



May 3, 2024

Will Seuffert, Executive Secretary
Minnesota Public Utilities Commission
121 7th Place East, Suite 350
Saint Paul, MN 55101-2147

***Subject: Dakota Electric Association Reply Comments
In the Matter of Distribution System Planning
For Dakota Electric Association
Docket No. E-111/M-23-420***

Dear Mr. Seuffert:

On February 20, 2019, the Minnesota Public Utilities Commission (Commission) issued an *Order Adopting Integrated Distribution Plan Filing Requirements* (February 20 Order) in Docket No. E111/CI-18-255. This February Order outlined, in relevant part, the distribution system plan requirements for Dakota Electric Association (Dakota Electric or Cooperative) including the requirement that Dakota Electric file an integrated distribution plan (IDP) on a biennially basis beginning on November 1, 2019. The Commission further modified certain filing and reporting requirements in subsequent IDP and regulatory dockets.¹ On November 1, 2023, Dakota Electric submitted its third IDP Report in the above referenced docket. This filing responded to Commission

¹ November 2, 2020 Order in Docket No. E111/M-19-674, September 9, 2022 Order in Docket No. E111/M-21-728, and June 7, 23, 2023 Order in Docket No. E999/CI-20-800.

reporting requirements and represented a substantial effort by Dakota Electric internal staff and consultants.

On November 15, 2023, the Commission issued a Notice of Comment Period (Notice) where it identified the issue:

Should the Commission accept or reject Dakota Electric Association's 2023 Integrated Distribution Plan (IDP)?

The Commission also opened the following topics for comment:

1. Should the Commission accept or reject Dakota Electric Association's IDP?
2. Did Dakota Electric adequately address the Commission's IDP filing requirements and prior Orders, as outlined in Attachment A to this notice? Is additional information necessary for improved clarity?
3. Feedback, comments, and recommendations on the following areas of Dakota Electric's IDP:
 - a. Non-wires alternatives analysis
 - b. Planned grid modernization initiatives
 - c. Forecasted distribution budget
 - d. Distributed Energy Resources (DER) scenarios and forecasts
4. Has Dakota Electric appropriately discussed its plans to maximize the benefits of the Inflation Reduction Act (IRA) and the IRA's impact on the utility's planning assumptions pursuant to Order Point 1 of the Commission's September 12, 2023 Order in Docket No. E,G-999/CI-22-624?
5. What should the Commission consider or address related to enhancing the resilience of the distribution system within Dakota's IDP?
6. Other areas of Dakota Electric's IDP not listed above, along with any other issues or concerns related to this matter.

The Commission further stated in this Notice that the purpose of the Commission's IDP filing requirements is to facilitate a utility's IDP filing that will meet the following planning objectives:

1. Maintain and enhance the safety, security, reliability, and resilience of the electricity grid, at fair and reasonable costs, consistent with the state's energy policies;
2. Enable greater customer engagement, empowerment, and options for energy services;

3. Move toward the creation of efficient, cost-effective, accessible grid platforms for new products, new services, and opportunities for adoption of new distributed technologies;
4. Ensure optimized utilization of electricity grid assets and resources to minimize total system costs; and
5. Provide the Commission with the information necessary to understand the utility's short-term and long-term distribution-system plans, the costs and benefits of specific investments, and a comprehensive analysis of ratepayer cost and value.

On April 19, 2024, the Minnesota Department of Commerce, Division of Energy Resources (Department) filed initial comments in response to our IDP Report. The Department's comments were thorough and provided detailed analysis of our IDP Report, and the Commission's reporting requirements, including a list of requested information for Dakota Electric to address in reply comments and in subsequent IDP Reports. The Cooperative appreciates the Department's detailed review of our IDP Report, which clearly shows an appreciation for the work and commitment Dakota Electric put forth while preparing our IDP Report.

Before responding to the Department's requested information, Dakota Electric provides a brief opening discussion regarding how we interpret the over-arching theme of the Department's analysis. After reviewing the Department comments, Dakota Electric believes that further discussion of how the Commission reviews the IDP and what information or discussion is necessary to achieve the Commission's five purposes noted above may be warranted. The Department's comments and requested information, as they relate to the Department's interpretation of the five purposes, have the potential to significantly impact the nature of the IDP and how it is used by Dakota Electric. Since its inception, the Cooperative has viewed the IDP as a planning document meant to provide the Commission and interested parties with insight into our internal engineering and planning processes and planned projects in the upcoming 5-to-10-year time horizon. Dakota Electric has not (and does not currently intend to) used the IDP as a venue where we would request certification or an advanced determination of prudence (ADP) for a particular project or initiative. This approach, or mindset, has

driven the construction of our IDP Reports and how we determine cost estimates and engineering assumptions.

Further, it is important to reiterate that Dakota Electric is a not-for-profit, member-owned distribution cooperative. We have a strong incentive to only pursue distribution planning and potential grid modernization projects that provide tangible benefits to our member-owners and, most importantly, do so in a cost-effective manner. It is also important to underscore that we have an obligation to provide safe, reliable, and affordable electric service. As evidenced in our Annual Service Reliability and Service Quality (SRSQ) Report, Dakota Electric's membership enjoys a high-level of member service and reliability.² This is an expectation for our members and something that we strive to provide them with on an on-going basis. When pursuing distribution planning or considering projects, both traditional and non-wired, Dakota Electric's primary consideration is whether it will be able to provide safe, reliable, and affordable electric service. If it cannot achieve these objectives, it is unlikely that we will consider it as part of our distribution system planning.

Dakota Electric Response

Dakota Electric responds separately to each of the Department's requests below.

The Department requests that DEA discuss in reply comments whether the Cedar Substation and Feeders Project, Lakeville Substation and Feeders Project, and the Fisher Substation Rebuild Project are suitable for current or future NWA analysis.

Both the Cedar Substation and Feeders Project and the Lakeville Substation and Feeders Project are derived from capacity and reliability concerns due to system expansion and backfeeding contingency if a nearby substation was to have an outage. Land costs, location, and the size requirements of an NWA make, these projects unsuitable for an NWA analysis. Further, we also had significant concerns due to the potential load size increases in these areas that could result in significant operational constraints that could

² April 26, 2024 Dakota Electric Informational Filing, Docket No. E111/M-24-28.

prevent us from providing firm capacity and reliability with an NWA. The Fisher Substation Rebuild has similar concerns for capacity and reliability; however, this project arose due to age-related concerns as the equipment is over 40 years old. This project is not suitable for an NWA due to the reliability concerns of the existing substation, capacity requirements, and land constraints. The nature of these projects and locations do not lend themselves to being suitable for NWA analysis, which is why no analysis was provided. Dakota Electric does not rule out using an NWA in the future for the proper project scope.

The Department requests that DEA discuss in reply comments which benefits are studied as part of its NWA process and which main assumptions are used to calculate benefits.

Dakota Electric notes that we have an obligation to provide safe, reliable, and affordable electric service. If we are to consider an NWA, it must meet these obligations. Dakota Electric addressed its basic requirements for Non-Wires Alternatives in its IDP Report.³ For our NWA analysis, the benefit assumptions used to calculate the return benefit were discussed at Page 73 in our IDP Report. For reference, these assumptions are shown below:

- 365 Days per year ESS must operate
- Annual day time load factor is 60%
- ESS charging during off peak (lower cost energy)
- 15% ESS Energy loss
- \$48 /kW of ESS operating cost
- 80% of ESS discharge is coincident with peak demand charges
- \$0.08 Cost of On-peak energy
- \$0.06 Cost of Off-peak energy
- \$226 /kW annual demand charges
- 10 Year Life of ESS

The benefit assumptions above were used to calculate the demand savings from the installation of an Energy Storage System (ESS). From an energy sales perspective, the calculated benefits from an NWA in lieu of a traditional system upgrade would not

³ Dakota Electric IDP Report, Pages 65-66.

provide significant additional revenue to Dakota Electric. This is why we did not include a benefit calculation for the traditional system upgrade.

The Department requests that DEA include calculated benefits for all Minnesota Test Cases, and to the extent practicable, present the results in reply comments.

The Cooperative appreciates the Department referencing the Minnesota Test Cases and their potential applicability to NWA solutions. These Minnesota Test Cases have been used for years when evaluating different regulatory projects and programs; in particular, by the Department when evaluating conservation programs. The Minnesota Test Cases attempt to quantify or account for certain intangible or difficult to quantify benefits associated with a potential project or program. Dakota Electric notes that it did not, and has not, considered potential benefits, beyond economic benefits, in its review of NWA solutions for two primary reasons. First, the Minnesota Tests were not requested by the Commission and, second, the additional costs (beyond engineering practicality) of potential NWA solutions have been such that we did not believe that further review was necessary. Given the significant additional cost of potential NWA solutions, and the short timeframe available to the Cooperative before reply comments are due, Dakota Electric does not believe providing a benefit analysis based on the Minnesota Test Cases is necessary at this time. Dakota Electric is not opposed to considering these test cases in its review of an NWA, and other potential distribution solutions, in future IDP Reports and looks forward to any additional guidance on this topic from the Commission.

The Department requests that DEA discuss in reply comments the costs and benefits of its AMI and AGi Programs.

The Cooperative proposed its AGi Project in Docket No. E111/M-17-821.⁴ The AGi Project included a request for Commission approval of rider recovery for advanced metering, a new meter data management (MDM) system, and replacement and updating of our load control receiver program. The AGi Project, and associated

⁴ November 20, 2017 Initial Filing, Docket No. E111/M-17-821.

