

215 South Cascade Street
PO Box 496
Fergus Falls, Minnesota 56538-0496
218 739-8200
www.otpc.com (web site)



November 21, 2017

Darrell Nitschke
Executive Secretary
ND Public Service Commission
600- East Boulevard Avenue
Bismarck, ND 58505-0480

**RE: Otter Tail Power Company
Case No. PU-17-96
Minn-Kota Ag Products, Inc. - Richland County
Public Convenience & Necessity
Proposed Findings of Fact, Conclusions of Law and Order**

Dear Mr. Nitschke:

Otter Tail Power Company respectfully submits the enclosed Proposed Findings of Fact, Conclusions of Law and Order

An electronic copy of this filing is also being sent to you at dnitschk@nd.gov and to the North Dakota Public Service Commission at ndpsc@nd.gov. An original and seven copies will be mailed to your attention.

Please feel free to contact me at (218) 739-8956 or by email at cstephenson@otpc.com if you have any questions.

Sincerely,

/s/Cary Stephenson
Cary Stephenson
Associate General Counsel

ljh
Enclosures
Cc:
ALJ Patrick J. Ward
Kimberly J. Radermacher
Zachary Pelham

**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

PROPOSED FINDINGS OF FACT, CONCLUSIONS OF LAW AND ORDER

Appearances

Commissioners Randy Christmann, Julie Fedorchak, Brian Kroshus.

Zac Pehlman, Attorney at Law, 314 E. Thayer Ave., P.O. Box 400 Bismarck, ND 58502-0400, appearing on behalf of the Public Service Commission Advisory Staff.

Kim Radermacher, Attorney at Law, 27 Center Ave., P.O. Box 597, LaMoure, ND 58458, appearing on behalf of Dakota Valley Electric Cooperative.

Cary Stephenson, Associate General Counsel, Otter Tail Power Company, 215 S. Cascade Street, Fergus Falls, Minnesota 56537, appearing on behalf of Otter Tail Power Company.

Patrick J. Ward, Office of Administrative Hearings, 2911 North 14th Street, Suite 303, Bismarck, ND 58503, appearing as Administrative Law Judge.

Background

On February 27, 2017 Otter Tail Power Company (Otter Tail or Company) applied for a Certificate of Public Convenience and Necessity (CPC&N) to extend electric service to Minn-Kota Ag Products, Inc. (Minn-Kota) at a point located in NE ¼ Section 10, Barney Township, Richland County, as shown in a map attached to the application. Also submitted with the application was a statement from the customer stating it desired Otter Tail to provide electric services at the requested location.

On March 29, 2017, Dakota Valley Electric Cooperative (Dakota Valley) filed with the Commission a protest and request for hearing on Otter Tail's CPC&N. On July 26, 2017, the

Commission issued a Notice of Hearing scheduling a public hearing to be held on October 23, 2017 where the following issues would be considered:

1. From whom does the customer prefer electric service?
2. What electric suppliers are operating in the general area?
3. What electric supply lines exist within at least a two-mile radius of the location to be served, and when were they constructed?
4. What customers are served by electric suppliers within at least a two-mile radius of the location to be served?
5. What are the differences, if any, between the electric suppliers available to serve the area with respect to reliability of service?
6. 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?
7. Which supplier's extended electric service would best serve orderly and economic development of electric service in the general area?
8. Would approval of the applications result in wasteful duplication of investment or service?
9. Is it probable that the location in question will be included within the corporate limits of a municipality within the foreseeable future?
10. Will service by either of the electric supplier in the area unreasonably interfere with the service or system of the other?

The Commission held a public hearing on Otter Tail's CPC&N application as scheduled on Monday, October 23, 2017. Following the hearing, Otter Tail and Dakota Valley filed several late filed exhibits. Otter Tail and Dakota Valley also filed post hearing briefs and reply briefs. Having heard and considered these matters, the Commission makes the following Findings of Fact:

Findings of Fact

1. The Applicant, Otter Tail Power Company, is an investor owned electric utility providing retail electric service to customers in North Dakota under the regulatory jurisdiction of this Commission.
2. The protesting party, Dakota Valley Electric Cooperative, is a distribution electric cooperative providing retail electric service to its members in North Dakota.
3. The customer seeking Otter Tail electric service is Minn-Kota Ag Products, Inc., a corporation organized under the laws of North Dakota.

