KEITU
ENGINEERS & CONSULTANTS, INC.

2610 OLD RED TRAIL STE. C
MANDAN, ND 58554-1447
701-667-1800

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PUBLIC SERVICE COMMISSION

January 19, 2012

North Dakota Public Service Commission
Darrell Nitschke
Executive Secretary
600 E. Boulevard Avenue Dept. 408
Bismarck, ND 58505-0489

Re: Case No. PU-08-75 Contract No. PU-599-10
Basin Electric
Prairie Winds ND1 in Ward County, ND

Dear Mr. Nitschke,

The State of North Dakota, acting through its North Dakota Public Service Commission (NDPSC), Division of Public Utilities, has engaged Keitu Engineers & Consultants, Inc. to perform consulting services for post-construction siting inspections. A final report was sent to you electronically via email. Enclosed is an original and copy of the final report for the post-construction inspection of Case No. PU-08-75.

The Executive Summary identifies items that still need attention by the Commission staff and siting applicant to ensure that the facilities for the project have been constructed in compliance with items identified by the ND Public Service Commission. Once these items are addressed, the Commission can act on final closeout of the construction phase of the project.

Should Commission staff or the NDPSC have any questions, please contact me for assistance.

Sincerely,

Timothy Spilman

Timothy Spilman
Project Manager

Enclosures

80 PU-08-75 Filed: 1/19/2012 Pages: 26
Final report for post-construction inspection

Keitu Engineers & Consultants, Inc.

Timothy Spilman

KEITU
ENGINEERS & CONSULTANTS, INC.

Basin Electric: Prairie Winds ND1, Inc.
115.5 MW Wind Farm
(Ward County, ND)

Prepared by Timothy Spilman, Project Manager, Keitu Engineering & Consultants, Inc.
Final Report

Executive Summary

Basin Electric: Prairie Winds ND1 (Prairie Winds) constructed a 115.5 MW wind project in north central North Dakota. They installed General Electric 1.5 MW utility-grade wind turbines in approximately 30,000 acres in Ward County. Electricity generated by each turbine is brought to a pad-mounted transformer where the voltage is stepped up to the collector system voltage of 34.5 kV. This electricity is transported by sets of underground power collection lines (collector system). The collector system delivers the electricity to the project collector substation. At the project collector substation the power will be transformed to 115 kV for transmission to a 115 kV transmission line owned by Western Area Power Administration (Western).

Four turbine access roads were relocated and one turbine was relocated outside of the Class III cultural survey initially conducted for the project. Therefore, a Class III cultural survey was required for these sites relocates prior to construction. Basin Electric should provide evidence of these areas being Class III culturally surveyed to complete Order #4.

Utility crossing permits were found for all highway crossings. During the post construction field inspection it was observed that no line marker posts were installed at these crossings. The DOT permits usually require line marker signs at these highway crossings. Basin should install line marker signs at the highway crossings and consideration should be given to install line marker signs where the collector lines cross public roads as part of completion of Order #4.

No documentation was found in the case file that reclamation, fertilization, and reseeding occurred after construction was completed. Construction was completed in December of 2009. The weekly progress report of 12/19/09 identified that access roads to turbines were not final product. The post construction field inspection identified that most reclamation and reseeding had occurred. During the post construction field inspection it was noted that reclamation was not complete on the collector lines in the area of turbine D51. Seeding may have occurred in this area however vegetation had not grown back as of January 10, 2012. Basin Electric should provide the Commission documentation that reclamation, fertilization, and reseeding occurred to complete Order #13.

During the post construction field inspection it was noted that some of the locations where the collector lines crossed under the access and primary roads the trench excavation sank and needs additional maintenance. Section lines roads are usually required to be bored by county road superintendent to eliminate sinking of trenched excavated facilities. Locations observed where maintenance is required are;

- Access road north of turbine C42.
- 30th Street SW has two crossings between turbines B28 and B29 which is a section line road. Section lines roads are usually required to be bored by county road superintendent.
- West of Hwy 83 on 261st Ave SE the collector line crossing sank and needs additional maintenance. Section lines roads are usually required to be bored by county road superintendent.
- 42nd Street SE east of turbine E65 the collector line crossing sank and needs maintenance.
- Access road into turbine E63 collector line crossing sank and needs maintenance.
- 42nd Street culvert installation

Basin should complete maintenance at these road sites and should reply to the Commission that this maintenance is complete to complete Order #14.

No record was found in the case file for Commission review of the estimated decommissioning cost per turbine and a comprehensive decommissioning plan that describes how the facility or turbine owner or operator plans to pay for decommissioning. Basin Electric was to provide the Commission this information prior to commencement of operation. Basin Electric should provide this information to the Commission as soon as possible as part of their responsibility to the fulfillment of Order #15.

No record of Basin Electric following any of Tree and Shrub Mitigation Specification attached to the Findings of Facts, Conclusions of Law, and Order are found in the case file. Basin needs to provide the Commission documentation of each item identified in the Tree and Shrub Mitigation Specification plan for the initial inventory, clearing for construction, and replacement. The Commission should act on items as provided for completion of this Order. No evidence to complete Order #16 is found in the case file.

No record of drainage tile discovery or damage was found in the case file. Basin Electric had agreements with landowners to repair or replace damage that occurred during construction. Basin Electric should provided evidence or a letter of correspondence to the Commission that no drainage tile was found, broken or damaged to complete Order #18.

Most clean up including the removing and disposing of debris occurred based on the post construction field inspection. Once attention is given to the five items found in the post construction inspection, Order #20 will be completed. Basin should notify the Commission that this cleanup identified in the post construction field inspection has been completed.

No record was found in the case file of Basin Electric restoration activities. Basin Electric should provide the Commission documentation of their restoration activities to provide enough information for the Commission to verify Order # 21 is complete.

No record was found in the case file of a landowner requesting educational materials for landowners within the site boundaries about the proposed energy conversion facility, and any restriction or possible danger concerning the proposed energy conversation. The Commission should request a copy of the educational materials for landowners that Basin Electric has available should a landowner request educational materials in the future. By Basin Electric providing a copy of these materials, sufficient information would be provided that Basin Electric has educational materials available. The educational material provided would complete Order #22.

By wording of Order #24, the Commission should be provided a copy of the annual bird mortality reports Kevin Solie of Basin Electric testified at the public hearing would be provided to the RUS, USFWS, and NDGFD for three years post-construction. Information about any whooping crane or sandhill crane mortality should be reported within five business days of such an event and would be in the post-construction annual reports that Basin Electric is to author. Once Basin Electric provides the annual bird mortality reports to the Commission, Order #24 can be evaluated for completion of the post construction inspection.

No record of a complaint concerning the energy facility was found in the case file. The Commission should request a copy of the written procedure or a letter stating how complaints concerning the energy facility were handled or would have been handled if a complaint had occurred. Once Basin Electric provides this procedure, Order #25 is complete.

