextEra?**

8 A. I am an environmental services project manager for NextEra responsible for the Mid-
9 Continent Region, which includes the state of North Dakota. It is my responsibility to
10 provide oversight of all environmental permitting needed to construct a project, including
11 overseeing environmental consultant work products.

12 **Q3. Briefly describe your educational background and professional experience.**

13 A. I received a Bachelor of Science in Wildlife and Fisheries Sciences from Texas A&M
14 University. I am also a Certified Wetland Delineator. I have over 18 years of
15 environmental permitting experience as both a consultant and environmental manager in
16 the renewable industry. During this time, my primary responsibilities have included

1 permitting and licensing projects on private and public land in compliance with federal and
2 state environmental laws.

3 **Q4. Were you involved in the preparation of Northern Divide Wind’s applications for the**
4 **Northern Divide Wind Energy Center (“Wind Project”) and the Northern Divide**
5 **Wind 345 kV Electrical Transmission Line (“Transmission Project”) (collectively, the**
6 **“Projects”)?**

7 A. Yes. Together with my colleague, Mr. Ron Burris, I managed the consultants responsible
8 for conducting environmental studies and preparing the Projects’ applications filed in Case
9 Nos. PU-19-376 and PU-19-377 (the “Applications”). I oversaw the studies related to
10 wetlands, land use and land cover, wildlife, cultural resources, architectural history, and
11 acoustic and shadow flicker assessments, as well as preparation of the Applications. Mr.
12 Burris directed the Tribal outreach and associated studies.

13 **II. Summary of Testimony and Conclusions**

14 **Q5. Please briefly summarize the purpose of your testimony.**

15 A. I will testify regarding Northern Divide Wind’s environmental study results. Northern
16 Divide Wind is also presenting the testimony of Mr. Clayton Derby, as Exhibit 8, who will
17 provide his expert evaluation regarding wildlife assessments, risk analysis, and avoidance,
18 minimization and mitigation measures. This testimony and supporting evidence
19 demonstrates that the Projects will have minimal environmental and human effects and that
20 the Projects meet the Commission’s siting criteria. I will also testify regarding the
21 extensive outreach and coordination Northern Divide Wind has undertaken with relevant
22 agencies and Native American Tribes.

23 **Q6. How is your testimony organized?**

24 A. In Section II, I will provide a summary and overview of my testimony and conclusions. I
25 will also provide an overview of the history of the Projects and a summary of the
26 environmental studies that were performed for the Projects.

27 In Section III, I will describe the environmental analysis conducted by Northern
28 Divide Wind and explain the results of that analysis. In particular, I will describe Northern
29 Divide Wind’s analyses that the Projects will have no or minimal effect on: threatened and

1 endangered species; bald and golden eagles; wetlands and woodlands; grasslands; and
2 other wildlife, including sharp-tailed grouse leks and avian use. I will also describe the
3 coordination that Northern Divide Wind undertook with the United States Fish and
4 Wildlife Service (“USFWS”) and North Dakota Department of Game and Fish (“NDGFD”,
5 and together with the USFWS, the “Wildlife Agencies”).

6 In Section IV, I will describe Northern Divide Wind’s studies of cultural, historic,
7 and Native American Tribal resources, and will discuss how Northern Divide Wind
8 proposes to avoid and mitigate any potential impacts to those resources. I will also describe
9 the coordination that Northern Divide Wind undertook with Tribes in the area.

10 In Section V, I will testify that the Wind Project complies with the Commission’s
11 sound and shadow flicker requirements.

12 Finally, in Section VI, I will summarize how the Projects comply with the
13 Commission’s siting rules, including relating to Exclusion Areas, Avoidance Areas,
14 Selection Criteria, and Policy Criteria under North Dakota Administrative Code (“N.D.
15 Admin. Code”) Chapter 69-06-08.

16 **Q7. Please briefly explain the history of the Projects and the environmental studies**
17 **conducted for the Projects.**

18 A. My colleague, Mr. Clay Cameron, has described the overall history of the Projects in his
19 testimony. I will briefly discuss the history of the Projects as it relates to environmental
20 topics and the environmental studies that Northern Divide Wind performed.

21 In 2018, Burke Wind, LLC filed applications for a wind energy center (“Burke
22 Wind Project”) and 345 kV transmission line (“Burke Transmission Project”) in Burke and
23 Mountrail Counties (collectively, the “Burke Projects,” *see* Commission Case Nos. PU-18-
24 344 and PU-18-302, respectively). The Projects largely overlap areas previously studied
25 for the Burke Projects. Thus, many of the studies performed for the Burke Projects remain
26 applicable to the Projects. Northern Divide Wind updated or conducted new studies for
27 areas previously unstudied and outside of the Burke Projects as needed and to confirm prior
28 results. As part of the study and evaluation of the Projects, Northern Divide Wind
29 conducted additional consultation with the 27 various local, state, and federal agencies,
30 entities, and officers designated in the Commission’s siting rules (N.D. Admin. Code § 69-
31 06-01-05).

1 **Q8. Please provide a general description of the Projects from a land use perspective.**

2 A. The Projects are located in rural North Dakota in an area predominantly comprised of
3 cultivated land, hayfields, and grasslands. Accordingly, much of the Projects' land is
4 primarily utilized for agricultural purposes that support both livestock and crops.

5 **Q9. What studies were provided to the Commission in support of the Applications?**

6 A. Northern Divide Wind filed the following studies in support of the Applications:¹

- 7 • Wildlife Technical Memorandum;
- 8 • Avian Use Report;
- 9 • Grouse Lek and Raptor Nest Strategy;
- 10 • Whooping Crane Habitat Assessment;
- 11 • Dakota Skipper Habitat Assessment;
- 12 • Northern Long-Eared Bat Habitat Assessment;
- 13 • Wetlands and Other Waters Delineation Reports;
- 14 • Architectural History Survey Summary;
- 15 • Archaeological Resource Survey Summaries;
- 16 • Shadow Flicker Assessment; and
- 17 • Acoustic Assessment.

18 **III. Environmental Analysis of the Projects**

19 **Q10. Did Northern Divide Wind develop the Wind Project consistent with recommended**
20 **processes described in the USFWS's voluntary Land-Based Wind Energy Guidelines**
21 **("WEGs")?**

22 A. Yes. While the use and application of the WEGs is voluntary, Northern Divide Wind
23 incorporated and utilized recommendations set forth in the WEGs in developing the Wind
24 Project to avoid, minimize, and mitigate potential adverse effects of the Wind Project.

25

¹ Copies of these studies are provided in Appendix B to Exhibit 1 (Wind Project Application), Exhibit 2 (Transmission Project Application), and Exhibit 3 (Supplemental Filings).

1 **Q11. Please briefly describe the WEGs.**

2 A. The WEGs use a five-tiered, iterative approach for assessing potential adverse effects to
3 species of concern and their habitats during wind project siting, construction, and
4 operation. The first three tiers progressively guide decision making during pre-
5 construction assessments, and the last two tiers relate to post-construction studies. In
6 particular:

- 7 • Tier 1 is an evaluation of desktop landscape-scale data;
- 8 • Tier 2 includes a broad site characterization and reconnaissance-level site visits;
- 9 • Tier 3 includes site-specific field studies;
- 10 • Tier 4 includes post-construction studies; and,
- 11 • Tier 5 includes additional post-construction studies as needed although such studies
12 are typically unnecessary for most projects.

