

**STATE OF NORTH DAKOTA
PUBLIC SERVICE COMMISSION**

**Montana-Dakota Utilities Co.
Applied Block Chain Office – Dickey County
Public Convenience & Necessity**

Case No. PU-22-366

**Montana-Dakota Utilities Co.
Applied Block Chain Data Processing Extension
Public Convenience & Necessity**

Case No. PU-22-370

FINDINGS OF FACT, CONCLUSIONS OF LAW AND ORDER

JANUARY _____, 2023

Appearances

Commissioners Randy Christmann, Julie Fedorchak, and Sheri Haugen-Hoffart.

Paul R. Sanderson, Evenson Sanderson, PC, 1100 College Drive, Suite 5, Bismarck, ND 58501, appearing on behalf of Applicant Montana-Dakota Utilities Co.

Kim J. Radermacher, Radermacher Law Firm, P.C., 506 Main St., Edgeley, ND 58433, appearing on behalf of Protestor Dakota Valley Electric Cooperative, Inc.

John M. Schuh, Legal Counsel, Public Service Commission, State Capitol, 600 E. Boulevard Avenue, Bismarck, ND 58505, appearing on behalf of Public Service Commission.

Hope L. Hogan, Administrative Law Judge, Office of Administrative Hearings, 2911 North 14th Street, Suite 303, Bismarck, North Dakota 58503 as Procedural Hearing Officer.

Preliminary Statement

On September 16, 2022, Montana-Dakota Utilities Co. (Montana-Dakota) filed an Application for Temporary Authority to extend temporary construction power to Applied Blockchain, Inc.'s (Applied) proposed office site located near the City of Ellendale in the SE ¼ SE1/4 of Section 4, Township 129N, Range 63W, Dickey County, North Dakota (Applied Site), case number PU-22-366.

On September 16, 2022, Montana-Dakota filed an Application for Temporary Authority to extend temporary construction power for a proposed data center at the Applied Site, case number PU-22-370.

On October 7, 2022, Dakota Valley Electric Cooperative, Inc. (Dakota Valley) filed a protest and request for hearing on both applications.

On October 10, 2022, Applied filed a letter supporting Montana-Dakota's request for temporary authority to provide construction power to the Applied Site.

On October 12, 2022, the Commission issued an Order on Protest and Request for Hearing denying Dakota Valley's protest and request for hearing on the Applications for Temporary Authority and ordering Montana-Dakota to file an application for permanent authority within twenty days.

On October 14, 2022, Montana-Dakota filed an Application for Permanent Authority to extend three-phase service to Applied's office located at the Applied Site, Case No. PU-22-366, and filed an Application for Permanent Authority to extend three-phase service to Applied's data center at the Applied Site, Case No. PU-22-370.

On October 24, 2022, Dakota Valley filed a protest and request for hearing on both of Montana-Dakota's Applications for Permanent Authority.

On November 17, 2022, the Commission issued a Notice of Hearing scheduling a public hearing to be held on Monday, December 19, 2022. The notice identified the following issues to 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 hearing in this case was held before the Commission on December 19, 2022. Montana-Dakota presented testimony from five witnesses and introduced nineteen exhibits and three exhibits were filed with the Commission under confidential trade secret protection. Dakota Valley presented testimony of four witnesses and introduced twenty exhibits.

On December 30, 2022, Montana-Dakota and Dakota Valley filed Post-Hearing Briefs.

On January 3, 2022, Montana-Dakota and Dakota Valley filed Reply Briefs.

Having allowed all interested persons an opportunity to be heard, and having heard, reviewed, and considered all testimony and evidence presented, the Commission makes the following:

Findings of Fact

1. Montana-Dakota is an investor-owned electric utility providing electric service to customers in North Dakota under the regulatory jurisdiction of this Commission.
2. Dakota Valley is a rural electric cooperative providing electric service to its members in North Dakota.

From whom does the customer prefer electric service?

3. Montana-Dakota's application included an appearance form signed by Applied indicating it desires electric service at the Applied Site from Montana-Dakota.
4. Applied had two witnesses testify at the hearing, Wes Cummins, CEO, and Etienne Snyman, Executive Vice President of Power. They testified that Applied is developing a large data center for super-computing at the Applied Site. The center requires three-phase electric service at both the data center and the office locations on the site. The anticipated total electric load at the site will be approximately 180MW with estimated annual consumption over 1.4 billion kWh.
5. Mr. Snyman testified that Applied desires to receive electric service at the proposed facility from Montana-Dakota for four reasons: 1) Applied expects to realize significant annual savings on power costs by receiving electric service from Montana-Dakota and could not proceed with the project at the rates offered by Dakota Valley; 2) Montana-Dakota has been more responsive throughout the project and had shown a willingness to communicate and work with Applied; 3) Applied 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; and 4) Montana-Dakota's capital costs for construction were much lower than those of Dakota Valley.

6. The Commission finds that the customer prefers electric service from Montana-Dakota.

What electric suppliers are operating in the general area?

7. Montana-Dakota and Dakota Valley are the only electric suppliers operating in the general area of the Applied Site.

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

8. Both Montana-Dakota and Dakota Valley introduced maps showing their electric supply lines within a two-mile radius of the Applied Site. Montana-Dakota owns and operates a 345 kV substation on the property directly south of the Applied Site. Montana Dakota obtained a Certificate of Public Convenience and Necessity in September 2013 to own and operate the 345 kV substation and ten miles of 345 kV electric transmission line, Certificate Number 5819. Montana-Dakota's 345 kV substation is part of the Midcontinent Independent System Operator (MISO) system. In September 2022, Montana-Dakota submitted an expedited load study request to MISO to add an additional 180 MW at the 345 kV substation. Montana-Dakota was granted an additional 180 MWs at the 345 kV substation and currently has 197 MWs of existing capacity. Directly to the east of the Applied Site, Montana-Dakota owns and operates a 230 kV substation. This substation was constructed in 1965. This substation is fed by Montana-Dakota's 230 kV transmission line. This substation has two 41.6 kV transmission lines that head south from the substation half a mile to Highway 11 then to a distribution substation in Ellendale. The three-phase distribution line from Ellendale to Forbes was newly constructed in 2021 as an underbuild on Montana-Dakota's 115 kV from Ellendale to Leola, except for the first two miles out of Ellendale which was constructed as an underbuild on its 41.6 kV line. The distribution substation at Ellendale serves part of the city Ellendale, customers along highway 11 including the Applied Digital office site, and the town of Forbes.

9. Dakota Valley has a single-phase distribution line that runs parallel to 87th Ave. adjacent to the Applied Site. This single-phase line connects with Central Power Electric Cooperative's (Central Power) Ellendale substation, which is approximately three miles north of the Applied Site.

10. Both electric suppliers will need to construct extensions to existing three-phase supply lines to serve the Applied Site. Montana-Dakota would serve the data center by connecting to the 345 kV substation and running a one-foot extension to a meter located on Montana-Dakota's substation property. Applied would then run an overhead line 1,300 feet to the location of its data center on the Applied Site. Montana-Dakota would serve

the office by extending a three-phase line two-thousand feet from its existing three phase distribution line adjacent to its 230 kV substation to the Applied Site.

11. Dakota Valley would serve Applied's office by converting 15,500 feet of its existing single-phase line to three-phase line from Central Power's existing Ellendale substation approximately three miles north of the Applied Site. Dakota Valley proposes to serve the data center by extending a line from Montana-Dakota's 345 kV substation, similar to the design of Montana-Dakota's extension. Dakota Valley does not have an interconnection agreement with Montana-Dakota for the 345 kV substation. To facilitate the interconnection with Montana-Dakota's 345 kV substation, Dakota Valley requested Basin Electric Power Cooperative (Basin), who is a MISO member, to submit an application to add 180 MW of load at Montana-Dakota's 345 kV substation. Basin submitted an application to add network load for this project on October 24, 2022. At the time of the hearing, MISO had not approved Basin's request to add 180 MWs of load at Montana-Dakota's 345 kV substation. Basin's engineer, Jason Doerr, testified that even if Basin's load request was granted, a load study would likely have to be performed by MISO or Montana-Dakota to determine how the additional 180 MW load could be served out of Montana-Dakota's 345 kV substation. Dakota Valley did not present any evidence of the projected cost of a future interconnection or when such interconnection would occur.

