

STATE OF NORTH DAKOTA
PUBLIC SERVICE COMMISSION

Thunder Spirit Wind, LLC
150 MW Wind Energy Project- Adams County
Siting Application

Case No. PU-11-601

AFFIDAVIT OF SERVICE REGULAR OR ELECTRONIC MAIL

STATE OF NORTH DAKOTA
COUNTY OF BURLEIGH

Jen Lein deposes and says that:

she is over the age of 18 years and not a party to this action and, on the 10th day of **October, 2013**, she deposited in the United States Mail, Bismarck, North Dakota, 4 envelopes by first class mail, fully prepaid and 23 addressees electronically mailed a copy of:

Order

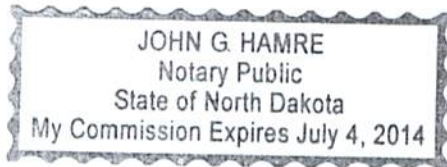
The envelopes and electronic mails respectively were addressed as follows:

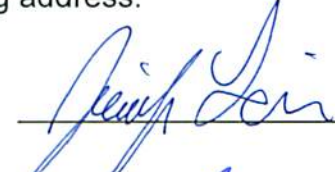
See attached list.

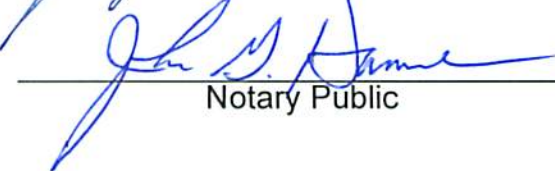
Each post office address shown is the respective addressee's last reasonably ascertainable post office address and each email address is the respective addressee's last reasonably ascertainable electronic mailing address.

Subscribed and sworn to before me
this 10th day of **October, 2013**.

SEAL







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**STATE OF NORTH DAKOTA
PUBLIC SERVICE COMMISSION**

**Thunder Spirit Wind, LLC
150 MW Wind Energy Project - Adams County
Siting Application**

Case No. PU-11-601

FINDINGS OF FACT, CONCLUSIONS OF LAW AND ORDER

October 9, 2013

Appearances:

Commissioners Brian P. Kalk, Randy Christmann and Julie Fedorchak.

Wade C. Mann, Attorney at Law, Crowley Fleck PLLP, 400 East Broadway, Suite 600, Bismarck, North Dakota 58501, on behalf of the Applicant, Thunder Spirit Wind, LLC.

Zachary E. Pelham, Special Assistant Attorney General, Pearce & Durick Law Firm, 314 East Thayer Avenue, P.O. Box 400, Bismarck, North Dakota 58502-0400, on behalf of the Public Service Commission.

Allen C. Hoberg, Administrative Law Judge, Office of Administrative Hearings, 2911 North Fourteenth Street, Suite 303, Bismarck, North Dakota 58503, as Procedural Hearing Officer.

Preliminary Statement

On August 8, 2011, Thunder Spirit Wind, LLC (Thunder Spirit) filed a Letter of Intent (LOI) to submit an application for a Certificate of Site Compatibility for a wind energy conversion facility in Adams County, North Dakota. Thunder Spirit requested in its LOI that the Commission shorten the one-year waiting period between the filing of the LOI and the filing of an application.

On September 20, 2011, the Commission shortened the one-year waiting period to five months, and assessed a filing fee of \$100,000.00.

On March 8, 2013, Thunder Spirit filed an Amended Letter of Intent (LOI) to submit an application for a Certificate of Site Compatibility for a wind energy conversion facility in Adams County, North Dakota, amending the original Letter of Intent to reflect a later proposed construction and estimated completion date.

On March 27, 2013, the Commission acknowledged the Amended Letter of Intent.

On June 4, 2013, Thunder Spirit filed an Application for a Certificate of Site Compatibility authorizing construction of the Thunder Spirit Wind Energy

Project consisting of wind turbine generators and associated facilities in Adams County, North Dakota (Application).

On June 19, 2013, the Commission deemed the Application complete conditioned on receiving final turbine locations one-week prior to hearing and issued a Notice of Filing and Notice of Hearing, scheduling a public hearing for August 9, 2013, at 9:30 a.m. MDT, at the Adams County Courthouse, 602 Adams Avenue, Hettinger, North Dakota 58639.

On August 6, 2013, Thunder Spirit filed an amendment to its application that included final proposed turbine locations. Also On August 6, 2013 the hearing scheduled for August 9, 2013 was cancelled.

On August 7, 2013, the Commission deemed the amended Application complete and issued a Notice of Filing and Notice of Rescheduled Hearing, rescheduling the public hearing for September 19, 2013, at 9:30 a.m. MDT, at the Adams County Courthouse, 602 Adams Avenue, Hettinger, North Dakota 58639. The Notice identified the following issues to be considered:

1. Will the location, construction, and operation of the proposed facilities produce minimal adverse effects upon 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 location minimize adverse human and environmental impacts while ensuring continuing system reliability and integrity and ensuring that energy needs are met and filled in an orderly and timely fashion?

On August 14, 2013, Thunder Spirit filed an executed Certification Relating to Order Provisions – Wind Energy Conversion Facility Siting and Tree and Shrub Mitigation Specifications.

On September 11, 2013, Thunder Spirit filed revisions to its final turbine site plan.

On September 19, 2013, the public hearing was held as rescheduled.