13 The WEGs describe decision points after each tier that relate to using data to assess
14 whether potential species of concern are or could be present, the predicted probability of
15 significant adverse impacts and whether any potential impacts can be avoided, minimized,
16 or mitigated. At each tier, decision outcomes include choices such as abandoning further
17 development of the site, gathering site-specific data to address uncertainty, and/or
18 modifying the project to avoid impacts or mitigating any remaining adverse impacts.
19 Consistent with the approach set forth in the WEGs, during various stages of project
20 development, Northern Divide Wind evaluated the outcomes at each tier, and assessed
21 whether impacts could be sufficiently avoided, minimized, or mitigated, before deciding
22 to proceed with development.

23 Furthermore, Northern Divide Wind will conduct one-year of post-construction
24 fatality monitoring consistent with Tier 4 of the WEGs. Northern Divide Wind will also
25 implement a Wildlife Conservation Strategy (“WCS”) and a Wildlife Response and
26 Reporting System (“WRRS”) throughout the life of the Projects. The WCS provides the
27 framework for documenting measures to avoid, minimize, and mitigate potential impacts
28 to wildlife from the construction and operation of the Projects. A WRRS includes reporting
29 protocols to report and document bird and bat fatality during routine maintenance activities.

1 Additional Tier 5 studies are not anticipated because the Wind Project has been designed
2 to produce minimal adverse effects.

3 **Q12. Did Northern Divide Wind take steps to address the environmental and wildlife**
4 **concerns previously identified by the Commission and Wildlife Agencies for the**
5 **Burke Wind Project?**

6 A. Yes. Following the Commission's decision on the Burke Projects, Northern Divide Wind
7 consulted and coordinated extensively with the Wildlife Agencies to address prior concerns
8 regarding the Burke Wind Project. As a result of these discussions and incorporation of
9 the Commission's guidance regarding the Burke Wind Project, Northern Divide Wind
10 redesigned the Wind Project and implemented additional avoidance, minimization, and
11 mitigation measures to address issues of concern. Attachments 1 and 2 to my testimony
12 provide a timeline outlining noteworthy consultation efforts with the Wildlife Agencies
13 and a list of Northern Divide Wind's proposed mitigation measures, respectively.

14 As a result of this coordination, in March 17, 2020 correspondence, the NDGFD
15 acknowledged that Northern Divide Wind's efforts have resulted in significant impact
16 avoidance and minimization. In this letter, which is marked as Exhibit 13, NDGFD stated:

17 During routine meetings and dialogue since [the denial of the Burke Project
18 application], we've witnessed NextEra's increased attention to our
19 recommendations and a renewed desire, through its subsidiary [Northern
20 Divide Wind], to avoid, minimize, and offset measures for key native
21 habitats.... Northern Divide Wind has taken several positive steps to reduce
22 and defray the impact of the [Wind Project].... Through these efforts, the
23 potential impacts to important wildlife resources, resulting from [the Wind
24 Project's] new lay-out, are considerably reduced as compared to the original
25 [Burke Wind Project]. ...

26 [W]e acknowledge Northern Divide Wind has taken the Department's
27 recommendations seriously, resulting in significant impact avoidance and
28 minimization. Despite these positive efforts..., it was not possible to
29 completely avoid indirect impacts. Northern Divide Wind has, however,
30 voluntarily committed to address these unavoidable wildlife impacts,
31 resulting from the project, by facilitating native grassland and wetland
32 restoration activities on private land in the Missouri Coteau. With new
33 insight and understanding of the importance of this area to wildlife,
34 Northern Divide Wind has also committed to avoid future wind
35 development in the Northern Missouri Coteau.

1 **Q13. What specific steps did Northern Divide Wind take to address prior concerns?**

2 A. Northern Divide Wind took the following actions to address prior concerns raised
3 regarding the Burke Wind Project:

- 4 • Reduced the Wind Project area by approximately 52 percent compared to
5 the Burke Wind Project area (10,912 acres vs. 22,933 acres);
- 6 • Shifted the Wind Project to a predominantly agricultural landscape with
7 minimal unbroken grassland² (7 percent vs 21 percent);
- 8 • Sited all turbines, roads, meteorological towers, and substations in tilled
9 cropland;
- 10 • Relocated 44 and eliminated three of the prior 81 Burke Wind Project
11 turbines, including the 11 eastern-most turbines, which the Wildlife
12 Agencies opined were the most critical to relocate;
- 13 • Sited all turbines in low waterfowl nesting density areas including northern
14 pintail duck high density areas, as recommended by the Wildlife Agencies,
15 whereas the Burke Wind Project had 31 of 81 turbines sited in high pintail
16 duck density areas;
- 17 • Located 20 of the Wind Project's 78 turbine locations³ outside of the
18 Northern Missouri Coteau ecoregion, as mapped by Bryce *et al.* 1996,
19 whereas only three of the Burke Wind Project's 81 turbines were located
20 outside this ecoregion;
- 21 • Sited all Wind Project infrastructure to avoid all wetland impacts, regardless
22 of the U.S. Army Corps of Engineers ("USACE")-jurisdictional status of
23 the wetland;
- 24 • Committed to recreate and restore habitat for grassland nesting birds and
25 waterfowl using the Wildlife Agencies recommended avian impact offset
26 model. This will include restoration of 100 grassland-acres for the
27 displacement of grassland bird pairs and 196 wetland-acres (\pm 98 2-acre
28 wetland basins) for the displacement of breeding waterfowl pairs; and
- 29 • Committed to avoid further development of wind generation projects in the
30 Northern Missouri Coteau.

² Grassland where the soil has not been disturbed by tilling, construction, or other mechanical methods. Unbroken grassland includes native prairie, as well as areas used as pasture and hayland that have not been historically broken (*e.g.*, cultivated or extensive mechanized rock clearing).

³ The 78 turbine locations consist of 74 primary turbines and 4 alternate turbine locations.

The following table summarizes the decrease in impacts to various environmental metrics from the prior Burke Wind Project to the current Wind Project:

Decreased Environmental Impacts from the Burke Wind Project to the Wind Project

Metric	Burke Wind Project	Wind Project	Decrease (%)
Project Area (ac)	22,933	10,912	52
Wetland features in Project Area (ac) ¹	3,016	1,067	65
Wetland features in Project Area (count) ¹	2,470	950	62
Wetland features percent of Project Area (%) ¹	13	10	23
Wetland impacts: permanent or temporary (ac)	0	0	0
Wetland features within 0.5 mile of turbines (ac)	3,664	1,261	66
Breeding waterfowl pair estimated displacement (count)	981	486	51
Breeding waterfowl pair estimated habitat offset (ac)	398	196	51
Unbroken grassland in Project Area (ac)	4,785	742	84
Unbroken grassland percent of Project Area (%)	21	7	67
Unbroken grassland impacts: permanent (ac)	6	0	100
Unbroken grassland impacts: temporary (ac)	112	8	93
Unbroken grassland within 300 m of turbines (ac)	751	188	75
Grassland bird pair estimated displacement (count)	159-478	39-116	75

¹ Wetland calculations based on National Wetland Inventory data.