The collector lines crossed main roads 40 times. Order #26 required Basin Electric to bore each main road crossing. No record of road borings or documentation that Basin Electric could open cut a road was found in the case file. Basin Electric should provided documentation to the Commission that roads were bored as required in Order #26. Once Basin electric provides proper documentation of boring roads, Order #26 would be completed.

As-built engineering design drawings and electronic version of the as-built drawings that can be imported into ESRI GIS mapping software were provided on August 31, 2011. Construction was completed on December of 2009 based on weekly progress reports. Therefore, as-built drawings were provided 20 months after construction of the energy conversion facility was complete. Order # 30 was not completed within the Commission's Order.

As part of the post construction inspection additional information is required by the Commission to verify that Basin Electric followed the requirements of the Orders set forth by the Commission. Should Basin Electric not be able to provide records requested by the Commission, Basin will have demonstrated that it did not maintain proper project records and will therefore have not followed Order #32.

Basin Electric: Prairie Winds ND1 (Prairie Winds) complied with all other Order requests of the Commission.

Preliminary Statement

On February 19, 2008, Prairie Winds ND1, a wholly owned subsidiary of Basin Electric Power Cooperative (Basin Electric) submitted to the Commission a letter notifying the Commission of its intent to construct a 115.5 megawatt (MW) wind project in north central North Dakota. Basin Electric also requested the Commission shorten the one-year waiting period between filing a Letter of Intent and the filing of an Application for a certificate of site compatibility. On March 12, 2008, the Commission acknowledged the Letter of Intent, shortened the one year waiting period between filing a Letter of Intent and a Siting Application to one day, and assessed a filing fee of $100,000.

On March 6, 2009 Basin Electric submitted an Application for a Certificate of site Compatibility for the Prairie Winds ND1 Project, Ward County, North Dakota. The Commission issued a Notice of Filing and scheduled a public hearing of May 26, 2009. On May 26, 2009 the public hearing was held.

On August 12, 2009 the Commission issued a Certificate of Site Compatibility for Energy Conversion Facility Certificate Number 14. Prairie Winds ND1 construction was completed by December 26, 2009.

The State of North Dakota, acting through its North Dakota Public Service Commission (NDPSC), Division of Public Utilities, has engaged Keitu Engineers & Consultants, Inc. to perform consulting services for post-construction siting inspections. This report addresses the Orders established by the NDPSC and issues established in File No. PU-08-75.

The Commission orders:

1. **Certificate of Site Compatibility for Energy Conversation Facility No. 14 is issued to Basin Electric for the construction, operation, and maintenance of a wind energy facility known as the Prairie Winds ND1 project.**

On August 12, 2009 the Commission issued a Certificate of Site Compatibility for Energy Conversion Facility Certificate Number 14. The certificate certified that the Commission designated an energy conversion facility site for Basin Electric Power Cooperative's Prairie Winds ND1 project consisting of up to 77 1.5 MW wind turbine generators and associated facilities in Ward County, ND.

The facility was sited in this designated location in compliance with the energy conversion facility siting criteria. The certificate was issued in accordance with the findings of Fact, Conclusions of Law and Order of the commission in Case No. PU-08-75 dated August 12, 2009 and is subject to the conditions and limitations noted in that Order. Therefore, Order #1 has been completed.

2. **The site described in the application consists of approximately 30,000 acres in Ward County, North Dakota, south of the city of Minot, North Dakota, and is designated as the site for construction of the energy conversion facility.**

Findings of Fact #5 (Docket #40) identified that the project area is approximately 30,000 acres. The wind turbines will be placed throughout the project area; however, the approximate area of direct land use for the turbines and associated facilities will be 100 acres. As built engineering design drawings were received by the Commission on September 2, 2011 (Docket #77). The as-built drawings were verified versus the proposed locations and that they were consistent with approximately 30,000 acres in Ward County, North Dakota. Therefore, Order # 2 was followed and is completed.

3. **Within the permitted area, Basin Electric is authorized to site and construct up to 115.5 MW of wind turbines in proposed and alternate locations along with electrical collection and communication lines, access roads, an operations and maintenance building, a collector substation and other associated facilities as identified in the Application.**

The project site is approximately 30,000 acres (47 square miles) and the northern border of the site is located approximately 15 miles south of the City of Minot. The 77 turbines were placed throughout the project site for a wind energy facility of 115.5 Megawatts. The associated facilities constructed included a collection substation, access roads, wind measuring equipment, an operations and maintenance building, underground collection lines, and communication lines. The project site was located in Township 152 N Range 83 W Sections 13-15, 20-30, 33-36; Township 152N Range 82 W Sections 19-21, 28-33; Township 151 N Range 83 W Sections 1-5, 8-17, 20-22, 27; and Township 151 N Range 82W Sections 4-9,18-19. The project was constructed within the permitted area. Order # 3 is complete.

4. **Basin Electric shall comply with the rules and regulations of all other agencies having jurisdiction over any phase of the proposed project. Prior to commencing construction of the proposed project, Basin Electric shall obtain all other necessary approvals and permits for construction and provide copies to the Commission prior to any construction activity associated with the energy conversion facility that requires said concurrence, license, or permit.**

Thirty five agencies and 10 Native American tribes were contacted initial about this project. Basin Electric worked with agencies to address concerns they had with the project. North Dakota Game and Fish Department, US Fish and Wildlife Service, North Dakota SHPO, North Dakota Parks and Recreation Department, North Dakota Health Department, North Dakota Department of Transportation, US Army Corps of Engineers, Ward County Commissioners, and Northern Cheyenne Tribe responded to the initial contact. The USDA Rural Utilities Service (RUS) was

the lead agency for the project. Basin Electric provided discussion concerns and mitigation measures to be conducted during construction in its siting application (Docket # 9).

Basin Electric obtained the necessary approvals from Ward County, Newman Township and Gasman Township prior to construction. The site is located in portions of Gasman, Newman, Rushville, and Iota Flats Townships in Ward County, North Dakota.

Appendix C3 Class III Cultural Resource Report was conducted May 26th through June 3, 2008. On July 20, 2009 State Historical Preservation Office (SHPO) concurred with a "No Historical Properties Affected" determination provided the project is of the nature stated, it takes place in the plotted location, and it avoids impacts to unevaluated sites as stipulated in the RUS documentation. The Class III survey used a 100 feet wide corridor along collector lines, communication lines, and access roads. The Class III survey was conducted for 600 feet diameter around each tower, O & M building, and the collection substation. The inventory examined 83 turbine locations (including alternate locations), access roads and underground collector lines which totaled 1,484 acres.

