

80 SOUTH EIGHTH STREET
500 IDS CENTER
MINNEAPOLIS, MN 55402
MAIN: 612.632.3000
FAX: 612.632.4444

GREGORY R. MERZ
ATTORNEY
DIRECT DIAL: 612.632.3257
DIRECT FAX: 612.632.4257
GREGORY.MERZ@GPMLAW.COM

March 5, 2018

Via U.S. Mail & Email: dnitschke@nd.gov

Darrell Nitschke
Executive Secretary
ND Public Service Commissions
600 E. Blvd. Ave.
Bismarck, ND 58505-0480



Re: Otter Tail Power Company
Case No. PU-17-96
Minn-Kota Ag Products, Inc. – Richland County Public Convenience & Necessity

Dear Mr. Nitschke:

Minn-Kota Ag Products, Inc. respectfully submits its Petition Reconsider its Petition to Intervene and Request to Present Oral and Written Comments and Certificate of Service in the above-referenced matter.

An electronic copy of this filing is also being sent to you at dnitschke@nd.gov and to the North Dakota Public Service Commission at ndpsc@nd.gov.

Please feel free to contact me at (612) 632-3426 or by email at gregory.merz@gpmlaw.com if you have questions.

Very truly yours,

Gregory R. Merz
Attorney

cc: Patrick J. Ward, Administrative Law Judge (via U.S. Mail and email: pward@zkslaw.com)
Kimberly J. Radermacher (via U.S. Mail and email: kimrader@radermacherlaw.com)
Cary Stephenson (via U.S. Mail and email: cstephenson@otpc.com)
Zachary Pelham (via U.S. Mail and email: zep@pearce-durick.com)
Zachary Smith (via U.S. Mail and email: zsmith@ndarec.com)

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81 PU-17-96 Filed 03/05/2018 Pages: 28
Petition Reconsider Petition to Intervene and Request to Present Oral and Written Comments
Minn-Kota Ag Products, Inc.
Gregory Merz, Attorney

**STATE OF NORTH DAKOTA
PUBLIC SERVICE COMMISSION**

**Otter Tail Power Company
Minn-Kota Ag Products, Inc. - Richland County
Public Convenience & Necessity**

Case No. PU-17-96

**MINN-KOTA AG PRODUCTS, INC.'S PETITION RECONSIDER ITS
PETITION TO INTERVENE AND REQUEST TO PRESENT ORAL
AND WRITTEN COMMENTS**

Minn-Kota Ag Products, Inc. ("Minn-Kota") respectfully submits this Petition, pursuant to the North Dakota Administrative Code, Sections 69-02-06-02 and 69-02-02-05 of the rules of practice and procedure of the North Dakota Public Service Commission ("Commission"), to reconsider Minn-Kota's Petition to Intervene in the above-referenced matter and to present oral and written comments in support of Otter Tail Power Company's Application for a Certificate of Public Convenience and Necessity. In support of its petition, Minn-Kota states as follows:

1. On February 19, 2018, Minn-Kota's February 1, 2018 Petition to Intervene and Request to Present Oral and Written Comments of Minn-Kota in this proceeding was denied. (Docket Item 80). Pursuant to North Dakota Administrative Code, Section 69-02-06-02, Minn-Kota respectfully requests that the commission reconsider that order.

2. Pursuant to North Dakota Administrative Code, Section 69-02-02-05 Minn-Kota has a substantial interest in this proceeding and there is good cause to allow this intervention even though Minn-Kota's Petition for Intervention was not filed at least ten days before the hearing.

Substantial Interest

3. It is undisputed that Minn-Kota is in the process of constructing a state-of-the-art grain handling facility located on Highway 13, two miles east of Barney, North Dakota ("Facility"). The Facility represents a significant investment (approximately \$20,000,000) in an economically depressed area of the state. When the first phase of the facility is completed, it will have ten steel bins with a capacity of 2.9 million bushels, it will have a load out capacity of 80,000 bushels per hour, which will enable 110 rail cars to be loaded in less than eight hours. This will benefit the area's producers and overall economy.

4. The Facility will use large electric motors to power belt and chain conveyers in conjunction with large legs that will move the grain. The Facility will serve numerous area farmers. The plans for the current Facility will be the first phase of several anticipated expansion phases for Minn-Kota.

5. Otter Tail Power Company ("OTP") has made a proposal to provide electricity to the Facility. OTP is currently providing electricity to Minn-Kota pursuant to a temporary agreement.

6. Dakota Valley Electric Cooperative ("DVE") also made a proposal to provide electricity to the Facility.

7. Access to reliable, reasonably priced electricity is critical to the success of the Facility. Based on careful review of the two competing proposals, Minn-Kota determined that OTP's proposal would meet its needs and that DVE's proposal would not. As such, Minn-Kota has a substantial interest to intervene.

8. Minn-Kota anticipates that the Facility will be operational by the middle of June 2018 and plans to put the Facility into full service by July 1 of 2018. As such, Minn-Kota has no interest in unduly broadening the issues or delaying the proceeding in contravention of the intervention rule. See N.D. Admin Code § 69-02-02-05. Rather, Minn-Kota intends to offer its position and support in an efficient manner such that a decision can be made with a complete record.

Good Cause Shown

9. Under the Commission's Rules, a petition to intervene "must be filed at least ten days prior to the hearing, but not after except for good cause shown." N.D. Admin Code § 69-02-02-05(2). It is undisputed that Minn-Kota's petition fell outside that window of time. However, Minn-Kota has good cause to intervene.

10. "Good cause" is not defined in the applicable section of the Administrative Code, nor is it defined in the Administrative Agencies Practice Act. However, "good cause" to intervene has been shown where a non-party's interests may be "substantially affected" by the action being considered by the Commission. *TransCanada Keystone Pipeline, LP*, Case No. PU-06-421, Order on Motions to Intervene and Reopen, Dkt. No. 250 (Nov. 7, 2007).