From whom does the customer prefer electric service?

4. Otter Tail's application included an appearance form signed by the customer requesting that Otter Tail provide service to Minn-Kota at the site identified in the application.
5. At the public hearing Minn-Kota representative George Schuler IV testified that Minn-Kota is a family-owned, closely held corporation that is building a \$20 million, commercial grain handling facility at the Minn-Kota site. The new Minn-Kota facility is designed to receive 20,000 bushels of grain per hour. The facility will have a storage capacity of approximately 3 million bushels, and is specifically designed to load Burlington Northern & Santa Fe (BNSF) 120 car unit trains. Minn-Kota plans to start operating the new facility in June 2018. Schuler noted that the ability to load 120 car unit trains gives Minn-Kota and area producers a competitive advantage by reducing shipping costs. Schuler also noted that all motors and other equipment used to dry and move grain at the new facility will be electrically powered.
6. George Schuler testified that Minn-Kota has a strong preference for Otter Tail service for several reasons.
7. Mr. Schuler testified Otter Tail's General Service rate structure is better suited to Minn-Kota's operational characteristics and size than Dakota Valley's rate structure, which features a high demand charge. Schuler testified that based on his experience at Minn-Kota's smaller Wahpeton grain handling facility served by Dakota Valley, Minn-Kota is concerned that it may be forced to operate the new facility sub-optimally to minimize the impact of Dakota Valley's high demand charge. This could include limiting drying operations to certain times, limiting the intensity of loading operations, and otherwise restricting operations that make sense commercially but for triggering high demand charges.
8. Mr. Schuler estimated that Otter Tail service will cost Minn-Kota approximately \$100,000 less in annual electric charges than Dakota Valley service. Schuler also testified Otter Tail service would better enable Minn-Kota to grow and reinvest in the new facility and to provide local producers a competitive advantage when selling their crops.
9. Mr. Schuler testified that he believed Otter Tail's plan to extend service to Minn-Kota offered better reliability and outage restoration performance than Dakota Valley's plan because of the limited amount of distribution line exposure under Otter Tail's plan. Mr. Schuler explained the significant negative financial impacts faced by Minn-Kota, including

demurrage charges from BNSF, for delays caused by outages and service interruptions, noting that any amount of risk reduction was worthwhile from a business perspective.

10. Mr. Schuler testified that Otter Tail's plan to extend service allowed Minn-Kota greater flexibility and potential cost savings concerning the number and size of electric motors that would require soft start devices. These devices limit the impact on the distribution system caused when motors are started.
11. Mr. Schuler also testified that Minn-Kota prefers to receive its electric service from a provider whose rates and services are subject to regulatory oversight and approval by an independent agency with an opportunity for customer input.

What electric suppliers are operating in the general area?

12. Otter Tail and Dakota Valley are electric suppliers operating in the general area of the Minn-Kota site.

What electric supply lines exist within at least a two-mile radius of the location to be served, and when were they constructed?

13. Otter Tail owns and operates a 41.6 kV transmission line adjacent to the Minn-Kota site, running parallel to and on the northside of North Dakota Highway 13. (OTP Exhibit 1). Otter Tail's 41.6 kV transmission line is fed from Otter Tail's Wahpeton transmission substation. The transmission line was put into service as a 41.6 kV transmission facility in approximately 1970. Dakota Valley has distribution lines serving customers within the two-mile radius, and an existing three-phase cabinet approximately 3,960 feet to the east of the Minn-Kota point of service. (OTP Exhibit 4). Dakota Valley's three phase distribution line extending from its Mooreton distribution substation to the existing three phase cabinet were put in service in 2013.
14. Otter Tail would serve the Minn-Kota facility by tapping its 41.6. kV transmission line adjacent to the Minn-Kota site. This tap would feed a 40' x 60' distribution substation to be constructed by Otter Tail on the Minn-Kota site on property leased from or purchased from Minn-Kota. (OTP Exhibit 2). Otter Tail would extend three phase underground distribution line 1,000 feet from the new distribution substation to the Minn-Kota point of service. The Otter Tail distribution substation would be served from Otter Tail's Wahpeton substation.

