

Before the Public Service Commission  
of  
The State of North Dakota

In the Matter of the Application of  
BASIN ELECTRIC POWER COOPERATIVE

Consolidated Application  
for a Certificate of Corridor Compatibility and Route Permit  
Wheelock to Saskatchewan 230-kV Transmission Line; and

Consolidated Application  
for a Certificate of Corridor Compatibility and Route Permit  
Tande to Saskatchewan 230-kV Transmission Line

Case Nos. PU-25-283 and PU-25-284

Pre-filed Testimony  
of  
Bobby Nasset

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I. **Introduction**

Q.1. **Please state your name, employer, and business address.**

A.1. My name is Bobby Nasset. I am employed by Basin Electric Power Cooperative (“Basin Electric”). My business address is 1717 East Interstate Avenue, Bismarck, North Dakota.

Q.2. **What is your position with Basin Electric?**

A.2. I am the Civil Engineering Supervisor. My responsibilities include planning, development, coordination, and supervision of design for new and existing transmission and generation facilities at Basin Electric.

Q.3. **Please describe your educational and professional background.**

A.3. I received a Bachelor of Science degree in Civil Engineering from North Dakota State University in 2005. I am a licensed professional engineer in North Dakota and have worked as a civil engineer for 20 years.

I have been employed by Basin Electric since 2015 I have worked on numerous high voltage transmission projects throughout the Midwest.

Q.4. **What is your role with respect to the Wheelock to Saskatchewan 230-kV Transmission Line (“Wheelock Circuit”) and the Tande to Saskatchewan 230-kV Transmission Line (“Tande Circuit”), which are collectively referred to as the “Project”?**

A.4. I am the Project manager and a member of the design team. I am responsible for managing the Project budget, schedule, and coordinating the Project efforts for routing, right-of-way (“ROW”) acquisition, engineering, procurement, permitting, and construction.

Q.5. **Are you familiar with the contents of Basin Electric’s Amended Consolidated Applications for a Certificate of Corridor Compatibility and Route Permit for the Wheelock Circuit and the Tande Circuit (the “Applications”)?**

A.5. Yes. I am familiar with the contents of both Applications. Because this Project includes two individual circuits – the Wheelock Circuit and the Tande Circuit – Basin

Electric submitted an individual application for each circuit.

**Q.6. What is the purpose of your testimony?**

A.6. The purpose of my testimony is to define the Project and describe the design, routing, and construction. My testimony, together with the Applications and other supporting evidence, will demonstrate that the Project will produce minimal adverse impacts on the environment and human welfare, ensure reliability, and ensure energy needs are met.

**II. Basin Electric**

**Q.7. Please describe Basin Electric.**

A.7. Basin Electric is a regional wholesale electric generation and transmission cooperative organized under the laws of the State of North Dakota, and headquartered in Bismarck, North Dakota. Basin Electric provides power to over 100 member cooperatives serving approximately three million consumers in nine states.

**Q.8. Who controls Basin Electric?**

A.8. Basin Electric and its member systems are owned by the members at the end of the line. Each of our Class A members has one seat on the 11-member Board of Directors.

**Q.9. What are the business principles on which Basin Electric operates?**

A.9. Basin Electric follows the cooperative business model, embracing the seven cooperative principles: open and voluntary membership; democratic member control; members' economic participation; autonomy and independence; education, training, and information; cooperation among cooperatives; and concern for community. Basin Electric pursues a smart and affordable energy strategy and takes advantage of the benefits of renewables while maintaining baseload that ensures the reliability our members expect. Basin Electric's margins must be used to improve or maintain operations, set aside in reserves, or distributed to the membership.

**III. Project Description**

**Q.10. Please provide a general description of the Project and its location.**

A.10. As shown in Exhibit 1, which is a project overview map produced by Basin Electric,

the Project consists of two individual 230-kV transmission circuits. (Ex. 1 to Pre-filed Test.) These circuits will connect existing Basin Electric substations to a new proposed substation called the Tableland Substation, located miles north of the border in Saskatchewan. The Wheelock Circuit is approximately 53 miles and runs from the existing Wheelock Substation to the United States/Canadian border. The Tande Circuit is 58 miles and runs from the existing Tande Substation, near Tioga, to the United States/Canadian border.