Commission filing, were the culmination of a multi-year analysis of our legacy metering and load management systems and . The AGi Project began out of a need to address legacy metering and load control receivers that were reaching the end of their useful life. The analysis included a detailed cost and operational analysis comparing multiple scenarios, approaches, and vendors and included feedback and input from all areas of the Cooperative. The costs identified by Dakota Electric included metering and equipment replacement along with on-going software expenses. The benefits identified by the Cooperative were streamlined meter reading, reduced labor costs, and improvements in load control (*e.g.*, replacement of failed LCRs). The Commission approved the AGi Project and associated cost recovery in its May 8, 2018 Order in Docket No. E111/M-17-821.

Each January, Dakota Electric files its annual AGi Rider filing which resets the Advanced Meter Recovery Fee.⁵ The Advanced Meter Recovery Fee calculation factors in both the costs (*e.g.*, metering installations) and benefits (*e.g.*, reduced head count) of the AGi Project into the calculation of the rate assessed to members. When looking at original project information, Dakota Electric notes that the current Advanced Meter Recovery Fee is below the forecasted cost range in 2017; in other words, the metering costs of the AGi Project came in under-budget.

In the short time that the AGi Project has been in place, Dakota Electric also notes the following tangible and intangible benefits to our members. The new metering equipment allows Dakota Electric to remotely reconnect members, which means if service is restored (*e.g.*, payment after disconnection), the member does not have to wait for staff to physically reconnect service, it can occur near instantaneously. This decreases time without electricity and Dakota Electric labor costs. These decreased costs allowed us to lower reconnection and service transfer fees in Docket No. E111/M-22-227.⁶ The new MDM, which is part of the AGi Project, also allowed us to develop and implement our Pilot Virtual Metered EV rate in Docket No. E111/M-22-592.⁷ This

⁵ Docket No. E111/M-24-78.

⁶ September 29, 2022 Order, Docket No. E111/M-22-227.

⁷ April 17, 2023 Order, Docket No. E111/M-22-592.

rate provides our membership with another option to receive lower priced electricity for off-peak electric vehicle charging without installation of a meter. This is a potential option to expand EV program participation to members who otherwise would be unable to install a meter. Dakota Electric is optimistic that these sorts of new programs and member benefits are just the beginning and that we will be able to leverage the AGi Project for additional member benefit in the future.

The Department requests that DEA discuss in reply comments the costs and benefits of its Load Control Receiver Program.

As noted in the previous question, Dakota Electric requested, and received, approval of its Load Control Receiver Program from the Commission in Docket No. E111/M-17-821. The Cooperative conducted a similar analysis for the LCR Program, inside of the overall AGi Project, because our legacy load control receivers were reaching the end of their life and were also exhibiting higher failure rates (*e.g.*, unable to control). In light of Dakota Electric's high program participation rates, and the economic benefits of load control and demand response, Dakota Electric determined that the Load Control Receiver Program, including associated replacement costs of \$13.4 million, was necessary and appropriate given the end-of-life concerns with the existing system and expected wholesale power savings.

The LCR Program and associated AGi Project, including our MDM system, has allowed us to bring significant value to our membership and the grid at large. The Cooperative provides the following example as an illustration of some of the benefits associated with the LCR replacement. In 2022, Great River Energy (GRE) began the process of bidding demand response programs into the MISO (Mid-Continent Independent System Operator) capacity market. The first step involved capacity associated with our commercial/industrial generator program but has now moved on to other load management programs, such as our cycled air conditioning program. The capacity value of these programs brings additional resources into the MISO market without requiring GRE or others to construct new resources. Replacement of our LCRs and upgrades to other systems associated with our AGi Project has allowed Dakota

Electric, through GRE, to bid approximately 20MW into the summer season and 15MW into the fall season for the upcoming MISO capacity auction.⁸ Although current capacity costs in MISO Zone 1 are low, it is important to note that the MISO region is becoming more capacity constrained increasing the risk that acquiring capacity will become cost prohibitive (case in point being the 2022-2023 planning reserve auction and Zone 5 results in the most recent 2024-2025 planning reserve auction.)⁹ If MISO Zone 1 clears at the cost of new entry, it is reasonable to expect that the capacity value associated with *just our* cycled air conditioning program is worth approximately \$2.3 million per year. This analysis does not consider what the long-term avoided costs of this capacity could be if it involves foregoing construction of new generating facilities. This clearly shows that the Commission correctly determined that the LCR replacement was just and reasonable and that continuing recovery through our Resource and Tax Adjustment is appropriate.