15. Dakota Valley would serve the Minn-Kota facility by extending three-phase service from a three-phase cabinet located to the east of the Minn-Kota point of service. (OTP Exhibit 4; DVEC Exhibit 4). This would require Dakota Valley to install approximately 3,960 feet of new underground distribution line parallel to North Dakota Highway 13 to the Minn-Kota point of service. Dakota Valley would serve Minn-Kota from its Mooreton distribution substation, located several miles south of the City of Mooreton (OTP Exhibit 1; DVEC Exhibit 1).

16. Both providers have supply lines within two-miles of the Minn-Kota point of service. Otter Tail has a transmission supply line. Dakota Valley has distribution supply lines. Both providers will need to build additional lines to serve Minn-Kota.

What customers are served by electric suppliers within at least a two-mile radius of the location to be served?

17. Otter Tail serves two customers within a two-mile radius of the Minn-Kota site. Otter Tail also serves the City of Mooreton, which is outside of, but near the edge the two-mile radius. Dakota Valley serves approximately 18 customers within a two-mile radius of the Minn-Kota site. (OTP Exhibit 1; DVEC Exhibit 1).

What are the differences, if any, between the electric suppliers available to serve the area with respect to reliability of service?

18. Dakota Valley's Mooreton distribution substation is served by Otter Tail transmission lines. Otter Tail's proposed distribution substation will be served by Otter Tail transmission lines. Because Otter Tail and Dakota Valley have very similar transmission service risks, any meaningful differences in reliability between the electric suppliers are differences in each provider's distribution service to Minn-Kota.

19. Otter Tail's plan to extend service to Minn-Kota results in significantly less distribution line length and distribution line exposure than is the case under Dakota Valley's plan to extend service to Minn-Kota. To serve Minn-Kota, Otter Tail will install approximately 1,000 feet of underground three phase distribution line extending from a new distribution substation to Minn-Kota's point of service. To serve Minn-Kota, Dakota Valley will install approximately 3,960 feet of underground distribution line from Dakota Valley's existing three phase cabinet to Minn-Kota's point of service. As measured from each provider's respective distribution

substation and Minn-Kota's point of service, Otter Tail will serve Minn-Kota through approximately 1,000 feet of three phase underground distribution line whereas Dakota Valley will serve Minn-Kota through approximately four miles of underground three phase distribution line. In addition, under Dakota Valley service, Minn-Kota's facility will be connected and subject to numerous additional miles of Dakota Valley distribution line via the connections in Dakota Valley's three phase cabinet and Mooreton distribution substation. (DVEC Exhibit 1).

20. Engineering evidence presented at hearing indicates that the risk of service voltage fluctuations, service interruptions, outages and the length of outages generally increases with the length of distribution line serving or connected to a customer. In this context, Otter Tail's plan to extend service has less risk to Minn-Kota than does Dakota Valley's plan.
21. Dakota Valley's Mooreton distribution substation serves approximately 255 other Dakota Valley customers. The transformer feeder at the Mooreton substation from which Dakota Valley would serve Minn-Kota serves approximately 52 other Dakota Valley customers. Otter Tail's proposed distribution substation located on property, leased or purchased from Minn-Kota, would initially serve only Minn-Kota.
22. Engineering testimony presented at hearing indicates that voltage fluctuations, interruptions and outages at service points fed from a transformer feeder can negatively affect electric service to other customers fed from that same feeder. In this context, Otter Tail's plan to extend service to Minn-Kota has less risk of voltage fluctuations, service interruptions and outages than does Dakota Valley's plan.
23. The Customer Average Interruption Duration Index (CAIDI) measures the average length of time of service interruptions experienced by an electrical provider's customers. CAIDI is not weighted or measured by customer densities. Dakota Valley's system five-year weather normalized CAIDI average of 114.18 minutes. Otter Tail's system five-year weather normalized CAIDI average of 64.6 minutes. (OTP Exhibits 6 & 7). These figures demonstrate that OTP typically is quicker to restore power to customers than is Dakota Valley.
24. Otter Tail maintains a central warehouse in Wahpeton, North Dakota, where it stores equipment and parts necessary to make necessary repairs and replacements of equipment serving Minn-Kota, including spare transmission step-down and distribution transformers.