Basin Electric's Project will end at the first structure on the north side of the border for each line, and Saskatchewan Power Corporation ("SaskPower"), a generation and transmission provider in Saskatchewan, Canada, will complete the remainder of the circuits in Canada. Philip Westby's pre-filed testimony addresses the need and benefits of connecting Basin Electric's existing substations to SaskPower's Tableland Substation. (Westby Pref-filed Test., Section III.)

**Q.11. Can you explain how this Project fits in with the ongoing Basin Electric transmission buildout?**

A.11. For reference, please see Exhibit 2, which is a map produced by Basin Electric showing the regional overview of our transmission buildout. (Ex. 2 to Pre-filed Test.) The red lines on this map show the 345-kV transmission system. The Tande Substation is an existing 345/230-kV substation node on the 345-kV loop that the Tande Circuit will interconnect into. The Tande Substation is also the endpoint of the Leland Olds Station to Tande 345-kV transmission project which completes a 345-kV transmission loop within northwest North Dakota – that transmission line is currently under construction and expected to be completed later this year. The Wheelock Substation is an existing 230-kV substation. This substation is approximately one mile north of Basin Electric's Bison Generation Station, which is currently under construction. For additional context on ongoing transmission projects, this map shows two 345-kV projects completed in 2024, Roundup-Kummer Ridge and Pioneer to Judson.

**Q.12. Will Basin Electric own the Project?**

A.12. Yes, the segments of the circuits within the United States will be owned by Basin Electric. The segment within Canada will be owned by SaskPower.

Q.13. **Please describe the schedule for the Project.**

A.13. Basin Electric plans to start construction this summer, pending approval of all permits, and complete the work by September 30, 2027.

Q.14. **What is the estimated cost of the Project?**

A.14. The current cost projection is \$179 million.

#### **IV. Route Selection**

Q.15. **Please explain the meaning of the terms “Project Route” and “Project Corridor.”**

A.15. The Project Route is the location of the electric transmission facility, including the centerline and structure locations. The Project Corridor is the area of land where the designated route is established and, for this Project, will match the easement width of the transmission facility.

Q.16. **Please summarize how the general Project Route was selected.**

A.16. Once the Project was selected and approved by both Southwest Power Pool (“SPP”) and Basin Electric’s Board of Directors, Basin Electric coordinated with SaskPower on the proposed border crossing locations. Basin Electric met with area landowners and originally secured five distinct option crossing locations to allow flexibility for SaskPower routing. Once SaskPower was able to confirm the final crossing locations, Basin Electric based routing to those endpoints.

At that point, the Project team identified a study area with potential route alternatives from Wheelock and Tande to the proposed border crossings and began meeting with landowners and requesting survey permission for final route determination. Through landowner feedback and field survey data collection, numerous iterations and alternatives were evaluated.

For reference, please see Exhibit 3, which is a map produced by Basin Electric showing the routes that were evaluated, consisting of over 670 miles of distinct alternatives. (Ex. 3 to Pre-filed Test.) The final alignments were selected to adhere to Basin Electric design standards, county ordinances, and the Commission avoidance

and exclusion criteria, and where we could maximize easement acquisition.

**Q.17. What was Basin Electric's philosophy when routing the Project?**

A.17. Basin Electric routed the Project to minimize impacts to the environment and human welfare, and to accommodate existing and planned land uses while managing material, construction, and maintenance costs. Basin Electric applies the following standard criteria and objectives in routing transmission line projects:

- comply with the Commission's avoidance and exclusion criteria<sup>1</sup>;
- minimize disturbance to cultivated croplands;
- avoid areas with identified recreational significance when possible;
- limit interference with oil and gas development and other utilities;
- decrease construction and maintenance hazards;
- span wetlands when possible (the Project includes significant quantity wetlands);
- avoid areas less suitable for construction and operation, including river valleys, rugged terrain, steep slopes, areas requiring unusually long spans and areas lacking reasonable access; and
- adjust structure and alignment locations where practical to accommodate landowner preferences.

**Q.18. What opportunities did landowners have to provide input on the Route selection?**

A.18. At the start of the Project, in February 2023, Basin Electric sent project brochure letters to landowners within the study area and began reaching out to them to discuss potential Project Routes and request survey permission. In June 2023, Basin Electric held public open houses for landowner input in Crosby and Tioga. And, in July 2023, at the request of Divide County, the Basin Electric Project team also presented the Project to the county commissioners. In October 2024, Basin Electric held public scoping meetings with the United States Department of Energy as part of the federal NEPA process. These were again held in Tioga and Crosby. We continued to receive feedback through our Project ROW team throughout the Project.

