

STATE OF NORTH DAKOTA  
PUBLIC SERVICE COMMISSION

Allete, Inc.  
Bison 1 Wind Project – Oliver / Morton  
Counties  
Siting Application

Case No. PU-09-151

**AFFIDAVIT OF SERVICE REGULAR, EMAIL OR INSIDE MAIL**

STATE OF NORTH DAKOTA  
COUNTY OF BURLEIGH

**Janet Marquart** deposes and says that:

she is over the age of 18 years and not a party to this action and, on the 5<sup>th</sup> day of **October, 2009**, she deposited in the United States Mail, Bismarck, North Dakota, **29** envelopes by first class mail, fully prepaid, securely sealed and each containing a photocopy; **6** envelopes by Inside Mail; and **43** electronic mail messages, each with an attached electronic copy of:

**Findings of Fact, Conclusions of Law and Order**

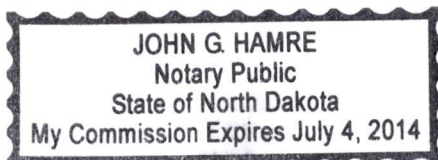
The envelopes and electronic mails respectively were addressed as follows:

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 5<sup>th</sup> day of **October, 2009**.

SEAL



*Janet Marquart*  
\_\_\_\_\_  
*John G. Hamre*  
\_\_\_\_\_  
Notary Public

MAYOR  
CITY OF CENTER  
PO BOX 76  
CENTER ND 58530-0076

MAYOR  
CITY OF HEBRON  
  
HEBRON ND 58638

MAYOR  
CITY OF NEW SALEM  
101 1ST ST N  
NEW SALEM ND 58563

Dept of Career and Technical Education  
State Capitol  
Bismarck ND 58505

JIM ATKINSON  
MINNESOTA POWER  
30 W SUPERIOR ST  
DULUTH MN 55802-2093

PAUL JOHNSON  
MINNESOTA POWER  
30 W SUPERIOR ST  
DULUTH MN 55802-2093

ERIC NORBERG  
MINNESOTA POWER  
30 W SUPERIOR ST  
DULUTH MN 55802-2093

CHAIR COUNTY COMMISSION  
MORTON COUNTY  
210 2ND AVE NW  
MANDAN ND 58554

MR LARRY KOTCHMAN  
ND FOREST SERVICE  
MOLBERG CENTER 307 1ST STREET EAST  
BOTTINEAU ND 58318

Mike Haupt  
ND Land Department  
1707 N 9th St  
Bismarck ND 58501

MAYOR  
CITY OF GLEN ULLIN  
  
GLEN ULLIN ND 58631

MAYOR  
CITY OF MANDAN  
205 2ND AVE NW  
MANDAN ND 58554

Todd Lindquist  
Corp of Engineers  
PO Box 527  
Riverdale ND 58565-0527

Merlan Paaverud, Jr.  
Historical Society  
North Dakota Heritage Center  
Bismarck ND 58505

MARGARET HODNIK  
MINNESOTA POWER  
30 W SUPERIOR ST  
DULUTH MN 55802-2093

DAVID R MOELLER  
MINNESOTA POWER  
30 W SUPERIOR ST

COUNTY AUDITOR  
MORTON COUNTY  
210 2ND AVE NW  
MANDAN ND 58554

Thomas Hanson  
ND Assoc of Soil Conservation Dist  
3310 University Drive  
Bismarck ND 58504-7564

MR ED MURPHY  
ND GEOLOGICAL SURVEY  
INSIDE MAIL

COUNTY AUDITOR  
OLIVER COUNTY  
PO BOX 188  
CENTER ND 58530-0188

CHAIR COUNTY COMMISSION  
OLIVER COUNTY  
PO BOX 188  
CENTER ND 58530-0188

Dale Frink  
State Engineer  
ND Water Commission 900 East Boulevard  
Bismarck ND 58505