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

Findings of Fact

1. Thunder Spirit Wind, LLC is a Delaware limited liability company headquartered in Schenectady, New York and is registered to do business in the State of North Dakota.
2. Thunder Spirit proposes to construct a wind energy facility (Thunder Spirit Wind Energy Project) to be located in Adams County, North Dakota,

approximately 2 miles northeast of the City of Hettinger. The Original Project Area consists of approximately 26,867 acres (42 square miles). The wind turbines will be placed throughout the Project site.

3. Associated facilities to be constructed within the Project Area include access roads, electrical collection systems and cabling, a substation, a construction laydown area, and an approximately 0.85 mile overhead radial transmission line.

4. North Dakota Century Code § 49-22-16 provides that no energy conversion facility site shall be designated if it violates any county or city land use, zoning, building rules, regulations or ordinances. Adams County regulates zoning in the Project Area and granted a Wind Energy Facility Siting Permit for the Thunder Spirit Wind Energy Project on September 9, 2013.

5. Thunder Spirit is in negotiations with a potential customer to purchase the power produced from the Thunder Spirit Wind Energy Project but no final power purchase agreement has been executed as of the date of the hearing.

Project Design

6. The Project will have a name plate (gross) generating capacity of up to 150 MW, consisting of either up to 75 x 2-MW turbines, 65 x 2.3-MW turbines, or 50 x 3.0-MW turbines, and associated facilities. Assuming certain net capacity factors, the projected average annual output is estimated at 676,710 MW hours per year.

7. Thunder Spirit plans to use either Vestas V100 2.0 MW turbines, Siemens SWT 2.3-108 2.3 MW turbines or Acciona AW 116/3000 3.0 MW turbines. These are utility-grade wind turbines with a nominal name plate ratings ranging from 2.0 to 3.0 MW respectively. The turbines will have a hub height range of 80 to 92 meters (262-302 feet) and a rotor diameter range of 100 to 116 meters (328-380 feet). The turbines begin operation at wind speeds of 3.0 to 4.0 meters per second and reach their rated capacity at a wind speed range of 11 to 12 meters per second.

8. Each turbine is secured by a concrete foundation that can vary in design depending upon soil conditions. Turbine lighting is limited to warning lights required by the Federal Aviation Administration (FAA). A control panel inside the base of each turbine tower houses communication and electronic circuitry. Each turbine is equipped with a wind speed and direction sensor that communicates with the turbine's control system to signal when sufficient winds are present for operation. Electricity generated by each turbine is brought to a pad-mounted transformer where the voltage is stepped up to a power collection line voltage of 34.5 kV. Electricity is collected by a series of underground collection lines.

9. The underground collection line feeder system will deliver the electricity to the project substation. At the substation, the voltage will be stepped up to 230 kV for transmission. The project substation will be connected to the MDU Hettinger 230 kV Substation.

10. The site for the wind energy facility was selected as an optimal site from an environmental, wind resource, transmission and economic perspective. Thunder Spirit utilized wind data from meteorological towers located on the project site in addition to securing and analyzing information from other long-term references to aid in correlating the wind data on site. The data indicates that this is an ideal site for a wind farm.

11. Construction of the Thunder Spirit Wind Energy Project is expected to take approximately six to nine months, at a total estimated cost of \$300,000,000.00.

12. Thunder Spirit anticipates that construction could start in late 2013 or 2014 depending on the status of power purchase agreements for the electricity to be generated.

13. An Engineering, Procurement, and Construction (EPC) contractor will be retained for construction management of the project. The EPC contractor will use services of local contractors, where possible, to assist in project construction.

14. Safety factors will be incorporated into the wind turbines. Each turbine will be equipped with a Supervisory Control and Data Acquisitions (SCADA) communication technology to control and monitor the turbines. In addition, each turbine is also equipped with a lightning protection system and is grounded and shielded to protect against lightning.

15. Construction and operation of the Thunder Spirit Wind Energy Project will conform to the requirements of the National Electric Safety Code.

Siting Criteria

16. North Dakota Administrative Code Chapter 69-06-08 sets forth certain criteria to guide the Commission in evaluating the suitability of granting an application for the certificate of site compatibility. The criteria set forth in North Dakota Administrative Code § 69-06-08-01 is classified as Exclusion Areas, Avoidance Areas, Selection Criteria, and Policy Criteria. With the exception of prime and unique farm land, an energy conversion facility must not be sited within an Exclusion Area. The exception for prime and unique farm land is if the Commission finds that the prime and unique farm land that will be removed from use for the life of the facility is of such small acreage as to be of negligible impact on agricultural production, then such exclusion shall not apply. An energy conversion facility must not be sited within an Avoidance Area unless the applicant shows that under the circumstances there is no reasonable alternative. In determining whether an Avoidance Area should be designated for a facility, the Commission may consider, among other things, the proposed management of adverse impacts; the orderly siting of facilities; system reliability and integrity; the efficient use of resources; and alternate sites. In accordance with the Commission's Selection Criteria, an energy conversion facility shall be approved only if it is demonstrated that no significant adverse impacts will result from the location, construction, and operation of the facility. In accordance with the Commission's Policy Criteria, preference may be given to an applicant demonstrating certain benefits of the energy conversion facility.