Q14. Did Northern Divide Wind develop the Transmission Project consistent with practices suggested by the Avian Power Line Interaction Committee (“APLIC”)?

A. Yes. Like the WEGs, the APLIC suggested practices are voluntary. Northern Divide Wind incorporated and utilized these suggested practices, such as marking the transmission line with bird flight diverters, in developing the Transmission Project to reduce the potential for bird collisions.

Q15. Has Northern Divide Wind designed the Projects to avoid, minimize, and mitigate environmental impacts to the greatest extent possible?

A. Yes.

A. Threatened or Endangered Species

Q16. Please describe whether there are any threatened or endangered species or critical habitat occurring within the Projects.

A. Northern Divide Wind used the USFWS Information for Planning and Conservation (“IPaC”) tool to identify threatened or endangered species or designated critical habitat

1 within the Projects. This tool identified seven threatened and endangered species that could
2 potentially occur within Burke and/or Mountrail County: the endangered whooping crane,
3 Dakota skipper butterfly, least tern, and pallid sturgeon; and the threatened northern long-
4 eared bat (“NLEB”), piping plover, and rufa red knot. Both counties include the whooping
5 crane, Dakota skipper, NLEB, piping plover, and rufa red knot, while Mountrail County
6 also includes the least tern and pallid sturgeon.

7 **Q17. Did Northern Divide Wind identify any of these threatened or endangered species or**
8 **critical habitat for these species within the Projects during its studies?**

9 A. No. Over the course of these studies, no designated critical habitat for any of these
10 threatened or endangered species was identified within the Projects, and only the whooping
11 crane was recorded during field studies. Consistent with the Commission’s requirements,
12 Northern Divide Wind has sited the Projects to exclude areas critical to the life stages of
13 threatened or endangered animal or plant species or areas where animal or plant species
14 that are unique or rare to the state would be irreversibly damaged.

15 **Q18. Please describe Northern Divide Wind’s analysis with respect to whooping cranes.**

16 A. There is no federally designated whooping crane critical habitat within or near the Projects,
17 or within the state of North Dakota. However, the Projects are located within the whooping
18 crane migratory corridor. During surveys, there was one observation of three whooping
19 cranes migrating over the Wind Project, flying approximately 500 feet overhead, which is
20 above the rotor-swept zone. Other than this observation, no whooping cranes were
21 observed stopping over, foraging, or roosting on the ground within the Wind Project during
22 avian use surveys or incidentally during other field surveys.

23 **Q19. Will Northern Divide Wind avoid and minimize potential adverse impacts to**
24 **whooping cranes?**

25 A. Yes. Based on the studies that Northern Divide Wind performed, and as testified further
26 by Mr. Derby, I believe that the likelihood of adverse impacts to whooping cranes from the
27 Projects is low. Northern Divide Wind’s surveys showed that there is a low potential for
28 interaction between the Wind Project and whooping cranes in any given year, in particular,

1 because whooping cranes have not been observed near the Wind Project other than the
2 three that were identified flying overhead.

3 In addition, Northern Divide Wind will implement certain mitigation measures in
4 order to minimize the likelihood of impact from the Projects to whooping cranes even
5 further. In particular, at the Wind Project, Northern Divide Wind will curtail operations if
6 whooping cranes are observed within the Project Area or within one mile of turbines. The
7 curtailment will remain in effect until it can be confirmed through visual verification that
8 there are no whooping cranes on either the ground or overhead of any turbines within a
9 one-mile radius for at least a length of 15 minutes. Northern Divide Wind also will equip
10 the Transmission Project with bird flight diverters consistent with APLIC suggested
11 practices, which will increase visibility, thereby reducing collision risk with transmission
12 facilities.

13 **Q20. Please describe Northern Divide Wind's analysis with respect to the Dakota skipper**
14 **butterfly.**

15 A. According to USFWS, the Dakota skipper is present in Mountrail County. There is no
16 designated critical Dakota skipper habitat in Burke or Mountrail County. The closest
17 township to the Projects with previously documented Dakota skipper occurrences is located
18 in Mountrail County approximately 19 miles from the Wind Project and approximately 8.5
19 miles from the Transmission Project.

20 Northern Divide Wind assessed approximately 4,478 acres, to determine if
21 potential Dakota skipper habitat occurred within the Projects. The assessment area
22 included the current Wind Project design, as well as areas previously considered for
23 development.⁴ In an abundance of caution, Northern Divide Wind included areas within
24 Burke County within its assessment area, even though the USFWS has determined that the
25 Dakota skipper no longer likely appears within the county. Northern Divide Wind
26 identified approximately five acres of suitable habitat within the Wind Project and
27 approximately 214 acres of suitable habitat within the Transmission Project.

⁴ Maps in Exhibit 1, Appendix B.6 and Exhibit 2, Appendix B.3 depict the Dakota Skipper Assessment Area.

1 **Q21. Will Northern Divide Wind avoid and minimize potential adverse impacts on the**
2 **Dakota skipper?**

3 A. Yes. Mr. Derby testifies to this, as well. Northern Divide Wind has sited Project
4 infrastructure to avoid field-verified suitable habitat and will span habitat to avoid all
5 surface impacts. In particular, Northern Divide Wind is not locating any Wind or
6 Transmission Project infrastructure within native prairie. Only minimal Transmission
7 Project infrastructure is located in unbroken grassland; however, these are areas of non-
8 native prairie that are not suitable habitat for the species. These efforts are intended, among
9 other things, to minimize impacts to Dakota skipper habitat. During construction, Northern
10 Divide Wind will place high-visibility fencing around any field-verified suitable habitat to
11 ensure that construction equipment does not disturb these areas. Additionally, Northern
12 Divide Wind will avoid construction during the Dakota skipper adult flight period in areas
13 adjacent to field-verified habitat. For these reasons, adverse impacts to Dakota skipper are
14 not anticipated.

15 **Q22. Please describe Northern Divide Wind’s analysis with respect to the least tern.**

16 A. The least tern is a water-dependent shorebird that is known to use specific habitat, such as
17 gravelly or sandy beaches or sandbars.⁵ The Projects lack this specific type of habitat,
18 there is no designated critical habitat in Burke or Mountrail County, and no least terns were
19 observed during avian surveys. Therefore, adverse impacts to the least tern are not
20 anticipated.

21 **Q23. Please describe Northern Divide Wind’s analysis with respect to the pallid sturgeon.**

22 A. The pallid sturgeon is a fresh water fish that occurs in the Missouri River and its larger
23 tributaries. This habitat is absent from the Projects, and there is no designated critical
24 habitat in Burke or Mountrail County. Therefore, the pallid sturgeon will not occur in the
25 Projects, and the species will not be impacted.