State Health Department  
State Capitol  
Bismarck ND 58505

MICHAEL R. NATHE  
STATE REPRESENTATIVE  
1899 BONN BOULEVARD  
BISMARCK ND 58504-7019

DAVE WEILER  
STATE REPRESENTATIVE  
526 MUNICH DRIVE  
BISMARCK ND 58504-7037

SHIRLEY MEYER  
STATE REPRESENTATIVE  
4031 HIGHWAY 22 S  
DICKINSON ND 58601

BRENDA HELLER  
STATE REPRESENTATIVE DIST 33  
1661 60TH AVE SW  
BEULAH ND 58523-9170

GARY KREIDT  
STATE REPRESENTATIVE DIST 33  
3892 COUNTY RD 86  
NEW SALEM ND 58563-9406

BOB STENEHJEM  
STATE SENATOR  
7475 41ST ST SE  
BISMARCK ND 58504-3200

RANDEL CHRISTMANN  
STATE SENATOR DIST 33  
401 3RD AVE NE  
HAZEN ND 58545-4429

Chief of Resource Management  
Theodore Roosevelt National Park  
P O Box 7  
Medora ND 58645-0007

Valerie Naylor  
Theodore Roosevelt Nat'l Park  
PO Box 7  
Medora ND 58645

Steve Williams  
U S Forest Service  
240 W Century Ave  
Bismarck ND 58501-1494

District Chief  
U S Geological Survey  
821 E Interstate Ave  
Bismarck ND 58501

District Engineer  
US Army Engineer District Omaha  
106 S 15th St  
Omaha NE 68102-1618

askstan@midstatetel.com  
Stanley Wright

Box 97  
Stanley ND 58784-0097

pseppanen@fageninc.com  
Paul Seppanen

goehring@nd.gov  
Doug Goehring  
Agriculture Department  
State Capitol  
Bismarck ND 58505

carp1091@qwestoffice.net  
Robert Colton  
Carpenters Union  
217 S Mandan St  
Bismarck ND 58504-5516

bbjella@crowleyfleck.com  
Brian R. Bjella  
Crowley Fleck PLLP  
PO Box 2798  
Bismarck ND 58502-2798

colson@nd.gov  
Carol Olson  
Department of Human Services  
State Capitol  
Bismarck ND 58505

ndquarter@nd.gov  
John Hoeven  
Governor's Office  
State Capitol  
Bismarck ND 58505

johndwyer@lignite.com  
John Dwyer  
Lignite Energy Council  
PO Box 2277  
Bismarck ND 58502-2277

amanda.filiowich@minot.af.mil  
Captain Amanda Filiowich  
Minot Air Force Base

dave.goodin@mdu.com  
Dave Goodin  
Montana-Dakota Utilities Co  
400 North 4th Street  
Bismarck ND 58502-1457

pamradtkerussell@gmail.com  
PAMELA RADTKE RUSSELL

ndaero@nd.gov  
Melinda Weninger  
Aeronautics Commission  
PO Box 5020  
Bismarck ND 58502-5020

mhummel@bnicoal.com  
Mike Hummel  
BNI Coal, Ltd.  
1637 Burnt Boat Dr.  
Bismarck ND 58503

bschmidt@kwh.com  
Brad Schmidt  
Cass County Electric Coop  
4100 32nd Ave SW  
Fargo ND 58104

jmittleider@nd.gov  
John Mittleider  
Department of Commerce  
600 East Blvd  
Bismarck ND 58505

jengleso@nd.gov  
Jeff Engleson  
Energy Development Impact Office  
1707 N 9th St  
Bismarck ND 58501

dsaggau@GREnergy.com  
David Saggau  
Great River Energy  
P O Box 800  
Elk River MN 55330-0800

sanditabor@lignite.com  
Sandi Tabor  
Lignite Energy Council  
PO Box 2277  
Bismarck ND 58502-2277

taltmann@mrenergy.com  
TASHA ALTMANN  
MISSOURI RIVER ENERGY SERVICES  
3724 W AVERA DR  
SIOUX FALLS SD 57108

don.ball@mdu.com  
Don Ball  
Montana-Dakota Utilities Co  
400 North 4th Street  
Bismarck ND 58502-1457

jpaczkowski@nd.gov  
John Paczkowski  
N D Water Commission  
900 E Boulevard  
Bismarck ND 58505

hfuglest@ndarec.com  
Harlan Fugelsten  
ND Assn Rural Electric Cooperatives  
PO Box 727  
Mandan ND 58554-0727

fziegler@nd.gov  
Francis Ziegler, P.E.  
ND Department of Transportation  
State Highway Building  
Bismarck ND 58505

mdaley@nd.gov  
Maren Daley  
ND Job Service  
P.O. Box 5507 INSIDE MAIL  
Bismarck ND 58506-5507