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

12. Both electric suppliers provided maps identifying customers served within the area. Montana-Dakota serves 77 customers within a two-mile radius of the Applied Site, including three customers receiving three-phase service.

13. Dakota Valley serves 15 customers within a two-mile radius of the Applied Site. None of Dakota Valley's customers within a two-mile radius receive three-phase service.

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

14. Both electric suppliers submitted evidence of outage history on their facilities and evidence of their inspection and repair procedures, including identifying company personnel in the area who would perform repair work.

15. Both electric suppliers propose serving Applied's data center from Montana-Dakota's 345 kV substation using the same extension design. Therefore, there is no difference in reliability on the proposed extensions to serve the data center.

16. Montana-Dakota would serve the Applied office by extending a three-phase line two-thousand feet from its existing three phase distribution line adjacent to its 230 kV substation to the Applied Site. Montana-Dakota's extension would be underground.

17. Dakota Valley would serve Applied's office by converting 15,500 feet of single-phase line to three-phase line from Central Power's existing Ellendale substation approximately three miles north of the Applied Site. Central Valley's Manager of Engineering, Brandon Giesler, conceded that Montana-Dakota's extension would be slightly more reliable due to the shorter length and less chance of damage to the line.

18. Both electric suppliers submitted the results of their System Average Interruption Duration Index (SAIDI), which is the average minutes of interruption per customer during the year. The SAIDI results for the corresponding years in which each supplier provided data were:

	<u>Montana-Dakota</u>	<u>Dakota Valley</u>
2017	116.4	201.8
2018	128.2	280.9
2019	68.5	531.0
2020	81.0	409.8
2021	210.5	104.5

19. The Commission finds that either supplier would be able to serve the Applied Site with sufficient reliability. However, Montana-Dakota's substation is closer to the Applied office location, which would provide increased reliability because there would be less line length upon which a fault could occur.

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

20. Montana-Dakota would serve Applied's data center by extending a line a new line 1,300 feet from its existing 345kV substation. Applied's meter for the data center would be located on the substation property. Montana-Dakota submitted an exhibit detailing the costs of the extension, which totals \$3,444,131. Pursuant to the terms of the electric service agreement between Montana-Dakota and Applied, Applied is responsible for all the costs of the extension to the data center.

21. Montana-Dakota would serve Applied's office by extending a three-phase line two-thousand feet from an existing three phase distribution line adjacent to its 230 kV substation to the Applied Site. Montana-Dakota submitted an exhibit detailing the costs of the extension, which total \$46,131. During the hearing, Montana-Dakota's engineer testified the labor costs for the extension had increased \$20,000 because the extension had to be bored under 87th Avenue due to the work Applied had performed upgrading the road. The updated cost of the extension was approximately \$66,131. Pursuant to the

terms of the electric extension agreement between Montana-Dakota and Applied, Applied is responsible for all costs of the extension to the office greater than \$22,228

22. Dakota Valley testified it proposes to serve Applied's data center by extending a line from Montana-Dakota's 345 kV substation, similar to the design of Montana-Dakota's extension. Dakota Valley offered no exhibit or evidence as to the cost of its proposed extension or whether it was even feasible. Dakota Valley does not have an electric service agreement with Applied that would specify either party's responsibilities for cost of the extension to the data center.