The Department requests that DEA present in reply comments the purpose of its Miscellaneous Grid Modernization budget allocation and provide additional information, as available, which includes a discussion of the investment plan, a discussion of the cost recovery mechanism, an analysis of alternative investments, a discussion of customer anticipated benefits, a discussion to manage bill impacts, a presentation of the impact to the net present value of system costs, and a cost-benefit analysis, if available. If DEA is not able to provide the requested information, it should indicate when it expects to be able to provide the information.

Dakota Electric reviewed this request, and it is related to information provided in our response to Department Information Request No. 2. The budget allocation figure of \$582,170 referenced by the Department relates to “600 Series Misc Dist” which is primarily related to costs associated with typical distribution system equipment replacement and cable replacement/upgrades. There are no specific grid modernization projects associated with this figure, but a portion of the spending in this category (10%) was included in the Grid Modernization category because it includes upgrading the

⁸ DEA Attachment 1.

⁹ <https://www.utilitydive.com/news/miso-capacity-pra-auction-missouri/714403/>

distribution equipment to modern technology standards. For example, if we replace a device on the distribution system with a new device that has SCADA communications, although the majority of the replacement may have been due to age/failure of a device/capacity or reliability concerns, a portion of the spending was included in the Advanced Technology Grid Modernization budget because of improved functionality. Additional discussion of the difficulties associated with allocating budgeting costs into the IDP-specific budget categories can be found at Pages 123-124 in the IDP Report. As noted in the introduction, Dakota Electric views the IDP as a planning docket, and we are not requesting certification or an ADP for any projects or spending in this IDP Report. As a not-for-profit, member-owned distribution utility, we have a strong incentive to maximize member benefit and to also minimize costs.

The Department requests that DEA present in reply comments a discussion of its grid modernization projects submitted in grant applications, which includes a discussion of the investment plan, a discussion of the cost recovery mechanism, an analysis of alternative investments, a discussion of customer anticipated benefits, a discussion to manage bill impacts, a presentation of the impact to the net present value of system costs, and a cost- benefit analysis, if available.

Dakota Electric provided a discussion of projects submitted in its grant applications in response to Department Information Request No. 11.¹⁰ The Cooperative does not believe a detailed discussion of cost recovery mechanisms or alternatives and benefits is necessary at this time because we are in the process of compiling and submitting these grant applications. It is unclear whether we will be awarded these grants and, if so, to what extent these grant awards would require specific rate treatment. Dakota Electric believes it is a more appropriate use of limited internal resources to work on these grant submittals, which if awarded will provide significant benefit to our membership, than preparing an analysis discussing our grants. The Cooperative's general goal and approach as it relates to grants and other funding opportunities is to

¹⁰ DEA Attachment 2.

maximum benefits and value to our members. This approach is summarized by the following quote from our comments in Docket No. E,G999/CI-22-624:

If, through its IDP and regular planning processes, the Cooperative identifies programs or incentives that will improve the economics of new infrastructure, or refurbishment, projects, Dakota Electric will take this into account in its decision-making process and attempt to maximum benefits to our members.¹¹

As a not-for-profit member-owned cooperative, we do not have an incentive or desire to pursue projects or grants that do not have tangible benefits (cost or otherwise) for our membership.

The Department requests DEA to discuss in reply comments how it anticipates IRA incentives to impact electric vehicle adoption.

Dakota Electric originally addressed this question in its comments in Docket No. E,G999/CI-22-264:

8. How will the IRA impact electric vehicle use in in your service territory, including both for the company and ratepayers? What, if any, barriers to deployment do you anticipate addressing with IRA funding?

All else being equal, Dakota Electric expects that the IRA will have a positive impact on EV use in our service territory and this impact will be both on a corporate and member level. From a Dakota Electric corporate perspective, the direct pay provision in the IRA is important, because the Cooperative can receive tax incentives for EVs, other equipment, and infrastructure investment. Prior to the IRA, Dakota Electric was unable to take advantage of tax incentives because they were based on income thresholds and, since Dakota Electric is a not-for-profit cooperative, we could not claim these credits. As noted in Answer 5 above, Dakota Electric anticipates using these benefits when purchasing new light-duty equipment.

The clearest positive impact from a member perspective that Dakota Electric sees at this point is expansion of the EV tax credit to certain used vehicles and commercial vehicles. Approximately 70% of vehicle purchases in the United States are in the used car market,¹² so this

¹¹ January 30, 2023 Dakota Electric Comments, Page 10, Docket No. E,G999/CI-22-624.