25. While Otter Tail and Dakota Valley both appear to be reliable service providers, there are differences between the providers, and these differences favor Otter Tail.

Which of the available electric suppliers will be able to serve the location in question more economically and still earn adequate return on its investment?

26. Otter Tail's estimated aggregate cost to extend service to Minn-Kota is \$235,869. (OTP Exhibits 3 & 4). The primary expense reflected in this figure is the distribution substation Otter Tail intends to install.

27. Dakota Valley's estimated aggregate cost to extend service to Minn-Kofta is \$93,640. (DVEC Exhibit 16). The primary expense reflected in this the cost of associated with extending three phase underground distribution line to Minn-Kota's point of service.

28. Despite having a higher initial investment in infrastructure, Otter Tail will recover its cost of extending service to Minn-Kota in less time than Dakota Valley will recover its cost of extending service. Otter Tail will recover the cost to extend service from Minn-Kota payments in less than two years (OTP Late Filed Exhibit 1), while Dakota Valley will recover its cost to extend service from Minn-Kota payments in five years. (DVEC Late Filed Exhibit 3)

29. Otter Tail intends to serve Minn-Kota under Otter Tail's General Service Rate for Secondary Service (rate code 401) and current rate riders, which are part of Otter Tail's Commission-approved tariff and available to all Otter Tail customers. Dakota Valley intends to serve Minn-Kota under its board-approved rate schedule for three-phase large commercial service (DVEC Exhibit 6) and Dakota Valley's Commercial Incentive Rate Discount (DVEC Exhibit 7).

30. Otter Tail estimates the annual cost to Minn-Kota for service under Otter Tail's General Service rate and applicable riders is \$251,136. This figure assumes that Minn-Kota has a peak demand of 1,504 kW, annual energy consumption of 2,591,444 kWh, and a load factor of 23 percent (OTP Exhibit 9 page 3).

31. Otter Tail projects that Minn-Kota will save \$108,743 annually with Otter Tail service vs. Dakota Valley service. This cost difference is based on a comparison between Otter Tail and Dakota Valley using the load factor, peak demand and energy consumption assumptions noted in the preceding paragraph. If Dakota Valley waives its power factor penalty described

in DVEC Exhibit 6, the annual cost difference is projected to be \$66,607 annually. (OTP Exhibit 9 page 3).

32. Dakota Valley provided Minn-Kota a proposal in March 2017, which estimated annual electric service charges of \$316,160, less an annual discount which declines over nine years. (OTP Exhibit 8; DVEC Exhibit 7). The average discount over the nine-year period is \$25,218 resulting in an estimated annual cost to the Minn-Kota of \$290,942, less any further reduction from waivers of standard fees and penalties. Dakota Valley's estimated annual cost to the customer figure assumes a peak demand of 11,874 kW, annual energy of 2,846,400 kWh, and a load factor of 33 percent (OTP Exhibit 8).
33. In arriving at estimated costs, Otter Tail and Dakota Valley used different assumptions about Minn-Kota's load factor, peak demand, and energy consumption.
34. Load factor is expressed as a ratio, and is not based on or related to the size of a facility. Otter Tail and Dakota Valley independently estimated Minn-Kota's load factor by reviewing the load factors of other facilities they respectively serve (OTP Late Filed Exhibit 5 noted in the record as "Exhibit DVEC-LF5 trade secret as to comparable facilities"; DVEC Exhibit 13). Otter Tail also based its load factor estimate on discussions with Minn-Kota. Dakota Valley did not discuss load factor with Minn-Kota.
35. Otter Tail and Dakota Valley each estimated Minn-Kota's peak demand and energy usage based in part on a review of comparable facilities and Minn-Kota's operational characteristics. Otter Tail also discussed demand estimates with Minn-Kota to ensure that it accurately estimated demand based on the facility's performance characteristics. Dakota Valley did not discuss demand estimates with Minn-Kota.
36. Otter Tail's estimates for load factor, peak demand and energy consumption are more reasonable and better supported by the record than Dakota Valley's estimates. Otter Tail examined facilities that were more closely matched to Minn-Kota than did Dakota Valley. Otter Tail also solicited more information from Minn-Kota than did Dakota Valley. Dakota Valley's load factor analysis relies largely on one facility with a short operating history. The mean average of facilities examined by Dakota Valley argues for a lower load factor, notwithstanding a significant high outlier in the data set.
37. Otter Tail's estimates annual revenues from Minn-Kota of \$251,136. After adjusting Otter Tail's estimated annual revenue by \$28,116 for the annual return requirement of 8.62 percent

on Otter Tail's incremental investment to serve the location; and \$64,786 for the annual cost of fuel and purchased power to serve the location, there is net contribution to Otter Tail's system costs of \$158,234 which provides a benefit to other Otter Tail customers. (OTP Exhibit 10, page 2).

38. Dakota Valley estimated annual revenues from Minn-Kota ranging from \$275,524 to \$306,035 over a nine-year discount period (DVEC Exhibit 9). At hearing, Dakota Valley could neither provide an estimate of its rate of return nor describe how it would calculate a rate of return. In a late filed exhibit, Dakota Valley projected it would earn 3.19 percent on the capital deployed to extend service to Minn-Kota, and a net contribution to common system costs of \$16,728 which provides a benefit to other Dakota Valley customers (DVEC Late Filed Exhibit 3).
39. Otter Tail's estimated annual revenue, rate and return and net contribution to costs are more reasonable than Dakota Valley's in part because of Otter Tail's more reasonable input assumptions regarding demand, energy consumption and load factor. Dakota Valley's claim that capital credits, currently paid on a 15-year cycle, may further reduce the size of the cost difference between Dakota Valley and Otter Tail is too speculative to adopt. Dakota Valley's capital credits claim also does not account for the time value of money.
40. Dakota Valley's rate of return and net contribution to costs are based to reflect a nine-year annual declining discount to Minn-Kota, the waiver of \$53,000 in line extension cost, the waiver of \$8,704.80 annual on-site facilities charge, and the waiver of a \$23,142 annual power factor penalty. Taken together these adjustments indicate Dakota Valley has offered significant discounts Minn-Kota in anticipation of earning larger returns in later years, which may not materialize if Dakota Valley's input assumptions are not accurate. Since Dakota Valley's revenue estimates are based on inputs that the Commission deems less reasonable than Otter Tail's, Dakota Valley's approach may put Dakota Valley members at risk of low or negative returns from Minn-Kota.
41. Otter Tail service is more economical to the customer. Although Otter Tail's cost to extend service is higher than Dakota Valley's cost, Otter Tail will recovery it costs to extend service sooner than Dakota Valley. Otter Tail will earn its Commission-approved rate of return while receiving significantly larger net contribution to its overall costs than Dakota Valley.

42. Otter Tail is better able to serve Minn-Kota more economically and still earn adequate return on its investment.

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

43. Otter Tail's rate structure better enables Minn-Kota to operate its new facility to its full potential than does Dakota Valley's rate structure, which features a significant demand charge that may require Minn-Kota to impose operational constraints and otherwise operate its facility around Dakota Valley's rate structure.