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<sup>1</sup> For a detailed discussion of Basin Electric's compliance with avoidance and exclusion criteria, see King Pre-filed Testimony, Section II.

**Q.19. How is Basin Electric coordinating facilities with area utilities?**

A.19. Basin Electric has had significant Project coordination with area utilities, such as our member rural electric cooperatives, Mountrail-Williams Electric Cooperative and Burke-Divide Electric Cooperative. In addition, the Project has 326 utility crossings (including 104 on the Wheelock Circuit and 222 on the Tande Circuit). We have coordinated with pipeline and other utility companies to obtain crossing permits and ensure transmission line clearances and operational requirements are met.

**Q.20. What is the Project Corridor and width?**

A.20. The Project Corridor width will match the easement width that is used for construction and maintenance for the life of the Project. Basin Electric's standard easement width is 125 feet for 230-kV transmission projects, as the ROW width must contain the conductor under all operating conditions for optimized span lengths. For the proposed structure locations and span lengths, 125' wide is sufficient for the Project.

**Q.21. What is the scope of work associated with the Wheelock Substation?**

A.21. The Wheelock Substation is an existing substation in Williams County that will require a new terminal for the Wheelock Circuit. There is space in the existing substation to accommodate the terminal for this circuit and no grading or expansion would be required. However, Basin Electric also has its new Bison Generation Station just south of Wheelock that will require two new 230-kV circuits into Wheelock, and due to the Bison Generation Station, we will be expanding the Wheelock Substation. For reference, please see Exhibit 4, which is a map produced by Basin Electric showing an illustration of the Wheelock Substation. (Ex. 4 to Pre-filed Test.)

The scope of work for the new terminal will consist of one new 230-kV take-off structure, one new 230-kV strain bus structure, a 230-kV line disconnect switch, one 230-kV breaker disconnect switch, one 230-kV circuit breakers, three single-phase 230-kV voltage transformers, and associated structure supports, foundations, and other connectors, cables, and equipment.

To accommodate the new circuit, the existing Williston to Wheelock 230-kV circuit from the west will be temporarily rerouted within Basin Electric's property to the south

side of the substation to the new terminal. In the future, when the substation is expanded as part of the Bison Generation Station, the Williston circuit will be re-terminated on the north side in a new expansion terminal.

**Q.22. What is the scope of work associated with the Tande Substation?**

A.22. The Tande Substation is an existing substation in Mountrail County that will require a new terminal addition for the Tande Circuit. There is reserved space in the substation for this terminal, so no additional grading or expansion will be required at the Tande Substation. The terminal addition will consist of one new 230-kV take-off structure, one new 230-kV strain bus structure, a 230-kV line disconnect switch, one 230-kV circuit breaker, two 230-kV breaker disconnect switches, three 230-kV potential transformers, and associated structure supports, foundations, connectors, cables, and equipment. All new components will remain within the existing substation. For reference, please see Exhibit 5, which is a map produced by Basin Electric showing an illustration of the Tande Substation. (Ex. 5 to Pre-filed Test.)

**Q.23. Would it be reasonable or feasible to place the transmission line underground?**

A.23. At 230-kV and 345-kV voltage levels, underground transmission is not economically feasible. We periodically check in with industry groups to get updated costs, and they typically range over 20x of overhead transmission. Due to the significant costs and complexity of installing and maintaining underground high voltage transmission, it is generally not used in the industry unless overhead transmission is not possible. Basin Electric has no underground high voltage transmission assets.

**Q.24. What efforts has Basin Electric made to economize the Project's costs of construction and operation?**

A.24. Basin Electric has an obligation to its member cooperatives to construct facilities to manage costs while maintaining reliability and safety. The main priority for managing costs throughout the design and routing process is to limit the length of the transmission line and the amount of angle structures. It is also important to avoid complex terrain and make the line safe and accessible for construction, operations, and maintenance.

Once the route is selected, structure locations, heights, and span lengths are

adjusted to meet design clearance and operational requirements. This effort is to optimize the material and construction costs while minimizing the impacts of the Project and adhering to the Commission's routing criteria.

