

**PUBLIC SERVICE COMMISSION**

**STATE OF NORTH DAKOTA**

**Basin Electric Power Cooperative  
Antelope Valley Station Water Pipeline Siting**

**CASE NO. PU-04-109**

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

**April \_\_, 2005**

**Appearances**

Commissioners Susan E. Wefald, Tony Clark and Kevin Kramer.

Deborah Fohr Levchak, Basin Electric Power Cooperative, 1717 East Interstate Avenue, Bismarck, North Dakota 58503, on behalf of Basin Electric Power Cooperative.

Annette Bendish and Pat Fahn, Staff, Public Service Commission, 600 East Boulevard Avenue, Bismarck, North Dakota 58505-0480, on behalf of the Public Service Commission.

William W. Binek, Commission Counsel, Public Service Commission, 600 East Boulevard Avenue, Bismarck, North Dakota 58505-0480, as the Hearing Officer.

**Preliminary Statement**

On August 3, 1976, ANG Coal Gasification Company (**ANG**) submitted an application to the North Dakota Public Service Commission (**Commission**) for a Certificate of Corridor Compatibility for a water transmission facility for the proposed Antelope Valley Station (**AVS**) and Great Plains Synfuels Plant (**Synfuels Plant**) located in Mercer County, North Dakota.

On November 11, 1977, in Case No. 9433, the Commission issued to ANG a Certificate of Site Compatibility No. 9 for Transmission Facility Corridor. The corridor was described as follows:

*A corridor approximately 3 miles wide starting approximately 6 miles northwest of Beulah in the ANG plant site, and extending northerly approximately 9 miles to Renner Bay, Lake Sakakawea in Mercer County, North Dakota.*

On January 10, 1979, in Case No. 9735, the Commission granted to ANG a Construction Permit No. 17 for a Transmission Facility Route for the raw water supply line extending from Lake Sakakawea to the sites for the proposed Synfuels Plant and the Antelope Valley Station.

On April 9, 1979, in Case No. 9911 and upon the Application by Basin Electric, the Commission granted transfer of the Certificate of Site Compatibility No. 9 and Construction Permit No. 17 from ANG to Basin Electric.

On March 8, 2004, Basin Electric filed a letter indicating its intent to construct a new water transmission pipeline from the existing pump house near Lake Sakakawea to the Antelope Valley Station.

On April 1, 2004, the Commission acknowledged Basin Electric's Letter of Intent and assessed a filing fee of \$60,000 due when the application was filed.

On August 5, 2004, Basin Electric requested the required one-year waiting period between filing of the Letter of Intent and filing of the Application be reduced from one year to six months.

On August 18, 2004, the Commission designated a six-month waiting period.

On November 17, 2004, Basin Electric filed an Application for a Route Permit for the construction of approximately nine miles of water transmission pipeline to transport water from Lake Sakakawea to the Antelope Valley Station. The proposed construction will be in Mercer County.

On December 15, 2004, the Commission found the Application was complete and issued a Notice of Filing and Notice of Hearing scheduling a public hearing. The Notice of Hearing was published as required by law. The hearing was scheduled for February 3, 2005 at 10:00 a.m. (CST) in the Beulah Civic Center, Beulah, North Dakota. The issues to be considered in this proceeding were:

1. Will the location, construction and operation of the proposed pipeline produce minimal adverse effects on the environment, natural resources and upon the welfare of the citizens of North Dakota?
2. Is the proposed pipeline compatible with the environmental preservation and the efficient use of resources?
3. Will the proposed pipeline corridor 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?
4. Is it appropriate for the Commission to waive any procedures and time schedules as requested in the application?
5. On February 7, 2005, the Commission issued a Notice of Rescheduled Hearing scheduling a public hearing. The Notice of Hearing was published as required by law. The hearing was scheduled for March 7, 2005 at 10:00 a.m. (CST) at the Beulah Civic Center, Beulah, North Dakota.