11. In the TransCanada proceeding, the Commission held a hearing on September 5, 2007. See *TransCanada Keystone Pipeline, LP*, Case PU-06-421, 2008 WL 10590490 (N.D.P.S.C. Feb 21, 2008) (Findings of Fact Conclusions of Law and Order). Despite having notice of the hearing, the City of Fargo did not intervene before the hearing. See *TransCanada Keystone Pipeline, LP*, Case No. PU-06-421, Order on Motions to

Intervene and Reopen, Dkt. No. 250 (Nov. 7, 2007). Rather, the City of Fargo moved to intervene on October 23, 2007. *Id.* In that matter, similar to the instant matter, the party opposing the intervention argued that Fargo's petition was not timely and that its interests had been adequately represented at the hearing. *Id.* The Commission, however, found that Fargo had good cause to intervene because it had "interests that may be substantially affected" by the proceeding. *Id.* Here, Minn-Kota certainly has interests that may be "substantially affected" by the proceeding. Indeed, Minn-Kota's \$20,000,000 investment depends on having reliable and affordable power. The Otter Tail Power solution meets that need, and the Dakota Valley solution does not.

12. Moreover, while Otter Tail Power and Minn-Kota have some overlapping interests in this matter, Otter Tail Power may not adequately represent Minn-Kota's interests. Indeed, Otter Tail Power has a number of interactions with the Commission. For Otter Tail Power, this is one of many matters; and, undoubtedly its overall strategy as a company is informed by these many interactions. This one application for a Certificate of Public Convenience and Necessity is likely not material to Otter Tail's business. For Minn-Kota, however, this application is critical. Minn-Kota, therefore, has every incentive to make sure that the record is complete and that all of the applicable evidence has been properly considered. Minn-Kota will be "substantially affected" by the outcome of this proceeding. As such, good cause exists for Minn-Kota's intervention. Minn-Kota, therefore, respectfully requests that the commission reconsider the order denying Minn-Kota's intervention.

13. If Minn-Kota is permitted to intervene it offers the following additional argument and evidence.

Argument and Evidence

14. Pursuant to the North Dakota Territorial Integrity Act, N.D.C.C. 49-02 *et seq.*, OTP applied to the Commission for a Certificate of Public Convenience and Necessity ("CPC&N") in order to provide service to Minn-Kota.

15. In determining whether to grant a CPC&N under the Territorial Integrity Act, the Commission considers the following ten factors:

- a. From whom does the customer prefer electric service?
- b. What electric suppliers are operating in the general area?
- c. What electric supply lines exist within at least a two-mile radius of the location to be served, and when were they constructed?
- d. What customers are served by electric suppliers within at least a two-mile radius of the location to be served?
- e. What are the differences, if any, between the electric suppliers available to serve the area with respect to reliability of service?
- f. Which of the available electric suppliers will be able to serve the location in question more economically and still earn an adequate return on its investment?
- g. Which supplier's extended electric service would best serve orderly and economic development of electric service in the general area?
- h. Would approval of the applications result in wasteful duplication of investment or service?
- i. Is it probable that the location in question will be included within the corporate limits of a municipality within the foreseeable future?
- j. Will service by either of the electric supplier in the area unreasonably interfere with the service or system of the other?

a. *Customer preference*

16. "While not controlling, customer preference has long been recognized as a proper consideration for the Commission in deciding whether a certificate of public convenience and necessity should be issued." *Capital Elec. Cooperative, Inc. v. North*

Dakota Public Service Com'n, 877 N.W.2d 304, 307 (N.D. 2016) (collecting cases). Minn-Kota has a strong preference for OTP. Minn-Kota's preference, however, is not an arbitrary one. Rather it is based on many of the factors that the Commission also considers. Specifically, OTP will offer a more reliable solution and a more economical solution.

b. *What electric suppliers are operating in the general area*

17. Both OTP and DVE are operating in the general area. Indeed, DVE gets its power for this area from the same OTP 41.6 kV transmission line that OTP would tap to provide service to Minn-Kota. (See Dkt. No. 67, pp 4-5; Dkt. No. 66, p.6; Dkt. No. 27.)

c/d. *What electric supply lines & customers exist within at least a two-mile radius of the location to be served, and when were they constructed.*

18. DVE primarily argues that this factor weighs in its favor because it has 20 members on its power distribution network in the two-mile radius, whereas OTP only has 2 customers in that two mile radius. (Dkt. No. 67 at ¶ 11.) DVE's argument assumes that this factor is a rigidly applied formula. It is not. Indeed, the "two-mile" analysis is not based on statute, nor has it been rigidly applied in published cases.

19. In 1969, the North Dakota Supreme Court set forth the list of factors to be considered when determining whether to issue a CPC&N. *Application of Otter Tail Power Co.*, 169 N.W.2d 415, 418 (N.D. 1969). The "factors include: the location of the lines of the suppliers; the reliability of the service which will be rendered by them; which of the proposed suppliers will be able to serve the area more economically and still earn an adequate return on its investment; and which supplier is best qualified to

furnish electric service to the site designated in the application and which also can best develop electric service in the area in which such site is located without wasteful duplication of investment or service." *Id.* Nowhere in this seminal case is a rigid "two-mile" rule.

20. More recently, the North Dakota Supreme Court held that a preponderance of the evidence supported the Commission's decision to grant a CPC&N. *Capital Elec. Cooperative, Inc. v. North Dakota Public Service Com'n*, 877 N.W.2d 304 (N.D. 2016). In reviewing the Commission's determination in *Capital Electric*, the Court addressed, among other factors, the Commission's findings on the number of customers in a one mile radius and in a two mile radius. *Id.* at 307. The Court, however, did not prescribe those rigid boundaries. Instead, in affirming the Commission, the Court stated that "the number of customers served by electric suppliers in the *larger vicinity* should be considered for assessing capacity requirements in determining the orderly development of electrical service." *Id.* at 307-308 (emphasis added). The Court held that "[e]ven if [rural electric cooperative] serves customers closer to the [proposed customer's] site, this does not preclude the Commission from considering the number of customers served in *the larger area* for the purpose of examining duplication of services." *Id.* at 308 (emphasis added).