The access roads initially graded dirt and were covered with an aggregate surface. Fabric underlayment was also observed during the post construction field inspection. Once construction was completed, the roads were re-graded, filled, and dressed as needed. In comparing the initial turbine site map of figure 1 (Docket #9 page 119/420) of the application and the final proposed site turbine map (Docket #21) it can be seen that the east/west road from turbine A07 to 42nd St SE and the north/south turbine road from E75 to 317th Avenue were added from the initial figure 1 turbine site map. These roads were verified as on the Final Turbine Site Plan map (Docket #21) during the post construction field inspection. Also during the post construction field inspection, the access road into B30 comes from B27 to the north which was not identified on the final site plan map (Docket #21) prior to construction. Also the access road to B22 come into the turbine site north-south off Hwy 23 and not off 13th Street SE as identified on the final site plan (Docket #21). These four roads were not part of the initial roads in the Class III Cultural Resource Report. Therefore, these roads require a Class III survey for these four road areas before road construction of these roads could begin. Basin Electric should provide evidence that these roads were Class III surveyed to comply with SHPO guidelines.

On August 18, 2009 Basin Electric requested approval for three turbine location changes for turbines A04, E70 and D53. Towers A04 and D53 were moved within the 600 foot diameter radius around the proposed location. Turbine E70 was moved 1,307 feet, direction 335.3° from its initial proposed location. Turbine E70 was relocated outside of its initial 600 feet diameter Class III survey around its original proposed location. Therefore, a Class III survey for the move location of turbine E70 was required prior to construction. Basin Electric should provide evidence that a Class III survey was conducted for the move location of turbine E70 as part of completion of Order #4.

Table 17 (Docket #9) of the application listed potential permits and approvals required for construction and operation of the proposed facility. The table only identified 2 permits required from the North Dakota Department of Transportation. In reviewing the proposed site layout and final as-built maps collection lines and SCADA communication lines crossed Highway 83 four

times and Highway 23 twice. Utility crossing permits were found for all highway crossings. During the post construction field inspection it was observed that no line marker posts were installed at these crossings. The DOT permits usually require line marker signs at these highway crossings. Basin should install line marker signs at the highway crossings and consideration should be given to install line marker signs where the collector lines cross public roads as part of completion of Order #4.

The August 14, 2009 letter (Docket #41) to the Commission Counsel provided documentation of:

- RUS Environmental Assessment and Finding of No Significant of Impact (FONSI).
- Stormwater Permit
- Conditional Use Permit and Project Zoning approval from Gasman Township
- Conditional Use requirements building permit from Newman Township
- Ward County Variance Applications and approvals for turbines B19, A16, and E74.
- Building Permit for Ward County
- Various county, township and state road and Utility Crossing permits, and approach permits.

Basin Electric provided documentation to the Commission required that they would comply with the rules and regulation of all agencies having jurisdiction over any phase of the proposed project prior to construction. Item #7 of the pre-construction meeting (Docket #41) on August 13, 2009 with the PSC identified that Basin Electric would submit an RFI and proper procedures would be followed for any engineering changes. Four turbine access roads were relocated and one turbine was relocated outside of the Class III cultural survey initial conducted for the project. Therefore, a Class III cultural survey was required for these sites prior to construction. Basin Electric should provided evidence of these areas being Class III culturally surveyed to complete Order #4.

5. **Basin Electric shall conduct a pre-construction conference prior to the commencement of any construction, and must include a Basin Electric representative, its construction supervisor, and a representative of the Commission staff to ensure that Basin Electric fully understands the conditions set forth in this Order.**

On August 13, 2009 at 8:30 AM a pre-construction meeting was held at the Doublewood Inn, Bismarck, ND. Twenty two people were in attendance including Jerry Lein of the Commission staff. The agenda had 8 items that were covered. The Commission staff read the Order to make sure everyone understood the Commission's requirements. Safety and guidelines, contractors, site coordination and communication, division of responsibilities, engineering changes, and open discussion were covered. The minutes of the meeting were sent to the Commission on August 14, 2009 (Docket #41 pages 9 and 10). Order #5 was completed.

6. **Basin Electric 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, Basin Electric shall keep the Commission updated of construction activities on a weekly basis.**

Basin Electric; Prairie Winds ND1 notified the Commission of its intent to start on August 17, 2009 by letter on August 14, 2009 (Docket #41 page 1). Weekly progress reports were sent to the Commission for construction from the week ending August 22, 2009 through the week ending December 26, 2009 (Docket #s 44, 47, 49. 50-53, 55, 62-70). Order # 6 was completed.

7. **Basin Electric shall construct and operate the energy conversion facility in the manner described in its application and at the hearing, and in accordance with all applicable safety requirements.**

Construction and operation of the project was to be in accordance with all associated local, federal, state permits and laws, as well as industry construction and operation standards.

The project was commissioned after completion of the construction phase. The project underwent detailed inspection and testing procedures prior to final turbine commissioning. Inspection and testing was conducted for each component of the wind turbines, as well as the communication system, obstruction lighting, substation, collection and feeder system, and the SCADA system. The project was designed using proper safety standards and construction using applicable safety requirements with testing of equipment and facilities before the facilities were commissioned. Towers were constructed using ANSI specifications. Based on this information and no record in the case file of no injuries during construction, Order #7 was followed during construction.

8. **Basin Electric shall construct the energy conversion facility in compliance with the National Electrical Safety Code.**

The Project was constructed according to current National Electrical Safety Code (NESC) and Federal Communications Commission electrical interference standards. Federal Aviation Administration requirements were followed for lighting protection. Each turbine has a FAA L-864 aviation red-colored flashing light with a white colored turbine. Electrical components were protected. Utility protection and metering equipment was to meet Basin Electric's and NESC standards. NESC standards appeared to be followed based on observations during the post construction field inspection of turbines and the collector substation. Based on the design information in the case file, the post construction field inspection, turbine manufacturer GE's final inspection of turbines, and Western allowing an interconnect to its transmission system; Order #8 was followed.

9. **Basin Electric shall promptly report to the Commission the presence in the permit area of any critical habitat of threatened or endangered species that Basin Electric becomes aware of and that were not previously reported to the Commission.**

The US Fish and Wildlife Service sent a letter of concerns about the project on April 18, 2008 (Docket #7). They identified the Whooping Crane and Gray Wolf as endangered species and the Piping Plover as threatened species and concerns of the Dakota Skipper butterfly in the project area.

This project was subjected to the National Environmental Policy Act (NEPA) with the US Dept of Agriculture Rural Utilities Service (RUS) being the lead agency (Docket #04) with Western and the US Fish and Wildlife Service (USFWS) being cooperating agencies. The final Environmental Assessment for the project concluded a "Finding of No Significant Impact" (FONSI) by the RUS and Western (Docket #21, 51).

Basin provided training to its contractors and employees about critical habitat of threatened or endangered species prior to construction starting. No weekly construction reports had any documentation of siting any habitat of threatened species, endangered species, bald eagles, or golden eagles during construction. No other information was found in the Commission's file about reporting of any critical habitat during construction. Based on information in the case file, Order #9 was followed.