All materials and services are competitively bid by qualified suppliers. Basin Electric may combine purchases with other projects to take advantage of volume pricing.

## **V. Project Design**

### **Q.25. Please describe the proposed transmission structure design.**

A.25. For the majority of the Project, Basin Electric will utilize standard steel monopoles, with a delta configuration with three steel davit arms for the conductor. For reference, please see Exhibit 6, which is a diagram showing a typical tangent structure configuration. (Ex. 6 to Pre-filed Test.) One optical groundwire will be attached at the top of each pole. Angle structures will be self-supporting (no guy wires). All tangent structures will be directly embedded with gravel backfill, and the angle structures will be placed on drilled pier concrete foundations.

Structure locations, heights, and span lengths are adjusted for terrain requirements, avoidance criteria, utility crossings, and landowner requests where feasible. The average pole height above ground is approximately 105', but heights range from 80 to 160 feet tall depending on terrain and for accommodating existing utility crossings. Typical span lengths are approximately 950 feet but range from 300 feet to 1300 feet.

### **Q.26. What factors determine structure design?**

A.26. The span lengths are optimized for the topography and National Electric Safety Code ("NESC") clearance requirements for 230-kV voltage.<sup>2</sup> Topography, conductor sag, and required ground clearance are used to determine the required structure height.

### **Q.27. How many structures will be constructed for the Project?**

A.27. There are 309 structures on the Wheelock Circuit and 327 structures on the Tande Circuit.

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<sup>2</sup>IEEE, 2023 National Electrical Safety Code, <https://forms1.ieee.org/NESC-2023.html>.

Q.28. **What conductor is Basin Electric proposing to use for the Project?**

A.28. The Project will have an aluminum conductor with a composite carbon fiber conductor core. The conductor size is 1.315-inch diameter and exceeds the SPP minimum rating requirement.

Q.29. **What standards did Basin Electric use to design the Project?**

A.29. The Project will be constructed according to standards of the NESC, the United States Department of Agriculture (“USDA”) Rural Utilities Service, the Institute of Electrical and Electronics Engineers, the American Society of Civil Engineers, the American Institute of Steel Construction, and the American Concrete Institute. In addition, Basin Electric has its own standards and design criteria for operational and maintenance consistency.

Q.30. **What are the minimum clearances over cultivated land, pasture, roads, and other utility lines?**

A.30. Basin Electric adheres to NESC requirements plus a buffer to develop minimum design clearances. The minimum clearance for the Project is 26 feet for all ground surfaces under all operating conditions.

## **VI. Construction**

Q.31. **Please describe the construction activities for the Project.**

A.31. Construction activities include the following:

- structure staking;
- gate installation and access preparation;
- tree clearing;
- foundation installation;
- structure hauling and framing;
- structure setting;
- conductor stringing; and
- reclamation.

The contractor may elect to use multiple crews for any of these phases. Crew size is dependent on the contractor’s means and methods.

**Q.32. What benefits does the Project provide to the local economy?**

A.32. The wages and salaries paid to contractors and workers may provide income for workers in the Project area and the region. Basin Electric's business expenditures for equipment, energy, fuel, operating supplies, and other products and services will benefit local businesses. Amounts paid out as state and local taxes will also provide benefits.

**Q.33. What type of labor force will Basin Electric need for the Project?**

A.33. Specialized labor will be required for most components of the transmission line. It is likely that this labor will be imported from other areas of the state and from other states.

**Q.34. Will Basin Electric be prepared if there are emergency situations during or after construction?**

A.34. Yes. The line route and GPS coordinates of all structure locations are submitted to local emergency agencies prior to construction activity. Thus, first responders will have GPS coordinates to facilitate prompt navigation to the site. The Wheelock and Tande Substations have a 911 address, and this will be communicated to all contractors working on those sites.

**Q.35. How will Basin Electric ensure workforce safety?**

A.35. All construction and maintenance activities will be carried out in compliance with applicable federal and state worker safety regulations. Basin Electric has an Occupational Safety and Health Administration ("OSHA") based safety program supported by the Energy Coalition for Contractor Safety ("ECCS") for all contractors. Worker safety and health will be administered by Basin Electric's Transmission Systems Maintenance Division, which is a member of the National Safety Council.