23. Dakota Valley would serve Applied's office by converting 15,500 feet of its existing single-phase line to three-phase line from Central Power's existing Ellendale substation approximately three miles north of the Applied Site. Dakota Valley submitted an exhibit detailing the costs of the extension totaling \$141,968.84. Pursuant to the terms of Dakota Valley's line extension policy, the cost of the first 1,250 feet of the extension will be paid by Dakota Valley, with the remaining balance of the line extension cost being allocated one-third to Dakota Valley and two-thirds to Applied. Dakota Valley's total cost for the extension to the office would be \$53,698.64, with Applied's cost of the extension totaling \$88,270.20.

24. The estimated electric consumption for the Applied Site is over 1.4 billion kW per year. Consideration of the cost to serve the location includes the other costs of electric distribution, transmission and generation as reflected in the service providers rates for service. Montana-Dakota proposed serving Applied's data center under Commission-approved Rate 45, which would have an average rate of \$0.047/kWh using the average 2021 MISO energy charge for Montana-Dakota load node. Montana-Dakota also submitted a proposed Rate 45 average rate of \$0.024/kWh using the average MISO day ahead energy price at the Ellendale substation for the last 4 calendar quarters. Montana-Dakota submitted a detailed exhibit estimating the annual cost to Applied for electric service to the data center by Montana-Dakota for the estimated consumption under its proposed rates would be between \$34,746,074 and \$69,288,622. As part of its confidential trade secret filing, Montana-Dakota submitted evidence of its margin on service to Applied's data center.

25. Montana-Dakota proposed serving Applied's office under Commission-approved Rate 30. Applied's office has an estimated annual energy consumption of 84,275 kWh. Montana-Dakota's annual margin on service to Applied's office would be \$5,557, with an internal rate of return estimated at 17.19% over the life of the project.

26. Dakota Valley proposed serving Applied's data center under its Large Data Center MISO Substation Delivery Service rate which would have a rate of \$0.063 average kWh. Dakota Valley also proposed service to the data center under Basin's RTO Demand Response Rate which would have a rate of \$0.058 average kWh. The annual cost to Applied for electric service to the data center by Dakota Valley for the estimated consumption under its current rates would be between \$86,412,647 and \$95,052,647. Dakota Valley's margin on service to Applied's data center would be \$937,127.

27. Dakota Valley proposed serving Applied's office under its Small Three-Phase Service rate. Dakota Valley did not have actual information regarding energy consumption for Applied's office, but provided estimates of monthly energy consumption. Dakota Valley's estimated annual revenue for Applied's office would be \$7,971, with an estimated annual profit of \$3,146.84.

28. The Commission finds that Montana-Dakota will be able to serve the Applied Site more economically and still earn an 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?

29. Montana-Dakota has a Certificate of Public Convenience and Necessity for the 345 kV substation on the property adjacent to the Applied Site from which service will be provided to the data center. Montana-Dakota also owns and operates the 230 kV substation on the property to the east of the Applied Site. Service to Applied's office site will be provided by an existing three phase distribution line adjacent to the 230 kV substation. The Applied Site is located approximately 1.5 miles from the City of Ellendale, which Montana-Dakota possesses a franchise to serve. Montana-Dakota serves significantly more customers within a two-mile radius than does Dakota Valley. Service by Montana-Dakota to the Applied Site is an extension and continuation of the existing electric service it has provided the area surrounding Ellendale area. Service by Montana-Dakota would benefit not only development of the Applied Site but also the orderly and economic development of the Ellendale area.

30. A primary consideration of which supplier would best serve orderly and economic development in these cases is whether a supplier's cost to provide service to a customer exceeds the cost to provide service to that same customer from a second supplier.¹ Montana-Dakota's proposed costs of providing electric service to the Applied data center are between \$25,764,025 and \$51,666,573 less than Dakota Valley's, which assists in the financial viability and success of Applied's data center and the associated employment and economic development for the general area. Applied's CEO testified the project would not be economically viable at the rates proposed by Dakota Valley and it would cease development of the project near Ellendale if Montana-Dakota's Application were denied.

31. The Commission finds that service by Montana-Dakota to the Applied Site realizes a significant cost savings to Applied; therefore, extension of service by Montana Dakota best serves orderly and economic development of electric service in the general area.