17. With the exception of prime farmland and possible cultural resource sites, no exclusion areas have been identified within the project area. The project layout indicates up to 3 acres of project infrastructure in prime farmland, not including the collection lines that will be buried and would be a temporary disturbance of soil. The Commission finds that the prime farmland to be disturbed by this energy conversion facility is of such small acreage as to be of negligible impact on agricultural production.

18. Approximately 92 acres of agricultural production could be impacted due to turbine placement, associated access roads, and project substation. Wind turbine configuration will not result in significant impacts to agricultural production. No impacts on the agricultural quality of the crop land are anticipated. If compaction of soils occurs during construction, Thunder Spirit will work with landowners to alleviate the compaction.

19. No economically recoverable coal reserves have been identified in the project area. One abandoned underground coal mine was identified in the Project Area. Turbines have been micro-sited to avoid the abandoned mine area and prior to the start of construction, subsidence hazards related to the presence of abandoned underground coal mines will be mitigated by thorough field studies and geotechnical analyses.

20. With the exception of the abandoned underground mine discussed above, the only other Avoidance Areas identified within the project area are cultural resource sites, woodlands and wetlands. No turbines will be placed within these areas.

20. Thunder Spirit submitted evidence to demonstrate that the proposed energy conversion facility will not have a significant impact on the Selection Criteria set forth in North Dakota Administrative Code § 69-06-08-01(5).

21. Thunder Spirit submitted evidence to demonstrate its commitment to maximize the benefits of the proposed energy conversion facility as far as is possible so as to meet the Policy Criteria set forth in North Dakota Administrative Code § 69-06-08-01(6).

22. No significant adverse impact is foreseen on the ability of the affected area to provide community services, such as housing, health care, schools, police and fire protection, water and sewer, solid waste management, transportation or public safety. The proposed project is expected to be of economic benefit to the affected area.

Cultural Resources

23. A Class I Literature Review, a Class II Historic Architecture Survey, and a Class III Cultural Resources Inventory were completed and the necessary information provided to the State Historical Society for review. The Class I Literature Review included identifying archaeological sites and surveys, and structures, bridges, and cemeteries within one mile of the Project layout. The Class II Historic Architecture Survey examined potential impacts to historic architecture within one mile of the nearest turbine. The Class III Cultural

Resources Inventory included a pedestrian survey of the Area of Potential Effects (APE) which is basically a survey corridor established around the layout and included all facilities.

24. The Class I review was completed at the State Historical Preservation Office (SHPO) in June 2011 and updated on May 3, 2013. The study revealed a total of six archaeological sites and four site leads within 1 mile of the survey corridor. Of these, two site leads are located within the survey corridor. Due to the sensitive nature of archeological sites, at the request of SHPO, site location results are not retained by the Commission. Interested parties may contact SHPO for further information. Background research indicated no previously documented structures, bridges, or cemeteries were located within the survey corridor or within 1 mile of the survey corridor.

25. With respect to the Class II survey, Thunder Spirit, in consultation with the SHPO, established an APE for the survey that included the zone within one mile of the nearest turbine. The SHPO identified 23 properties for which documentation and assessment of eligibility to the National Register of Historic Places (NRHP) was requested. The full report was submitted to SHPO for concurrence and a concurrence letter was received which stated that the SHPO concurs with "No Significant Sites Affected" or "No Historic Properties Affected" provided that the project is of the nature stated and it takes place in the location plotted and described in the project documentation, and avoidance procedures are maintained.

26. The Class III Pedestrian Survey was conducted in May 2013 in accordance with protocol discussed with the SHPO. Twenty-three new archaeological sites were documented. It was recommended that eighteen sites be avoided and the creation of avoidance buffers was recommended for some of the sites. A full report was submitted to SHPO for concurrence and on August 14, 2013, a response was received which stated that the SHPO provisionally concurs with a "No Significant Sites Affected" and "No Historic Properties Affected" provided the project is of the nature stated and it takes place in the location plotted and described in the project documentation, and avoidance procedures are maintained.

27. Thunder Spirit states it will avoid these resources and any additional resources identified throughout the life of the project. The many archaeological sites and an associated avoidance buffer will be avoided during construction and snow fencing be placed around the avoidance buffer to reduce the potential that they will be inadvertently disturbed. If avoidance is not possible, Thunder Spirit will work with SHPO to mitigate potential impacts.

Wetlands and Wildlife

28. Thunder Spirit has consulted with numerous local, state and federal agencies, which are identified in Appendix B of the Application and Appendix B of the revised Amendment to the Application. No agencies have objected to construction of the project.

29. Wetland delineations were conducted for the project in April/May of 2013. Five potentially jurisdictional wetlands and three waters of the US were identified within the Project Area in locations either intersected by planned project infrastructure or are near the planned project infrastructure. Thunder Spirit has committed to zero permanent impacts to wetlands and waters of the US. Horizontal directional drilling could be used to install the electrical collection lines that cross delineated wetland features on the project site thereby avoiding permanent impacts. If there are still temporary impacts to wetlands from construction of any infrastructure, and if that temporary impact cannot be kept below the 1/10-acre threshold for use of a Nationwide Permit #12, then a pre-construction notification (PCN) and an application for a NWP #12 will be made to the United States Army Corps of Engineers regulatory office in Bismarck, North Dakota.

30. Avian surveys were conducted in June to October of 2007 at 20 locations within the project area and again from April 2011 to March 2012 at 25 locations within the project area.