**Q.36. What health, safety, and environmental mitigations will be in place during construction?**

A.36. Basin Electric and the contractor will assemble a stormwater pollution prevention plan in accordance with North Dakota Department of Environmental Quality's requirements. The plan will include sediment and erosion controls and address best management practices for each construction activity. This will include the storage,

handling, and disposal of construction materials, spill response plans and inspection and reporting requirements.

Basin Electric will implement best management practices to minimize dust associated with construction-related roadway use. Contractors will be required to adhere to reduced speed limits on all Project roads and access routes to limit dust generation, particularly in dry and windy conditions. Construction traffic will be routed, where feasible, to avoid dust sensitive areas. Spoil piles from foundation excavation will be required to be removed within 72 hours to reduce blowing dust.

Basin Electric will have construction observers in the field throughout the duration of the Project to monitor contractor compliance with these practices and to address any issues as they arise. In addition, Basin Electric will respond promptly to any dust-related concerns or complaints from landowners or local jurisdictions and will direct contractors to adjust their practices where feasible. Basin Electric will also maintain communication with county and township road officials to ensure that any road specific concerns are addressed in a timely and coordinated manner.

**Q.37. Does Basin Electric have a wildfire mitigation plan?**

A.37. Last year, Basin Electric developed a formal wildfire mitigation plan (“WMP”) to establish a framework to identify wildfire-related risks and implement preventative and responsive measures for both construction and operation and maintenance activities. These include situational awareness, vegetation management, system hardening, and inspection and maintenance programs. The construction contractor will be required to submit a Project specific wildfire preparedness and prevention plan.

**Q.38. What steps will Basin Electric take when construction is complete?**

A.38. After construction is complete Basin Electric will conduct a final inspection of the Project Corridor, to identify items that require corrective action. When corrections have been verified, the contractor will be released from further responsibility. Basin Electric’s ROW team will oversee the reclamation work as needed.

**Q.39. Please describe the anticipated maintenance for the Project.**

A.39. Basin Electric’s anticipated maintenance for the Project includes the following:

- Basin Electric’s preventive maintenance program for the Project includes aerial and ground inspections. Aerial inspections will be conducted at least two times each year. Ground patrols will be conducted annually for the first three or four years, and less frequently thereafter. Climbing inspections of structures will be conducted on a 5-year cycle with every fifth structure inspected each year. Inspections and patrols will involve the use of vehicles in areas where there is suitable vehicle access.
- Maintenance activities will include repairing damaged conductors, inspecting, and repairing structures, replacing damaged and broken insulators, and tightening hardware.
- Basin Electric will maintain any gates it initially installs and continually uses for access.
- Basin Electric will continue to monitor vegetation for trees that pose a clearance or safety problem to the operation of the transmission line. Specific requirements of North American Electric Reliability Corporation (“NERC”) will be followed.

## **VII. Conclusion**

**Q.40. Based on your knowledge of the Project, will the Project’s construction, operation, and maintenance produce minimal adverse effects on the environment and human welfare?**

A.40. Yes. Basin Electric has implemented the Commission’s criteria in the Project design, routing, and construction, which ensures the Project will have minimal adverse impacts on the environment and human welfare.

**Q.41. Based on your knowledge of the Project, is it compatible with the environmental preservation and the efficient use of resources?**

A.41. Yes. The Project will be constructed, operated, and maintained in a manner to protect the environment and natural resources.

**Q.42. Based on your knowledge of the Project, will it ensure continuing system reliability and integrity needs are met?**

A.42. Yes. The Project will contribute to local and regional electric reliability.

STATE OF NORTH DAKOTA  
BEFORE THE  
PUBLIC SERVICE COMMISSION

Basin Electric Power Cooperative )  
Wheelock–Saskatchewan 230kV Transmission Line) Case Nos.: PU-25-283 and PU-25-284:  
Siting Application; and ) OAH File No. 20250371  
Tande–Saskatchewan 230kV Transmission Line )  
Siting Application )

**AFFIDAVIT OF  
BOBBY NASSET**

I, the undersigned, being duly sworn, state as follows: (1) I have read the pre-filed testimony and exhibits submitted in the above captioned matters under my name; (2) they were prepared by me or under my direction and I know their contents; and (3) they are true and correct to the best of my knowledge and belief.



\_\_\_\_\_  
Bobby Nasset

Subscribed and sworn to before me, this 5 day of March, 2026.



\_\_\_\_\_  
Notary Public

My Commission Expires:

