

**STATE OF NORTH DAKOTA  
PUBLIC SERVICE COMMISSION**

**Basin Electric Power Cooperative  
Lonesome Creek Station Phase III– McKenzie County  
Siting Application**

**Case No. PU-14-852**

**FINDINGS OF FACT, CONCLUSIONS OF LAW AND ORDER**

**March 26, 2015**

**Appearances**

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

Anine Lambert, Attorney, and Casey J. Jacobson, Senior Staff Counsel, Basin Electric Power Cooperative, 1717 East Interstate Avenue, Bismarck, North Dakota 58503, on behalf of Basin Electric Power Cooperative.

Brian D. Schmidt, Special Attorney General, on behalf of the Public Service Commission, 600 E. Boulevard, Dept 408, Bismarck, ND 58505.

Wade C. Mann, Administrative Law Judge, Office of Administrative Hearings, 2911 North 14th Street, Suite 303, Bismarck, North Dakota 58503, as Procedural Hearing Officer.

**Preliminary Statement**

On December 31, 2014, Basin Electric Power Cooperative (Basin Electric) filed an application for a Certificate of Site Compatibility for Lonesome Creek Phase III (Project) consisting of three 45 MW simple cycle natural gas-fired combustion turbines to be located at the existing Lonesome Creek Station site approximately 14 miles west of Watford City, North Dakota.

On January 21, 2015, the Commission deemed the application complete and issued a Notice of Filing and Notice of Hearing, scheduling a public hearing on Basin Electric's Application to begin March 26, 2015 at 9:00 a.m. CST at Teddy's Residential Suites, 113 9<sup>th</sup> Ave. SE, Watford City, North Dakota, 58854. 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 March 26, 2015, at 9:00 a.m. CST, a public hearing was held as scheduled. Basin Electric presented three witnesses and two members of the public testified.

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**

1. Basin Electric is a regional wholesale electric generation and transmission cooperative, organized under the laws of the state of North Dakota, and headquartered in Bismarck, North Dakota. Basin Electric provides power to 138 member distribution systems serving more than 2.8 million consumers in nine states, including North Dakota.
2. The Project consists of three additional units to Basin Electric's Lonesome Creek Station approximately 14 miles west of Watford City in Section 23, Township 150 North, Range 101 West, McKenzie County, North Dakota. Basin Electric refers to the Project as Phase III of Lonesome Creek Station. The site currently consists of three 45 MW LM6000-PF Sprint simple cycle aero derivative natural gas combustion turbines. Unit 1 began commercial operation in December of 2013. The Commission approved Units 2 and 3, Phase II (Case No. PU-12-790), in March, 2014 and granted Certificate of Site Order Number 37 for a 48.4 acre Energy Conversion facility. Phase II began commercial operation in January 2015.
3. The primary components of the combustion turbines are a rotating compressor, a combustion chamber, a rotation downstream power turbine and an exhaust system.

Ambient air is compressed in the compressor section. Fuel is then mixed with the compressed air and ignited in the combustion chamber. The combustion byproducts (exhaust gases) from the combustion chamber are routed downstream to the turbine. The high volume and velocity of the exhaust gases expand through to the turbine and drive the turbine blades to generate mechanical power. An electric generator converts the mechanical power produced from the turbine to electrical power, which is then supplied to the electrical transmission grid by Basin Electric.

4. The Project will be designed and constructed to meet all relevant state and national codes and standards including the National Electric Safety Code.

5. The Project will be owned, operated and maintained by Basin Electric.

6. The total cost of the Project is estimated to be \$149 million.

7. Basin Electric concluded there is a need for the Project due to the oil and gas development in northwest North Dakota. After initializing Phases I and II, Basin Electric concluded from load studies that the Project is needed because its membership's demand for electric power is anticipated to increase by 1,900 MW between 2014 and 2035.

8. Basin Electric anticipates construction of Units 4 and 5 to begin in May, 2015 and commercial operation to commence in June, 2016. Construction of Unit 6 is expected to begin in May, 2016 with commercial operation to commence in June, 2017.

9. The Project Site consists of 5.5 acres, in addition to the seven acres sited for Units 1, 2, and 3 under permanent conversion within the 66.7 acre plant site as depicted in the Application. A 2.8 acre electrical switchyard will also be constructed on the site. Basin Electric will use temporary construction areas surrounding the Project Site, all on a 160 acre parcel owned by Basin Electric within Section 23, Township 150 North, Range 101 West in McKenzie County, North Dakota.

10. 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. Basin Electric applied for a Conditional Use Permit from McKenzie County in March, 2015 and expects the permit to be approved in April, 2015.