The public hearing was conducted as scheduled. Having heard and considered this matter, the Commission makes the following:

### Findings of Fact

6. The applicant, Basin Electric, is a North Dakota cooperative corporation headquartered at 1717 East Interstate Avenue, Bismarck, North Dakota 58503.
7. Basin Electric owns and operates the Antelope Valley Station and through its subsidiary, Dakota Gasification Company, the Great Plains Synfuels Plant (**Synfuels Plant**). The Antelope Valley Station and Synfuels Plant are located in Mercer County, North Dakota approximately seven miles northwest of the city of Beulah.
8. The Antelope Valley Station is a coal-fired electrical generating plant designed to produce 880 MW of electrical generation. The Synfuels Plant is a coal gasification plant designed to produce synthetic natural gas.
9. Basin Electric witness Vernon Laning, Vice President of Plant Operations, testified that Basin Electric is proposing to build 8.9 miles of 42-inch underground steel or ductile iron pipeline from the existing pumphouse at Lake Sakakawea to transport water to Basin Electric's Antelope Valley Station.
10. Mr. Laning testified that Basin Electric had experienced three failures in recent years in the existing water pipeline. These failures were indicated by a drop in water pressure at the Antelope Valley Station water plant and subsequently finding water flowing to the surface above the pipeline. Further tests and inspections have indicated weaknesses in the pipeline where further failures could occur.
11. Basin Electric considered partial replacement of the existing pipeline; however, the time required to take the line out of service, dig up and repair a portion of the pipeline, refill the pipeline, refill the storage ponds then repeat that cycle for all of the portions of the pipeline requiring work would have taken approximately 10 years.
12. Mr. Laning also testified that the Antelope Valley Station has approximately 10 days worth of water storage on site. If a series of pipeline failures were to occur without sufficient time to refill the ponds, the Antelope Valley Station, as well as the Synfuels Plant, would have to be taken out of service due to lack of water.
13. The existing pipeline will provide emergency back-up service to the new pipeline through the installation of isolation valves at each end of the pipeline so that either the exiting or proposed pipeline can be put in operation very quickly. Should a significant failure occur in the new pipeline, Basin Electric would place the old pipeline back in service within a few hours.
14. Basin Electric plans to have the new pipeline operational by the summer of 2006.
15. Basin Electric witness Cris Miller, Environmental Coordinator, testified that the proposed route for the new pipeline was limited by various factors; the existing approved Transmission Facility Corridor, the existing Transmission Facility Route, the existing point of origination (pumphouse) and existing point of termination (the Antelope Valley Station primary water treatment building).

16. The proposed route parallels the existing Transmission Facility Route for over 67% of its route. Realignment was made to adhere to Commission avoidance and exclusion criteria and to avoid congestion issues and elevation changes in the pipeline.
17. The proposed route does not cross any Commission exclusion areas.
18. Mr. Miller testified with respect to Commission avoidance areas.
19. The proposed route does cross a designated state game management area. The existing pumphouse, which is the point of origination for the existing pipeline and the Southwest Water Pipeline, is on the North Dakota State Hille Game Management Area. The proposed route must unavoidably cross this same area. There is no alternative given the point of origination for the proposed route.
20. A cultural research survey was performed in the east half of Section 14, T146N, R88W in September of 2004. Two isolated finds were identified, neither of which was recommended as eligible for the National Register of Historic Places (**NHRP**). That finding has the concurrence of the North Dakota State Historic Preservation Officer (**SHPO**).
21. Mr. Miller further testified that the remainder of the proposed route has been the subject of previous and extensive cultural resources inventories, site testing, evaluation and data recovery as part of Coteau's surface mining permit activity. Approximately 380 prehistoric and historic sites have been located and recorded in Coteau's previously approved mine areas; none of these sites are located within the proposed route.
22. The proposed route crosses the Southwest Water Authority's pipeline just south of the Highway 1806 crossing. The proposed pipeline will be at a lower elevation than the existing Southwest Water Authority pipeline. The Southwest Water Authority has issued a crossing permit to Basin Electric for the proposed water pipeline.
23. The proposed route does not cross any woodlands.
24. Where isolated tree standings are located, construction procedures will minimize disturbance to avoid damage.
25. Rangeland impacted by the construction will be reseeded to the same rangeland seed mix specification as established by Coteau in the surface mining reclamation process.
26. Basin Electric will perform a raptor survey prior to beginning construction and will report its findings to the Commission, as well as to the United States Fish & Wildlife Service.
27. Basin Electric has filed an Unanticipated Discoveries Plan with the NDSHPO. This Plan addresses how Basin Electric will proceed should there occur an unanticipated discovery of cultural resources during activities associated with the project. This Plan has the concurrence of the SHPO.
28. Mr. Miller testified that, where the pipeline crosses North Dakota Highway 1806 (once) and Mercer County Highway 15 (twice), the pipeline will be placed inside a 54" (min) steel case that will be bored and jacked under the roadways. The Highway 15 crossings will be

seeded with the North Dakota Department of Transportation's seed mix specification.