21. Here, when assessing the "orderly development of electrical service" the focus on "the larger area" should not be a rigid, and arbitrary, two miles. Rather, it should include the nearby towns of Barney and Moorton. OTP provides service to the scores more customers in the larger area, including the residents and businesses in

those communities that are just outside of the two-mile guideline. (Dkt. No. 66 at p. 6.; Dkt. No. 27) When considering the larger area, OTP's solution allows for an orderly development of electrical service in the area in a manner that is not wastefully duplicative.

22. Moreover, the parties agree that: (1) DVE and OTP have supply lines within the two-mile radius; (2) Both DVE and OTP will have to add supply lines to serve Minn-Kota; and (3) The parties agree that DVE would have to add approximately 3,960 feet of distribution line to serve Minn-Kota and that OTP would have to add a substation and approximately 1,000 feet of distribution. (Dkt. No. 71 at ¶¶ 13-16; Dkt. No. 72 at ¶¶ 14-16.). The addition of the substation on the Minn-Kota site will allow for a more orderly and reliable development of electrical service in this area than the continued expansion of DVE's distribution lines. These are the critical considerations and tend to favor the OTP solution.

e. The differences between the electric suppliers available to serve the area with respect to reliability of service.

23. This factor weighs heavily in favor of the OTP solution. As an initial matter, in an attempt to question the reliability of OTP's solution, DVE argues that the OTP solution relies on a 41.6 kV overhead transmission line that has "over 40 miles of exposure." (Dkt. No. 69 at ¶ 11.) This is a red herring. Both DVE and OTP receive their power in this area from the same OTP 41.6 kV transmission line that OTP would tap to provide service to Minn-Kota. (See Dkt. No. 67, pp 4-5; Dkt. No. 66, p.6; Dkt. No. 27.). If that 41.6 kV line goes down, then neither OTP nor DVE would have power. As such,

service reliability comparisons need to look at the distribution networks as they relate to the Minn-Kota site.

24. Barr Engineering's Paul Kaeding is an expert, professional engineer – licensed in North Dakota and many other states – with over 50 years of experience as an electrical engineer, including in the design and evaluation of power generation and distribution systems. See **Exhibit 1** (resume); see also <https://www.barr.com/page/26/company-directory/PFK> (Barr Engineering engineer profile, last accessed Feb. 27, 2018).

25. Mr. Kaeding was recently hired to provide an independent review of the documents submitted to the Commission and offer an opinion of which utility will provide better service to Minn-Kota. Mr. Kaeding's full opinion is attached hereto as **Exhibit 2**. In summary, he finds that the OTP solution will provide more reliable service. In particular, the OTP solution offers lower system impedance, which should reduce the need for soft starters and the risk of service disruptions (i.e. brownouts). The OTP solution also offers a reduced risk of faults and downtime due to distribution system faults as a result of better site access. These realities make the OTP solution more reliable for Minn-Kota.

26. Moreover, these realities also result in better service to the other customers, including DVE's customers, in the area. As Mr. Kaeding notes, the OTP solution appears to have been modeled to accommodate the Facility's load, but DVE's does not appear to have the same robustness. Exhibit 2 at 3. DVE proposes an experimental approach with respect to the necessity of soft start motors and Facility

operations. *Id.* As such, Minn-Kota's operation might affect adjacent utility customers, or vice versa. *Id.* at 4.

f. What supplier will be able to serve the location in question more economically and still earn an adequate return on investment?

27. Each party argues that it will be able to serve the location economically and still earn an adequate return on its investment. (Dkt. No. 71 at ¶ 42; Dkt. No. 72 at ¶ 33.) Put another way, both suppliers maintain that this is a sound business move for them. Therefore, this factor is essentially neutral with respect to the suppliers. But the economics are not neutral with respect to Minn-Kota. Even DVE concedes in its proposed findings of fact and conclusions of law that "Otter Tail's rates will likely result in a savings to [Minn-Kota] over time . . ." (Dkt. No. 72 at ¶ 33.).

g. What supplier's extended electric service would best serve orderly and economic development of electric service in the general area?

28. As already noted, the OTP solution for this facility will greatly benefit the orderly and economic development of electric service in the general area. The OTP-proposed substation will initially only serve the first phase of the Minn-Kota facility. However, because of the robustness of the OTP solution and the improved reliability of the solution, the OTP solution will better allow for expansion of the Minn-Kota facility, which George Schuler IV testified about at the hearing. Moreover, the OTP solution would be able to better serve any other industrial expansion in the area due to the lack of other customers on the OTP substation.

29. On this factor, it is important to note that Minn-Kota's \$20,000,000 facility is a substantial economic development in this economically depressed area of the state.

The general area will benefit from it, but only to the extent it is successful. It has a better shot to be successful if it is profitable. And, ultimately, whether the facility is profitable depends on the facility to operate consistently at full-power and with reasonable operating costs. The OTP solution is more reliable, and as previously noted, DVE concedes in its proposed findings of fact and conclusions of law that "Otter Tail's rates will likely result in a savings to [Minn-Kota] over time . . ." (Dkt. No. 72 at ¶ 33.) As such, this factor weighs in OTP's favor.

h. Would approval of the applications result in wasteful duplication of investment or service?

30. There is no wasteful duplication in the OTP solution. It is undisputed that that: (1) DVE and OTP have supply lines within the two-mile radius; (2) Both DVE and OTP will have to add supply lines to serve Minn-Kota; and (3) The parties agree that DVE would have to add approximately 3,960 feet of distribution line to serve Minn-Kota and that OTP would have to add a substation and approximately 1,000 feet of distribution. (Dkt. No. 71 at ¶¶ 13-16; Dkt. No. 72 at ¶¶ 14-16.). Put another way, any solution will require new services and the DVE solution requires far more extension of its already extended distribution system. Indeed, DVE would have to trench its distribution line right under the 41.6 kV transmission line that OTP would tap directly. To the extent there is duplication, DVE's is more wasteful in that it requires more underground feeder line. (*Compare* Dkt. No. 27 *with* Dkt No. 40.).