¹² <https://www.bts.gov/content/new-and-used-passenger-car-sales-and-leases-thousands-vehicles>.

represents a significant opportunity to add additional EVs to our service territory or keep existing EVs in our service territory. Ideally, these vehicles would participate in one of our current, or proposed, charging tariffs. Dakota Electric sees significant potential benefit and opportunity in fleet and commercial EVs. The Credit for Qualified Commercial Clean Vehicles and Refueling Property Credit provide incentives to business owners and may make the purchase and operation of EVs more cost effective for businesses. The removal of the manufacturer quota on new EVs is helpful, but the requirements associated with place of assembly and place of origin for battery material may have a counteracting impact on this tax credit. Furthermore, it is unclear how changes to new car rebates will impact the prevailing growth rate in new EV purchases.¹³

Dakota Electric does not believe that over-arching economic dynamics, absent other impacts, have changed materially since our Inflation Reduction Act (IRA) Comments in January 2023. However, it is unclear how other impacts, such as higher interest rates and vehicle pricing, in the past 15 months may have a counter-acting negative impact on electric vehicle adoption. Given these uncertainties, the Cooperative included various EV adoption forecasts in its IDP Report.¹⁴

The Department requests that DEA include in reply comments a description of how its distribution system planning will evolve with the incorporation of additional impacts from the IRA.

The Department references how system planning will evolve with the incorporation of additional impacts from the IRA in its comments. Specifically, the Department references, “incentives of heat pump air conditioners/heaters, heat pump water heaters, electric wiring and panel upgrades that facilitate electrification...”¹⁵ From Dakota Electric’s perspective, these devices and upgrades have been occurring for many years now without a significant impact to the grid. Our distribution system has been designed with available capacity for these loads and these loads do not have a significant impact on current standards. As noted in our response to Department

¹³ January 30, 2023 Dakota Electric Comments, Pages 12-13, Docket No. E,G999/CI-22-624.

¹⁴ IDP Report, Pages 29-34.

¹⁵ Department Comments, Page 22.

Information Request No. 5, Dakota Electric has reviewed and updated its standards for new developments as these homes are typically equipped with EV charging infrastructure.¹⁶ Dakota Electric will continue to monitor existing developments and system load to identify distribution system upgrades (and potential changes to overall system design) when they are required.

The Department requests DEA to discuss in reply comments the extent to which the Company has conducted surveying and/or targeted outreach to increase participation in its Load Management Program.

Dakota Electric notes that approximately 45 percent of our members participate in at least one load management program. This participation rate is very high and at a level that is rarely matched in the industry. Despite this high rate, we still strive to find ways to increase member participation (*e.g.*, developing our Pilot Virtual EV Rate). This commitment to load management and demand response includes regular review of different program options and reviewing potential solutions or options that will work for hard-to-reach groups, such as renters and apartment dwellers. Dakota Electric has been reluctant to engage in targeted outreach to avoid being accused of discriminating against certain groups or the impression from other parts of the membership that certain groups receive preferential treatment. We have also avoided targeted outreach because of signals from the Commission in other regulatory proceedings (*e.g.*, Docket No. E111/M-21-314) regarding a reluctance around targeted outreach. If the Commission believes targeted outreach is necessary on a going-forward basis, Dakota Electric will consider this in its marketing and program development.

The Department requests DEA to provide a discussion of how its AMI and AGi programs could be used to track and understand system resilience.

Dakota Electric provided a discussion and examples of resiliency related benefits with our AMI and AGi Project in our 2021 IDP Report.¹⁷ The AGi Project, including our MDM,

¹⁶ DEA Attachment 3.

¹⁷ November 1, 2021 Dakota Electric IDP Report, Pages 93-106, Docket No. E111/M-21-728.

provides the Cooperative with detailed information at a granular level for all members who have installed a new meter. This allows the Cooperative, among other things, to quickly and accurately identify and determine when an outage begins and its duration. The AGI Project and associated metering also provides Dakota Electric with insights into power quality and other determinant that may impact service quality for members. Given specific goals or metrics, Dakota Electric is confident that our internal systems can be configured to track these data and provide additional detail on overall system performance and resiliency.

The Department requests feedback from DEA and stakeholders regarding the potential revision of IDP filing requirements to remove the requirement that financial information be presented in IDP-specific budget categories.

Dakota Electric is supportive of this potential revision to the IDP filing requirements. We have provided discussion of these IDP-specific budget categories in this IDP Report, and previous IDP Reports, noting that we do not track expenses or costs via this specific categories. Rather, Dakota Electric tracks costs in accordance with “what” was build versus “why” the project was initiated.¹⁸ Tracking costs and expenses in a manner consistent with our regular planning process will be more efficient and provide the Commission and interested parties with a more relevant comparison standard.

The Department recommends the Commission order DEA to file a supplemental filing that proposes a plan to accelerate beneficial electrification for its customers, including a discussion of how to incentivize dual fuel adoption, and provide forecasts of expected grid impacts of the same.