11. The 160 acre parcel containing the Project Site has been zoned industrial.
12. There are no local noise ordinances applicable to the Project. Basin Electric conducted modeling studies that indicate noise expected from the Project at sensitive receptors will not exceed EPA recommended guidelines. The nearest residence is located approximately  $\frac{3}{4}$  mile from the Project Site.
13. The State Historic Preservation Officer has concurred with a determination that no historic properties will be affected by the Project.
14. The Commission has established criteria pursuant to North Dakota Century Code § 49-22-05.1, to be used in identifying exclusion and avoidance areas and to guide the site, corridor, and route suitability evaluation and designation process. The Exclusion Areas, Avoidance Areas, Selection Criteria, and Policy Criteria are set forth in North Dakota Administrative Code §69-06-08-01. Basin Electric evaluated the Project Site and surrounding area for Exclusion Areas, Avoidance Areas, Selection Criteria and Policy Criteria.
15. There are no Exclusion Areas within the Project Site.
16. 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. There are no Avoidance Areas within the Project Site.
17. In accordance with the Commission's Selection Criteria, an energy conversion facility site may be approved only when it is demonstrated that any significant adverse effects resulting from the location, construction and operation of the facility in that area will be at an acceptable minimum, or that those effects will be managed and maintained at an acceptable minimum.
18. Basin Electric submitted information in its Application and through testimony that any significant adverse effects from the location, construction and maintenance of the facility as they relate to the Selection Criteria listed at N.D. Admin. Code §69-06-08-01(3) will be at an acceptable minimum or will be managed and maintained at an acceptable minimum.
19. In accordance with the Commission's Policy Criteria, preference may be given to an applicant demonstrating certain benefits from the adoption of certain policies and practices.

20. Basin Electric submitted information in its Application and through testimony demonstrating its commitment to maximize the benefits of the proposed energy conversion facility to meet the Policy Criteria set forth in N.D. Admin. Code §69-06-08-02(4).

21. The Project will have no significant impact on demographics, cultural resources, recreational resources, land-based economics, geologic and groundwater resources, surface water and floodplain resources, wetlands, or rare and unique resources.

22. Basin Electric has indicated that it will use best available control technologies to minimize air emissions and will comply with United States Environmental Protection Agency and North Dakota Department of Health air quality standards. Basin Electric has applied for a Prevention of Significant Deterioration permit from the North Dakota Department of Health and will submit the permit upon approval.

23. Small quantities of hazardous materials will be used and generated by the proposed energy conversion facility. Basin Electric will minimize the use of such materials and employ proper management and disposal procedures.

24. Basin Electric will engage in erosion prevention and sediment control during and after construction. Once construction is completed, all unused land will be returned to its former condition and re-vegetated.

25. Basin Electric made other representations and agreements as contained in the Certification Relating to Order Provisions – Energy Conversion Facility Siting with accompanying Tree and Shrub Mitigation Specifications, executed by Basin Electric on March 16, 2015 (Hearing Exhibit 5), which is incorporated in these Findings of Fact.

26. At decommissioning, all equipment and buildings will be removed from the Project site and disposed of appropriately. Concrete will be buried on the site as approved, and the ground surface will be returned to its pre-Project contour, quality and usage.

From the foregoing Findings of Fact, the Commission now 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 Basin Electric is an energy conversion facility as defined in North Dakota Century Code Section 49-22-03(5).
3. The proposed Project is of such design, location and purpose that it will produce minimal adverse effects as defined in North Dakota Century Code §49-22-03(5).
4. The Application submitted by Basin Electric meets the site evaluation criteria required by North Dakota Century Code Chapter 49-22.
5. 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.
6. The proposed energy conversion facility is compatible with the environmental preservation and the efficient use of resources.
7. 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.
8. The Commission has jurisdiction to ensure compliance with the National Electrical 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. Certificate of Site Compatibility No. \_\_\_ is issued to Basin Electric Power Cooperative authorizing the construction, operation and maintenance of three nominal 45 MW simple cycle aero derivative natural gas combustion turbines and associated facilities as identified in the application.

2. For purposes of the Certificate, the Site consists of approximately 66.7 acres in Section 23, Township 150 North, Range 101 West, McKenzie County, North Dakota, as described in the Application.

3. Basin Electric shall request a jurisdictional determination from the Commission under N.D. Admin. Code chapter 69-06-02.1 prior to the construction of any improvements or facilities outside of the Commission designated Site.

4. The March 16, 2015 Certification Relating to Order Provisions-Energy Conversion Facility Siting, with accompanying Tree and Shrub Mitigation Specifications is incorporated by reference and attached to this Order.

5. To the extent there are any conflicts or inconsistencies between Basin Electric's application and the March 16, 2015 Certification, the Certification provisions control.

**PUBLIC SERVICE COMMISSION**

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**Brian P. Kalk**  
**Commissioner**

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**Julie Fedorchak**  
**Chairman**

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**Randy Christmann**  
**Commissioner**