31. The OTP solution has the added public benefit it that it would accommodate anticipated future expansion of the Facility, which is good for the area

producers; as well as potentially other expansions. The DVE proposal will not. Thus, OTP also will benefit the public interest by expanding employment opportunities and increasing economic activity in the region.

i/j. Is it probable that the location in question will be included within the corporate limits of a municipality within the foreseeable future? Will service by either of the electric supplier in the area unreasonably interfere with the service or system of the other?

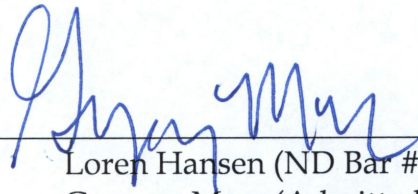
32. No party contends these factors are controlling here. Minn-Kota agrees.

Conclusion

33. Allowing intervention by Minn-Kota will not result in any prejudicial delay in completing the proceeding. Allowing Minn-Kota to provide oral and written comments will not require any undue delay and such comments are likely to assist the Commission in its decision-making. OTP's CPC&N application relates solely to service to be provided to Minn-Kota. No other party will be affected.

34. For the foregoing reasons, Minn-Kota respectfully requests that the Commission reconsider its decision to deny Minn-Kota the opportunity to intervene and allow Minn-Kota to intervene in the proceeding. Minn-Kota requests leave to provide the Commission with oral and written comments consistent with the above paragraphs so that the Commission can make its decision on a complete record.

Dated: March 5, 2018



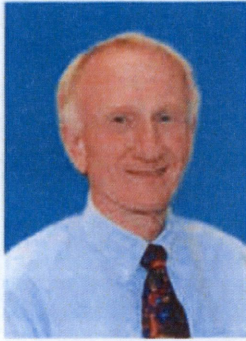
Loren Hansen (ND Bar # 08233)
Gregory Merz (Admitted pro hac vice,
ND. Bar #P01258)
Kermit J. Nash (ND Bar # 06513)

Gray, Plant, Mooty, Mooty & Bennett
80 South 8th Street, Suite 500
Minneapolis, MN 55402
Telephone: 612-632-3000
Fax: 612-632-4389
Loren.Hansen@gpmlaw.com
Gregory.Merz@gpmlaw.com
Kermit.Nash@gpmlaw.com

Attorneys for Minn-Kota Ag Products, Inc.

GP:4840-7848-0734

EXHIBIT 1



Experience: Paul Kaeding served as co-founder and president of Kaeding and Associates, a Minneapolis-based electrical engineering consulting firm. Throughout his professional career, Paul has been involved in the design and evaluation of power generation and distribution, UPS systems, substations, utility interconnections, coordination, controls and SCADA systems. His experience includes numerous assignments involving analysis, design and construction phase services. These have included medium voltage systems, generation, switchgear, motor control center, and standby power. Examples of Paul's project experience include:

- Provided electrical engineering services for the design and connection of the 50-MW Chow II generation facility in Chowchilla, California, to the PG&E 115 kV transmission system. Provided engineering services for the design of the generation facility including coordination and design of the 115 kV substation, protective relaying, station system and SCADA and internet connections to the ISO and PG&E.
- Provided electrical engineering services for the design and connection of the 50-MW Red Bluff generation facility in Red Bluff, California, to the PG&E 60 kV transmission system. Provided engineering services for the design of the generation facility including design of the 60 kV substation, protective relaying, station supply and SCADA and internet connections to the ISO and PG&E.
- Provided electrical engineering services for the design of new and retrofit standby and demand control generation projects connected to the CenterPoint Energy system in Houston, Texas. Projects included 16 MW at the East Water Purification Plant and additional multi-engine generation projects at the Northeast, Southwest and Clear Lake Water Purification plants.
- Designed and provided construction phase services on the 10 MW, five unit distributed and standby generation system for Litchfield Electric Utilities. Generation operates at 12.47 kV and is connected to the 69 kV system via the City transformers
- Designed 10-MW Miramar biogas CHP generation facility in San Diego, California, including modifications to the city-owned 12 kV pad-mounted protected-aisle, double-ended substation. Designed multiple unit generation facility and provided protective relaying and fault coordination studies for the existing 12 kV substation and the 5 kV generation switchgear.
- Provided electrical design of the Wailuku River hydroelectric plant in Hilo, Hawaii, a 12,000-kW facility located at the end of a 19,000 foot penstock. The project connects with Hawaii Electric Light Company. Project includes a 4.16:69 kV GSU transformer; 69 kV transmission line; interconnect structure; generator switchgear, turbine, generator and penstock controls; and hydro generator SCADA.
- Designed the 4-MW North City biogas generation facility in San Diego, California, including modifications to the existing 12 kV pad-mounted protected-aisle, double-ended substation. Designed and provided protective relaying and fault coordination studies for the existing 12 kV substation and the 5 kV generation switchgear.
- Provided the preliminary electrical design of a 50-MW simple-cycle combustion turbine co-generation facility in San Francisco for NRG, including gas insulated substation and interconnect to the PG&E 115 kV and 12 kV systems.

Paul Kaeding (cont.)