dprchal@nd.gov  
Doug Prchal  
North Dakota Parks & Rec  
1600 E Century Ave, Ste. 3 INSIDE MAIL  
Bismarck ND 58503-0649

kari.v.zipko@xcelenergy.com  
Kari Zipko  
NORTHERN STATES POWER COMPANY

jennifer.sanner@xcelenergy.com  
JENNIFER SANNER  
NORTHERN STATES POWER COMPANY

mischatz@nd.gov  
MIKE SCHATZ  
STATE REPRESENTATIVE  
400 9TH ST E  
NEW ENGLAND ND 58647-7528

brian.duggan@bismarcktribune.com  
Brian Duggan  
The Bismarck Tribune  
PO Box 5516  
Bismarck ND 58502-5516

kjvannin@usgs.gov  
K Vannin  
U S Geological Survey

jay.fuhrer@nd.usda.gov  
Jay Fuhrer  
NATURAL RESOURCE CONSERVATION SVC  
PO BOX 1458  
BISMARCK ND 58502-1458

shuperb@q.com  
Ron Shupe  
ND Chapter of the Wildlife Society

tsteinwa@nd.gov  
Terry Steinwand  
ND GAME & FISH DEPT  
INSIDE MAIL

lmcevers@nd.gov  
Lisa K Fair-McEvers  
ND Labor Dept  
600 E Blvd Ave  
Bismarck ND

pat@ndta.net  
Patricia Gisinger  
North Dakota Telephone Assoc  
PO Box 2614  
Bismarck ND 58502-2614

sagonna.thompson@xcelenergy.com  
SaGonna Thompson  
NORTHERN STATES POWER COMPANY

john.brodbeck@shell.com  
JOHN BRODBECK  
SHELL ENERGY NORTH AMERICA  
340 E MAPLE AVE, STE 204A  
LANGHORNE PA 19047

shewson@nd.gov  
Sara Hewson  
State Tax Department  
State Capitol  
Bismarck ND 58505

jkapsner@vogellaw.com  
John Kapsner  
The Vogel Law Firm  
P O Box 2097  
Bismarck ND 58502-2097

jeffrey.towner@fws.gov  
Jeffrey Towner  
US FISH & WILDLIFE SERVICE  
3425 MIRIAM AVE  
BISMARCK ND 58501-7926

jshaffer@usgs.gov  
JILL SHAFFER  
US GEOLOGICAL SURVEY  
8711 37TH ST SE  
JAMESTOWN ND 58401

tprice@wapa.gov  
Thomas Price  
Western Area Power Administration  
PO Box 1173  
Bismarck ND 58502-1173

dave.sederquist@xcelenergy.com  
Dave Sederquist  
Xcel Energy  
PO Box 2747  
Fargo ND 58108-2747

**STATE OF NORTH DAKOTA  
PUBLIC SERVICE COMMISSION**

**ALLETE, Inc.  
Bison 1 Wind Project – Oliver/Morton Counties  
Siting Application**

**Case No. PU-09-151**

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

**September 29, 2009**

**Appearances**

Commissioners Kevin Cramer, Tony Clark, and Brian P. Kalk.

David R. Moeller, Attorney, Minnesota Power, 30 West Superior Street, Duluth, MN 55803, on behalf of the Applicant.

Annette Bendish, Legal Counsel, Public Service Commission, State Capitol, Bismarck, North Dakota 58505, on behalf of the Public Service Commission.

Al Wahl, Administrative Law Judge, Office of Administrative Hearings, 1701 North Ninth Street, Bismarck, North Dakota 58501-1882, as Procedural Hearing Officer.

**Preliminary Statement**

On April 7, 2009, Minnesota Power, an operating division of ALLETE, Inc. (Minnesota Power) submitted a Letter of Intent (LOI) to submit an application for a Certificate of Site Compatibility for a 75.9 MW wind energy conversion facility in Morton and Oliver counties, North Dakota. Minnesota Power requested in its LOI that the Commission shorten the one-year waiting period required between filing of the LOI and the filing of an application.

On April 13, 2009, the North Dakota Public Service Commission (Commission) shortened the one-year waiting period to one day, and assessed a filing fee of \$85,000.00 due upon filing of an application.

On May 12, 2009, Minnesota Power filed an Application for a Certificate of Site Compatibility (Application) authorizing construction of the 75.9 MW Bison I Wind Project (Bison I) consisting of up to 33 wind turbine generators and associated facilities in Morton and Oliver counties, North Dakota.

On July 8, 2009, the Commission deemed the Application complete conditioned on the filing of final wind turbine locations on or before August 18, 2009, and issued a Notice of Filing and Notice of Hearing, scheduling a public hearing for August 25, 2009, at 10:00 a.m. CDT, at the Sunset Inn, 1305-8th St. N., New Salem, North Dakota. 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 impacts while ensuring continued system reliability and integrity, and ensuring that energy needs are met and fulfilled in an orderly and timely fashion?

On August 12, 2009, Minnesota Power filed an executed Certification Relating to Order Provisions – Wind Energy Conversion Facility Siting.

On August 18, 2009, Minnesota Power submitted a map detailing the proposed final locations for turbines. Minnesota Power also supplemented its Application with additional information on wetland delineation, cultural resources surveys and agency consultation.

On August 25, 2009, a public hearing was held as scheduled. 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. Minnesota Power, an operating division of ALLETE, Inc., is a Minnesota corporation and Minnesota public utility as defined under Minn. Stat. § 216B.02, subd. 4.
2. ALLETE, Inc. is registered to conduct business in the State of North Dakota, as evidenced by a Certificate of Good Standing issued by the North Dakota Secretary of State on October 28, 2008.
3. Minnesota Power proposes to construct and own a wind energy facility (the Bison I Wind Project) to be located in Morton and Oliver counties, North Dakota, approximately 10 miles north and northwest of New Salem, North Dakota. The project area consists of approximately 9,500 acres (15 square miles). The wind turbines will be placed throughout the project site.



4. Associated facilities to be constructed within the project area include access roads, underground electrical and feeder lines, an electrical substation, meteorological towers, wind monitoring stations, and an operations and maintenance building.

5. 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. Morton and Oliver counties require zoning permits for construction, and Minnesota Power has obtained all necessary permits.

### Project Design

6. The project will have a nameplate (gross) generating capacity of 75.9 MW, consisting of 33 2.3 MW wind turbines and associated facilities. Assuming net capacity factors of 45%, projected average annual output is estimated at 300,000 MWh per year.

7. Minnesota Power plans to use Siemens 2.3 MW turbines. These are utility-grade wind turbines with a nominal nameplate rating of 2,300 kW. Each turbine will have an 80-meter (262 feet) hub height and a 101 meter (331.4 feet) rotor diameter. Each turbine begins operating at wind speeds of 4.0 meters per second (m/s), or 8.9 miles per hour (mph), and reaches its rated capacity (2.3 MW) at a wind speed of 12 to 13 m/s (26.8 to 29.0 mph).

8. Each turbine is designed to operate at wind speeds of up to 25 m/s (55.9 mph) and can withstand wind speeds of more than 55 m/s (123.0 mph).

9. Each tower will be secured by a concrete foundation that can vary in design depending on the soil conditions. A typical foundation extends seven to ten feet below grade where it spreads to a final diameter of 40 to 60 feet at the base. Turbine lighting will be limited to warning lights required by the Federal Aviation Administration. 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 to the turbine control system to signal when sufficient winds are present for operation. The turbine features variable-speed control and independent blade pitch to assure aerodynamic efficiency. 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. This electricity is collected by sets of underground power collection lines.

10. The 34.5 kV collector system transmits power to the project collector substation. At the project substation, the power will be transformed to 230 kV and transmitted via overhead 230 kV transmission lines, interconnecting with the transmission grid at the existing Square Butte Substation. Electrical energy is converted from AC to DC via a DC converter station within the Square Butte Substation. Electrical energy from the Bison I Wind Project will be transmitted to customers via the existing Square Butte DC Line which extends from the Square Butte Substation to Minnesota Power's Arrowhead Substation located near Duluth, Minnesota.

11. Wind data was collected from four meteorological towers constructed in the project site area. Minnesota Power expects the project will have annual average wind speeds of 8 mps (equivalent to 17.8 mph) or higher, comparable to National Renewable Energy Laboratory wind power class ratings of 5 and 6, indicating an excellent to outstanding wind resource.

12. Construction of the Bison I Wind Project is expected to take approximately two years, at a total estimated construction cost of \$175 million.

13. Minnesota Power anticipates commencing construction on Phase 1A (16 wind turbines) in October, 2009, testing and operations by fall 2010, and commercial operation to begin in late 2010. Minnesota Power anticipates commencing construction on Phase 1B (17 wind turbines) in fall 2010, testing and operations and commercial operations to begin in fall 2011.

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 turbine. In addition, each turbine is equipped with a lightning protection system and is grounded and shielded to protect against lightning.

15. Construction and operation of the Bison I Wind Project will conform to 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 Section 69-06-08-01 are 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 farm 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. Figure 15 of the Application labeled Prime Farmland Soil Distribution Map shows that approximately 33 percent of the site is prime farmland soils, most of it located in the southeast and northern portions of the site. The final layout will site only a limited number of turbines and facilities in prime farmlands. Even if all the turbines and access roads were placed within prime farmland areas, only approximately 41 acres of prime farmland would be impacted, or approximately one percent of prime farmland in the Project site. Unique and 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 50 acres of agricultural production will be impacted due to turbine placement, access roads, the operations and maintenance facility 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, Minnesota Power will work with landowners to alleviate the compaction.

19. Minnesota Power submitted evidence to demonstrate that the proposed energy conversion facility would not have significant impact on the Selection Criteria set forth in North Dakota Administrative Code section 69-06-08-01(3).

20. Minnesota Power 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 Section 69-06-08-01(4).

21. 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.

22. The only Avoidance Areas identified within the project area are cultural resource sites and wetlands. The proposed road accessing turbine 32 along the west edge of section 4, Township 140 N, Range 86 W, will result in a quarter-acre fill of a jurisdictional wetland in the Sweet Briar Creek watershed. The impact will occur within the 66'-wide statutory easement along the section line; this low-quality wetland habitat is already partially impacted by an existing two-track agricultural road. The impact of Minnesota Power's road improvements upon the wetland resource will be negligible. Minnesota Power has chosen to utilize section line easements when practical, in order to minimize impact to agricultural production. Minnesota Power will obtain appropriate permits from the United States Army Corps of Engineers (USACE) as necessary for any jurisdictional wetlands impacted.

23. According to North Dakota Geological Survey data provided by the applicant, underground lignite coal reserves have been identified near the project area, but none identified within the project area.

#### Cultural Resources:

24. With respect to historical resources that are not designated as Exclusion Areas, Minnesota Power has consulted the North Dakota State Historic Preservation Office (SHPO). Class I and Class III Cultural Resource Inventories, including review of SHPO's site and managed files, were conducted by HDR Engineering, Inc. of Minneapolis, Minnesota, for the project area. During the course of the inventory to date, four previously-recorded archaeological sites and six previously-recorded site leads were identified within the data gathering area. None of these sites or site leads will be impacted by the project. To date, two new archaeological resource sites were identified within the project area. One is a lithic scatter and the other is a prehistoric scatter with associated cairn and two depressions. These sites will be avoided by project construction. To date, SHPO has concurred with the "No Historic Properties Affected" and "No Significant Site Affected" determinations for this project. HDR Engineering will be conducting an additional survey due to the revised location of a few of the project facilities. A recommendation will be forwarded to SHPO for review, and seeking concurrence from SHPO.

#### Wetlands and Wildlife:

25. Minnesota Power has consulted with numerous local, state, and federal agencies, which are identified in Appendix C of the Application, and Appendix C of the August 18, 2009 Supplement. Two agencies providing significant input were the North Dakota Game and Fish Department and the United States Fish and Wildlife Service (USFWS). Neither agency has objected to construction of the project.

26. The North Dakota Game and Fish Department indicated its primary concern is with disturbance of native prairie and wetlands. Minnesota Power met with North Dakota Game and Fish Department to discuss the project area and plans to mitigate any impacts. The disturbance of native prairie and wetlands will be minimal.

27. Concerns of the USFWS focused on migratory birds, wetlands, native grasslands, and threatened and endangered species. Minnesota Power will implement measures to avoid and minimize effects to wildlife at the proposed site by locating facilities away from habitat and wetlands when possible.

28. At the request of USFWS, Minnesota Power is developing an Avian and Bat Protection Plan (ABPP) that will be implemented during construction and for post-construction monitoring. The ABPP will include protocols for field technicians to report and document avian mortalities during routine maintenance operations.

29. The whooping crane is a federally endangered species that may use the project area during their spring and fall migration. The project occurs outside of the central migration corridor flyway where 50 percent of confirmed whooping crane sighting in North Dakota have occurred, but within an 80 mile corridor where 75 percent of sitings

have occurred. Impacts thought to occur primarily from the loss of stopover habitat will be minimal as only 50 acres (1% of the project area) will be permanently disturbed.

30. Mr. Terry Ellsworth, a fish and wildlife biologist with the USFWS, Ecological Services Division, Bismarck, North Dakota, testified that the USFWS has been providing technical assistance to Minnesota Power on the proposed Bison 1 wind project. Minnesota Power has committed to marking all new transmission lines associated with the Bison I Wind Project within the whooping crane corridor with bird flight diverters. Minnesota Power will also mark an equal length of existing and previously unmarked transmission lines within the corridor. Minnesota Power is also participating in the development of a whooping crane Habitat Conservation Plan. Mr. Ellsworth commended Minnesota Power for its willingness to work with the Service to avoid, reduce, and mitigate potential wildlife impacts that may result from construction and operation of the Bison 1 Project.

31. A wetland delineation was conducted for the Bison I Wind Project and the results were submitted to the Commission. Wetlands will be avoided to the extent practicable during the construction phase of the project. If impacts to Clean Water Act jurisdictional waters are unavoidable and less than one-half acre, Minnesota Power will seek project authorization under a Section 404 USACE Nationwide Permit (NWP) application. Permanent impacts to jurisdictional waters will be mitigated according to USACE requirements.

#### Mitigative Measures

32. Morton County has established setbacks for wind turbine towers from property boundaries, road right-of-ways (ROW), and occupied residences. Each wind turbine must be no less than 1.25 times its total height, or 1,320 feet (whichever is greater) from the nearest occupied dwelling, commercial building or publicly-used structure or facility, and state and county parks. From public road and above ground transmission lines, turbines must be located no less than 250 feet from the center line of the existing ROW. And from the wind energy facility perimeter, each turbine must be set back no less than 1.0 to 1.5 times its rotor diameter. Oliver County has not established setback requirements for wind turbines.

33. No turbines will be placed within 1,500 feet of an occupied residence. Average noise levels at such residences should not exceed 50 decibels (dB).

34. No turbines will be placed within 300 feet of the center line of existing public road ROW or within 1.1 times turbine height (from base to blade tip) of an above-ground electric transmission line.

35. Minnesota Power 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.

36. Minnesota Power has a legal obligation to decommission the wind energy facilities.

37. Minnesota Power made other representations and agreements as contained in the Certification Relating to Order Provisions – Wind Energy Conversion Facility Siting executed by Minnesota Power and filed with the Commission on August 12, 2009, which is incorporated in these Findings of Fact. The Commission accepts Minnesota Power's modification to Paragraph 17 that it shall bury all underground collection and feeder lines to a depth of at least 42 inches to the top of the lines.

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 Minnesota Power is an energy conversion facility site as defined in North Dakota Century Code section 49-22-03(11).
3. The Application submitted by Minnesota Power 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 now make its:

## Order

The Commission orders:

1. Certificate of Site Compatibility for an Energy Conversion Facility No. 15 is issued to Minnesota Power for the construction, operation, and maintenance of a wind energy facility known as Bison I Wind Project.
2. The site as designated in the Application is located in Morton and Oliver counties, North Dakota, approximately 10 miles north and northwest of New Salem, North Dakota, and is designated as the site for construction of the energy conversion facility.
3. Minnesota Power is authorized to site and construct up to 75.9 MW of wind turbines in proposed and alternate locations, along with electric collection and communication lines, a project substation, an operations and maintenance building, meteorological towers, access roads and other associated facilities identified in the application and at the August 25, 2009 public hearing.
4. Minnesota Power shall comply with the rules and regulations of all other agencies having jurisdiction over any phase of the proposed project, including all city, township, and county zoning regulations.
5. Minnesota Power shall obtain all other necessary approvals and permits, including concurrence from the State Historic Preservation Office, and provide copies to the Commission prior to any construction activity associated with the energy conversion facility that requires said concurrence, license or permit.
6. Minnesota Power shall conduct a pre-construction conference prior to the commencement of any construction, and must include a Minnesota Power representative, its construction supervisor, and a representative of the Commission staff to ensure that Minnesota Power fully understands the conditions set forth in this Order.
7. Minnesota Power shall inform the Commission of its intent to start construction on the energy conversion facility prior to the commencement of construction, and while construction is underway, Minnesota Power shall keep the Commission updated of construction activities on a weekly basis.
8. Minnesota Power shall construct and operate the energy conversion facility in the manner described in its application, at the hearing, in the late-filed exhibit, and in accordance with all applicable safety requirements.
9. Minnesota Power shall construct the energy conversion facility in compliance with the National Electric Safety Code.

10. Minnesota Power shall report to the Commission the presence in the permit area of any critical habitat of threatened or endangered species that Minnesota Power becomes aware of and were not previously reported to the Commission.
11. If any cultural resources, paleontological resources, archeological site, historical resource, or grave site is discovered during construction of the facility, earth disturbing activities in the immediate vicinity of this discovery must be halted. The resource must be marked, preserved, and protected from further disturbance until a professional examination can be made in consultation with the North Dakota SHPO. A report of such examination must be filed with the Commission, and clearance to proceed must be given by the SHPO and the Commission.
12. All pre-existing township and county roads and lanes used during construction must be restored to a condition that will accommodate their previous use, and areas used as temporary roads during construction must be restored to their original condition except as authorized by Morton and Oliver counties.
13. Construction must be suspended when weather conditions are such that construction activities will cause irreparable damage, unless adequate protection measures approved by the Commission are taken.
14. Reclamation, fertilization, and reseeding will be completed by Minnesota Power according to the Natural Resource Conservation Service recommendations, unless otherwise specified by the landowner and approved by the Commission.
15. Minnesota Power's obligations for reclamation and maintenance of the site shall continue throughout the life of the energy conversion facility.
16. When the energy conversion facility is retired, structures and other facilities must be removed in accordance with applicable rules and the areas restored to as near as original condition as is practicable.
17. Minnesota Power shall comply with the Commission's Tree and Shrub Mitigation Specifications attached to this Order.
18. Minnesota Power shall repair or replace all fences and gates removed or damaged during all phases of construction and operation of the proposed energy conversion facility.
19. Minnesota Power shall repair or replace all drainage tile, broken or damaged, during all phases of construction and operation of the proposed energy conversion facility.
20. Staging areas or equipment must not be located on cultivated land unless otherwise negotiated with landowners.



21. Minnesota Power 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.
22. Minnesota Power shall, as soon as practicable, upon the completion of the construction of each wind turbine, 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.
23. Minnesota Power shall provide, if requested, educational material for landowners within the site boundaries about the proposed energy conversion facility, and any restriction of possible danger concerning the proposed energy conversion facility.
24. Minnesota Power shall provide any necessary safety measures for traffic control or to restrict public access to the energy conversion facility.
25. Minnesota Power shall advise the Commission of any extraordinary events that take place at the site of the energy conversion facility, such as tower collapse, extensive turbine failure, injured worker or private individual, mortality events of any threatened or endangered species, or the discovery of a large number of dead birds or bats on the site within five business days of such event.
26. Minnesota Power shall implement a procedure for how complaints concerning the proposed energy conversion facility will be handled by Minnesota Power.
27. All underground electric line crossing of graded roads must be bored unless the responsible governing agency permits Minnesota Power to open cut the road.
28. Where available, at least 12 inches of topsoil over and along open cut areas, roadways, tower locations, and locations of associated facilities must be stripped and segregated from the subsoil and be replaced only after the subsoil is replaced.
29. Minnesota Power shall work with landowners and residents in the area to mitigate any increase in television and residential radio interference that results from the construction of the energy conversion facility.
30. Minnesota Power shall provide the Commission with engineering design drawings showing surveyed structure and collection substation locations prior to construction, and shall obtain approval from the Commission or from Commission staff prior to any changes in those surveyed locations.
31. Minnesota Power shall provide the Commission with as-built engineering design drawings and an electronic version of the as-built drawings that can be imported into ESRI GIS mapping software within six months after construction of the energy conversion facility is complete.

32. 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 each Certificate or subsequent modification, or failure to comply with the applicable statutes, rules, regulations, standards, and permits of other state or federal agencies.

33. Minnesota Power shall maintain records that will demonstrate that it has complied with the requirements of this Order and each Certificate of Site Compatibility, and that it will preserve these records for Commission inspection at any reasonable time upon reasonable notice.

34. When the facility is at the end of its useful life Minnesota Power will remove turbine structures and decommission the project area in accordance with all decommissioning rules adopted by the Commission and as delineated under North Dakota Century Code section 49-02-27.

35. The authorizations granted by each Certificate of Site Compatibility for this energy conversion facility are subject to modification by order of the Commission if deemed necessary to further protect the public or the environment.

**PUBLIC SERVICE COMMISSION**



**Tony Clark  
Commissioner**



**Kevin Cramer  
Chairman**



**Brian P. Kalk  
Commissioner**

**STATE OF NORTH DAKOTA**  
**PUBLIC SERVICE COMMISSION**

**Allete, Inc.**  
**Bison 1 Wind Project – Oliver/Morton Counties**  
**Siting Application**

**Case No. PU-09-151**

**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*), shall be inventoried before cutting. The inventory shall 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 that are inch diameter at breast height (dbh), shall be inventoried for replacement.
3. In native growth areas, trees anticipated to be cleared that are 3-inch dbh or greater shall be inventoried for replacement.
4. In native growth areas, shrubs anticipated to be cleared in the permanent right-of-way shall be inventoried for replacement.
5. In native growth areas outside the permanent right-of-way, shrubs shall 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 shall be preserved and replaced after construction. Shrubs shall 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 shall be inventoried for replacement.
6. In native growth areas, trees and shrubs may be inventoried by actual count or by 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 shall define the sampling method to be used for trees, for tall shrubs and for low shrubs. The data from the sample plots shall 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 shall be selectively cleared, leaving mature trees and shrubs intact where practical.

8. The width of clear cuts through windbreaks, shelterbelts and all other wooded areas shall be limited to 50 feet or less 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 shall be noted on the inventory.

### **Replacement**

10. Prior to replacement, documentation identifying the number and variety of trees removed as well as the mitigation plan for the proposed number, variety, type, location and date of replacement plantings shall be filed with the Commission for approval.

11. Tree replacement shall be on a 2 to 1 basis with 2-year-old saplings. Shrub replacement shall be on a 2 to 1 basis with stem cuttings.

12. Trees and shrubs shall be replaced by the same species or similar species (except in the case of invasive species or noxious weeds) suitable for North Dakota growing conditions as recommended by the North Dakota Forest Service.

13. Landowners shall be given the option of having replacement trees/shrubs planted off the right-of-way on the landowner's property or waiving that requirement in writing and allowing those replacement trees or shrubs to be planted at alternative locations.

14. At the conclusion of the project, documentation identifying the actual number, variety, type, location, and date of the replacement plantings shall be filed with the Commission.

15. Tree and shrub replacements shall be inspected once a year for three years, on about the anniversary of the plantings, and, on or shortly before October 1 of each year, a report shall be submitted to the Commission documenting the condition of replacement planting and any woodlands work completed. If after three years from the anniversary of the plantings the survival rate is less than 75%, the Commission may order additional planting(s).

**PUBLIC SERVICE COMMISSION**

**STATE OF NORTH DAKOTA**

**Certificate of Site Compatibility for Energy Conversion Facility**

**Certificate Number 15**

*This is to certify that the Commission has designated an energy conversion facility site for Minnesota Power's, an operating division of Allete, Inc., Bison 1 Wind Project consisting of up to 33 2.3 MW wind turbine generators and associated facilities in Morton and Oliver Counties of North Dakota.*

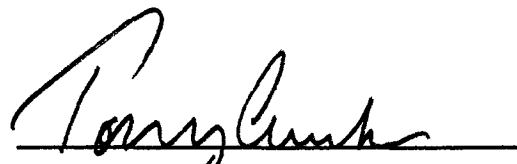
*The facility may be sited in this designated location in compliance with the energy conversion facility siting criteria. This certificate is issued in accordance with the Findings of Fact, Conclusions of Law and Order of the Commission in Case No. PU-09-151 dated September 29, 2009 and is subject to the conditions and limitations noted in that order.*

*Bismarck, North Dakota, September 29, 2009.*

**ATTEST:**

**PUBLIC SERVICE COMMISSION**

  
**Executive Secretary**

  
**Commissioner**