26 **Q24. Please describe Northern Divide Wind’s analysis with respect to the NLEB.**

27 A. There are no known hibernacula for NLEB in North Dakota, and Northern Divide Wind’s
28 results from the collective bat studies suggest that NLEB presence is unlikely, given limited

⁵ In 2019, the USFWS proposed a rule to remove the least tern from federal protection.

1 contiguous forested habitat, limited roosting habitat, the lack of hibernacula, and the lack
2 of connectivity from other potential habitats. Therefore, use of the Projects by NLEB is
3 likely to be low, and adverse impacts to NLEB are not anticipated.

4 **Q25. Please describe Northern Divide Wind’s analysis with respect to the piping plover.**

5 A. The piping plover is a water-dependent shorebird known to use specific habitat, such as
6 gravelly or sandy beaches or sandbars. There is federally designated piping plover critical
7 habitat in Burke and Mountrail County, but none is located within or near the Projects. The
8 closest designated critical habitat is approximately 18 miles from the nearest Wind Project
9 turbine and approximately three miles from the Transmission Project. No piping plovers
10 were observed during avian use surveys. Therefore, adverse impacts to piping plovers are
11 not anticipated.

12 **Q26. Please describe Northern Divide Wind’s analysis with respect to the rufa red knot.**

13 A. The rufa red knot is a water-dependent shorebird. There are no stopover sites consistently
14 used by red knots or designated critical habitat within the state of North Dakota. No red
15 knots were observed during avian studies. Therefore, adverse impacts to the rufa red knot
16 are not anticipated.

17 **B. Bald and Golden Eagles**

18 **Q27. How are bald and golden eagles treated under federal environmental law?**

19 A. Bald and golden eagles are not considered “threatened or endangered” under the
20 Endangered Species Act. However, bald and golden eagles are protected under the
21 Migratory Bird Treaty Act (“MBTA”) and the Bald and Golden Eagle Protection Act
22 (“BGEPA”). The BGEPA does not designate critical habitat, but it does protect individual
23 eagles and nests from disturbance. Mr. Derby also discusses bald and golden eagles in his
24 testimony.

25 **Q28. Please describe Northern Divide Wind’s analysis with respect to bald and golden
26 eagles.**

27 A. Bald and golden eagles may potentially occur in the Projects during any time of year, and
28 five bald eagles and one golden eagle were recorded during large bird use surveys within

1 the Wind Project.⁶ Northern Divide Wind’s studies did not identify extensive suitable
2 nesting habitat in the Project. Aerial surveys did not locate any eagle nests within the Wind
3 Project or within a minimum 8-mile buffer area outside the Wind Project, nor were any
4 eagle nests located within the Transmission Project. Thus, adverse impacts to bald and
5 golden eagles are not anticipated.

6 **Q29. What additional activities is Northern Divide Wind undertaking to avoid and**
7 **minimize any potential impacts to bald or golden eagles?**

8 A. Northern Divide Wind will outfit the Transmission Project with bird flight diverters
9 consistent with APLIC suggested practices. This will increase visibility of the lines for
10 large raptors such as eagles, thereby reducing collision risk. In addition, to confirm the
11 prior study results regarding the lack of eagle and raptor nests in the Project, in April 2020,
12 Northern Divide Wind will perform a nest survey within the Wind Project for non-eagle
13 raptors and eagles, and will survey a two-mile buffer around both Projects for eagle nests.
14 Lastly, all trees requiring clearing (*e.g.*, tree rows) will be surveyed immediately ahead of
15 construction for the presence of any raptor nests built after the pre-construction spring 2020
16 survey or otherwise previously undetected, which is a standard NextEra procedure.

17 Any newly found occupied or active eagle nests will be avoided by a minimum of
18 one mile during construction until the nests become inactive (*i.e.*, when eggs or chicks are
19 absent from the nests).

20 **C. Wetlands and Woodlands**

21 **Q30. Please briefly explain the Projects’ potential impacts on wetlands.**

22 A. As I stated above, Northern Divide Wind has sited the Projects to avoid all impacts to
23 wetlands, *i.e.*, Northern Divide Wind will not locate the Projects’ infrastructure in any
24 wetland. Additionally, Northern Divide Wind will not locate the Projects’ infrastructure
25 in any USFWS wetland easements.

⁶ The Wind Project Application inadvertently references two bald eagles being recorded during the large bird use surveys; however, the WEST Avian Use Report, Appendix B-8 to the Wind Project Application (Exhibit 1), correctly references that five bald eagles were recorded within the current Wind Project.

1 **Q31. Please briefly explain the Projects' potential impact on woodlands.**

2 A. The Projects lack large, contiguous woodlands, and impacts to woodlands are not
3 anticipated.

4 **D. Trees and Shrubs**

5 **Q32. Please briefly explain the Projects' potential impact on trees and shrubs.**

6 A. Overall impacts to trees and shrubs are anticipated to be minimal. For the Projects,⁷ the
7 cumulative permanent impacts to trees and shrubs from Wind Project and Transmission
8 Project infrastructure are anticipated to be approximately 0.2 and 0.01 acres, respectively.
9 For unavoidable tree and shrub impacts during construction, Northern Divide Wind will
10 comply with the Commission's Tree and Shrub Mitigation Specifications and submit a tree
11 and shrub inventory and replacement plan for Commission review and approval.
12 Therefore, adverse impacts to trees and shrubs are not anticipated.

13 **Q33. With respect to tree and shrub clearing, does Northern Divide Wind request the**
14 **ability to clear an area wider than 50 feet in some locations within the Projects?**

15 A. Yes. Along the Transmission Project, Northern Divide Wind will need to maintain
16 clearance of its right-of-way up to 150 feet wide for the safety of facility infrastructure and
17 monitoring purposes.

18 **E. Grasslands**

19 **Q34. Please describe the types of grasslands located within the Projects.**

20 A. The Projects are located in rural North Dakota in an area predominately comprised of
21 cultivated land, hayfields, pasturelands, and grasslands. Northern Divide Wind completed
22 a desktop land use classification and classified parcels of land based on a number of
23 features. With respect to grasslands, land use was grouped into the following categories:

- 24 • Cropland – parcels of land that are currently being used for agricultural crop
25 productions;
- 26 • Broken grassland – grassland where the soil has been historically disturbed by
27 tilling, construction, or other mechanical methods; and

⁷ Tables 5-2 and 5-1 in Exhibits 1 and 2, respectively.

- Unbroken grassland – grassland where soil has not been disturbed by tilling, construction, or other mechanical methods. Unbroken grassland includes native prairie and areas used as pasture and hayland that have not been historically broken (*e.g.*, cultivated or mechanically cleared of rocks).⁸

Q35. Please describe Northern Divide Wind’s analysis with respect to grasslands.

A. As I stated above, as a result of coordination with the Wildlife Agencies, Northern Divide Wind significantly minimized the amount of unbroken grassland included within the Wind Project. Northern Divide Wind also has designed the Projects to ensure that no Project infrastructure is sited within native prairie. No Wind Project infrastructure is located within unbroken grasslands, and there are only minimal impacts (0.25 acres) from Transmission Project infrastructure to non-native prairie unbroken grasslands.⁹ The Wind Project contains only approximately seven percent (or 742 acres) of unbroken grasslands throughout the 10,912-acre Wind Project. Northern Divide Wind also has avoided all USFWS grassland easements.