- Designed the utility interconnect and pad-mounted 16 kV substation for the 6-MW Lopez Canyon biogas generation facility in Los Angeles, California. Designed the multiple-unit reciprocating-engine 6-MW generation facility.
- Designed wind generation projects including Mitsubishi, Nordic, Gamesa, GE and Suzlon wind generators for multiple projects in Texas, Missouri, Iowa, Illinois, North Dakota, New Hampshire, New Mexico, Massachusetts, Minnesota, Arizona, Washington, California and South Dakota. Each project has a capacity between 30 and 100 MW. The design services include wind turbine ground grid design, switchgear at the base of the wind tower pedestals; interconnect transformers and electrical features between the tower and the collector system.
- Designed the pad-mounted 15 kV switchgear for connection of the 6-MW Prima Descheca generation facility in San Juan Capistrano, California, to the SDG&E system. The interconnect of the project to the utility grid includes underground feeders, and the design effort included the substation ground grid. Designed the electrical portion of the Prima Descheca biogas generation facility.
- Designed 8-MW substation distributed generation projects at the Hastings and Lake Marion substations in cooperation with Dakota Electric Association.
- Designed a 14-MW multiple-engine distributed generation project for West Publishing connecting to Dakota Electric Association's 12.47 kV substation in Eagan, Minnesota.
- Designed a 10-MW multiple-engine distributed generation project connecting to Dakota Electric Association's distribution system at Treasure Island Resort & Casino in Welch, Minnesota. Project was designed in conjunction with Dakota Electric Association.
- Designed interconnecting facilities and protective relaying for the installation of multiple 2-MW power modules at multiple existing MidAmerican Energy substations in Iowa. Projects included 4.16 kV generation, step-up transformers, medium voltage interconnect, protective relaying, and SCADA interface.
- Designed a 2-MW dispersed/standby generation project in Fredericksburg, Virginia for Rappahannock Electric Cooperative and for Merillat Industries in Culpeper, Virginia. Projects connect to REC 34.5 kV distribution system. Provided electrical engineering review services for the adjacent Shenandoah Valley Electric Cooperative for multiple distributed generation projects.
- Provided design and construction phase services for NRG Energy Center in Minneapolis, Minnesota, for a 1,250-kW diesel engine generator set and continuous parallel switchgear, rehabilitation of an existing Caterpillar 900-kW diesel engine generator set's 480-volt, 3000-amp switchboards. Systems can operate in a continuous parallel mode on a utility spot network.
- Designed the 6-MW Hartford generation facility in Hartford, Connecticut, including pad-mounted, 26 kV switchgear and protective relaying for connecting the biogas generation facility to the Connecticut Light and Power system. Interconnect work included working with the city and the utility to develop an easement for an overhead 26 kV line to the generation facility.
- Designed the electrical systems for the 4-MW Cuyahoga generation facility in Solon, Ohio including the 35 kV pad-mounted switchgear. Services included designing protective relaying and communication with the First Energy system for connecting the Cuyahoga generation system to the First Energy grid.

Paul Kaeding (cont.)

- Provided electrical design of a 34.5 kV overhead transmission line and substation structure at New York State Dam in Cohoes, New York, for interconnecting the hydro facility with Niagara Mohawk Power Corporation.
- Designed the electrical portion of the 4-MW Nashville biogas generation facility including 23.9 kV pad-mounted switchgear and protective relaying to connect to the Nashville Electric Service system and to the TVA.
- Provided electrical engineering services to electric utilities including Waseca, MN; Winthrop, MN and Brownton, MN.
- Designed, and provided construction phase services on the 4.5 MW, two unit distributed and standby generation system for Carleton College in Northfield, MN. Provided coordination for connection of the 13.8 kV campus system with NSP.
- Designed and provided construction phase assistance for the three unit distributed generation facility for St Olaf College in Northfield, Minnesota. Provided protective relaying coordination with Xcel Energy.
- Designed the Albany and El Turi biogas distributed generation projects in New York including 34.5 kV and 13.2 kV interconnections to Niagara Mohawk Power Corporation and the local distribution system for El Turi.
- Provided electrical system analysis of the Pejepscot hydroelectric facility in New Brunswick, Maine, with a 13,000-kW vertical Kaplan turbine generator set, 12.47 kV to 34.5 kV step-up transformer, fire suppression systems, power distribution, and system coordination.
- Provided multiple projects at the Ford hydro facility in St. Paul, Minnesota, including a fault study and overcurrent coordination of main 15 kV switchgear. Services included the design of a higher capacity bus to permit continued use of existing switchgear.
- Provided design and construction phase services for the three-unit 4,800 kW landfill-gas distributed generation facilities at Burnsville Landfill in Burnsville, Minnesota, and Flying Cloud Landfill in Eden Prairie, Minnesota. The units deliver power to Xcel Energy's 13.8 kV grid.
- Providing design services including utility interconnect and substation design for the following biogas generation projects:
 - Nashua Landfill Gas in Nashua, New Hampshire (5.0 MW, Public Service of New Hampshire)
 - Northside Landfill Gas in Spokane Washington (1.0 MW, Washington Water Power)
 - Volusia Landfill Gas in Volusia County, Florida (3.8 MW, Florida Light & Power)
 - Tacoma Landfill Gas in Tacoma, Washington (2.0 MW, Tacoma Public Utilities)
 - Visalia Landfill Gas in Tulare County, California (2.0 MW, Southern California Edison)
 - Lowell Landfill Gas in Lowell, Massachusetts (1.8 MW, New England Power)
 - Taunton Landfill Gas in Taunton, Massachusetts (1.8 MW, Taunton Municipal Light & Power)
 - Prince William County Landfill Gas in Manassas, Virginia (3.0 MW, Northern Virginia Electric Coop)
 - Baler/Balefill Generation in North Arlington, New York (3.0 MW, Public Service Electric & Gas)

Paul Kaeding (cont.)