¹ See the Public Service Commission's September 17, 2014 Findings of Fact, Conclusions of Law and Order in Case No. PU-13-871, and its December 17, 2008 Findings of Fact, Conclusions of Law and Order in four related public convenience and necessity applications in Case Nos. PU-08-345, PU-08-346, PU-08-347, and PU-08-693.

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

32. Both electric suppliers will need to construct extensions to existing facilities to serve the Applied Site.

33. One factor to be considered in determining wasteful duplication of investment is whether, in order to serve the customer in question, one supplier's extension of facilities must cross the facilities of another supplier. In this case, both supplier's currently cross each other's lines in the area. Montana-Dakota's proposed line extension for Applied's office would cross Dakota Valley's single-phase line located west of 87th Avenue. However, Dakota Valley's single-phase line is not capable of serving and is not proposed for use to serve the Applied Site.

34. The Commission finds that approval of the application 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 within the foreseeable future?

35. The Applied Site is located approximately 1.5 miles from the city of Ellendale. There is no evidence of any plans that the Applied Site would be included within the corporate limits of Ellendale 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?

36. Dakota Valley's General Manager testified that Montana-Dakota's extension would not interfere with Dakota Valley's existing electric system in the area. There are no codes or regulations that would prohibit Montana-Dakota's extension to the Applied Site.

37. The Commission finds that extension of service by either supplier would not interfere physically or operationally with the service or system of the other supplier.

38. Montana-Dakota has been serving the city of Ellendale and has had in place substations for service of the area for many years. Montana-Dakota obtained a Certificate of Public Convenience and Necessity in September 2013 to own and operate the 345 kV substation that would provide service to Applied's data center.

39. The Territorial Integrity Act does not provide that rural electric cooperatives are the preferred supplier of electric service in all rural areas of the State but rather requires a public utility to obtain a certificate of public convenience and necessity before it extends facilities in a rural area. The public utility must show that public convenience and necessity

reasonably requires such extension.²

40. The Commission finds that public convenience and necessity reasonably requires approval of Montana-Dakota's application because:

- The customer prefers electric service from Montana-Dakota as it results in an approximately \$25,764,025 to \$51,666,573 annual cost savings;
- Montana-Dakota has more customers within a one-mile and two-mile radius of the Applied Site;
- Montana-Dakota's proposed extension of three-phase system to serve Applied's office is shorter than the proposed extension of Dakota Valley's three-phase system.
- Dakota Valley failed to present evidence that it would be able to serve Applied's data center from Montana-Dakota's substation, nor what the cost would be for any interconnection were it granted permission from MISO to connect to the substation;
- Montana-Dakota will serve the Applied Site more economically when considering both the cost to extend service and the annual costs to the customer as reflected in rates for service;
- Montana-Dakota's extension of service would realize significant cost savings to Applied, therefore best serving orderly and economic development of the area; and
- Montana-Dakota's proposed extension to serve the Applied Site would not result in wasteful duplication of investment or service, nor would it unreasonably interfere with the service or system of Dakota Valley.

From the foregoing Findings of Fact, the Commission makes its:

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 its:

² *Application of Otter Tail Power Co.*, 169 N. W.2d 415, 418 (N.D. 1969); *Cass County Elec. Co-op v. Wold Properties, Inc.*, 249 N. W.2d 514, 520 (N.D. 1976); *Capital Electric v. Public Service Commission*, 534 N.W.2d 587,590 (N.D. 1995).

ORDER

The Commission Orders:

1. Montana-Dakota's application for a certificate of public convenience and necessity to extend electric service to the Applied Site is granted.
2. Montana-Dakota Utilities Co. is issued Certificate of Public Convenience and Necessity No. _____, authorizing the provision of electric distribution service to the Applied Site at a location in the SE¼ SE¼ of Section 4, Township 129N, Range 63W, Dickey County, North Dakota.

PUBLIC SERVICE COMMISSION

Randy Christmann
Commissioner

Julie Fedorchak
Chair

Sheri Haugen-Hoffart
Commissioner