STATE OF NORTH DAKOTA
PUBLIC SERVICE COMMISSION

Montana-Dakota Utilities Co. **Case No. PU-22-366**
Applied Block Chain Office – Dickey County
Public Convenience & Necessity

Montana-Dakota Utilities Co. **Case No. PU-22-370**
Applied Block Chain Data Processing Extension
Public Convenience & Necessity

MONTANA-DAKOTA UTILITIES CO.'S POST HEARING BRIEF

Montana-Dakota Utilities Co. ("Montana-Dakota") submits the following Post-Hearing Brief in support of its Applications for Permanent Authority to provide electric service to Applied Digital Corporation's ("Applied") site near Ellendale, North Dakota.

On November 17, 2022, the Commission issued a Notice of Hearing ("Notice") identifying the ten Territorial Integrity Act (TIA) factors to be considered at the hearing in determining whether to grant Montana-Dakota's Applications for Permanent Authority to extend service to Applied's Site:

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?

1. Customer Preference.

The first of the Commission's ten considerations is customer preference. The uncontroverted evidence establishes that Applied prefers its electric service from Montana-Dakota. Applied's CEO, Wes Cummins, and its Vice-President of Power, Etienne Snyman, both testified they prefer to receive electric service at their site from Montana-Dakota. Applied is constructing a large data center for high-speed computing applications. The anticipated total electric load at the Applied Site will be approximately 180 MWs with estimated annual consumption over 1.4 billion kWh.

Mr. Snyman testified that Applied desires to receive electric service at the proposed facility from Montana-Dakota for four reasons. First, Applied expects to realize significant annual savings on power costs by receiving electric service from Montana-Dakota. Second, throughout the development of their project, Montana-Dakota has been very responsive and shown a willingness to communicate and work with Applied; whereas Dakota Valley and Basin Electric Power Cooperative ("Basin") have shown no interest in working with Applied on this project. Third, Applied prefers to receive its electric service from Montana-Dakota because its rates and services are subject to regulatory oversight and approval by an independent agency with an opportunity for customer input. Mr. Snyman explained the dangers of working with an unregulated electric provider, specifically in terms of renegotiating future rate prices. Finally, Applied's capital costs for construction were much lower with Montana-Dakota than

those of Dakota Valley. Since Applied is paying for all costs to extend electric service, it has a strong interest in low capital costs of construction. Montana-Dakota's costs to extend service are lower than Dakota Valley's costs. Further, Dakota Valley is unable to show that it will be able to serve the data center from Montana-Dakota's 345 kV substation, let alone produce any evidence as to the cost of such extension. These are all legitimate considerations supporting Applied's preference for Montana-Dakota.

2. Electric facilities within a two-mile radius.

The electric supply lines located within a two-mile radius supports Montana-Dakota's Application. Montana-Dakota owns and operates the 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 MWs 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 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 of Ellendale, customers along highway 11 including the Applied Digital office site, and the town of Forbes.

Dakota Valley only has a single-phase distribution line that runs parallel to 87th Ave. adjacent to the Applied Site. Dakota Valley has no three-phase service with a two-mile radius of the Applied Site. Dakota Valley's single-phase line connects with Central Power Electric Cooperative's ("Central Power") Ellendale substation, which is approximately three miles north of the Applied Site. 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.

Dakota Valley has no facilities in the area with the ability to serve Applied's data center. 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. However, 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, who is a MISO member, to submit an application to add 180 MW of load at Montana-Dakota's 345 kV substation. On October 24, 2022, Basin submitted an application to add network load for this project. 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 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.

Darcy Neigum, Montana-Dakota's Director of Electric Systems Operations and Planning, testified at the hearing regarding the MISO interconnection requirements and capacity at the 345 kV substation. Montana-Dakota was approved for 180 MWs at the 345 kV substation. Mr. Neigum explained that the 180 MWs is intended for the Applied data center, but if its Application is denied in this proceeding, Montana-Dakota could market its additional capacity to other available customers. The testimony by both Montana-Dakota and Dakota Valley witnesses was that there currently are a number of potential customers who could construct similar data centers and this area of North Dakota is an attractive location. In addition, Mr. Neigum also testified that, if granted capacity on Montana-Dakota's 345 kV substation by MISO, Dakota Valley would have to incur substantial expense to construct facilities to serve Applied's data center, estimated to be approximately five million dollars.