29. Construction activities will be performed when weather conditions permit and will be terminated when continuing would cause irreparable damage.
30. The entire length of the route will have a 150-foot wide right-of-way. The construction activity will occur within this 150-foot right-of-way. In the area of disturbance, topsoil will be removed and stockpiled. After construction activity has been completed, the disturbed area will have its topsoil replaced and returned to its pre-construction condition. The reclamation activity will be continuous and coordinated with the construction activity.
31. Basin Electric's plan is to replace all trees and shrubs on a 2:1 ratio. All effected trees and shrubs will be quantified before construction activity. Dependent on the landowners' preference of having trees replaced on landowner's property or for damage payments, Basin Electric will coordinate tree and shrub replacement efforts with the current tree management program of Coteau. A specific planting area will be identified, the replacement trees and shrubs will be planted, a record of all subsequent maintenance efforts/costs and replacement plantings due to non-survival will be available to the Commission.
32. Basin Electric witness Scott Wiseman, Senior Civil Engineer, testified that the minimum depth of bury to the top of the pipeline will be seven feet.
33. Mr. Wiseman testified there are three areas where Basin Electric determined that a deviation from the existing Transmission Facility Route would benefit the construction, cost, accessibility and/or reliability of the new pipeline.

The first area is located two miles north of the Antelope Valley Station where the new route makes a large curve instead of a 90-degree turn as does the existing pipeline. Since the installation of the existing pipeline, Mercer County Road 15 has been rebuilt to the curved alignment. By staying along the inside of the curve, a 90-degree fitting was eliminated and the pipeline length was reduced. Costs associated with crossing County Road 15 at this point were eliminated.

The second area consists of a segment of the route located from an intermittent creek crossing then north. The primary factor in diverging from the existing pipeline route is rough terrain and difficult access.

The third area is located just west and south of the intake structure. The proposed route diverges from the existing route for approximately 2,800 feet. This route eliminates one combination air vacuum valve, two drain valves and two 90-degree fittings. Avoidance of the congestion associated with the existing Antelope Valley Station pipeline, Southwest Water Authority pipeline and the Oliver-Mercer electrical substation was also a significant factor in routing the new pipeline in this area.

34. The major road crossings include North Dakota Highway 1806 (one), Mercer County Road 15 (two), an existing Coteau mine haul road and a railroad track within the Antelope Valley Station plant site. At these crossings, a steel casing pipe will be bored and jacked under the roadway. The water pipeline will then be installed through this casing.

35. Mr. Wiseman testified that a new Coteau equipment haul road is proposed to be constructed in 2006 after a portion of the new pipeline has been installed. A steel casing will be installed at this crossing before the haul road is constructed.
36. There are also a number of field entrances and gravel roads to be crossed. These will be open cut and then restored and surfaced with gravel. Where roadways are open cut, the pipe is typically installed and the trench backfilled in one day. Alternative access will be provided for local residents during periods when existing roads are blocked.
37. The proposed pipeline was designed to provide a flow rate of up to 37,000 gallons per minute and withstand anticipated pipeline surge pressures while under full capacity. The pipeline is designed to meet national industry standards, including American Water Works Association, American Society of Testing and Materials, American Welding Society and American Institute of Steel Construction.
38. Mr. Wiseman further testified that construction is scheduled to begin in late June or July of 2005. The pipeline is expected to be in service by July of 2006. There is no construction scheduled for the winter season. Basin Electric anticipates construction in 2005 will end in November, and begin again in April 2006 until complete.
39. During construction, topsoil will be stripped and stockpiled separately of subsoil. Any area on which excavated subsoils will be placed will also be striped of topsoil. After backfilling is completed, any excess subsoil will be placed over the excavation area, blending the grade into existing topography. Topsoil will then be replaced over areas from which it was stripped.
40. Mr. Wiseman testified that since raw water is the only material being conveyed by this facility, the only potential hazard associated with the pipeline is the physical damage caused by the water should a leak or rupture occur. The inherent ductile properties of steel or ductile iron greatly reduces the possibility of a major rupture occurring. If a large rupture were to occur, the loss of pressures and flows would be obvious and the pumps shut down as soon as possible.
41. Basin Electric witness Amy Spilman, Property and Right-of-Way Specialist, testified that all landowners had been contacted and informed of the easement conditions; that the landowners had been and would continue to be updated on the progress of the pipeline.
42. Mrs. Spilman testified that Basin Electric, in continuing negotiations with the landowner adjacent to the existing pumphouse, had agreed to a proposed reroute per the landowner's request to accommodate his planned long-term use of his property. By letter dated March 31, 2005, Basin Electric submitted its proposed reroute to the Commission. The Commission agrees to the proposed reroute.