10. **If any cultural resource, paleontological resource, archeological site, historical resource, or gravesite is discovered during construction of the facility, earth-disturbing activities in the immediate vicinity of the 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 State Historic Preservation Office (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.**

A Class III cultural resource inventory was performed at the Project Area. The inventory examined 83 turbine locations (including alternate locations), access roads and underground collector lines which totaled 1,484 acres. This inventory identified 31 sites and three isolated finds. Of the 31 sites, 19 are prehistoric sites, 11 are historic sites and one is a multi-component site. The prehistoric sites include 18 stone feature sites and one depression site. The historic sites include two architectural sites and nine archaeological sites. The multi-component sites consist of historic architectural features, historic archaeological remains and a prehistoric stone feature. The three isolated finds consist of two lithic tools and one lithic flake, all of which are made of Knife River Flint. Of these sites, one is recommended eligible to the NRHP, 10 are not recommended eligible and the eligibility of the remaining 20 sites is undetermined (Ethnoscience 2008). The layout for the project site had been revised to avoid impacts on all cultural and historical features identified in the Class III survey.

No impacts were anticipated to known cultural resources in the site. Basin Electric was committed to minimize impacts to cultural resources and would avoid these resources and any additional cultural resources identified throughout the life of the project. On October 5, 2009 Basin Electric requested approval for a location change for turbine D47 (Docket #54) during construction. Property owner of the new location was aware of the change and was in concurrence with the move. The reason for this location change was further avoidance of cultural resource site. This move request must have been due to something on site during construction. Commission staff approval of this turbine location change was approved by email on October 7, 2009 (Docket #48) and a formal letter sent of October 20, 2009 (Docket #58). Basin Electric demonstrated its commitment to minimizing impact to cultural resources by requesting a turbine move to mitigate potential impact. The move request and approval was clearance to proceed. Order # 10 was followed during construction.

11. All pre-existing 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.

County and township (section line) roads characterize the existing roadway infrastructure in and around the project site. There are two state highways within and adjacent to the project site. Highway 83 runs through the eastern portion of the project site north to south. Highway 23 runs through the northern portion of the project site east to west.

Basin Electric worked closely with the landowners to locate access roads to minimize land-use disruptions to the extent possible. Access to the wind project area would be along existing gravel or paved county roads. Some existing roads were upgraded by Basin Electric to accommodate the construction vehicles and haul equipment. Construction of additional roads was to access specific turbine locations was also conducted. Roads existing to be improved, section lines to be improved, and turbine roads were identified on the proposed final turbine site plan (Docket #21). New turbine access roads were 16 feet wide or less and constructed of gravel. In some instances, larger turnaround areas were installed for trucks and equipment hauling project components. The entire project required 19.3 miles of new roads, 8.93 miles of upgrades to existing roads, and several acres of turnaround and temporary staging areas. Areas that are disturbed by construction of temporary roads or turnaround areas recovered naturally with vegetative reestablishment or reseeding with native vegetation after the temporary roads are permanently removed.

All roads included appropriate drainage and culverts while still allowing for the crossing of farm equipment. The roads were up to 16 feet wide and were covered with road base designed to allow passage under inclement weather conditions. The roads were first graded dirt and were covered with an aggregate surface. Fabric underlay on access roads was also observed on roads during the post construction field inspection. Once construction was completed, the roads were re-graded, filled, and dressed as needed.

Pre-existing roads and lanes used during construction were restored to a condition that accommodates it previous use and areas used as temporary roads during construction were restored to their original condition. Order #11 was followed.

12. 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.

No evidence that construction was suspended due to weather conditions was found in the case file. During the post-construction field inspection no irreparable damage was observed at the project site. In reviewing the weekly progress reports it was identified on the report for the week ending 12/26/09 that each turbine unit had a final inspection by GE. The GE inspection would determine if irreparable damage would have occurred during their inspection. The turbines and associated facilities undergo testing prior to commissioning. This would also determine if irreparable damage occurred during construction. Based on these inspections occurring, Western allowing the interconnection of the facility to its transmission, and the Basin Electric SCADA alarm system installed that can communicate alarms for problems occurring within the facility and can assist in trouble-shooting Order #12 was followed.

13. Reclamation, fertilization, and reseeding is to be done by Basin Electric according to the Natural Resource Conservation Service recommendations for CRP, native prairie, and other non-cropped lands unless otherwise specified by the landowner and approved by the Commission.

Basin Electric stated in its application and testimony at the hearing that it would revegetate non-cropland and pasture areas with seeding mix as recommended by USFWS and NRCS. Basin Electric was to inspect and control noxious weeds in the vicinity of the turbines, access roads, and associated facilities immediately after construction. Case file information identified Basin Electric working with USFWS and NRCS prior to construction. The civil infrastructure construction drawings (Docket #41) had a drawing for road widening for crane moving access roads along 90° curves (page 103/113). The widening was to be temporary access road widening according to the drawing. The civil infrastructure construction drawings (page 112/113) also had seeding requirements that were to be followed for reclamation.

No documentation was found in the case file that reclamation, fertilization, and reseeding occurred after construction was completed. Construction was completed in December of 2009. The weekly progress report of 12/19/09 identified that access roads to turbines were not final product. The post construction field inspection identified that most reclamation and reseeding had occurred. During the post construction field inspection it was noted that reclamation was not complete on the collector lines in the area of turbine D51. Seeding may have occurred in this area however vegetation had not grown back as of January 10, 2012.

Basin Electric should provide the Commission documentation that reclamation, fertilization, and reseeding occurred to complete Order #13.

14. Basin Electric's obligation for reclamation and maintenance of the site shall continue throughout the life of the energy conversation facility.

Basin Electric is to inspect and control noxious weeds in the vicinity of the turbines, access roads, and associated facilities immediately after construction and periodically for the life of the project. The post construction field inspection verified that reclamation has been occurring at the project site. Excellent Erosion controls throughout the project site were found.

During the post construction field inspection it was noted that some of the locations where the collector lines crossed under the access and primary roads, the trench excavation sank and needs additional maintenance. Locations observed where maintenance is required are;

- Access road north of turbine C42.
- 30th Street SW has two crossings between turbines B28 and B29 which is a section line road. Section lines roads are usually required to be bored by county road superintendent.
- West of Hwy 83 on 261st Ave SE the collector line crossing sank and needs additional maintenance. Section lines roads are usually required to be bored by county road superintendent.
- 42nd Street SE east of turbine E65 the collector line crossing sank and needs maintenance.
- Access road into turbine E63 collector line crossing sank and needs maintenance.
- 42nd Street culvert installation

Basin should complete maintenance at these road sites and should reply to the Commission that this maintenance is complete to complete Order #14.

Each wind turbine in the project communicates directly with the SCADA system for the purposes of performance monitoring, energy reporting and trouble-shooting. The wind farm project operates and is maintained by Basin Electric.

Basin Electric and the appropriate supplier control, monitor, operate, and maintain the project by means of a SCADA computer software program. In addition to regularly scheduled on-site visits, the wind farm may be monitored via computer. The SCADA system offers access to wind turbine generation or production data, availability, meteorological, and communications data, as well as alarms and communication error information.