- Design of turbine-generator controls and fully-automatic minimum-flow bypass systems for the Rapidan hydroelectric project in Mankato, Minnesota. Project included two units, 7,000-kW capacity designed for full automatic peaking operation, hydraulic pumping units, 4.16 kV to 69 kV generator step-up transformer and 69 kV substation connecting with Xcel Energy and Interstate Power System.
- Provided electrical engineering design services for the St. Cloud hydroelectric project in St. Cloud, Minnesota, which includes two pit turbine units with a total capacity of 8,400-kW designed for run-of-the-river operation. Services included the design of a 4-16 kV to 34.5 kV generator step-up transformer, interconnect with Xcel Energy, hydraulic pumping units and peripheral systems, controls for the turbine-generators and the automatic tainter gates.
- Provided design and construction phase services for 13.8-kV reclosers for the Municipal substation in Waseca, Minnesota, and for a variety of distribution system upgrades including rehabilitation and capacity increase for three substation transformers. Provided system coordination services.
- Provided construction phase assistance and interconnect design for the 600 kW A-Mill Hydroelectric project in Minneapolis. Project operates in demand control mode for commercial / residential project.
- Provided electrical design of the 2,300-kW Middle Falls hydroelectric plant located at existing dam in Middle Falls, New York. Project included design of electrical interconnections for the turbine generator, in addition to design of substation and utility interconnect with Niagara Mohawk Power Corporation.
- Providing electrical design and interconnection for the 3,000 kW Sissonville hydroelectric project in Sissonville, New York with Niagara Mohawk Power Company. Design included control system for operation of turbines, generators and hydraulically operated leaf gate at dam crest.
- Provided design review of the fully-automatic multiple-unit Great Falls hydroelectric project in Patterson, New Jersey, including microprocessor-based control system, SCADA, alarm system, and utility interconnect through a high vandalism area. Generation included two 3-MW machines and 13.8 kV interconnect.
- Provided design and construction phase services for motor control, uninterruptible power systems, instrumentation and control, and related services for the 200,000 pound/hour Boiler #4 for NRG Energy in Minneapolis, Minnesota.
- Provided electrical design and construction phase services for 4 kV service entrances, motor control, plant control system, lighting, UPS, and interface for three 1200-ton electric-motor-driven chillers for NRG Energy in Pittsburgh, Pennsylvania.
- Provided electrical design for system upgrades for the NRG heating/cooling plant in Dover, Delaware. Provided construction phase services.
- Provided electrical design and construction phase services for 15 kV service entrance, 4 kV motor control, plant control system, lighting, UPS and interface for 2000 ton electric chillers and natural-gas-engine-powered chillers for NRG Energy in Minneapolis.
- Provided electrical design services for the 12.47kV service upgrade, 4 kV substation, 4 kV motor control and 480 volt motor control center upgrades for two electric motor driven chillers for NRG Energy in San Diego, California.

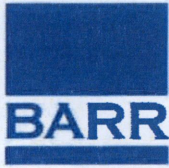
Paul Kaeding (cont.)

- Provided design and construction phase services for motor control, standby power, instrumentation and control, and UPS systems for a three-unit boiler plant service Riverside Medical Center and Augsburg College in Minneapolis, Minnesota for NRG Energy.
- Providing multiple engine-distributed generation projects for Great River Energy at Grand Marais, Minnesota and a second project for the City of Grand Marais, Minnesota and for Mankato State University.

Registration Professional Engineer: AZ, CA, CO, DE, CT, FL, HI, ID, IL, IN, IA, KS, KT, LA, MS, MI, MN, MO, MT, NE, NH, NJ, NY, NC, ND, OH, OK, OR, PA, SC, SD, TN, TX, VT, VA, WA, WI, WY

Membership Institute of Electrical and Electronic Engineers
Instrument Society of America (Senior Member)
Consulting Engineers Council
Minnesota Municipal Utilities Association

EXHIBIT 2



Barr Engineering Company
4300 MarketPointe Drive • Minneapolis, MN 55435
Phone: 952-832-2600 • Fax: 952-832-2601 • www.barr.com *An EEO Employer*

Minneapolis, MN • Hibbing, MN • Duluth, MN • Ann Arbor, MI • Jefferson City, MO • Bismarck, ND
Calgary, Alberta • Salt Lake City, UT

March 1, 2018

Gray Plant Mooty

Attn: Mr. Loren Hansen
500 IDS Center
80 South Eighth Street
Minneapolis, MN 55402

Re: Minn-Kota Ag Products
Richland County, North Dakota

Dear Mr. Hansen,

This letter summarizes the review of data contained in the two proposals to provide 480/277 volt, three phase secondary service to the proposed Minn-Kota Ag Products facility on Highway 13 in Richland County, North Dakota. One of the proposals is by Dakota Valley Electric Cooperative (DVEC) of Edgeley, North Dakota and the second is by Ottertail Power Company (OTP) of Fergus Falls, Minnesota.

The documents that were reviewed include dockets 27, 28, 31, 38, 39, 42, 66, 67, 69, 70, 71, and 72 available on the North Dakota Public Service Commission's website. Due to the time available for the review the information in the dockets has been used in the review but has not been verified. The goal is to provide an independent review of the documents and offer an opinion of which utility will provide better service to Minn-Kota Ag Products.

Executive Summary

The Ottertail Power Company offering to provide electrical service to the proposed Minn-Kota Products facility in Richland County, North Dakota is recommended based on our review of the available technical documents.

Ottertail Power Company serves the Dakota Valley Electric Cooperative Mooreton substation and the circuit then continues on to the proposed Minn-Kota site. The OTP service to the Minn-Kota site is more robust than the service proposed in the DVEC offering. The OTP service should reduce the need for soft starters and the risk of service disruptions.

The OTP offering also reduces the risk to Minn-Kota from construction related events and faults

between the Mooreton substation and the proposed facility. This reduction in risk is due to a shorter tap from the OTP source and the reduced probability of service disruptions along the Mooreton feeder extension proposed by DVEC.

Introduction

The review includes transmission and distribution features that affect motor starting, electric service to the Minn-Kota site and on-site assets.

The review was limited to technical issues and does not address commercial terms, construction costs, electrical demand and consumption costs, rate of return and potential economic incentives.

Minn-Kota Ag Products is planning construction of a grain handling facility in Richland County, North Dakota with an equipment load totaling approximately 5,000 horsepower. This represents a total connected electrical load of approximately 3.7 MW identified in docket 66.