31. Twenty-one (21) sensitive species, listed as North Dakota Species of Conservation Priority, were observed including the federal candidate species Sprague's pipit. One Sprague's pipit was observed during the spring point count survey while two other individuals were observed during the late spring as incidental observations. No other threatened or endangered (T&E) species were observed. Additionally, due to the limited suitable roosting and foraging habitat, it was determined that there was a low to moderate likelihood of the occurrence of any bat species in the project area.

32. Eight species of raptors were observed, including six golden eagles and one bald eagle. One eagle's nest was identified and reported to the United States Fish and Wildlife Service (USFWS). Thunder Spirit imposed a minimum two mile buffer around a noted eagle nest while ongoing behavioral observations are conducted to evaluate eagle use of the project area; The mean raptor use in the Project area is considered to be low to moderate with the most abundant raptors at the project being northern harrier, red-tailed hawk, and Swainson's hawk.

33. Five grouse leks were observed in or near the project area. While there is no requirement for a buffer setback in the siting of wind energy facilities under N.D. Admin. Code section 69-06-08-01, Thunder Spirit has imposed a 0.5 mile setback from known grouse leks.

34. Based on the studies conducted and mitigation factors in place, no significant impacts to avian species are expected. Because most wildlife species do not use disturbed agricultural land, heavily grazed land, or maintained pastures and hayfields as their primary habitat, minimal impacts are expected to most species. Most non-raptors have relatively low risk of collision due to the majority of individuals likely flying below the rotor-swept area ("RSA"). It is unlikely that non-raptor populations will be adversely affected by direct mortality

from the operation of the wind energy facility given the robustness of their overall populations and overall low impacts to any one species.

35. Thunder Spirit has or intends to take a number of mitigative measures to protect avian species including conducting environmental studies of the project area to aid in the initial placement of turbines, roads, and associated facilities to avoid or minimize impacts to wildlife and habitat. At the request of USFWS, Thunder Spirit is developing a Bird and Bat Conservation Strategy for the project, which contains a strong emphasis on eagle conservation measures during both construction and operation phases of the project. Thunder Spirit continues to coordinate with USFWS regarding a possible application for an eagle take permit in case a take were to occur.

36. Other wetlands and wildlife impact minimization measures that Thunder Spirit will implement include burying all collection lines and reducing the overhead radial transmission line to 0.85 miles; siting access roads and turbines away from wetlands, water bodies, and native prairies to the greatest extent practicable, conducting post construction mortality monitoring surveys for birds and bats for one year following construction of the project; restricting construction and/or operation activities due to active raptor nests, mapping and flagging raptor nests found during construction, placing turbines as far away from raptor nests as project engineering constraints permit and avoid removal of trees; minimizing impacts to native vegetation and wetlands during design and construction of turbines and associated infrastructure; reseeding or planting disturbed areas with native material; enhancing existing degraded habitat, where practicable, through the removal and replacement of invasive species with plants native to the site; and developing a management plan to prevent the spread of noxious weeds throughout the Project Area or adjacent areas during construction and ongoing operations.

37. Thunder Spirit will implement its Wildlife Response Reporting System (WRRS) once turbine construction is completed. The WRRS will include protocols for field technicians to report and document avian mortalities during routine maintenance operations.

Sound and Flicker Studies

38. Thunder Spirit included an acoustic modeling analysis in Appendix A of the Application which was revised and included in Appendix A of the revised Amendment to the Application to reflect modifications to turbine locations. Acoustic modeling was conducted to include each of the three potential turbine models. The results of the acoustic modeling were compared to Adams County zoning ordinance noise levels, North Dakota Public Service Commission Avoidance Criteria levels as well as the U.S. Environmental Protection Agency (EPA) environmental noise guidelines.

39. The acoustic assessment illustrated the worst case scenario (downwind, full rotational speed, high air density, low background sound levels). There were no exceedances of the Adams County Zoning Ordinance noise limits which state that sustained noise over 80 dB during the day and 70 dB at night is not allowed.

There were no exceedances of the ND PSC Avoidance Criteria that states that sound levels within 100' of an inhabited residence or a community building cannot exceed 50 dBA. And finally, there were no exceedances of the EPA guidelines at occupied residences. The analysis demonstrates that the project has been adequately designed inclusive of a number of conservative assumptions to generate sound levels below all applicable guidelines.

40. Thunder Spirit included a Shadow Flicker Impact Analysis for the Thunder Spirit Wind Energy Project in Appendix A of the Application and included a revised analysis in Appendix A of the revised Amendment to the Application to reflect modifications to turbine locations. Thunder Spirit Wind performed a shadow flicker impact study to determine potential impacts on occupied residences located in or near the project and included analysis for each of the three potential turbine models that may be used for the project. The analysis was based assuming worst case conditions for shadow flicker (full sunlight and blades perpendicular to incoming sunlight) so as to conservatively estimate the potential amount of shadow impact hours for a year.

41. Shadow flicker impacts are not regulated in applicable state or federal law, and there is no permitting threshold with regard to hours per year of anticipated impacts to a receptor from a wind energy project. In lieu of specific regulations, a general precedent has been established in the industry that fewer than 30 hours per year of shadow flicker impacts is acceptable to receptors in terms of nuisance and well below health hazard concerns. However, predicted shadow flicker greater than this threshold does not necessarily create a nuisance and is still well below concerns for impacts to health.

42. A total of 26 potentially sensitive receptor locations were identified in the study. Considering all turbine scenarios, only 1 of the 26 receptors modeled had expected shadow flicker impacts of more than 30 hours per year but this was an abandoned structure. The maximum predicted shadow flicker impact at an occupied receptor is 25 hours 20 minutes per year which is below the 30 hours/year guideline. As a result, shadow flicker impact within the project area will be minimal and is not expected to be a significant environmental impact.

Further Mitigative Measures

43. No wind turbines will be placed within 2,640 feet of an occupied residence.

44. No wind turbine will be placed within 1.1 times the turbine blade tip height from interstate or state road right-of-way or existing above ground distribution or transmission lines, or 1.1 times the turbine blade tip height plus 75 feet from the center line of any county or maintained township road.

45. Thunder Spirit will maintain ground water protection and soil conservation practices to protect topsoil and adjacent resources, and to minimize soil erosion during construction and operation of the project. Best Management Practices (BMPs) for erosion and sediment control will be used to minimize wind and water erosion in the project area during and after construction. Only land needed for

the facility will be impacted. Temporarily disturbed areas will be restored and reseeded with native materials.

46. Thunder Spirit has developed a management plan to protect against the spread of noxious weeds throughout the project area or adjacent areas during construction and ongoing operations.

47. Thunder Spirit has a legal obligation to decommission the wind energy facilities.

48. Thunder Spirit will participate in the North Dakota One-Call Excavation Notice System.

49. Thunder Spirit will coordinate with local authorities and first responders regarding emergency response measures as part of the project commissioning activities.

50. Thunder Spirit made other representations and covenants as contained in the Certification Relating to Order Provisions—Wind Energy Conversion Facility Siting executed by Thunder Spirit Wind and filed with the Commission on August 14, 2013, which is incorporated into these Findings of Fact.

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 energy conversion facility proposed by Thunder Spirit is an energy conversion facility as defined in North Dakota Century Code § 49-22-03(5).

3. The application submitted by Thunder Spirit meets the site evaluation criteria required by North Dakota Century Code Chapter 49-22.

4. The location, construction, and operation of the proposed energy conversion facility will produce only minimal adverse effects on the environment and upon the welfare of the citizens of North Dakota.

5. The proposed energy conversion facility is compatible with environmental preservation and the efficient use of resources.

6. The proposed energy conversion facility 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.

7. The Commission has jurisdiction to ensure compliance with National Electric Safety Code standards in the construction and operation of the proposed energy conversion facility.

8. The proposed project is of such design, location, and purpose that it will produce minimal adverse effects.

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

Order

The Commission orders:

1. Certificate of Site Compatibility for an Energy Conversion Facility No. 35 is issued to Thunder Spirit Wind, LLC for the construction, operation and maintenance of a wind energy facility known as the Thunder Spirit Wind Energy Project.
2. The site as proposed in the application is located in Adams County approximately 2 miles northeast of the City of Hettinger, North Dakota, and is designated as the site for construction of the wind energy facility.
3. Within the permitted area, Thunder Spirit Wind, LLC is authorized to site and construct up to 150 MW of wind turbines in proposed and alternate locations, along with electric collection and communication lines, a project substation, access roads, and other associated facilities as identified in the application and at the hearing.
4. Thunder Spirit shall file with the Commission a copy of its Avian and Bat Conservation Strategy when it is completed.
5. Prior to Construction, Thunder Spirit shall file a final turbine layout with the turbine models identified and approved turbine locations that it intends to use labeled.
6. The Certification Relating to Order Provisions—Wind Energy Conversion Facility Siting with attached Tree and Shrub Mitigation Specifications executed by Thunder Spirit and filed with the Commission on August 14, 2013, is incorporated by reference and attached to this Order.

PUBLIC SERVICE COMMISSION


Randy Christmann
Commissioner


Brian P. Kalk
Chairman


Julie Fedorchak
Commissioner

STATE OF NORTH DAKOTA
PUBLIC SERVICE COMMISSION

Thunder Spirit Wind, LLC
150 MW Wind Energy Project - Adams County
Siting Application

Case No. PU-11-601

Dissenting Opinion
Commissioner Randy Christmann

October 9, 2013

The application of Thunder Spirit Wind for siting of a wind farm in Adams County should not be approved at this time.

Thunder Spirit's application tends to satisfy the 11 requirements (N.D.C.C. § 49-22-09) traditionally used by the PSC when making siting decisions. However, this section of law expressly points out that the PSC is not limited in its deliberations to these 11 requirements. N.D.C.C. § 49-22-02 also tasks the Commission with ensuring continuing system reliability and integrity.

The Commission previously addressed a case in the Matter of Application of the Nebraska Public Power District for a Certificate of Corridor Compatibility, PSC Case No. 9942, a 1981 decision regarding a transmission line to be constructed through North Dakota by the Nebraska Public Power District. At the time the Commission determined that it did not have the authority or duty to determine "need." The North Dakota Supreme Court ultimately affirmed that finding. See, In the Matter of the Application of Nebraska Public Power District, 330 N.W.2d 143 (N.D. 1983). In a separate concurring opinion, Justice VandeWalle lamented the statutory scheme of the time that did not require the PSC to look into the issue of need.