Performance data and parameters for each machine (generator speed, wind speed, power output, etc.) can also be viewed, and machine status can be changed. There is also a "snapshot" facility that collects frames of operating data to aid in diagnostics and troubleshooting of problems.

Basin Electric remotely monitors the project on a daily basis. This monitoring is accompanied by a visual inspection by the on-site operating staff. Several daily checks were made in the first three months of commercial operation to ensure the project was operating within expected parameters. The project service and maintenance was planned and is divided into the following intervals:

(1) First service inspection
(2) Semi-annual service inspection
(3) Annual service inspection

(4) Two years service inspection
(5) Five years service inspection

The O&M field duties comprise performing all scheduled and unscheduled maintenance, including periodic operational checks and tests; and regular preventive maintenance on all turbines, related plant facilities and equipment, safety systems, controls, instruments, and machinery, including:

- maintenance on the wind turbines and the mechanical, electrical power, and communications system;
- performance of all routine inspections;
- maintenance of all oil levels and changing oil filters;
- maintenance of the control systems, all Project structures, access roads, drainage systems, and other facilities necessary for the operation;
- maintenance of all O&M field maintenance manuals, service bulletins, revisions, and documentation for the Project;
- maintenance of all parts, price lists, and computer software;
- maintenance and operation of Project Substation;
- supplying all labor, services, consumables, and parts required to perform scheduled and unscheduled maintenance on the wind farm, including repairs and replacement of parts and removal of failed parts;
- cooperation with avian and other wildlife studies as may be required to include reporting and monitoring;
- management of lubricants, solvents, and other hazardous materials as required by local and/or state regulations;
- maintenance of appropriate levels of spare parts in order to maintain equipment
- ordering and maintenance of spare parts inventory;
- providing all necessary equipment including industrial cranes for removal and reinstallation of turbines;
- hiring, training, and supervising a work force necessary to meet the general maintenance requirements; and
- implementing appropriate security methods.

Basin crews were performing maintenance on turbines D54, D55, B22, A12, E67, and E71 the day of the post construction field inspection.

To date based on the post construction field inspection, application, hearing testimony, and a review of the project site using GIS Arc Map ND GIS hub information Order #14 has been followed except of collector line sunken trenches that need maintenance.

15. When the energy conversion facility is retired, structures and other facilities must be removed in accordance with applicable rules, and the area restored to as near as original condition as is practicable.

No part of the energy conversion facility has been retired as of the date of this report. Basin Electric has a contractual obligation to the landowners to remove the wind facilities, including

foundations (NDAC 69-09-09). Basin Electric is responsible for decommissioning Prairie Winds – ND1 and for all costs associated with decommissioning that facility and associated facilities.

Decommissioning and site restoration would include dismantling and removal of all towers, turbine generators, transformers, and overhead cables; removal of underground cables to a depth of twenty-four inches; removal of foundations, buildings, and ancillary equipment to a depth of three feet and removal of surface road material and restoration of the roads and turbine sites to substantially the same physical condition that existed immediately before construction of the commercial wind energy conversion facility or wind turbine (NDAC 69-09-09).

The site is to be restored and reclaimed to the same general topography that existed just prior to the beginning of the construction. Areas disturbed by the construction of the facility and decommissioning activities are to be graded, top soiled, and reseeded according to natural resource conservation service technical guide recommendations and other agency recommendations (NDAC 69-09-09).

Prior to commencement of operation of the project Basin Electric was to file for Commission review, the estimated decommissioning cost per turbine for the proposed facility and a comprehensive decommissioning plan that describes how the facility or turbine owner or operator plans to pay for decommissioning.

Basin Electric reserved the right to explore alternatives regarding Project decommissioning at the end of the Project Certificate term.

No record was found in the case file for Commission review of the estimated decommissioning cost per turbine and a comprehensive decommissioning plan that describes how the facility or turbine owner or operator plans to pay for decommissioning. Basin Electric was to provide the Commission this information prior to commencement of operation. Basin Electric should provide this information to the Commission as soon as possible as part of their responsibility to the fulfillment of Order #15.

16. Basin Electric shall comply with the Commission's Tree and Shrub Mitigation Specifications attached to this Order.

No significant impacts were anticipated to woodlands. Basin Electric said they would protect existing trees and shrubs where practicable. If impacts are unavoidable, Basin Electric will replace existing trees and shrubs at a 2:1 ratio unless directed otherwise by the landowner.

Kevin Solie of Basin Electric testified at the hearing "Some small areas of shrubs and occasional small trees occur in the project area. A small number of trees and shrubs will need to be removed to allow for the construction and operation of the project. As a mitigation measure, Basin Electric will replant two trees or shrubs for every tree or shrub removed during the construction of the project."

No record of Basin Electric following any of Tree and Shrub Mitigation Specification attached to the Findings of Facts, Conclusions of Law, and Order are found in the case file. Basin needs to provide the Commission documentation of each item identified in the Tree and Shrub Mitigation Specification plan for the initial inventory, clearing for construction, and replacement. The Commission should act on items as provided for completion of this Order. Order #16 requires Basin Electric to provide tree and shrub evidence of clearing and proposed replacement to the Commission for approval. Replacements shall be inspected once a year for 3 years and submitted to the Commission. If after the three years from the anniversary of the plantings the survival rate is less that 75%, the Commission may order additional plantings. No evidence to complete Order #16 is found in the case file.

17. **Basin Electric shall repair or replace all fences and gates removed or damaged during all phases of construction and operation of the proposed energy conversion facility.**

The civil infrastructure construction drawings (Docket #41) had a gate drawing (page 107/113) to be used where gates were to be installed at all locations where permanent access roads intersect existing roads. The civil infrastructure construction drawings had two cattle guard drawings (pages 108,109/113). Fence areas were replaced with gates where permanent access roads intersected existing roads were installed based on the post construction inspection. Basin Electric had agreements with landowners that fences and gates removed or damaged would be repaired or replaced. During the post construction field inspection, all fences and gates were in placed and were in good working order. No complaints from landowners about fences or gates were found in the case file. Order # 17 was followed.

18. **Basin Electric shall repair or replace all drainage tile, broken or damaged, during all phases of construction and operation of the proposed energy conversation facility.**

The project was cited on rural agricultural land with 53% cropland, 15% tame grassland, and 30 % native cover types, including wetland areas. No record of drainage tile discovery or damage was found in the case file. Basin Electric had agreements with landowners to repair or replace damage that occurred during construction. Drainage tile is not likely in areas of rural agricultural land in western North Dakota with a National Wetlands Inventory such as the one found on this project site area (Figure 3 page 121/420 of the application). Basin Electric did construct a drain field for their O & M building site.

Basin Electric should provided evidence or a letter of correspondence to the Commission that no drainage tile was found, broken or damaged to complete Order #18.

19. Staging areas or equipment must not be located on cultivated land unless otherwise negotiated with landowners.

The 600 feet radius around each wind turbine that the Class III Cultural Resource study was performed was used as the staging area for each turbine. The collector substation materials and equipment was staged on the substation property. Fifty three percent of the project site was on cropland. Basin Electric had agreements with all landowners the project was located on. Basin Electric landman worked with the landowners to settle all concerns of the agreements between both parties once construction and reclamation was completed.

Based on no complaints were found in the case file, staging areas or equipment were not located on cultivated land unless negotiated with the landowner. Order #19 is completed.

20. Basin Electric 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.

Construction occurred beginning in September of 2009 with completion of construction occurring be the end of December 2009. The construction period was less than 4 months. No record was found in the case file as to when final restoration was completed at the site.

Potentially hazardous materials associated with the project included fluids found in association with turbines and substation/transformer equipment. There were three types of fluids used in the operation of the wind turbines that are petroleum products: gear box oil, hydraulic fluid, and gear grease. These fluids are necessary for the operation of each turbine. The transformers contain mineral oil. All petroleum fluids will be contained within the wind turbines and electrical equipment. Basin Electric stated in its application that any petroleum wastes generated will be handled and disposed of in accordance with local, state and federal regulations. A Spill Prevention Control and Countermeasures Plan and NPDES General Construction storm water permit were established to address these petroleum products spills and wastes.

The construction of the foundation can cause excess concrete pours, framing material waste and excess rebar. Debris associated with the construction of the project can be packaging material, crates, palates, conductor reels, and wrapping. Excess excavated soil and removed vegetation can also be part of the waste that is a product of the construction and operations. The USFWS and USACE permits stated that waste materials will not be placed in wetlands or other aquatic resources. During construction solid wastes were temporarily stored within the right-of-way or within the temporary construction easements, and then transported to appropriate disposal facilities. The permits required for this project stated that during construction solid wastes were to be picked up and place in containers that were to be emptied regularly. The permits also addressed that Basin Electric or its contractors would prevent contamination of the project sites and other areas when handling and disposing of the wastes.

Items that require attention of Basin identified during post construction field inspection to complete Order #20 are:

- On the access road between turbines D49 to D50- 2" plastic casing pipe is laying in the ditch on the north side of the road. This needs to be removed.
- Along the access road to turbine D51 there is a pile of erosion rolls that have not been removed as part of clean-up. This pile needs to be removed.
- A 6" casing pipe was found lying in the ROW at the Corner of 30th St SW & 261st Avenue SE that needs to be removed off site as part of clean-up.
- In the west ROW ditch of 30th Street SW by turbine B28 casing pipe piles, trailers, equipment parked and debris were found during the post construction field inspection and need to be cleaned up and removed.
- Reels and garbage items from the project are located just south of the Collector Substation. Although on Basin property, these items should be removed as they are debris within the substation area.

No waste materials were observed on the project site and wetland or other aquatic resources areas during the post construction field inspection. Most clean up including the removing and disposing of debris occurred based on the post construction field inspection. Once attention is given to the five items identified in the previous paragraph, Order #20 will be completed. Basin should notify the Commission that this cleanup identified in the post construction field inspection has been completed

21. Basin Electric, shall, as soon as possible, 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.

Basin Electric was to revegetate non-cropland and pasture areas with seeding mix as recommended by USFWS and NRCS. Seeding requirements were identified on page 112/113 of the civil infrastructure drawings (Docket #41). Basin Electric was to inspect and control noxious weeds in the vicinity of the turbines, access roads, and associated facilities immediately after construction and periodically for the life of the project.

Limited ground disturbance at each turbine site occurred during construction. The foundation pad area excavated was preformed with a backhoe or track hoe, and excess materials were transported off-site for disposal or disposal according to the landowner's wishes according to applicable regulations. During construction a minimum of 135 ft radius from the tower foundation was required for the crane pad, rotor lay down and construction area, and various construction activities. The foundation area was to have a diameter of 40 feet underground with up to 20 feet in diameter of concrete exposed at the surfaces. Disturbed areas were to be restored to their original condition to the maximum extent practicable.

Towers were set the week of October 17th through December 5, 2009. Weather during this time included cold weather, freezing and snow. Restoration of the area could have been affected by weather conditions. Restoration of the affected activities areas were probably restored in the spring of 2010. The post construction field inspection of the site in 2012 determined that the

affected areas were restored to their original condition to the maximum extent practicable except in the area of turbine D51. No record was found in the case file of Basin Electric restoration activities. Basin Electric should provide the Commission documentation of their restoration activities to provide enough information for the Commission to verify Order # 21 is complete. Restoration should have been completed in the spring of 2010 or sooner for them to have completed restoration as soon as possible to complete Order #21.

22. Basin Electric shall provide, if requested, educational materials for landowners within the site boundaries about the proposed energy conversion facility, and any restriction or possible danger concerning the proposed energy conversation facility.

Basin Electric held a public meeting in April 2008 in Minot, ND to inform the public and all concerned parties of this project. They gave a presentation and answered questions and answers. Basin Electric stated in its application that keeping the public informed on the status of the project was key component to its success. Principal stakeholders in the project were the landowners that have entered into agreements with Basin Electric to provide wind rights for the project. Basin Electric also met with County officials as the project proceeded for permits and required zoning approvals from the County. Basin Electric and their representatives met with key state and federal agencies including the Department of Commerce, the USFWS, Minot Air Force Base, and the NDGFD to inform them of the project and to address areas of interest particular to each department. Basin Electric stated that it was committed to keeping key stakeholders engaged in the project as it moved forward.

No record was found in the case file of a landowner requesting educational materials for landowners within the site boundaries about the proposed energy conversion facility, and any restriction or possible danger concerning the proposed energy conversation. The Commission should request a copy of the educational materials for landowners that Basin Electric has available should a landowner request educational materials in the future. By Basin Electric providing a copy of these materials, sufficient information would be provided that Basin Electric has educational materials available. The educational material provided would complete Order #22.

23. Basin Electric shall provide any necessary safety measures for traffic control or to restrict public access to the energy conversation facility.

Four lane Highway 83 though the eastern portion of the wind farm has an average annual daily traffic of 4250 vehicles and 650 trucks. Two lane Highway 23 in the northern portion of the wind farm has an average annual daily traffic of 975 vehicles and 130 trucks.

In Basin Electric's application it stated that no safety measures were anticipated due to the project and therefore no mitigation was necessary. The maximum construction workforce generated approximately 50 additional vehicle trips per day. Using any combination of state and county highways and other township roads throughout the project site, the traffic impacts were considered negligible. Area roadways had minimal ADT, the addition of 25 vehicle trips represent

a large percentage increase but was still less than seasonal variations such as autumn harvest. The capacity of any route and Level-of-Service to the traveling public was not impacted.

In reviewing the criteria stated in Basin Electric's application with standards established in the Highway Capacity Manual 2000, no additional safety measures for traffic control was required. Basin Electric temporary widened public roads for 90° turn locations so trucks with cranes could turn relatively easy and faster to travel off public roads. This is a safety measure Basin Electric provided during the project. Basin Electric also installed gates to access roads to restrict public access to the energy conversion facility. Based on the information provided by Basin Electric in the case file, the necessary safety measures for traffic control and the gating of project access roads restricting public access to the facility was satisfactory. Order #23 was satisfied.