Q36. Please explain the distinction between native prairie and unbroken grassland.

A. In Northern Divide Wind’s analysis, native prairie is defined as a type of unbroken grassland, but not all unbroken grassland is native prairie. As described above, unbroken grassland is classified based on soil integrity and history of mechanical manipulation of the soil. Some unbroken grasslands may contain introduced, non-native, or invasive grassland species that are of lower wildlife habitat value, whereas native prairie includes a high-quality composition of grassland and forb species that support a high diversity of grassland-associated wildlife species.

Q37. Will Northern Divide Wind restore temporarily disturbed grassland areas?

A. Yes, as certified in the Certifications Relating to Order Provisions (Exhibits 4 and 5), Northern Divide Wind understands and agrees that reclamation, fertilization, and reseeding of grasslands and any other land use or land cover is to be done according to the Natural

⁸ As explained in Section 5.2.1 of the Wind Project Application (Exhibit 1), other land use categories include: tree rows, forest/shrubland, existing infrastructure, and wetlands.

⁹ See Table 5-2 in Exhibit 1 (Wind Project Application) and Table 5-1 in Exhibit 2 (Transmission Project Application).

1 Resources Conservation Service recommendations, unless otherwise specified by the
2 landowner and approved by the Commission.

3 **F. Other Wildlife Studies**

4 **Q38. What additional environmental studies did Northern Divide Wind perform related to**
5 **wildlife?**

6 A. In addition to the studies discussed above, Northern Divide Wind reevaluated avian use,
7 grassland breeding bird, non-eagle raptor nest, and sharp-tailed grouse lek studies
8 conducted for the Burke Wind Project. The purpose of this evaluation was to understand
9 wildlife use to better avoid and minimize potential impacts.

10 Additionally, Mr. Derby testifies and expands on Northern Divide Wind's analyses
11 of grasslands and grassland nesting birds, sharp-tailed grouse, wetlands and waterfowl,
12 eagles, and threatened and endangered species.

13 **Q39. How did the results of these prior studies guide Northern Divide Wind's development**
14 **of the Wind Project?**

15 A. Results of the prior studies were integral in developing projects that avoided, minimized,
16 and mitigated any potential impacts. The studies found that locations with the highest
17 avian use and highest grassland-associated avian species richness and abundance were in
18 the eastern half and southwestern part of the Burke Wind Project, which had a higher
19 percentage of unbroken grasslands. As I have testified, in coordination with the Wildlife
20 Agencies, Northern Divide Wind shifted and significantly reduced the Wind Project to
21 exclude these areas and include a much lower percentage of lands characterized as
22 unbroken grasslands. Northern Divide Wind also committed to site wind turbines outside
23 of unbroken grasslands, at least one-half mile from known grouse leks, at least one mile
24 from eagle nests, and at least one-quarter mile from known non-eagle raptor nests. Any
25 new leks, eagle nests, or other raptor nests found during standard pre-construction surveys
26 in spring 2020 will have a timing stipulation placed on them under which construction
27 activities will be minimized to the extent practicable within one-half mile (leks and eagle
28 nests) and one-quarter mile (raptor nests) during the lekking and nesting season.
29 Additionally, Northern Divide Wind will monitor the leks and nest during construction to
30 confirm lack of disturbance.

1 **IV. Cultural, Historic, and Tribal Resources**

2 **Q40. Please briefly describe the cultural and historic resource assessments conducted for**
3 **the Projects.**

4 A. Northern Divide Wind consulted with the North Dakota State Historic Preservation Office
5 (“NDSHPO”) regarding survey methodology, reporting, and mitigation. In order to assess
6 potential cultural resources in the Projects, Northern Divide Wind performed a Class I
7 Literature Search and a Class III Intensive Inventory. A Class I Literature Search is the
8 background research that identifies cultural resources that have already been adequately
9 documented, or cultural resources that are known but need further study. This was
10 completed within the Projects plus a one-mile study area. The Class III Intensive Inventory
11 is a systematic, detailed field inspection to identify cultural resources in previously un-
12 surveyed areas, update previously recorded resources and make determinations of a
13 resource’s significance. A Class III was completed for areas to be temporarily and
14 permanently impacted by the Projects.

15 Northern Divide Wind assessed the potential for historic architectural resources in
16 the Wind Project by performing a historic resource assessment or Architectural Inventory
17 through a Class II Reconnaissance Inventory of architectural resources. This was
18 completed within two miles of Wind Project turbines. The NDSHPO determined that an
19 Architectural Inventory was not required for the Transmission Project (Exhibit 3, Appendix
20 H).

21 **Q41. Please describe the results of the cultural and historic resource assessments that**
22 **Northern Divide Wind conducted for both Projects.**

23 A. With respect to the Wind Project, a portion of the Wind Project was covered under cultural
24 and historic resource assessments conducted for the Burke Wind Project in 2017 and 2018.
25 The NDSHPO concurred with the cultural assessment results in February 2019 (Exhibit 3,
26 Appendix I), and with the historic resource assessment results in December 2018 (Exhibit
27 9).

28 Inventories of the unassessed areas of the Wind Project were completed in 2019,
29 during which 12 new archaeological sites were documented. These new sites included
30 Native American sites and isolated finds and Euro-American artifact scatters and isolated

1 finds. For the 2019 cultural assessment, the NDSHPO concurred with the Class III results
2 on February 24, 2020 (Exhibit 10).

3 A total of 111 sites were surveyed or evaluated by an architectural historian during
4 the Architectural Inventory for the Wind Project. Sixteen architectural sites were covered
5 under an architectural assessment conducted for the Burke Wind Project in 2018. The
6 documented historic architectural resources included homes, barns, silos, garages, sheds,
7 livestock shelters, churches, grain bins, and schools. One of the documented sites, South
8 St. Olaf’s Church, is eligible for the National Register of Historic Places (“NRHP”).
9 Further, one additional site, the Neils Nielson Fourteen-Sided Barn, is listed in the NRHP.
10 Both sites are outside the Wind Project, but within the two-mile architectural assessment
11 area around turbines.

12 With respect to the Transmission Project, approximately 37 miles of the
13 Transmission Project was previously assessed for cultural resources in 2017 and 2018 as
14 part of the Burke Transmission Project. The NDSHPO concurred with the assessment
15 results in February 2019 (Exhibit 3, Appendix I). Additional cultural resources surveys
16 were completed for the four-mile extension of the Transmission Project in 2019. During
17 the additional survey, 12 new archaeological sites were documented. These sites included
18 Native American sites, isolated finds, and site leads and a historic Euro-American
19 abandoned farmstead and isolated find. The NDSHPO issued a letter concurring with the
20 Class III results on February 24, 2020.