44. Dakota Valley did not offer Minn-Kota a contract with the rate and discount proposal set forth in Dakota Valley's estimate and proposal of March 2017. Dakota Valley is governed by its board, and absent a contract, the board is free to change rates and terms of service.

45. Otter Tail's rate structure, lower rates, rate certainty, and greater flexibility better promote Minn-Kota's ability to leverage efficiencies to provide area producers a competitive market in which to sell their crops, benefiting those producers and the general area. This in turn promotes growth leading to the orderly and economic development of electric service in the general area.

46. Otter Tail's rate structure, lower rates, rate certainty, and greater flexibility better promote Minn-Kota's ability to grow and reinvest in its facility, and encourages the orderly growth and development of electric service in general area, including the communities of Barney and Mooreton, as well as areas served by Dakota Valley.

47. Otter Tail's extension of service to Minn-Kota best serves orderly and economic development of electric service in the general area.

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

48. Duplication in investment or services implies some degree of comparison of like facilities, and wasteful duplication implies some degree of unnecessary redundancy.

49. Otter Tail's plan to extend service to Minn-Kota is not wastefully duplicative of Dakota Valley's existing or planned infrastructure; there are few like facilities to compare because of the fundamental differences between Otter Tail's and Dakota Valley's plans to extend service.

50. Otter Tail's service extension plan takes advantage of Otter Tail's 41.6 kV transmission line that abuts the Minn-Kota site. By tapping power from a transmission source that is as close as possible to the customer, and installing a distribution substation near the point of service, Otter Tail limits the length of distribution line necessary to serve Minn-Kota and mitigates the risk of distribution line length and exposure.
51. Otter Tail extending service to Minn-Kota is not wastefully duplicative of existing Otter Tail facilities. Otter Tail's internal analysis indicated its Minn-Kota plan was the lowest cost and most reliable service option, and not duplicative of other Otter Tail infrastructure.
52. Approval of Otter Tail's application to serve the Minn-Kota facility would not result in wasteful duplication of investment or service.

Is it probable that the location in question will be included within the corporate limits of a municipality in the foreseeable future?

53. The Minn-Kota site is approximately 2.3 miles west of the City of Mooreton, and 3.1 miles east of the City of Barney.
54. It is not probable that the municipal boundaries of Mooreton or Barney will be extended to include the Minn-Kota site in the foreseeable future.

Will service by either of the electric suppliers in the area unreasonably interfere with the service or system of the other?

55. Service by Otter Tail to Minn-Kota will not interfere with Dakota Valley service or operations. Service by Dakota Valley to Minn-Kota will not interfere with Otter Tail service or operations.

Balance and Weight of Factors

56. The balance and weight of factors favors granting Otter Tail's CPC&N application. Otter Tail is better able to economically serve Minn-Kota while earning an adequate return on its investment. Difference in reliability between Otter Tail and Dakota Valley also favor Otter Tail. Otter Tail service better supports economic opportunities for area producers by allowing the Minn-Kota facility to leverage efficiencies by operating as designed. Related to this, Otter Tail service better promotes growth and development in the general area. While not determinative, the customer's preference and the reasons for that preference support Otter

Tail service. The remaining factors, whether neutral or in favor of Dakota Valley, do not outweigh the balance and weight of factors favoring Otter Tail's extension of service.

Conclusions of Law

1. The Commission has jurisdiction over the parties and the subject matter of this proceeding.

2. Public convenience and necessity require the granting of a Certificate of Public Convenience and Necessity to the applicant in this proceeding.

From the foregoing Findings of Fact and Conclusions of Law, the Commission issues the following Order:

Order

Otter Tail Power Company is hereby issued Certificate of Public Convenience and Necessity No. _____, authorizing the provision of electric distribution service to Minn-Kota Ag Products, Inc. to a point in NE ¼, Section 10, Barney Township, Richland County, as more fully detailed in Otter Tail's Application dated February 27, 2017.

PUBLIC SERVICE COMMISSION

Julie Fedorchak
Commissioner

Randy Christmann
Chairman

Brian Kroshus
Commissioner