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June 29, 2017

VIA U.S. MAIL AND EMAIL

Mr. Darrell Nitschke
Executive Director
NORTH DAKOTA PUBLIC SERVICE COMMISSION
600 E. Boulevard Avenue, Dept. 408
Bismarck, ND 58505-0480
dnitschk@nd.gov



**Re: Glacier Ridge Wind Farm, LLC
PU-16-539**

Dear Mr. Nitschke:

On behalf of Glacier Ridge Wind Farm, LLC, we hereby submit the Proposed Findings of Fact, Conclusions of Law and Order in the above-referenced matter for Phase II of the project.

Very truly yours,

/s/ Sara E. Bergan
Sara E. Bergan

SEB:cal
Enclosure

cc: Jerry Lien
Zachary Pelham
Patrick Ward
Anne-Marie Griger
Matt Boys
Sean Flannery

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Proposed Findings of Fact, Conclusions of Law and Order

Glacier Ridge Wind Farm, LLC
Sara Bergan, Stoel Rives, LLP

**STATE OF NORTH DAKOTA
PUBLIC SERVICE COMMISSION**

Glacier Ridge Wind Farm Application for
Certificate of Site Compatibility

CASE NO. PU-16-539

FINDINGS OF FACT, CONCLUSIONS OF LAW AND ORDER

_____, 2017

Appearances

Commissioners Randy Christmann, Julie Fedorchak, and Brian Kroshus.

Sara Bergan, Esq. and Andrew Pieper, Esq., Stoel Rives LLP, 33 South Sixth Street, Suite 4200, Minneapolis, Minnesota 55402, on behalf of the Applicant, Glacier Ridge Wind Farm, LLC.

Zachary E. Pelham, Special Assistant Attorney General, 314 East Thayer Avenue, Bismarck, North Dakota 58502, on behalf of the North Dakota Public Service Commission.

Patrick J. Ward, Administrative Law Judge, Office of Administrative Hearings, 2911 North 4th Street, Suite 303, Bismarck, North Dakota 58503, as Procedural Hearing Officer.

Preliminary Statement

On December 7, 2016, the North Dakota Public Service Commission (Commission) issued Certificate of Site Compatibility Number 51 to Glacier Ridge Wind Farm, LLC (Glacier Ridge or Applicant) designating a site for Phase I of the Glacier Ridge Wind Farm Project in Barnes County (Phase I). In that Order issuing Certificate of Site Compatibility Number 51 (Phase I Order), the Commission also granted Glacier Ridge's Motion to Amend the Application to Bifurcate the Project Area and Stay Decision on Phase II.

On January 30, 2017, Glacier Ridge filed a Motion to Lift the Stay with Respect to a Decision on Phase II (Motion), requesting that the Commission lift the stay on Phase II and approve Phase II of the Project.

On May 3, 2017, Glacier Ridge filed a Notice of Correction updating and correcting Attachment I to its Motion.

On May 19, 2017, the Commission issued a Notice of Opportunity for Hearing (Notice), setting a deadline for written comments and requests for hearing of June 23, 2017.

On June 22, 2017, Glacier Ridge filed an Updated Attachment I reflecting revisions to the Phase II project area based on conversations with local landowners that resulted in additional land agreements being executed after the Notice was issued.

The Notice identified the following issues to be considered with respect to the Motion:

1. Will the location and operation of the proposed facilities produce minimal adverse effects on the environment and upon the welfare of the citizens of North Dakota?
2. Are the proposed facilities compatible with the environmental preservation and the efficient use of resources?
3. Will the proposed facility locations minimize adverse human and environmental impact while ensuring continuing system reliability and integrity and ensuring that energy needs are met and fulfilled in an orderly and timely fashion?

Having allowed all interested persons an opportunity to be heard and having heard, reviewed, and considered all testimony and evidence presented, the Commission makes the following findings of fact:

FINDINGS OF FACT

1. Glacier Ridge is a Delaware limited liability company and a subsidiary of Renewable Energy Systems Americas, Inc. Glacier Ridge has been authorized to do business in the State of North Dakota since June 11, 2009, as evidenced by corporate papers filed with the Commission on July 27, 2016, in Case No. PU-16-555.
2. Glacier Ridge has been issued Certificate of Site Compatibility Number 51, designating a site for Phase I. Glacier Ridge now proposes to begin Phase II of the Project. Together, Phase I and II of the Project will consist of 87 turbines and 12 alternates, for a total of 300.15 MW.
3. Phase II will add 35 turbines (120.75 MW) to the Project. There are also 9 proposed alternate turbine locations in Phase II for a total of 12 alternate locations in the entire Project.
4. Glacier Ridge expects to use Vestas V126 3.45 MW generators for both Phase I and Phase II.
5. Associated facilities to be located within Phase II will include access roads and underground electrical collection and communication cables.
6. The anticipated cost of Phase II is \$173 million, with the total Project cost estimated at \$375 million.
7. The Phase II Project Area will be 11,804 acres, bringing the total Project Area to 25,039 acres.

Study of the Preferred Location

8. Glacier Ridge evaluated the Phase II footprint for natural resources, including wildlife, protected species and critical habitats, wetlands and waterbodies, vegetation and soil types

9. Glacier Ridge conducted a Class I cultural resources desktop study on the Phase II footprint and on a one-mile area surrounding the Phase II footprint for archaeological resources.
10. Glacier Ridge conducted a Class I cultural resources desktop study on a two-mile area surrounding the complete turbine layout for architectural resources.
11. Glacier Ridge conducted a Class III resources field inventory for archaeological and architectural resources on areas to be disturbed by construction within the Phase II footprint as indicated in Table 1-3 of Hearing Exhibit 1 (Survey Area).
12. Glacier Ridge conducted eagle and avian use studies, raptor nest surveys, and bat acoustic modeling for Phase II.
13. Glacier Ridge conducted a shadow flicker analysis for Phase II. Predicted shadow flicker above 30 hours per year was estimated at one receptor; the owner of this residence (R119) has signed a waiver for shadow flicker impacts from the Project.
14. Glacier Ridge conducted acoustic modeling for Phase II. Predicted sound levels are less than 50 decibels within 100 feet of occupied residences within 1 mile of proposed turbines in Phase II.
15. No objections to Phase II of the Project were raised by any federal or state agencies.
16. Up to 4 permanent self-supporting meteorological towers will be installed in Phase II. The precise locations of these towers will be determined at a later date.
17. The estimated permanent footprint for Phase II is 35.5 acres, or 0.33% of the Phase II Project Area. This includes 7.0 acres for 35 turbines, 28.4 acres of new service roads, and negligible acreage for junction boxes and four meteorological towers. The total estimated permanent impact of the Project is expected to be 92 acres as stated in the initial application.
18. The estimated permanent impact to prime farmland from construction of Phase II is approximately 29 acres, or 0.25 percent of the Phase II Project Area. When combined with the 41 acres in Phase I, the estimated permanent impact to prime farmland for the full project is 70 acres or less than 0.3 percent of the full Project Area. The Commission finds that the prime farmland expected to be removed from use is of such small acreage as to have a negligible impact on agricultural production.
19. Glacier Ridge's Class III cultural resource inventories identified four archeological resources and three site leads. Avoidance was recommended for two of the sites, both of which are Native American artifact scatters and will be avoided during Project Construction. The State Historical Society of North Dakota has concurred with the cultural resource inventories.
20. There are no other Exclusion Areas located in the Phase II Project Area.

21. Wetlands are present within the Phase II footprint. Glacier Ridge testified that wetlands under easement to the USFWS will be avoided. Impacts to other wetlands will be avoided or minimized as practicable.
22. Trees and shrubs are located within the Phase II footprint. Phase I and Phase II will be constructed to minimize impacts to trees and shrubs to the extent practicable. All trees and shrubs removed during construction will be replaced in accordance with the Commission's tree and shrub mitigation specifications.
23. No other Avoidance Areas are present within the Phase II footprint.
24. Glacier Ridge has agreed to a number of steps to mitigate the impact of Phase II as contained in the Certification Relating to Order Provisions - Wind Energy Conversion Facility Siting with accompanying Tree and Shrub Mitigation Specifications filed in this proceeding as Exhibit 34 and attached to the Phase I Order.
25. All parcels within the Project Area are owned by participants in the Glacier Ridge Wind Farm.
26. Glacier Ridge has indicated that a supervisory control and data acquisition system will be installed for Phase I and Phase II, which will allow turbines to be continuously monitored and controlled at a control center located in Broomfield, Colorado.
27. There are no eagle nests within 10 miles of Phase II and Glacier Ridge has committed to continued coordination with the USFWS and the NDGFD concerning eagles in order to mitigate impacts to eagles for the life of the Project.
28. Glacier Ridge has obtained all land rights necessary to construct Phase I and Phase II.
29. Glacier Ridge will file a decommissioning plan with the Commission prior to the operation of either Phase I or Phase II.

From the foregoing Findings of Fact, the Commission makes its:

CONCLUSIONS OF LAW

1. The Commission has jurisdiction over this proceeding under North Dakota Century Code Chapter 49-22.
2. The wind energy conversion facility proposed by Glacier Ridge is an energy conversion facility as defined in North Dakota Century Code § 49-22-03(5).
3. The application submitted by Glacier Ridge meets the site evaluation criteria required by the North Dakota Century Code Chapter 49-22.
4. The location, construction and operation of the Project will produce minimal adverse effects on the environment and upon the welfare of the citizens of North Dakota and is

otherwise compatible with the environmental preservation and the efficient use of resources.

5. The proposed energy conversion facility location will minimize adverse human and environmental impact while ensuring continuing system reliability and integrity and ensuring that energy needs are met and fulfilled in an orderly and timely fashion.
6. The Commission has jurisdiction to ensure compliance with the National Electric Safety Code standards in the construction and operation of the proposed energy conversion facility.

From the foregoing Findings of Fact and Conclusions of Law, the Commission now makes its:

ORDER

The Commission orders:

1. Glacier Ridge's Motion is granted; the Commission approves Phase II of the Project; and Glacier Ridge is issued a First Amended Certificate of Site Compatibility for Energy Conversion Facility, Certificate No. 51 for the construction, operation and maintenance of the Glacier Ridge Wind Project. The designated site is depicted in Attachment I as Phase I Project Area and Proposed Project Area - Phase II of the Motion, as updated on June 22, 2017 in this proceeding.
2. Within the designated site, Glacier Ridge is authorized to site, construct, operate, and maintain wind turbines and associated equipment, access roads, an operation and maintenance building, a substation, permanent meteorological towers, and a system of underground collection lines and communication cables, as well as any other associated facilities identified in the Application, at the hearing and in supplemental filings.
3. Glacier Ridge is authorized to construct up to 87 turbines producing a total nameplate capacity of 300.15 MW within the designated site; along with associated access roads, underground electrical collection systems and communications cables, and a combined substation/operations and maintenance building.
4. In the event the Phase II Project layout is modified, Glacier Ridge shall complete a Class III cultural resource survey for any previously unsurveyed areas affected by the Project-related activities, in accordance with the SHSND guidance, and shall submit cultural resource findings to SHSND for review and obtain and file a copy of SHSND's response with the Commission prior to beginning construction in affected areas.
5. In the event the Phase II Project layout is modified, Glacier Ridge shall complete a wetland determination of any previously unsurveyed areas affected by the Project-related activities, as necessary, and file the report with the Commission.
6. Glacier Ridge shall locate turbines such that shadow flicker at any currently inhabited residence is 30 hours or less per year, unless otherwise agreed to by the landowner.

7. In the event Phase II Project modifications occur that would change its existing acoustic or shadow flicker analysis, Glacier Ridge shall conduct a revised acoustic and/or shadow flicker analysis as necessary and file the results of that analysis with the Commission.
8. Subject to approval by the Federal Aviation Administration approval, Glacier Ridge shall use commercially reasonable efforts to install an Aircraft Detection and Lighting System or other technology suitable to the Commission as soon as practicable after commercial operation. Glacier Ridge shall provide updates to the Commission as to the proposed lighting system and associated federal approval status on a quarterly basis, to begin three months after the date of this Order.
9. All provisions and requirements of the Phase I Order continue to apply except where altered by this Order.
10. To the extent that there are any conflicts or inconsistencies between Glacier Ridge's application in this proceeding and the Certification, the Certification provisions control.

PUBLIC SERVICE COMMISSION

Brian Kroshus
Commissioner

Randy Christmann
Chairman

Julie Fedorchak
Commissioner