Docket 39 includes a motor list for the proposed facility. The list includes three 200 and five 150 horsepower motors powered by variable frequency drives, and four 125 horsepower motors operated by direct on-line starters. The motor list includes 37 motors larger than 30 horsepower but smaller than the four 125 horsepower motors previously listed. Two of the 37 motors are listed as being controlled by variable frequency drives.

Electrical System

The voltages and impedances of the two utilities to the Minn-Kota facility were considered.

The DVEC offering uses an existing 12.47 kV feeder using #4/0 cables originating at the Mooreton substation. This configuration adds the impedance of the Mooreton substation transformer and the 12.47 kV feeder using #4/0 conductors from the substation to the proposed Minn-Kota plant to the 41.6 kV circuit from the Wahpeton substation to the Mooreton substation.

The impedance of the OTP 41.6 kV circuit from its source at the Wahpeton substation to the Minn-Kota site does not increase significantly over the impedance of the circuit from the Wahpeton substation to the Mooreton substation. The advantage of the 41.6 kV circuit to the proposed site instead of the route via the Mooreton substation and 12.47 kV feeder offers benefits to Minn-Kota.

41.6 kV is generally considered a sub-transmission voltage and is generally a more robust circuit. Higher voltages allow for greater amounts of power to be conveyed from one location to another. The reduced current from the higher voltage reduces voltage drop from circuit loading and from motor starting depending on conductor size and other factors. Voltage drop resulting from "normal" circuit loading can be addressed with voltage regulators or transformer load tap changers but their effect on motor starting is not as beneficial to Minn-Kota.

The OTP service can avoid the need for soft starters and reduces the potential for voltage drop issues including those from other customers on the feeder. This may be partially offset if the Mooreton substation has regulators or load tap changers on the transformer and feeder regulation for non-motor starting conditions is a consideration. This cannot be addressed with the data

provided.

The system voltage and impedance affects the potential need for soft starters and the effect of motor starting by other customers on the Minn-Kota service and vice versa.

Ottertail Power Company's Post Hearing Argument (docket 66) states that "...Dakota Valley Electric Cooperative's Reply to Otter Tail Power Company's Post Hearing DVEC has a policy requiring installation of soft start devices for motors of 30 horsepower and higher. OTP engineer witness Ritchie Wolf testified that OTP had conducted a distribution study confirming that under OTP's service plan soft start devices were necessary for motors exceeding 100 horsepower."

Dakota Valley Electric Cooperative's Reply to Ottertail Power Company's Post Hearing Argument (docket 69) states "A majority of the larger motors on the list were soft start motors. This was not at the request of Dakota Valley." Later the argument states "Dakota Valley waives most soft starter motor requirements up to 75 and 100 horsepower if the member is willing to assume some risk for putting in non-soft starting motors. As such, this argument is not compelling, nor is it supported by any credible evidence."

Soft starters can be used to reduce the mechanical shock (stress) on equipment when started and are also used to reduce the voltage drop (dip) on the electrical system when motors are started. The voltage drop on the electrical system can adversely affect other equipment in the facility and can also adversely affect other customers that are served from the same utility transformer or from other utility transformers that are connected to the same distribution feeder. The effect on adjacent customers is a function of the characteristics of the primary circuit, the type of equipment used by adjacent customers and the tolerance of adjacent customers to momentary transient voltages (voltage drop).

The voltage drop is more severe when larger motors are started using direct on-line starting equipment. The voltage drop is mitigated when soft starters or variable frequency drives are used.

OTP appears to have modeled the installation using the proposed motor list and indicates that soft starters are not required until the motor exceeds 100 horsepower.

DVEC indicates that soft starters are waived for motors up to 75 and 100 horsepower if the member "...is willing to assume some risk" (docket 69). DVEC does not appear to have modeled the application based on comments regarding the use of soft starters when the motors are larger than 30 horsepower. If voltage drop is a problem mitigation can potentially involve up to 35 motors. A study by DVEC or additional modeling by OTP can more accurately predict the risk. The risk that might be encountered includes momentary disruption to Minn-Kota equipment. If unacceptable voltage drop is encountered replacement of direct on-line starters with soft starters might be required. If necessary it would be expected that soft starters would be installed on the larger motors first to evaluate the effect of the effort.

OTP appears to have a more "robust" system since they propose serving Minn-Kota from the 41.6 kV feeder. The OTP 41.6 kV feeder from the Wahpeton substation serves the CPEC/Dakota Valley Mooreton substation. It is not known if the 41.6 kV feeder is a looped

feeder that can be sourced from two locations or how it is configured. However, loss of the 41.6 kV circuit will result in an outage to Minn-Kota regardless of which utility serves the proposed facility based on the system map provided.

The CPEC/Dakota Valley Mooreton substation is another consideration although the potential risk cannot be assessed with the available information. The Mooreton substation may have one 41.6 kV : 12.47 kV transformer or may have multiple transformers. Two would be more common. The documents do not provide insight on the configuration of the substation. If the Mooreton substation has one transformer the reliability of service to the Minn-Kota plant is reduced because of the potential for an extended outage in the event of a substation transformer failure. If the Mooreton substation has two transformers the potential for an extended outage is reduced since a backup transformer would be on site and available.

Minn-Kota's operations might affect adjacent customers, or vice versa if served from the DVEC 12.47 kV feeder. DVEC indicates 52 adjacent customers (docket 71) are connected to its 12.47 kV feeder. The OTP partial system map indicates 2 customers (docket 27) that appear connected to the 41.6 kV circuit external to the substations. Additional OTP customers are clustered around the Barney and Mooreton substations and additional customers are connected to an overhead distribution circuit that appears tapped to the 41.6 kV circuit ahead of the Mooreton substation. These customers can affect the 41.6 kV circuit but the potential is not as significant in our opinion.

The potential for risk to adjacent customers from Minn-Kota operations cannot be determined from the available information. The risk is generally less for residential customers than industrial customers who frequently have more sophisticated equipment. Adjacent customers may include agricultural users with drying equipment that includes induction motors that generally are more immune to transient voltage conditions than electronic systems.