24. Basin Electric shall advise the Commission of any extraordinary events which take place at the site of the energy conversion facility, such as tower collapse, turbine failure, injured worker or private individual, the death 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.

Basin Electric notified the Commission of a submission of extraordinary event Report of a blade on a wind tower that failed on Turbine 26 or the Prairie Winds ND1 facility on Saturday afternoon (April 30, 2011) by letter (Docket #75) on May 4, 2011. Basin notified the Commission within 5 business days of this event. No additional information of this event is found in the case file. Basin Electric followed Order #24 for this incident. The Commission may request an update of the findings from this event as part of Order #14.

Basin Electric conducted environmental studies of the project site to aid in the initial placement of turbines, roads, and associated facilities to avoid or minimize impacts to wildlife and habitat. They also coordinated with USFWS and NDGFD regarding avian monitoring and minimization of impacts to whooping cranes, WPAs and easement areas.

Basin Electric worked to minimizing wildlife impacts within the project area. Basin Electric design their facility to minimize avian impacts, using tubular towers to minimize perching, placing electrical collection lines underground and minimizing infrastructure.

Bat annual mortality was estimated for PrairieWinds-ND 1 based on monitoring data from the Buffalo Ridge project indicate a potential bat range of mortality of 5 to 179 per year. Most bat casualties at wind farms have been species that conduct long migrations between summer roosts and winter hibernacula. The site did not contain topographic features that may funnel bats during migration.

The impact of the project on wildlife is expected to be minimal. There is potential for avian and bat collisions with facility turbines or meteorological towers. Additional impacts may include a small reduction in the available habitat that some of the wildlife uses for forage or cover. Operation of the wind farm will not change the existing land use.

During the public hearing, Kevin Solie of Basin Electric testified that "Basin Electric has committed the following avoidance, minimization and monitoring measures during operations:

- For three years post-construction trained personnel would be on site during spring and fall migration seasons to observe whooping cranes. If whooping cranes were observed, turbines located within one mile of the observation would be shut down until such time as the cranes are no longer observed in the area.

- Monitoring procedures for whooping crane and sandhill crane mortality would be developed, and any crane mortality would be reported immediately to the Service. Sandhill cranes are not endangered or threatened but are used by avian biologists as a surrogate for the whooping cranes because of similar behavioral characteristics. In the event of whooping crane mortality, temporary shutdown of all turbines would occur until it has been determined with input from the Service that there are no additional whooping cranes in the project area.

- For three years post-construction Basin Electric would provide annual reports to RUS, the U.S. Fish and Wildlife Service (USFWS) and the North Dakota Game & Fish Department (NDGFD). Reports would address compliance with the whooping crane monitoring and any other avian studies.

- Based on monitoring data collected, Basin Electric would incorporate adaptive management principles to help guide any future modifications to operation. At the end of the three-year post construction whooping crane monitoring period, if whooping cranes or sandhill cranes have been observed utilizing habitat in the project area, the U.S. Fish and Wildlife Service and RUS would determine whether additional monitoring is needed or any modifications are deemed necessary in the monitoring or operational protocols."

He also testified that "Basin Electric has proposed, as a voluntary conservation measure, to fund the acquisition of suitable stopover habitat."

A bird fatality study for the Buffalo Ridge wind facility in Minnesota estimated a 0.98 bird fatalities/turbine/year. Studies for wind farms prior to 2006 of bird fatalities outside of California for wind turbine facilities yielded for birds a 1.83 fatalities/turbine/year average. An upper midwest study determined an average fatality of bats to be 1.7 bats/turbine/year. This information came from information in case file PU-05-47.

By wording of Order #24, the Commission should be provided a copy of the annual bird mortality reports Kevin Solie of Basin Electric testified at the public hearing would be provided to the RUS, USFWS, and NDGFD for three years post-construction. Information about any whooping crane or sandhill crane mortality should be reported within five business days of such an event and would be in the post-construction annual reports that Basin Electric is to author. Once Basin Electric provides the annual bird mortality reports to the Commission, Order #24 can be evaluated for completion of the post construction inspection.

25. Basin Electric shall implement a procedure for how complaints concerning the proposed energy conversation facility will be handled by Basin Electric.

No record of a complaint concerning the energy facility was found in the case file. The Commission should request a copy of the written procedure or a letter stating how complaints concerning the energy facility were handled or would have been handled if a complaint had occurred. Once Basin Electric provides this procedure, Order #25 is complete.

26. All underground electric line crossings of graded roads must be bored unless the responsible governing agency permits Basin Electric to open cut the road.

Basin Electric in its application and hearing testimony stated it would bury all underground connected lines 4 feet deep. The collector lines and fiber communication lines were affected.

The collector lines crossed main roads 40 times. The main roads require Basin Electric to bore each road crossing. No record of road borings or documentation that Basin Electric could open cut a road was found in the case file. The post construction field inspection identified that Basin Electric bored the two major highway and some major roads. However, some section roads had sunken trenches where the collector lines crossed these roads which meant they had been trenched with improper compaction. Basin Electric should provided documentation to the Commission that roads were bored as required in Order #26. Once Basin electric provides proper documentation of boring roads, Order #26 would be completed.

The following are locations from the application (Docket #9 Figure 1) where boring should have occurred:

1. 345th Avenue SW between D60 to D61.
2. Highway 83 between D60 to D58.
3. 16th St SW between D58 to D59.
4. 331st Ave SW between D57 to D58.
5. 317th Ave SW between D50 to D56.
6. 303rd Ave SW between D62 to D63.
7. 16th St SW between D54 to D55.
8. Highway 83 between D50 to D49.
9. 303rd Avenue SW between D46 to D47.
10. 13th St SE between D46 to D47.
11. 27th St SE between Collector sub to D46.
12. 27th St SE between E74 to E72.
13. 27th St SE between E73 to E72.
14. 42th St SE between E75 to E76.
15. 317th Ave SW between E71 to E72.
16. 42th St SE between E69 to E70.
17. 42th St SE between E67 to E68.
18. 303 rd Ave SW between E66 to E67.
19. 42th St SE between E63 to E64.
20. 289th Ave SE between C39 to C41.

21. Hwy 83 between C41 to C42.
22. 275th Ave SW between C44 to C45.
23. 289th Ave SE between C41 to C38.
24. 27th St SE between C37 to Collector Sub.
25. 275th Ave SW between B17 to B18.
26. 261st Ave SE between B18 to B19.
27. 13th St SE between B18 to B19.
28. Hwy 83 between B25 to B26.
29. 16th St SW between B26 to B27.
30. 261st Ave SE between B29 to B30.
31. Hwy 23 between B22 to B23.
32. 289th Ave SE between A01 to Collector Sub.
33. 42nd St SE between A02 to A03.
34. 275th Ave SE between A04 to A05.
35. 275th Ave SE between A05 to A06.
36. 42th St SE between A05 to A06.
37. 27th St SE between A09 to A10.
38. 261st Ave SE between A10 to A11.
39. Hwy 23 between A12 to A13.
40. 27th St SE between A15 to A16.