2. Customers within a two-mile radius.

Montana-Dakota has significantly more customers in a two-mile radius of the Applied Site. Both Montana-Dakota and Dakota Valley 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. 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.

3. Differences with respect to reliability of service.

Montana-Dakota agrees that it and Dakota Valley operate relatively reliable systems as does every other public utility and cooperative in the State of North Dakota. However, that is not the issue as stated in the Commission's Notice of Hearing. Instead, the notice requires the Commission to consider "the differences, if any, between electric suppliers . . . with respect to reliability of service."

Since both Montana-Dakota and Dakota Valley propose serving Applied's data center from Montana-Dakota's 345 kV substation using the same extension design, there would be no difference in reliability on the proposed extensions to serve the data center. Thus, the only issue would be the differences between the proposed extensions to serve Applied's office.

Montana-Dakota's extension to serve the office is significantly shorter than Dakota Valley's extension. Montana-Dakota would serve Applied's office by extending a three-phase line two-thousand feet from its existing three phase distribution line adjacent to its 230kV substation. 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.

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. Dakota 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. The Commission has previously recognized that the distance of radial line to a proposed service location is indicative of differences in reliability of service. See Montana-Dakota's Applications for Public Convenience and

Necessity, Consolidated Case Nos. PU-08-345, PU-08-346, PU-08-347 and PU-08-693.

Both Montana-Dakota and Dakota Valley 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. Both also 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:

	Montana-Dakota	Dakota Valley
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

Although Montana-Dakota and Dakota Valley operate relatively reliable systems, the differences between the suppliers in their proposed service to the Applied Site demonstrate that Montana-Dakota can be expected to provide more reliable service. Therefore, this consideration favors Montana-Dakota's application.

4. Cost of service and return on investment.

The Commission's Notice asks which of the suppliers "will be able to serve the location in question more economically and still earn an adequate return on its investment." The cost of serving a location is not limited to the cost of extending wires and poles. Rather, the economics of serving a location includes the total capital and

operating costs of generation, transmission and distribution to meet the customer's electric service needs. These total costs are reflected in the provider's rates as well as the incremental cost of the service extension. The Commission has previously recognized that the annual charges to the customer, as reflected in the rates of the providers, are part of the determination of which provider can serve the location more economically. See Montana-Dakota's Application for Certificates of Public Convenience and Necessity Consolidated Case Nos. PU-08-345, PU-08-346, PU-08-347 and PU-08-693.

With respect to cost of service to Applied's data center, Montana-Dakota has capacity at its 345 kV substation and submitted an exhibit detailing the costs of the extension, which total $3,444,131.

Dakota Valley also proposes serving Applied's data center from Montana-Dakota's 345 kV substation, similar to the design of Montana-Dakota's extension. However, Dakota Valley offered no exhibit or evidence as to the cost of its proposed extension or whether it was even feasible. 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. Dakota Valley did not present any evidence of the projected cost of a future interconnection or when such interconnection would occur. Dakota Valley failed to present evidence at the hearing that it will be able to serve Applied's data center from Montana-Dakota's 345 kV substation or the cost of such an extension.

The estimated electric consumption for the Applied data center 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 for the last four calendar quarters at the Ellendale substation. 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.

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.

With respect to service of Applied's office, the distance for Montana-Dakota to extend its three-phase system to Applied's office of 2,000 feet at a cost of approximately $66,131 is less than the distance of approximately three miles, and cost of $141,968.84 for Dakota Valley to extend its three-phase system to the Applied Site. Montana-Dakota provided evidence that its capital cost to serve Applied's office would be $22,228, its 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. Dakota Valley's estimated annual

revenue for Applied's office would be $7,971, with an estimated annual profit of $3,146.84.

The evidence presented at the hearing clearly establishes Montana-Dakota can serve the Applied Site more economically and earn an adequate return of investment.