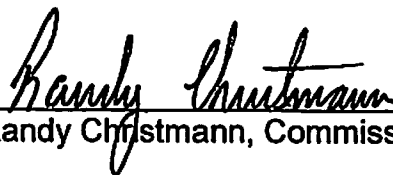
Admittedly, at first glance that case would appear to require approval of the Thunder Spirit Wind application. However, a deeper reading of the entire 49th Chapter of the North Dakota Century Code suggests the opposite. Since the Nebraska Public Power District case the Legislature has in fact provided clarification regarding its objectives for retail electric power within the state of North Dakota. N.D.C.C. § 49-02-28 sets an objective that ten percent of all electricity sold at retail within the state by the year 2015 be obtained from renewable energy and recycled energy sources. This objective applies to all retail providers of electricity in the state, regardless of ownership status.

The Legislature could have set a renewable objective higher than ten percent, or it could have set a renewable objective of at least ten percent. Clearly the ten percent objective, while not technically enforceable, was set with an objective that the other ninety percent should be obtained from traditional energy sources. Whether the objective that ninety percent of all electricity sold at retail within the state by the year 2015 be obtained from traditional energy sources is to assure dependability, long-term price stability, or for other reasons is of no concern in this decision.

Since North Dakota's renewable and recycled energy objective was codified in 2007, producers in the state have added well over 1000 megawatts of wind generation. North Dakota's cumulative capacity for wind power production currently stands at over 1600 megawatts. Clearly, the objective set forth by the Legislature for renewable and recycled energy production has been met and surpassed.

This application appears primarily focused on gaining local support in the Adams County area for obvious and substantial economic development reasons and on hurrying along a starting date in order to qualify for the federal Production Tax Credit. While additional economic activity in this rural area of the state is an important and worthy undertaking, it is not a compelling reason for this Commission to allow imposition of this significant additional generation cost on the rate payers or the tax payers. Since Thunder Spirit Wind's application is silent regarding where the electricity will be marketed, the Commission must entertain the possibility that it will be marketed to North Dakota consumers

Thunder Spirit Wind needs to show how this project fits into North Dakota's electric energy production objective before this application should be approved.



Randy Christmann, Commissioner

**PUBLIC SERVICE COMMISSION
STATE OF NORTH DAKOTA**

Certificate of Site Compatibility Number 35

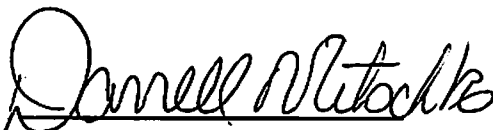
This is to certify that the Commission has designated an energy conversion facility site for Thunder Spirit Wind, LLC, for its Thunder Spirit Wind Energy Project consisting of up to 75 wind turbines and associated facilities totaling up to 150 MW of generating capacity in Adams County, North Dakota.

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 Finding of Fact, Conclusion of Law and Order of the Commission in Case No. PU-11-601 dated October 9, 2013 and is subject to the conditions and limitations noted in the order.

Bismarck, North Dakota, October 9, 2013.

ATTEST:

PUBLIC SERVICE COMMISSION



Executive Secretary



Commissioner



STATE OF NORTH DAKOTA
PUBLIC SERVICE COMMISSION

Thunder Spirit Wind, LLC
150 MW Wind Energy Project – Adams County
Siting Application

Case No. PU-11-601

**CERTIFICATION RELATING TO ORDER PROVISIONS – ENERGY CONVERSION
FACILITY SITING**

I am Erich Boehmeyer, a representative of Thunder Spirit Wind, LLC (“Company”), with authority to bind Company to requirements to be set forth by the Commission in its Order and I certify the following:

1. Company understands and agrees that the Certificate of Site Compatibility will be issued by the Commission subject to the conditions and criteria set forth in Chapter 49-22 of the North Dakota Century Code and Chapter 69-06-08 of the North Dakota Administrative Code, and that Company shall be responsible for compliance with this order and conditions and criteria set forth in the applicable laws and rules.
2. Company agrees to hold a preconstruction conference prior to commencement of any construction, which must include a Company representative, its construction supervisor, and a representative of Commission Staff, to ensure that Company fully understands the conditions set forth in the Commission’s order.
3. Company agrees to comply with the rules and regulations of all other agencies having jurisdiction over any phase of the proposed energy conversion facility including all city, township, and county zoning regulations.
4. Company understands and agrees that it shall obtain all other necessary licenses and permits, and shall provide copies of all licenses and permits to the Commission prior to construction activity associated with the energy conversion facility that requires said licenses or permit.
5. Company agrees to inform the Commission and the Commission’s third-party construction inspector of its intent to start construction on the energy conversion facility prior to the commencement of construction. Once construction has started, Company shall keep the Commission and the Commission’s third-party construction inspector updated of construction activities on a weekly basis.
6. Company understands and agrees that the Certificate of Site Compatibility is subject to suspension or revocation and may, in an appropriate and proper case, be suspended or revoked for failure to comply with the Commission’s order, the conditions and criteria of the certificate or subsequent modification, or failure to comply with the applicable statutes, rules, regulations, standards, and permits of other state or federal agencies.

7. Company agrees to maintain records that will demonstrate that it has complied with the requirements of the Commission's order and the Certificate of Site Compatibility, and that it will preserve these records for Commission inspection at any reasonable time upon reasonable notice.
8. Company agrees to construct and operate the energy conversion facility in accordance with all applicable safety requirements.
9. Company agrees to construct and operate the energy conversion facility in the manner described in Company's application, in any late filed exhibits, and supplemental materials, (Application). To the extent there are any conflicts or inconsistencies between Company's Application and the provisions in this Certification Relating to Order Provisions, the Certification provisions control.
10. Company agrees to report promptly to the Commission the presence in or near the approved site of any critical habitat of threatened species, endangered species, bald eagles, or golden eagles that Company becomes aware of and which were not previously reported to the Commission.
11. Company understands and agrees that all cultural resource mitigation plans must be submitted to the North Dakota State Historic Preservation Office and approved prior to the start of any fieldwork and construction activity in the affected area.
12. Company understands and agrees that if any cultural resource, paleontological site, archaeological site, historical site, or grave site is discovered during construction, it must be marked, preserved and protected from further disturbances until a professional examination can be made by the State Historical Society, a report of such examination is filed with the Commission, and clearance to proceed is given by the Commission.
13. Company understands and agrees that all buried facility crossing of graded roads shall be bored unless the responsible governing agency specifically permits Company to open cut the road.
14. Company understands and agrees that all pre-existing township and county roads and lanes used during construction must be repaired or restored to a condition that is equal to or better than the condition prior to the construction of the energy conversion facility and that will accommodate their previous use, and that areas used as temporary roads or working areas during construction must be restored to their original condition.
15. Company understands and agrees that construction must be suspended when weather conditions are such that construction activities will cause irreparable damage to roads or land, unless adequate protection measures approved by the Commission are taken.

16. Company understands and agrees that where available, at least 12 inches of topsoil over and along trench areas, roadways, tower locations, and locations of associated facilities shall be stripped and shall be segregated from the subsol and be replaced only after the subsol is replaced. Any area on which excavated subsol will be placed must first be stripped of topsoil. After backfilling with subsol is completed, any excess subsol must be placed over the excavation area, blending the grade into existing topography.
17. Company understands and agrees that it shall bury all underground collection and feeder lines to a depth of at least 48 inches to the top of the lines.
18. Company understands and agrees that reclamation, fertilization, and reseeding is to be done according to the Natural Resources Conservation Service recommendations, unless otherwise specified by the landowner and approved by the Commission.
19. Company understands and agrees that its obligation for reclamation and maintenance of the approved site will continue throughout the life of the energy conversion facility.
20. Company is aware that North Dakota law requires that all companies that own or operate electric generation of any size for the primary purpose of resale must comply with the standards of the National Electrical Safety Code in effect at the time of construction of the generation facility, and agrees to comply with that requirement.
21. Company agrees to comply with the Tree and Shrub Mitigation Specifications, attached.
22. Company understands and agrees that it shall repair or replace all fences and gates removed or damaged during all phases of construction and operation of the proposed energy conversion facility.
23. Company understands and agrees that it shall repair or replace all drainage tile broken or damaged as a result of construction and operation of the proposed energy conversion facility.
24. Company understands and agrees that it shall work with landowners and residents to mitigate any increase in television and residential radio interference that results from the constructions of the energy conversion facility.
25. Company understands and agrees that staging areas or equipment shall not be located on land owned by a person other than Company unless otherwise negotiated with landowners.

26. **Company understands and agrees that it shall remove all waste that is a product of construction and operation, restoration, and maintenance of the site, and properly dispose of it on a regular basis.**
27. **Company agrees that it shall, as soon as practicable upon the completion of the construction, restore the area affected by the activities to as near as is practicable to the condition as it existed prior to the beginning of construction.**
28. **Company agrees that it shall provide, if requested, educational material for landowners within the site boundaries about the proposed energy conversion facility and any restriction or danger concerning the proposed energy conversion facility.**
29. **Company understands and agrees that it shall provide any necessary safety measures for traffic control or to restrict public access to the energy conversion facility.**
30. **Company understands and agrees that it shall advise the Commission of any extraordinary events which take place at the site of the energy conversion facility, including injuries to any person, the death of any threatened or endangered species, a tower collapse, or a catastrophic turbine failure, within five business days of such event.**
31. **Company understands and agrees that it shall advise the Commission of the discovery of a large number of dead birds or bats on the site within five business days of such event.**
32. **Company understands and agrees that it shall implement a procedure for how complaints concerning the proposed energy conversion facility will be handled by Company.**
33. **Company agrees to provide the Commission with engineering design drawings showing surveyed structure and collection substation locations prior to construction.**
34. **Company understands and agrees that it shall inform the Commission in writing of any plans to modify the energy conversion facility, or of any plans to modify the site plan for the energy conversion facility. Company understands and agrees to obtain written approval from the Commission prior to any modifications to the site plan or the energy conversion facility, associated facilities, and roadway locations. Approval may be granted after notice and opportunity for hearing.**
35. **Company agrees to provide the Commission with both an electronic and a paper copy of the site approved by the Commission and the facility design specifications for the construction of the energy conversion facility showing the location of the energy conversion facility as built, and will provide this information within 3 months of the completion of the construction. Company also agrees to provide an electronic version of the site approved by the Commission and the facility design specifications for the construction of the energy conversion facility showing the location of the energy**

conversion facility as built that can be imported into ESRI GIS mapping software within 3 months of the completion of the construction. This electronic map data must be referenced to the North Dakota coordinate system of 1983, North and/or South zones US Survey feet (NAD 83) UTM Zone 13N or 14N feet (NAD 83), or geographic coordinate system (WGS 84) feet. The vertical data must be in the appropriate vertical datum for the coordinate system used. All submissions must specify the datum in which the data was developed.

