

**BEFORE THE PUBLIC UTILITIES COMMISSION
OF THE STATE OF SOUTH DAKOTA**

In the Matter of the Application of Crowned
Ridge Wind II, LLC for Facility Permit to
Construct a 230kV Transmission Line and
Associated Facilities in Codington County

EL-18-019

**APPLICANT'S RESPONSES TO
STAFF'S FIRST SET OF DATA
REQUESTS TO CROWNED RIDGE
WIND II, LLC**

Attached, please find Applicant's Responses to Staff's First Set of Data Requests
to Crowned Ridge Wind II, LLC ("Crowned Ridge" or "Company").

1-1) Refer to Mr. Paul Johnson's comment submitted to the Commission:

<http://puc.sd.gov/commission/dockets/electric/2018/EL18-019/comments/Johnson.pdf>.

- a) Please summarize the Company's understanding of Mr. Johnson's request and how the Company has worked with Mr. Johnson to resolve his concerns.
- b) Please explain why the transmission line cannot be moved to the "center of Section 22" as requested by Mr. Johnson.
- c) Mr. Johnson states that "the proposed powerline for Crowned Ridge is too close to his home." How close is the proposed powerline from Mr. Johnson's residence?

Response:

- a) The applicant understands Mr. Johnson's request and preference for the project to utilize the half section line of section 22 to create a greater distance between the proposed Project and Mr. Johnson's residence. In an attempt to resolve Mr. Johnson's concerns, the applicant has continued to conduct its due diligence on the private lands on which the project is located to explore the possibility of locating the Project closer to the center of section 22.
- b) The Project does not propose to utilize the "center of section 22" because such an alignment would result in closer proximity to another residence in the southern-half of section 22. Also, the Applicant has identified a high concentration of field-verified, constraints along the center of section 22 that requires avoidance. The Project's alignment as currently proposed positions the Project in a manner that limits the proximity to homes to the extent possible in this general area while also avoiding impacts to field-verified constraints
- c) The proposed Project is located approx. 1,650 feet from Mr. Johnson's residence.

Respondent: Jason Utton, Vice President – Business Development

- 1-2) At the Public Input Hearing on May 30, Mr. Patrick Lynch, along with other commenters, requested that the transmission line be buried underground.
- a) What is the estimated capital cost of the project if the transmission line is buried underground? Approximately, how much more expensive is the capital cost estimate than the project as proposed?
 - b) Is the increased cost of burying a 230 kV transmission line similar to the increased cost of burying a distribution line? Please explain.
 - c) Are transmission lines required to be undergrounded in certain urban area by city or county ordinances? If no, please explain why transmission lines are buried underground in certain urban or densely populated areas.
 - d) Is the Company aware of any transmission lines that are buried in South Dakota?
 - e) What percentage of total transmission line miles is buried underground in the United States?

Response:

- a) The alternative current transmission line will cost between \$15MM to \$18MM if buried underground, which is approximately 8 to 10 times more expensive than the proposed overhead transmission line. Overhead transmission lines minimize ground impacts to wetlands, tribally sensitive areas, and are easier to repair if damage occurs.
- b) In general, the cost of underground distribution lines is 4 to 5 times the cost of overhead distribution lines. For alternative current transmission lines, the cost gap is more significant. For example, the depth of the trench goes from 3-4 feet for distribution to 5-6 feet for transmission. The cost of underground transmission cable and accessories is significantly more than the cost of underground distribution cable. The cost of going under other rights of way such as railroads and highways is significantly more for underground transmission lines given the much larger cable diameters and associated ducts and bore holes.
- c) Burying high-voltage alternative current transmission lines may be appropriate in densely populated urban and suburban settings, near airports, or when sufficient right-of-way is not available for an overhead line. Electric utilities consider those factors when deciding whether to construct high-voltage transmission facilities above ground or to bury them.
- d) The company is not aware of any buried transmission lines in South Dakota. The company recognizes that there are a small percentage of buried distribution lines in South Dakota.

- e) According to a report by XCEL Energy, approximately 0.5% of 230 kV transmission line miles are buried underground in the United States.

Respondent: Mark Thompson, Manager of Wind Engineering

- 1-3) At the public input meeting, Crowned Ridge indicated that 99% of land access and transmission route is under easement. Please explain and describe the 1% that is not under easement, and when Crowned Ridge anticipates obtaining the remaining easements.

Response:

The 1% that is not under easement involves a location where the project spans a property corner or where a slight shift in alignment would be necessary.

The Applicant is in constant communication with the remaining landowners where such an easement is needed and anticipates obtaining this easement by September 20, 2018.

Respondent: Jason Utton, Vice President – Business Development

- 1-4) Please provide a list of all overhead transmission and distribution lines in the area of the proposed project that the Applicant is aware of.

Response:

The Applicant is not aware of any overhead transmission or distribution lines exist within the proposed project's study area.

Respondent: Jason Utton, Vice President – Business Development

- 1-5) Please provide a list of any known private landowner concerns and the Applicant's plan to address those concerns.

Response:

The below information identifies the known private landowner concerns and the Applicant's plan to address those concerns.

Landowner	Landowner Concern	Applicant's Plan to Address Landowner's Concern
Mr. Paul Johnson	Proximity of the proposed project to landowner's residence	Applicant continues to work with the adjacent, private lands on which the proposed Project is located to explore the possibility of locating the Project in a manner that creates greater distance from landowner's residence.
Mr. Larry Stricherz	Proximity of the proposed project to landowner's residence	Applicant continues to work with the adjacent, private lands on which the proposed Project is located to explore the possibility of locating the Project in a manner that creates greater distance from landowner's residence.

Respondent: Jason Utton, Vice President – Business Development

- 1-6) Explain how Crowned Ridge balances the interests of participating landowners and non-participating landowner through Crowned Ridge's stakeholder processes.

Response:

The Applicant works to equally balance the interests of the participating and non-participating landowners through the stakeholder outreach process. The Applicant logs the expressed concerns of non-participating landowners during the initial outreach process. The Applicant will consider the non-participating landowners concerns when proposing the alignment on adjacent, participating lands. To the extent possible, the Applicant will work to site the Project in a manner that respects the concerns of the non-participating landowners, including the siting the Project compatible with the existing farming/ranching operations on the participating land and also properly avoiding field-verified constraints identified during the field-survey process.

Respondent: Jason Utton, Vice President – Business Development

1-7) Refer to Section 1.0 of the Application, Page 1.

- a) Has the North Dakota PSC acted on Xcel's regulatory request associated with CRW II? If yes, please provide the associated Order. If no, please provide an update.
- b) Please provide the applicable conditions in the Purchase and Sale Agreement for CRW II associated with the approval of the North Dakota PSC.

Response:

- a) No. On July 9, 2018, the North Dakota PSC issued a Notice of Consolidated Hearing in the Northern States Power (NSP) advance prudence proceeding (Docket PU-17-120). The PSC rescheduled its hearing on NSP's application on from September to October 11, 2018.
- b) The applicable conditions in the Power Purchase Agreement and Purchase and Sale Agreement for CRW and CRW II associated with the approval of the North Dakota PSC are provided as Confidential Attachment 1.

Respondent: Jason Utton, Vice President – Business Development

- 1-8) Refer to Section 5.0 of the Application, Page 11, regarding the estimated cost of the facility.
- a) Has the estimated cost of the facility changed as a result of the route change identified in the May 23, 2018, filing, reducing the length of the line from seven to five miles? Please explain.
 - b) Please identify all substantive changes to the application as result of the May 23, 2018, route change, and provide updated information accordingly.

Response:

- a) In the May 23, 2018 filing, the estimated cost of the seven-mile transmission line and the associated facilities including the 230kV high-side of the CRW II collector substation was approximately \$10 million. The transmission line estimate was approximately \$4 million out of that \$10 million. Reducing the length of the line from seven to five miles reduces the estimate by approximately \$1 million.
- b) The updated route reduces the transmission line length by 2 miles and eliminates 10 transmission structures.

Respondent: Mark Thompson, Manager of Wind Engineering

- 1-9) Referring to Section 14.0.2 of the Application, please provide how much income agricultural landowners are expected to receive for the easement. Further, please identify if this is a one-time payment or ongoing payment.

Response:

Agricultural landowners participating in the project are expected to receive a sum total of approximately \$470k for the project's easement. Such payments are to be made to the landowners in the form of a one-time payment.

Respondent: Jason Utton, Vice President – Business Development

- 1-10) Referring to Section 14.1.1, please identify the distance from the proposed transmission line to nearest occupied residence.

Response:

The nearest occupied residence is located approx. 1,150 feet from the proposed project.

Respondent: Jason Utton, Vice President – Business Development

- 1-11) Referring to Section 19.0.2 of the Application, please explain how the Hoen et al. 2013 study for wind farms addresses potential property value impacts associated with a transmission line.

Response:

The study by Hoen *et al* (2013) evaluated the effects of wind energy facilities on home values and found no statistical evidence that home values near turbines were affected in the post-construction or post-announcement/pre-construction periods of development. The Hoen et al study cited previous research by Kroll and Priestly (1992) regarding the effects of high-voltage transmission lines on property values.

The Kroll and Priestly (1992) transmission line study utilized the following approaches to evaluate the effect of transmission lines on property values:

- **Appraisal techniques** compared the sales prices for matched properties or used descriptive statistics that compared groups of sales to assess if properties crossed by or near overhead transmission lines had lower (or higher) sales prices than unaffected properties.
- **Attitudinal studies** provided a qualitative feel for the effects of transmission lines, rather than a quantitative measure of the degree of impact. These studies examined how property owners and others in property management or sales perceived the effects of transmission lines on the sales prices of properties.
- **Statistical analyses** utilized the data developed through the appraisal techniques and other field methods but evaluated the impacts with more sophisticated statistical tools, such as comparison of means and multiple regression analyses to determine if there were statistically significant differences between sales of properties crossed by or near an overhead transmission line and sales of properties at other locations.

The Kroll and Priestly (1992) study concluded that:

- Overhead transmission lines have the potential to reduce the sales price of residential and agricultural property, but the effect is generally small (0 – 10%), especially for single family homes, although it could be greater than 15 percent for some specialized cases in rural areas.
- Other property characteristics, such as neighborhood factors, square footage, lot size, and irrigation potential, are much more likely to be greater determinants of the property's sales price, rather than the presence of an overhead transmission line.
- The sales price effects are most likely to impact a property crossed by or immediately adjacent to a transmission line, but some impacts have been measured at properties further away.
- A transmission line may have positive impacts as well, especially where the right-of-way is attractively landscaped and/or developed for recreational use.
- Smaller properties may be more impacted than larger properties.

- The greatest impacts were noted immediately following construction of a new transmission line or major increase in the size of an older right-of-way, but these impacts diminished over time.

The proposed Project primarily traverses large tracts of agricultural land and does not cross properties with single family residences. The proposed route lies within approximately 250 to 1,800 feet of 11 single family residences and farmsteads, but most of those structures are screened by shelterbelts. Based on the results of the Kroll and Priestly study, it is anticipated that the Project will not have any impacts on agricultural property values, with negligible, if any, impacts on properties with single family residences.

REFERENCES

Hoen, B., J. P. Brown, T. Jackson, R. Wiser, M. Thayer, and P. Cappers. 2013. A Spatial Hedonic Analysis of the Effects of Wind Energy Facilities on Surrounding Property Values in the United States. Environmental Energy Technologies Division. Available online at: <http://em p.lbl.gov/ sites/all/files/ lbn1-6362e.pdf>. Accessed August 15, 2018.

Kroll, C. A. and Priestley, T. 1992. The Effects of Overhead Transmission Lines on Property Values: A Review and Analysis of the Literature. Prepared for Edison Electric Institute, Washington, DC. July 1992. 99 pages.

Respondent: Jason Utton, Vice President – Business Development

- 1-12) Referring to Section 20.0 of the Application, please provide the following pursuant to ARSD 20:10:22:24:
- a) A description of the job classifications for the temporary jobs;
 - b) The estimated annual employment expenditures of the applicants, the contractors, and the subcontractors during the construction phase of the proposed facility;
 - c) Identify if there will be any permanent jobs for project operation and, if so, provide the same data in subparts a and b, above, for the first ten years of commercial operation; and
 - d) The estimated percentage of workers that will remain within the county and the township in which the facility is located after construction is completed.

Response:

- a) During the construction phase of the transmission line (approximately 3-4 months) of the project, the Applicant currently forecasts approximately 15-20 workers consisting of approximately 1 supervisor, 3 equipment operators, 1 mason, 2 carpenters, 4-6 journeymen linemen and 4-7 laborers. A Crowned Ridge Wind construction manager will also supervise this work as well.
- b) The approximate cost for the 15-20 workers for 3-4 months is approximately \$1 million.
- c) Approximately 7-12 employees, consisting of an operations manager and wind technicians will operate the windfarm and transmission line after construction is completed. Their annual salary will range from \$75,000 to \$150,000 per year.
- d) The 7-12 employees are approximately 50-60% of the size of the construction crew though the wind technicians will not be from that construction crew.

Respondent: Mark Thompson, Manager of Wind Engineering

- 1-13) Referring to section 22.3 of the Application, please clarify what is meant by the following statement: “Generally, the Applicant will inspect the transmission line by ground at least once per year with a ground inspection once every five years.” Will ground inspections be performed annually or once every five years?

Response:

In section 22.3 the correct wording should state “Generally, the Applicant will inspect the transmission line by ground at least once per year.”

Respondent: Jason Utton, Vice President – Business Development

- 1-14) Pursuant to ARSD 20:10:22:34, please submit a policy statement regarding stabilization and weed control.

Response:

Crowned Ridge Wind II (CRWII) will ensure the following plans for stabilization and weed control are followed by the awarded transmission line contractor. The contractor shall be responsible to install and maintain all Best Management Practices (BMPs) as per the Storm Water Pollution Prevention Plan (SWPPP) and applicable codes, rules and regulations.

Erosion Control

- Contractor shall provide equipment, material and labor to install and maintain erosion control devices in accordance with all applicable codes, regulations and the SWPPP.
- CRWII will administer the SWPPP. CRWII will perform all inspections on erosion control devices on a weekly basis and provide the contractor with a copy of the inspection reports so that maintenance if required can be performed.
- Silt fence material shall be wire backed material.
- Rip rap material shall be installed on geotextile fabric.
- Hay bales shall be certified to be noxious weed free.
- Staking material used to anchor erosion control devices shall be designed in a manner to prevent livestock injury.
- Contractor shall be diligent with maintenance activities and all maintenance work shall be performed in accordance with the SWPPP and all applicable regulations and codes.

Restoration and Reclamation

- Contractor shall provide all equipment, labor, and material to restore properties to the original contours and grades, except when necessary to establish an appropriate right of way, to establish for maintenance of the transmission line, and to establish set-up sites for maintenance of a the transmission line.
- Contractor shall re-vegetate the areas with native species and in accordance with county extension agency recommendations and landowner preference.
- Contractor shall reseed in a manner that will provide firm contact between soil and seed.
- In highly erodible areas Contractor shall install temporary and/or permanent stabilization measures to enhance vegetation re-growth.
- Permanent erosion controls shall be left in place. Prior to final acceptance temporary erosion controls shall be removed by the contractor if and when vegetation reaches 70% re-growth in the particular location of the erosion control devices.
- Upon completion of re-seeding and as a provision of final acceptance the contractor shall refurbish all remaining erosion control devices so that they are in compliance

with the SWPPP, at which time the maintenance and/or removal of the remaining erosion control devices shall become the responsibility of CRWII.

Maintenance/Weed Control

- Trees to be trimmed or removed on an annual basis to ensure proper clearance from the transmission line.
- Grasses, brush, and weeds around transmission poles and guy wires will be mowed as needed.
- Crops will be the responsibility of the land owner. Land owner will be compensated for crop damage in the event of CRWII utilizing equipment on farm land.
- Gravel and herbicide should be sufficient to control growth at the substation.
- All maintenance activities and all maintenance work shall be performed in accordance with the SWPPP and all applicable regulations and codes for the life of the transmission line.
- CRW will use appropriately labeled herbicides for habitats present by licensed applicators in compliance with state and federal laws.
- CRWII will use Environmental Protection Agency registered and approved herbicides. Application of herbicides must be registered and approved for use in South Dakota based on the site that is being treated (i.e., aquatics for wetlands, range and pasture, etc.).

Resource Protection

- Implement technology based effluent limitations: use the lowest effective amount of pesticide/herbicide, application of optimal dose of pesticide herbicide, performance of maintenance activities on application and cleaning of equipment to ensure effective application. These activities are to minimize the excessive discharge of pesticide/herbicides by controlling the amount applied and avoiding leaks or spills.
- Adhere to monitoring provisions: visual monitoring of the application area to look for adverse effects to non-target species and disruption to the function of the larger landscape.
- Take corrective action: if a spill or leak occurs, non-target organisms are impacted; maintenance activities are not being conducted, and if other best management practices are not being met the methods and control measures must be revised.
- Adverse incident notification and reporting: if there is a spill or leak that discharges to surface waters, if a person or non-target organism is exposed or suffers a toxic effect, or there is a visible distress which includes mass kill of aquatic organisms the state will be notified immediately if the discharge is in excess of 25 gallons of a regulated substance to be followed by a written report submitted within 30 days of the incident.
- Record maintenance: if an adverse incident report is filed or any corrective actions are needed the documentation must be retained. Labels for all chemicals that the supplier proposes to use shall be provided to CRWII. A written record of chemical mixes and rates of application will be maintained and provided to CRWII on a weekly basis for the duration of work assigned. Care must be taken to prevent off-site damage. The supplier shall be responsible for all damage to timber and/or vegetation outside the right-of-way. Restricted use herbicides will require prior written approval from CRWII.

Respondent: Mark Thompson, Manager of Wind Engineering