

**STATE OF NORTH DAKOTA  
PUBLIC SERVICE COMMISSION**

**Montana-Dakota Utilities Co., a Division  
of MDU Resources Group, Inc.  
Advance Prudence – Thunder Spirit Wind Expansion  
Application**

**Case No. PU-17-268**

**Montana-Dakota Utilities Co., a Division  
of MDU Resources Group, Inc.  
Thunder Spirit Wind Expansion Project  
Public Convenience and Necessity**

**Case No. PU-17-269**

**ORDER**

**November 16, 2017**

**Preliminary Statement**

On June 30, 2017, Montana Dakota Utilities Co. (MDU) filed for an advanced determination of prudence (Case No. PU-17-268) and an amendment to Certificate of Public Convenience and Necessity No. 5870 (Case No. PU-17-269) to authorize a proposed expansion of its Thunder Spirit Wind Project (Thunder Spirit) in Adams County, North Dakota.

On August 16, 2017, the Commission consolidated the two cases for purposes of hearing under N.D. Admin. Code 69-02-04-04 and issued a Notice of Opportunity for Consolidated Hearing, which provided until September 27, 2017 for receiving written comments and hearing requests. No response was received.

The notice identified the following issues to be considered:

1. Is MDU's proposed Thunder Spirit Wind Project expansion investment prudent?
2. Whether public convenience and necessity will be served by the expansion?
3. Whether the applicant is fit, willing, and able to provide service?

Also on August 16, 2017, in Montana Dakota Utilities Co, a Division of MDU Resources Group, Inc., Thunder Spirit Wind Project, Case No. PU-17-192, the Commission issued First Reissued, Second Amended Certificate of Site Compatibility No. 35, authorizing an increase in Thunder Spirit total maximum nameplate generating capacity from 150 MW to 155.5 MW in order to offset system losses and enable delivery of the full 150 MW interconnection entitlement into the electric transmission grid.

On November 3, 2017, the Commission discussed these matters with the Applicant and Commission staff during an informal hearing.

### **Discussion**

MDU is an investor owned public utility providing electric service to customers in North Dakota under the regulatory jurisdiction of this Commission. MDU provides electric generation, transmission and distribution service for approximately 143,000 customers. Approximately 93,000 of those customers are located in North Dakota under the regulatory jurisdiction of this Commission. MDU is fit, willing and able to provide service.

MDU's Thunder Spirit Wind Project is a 107.5 MW wind facility in Adams County northeast of Hettinger, North Dakota. Thunder Spirit is comprised of 43 Nordex 2.5 MW wind turbines erected on 80 meter towers. Thunder Spirit reports a 2016 actual capacity factor of 45.3 percent. Expansion of Thunder Spirit would provide energy cost savings by taking advantage of existing infrastructure sized for a 150 MW grid interconnection.

MDU's Integrated Resource Plan (IRP) forecasts energy requirements growth at a rate of approximately 1.6 percent annually through 2020 while MDU's percentage of Midcontinent Independent System Operator (MISO) wholesale energy market purchases are increasing. Therefore, on August 1, 2016 MDU issued a Request for Proposal (RFP) for 10 to 100 MW of capacity and energy for the period June 1, 2019 through May 31, 2024. Through the RFP process, MDU selected a least-cost proposal from the original Thunder Spirit developer, ALLETE Clean Energy, to expand Thunder Spirit and sell the output of the expansion to MDU under a 25 year Power Purchase Agreement (PPA) with an option for MDU to purchase the project upon commercial operation. The purchase price for a 48 MW expansion is approximately \$85 million and includes a 20-year maintenance supply agreement with the turbine manufacturer.

MDU intends to exercise the ownership option as it estimates additional savings and advantages over the PPA, including a \$4.7 million net present value savings with an approximate 25 year levelized production cost of \$22.40 per MWH. This compares to the existing alternative of meeting energy load growth with MISO energy market purchases where the annual average price of energy over the last five years has been \$24.95 per MWH.

The proposed Thunder Spirit Expansion is planned to consist of 16 Nordex N117/3000 (3.0 MW) turbines totaling 48 MW with a hub height of 91 meters and an expected estimated capacity factor of 44.5 percent. Annual energy production is expected to be up to 187,114 MWH with capacity credits of 8 MW. Work to install the additional 16 turbines is expected to be completed by the end of 2018.

The Commission finds MDU's proposed Thunder Spirit expansion investment is prudent and public convenience and necessity will be served by the expansion. Therefore, the Commission issues the following:

## Order

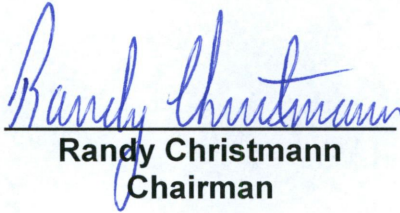
The Commission Orders:

1. MDU's application for an amendment to Certificate of Public Convenience and Necessity Number 5870 to acquire and operate the Thunder Spirit expansion is granted.
2. MDU's applications for an advance determination of prudence to acquire and operate the Thunder Spirit expansion is granted.
3. First Amended Certificate of Public Convenience and Necessity No. 5870 is issued to MDU authorizing its Thunder Spirit Wind Project Expansion.

### PUBLIC SERVICE COMMISSION



**Brian Kroshus**  
Commissioner



**Randy Christmann**  
Chairman



**Julie Fedorchak**  
Commissioner

**PUBLIC SERVICE COMMISSION  
STATE OF NORTH DAKOTA**

**First Amended  
Certificate of Public Convenience and Necessity**

**Certificate Number 5870**

*This is to certify that public convenience and necessity require, and permission is granted for Montana-Dakota Utilities Co., a Division of MDU Resources Group, Inc., to acquire and operate the Thunder Spirit Wind project located in Adams County, North Dakota.*

*This certificate is issued in accordance with the Orders of this Commission dated June 30, 2015 in Case No. PU-14-844 and November 16, 2017 in Case No. PU-17-269, and is subject to the conditions and limitations noted in those Orders.*

*This certificate is conditioned upon Montana-Dakota Utilities Co. securing the franchise or other authority of the proper municipal or other public authority for the exercise of these rights and privileges.*

*Bismarck, North Dakota, November 16, 2017.*

**ATTEST:**

**PUBLIC SERVICE COMMISSION**

  
**Executive Secretary**

  
**Commissioner**