21 **Q42. Has Northern Divide Wind consulted and coordinated with local Native American**
22 **Tribes in connection with cultural resource investigations for the Projects?**

23 A. Yes, Northern Divide Wind has conducted extensive tribal outreach, beginning during the
24 development of the Burke Project in 2017, and continuing throughout development of the
25 current Projects. Northern Divide Wind completed a survey for sites of tribal significance
26 in 2017 and 2018, which was updated in 2019 for the Projects. Traditional cultural
27 surveyors from the Rosebud Sioux, the Spirit Lake of Fort Totten, and the Turtle Mountain
28 Chippewa Tribes participated in the surveys. In the 2019 surveys, four sites were
29 documented for the Wind Project, and 28 sites were documented for the Transmission
30 Project; however, Northern Divide Wind will avoid these sites. The NDSHPO has
31 concurred with these study results in its February 24, 2020 correspondence.

1 **Q43. Will the Projects impact the identified archaeological and historic sites?**

2 A. The Projects avoid direct impacts to sites eligible or potentially eligible for listing on the
3 NRHP, sites that may be deemed culturally sensitive, sites significant to the tribes, or sites
4 that have not been evaluated for NRHP eligibility. The avoidance approach incorporates
5 buffers recommended by Northern Divide Wind’s environmental consultant and tribal
6 traditional cultural surveyors and approved by the NDSHPO per their concurrence.

7 There are potential indirect viewshed impacts to South St. Olaf’s Church and the
8 Neils Nielson Fourteen-Sided Barn; however, Northern Divide Wind has discussed with
9 NDSHPO that these indirect impacts are purely visual and minimal in nature. Both
10 resources are located outside the Wind Project, with the nearest turbines are approximately
11 1.6 and 1.3 miles from the church and barn, respectively. Although the two historic sites
12 are located outside of the Wind Project, Northern Divide Wind is proposing to mitigate
13 these indirect viewshed impacts through additional coordination with NDSHPO. As
14 referenced in March 23 and March 30, 2020 correspondence from the NDSHPO (Exhibit
15 11), this coordination is actively ongoing.

6 **Q44. Please describe these additional mitigation efforts.**

7 A. Northern Divide Wind’s mitigation plan for the South St. Olaf’s Church includes funding
8 established through landowner agreements that total approximately \$22,500 per year for
9 the 30-year life of the Wind Project to restore and preserve the church. Additionally, in
10 coordination with the NDSHPO, Northern Divide Wind is developing a Technical Action
11 Plan to assist the church caretakers with identifying repairs and maintenance tasks
12 necessary to preserve the church with additional guidance for using historically appropriate
13 materials in the restoration. Also in coordination with the NDSHPO, Northern Divide
14 Wind has proposed to conduct a detailed mitigation survey and submit an article in
15 Preservation North Dakota in accordance with methods and guidance from the NDSHPO
16 for the Neils Nielson Fourteen-Sided Barn.

17 Northern Divide Wind met with the NDSHPO on February 27, 2020, and NDSHPO
18 agreed that the potential indirect impacts to the church and barn are minimal and the
19 mitigation efforts proposed will be sufficient to offset these impacts. Based on these
20 conversations with NDSHPO, Northern Divide Wind expects that NDSHPO will issue

1 concurrence in the near term, and a copy of NDSHPO's concurrence will be submitted to
2 the Commission upon receipt.

3 **Q45. Does Northern Divide Wind have procedures in place to address previously**
4 **unidentified cultural resources encountered during construction?**

5 A. Yes. Northern Divide Wind will implement an Unanticipated Discovery Plan ("UDP") to
6 guide activities in the event that cultural resources are identified during construction. The
7 UDP establishes: the proper procedure to follow for stopping work and securing the area
8 around an identified resource; a communications plan for the Projects' archaeologist,
9 NDSHPO, tribes, and Northern Divide Wind; and permissions needed for work to resume.

10 **V. Sound and Shadow Flicker**

11 **Q46. Please describe the results of the acoustic assessment conducted for the Wind Project.**

12 A. Northern Divide Wind's acoustic assessment is provided as Exhibit 1, Appendix B3. The
13 acoustic modeling results indicate that predicted sound limits will not exceed the
14 Commission's current sound limit of 50 dBA within 100 feet of, or Burke County's sound
15 limit of 49 dBA within 50 feet of, an inhabited residence or community building. The
16 maximum predicted sound limit at any occupied residence is 48 dBA at 100 feet, and thus
17 the Wind Project complies with the Commission's Avoidance Criteria and the Burke
18 County sound regulation. The results of the acoustic assessment are summarized in Tables
19 1-3 located in Exhibit 3, Appendix E.

20 **Q47. Please describe the results of the shadow flicker assessment for the Wind Project.**

21 A. The generally accepted industry standard utilized by the Commission to assess shadow
22 flicker is no more than 30 hours per year of shadow flicker at an occupied receptor.
23 Northern Divide Wind's shadow flicker assessment is provided at Exhibit 1, Appendix B4.
24 The maximum predicted shadow flicker impact at any occupied residence is 22 hours per
25 year, which is less than the industry standard. The results of the shadow flicker assessment
26 are summarized in Tables 1-3 located in Exhibit 3, Appendix E.

27

1 **VI. Compliance with the Commission's Siting Rules**

2 **Q48. Are you familiar with the Exclusion Areas, Avoidance Areas, Selection Criteria, and**
3 **Policy Criteria identified in Chapter 69-06-08 of the North Dakota Administrative**
4 **Code?**

5 A. Yes.

6 **Q49. Are there any Exclusion Areas located within the Projects?**

7 A. Yes. The Exclusion Areas that are present within the Wind Project and Transmission
8 Project are designated archaeological sites. However, as discussed in Section IV above,
9 Northern Divide Wind is avoiding impacts to all archaeological sites within the Projects.

10 **Q50. Are there any Avoidance Areas located within the Projects, as it pertains to your**
11 **testimony?**

12 A. Yes. The following Avoidance Areas identified in N.D. Admin. Code § 68-06-08-01(3)
13 are present within the Wind Project: historic farmsteads and cemeteries, and woodlands
14 and wetlands. As I have testified above, Northern Divide Wind has avoided impacts to
15 these Avoidance Areas. In addition, as I testified in Section V, the Wind Project complies
16 with the Commission's sound criteria in N.D. Admin. Code § 68-06-08-01(4).

17 In addition, of the Avoidance Areas identified in N.D. Admin. Code § 68-06-08-
18 02(2) for transmission facilities, the following are present within the Transmission Project:
19 historic farmsteads and cemeteries. Northern Divide Wind has avoided impacts to these
20 areas, as described in my testimony.

21 **Q51. Please address the Commission's Selection Criteria.**

22 A. Of the Commission's Selection Criteria in N.D. Admin. Code §§ 69-06-08-01(5) and 69-
23 06-08-02(3), Northern Divide Wind anticipates no significant adverse effects.¹⁰ As it
24 pertains to my testimony, there will be minimal adverse impacts to animal health and safety
25 for the reasons discussed at length herein, and as testified by Mr. Derby. Northern Divide
26 Wind will implement measures to avoid and minimize adverse effects to wildlife by siting
27 infrastructure in agricultural areas to the maximum extent practicable, and through various
28 avoidance strategies including siting turbines at least one-quarter mile from active raptor

¹⁰ Table 3-3 in Exhibits 1 and 2 (Wind Project and Transmission Project Applications, respectively).

1 nests and one-half mile from leks. In addition, Northern Divide Wind will implement a
2 WCS, a WRRS, and whooping crane curtailment procedures.

3 There will be minimal impact to native plant life due to siting the Projects
4 predominantly in cropland and broken grassland. Impacts to trees and shrubs will be
5 avoided when possible and replaced according to the Commission's Tree and Shrub
6 Mitigation Specifications when removal is required. The Projects will have minimal,
7 visual impacts to recreational programs and facilities, as the Projects will be visible to
8 landowners and travelers along roadways. However, existing transmission lines, oil and
9 gas well pads, and associated access roads are already present in the viewshed.

10 **Q52. Please address the Commission's Policy Criteria.**

11 A. My testimony addresses how the Projects comply with the Commission's Policy Criteria
12 related to monitoring of impacts, in N.D. Admin. Code §§ 69-06-08-01(6) and 69-06-08-
13 02(4). Northern Divide Wind sited the Project to avoid and minimize impacts to the
14 greatest extent possible. During construction, environmental inspectors will be present
15 onsite to monitor impacts and enforce the conditions of the permit. Construction staff will
16 undergo training prior to starting work, such as how to interpret constraints maps, how to
17 recognize species like whooping cranes and eagles, and a communication protocol if a nest
18 is found. Northern Divide Wind will implement a WCS, a WRRS, and a whooping crane
19 curtailment procedure once wind turbine construction is complete. Trees and shrubs will
20 be replaced and monitored according to the Commission's Tree and Shrub Mitigation
21 Specifications. Northern Divide Wind also will conduct one year of post-construction bird
22 and bat mortality monitoring in adherence with Tier 4 of the USFWS's WEGs, as I
23 described above.

24 **Q53. Are any local, state, or federal environmental permits or approvals needed for the**
25 **Projects?**

26 A. As of the date of this testimony, the only other environmental permit or approval that
27 Northern Divide Wind needs to obtain is a *National Pollutant Discharge Elimination*
28 *System Permit: General Construction Storm Water* administered by the North Dakota
29 Department of Environmental Quality. Northern Divide Wind will obtain this permit prior
30 to construction.

1 VII. Conclusion

2 Q54. In your opinion, has Northern Divide Wind sited the Projects in a manner so that the
3 location and operation will produce minimal adverse effects on the environment,
4 wildlife, and upon the welfare of the citizens of North Dakota?

5 A. Yes.

6 Q55. In your opinion, are the Projects compatible with the environmental preservation and
7 the efficient use of resources?

8 A. Yes.

9 Q56. Does this conclude your testimony?

10 A. Yes.

ATTACHMENT 1

WILDLIFE AGENCY COORDINATION SUMMARY

Since July 8, 2019, Northern Divide Wind, LLC (Northern Divide Wind), a wholly owned and indirect subsidiary of NextEra Energy Resource, LLC (NextEra), has maintained dialogue with the North Dakota Game and Fish Department (“NDGFD”) and U.S. Fish and Wildlife Service (“USFWS”) to discuss additional avoidance, minimization, and offset measures that could be applied to address concerns identified with the formerly proposed Burke County Wind Energy Center and 345-kV Transmission Line (the “Burke Project”). This dialogue has been beneficial in designing the currently proposed Northern Divide Wind Energy Center (NDW Wind Project) and 345-kV Transmission Line (NDW Transmission Project, and together with the NDW Wind Project, the “NDW Project”) to have minimal environmental impact, as acknowledged in a NDGFD letter dated, November 19, 2019. Furthermore, Northern Divide Wind and NDGFD have executed a Memorandum of Understanding (“MOU”) related to the agreed-upon habitat offsets.

The following summarizes noteworthy correspondence between NextEra, Northern Divide Wind, the USFWS; the NDGFD; AECOM; and Western EcoSystems Technology, Inc. (“WEST”) regarding the Burke Project and NDW Project.

July 8, 2019	Meeting between NextEra and NDGFD — discuss additional avoidance, minimization, and offset measures that could be applied to the Burke Project that would facilitate advancing a project in Burke County. Discussion topics included relocating the 11 most eastern turbines, avoiding high density (>20 pairs/sq.mi.) pintail duck areas, avian displacement models and offsets, and commitments to avoid further development in the Northern Missouri Coteau. NDGFD offered to evaluate any proposed wind turbine array using a USFWS waterfowl displacement decision support tool (USFWS Waterfowl DST).
July 10, 2019	NDGFD to NextEra — documents related to, and contact information to obtain, the USFWS Waterfowl DST. NextEra to NDGFD — geospatial files of a proposed NDW Wind Project turbine array.
July 15, 2019	NextEra to NDGFD — updated geospatial files of a proposed NDW Wind Project turbine array.
July 16, 2019	AECOM provided geospatial files to, and requested wetland and grassland easements from, the USFWS Crosby Wetland Management District (WMD). The geospatial files were for an area encompassing the then proposed NDW Wind Project.
July 19, 2019	NDGFD to NextEra — notification that all the information NextEra had shared to-date was also provided to the USFWS.
July 22, 2019	USFWS WMD to AECOM — wetland and grassland easement data.

July 24, 2019	Teleconference between NextEra, NDGFD, USFWS, AECOM, and WEST – discuss the NDW Wind Project July 10 turbine array, avian displacement offsets, offset providers, commitments to avoid further development in the Northern Missouri Coteau, and schedule for prospective permitting with the North Dakota Public Service Commission (“Commission”).
July 25, 2019	NDGFD to NextEra and USFWS – NDGFD’s analysis of the NDW Wind Project July 10 turbine array as it related to native habitat impacts and habitat offsets for avian displacement. NDGFD confirmed the array avoided direct impacts to wetlands and native, unbroken grassland.
Aug. 5, 2019	AECOM to USFWS WMD – requested an update to the previously received wetland and grassland easements.
Aug. 6, 2019	USFWS WMD to AECOM – wetland and grassland easement data.
Aug. 7, 2019	NextEra to NDGFD and USFWS – updates, including (1) the formal designation of the project as “Northern Divide,” (2) notes from the July 24 meeting, (3) a new NDW Wind Project turbine array, (4) changes to the NDW Transmission Project, and (5) status of discussions with offset providers.
Aug. 19, 2019	Per Section 69-06-01-05 of the North Dakota Administrative Code, Northern Divide Wind formally notified the NDGFD and USFWS, via email, of the NDW Project.
Aug. 28, 2019	Meeting between NextEra and NDGFD – provide a status update on multiple projects, including the NDW Project, and to generally discuss habitat offset expectations.
Sept. 12, 2019	NDGFD to AECOM (copying USFWS and Commission) – letter in response to the August 19, 2019, notification.
Sept. 16, 2019	Northern Divide Wind to NDGFD and USFWS – draft voluntary offset proposal for review.
Sept. 17, 2019	In-person meeting and teleconference between Northern Divide Wind, NDGFD, and USFWS – draft voluntary offset proposal. Northern Divide Wind to NDGFD and USFWS – NDW Wind Project turbine array used to develop the draft voluntary offset proposal.
Sept. 18, 2019	Northern Divide Wind to USFWS – copy of NextEra's internal guidance document for whooping crane curtailment procedures. Northern Divide Wind to NDGFD and USFWS – links to the Power Line Sentry bird flight diverters proposed for the NDW Transmission Project.
Oct. 1, 2019	Northern Divide Wind to NDGFD (copying USFWS) – response to NDGFD’s letter dated September 12, 2019, wherein Northern Divide Wind presented their voluntary offsets.
Oct. 2, 2019	NDGFD to Northern Divide Wind – draft MOU related to Northern Divide Wind’s draft offset proposal.
Oct. 4, 2019	USFWS to Northern Divide Wind – updated Avian Impact Offset Method (AIOM) DST that corrected errors.
Oct. 15, 2019	USFWS WMD to AECOM – requested a proposed turbine layout and other infrastructure for review.
Oct. 18, 2019	AECOM to USFWS WMD – shapefiles of the preliminary unofficial NDW Wind Project turbine array and construction easement.

Oct. 23, 2019	Northern Divide Wind to NDGFD (copying USFWS) — revision to the Oct. 1, 2019, response letter that accounted for the AIOM DST released on Oct. 4, 2019.
Oct. 25, 2019	NDGFD to Northern Divide Wind (copying USFWS) — commendation email for revising the offset proposal.
Nov. 19, 2019	NDGFD to Northern Divide Wind (copying USFWS) — letter acknowledging Northern Divide Wind’s avoidance, minimization, and offset measures.
Dec. 11, 2019	Northern Divide Wind to NDGFD and USWFS — email informing that the Commission had docketed the respective NDW Project applications, providing links to the docketed applications, and noting that Appendix B of each application contained the wildlife reports.
Dec. 2019 through Mar. 2020	Northern Divide Wind and NDGFD — ongoing communications related to the NDW Project, MOU, and NDGFD’s draft offset guidelines.
Mar. 12, 2020	Northern Divide Wind and NDGFD — execute Cooperative Agreement and MOU.

ATTACHMENT 2

NORTHERN DIVIDE WIND, LLC MITIGATION MEASURES

General Environmental

1. Site turbines, access roads, and associated facilities off public recreational lands.
2. Light turbines in accordance with Federal Aviation Administration and North Dakota Public Service Commission (“Commission”) requirements.
3. Provide contractors with static constraint maps and ensure compliance through onsite environmental construction monitoring.

Wetlands

4. Avoid all impacts, including temporary impacts from underground collection by boring.
5. Maintain appropriate water and soil conservation practices during construction through the implementation of best management practices. These practices include silt fencing, temporary reseeding, permanent seeding, mulching, filter strips, erosion blankets, grassed waterways and sod stabilization.

Native Prairie/Unbroken Grassland

6. Avoid all direct, permanent impacts from turbines, roads, meteorological towers, and substations.
7. Coordinate with local Natural Resource Conservation Services staff to revegetate non-cropland and pasture areas temporarily disturbed during construction or operation of the wind facility with locally sourced native seed mixes appropriate to the region.
8. Coordinate with the North Dakota Department of Trust Lands on a locally sourced native seed mix for any Project impacts on their lands.
9. Reseed temporarily disturbed areas or restore to crop, based on the conditions of the area prior to construction and based on landowner preference.
10. Develop and implement a noxious weed prevention plan.

Woodlands

11. Avoid placement of turbines in previously undisturbed shrub/scrub vegetation types that may provide additional habitat for breeding birds.
12. Protect existing trees and shrubs by avoiding tree removal for turbines, access roads, and underground collector lines or if removal is necessary, replace following the Commission’s Tree and Shrub Mitigation Criteria.

General Wildlife

13. Conduct one (1) year of post-construction monitoring (PCM) to better understand bird and bat impacts that are attributable to operations with reporting to be shared with both NDGFD and the USFWS.
14. Following the PCM, implement a Wildlife Response and Reporting System (WRRS) that includes reporting protocols to report and document bird and bat mortality during routine maintenance activities. If any dead or injured birds or bats are found, its location

- will be marked and reported to the Plant Lead/Site Supervisor. The dead or injured bird or bat will not be removed from the location it was found.
15. Implement a voluntary Wildlife Conservation Strategy (WCS), which includes an adaptive management approach, so that information gathered during PCM can be used to inform future management decisions at the Project.
 16. Implement a 25 mph speed limit on Project roads to minimize wildlife collisions.

Avian

17. Provide voluntary offsets for indirect waterfowl and grassland bird displacement.
18. Bury collection lines from the turbines to the collection substation to avoid collision risk in accordance with the Avian Power Line Interaction Committee (APLIC) suggested practices.
19. Design utility lines according to APLIC guidelines to prevent bird collision, as practicable.
20. Implement pad-mounted transformers to reduce risk of bird electrocution.
21. Site turbines at least 0.25 mile from active raptor nests and 0.5 mile from leks.
22. Avoid construction to the extent practicable within 0.5 mile of known sharp-tailed grouse lek locations during the lekking and breeding season (April to July).
23. Avoid construction to the extent practicable with 0.25 mile of active raptor nest locations during the nesting season (March to July).
24. Construct wind turbines using tubular, monopole towers as opposed to a lattice structure, to minimize perching opportunities for raptors and other birds.
25. If any raptor nest is discovered during construction, the nest will be monitored to determine if there is a change in the nest activity status in order to avoid impacts that might have the potential to precipitate nest abandonment.

Threatened and Endangered Species (Whooping Cranes and Dakota Skipper)

26. Given the Project's location within the USFWS North American whooping crane corridor, implement NextEra Energy Resources' internal guidance document determining whooping crane curtailment triggers during migratory periods as part of the WCS. These curtailment steps include shutting down all operational turbines when a whooping crane is identified within one (1) mile of the Project Area, with the turbines remaining shut down for 15 minutes following the departure of the whooping crane or until the whooping crane is observed moving away.
27. Provide the appropriate whooping crane identification guide materials to be in all Project maintenance and operations vehicles for reference.
28. Field-verified suitable Dakota skipper habitat has been and will continue to be avoided. High visibility fencing (*e.g.*, snow fence) will be placed around field-verified suitable Dakota skipper habitat areas in close proximity to construction that are to be avoided to restrict construction equipment from disturbing these areas.
29. No construction will occur during the Dakota skipper adult flight period (between June 15 and July 18) in areas proximal to field-verified Dakota skipper dispersal or foraging habitat.
30. Provide contractors with training, spatial data and static constraints maps that identify where field-verified suitable Dakota skipper habitat is located and where construction equipment is restricted.

31. Educate construction contractors about threatened and endangered species and associated mitigative measures being implemented for each respective species.
32. Mark overhead transmission lines with bird flight diverters in keeping with APLIC guidelines.