36. Company is aware that under North Dakota Century Code section 49-02-27 the Commission has rules for decommissioning of wind energy conversion facilities. Company agrees to comply with all decommissioning rules adopted by the Commission.
37. Company understands and agrees that the authorizations granted by the Certificate of Site Compatibility for the energy conversion facility are subject to modification by order of the Commission if deemed necessary to protect further the public or the environment.
38. Company understands and agrees that in the event Company desires to construct, within any site granted by a Certificate of Site Compatibility in this proceeding, an energy conversion facility that was not requested in Company's application in this proceeding, Company shall apply for a Certificate of Site Compatibility for the facility.
39. Company shall notify the Commission, as soon as reasonably possible, if any damage, as defined by North Dakota Century Code Chapter 49-23, occurs to underground facilities during construction conducted under the certificate or permit issued in this proceeding. In the event of any damage to underground facilities, Company shall suspend construction in the vicinity of the damage until compliance with One-Call Excavation Notice System requirements under North Dakota Century Code Chapter 49-23 has been determined and clearance to proceed has been given by the Commission.
40. The Certificate of Site Compatibility is subject to suspension or revocation and may, after hearing, be suspended or revoked for failure to comply with the Commission's order, requirements of the One-Call Excavation Notice System under North Dakota Century Code Chapter 49-23, the conditions and criteria of the certificate or permit or subsequent modification, or failure to comply with applicable statutes, or rules, regulations, standards, and permits of other state or federal agencies.

Dated this 6th day of August 2013.

Thunder Spirit Wind, LLC

By 

Its Authorized Signatory

STATE OF NORTH DAKOTA
PUBLIC SERVICE COMMISSION

Thunder Spirit Wind, LLC
150 MW Wind Energy Project – Adams County
Siting Application

Case No. PU-11-601

Tree and Shrub Mitigation Specifications

Inventory

1. Trees and shrubs anticipated to be cleared, including those that are considered invasive species or noxious weeds (*e.g.*, *Caragana arborescens*, *Elaeagnus angustifolia*, *Rhamnus cathartica*, *Tamarix chinensis*, *T. parviflora*, *T. ramosissima*, *Ulmus pumila*), must be inventoried before cutting. The inventory must record the location, number, and species of trees and shrubs.
2. In windbreaks, shelterbelts and other planted areas, trees or shrubs anticipated to be cleared, regardless of size, must be inventoried for replacement.
3. In native growth areas, trees anticipated to be cleared that are 1 inch diameter at breast height (dbh) or greater must be inventoried for replacement.
4. In native growth areas, shrubs anticipated to be cleared in the permanent right-of-way must be inventoried for replacement.
5. In native growth areas outside the permanent right-of-way, shrubs must be cut flush with the surface of the ground, taking care to leave the naturally occurring seed bank and root stock intact. If soil disturbance is necessary, the native topsoil must be preserved and replaced after construction. Shrubs must be allowed to regenerate naturally where native topsoil is preserved and replaced. Where native topsoil is not preserved and replaced, shrubs anticipated to be cleared must be inventoried for replacement.

6. In native growth areas, trees and shrubs may be inventoried by actual count or by a sampling method that will properly represent the woody vegetation population. A sampling plan developed by the company, filed with the North Dakota Public Service Commission (Commission) and approved prior to the start of construction must define the sampling method to be used for trees, for tall shrubs and for low shrubs. The data from the sample plots must be extrapolated to the total acreage of the wooded area to be cleared to determine the species and quantity of trees and shrubs to be replaced.

Clearing for Construction

7. Trees and shrubs must be selectively cleared, leaving mature trees and shrubs intact where practical.
8. The maximum width of clear cuts through windbreaks, shelterbelts and all other wooded areas is 50 feet, unless otherwise approved by the Commission.
9. If the area of trees or shrubs actually cleared differs from the area inventoried, the difference in number of trees and shrubs to be replaced must be noted on the inventory.

Replacement

10. Prior to tree and shrub replacement, documentation identifying the number and variety of trees and shrubs removed, as well as the mitigation plan for the proposed number, variety, type, location and date of replacement plantings, must be filed with the Commission for approval.
11. Two 2-year-old saplings must be planted for every one tree removed. Two shrubs (stem cuttings) must be planted for every one shrub removed.

12. Except in the case of invasive or noxious species, trees and shrubs must be replaced by the same species or similar species, suitable for North Dakota growing conditions as recommended by the North Dakota Forest Service. Invasive or noxious species must be replaced by similar non-invasive or non-noxious species suitable for North Dakota growing conditions as recommended by the North Dakota Forest Services
13. Landowners must be given the option of having replacement trees and shrubs planted on the landowner's property, either on or off the right-of-way. The landowner must also be given the opportunity to waive those options in writing in order to have replacement trees and shrubs planted off the landowner's property.
14. At the conclusion of the project, documentation identifying the actual number, variety, type, location and date of the replacement plantings must be filed with the Commission.
15. Tree and shrub replacements must be inspected annually, in September, for three years. The first annual inspection must be at least one year from the anniversary date of the original plantings. A report of each annual inspection must be submitted to the Commission by October 1 of each year, documenting the condition of plantings and any woodlands work completed as of September of each year. If after the third annual report the survival rate is less than 75%, the Commission may order additional planting(s).