Site Access

The two proposals include different circuit configurations to the Minn-Kota facility. The DVEC offering includes a tap from an existing 12.47 kV underground feeder from the Mooreton substation that is extended to the proposed facility. The OTP offering includes a tap from the 41.6 kV circuit at the proposed facility with a transformer at the Minn-Kota site.

From the site drawing (docket 28) the OTP feeder appears to be on land controlled by Minn-Kota. The DVEC feeder is likely on DVEC easements but the potential for interruptions from "dig-ups" by parties crossing or in close proximity to the DVEC feeder is greater in our opinion. Interruptions at any of the other customers served by the DVEC feeder could adversely affect the Minn-Kota facility. As stated in docket 71 the DVEC feeder proposed for the service to the Minn-Kota facility serves 52 other customers.

The conclusion from the information is that the circuit from the OTP transformer to Minn-Kota is more secure and less susceptible to interruptions than the DVEC feeder.

Equipment at Minn-Kota.

OTP's Post Hearing Argument (docket 66) in item 3 indicates that "OTP and DVEC will make use of used step down transformers to serve Minn-Kota with DVEC's transformer having been put in service in 1977 and OTP planning to use a depreciated transformer first put in service in the 1990s."

Transformers can be the "original" transformer or can be used units that are flushed and cleaned and new oil installed. Transformers can also be flushed, cleaned, rewound and restored to like new condition. Other than age the condition of the transformers by the two utilities is not established in the dockets. The size of the transformer needs to be large enough to support the load and should be a size that is used in multiple locations on the utility system so spare transformers are quickly available in case of a failure. In the DVEC "Closing Argument and Brief in Opposition to Ottertail's Application for Certificate of Public Convenience and Necessity" (docket 67) in paragraph 20 DVEC offers two 1500 kVA transformers or one 2000 kVA transformer. The number and size of transformers required are a function of the actual load but two transformers may be offered because they may be more common on the DVEC system than the larger unit. Multiple transformers will affect the cost of the service to the facility but will offer slightly greater reliability. The term "slightly" is used because as noted throughout the dockets, pad-mounted transformers usually have a long life. If two transformers are installed and one fails the other can likely support the facility in a reduced capacity configuration. The 12.47 kV transformer may be more readily available but OTP likely has spare 41.6 kV primary transformers available.

The 480/277 volt circuits from the utility transformer(s) to Minn-Kota's facility are likely to be similar and about the same distance so the secondary circuits are considered essentially the same in the two offerings.

Conclusion.

In conclusion, the Ottertail Power Company proposal offers several benefits to the proposed Minn-Kota facility over the DVEC offering in my opinion. This assignment did not include any review of the costs or related financial topics and potential financial considerations are not part of this letter.

The OTP system operates at a higher voltage and will have a lower system impedance than the DVEC system. Soft starters for smaller motors that might be required if the DVEC system is selected might be avoided with the OTP service. Similarly, starting larger motors by adjacent customers might affect Minn-Kota if served from the DVEC system. It is possible that the CPEC/DVEC Mooreton substation includes regulators or a load tap changer on the transformer. This helps with regulation of the DVEC feeder but will not be as valuable with the effects from motor starting.

The DVEC proposal includes a longer underground feeder that increases the potential for disruption of the service to the proposed Minn-Kota facility in our opinion. The OTP feeder to Minn-Kota is shorter and the area appears to be controlled by Minn-Kota so activities by outside

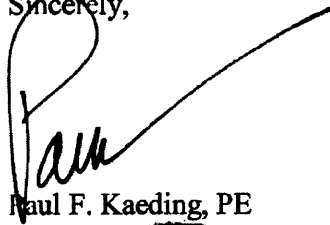
Gray Plant Mooty
Mr. Loren Hansen
Re: Minn-Kota Ag Products
March 1, 2018
Page 6

parties will less likely affect Minn-Kota.

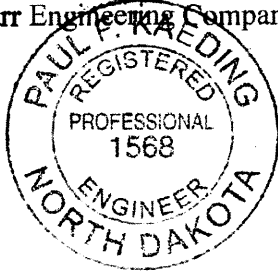
Although residential customers connected to the DVEC feeder are not expected to create voltage dips the OTP circuit is higher capacity and is considered less susceptible to voltage transients or outages from adjacent customer operations or faults (short circuits).

Please contact me if you have questions.

Sincerely,



Paul F. Kaeding, PE
Barr Engineering Company



North Dakota Public Service Commission Docket No: PU-17-96

Certificate of Electronic Service

State of Minnesota)
)ss
County of Hennepin)

I, Gregory R. Merz, do hereby certify that on March 5, 2018, I served the following document:

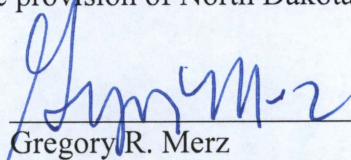
Minn-Kota Ag Products Inc.'s Petition Reconsider its Petition to Intervene and Request to Present Oral and Written Comments

by sending a true and correct copy thereof via email to:

Public Service Commission at ndpsc@nd.gov
Darrell Nitschke at dnitschk@nd.gov
Patrick J. Ward Administrative Law Judge at pward@zkslaw.com
Kimberly Radermacher at kimrader@radermacherlaw.com
Cary Stephenson at cstephenson@otpc.com
Zachary Pelham at zep@pearce-durick.com
Zachary Smith at zsmith@ndarec.com

To the best of my knowledge, information and believe, such address is the actual email addresses of the parties intended to be served. That the above documents were duly e-mailed and served in accordance with the applicable provision of North Dakota law.

Dated: March 5, 2018



Gregory R. Merz
Attorney for Minn-Kota Ag Products Inc.
Gray, Plant, Mooty, Mooty & Bennett
80 South 8th Street, Suite 500
Minneapolis, MN 55402
Telephone: 612-632-3257
Fax: 612-632-4257
gregory.merz@gpmlaw.com