5. Orderly and economic development of electric service in the general area.

Montana-Dakota's extension of service to the Applied Site would best serve the orderly and economic development of electric service in the general area. 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 from which service will be provided to Applied's office. 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 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.

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. See 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. 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. The Ellendale area, and the State of North Dakota, would lose out on this economic development if the Commission were to deny Montana-Dakota's Applications.

Comments were made during the hearing that the Applied Site was in Dakota Valley's service territory. This is incorrect. Rural areas are not the exclusive service territory of cooperatives. The North Dakota Supreme Court has never said the TIA gives cooperatives even a preference for electric service in rural areas. Capital Electric Cooperative v. Public Service Commission, 534 NW 2d 587, 590 (N.D. 1995). Although cooperatives have the legal authority to provide service within a rural area, public utilities have the legal authority to serve both rural areas and municipal areas. The difference between a public utility's and a cooperative's ability to serve a rural area is that the public utility is regulated and the cooperative is not. Therefore, cooperatives are allowed to extend their systems in rural areas based simply upon a customer request for service with little regard to duplication of facilities of a public utility or other considerations of public convenience and necessity. See id. In contrast, a public utility must show the extension of its system is consistent with public convenience and necessity under the considerations set forth in the Commission's Notice of Hearing.

Because Montana-Dakota's extension of service and corresponding cost to provide service to Applied will foster orderly and economic development of electric service in the general area, this issue supports Montana-Dakota's Application.

6. Wasteful duplication of investment or service.

In the present case, both Montana-Dakota and Dakota Valley would need to construct facilities to serve the Applied Site. With respect to the data center, Montana-Dakota has an existing 345 kV substation adjacent to Applied's Site, which is the sole reason the project is being constructed in this location. Dakota Valley has no facilities in the area that could serve the data center. Instead, it seeks to take Montana-Dakota's facilities to provide service. Dakota Valley has presented no factual evidence and has sited no law, rule, or regulation to show that it is able to accomplish this. It would be required to build its own facilities absent the ability to take Montana-Dakota's existing facilities. Dakota Valley's request in this case is the clear definition of wasteful duplication of services.

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 suppliers 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. Thus, there is no duplication of service as a result of the line crossing.

Montana-Dakota's extension to the Applied Site would not result in a wasteful duplication of Dakota Valley's facilities.

7. Unreasonable interference with service or system.

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. There are no codes or regulations that would prohibit Montana-Dakota's extension to the Applied Site.

Dakota Valley's General Manager testified that Montana-Dakota's extension would not interfere with Dakota Valley's existing electric system in the area. Montana-Dakota can run its 3-phase extension without interrupting Dakota Valley's service on its single-phase line. No Dakota Valley customer will lose power as a result of Montana-Dakota's extension to the Applied Site. Dakota Valley's single-phase line would not have to move as a result of Montana-Dakota's extension. Further, Dakota Valley would not lose any existing customers or facilities as a result of Montana-Dakota's extension. Montana-Dakota's extension of service to the Applied Site will not unreasonably interfere with Dakota Valley's system.

On the contrary, Dakota Valley's proposed extension could interfere with Montana-Dakota's system. Dakota Valley has done nothing to develop this project with Applied. Instead, Dakota Valley wants to take all the work Montana-Dakota has done on this project. Dakota Valley asserted that Montana-Dakota should provide the 180 MW

capacity it received on its own substation to Dakota Valley. Dakota Valley's proposed extension to Applied's data center would constitute unreasonable interference of Montana-Dakota's system.

CONCLUSION

For these reasons, and the evidence presented at the hearing on December 19, 2022 – the consideration of the ten TIA factors identified in the Commission's Notice of Hearing either favor Montana-Dakota or neither of the two suppliers as shown in the attached chart. The customer prefers electric service from Montana-Dakota as it results in a significant annual cost savings. Montana-Dakota has more customers within a 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. 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.

Based upon the weight of the evidence on all the considerations identified in the notice of hearing, Montana-Dakota's Applications for Permanent Authority should be granted.

Dated this 30th day of December, 2022.

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ISSUE	MDU	DAKOTA VALLEY	NEITHER
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?	✓		