

Before the Public Service Commission of
The State of North Dakota

In the Matter of the Application of

DAKOTA GASIFICATION COMPANY

Consolidated Certificate of Corridor Compatibility
and Route Permit for the
Dakota Carbon Pipeline Project

Case No. PU-21-150

July 6, 2021

Witness Kevin Solie

CERTIFICATE OF CORRIDOR COMPATIBILITY/ROUTE--ENVIRONMENTAL

1. Q. Please state your name, address and occupation.

A. My name is Kevin Solie. My business address is 1717 East Interstate Avenue, Bismarck, North Dakota. I am employed by Basin Electric Power Cooperative as a Senior Environmental Compliance Administrator.

2. Q. Will you please describe your educational background and professional experience?

A. I earned a Bachelor of Science degree from the University of North Dakota, Grand Forks in 1987 with a major in Geology. In 1995, I received a Master of Science degree from the University of North Dakota, with a major in geology with special emphasis on hydrogeology. In 2008, I earned a degree in Geological Engineering, again from the University of North Dakota. I was hired by Basin Electric in 2007, and have been responsible for securing permits and approvals for numerous Projects, including three 230 kV transmission lines, a natural gas pipeline, and a 115.5 MW wind farm in North Dakota, two 230 kV transmission lines and a 162 MW wind farm in South Dakota, and a 100 MW simple cycle combustion turbine in Montana. Prior to my employment at Basin Electric, I worked as an Environmental Scientist for the North Dakota State Department of Health, Division of Waste Management. I am also a retired commissioned officer of the North Dakota Army National Guard, having served a one-year tour of duty in Iraq.

3. Q. Mr. Solie, what have been your responsibilities in connection with the Project?

A. I am responsible for the overall coordination of the environmental analysis and permit acquisition for this Project. This involves working with an interdisciplinary team of consultants, contacting and meeting with public officials, coordinating activities with other Basin Electric and Dakota Gasification Company departments and preparing permit application materials for submittal to the North Dakota Public Service Commission and other interested agencies.

4. Q. What is the purpose of your testimony in this proceeding?

A. I will provide a Project description, and demonstrate, with respect to environmental considerations and the applicable siting laws and regulations, that the proposed corridor and route are in accordance with the North Dakota Energy Conversion and Transmission Facility Siting Act and North Dakota Public Service Commission rules.

5. Q. Mr. Solie, were you personally involved with the preparation and submission of the Application?

A. Yes.

6. Q. Would you please describe Dakota Gasification Company?

A. Dakota Gasification Company (or DGC) is a North Dakota corporation and is a wholly owned subsidiary of Basin Electric. Dakota Gasification Company owns and operates a gasification facility located near Beulah, North Dakota. The primary business of Dakota Gasification Company is making synthetic natural gas from lignite coal using a proprietary gasification process.

7. Q. Mr. Solie, what is the size of the proposed corridor in this Project?

A. The proposed Route is generally centered within the 200-foot wide Corridor. The Corridor is located in Sections 1, 2, 11, 12, 13, 14, 23, and 24

of Township 145N, Range 88W. The proposed 200-foot-wide Corridor is sufficient for the Commission to evaluate the factors addressed in NDAC 49-22.1-09.

8. Q. Can you please give a general description of land use in the corridor and along the route?

A. Land use in the Study Area and along the DCP was historically agricultural, consisting of both cropland and rangeland. Given the existing development including the Basin Electric Antelope Valley Station (AVS) and DGC's GPSP, along with the extensive lignite surface mining associated with AVS and DGC, the Study Area now is dominated by intensely developed, heavy industrial uses. Since the surrounding areas are previously disturbed, there are few environmentally sensitive areas present in the Project Area except for seasonal wetlands or streams along and within the corridor.

9. Q. Please describe the general philosophy and objectives used in the delineation of the proposed corridor and selection of the proposed route.

A. The approach entails starting with an appropriate study area between the pipeline endpoints, and then narrowing and refining it by incorporating data and other input gathered from landowners, public agencies and environmental databases to the point where a defined corridor and route are identified.

The ultimate goal of the corridor and route selection process was to locate a suitable pipeline route between the two end points, while adhering to the PSC's Exclusion and Avoidance Criteria.

10. Q. Mr. Solie, were there other alternatives considered for the Project?

A. Surface transportation by rail or tanker truck is neither practical nor cost-effective. The only other reasonable alternative would be to construct an aboveground pipeline; however, that approach was determined to be less

economical and more intrusive to landowners. Given the Project's unique and highly specific purpose and need, an underground pipeline from the CO2 source at DGC's Great Plains Synfuels Plant (GPSP) to the injection well sites was the only alternative given serious consideration. The size, layout, and location of the mainline and laterals were optimized to limit cost and minimize environmental impacts to the extent practicable. The alternative of not constructing the pipeline would result in no geologic sequestration of CO2 and no potential for climate change benefits.

11. Q. Mr. Solie, why were the proposed route and corridor chosen?

A. The final corridor/route was chosen after careful analysis related to environmental, construction, and operational requirements. Further, the route is consistent with planned and anticipated needs; avoids and minimizes impacts to environmental resources; and finally, is technically feasible and economically viable.

12. Q. Who participated in the corridor and route development process?

A. A multidisciplinary team of individuals employed by the Applicant and Basin Electric, including Environmental, Engineering, and Lands and Right-of-Way personnel, worked together in the corridor and route development process. In addition, consultants to the Applicant played a -small role in the corridor and route refinement process such as staff from Sargent and Lundy, of Englewood, Colorado.

13. Q. Mr. Solie, did the Applicant incorporate public input in the corridor and route selection process?

A. Yes. We incorporated data and input from public agencies, representative officials, and private industry. In total, 28 agencies, organizations, or officials were contacted in writing to provide early input for this Project.

14. Q. Mr. Solie, Section 49-22.1-09 of the North Dakota Energy Conversion and Transmission Facility Siting Act lists 11 factors to be considered in evaluation of Sites, Corridors and Routes. I am going to ask you a series of questions directed at those factors.

Did the Applicant evaluate the potential impacts to Public Health and Welfare and Natural Resources that could be expected from the Project?

A. Yes, the Application addresses these issues. Construction, operation and maintenance techniques for the pipeline are addressed in Chapter 6. Impacts to the environment and mitigation measures for the Project are addressed in Chapters 7 and 8. The Project would not have any significant adverse impacts to Public Health and Welfare, Natural Resources, or the Environment. The pipeline and associated facilities will be operated in accordance with all applicable Federal, State and local pipeline safety rules and regulations.

15. Q. Did the Applicant evaluate technologies to minimize adverse environmental affects?

A. The Project utilizes best practices with respect to pipeline construction technologies and systems that minimize impacts to the environment. Specifically, horizontal directional drilling (HDD) would be used to avoid impacts to wetlands as well to avoid damage to existing public roadways.

16. Q. Did the Applicant's investigation identify any unavoidable, adverse environmental effects of the corridor and route evaluated?

A. There would be some minor unavoidable adverse environmental effects in the form of minor visual and physical impacts to the land associated with construction. We would implement the mitigation discussed in the Application and as identified by regulatory agencies in order to minimize these effects. No other adverse environmental effects associated with the Project have been identified.

17. Q. Were potential irreversible and irretrievable commitments of natural resources for the Project evaluated?
- A. Yes. Resources used during construction, such as steel, concrete, aggregate and hydrocarbon fuel would generally be irreversible and irretrievable uses. None of these resources, however, are in short supply, and their use for the Project would not have an adverse effect on the availability of these resources.
18. Q. Were direct and indirect economic impacts evaluated?
- A. Direct and indirect economic impacts are primarily positive. To the extent that local contractors are used for portions of the construction, total wages and salaries paid to contractors and workers will contribute to the total personal income of the region. Expenditures made for equipment, energy, fuel, operating supplies, and other products and services also benefit businesses nationally as well as in the State of North Dakota.
19. Q. Does the Project impact existing development plans of any State or local government entities or any other private entities at or in the vicinity of the corridor and route?
- A. No conflicts with existing development plans were identified. The Applicant coordinated closely with The Coteau Properties Company to ensure the route will not be in conflict with future mining plans.
20. Q. What are the effects of the Project on Cultural and Paleontological Resources?
- A. The research and fieldwork conducted by Metcalf Archaeological Consultants (or MAC) on behalf of DGC identified no cultural resources other than one previously recorded site (32ME220) located adjacent to the corridor. Site 32ME220 was confirmed to be previously mitigated and had

been destroyed by mining; no avoidance of the site and no further work were deemed necessary. MAC made a recommendation to the SHPO for a *No Significant Sites* determination for the undertaking as inventoried, mapped, and documented on April 16, 2021. DGC received SHPO concurrence on May 20, 2021.

The Project Corridor is located in an area affected by Pleistocene glaciation; as such, paleontological resources would be extremely rare since the bedrock is covered by glacial sediments. Further, much of the area has been disturbed by previous surface mining.

An Unanticipated Discovery Plan was developed for the Project. The plan, details the steps to be taken if previously unknown archaeological resources or human remains are encountered during construction. In the unlikely event that human remains are discovered, appropriate authorities would be notified in accordance with local and state rules, laws and guidelines.

21. Q. What are the anticipated effects of the Project on biological resources within the Corridor/Route?
- A. Chapters 5 and 7 of the Application discuss potential impacts to biological resources such as wetlands, vegetation, wildlife and rare and unique species. The Applicant has identified and will implement measures to avoid and minimize effects on biological resources. The impact of the Project on biological resources is expected to be minimal.
22. Q. Has Applicant addressed issues raised by Agencies?
- A. The Project was reviewed by state and federal agencies as part of Applicant's scoping efforts for the Project. Agency comments varied according to agency function and jurisdiction, but agency comments generally emphasized a desire to minimize impacts to environmental resources, which the Applicant is committed to do.

23. Q. Mr. Solie, I am going to ask you a series of questions regarding Transmission Facility Corridor and Route Criteria Exclusion Areas.

Do the proposed corridor and route contain any designated or registered national parks, memorial parks, historic sites and landmarks, natural landmarks, monuments, or wilderness areas?

A. No.

24. Q. Any designated or registered state parks, historic sites, monuments, historical markers, archaeological sites, or nature preserves?

A. No.

25. Q. Any county parks and recreation areas, municipal parks, or parks owned or administered by other governmental subdivisions?

A. No.

26. Q. Any areas critical to the life stages of threatened or endangered animal or plant species?

A. No.

27. Q. Are there any areas where animal or plant species that are unique or rare to this State would be irreversibly damaged?

A. No.

28. Q. So is it true, Mr. Solie, that the corridor and route do not contain any Exclusion Areas as described in Section 69-06-08-02-01 NDAC?

- A. That is correct. There are no Exclusion Areas within the Route or Corridor.
29. Q. Mr. Solie, do the proposed corridor and route contain any Avoidance Areas?
- A. Yes
30. Q. Please describe what Avoidance Area is located with the Route and Corridor?
- A. DGC plant site and Coteau Properties Office are within 500 feet of the Route. No impacts are anticipated to these industrial facilities and no buffer is proposed.
31. Q. Mr. Solie, I am going to ask you a series of questions regarding the Transmission Facility Selection Criteria.
- How does the proposed corridor/route demonstrate that significant adverse effects upon agriculture, if any, will be kept to an acceptable minimum? Please address this issue in terms of farmsteads, crop land, and interference with irrigation.
- A. There are no farmsteads in the corridor. The majority of the land in the corridor is not used for crops, and no irrigated land occurs within or adjacent to the proposed corridor. Once construction is complete, disturbed areas would be returned to their original land use.
32. Q. Mr. Solie, is there any anticipated impact on the surface drainage patterns or groundwater flow patterns if the line were to be routed through the proposed corridor?
- A. One small wetland crossing is necessary to construct the pipeline. The crossing will be constructed using the HDD method in order to avoid impacts to surface water drainage patterns. No impacts are anticipated to either surface or groundwater flow patterns.

33. Q. Do you anticipate any significant adverse effects on noise-sensitive land uses resulting from the location, construction or maintenance of the proposed facility?
- A. No significant adverse effects are anticipated. As the proposed pipeline route is located between two major heavy industrial facilities and a surface coal mining operation, there are no sensitive noise receptors in the immediate vicinity. The nearest occupied rural residence is greater than 1 mile from any part of the pipeline route.
34. Q. Will the pipeline have any visual impacts to the adjacent areas?
- A. The landscape has been significantly altered due to previous development in the Project area as described earlier. The pipeline would be buried adjacent to these intensely developed, industrial land uses. Visual impacts would be minimal.
35. Q. Do you anticipate any significant impacts on areas of extractive or storage resources?
- A. No. The Applicant coordinated with The Coteau Properties Company to ensure the Project will not be in conflict with future development of its mine.
36. Q. Do you anticipate any significant impacts on wetlands, woodlands or wooded areas?
- A. The few trees present within the Project Area are generally associated with intermittent or ephemeral streams and planted shelterbelts. To a great extent, these trees would be avoided through the Applicant's routing efforts. No impacts to streams or wetlands are anticipated. Impacts to trees would be minimal.
37. Q. Do you expect any significant adverse effect on human and animal health and safety or plant life?

- A. No.
38. Q. On radio and television reception, and other communication or electronic control facilities?
- A. No impacts to radio and television reception, and other communication or electronic control facilities are expected.
39. Q. Mr. Solie, will the proposed route comply fully with all applicable county zoning ordinances?
- A. Yes. Mercer County has a zoning ordinance applicable to this Project. The Mercer County Planning and Zoning Board recommended approval of the Conditional Use Permit at their meeting on June 17, 2021. It is expected that the Mercer County Commission will issue final approval of the Conditional Use Permit application for the Project on July 7, 2021.
40. Q. Mr. Solie, is it your opinion that the proposed corridor and route will fully comply with all applicable State laws, regulatory rules and regulations relating to this Project?
- A. Yes
41. Q. Mr. Solie, please describe the right-of-way arrangements necessary to enable DGC to construct, operate and maintain the Pipeline.
- A. There are only three landowners impacted by this Project. The proposed route and corridor will be located on land owned by Basin Electric and DGC, both of whom have approved the use of their lands for that purpose. The route and corridor also traverse land owned by the Coteau Properties Company, the entity that extracts and sells lignite coal for use at DGC and AVS. Coteau has authorized the Applicant to represent that it fully supports and approves the use of its land for that purpose. We are working on

finalizing formal easements and releases and there are no issues identified in that regard.

42. Q. Does this conclude your direct testimony?

A. Yes, it does.