Dakota Electric is excited by various beneficial electrification opportunities, including those in the IRA, available or soon to be available to our member-owners, and we have been actively monitoring developments. Dakota Electric is also excited that the Department, much like Dakota Electric, is interested in increased deployment of heat pumps in our service territory. Heat pump deployment and installation have been a

¹⁸ IDP Report, Pages 123-124.

focus of Dakota Electric for many years even before the passing of the IRA and the 2021 Minnesota Energy Conversation and Optimization (ECO) Act. The Cooperative notes that it provided extensive comments in the Commission's IRA Investigation, Docket No. E,G999/CI-22-624, regarding its reaction to the IRA and our strategy for maximizing benefits associated with the IRA.¹⁹ These strategies are not limited to the IRA and may be applicable to other incentive offerings. In our initial comments, Dakota Electric noted the significant potential tax benefits and grant programs for our individual members and our eagerness to try and help our members access these programs. The Home Efficient Rebate Program (HOMES) and Home Electrification and Appliance Rebate Program (HEAR) are still in the development phase, and the Cooperative is aware that the Department's program plan is currently under review by the US Department of Energy. Once these program specifics are available, we anticipate working with GRE, our wholesale power supplier who also helps coordinate CIP/ECO compliance and program design, to create cost-effective program offerings that will allow our members to leverage these federal offerings in addition to State and utility incentives. On the topic of CIP/ECO, the Cooperative is also excited by the opportunities that the 2021 ECO Act provides Dakota Electric and our membership in terms of potential electrification offerings and programming strategies. The transition to ECO has been hampered somewhat by delays in ECO plan review and application of the new Statute, but the Cooperative is optimistic that new offerings will be available to our members in the near future.

Dakota Electric does not believe that a supplemental filing is appropriate or an efficient use of limited cooperative resources at this time. With the likely introduction of new programs, it is premature to develop an analysis based on unclear program specifics. Furthermore, as noted above, Dakota Electric has upwards of 45 percent of our members participating in at least one load management program, so any plan to try and increase participation will have to be specific so that it is done in a cost-effective manner. Further discussion in the next IDP Report is likely a better use of Dakota

¹⁹ Dakota Electric January 1, 2023 Comments, Docket No. E,G999/CI-22-624.

Electric resources in this matter and will allow us to provide the Commission with more specific information. It will also enable the Cooperative to devote more resources to getting incentives to our members and leverage new value streams as the IRA and ECO Act are fully rolled out.

The Department recommends the Commission direct DEA to develop a suite of metrics to track resiliency, including SAIDI and SAIFI, MEDs, and other metrics to the extent warranted.

As a point of clarification, the Cooperative notes that we are not required to file our service quality report with the Commission for approval. The Dakota Electric Board of Directors approves the SRSQ report each year and sets service standard goals for the year. To the extent practical, our service reporting requirements and standards are in line with Commission directives. Dakota Electric then provides our SRSQ Report as an informational filing with the Commission. This clarifying information notwithstanding, Dakota Electric does not oppose this recommendation and notes that we already include SAIDI, SAIFI, CAIDI, and other tracking metrics in our Annual SRSQ Report. Dakota Electric also notes that there are no current industry standards for measuring resiliency; although, Dakota Electric does participate in ODIN (Outage Data Initiative Nationwide) which seeks to standardize metrics on measuring grid resilience. The Cooperative does believe that additional clarification and guidance on how the Commission reviews or wants to track resiliency may be warranted, however, because resiliency can be subjective.

Conclusion

Dakota Electric appreciates the opportunity to provide reply comments in this matter. The Cooperative appreciates the Department's detailed review of our IDP Report, and the information included in these reply comments are responsive to their requests. Our IDP Report shows that Dakota Electric's distribution system and planning are reasonable and provide our current, and future, members with high quality

electrical service at affordable rates. The Cooperative requests that the Commission accept this IDP Report. If you or your staff have any questions about these reply comments, please contact me at 651-463-6258 or aheinen@dakotaelectric.com.

Sincerely,

/s/ Adam J. Heinen

Adam J. Heinen
Vice President of Regulatory Services
Dakota Electric Association
4300 220th Street West
Farmington, MN 55024

/s/ Alex Nelson

Alex Nelson
Electrical Engineer
Dakota Electric Association
4300 220th Street West
Farmington, MN 55024

Certificate of Service

I, Melissa Cherney, hereby certify that I have this day served copies of the attached document to those on the following service list by e-filing, personal service, or by causing to be placed in the U.S. mail at Farmington, Minnesota.

Docket No. E-111/M-23-420

Dated this 3rd day of May 2024

/s/ Melissa Cherney

Melissa Cherney

Cycled AC Seasonal Accreditation

MEMBER
FOCUS

Distribution Cooperative	DEA																
CP Node	NSP																
Local Weather Station	KMSP																
# of Interruptible Cooling Customers	44,555																
Distribution Losses	2.50%																
Transformation Losses	0.43%																
CP Node Weight	1																
		</															

Cycled AC Monthly Accreditation

MEMBER
FOCUS

Distribution Cooperative	DEA																		
CP Node	NSP																		
Local Weather Station	KMSP																		
# of Interruptible Cooling Customers	44,555																		
Distribution Losses	2.50%																		
Transformation Losses	0.43%																		
		Start Hour (EST)	15	End Hour (EST)	20														
		Hour Ending (EST)																	Monthly Accreditation
		1	2	3	4	5	...	14	15	16	17	18	19	20	21	22	23	24	
Average MISO Monthly Coincident Peak Weather (F)		Rolling 5-Hour Average Temperature (F)																	
6	82	80	79	77	75	...	79	81	82	83	83	83	83	83	82	81	79	82	
7	81	80	79	78	77	...	78	80	82	84	85	86	87	87	86	85	83	83	
8	81	80	78	77	76	...	78	80	82	84	84	84	83	82	80	78	76	83	
9	75	75	74	74	73	...	72	74	75	75	76	76	75	74	73	72	71	75	
Delivered dR (avg. kW/Customer)																			
6									0.31	0.32	0.29	0.25	0.15					0.31	
7									0.31	0.34	0.34	0.31	0.26					0.33	
8									0.32	0.34	0.31	0.26	0.16					0.33	
9									0.20	0.12	0.08	0.04	-0.09					0.16	
DEA Delivered DR (MW High Side)																			
6						✓			14.2	14.6	13.4	11.3	7.1					14.4	
7						✓			14.3	15.7	15.5	14.4	11.9					15.0	
8						✓			14.5	15.7	14.4	11.8	7.2					15.1	
9						✓			9.1	5.3	3.8	1.7	-4.2					7.2	



Minnesota Department of Commerce
85 7th Place East | Suite 280 | St. Paul, MN 55101
Information Request

Docket Number: E111/M-23-420

Requested From: Craig Turner, Sr. Principal & Regulatory Engineer DEA

Type of Inquiry: General

☐ Nonpublic ☒ Public

Date of Request: 3/25/2024

Response Due: 4/4/2024

SEND RESPONSE VIA EMAIL TO: Utility.Discovery@state.mn.us as well as the assigned analyst(s).

Assigned Analyst(s): Diane Dietz, Peter Teigland, Ari Zwick

Email Address(es): diane.dietz@state.mn.us; peter.teigland@state.mn.us; ari.zwick@state.mn.us

Phone Number(s): 651-539-1876, 651-539-1032, 651-539-1675

ADDITIONAL INSTRUCTIONS:

Each response must be submitted as a text searchable PDF, unless otherwise directed. Please include the docket number, request number, and respondent name and title on the answers. If your response contains Trade Secret data, please include a public copy.

Request Number: 11
Topic: NWA Grant Applications
Reference(s): 2023 IDP, Section 4.a

Request:

On p. 64 of its IDP, DEA states "Dakota Electric has several projects planned for construction over the next 5 years which approach or exceed two (2) million dollars. Dakota Electric notes that it has also applied for, or is actively considering, grant and funding opportunities through the IJA and IRA which may also involve projects in excess of \$2 million. Since these potential investments are contingent upon a grant award, Dakota Electric does not provide additional discussion at this time." Please provide a brief description of these projects and the specific NWA solution they propose.

Response:

Dakota Electric has three applications submitted for projects in excess of two (2) million dollars. All of the opportunities are part of consortia with other electric cooperatives. The first of these opportunities is submitted as part of the New ERA opportunity through the US Department of Agriculture. If awarded, this would enable Dakota Electric to add approximately 20 MW of photo-voltaic generation to our distribution system.

The second opportunity, part of the GRIP Round 2 funding opportunity through the US Department of Energy, is for projects to improve the resiliency of our existing system by upgrading single phase lines over five years. The specific projects would be determined as a result of a new software tool developed as part of the opportunity.

(Continued)

To be completed by responder

Response Date: April 8, 2024

Response by: Adam Heinen, Vice President of Regulatory Services, and Alex Nelson, Electrical Engineer

Email Address: aheinen@dakotaelectric.com/anelson@dakotaelectric.com

Phone Number: 651-463-6258



Minnesota Department of Commerce
85 7th Place East | Suite 280 | St. Paul, MN 55101
Information Request

Docket Number: E111/M-23-420

Requested From: Craig Turner, Sr. Principal & Regulatory Engineer DEA

Type of Inquiry: General

☐ Nonpublic ☒ Public

Date of Request: 3/25/2024

Response Due: 4/4/2024

SEND RESPONSE VIA EMAIL TO: Utility.Discovery@state.mn.us as well as the assigned analyst(s).

