

STATE OF NORTH DAKOTA
PUBLIC SERVICE COMMISSION

**Northern States Power Company
Border Winds Energy Project – Rolette County
Siting Application**

Case No. PU-22-173

ORDER

October 27, 2022

Preliminary Statement

On May 5, 2011, in Case No. PU-08-797, the Commission issued its Findings of Fact, Conclusions of Law and Order issuing Certificate of Site Compatibility Number 21 to Sequoia Energy US, Inc. designating a location for the construction, operation and maintenance of an up to 150 MW Border Winds Energy Project in Rolette County, North Dakota.

On April 9, 2014, in Case No. PU-14-31, the Commission issued an Order, approving a request for a turbine model change and resulting layout changes, granting the request to transfer Certificate of Site Compatibility No. 21 to Border Winds Energy, LLC, and issuing First Reissued and First Amended Certificate of Site Compatibility No. 21 to Border Winds Energy, LLC.

On August 20, 2014, in Case No. PU-13-743, the Commission issued Certificate of Public Convenience and Necessity No. 5842 to Northern States Power Company (NSP) authorizing the purchase and operation of the Project.

On January 10, 2018, in Case No. PU-17-362, the Commission issued Second Reissued First Amended Certificate of Site Compatibility Number 21 to NSP.

On January 10, 2018, in Case No. PU-17-362, the Commission issued an Order, approving the transfer of Certificate of Site Compatibility No. 21 from Border Winds Energy, LLC to NSP and issued the Second Reissued First Amended Certificate of Site Compatibility No. 21 to NSP.

On March 31, 2022, in Case No. PU-22-173, NSP filed an Application to Amend Orders and Certification relating to N.D.C.C. § 49-03-03(a)(4) stating that it intends to improve the turbines operating at the Project by replacing the existing Vestas V100-2.0 blades, hub, gearbox, pad mount transformer, and generator with a new repower package of Vestas V110-2.2 blades, hub, gearbox, pad mount transformer, and generator (Repower Project). The total nameplate generating capacity of the Repower Project will be 165 MW, but NSP will limit the output at the point of interconnection to 150 MW in accordance with its Generator Interconnection Agreement (GIA).

On May 4, 2022, the Commission issued a Notice of Filing and Notice of Opportunity for Hearing, requesting comments and requests for hearing by June 8, 2022. The Notice identified the following issues to be considered:

1. Will the location, construction, 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?

On June 2, 2022, the State Historical Society of North Dakota (SHSND) filed comments on the Application.

On June 13, 2022, NSP filed additional correspondence from SHSND.

On June 29, 2022, the Commission held an Informal Hearing to discuss the application with NSP.

On August 10, 2022, NSP filed supplemental information regarding serrated trailing edge (STE) technology and NSP's plans for disposal of turbine components removed during the repowering of the Project. NSP also filed additional SHSND correspondence.

On October 10, 2022, NSP filed a concurrence letter from the SHSND and a proposed Order.

Discussion

1. NSP is a public utility authorized to conduct business in North Dakota. NSP provides retail electric service in North Dakota.
2. NSP currently owns and operates 75 Vestas V100-2.0 MW turbines at the project site, with a nameplate capacity of 150 MW.
3. NSP proposes to improve the 75 turbines at the Project by replacing the current turbine technology (Vestas V100-2.0 MW turbines) with new technology (Vestas V110-2.2 MW turbines). The Repower Project will consist of removing and replacing the existing Vestas V100-2.0 blades, hub, gearbox, pad mount transformer, and generator with a new repower package of Vestas V110-2.2 blades, hub, gearbox, pad mount transformer, and generator. Replacing these mechanisms may require full nacelle replacement. The total nameplate generating capacity of the Repower Project will be

165 MW, but NSP will limit the output at the point of interconnection to 150 MW in accordance with its GIA.

4. NSP requests that the Commission amend its 2011 Order (Case No. PU-08-797), as amended in the 2014 Order (Case No. PU-14-31), and the 2018 Order (Case No. PU-17-362), along with the Second Reissued First Amended Certificate No. 21, to remove the designated nameplate megawatt limitation.

5. All 75 of the Vestas V110-2.2 turbines will reuse all 75 of the existing 95 meter (311.7 feet) structural steel towers and, as a result, turbine locations will not change. NSP plans to use the existing turbine foundations (with reinforcement, if needed), collection and communications systems, permanent access roads, and Project substation (with upgrades to accommodate the repower technology, as needed). Other associated facilities will remain unchanged.

6. The hub height of the turbines will remain at 95 meters (311.7 feet); however, the installation of new blades will increase the rotor diameter from 100 meters (328.1 feet) to 110 meters (360.9 feet).

7. Existing access roads will be temporarily widened during installation of the repowering technology to accommodate delivery and staging of components and equipment. Temporary crane paths may also be needed to facilitate equipment removal and installation. A temporary laydown yard located near the existing operations and maintenance building will also be used during installation. Temporarily impacted areas will be restored in compliance with applicable provisions of the Commission's 2011 Order (Case No. PU-08-797).

8. The repowering activities will occur wholly within the site designated by the Commission for the Project.

9. NSP conducted a new sound assessment. Initial modeling (with standard edge blades) determined that the sound may exceed 45 dBA within 100 feet of six occupied residences. To address this issue, STE blades were added to 10 turbines (T11, T15, T16, T17, T18, T19, T37, T57, T58, and T60). With this modification, sound levels for the Repower Project do not exceed 45 dBA within 100 feet of any occupied residence or community building.

10. NSP also completed a shadow flicker assessment. Shadow flicker levels from the Repower Project will be 30 hours per year or less at all occupied residences.

11. NSP performed Class I cultural resource literature reviews and Class III cultural resource surveys. SHSND's July 14, 2022 letter confirms that no significant sites will be affected provided the Repower Project occurs in the location and manner described.

12. NSP provided information regarding its plan for disposal of turbine components removed in connection with the Repower Project. Options for disposal of blades and hub

spinners include waste-to-energy, reuse or recycling. NSP will not dispose of blades or hub spinners at the Repower Project site.

13. The Commission's 2011 Order (Case No. PU-08-797) predates the Commission's current wind facility setback rules.

14. Turbine T-57 does not meet the current exclusion area of one and one-tenth the height of the turbine from the property line of a nonparticipating landowner. However, NSP plans to obtain a written waiver from the affected nonparticipating landowner, and requests that the Commission grant a variance of the nonparticipating property line setback conditioned on obtaining and filing a copy of the written waiver with the Commission prior to installation of repower technology on Turbine T-57. Absent receipt of a waiver, NSP shall not install repower technology at Turbine T-57.

15. Repower Project construction will not affect any known Exclusion or Avoidance Areas.

16. NSP will continue to comply with all applicable conditions and protections in the siting laws and rules and Commission Orders previously issued for the Project.

17. The construction, operation and maintenance of the proposed facilities at the site designated for the Repower Project will produce minimal adverse effects on the environment and upon the welfare of the citizens of North Dakota.

18. The proposed facilities at the site designated for the Repower Project are compatible with the environmental preservation and the efficient use of resources.

19. The proposed facility locations at the site designated for the Repower Project 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.

Having considered this matter, the Commission finds that the 2011 Order (Case No. PU-08-797), as amended in the 2014 Order (Case No. PU-14-31), and 2018 Order (Case No. PU-17-362), along with the Second Reissued First Amended Certificate No. 21 should be amended to remove the 150 MW nameplate capacity limitation. Therefore, the Commission issues the following:

Order

The Commission Orders:

1. The Commission's 2011 Order (Case No. PU-08-797), as amended in the 2014 Order (Case No. PU-14-31) and 2018 Order (Case No. PU-17-362), is amended to remove the 150 MW nameplate capacity limitation.

2. Second Amended Third Reissued Certificate of Site Compatibility No. 21 is issued to Northern States Power Company for the construction, operation and maintenance of a wind energy conversion facility and associated facilities in Rolette County, North Dakota.

3. A variance of the nonparticipating property line exclusion area of one and one-tenth the height of the turbine is granted for Turbine T-57 conditioned upon NSP filing with the Commission a copy of a written waiver from the affected landowner prior to installation of repower technology on Turbine T-57.

4. NSP will dispose of turbine components in accordance with the disposal plan outlined in NSP's Supplemental Information: Disposal of Removed Turbine Components, filed August 10, 2022. If solid waste disposal occurs in North Dakota, it shall be at a disposal facility permitted by the North Dakota Department of Environmental Quality – Division of Waste Management.

5. All applicable provisions and requirements in the Commission's May 5, 2011, Findings of Fact, Conclusions of Law and Order in Case No. PU-08-797, the Commission's April 9, 2014 Order in Case No. PU-14-31, and the Commission's January 10, 2018, Order in Case No. PU-17-362 continue to apply except where altered by this Order.

PUBLIC SERVICE COMMISSION


Randy Christmann
Commissioner


Julie Fedorchak
Chair


Sheri Haugen-Hoffart
Commissioner

PUBLIC SERVICE COMMISSION
STATE OF NORTH DAKOTA

Second Amended Third Reissued
Certificate of Site Compatibility Number 21

This is to certify that the Commission has designated an energy conversion facility site for Northern States Power Company for the construction, operation, and maintenance of a wind energy conversion facility and associated facilities in Rollete County, North Dakota.

The facility may be sited in this designated location in compliance with the energy conversion facility siting criteria. This Certificate is issued in accordance with the May 5, 2011, Findings of Fact, Conclusions of Law and Order in Case No. PU-08-797, amended by the Commission's April 9, 2014 Order in Case No. PU-14-31, amended by the Commission's January 10, 2018, Order in Case No. PU-17-362, and amended by the Commission's October 27, 2022 Order in Case No. PU-22-173 and is subject to the conditions and limitations noted in those Orders.

Bismarck, North Dakota, October 27, 2022.

ATTEST:

PUBLIC SERVICE COMMISSION



Executive Secretary



Commissioner