From the foregoing Findings of Fact, the Commission now makes its:

### **Conclusions of Law**

1. The Commission has jurisdiction over the applicant, Basin Electric and over the subject matter of this application under N.D.C.C. Chapter 49-22.
2. The pipeline proposed by Basin Electric is a transmission facility as defined in N.D.C.C. § 49-22-03.
3. Basin Electric's proposed pipeline is of such length, location and purpose that it will minimize adverse effects upon the environment, and upon the welfare of the citizens of North Dakota, while ensuring continuing system reliability, integrity, and efficient use of natural resources.
4. Basin Electric's proposed route is compatible with the environmental preservation and efficient use of resources.
5. It is appropriate for the Commission to issue Basin Electric a Route Permit.

From the foregoing Findings of Fact and Conclusion of Law, the Commission issues its:

### Order

The Commission orders:

1. Route Permit for Construction of a Transmission Facility No. \_\_\_\_ is issued to Basin Electric, granting authority to construct the pipeline in the location shown on the attached map.
2. A preconstruction conference shall be held prior to commencement of any construction, and shall include a Basin Electric representative, the construction supervisor, and Commission staff to ensure that Basin Electric fully understands the conditions set forth in this order.
3. Basin Electric shall comply with the rules and regulations of all other agencies having jurisdiction over any phase of the proposed pipeline, and shall obtain all other necessary licenses and permits, and shall provide copies of all licenses and permits to the Commission prior to construction of the pipeline.
4. Basin Electric shall inform the Commission of its intent to start construction on the pipeline prior to the commencement of construction, and once construction has started, Basin Electric shall keep the Commission updated of construction activities on a weekly basis.
5. Basin Electric shall construct and operate the pipeline in the manner described in its Application and at the hearing, and in accordance with all applicable safety requirements.
6. Basin Electric shall promptly report to the Commission the presence in the permit area of any critical habitat of threatened or endangered species which Basin Electric becomes aware of and which were not previously reported to the Commission.

7. All cultural resource mitigation plans must be submitted to the North Dakota State Historical Preservation Officer for approval prior to the start of any fieldwork and construction activity. If any cultural resource, paleontological, archeological, historical, or grave site is discovered during construction, it shall be marked, preserved and protected from further disturbances until a professional examination can be made by the State Historical Society, a report of such examination is filed with the Commission, and clearance to proceed is given by the Commission.
8. All crossings of graded roads shall be bored unless the responsible governing agency specifically permits Basin Electric to open cut the road. All pre-existing roads and lanes used during construction shall be restored to a condition that will accommodate their previous use, and areas used as temporary roads during construction shall be restored to their original condition.
9. Construction shall be suspended when weather conditions are such that construction activities will cause irreparable damage, unless adequate protection measures approved by the Commission are taken.
10. Reclamation along the right-of-way shall be continuous and coordinated with the construction.
11. Reclamation, fertilization, and reseeded is to be done by Basin Electric according to the National Resources Conservation Service recommendations, unless otherwise specified by the landowner and approved by the Commission.
12. Basin Electric's obligation for reclamation and maintenance of the right-of-way shall continue throughout the life of the pipeline.
13. The width of the clear cuts through any wooded areas and shelter belts shall be kept at a maximum of 50 feet where possible.
14. Basin Electric shall provide the Commission with a copy of the design specifications for the construction of the pipeline showing the location of the pipeline as built.
15. The authorization granted by the route permit is subject to modification by order of the Commission if deemed necessary to further protect the public or the environment.

**PUBLIC SERVICE COMMISSION**

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**Kevin Kramer**  
**Commissioner**

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**Tony Clark**  
**President**

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**Susan E. Wefald**  
**Commissioner**