Assigned Analyst(s): Diane Dietz, Peter Teigland, Ari Zwick

Email Address(es): diane.dietz@state.mn.us; peter.teigland@state.mn.us; ari.zwick@state.mn.us

Phone Number(s): 651-539-1876, 651-539-1032, 651-539-1675

ADDITIONAL INSTRUCTIONS:

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The estimated spend for this would be \$12 million between 2025 and 2029, with up to 75% of the cost covered by the grant.

The third opportunity, also part of the GRIP Round 2 funding opportunity, is to add a Distributed Energy Resource Management System (DERMS) to our suite of software tools. DERMS will further enable distributed energy resources by allowing direct control of member-owned thermostats, EV chargers, and other devices in addition to Dakota Electric's existing ability to control Dakota Electric owned load control receivers. The estimated spend for this is up \$2 million dollars between 2025 and 2029 with up to 50% of the cost covered by the grant.

To be completed by responder

Response Date: April 8, 2024

Response by: Adam Heinen, Vice President of Regulatory Services, and Alex Nelson, Electrical Engineer

Email Address: aheinen@dakotaelectric.com/anelson@dakotaelectric.com

Phone Number: 651-463-6258



Minnesota Department of Commerce
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☐ Nonpublic ☒ Public

Date of Request: 3/25/2024

Response Due: 4/4/2024

SEND RESPONSE VIA EMAIL TO: Utility.Discovery@state.mn.us as well as the assigned analyst(s).

Assigned Analyst(s): Diane Dietz, Peter Teigland, Ari Zwick

Email Address(es): diane.dietz@state.mn.us; peter.teigland@state.mn.us; ari.zwick@state.mn.us

Phone Number(s): 651-539-1876, 651-539-1032, 651-539-1675

ADDITIONAL INSTRUCTIONS:

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Request Number:	5
Topic:	Grid Expansion Capacity
Reference(s):	2023 IDP, Section 2.a

Request:

On p. 24 of its IDP, DEA states “An engineering review of the expected capability of our existing infrastructure within the residential developments to support EV charging has occurred regularly over the past few years. While we continue to learn more, our engineers have found that the existing distribution system is ready to supply a large amount of level 2 EV charging with minimal modifications. In most cases, the backbone distribution system can support nearly double the amount of existing load.” Please describe:

- Whether the backbone distribution system can supply a doubling of EV load, or all load,
- The estimated number of EVs that would trigger widescale capacity upgrades, and
- The planning reserve margin for reliability that would trigger a capacity upgrade.

Response

- Dakota Electric engineers believe, in general, our distribution system could handle doubling of existing EV load. Dakota Electric’s engineers do not believe our distribution system could handle doubling of all load under current design.
- Depending on where the EV load is located is a critical part that would determine what distribution system upgrades are needed. Estimating the quantity of EVs that would trigger widespread capacity upgrades has not been studied by Dakota Electric.

To be completed by responder

Response Date: April 4, 2024

Response by: Adam Heinen, Vice President Regulatory Services, and Alex Nelson, Electrical Engineer

Email Address: aheinen@dakotaelectric.com and anelson@dakotaelectric.com

Phone Number: 651-463-6258



Minnesota Department of Commerce
85 7th Place East | Suite 280 | St. Paul, MN 55101
Information Request

Docket Number: E111/M-23-420

Requested From: Craig Turner, Sr. Principal & Regulatory Engineer DEA

Type of Inquiry: General

☐ Nonpublic ☒ Public

Date of Request: 3/25/2024

Response Due: 4/4/2024

SEND RESPONSE VIA EMAIL TO: Utility.Discovery@state.mn.us as well as the assigned analyst(s).

Assigned Analyst(s): Diane Dietz, Peter Teigland, Ari Zwick

Email Address(es): diane.dietz@state.mn.us; peter.teigland@state.mn.us; ari.zwick@state.mn.us

Phone Number(s): 651-539-1876, 651-539-1032, 651-539-1675

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(Continued)

- c) From Dakota Electric's studies, design standards for transformer sizing, residential developments, and feeder sizing have been updated to prepare for projected EV load for new construction developments as new construction homes are typically equipped with EV charging infrastructure. Dakota Electric's engineers believe our historic design standards have positioned Dakota Electric well to accommodate EV loading. As noted on page 33 of the IDP Report, Dakota Electric's distribution transformers on average are loaded to 60%, thus there is some capacity for additional EV load. Dakota Electric continues to monitor loading directly related to EV load but has not set any standard regarding a planning reserve margin that would trigger capacity upgrades.

To be completed by responder

Response Date: April 4, 2024

Response by: Adam Heinen, Vice President Regulatory Services, and Alex Nelson, Electrical Engineer

Email Address: aheinen@dakotaelectric.com and anelson@dakotaelectric.com

Phone Number: 651-463-6258

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