27. **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.**

Basin Electric worked closely with the USFWS and North Dakota Game and Fish Department (NDGFD) during micro-siting to minimize impacts to vegetation within the Project Area. Basin Electric conducted a pre-construction inventory of existing wetlands, native prairie, and woodlands.

Basin Electric in its application stated that temporarily disturbed areas would be reclaimed by replacement of topsoil and seeding as a mitigation measure. The topsoil was to be stripped off prior to excavation occurring for the tower foundations areas, collector lines trenches, communication trenches, and the Collector Substation. The top soil was returned to the disturbed areas once the excavation was filled with subsoil except where the substation was constructed. The substation surface was graded for runoff and rocked after completion. No top soil was replaced in the substation to reduce vegetation within the substation area.

Based on the post construction field inspection, Order #27 was followed as topsoil was stripped and segregated from subsoil and replace only after the subsoil was replaced as required.

28. Basin Electric 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.

Construction and operation of the project will not impact the telephone and/or fiber optic service to the project site according to the application. Basin Electric evaluated final turbine locations to identify specific microwave telecommunications paths and areas where potential conflicts with turbine locations existed. Mitigative measures are discussed below regarding microwave communications. Land mobile telecom system impacts are not anticipated.

Potential impacts of proposed construction and operation of the project on existing telecommunications infrastructure within Ward County were assessed. Comsearch identified 48 microwave paths in the search area, including several that intersect the project site. Proposed turbine locations were not provided to Comsearch; therefore, potential obstructions between proposed turbines and microwave systems could not be determined. Basin Electric evaluated final turbine locations to identify areas where potential conflicts with turbine locations exist or to identify a vertical height clearance to be obtained if a turbine is located within a Worst Case Fresnel Zone (WCFZ) (Comsearch 2007). Turbines were to be sited to avoid WCFZ areas identified by Comsearch. An analysis of AM and FM radio broadcast stations within 100 miles in the vicinity of the project were part of the Comsearch report. The findings of the report determined no degradation of AM broadcast coverage will occur due to the presence of wind turbines as long as separation distance to the nearest turbine is greater than two miles from the station. No FM radio degradation was to occur. TV reception analysis (Docket #9 page 187/420) was part of the assessment. No problems were identified in the report.

The Project was constructed according to current National Electrical Safety Code (NESC) and Federal Communications Commission electrical interference standards. It was not expected to cause significant long-term or widespread interference with radio, television, and cellular telephone signals. The wind towers were positioned greater than 1,400 feet from occupied residences. Western and RUS determined a Finding of No significant impact on this related item. No complaints of landowners and residents in the area for television or residential radio interference were found in the case file. Based on these findings, Order #28 was followed.

29. Basin Electric shall provide the Commission with engineering design drawings showing surveyed structure and collection substation locations prior to construction and then shall obtain approval from the Commission or from the Commission staff prior to any changes in those surveyed locations.

Design Data was provided in the application (Docket #9). The final pre construction general turbine site plan was submitted (Docket #21) to the Commission. The map was also exhibit #1 at the hearing. On July 31, 2009 detailed pre construction engineering design drawings (Docket #41) were submitted to the Commission prior to construction starting. A pre construction site plan of the collection substation was also part of the case file.

On August 18, 2009 Basin Electric contacted the Commission requesting approval for three turbine location changes (Docket #45). Structures A04, E70, and D53 were to be moved. Basin Electric maintained the greater than 1400 feet from residences and greater than 400 feet (fall distance) from roads. Property owners of the new locations were aware of the changes and were in concurrence with the moves. The old location, new location, distance moved, and reason for the move were given in the request. A map depicting the original and the proposed turbine location were also provided. Commission staff approval of these turbine location changes was approved on September 1, 2009 (Docket #48).

On October 5, 2009 Basin Electric requested approval for a location change for turbine D47 (Docket #54). Basin Electric maintained the greater than 1400 feet from residences and greater than 400 feet (fall distance) from roads. Property owner of the new location was aware of the change and was in concurrence with the move. The old location, new location, distance moved, and reason for the move were given in the request. A map depicting the original and the proposed turbine location were also provided. Distances from nearest occupied houses were also given. The reason for this location change was further avoidance of cultural resource site. Commission staff approval of this turbine location change was approved by email on October 7, 2009 (Docket #48) and a formal letter sent of October 20, 2009 (Docket #58).

Based on information provided in the case file, Order #29 was followed.

30. **Basin Electric 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 conversation facility is complete.**

As-built engineering design drawings and electronic version of the as-built drawings that can be imported into ESRI GIS mapping software were provided on August 31, 2011. Construction was completed on December of 2009 based on weekly progress reports. Therefore, as-built drawings were provided 20 months after construction of the energy conversion facility was complete. Order # 30 was not completed within the Commission's Order.

31. **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.**

The purpose of the Commission is to protect the welfare of the citizens of North Dakota while ensuring continued system reliability and integrity and ensuring that energy needs are met and fulfilled in an orderly and timely fashion. The Commission protects the public and environment of the state of North Dakota. Order #31 provides the Commission with assurance that if a siting applicant does not follow the Commission's Orders or applicable statures, rules, regulations,

standards and permits of the state and federal agencies, the Commission can force responsible behavior from a siting applicant.

No records in the case file or during the field inspection were found to give the Commission reason to suspend or revoke the Certificate of Site Compatibility. Documentation in the case file show that Basin Electric has worked to comply with applicable statures, rules, regulations, standards and permits. Basin will need to provide request information from the Commission to complete the post construction inspection. Order #31 allows the Commission authority to revoke or suspend the Certificate of Site Compatibility if it deems it necessary to protect the welfare of the public and environment.

32. **Basin Electric shall maintain records to demonstrate that it has complied with the requirements of this Order and the Certificate of Site Compatibility and that it will preserve these records for Commission inspection at any reasonable time upon reasonable notice.**

As part of the post construction inspection additional information is required by the Commission to verify that Basin Electric followed the requirements of the Orders set forth by the Commission. Should Basin Electric not be able to provide records requested by the Commission, Basin will have demonstrated that it did not maintain proper project records and will therefore have not followed Order #32. Basin Electric should maintain these records for the life of the project.

33. **The authorizations granted by the 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.**

Should the Commission deem necessary in the future to modify the Certificate of Site Compatibility, it can do so if deemed necessary to further protect the public or the environment. A modification is usually at the request of the siting applicant's request. Basin Electric did in its application spell out that it may transfer ownership of the wind turbine facility to a new owner. The Commission should modify the Certificate of Site Compatibility for this energy conversion facility should a sale of the facility occur. No record was found in the case file or during the post construction field site visit that would require a modification by Order to the Certificate of Site Compatibility for this energy conversion facility.