

CHAPTER 5: ADDITIONAL CONSIDERATIONS (MINN. R. 7855.0260)

Each application shall contain an explanation of the relationship of the proposed facility to each of the following socioeconomic considerations:

- A. socially beneficial uses of the output of the facility, including its uses to protect or enhance environmental quality;
- B. promotional activities that may have given rise to the demand for the facility; and
- C. the effects of the facility in inducing future development.

5.1 SOCIALLY BENEFICIAL USES OF THE OUTPUT OF THE FACILITY

The incremental storage capacity made possible by the Project will allow the Plant to continue to provide energy for our customers. Denial of a CN for the Project would require closure of the Prairie Island Plant in 2034. This would have negative implications for our efforts to provide environmentally-friendly, reliable power in a cost-effective way for our customers. It will also negatively impact our host communities.

Extension of the Plant will benefit the environment. Carbon-free nuclear generation has been a cornerstone of Xcel Energy's generation fleet for nearly half a century. Today, our nuclear plants generate thirty percent of our overall supply and approximately forty percent of the carbon-free energy for our Upper Midwest customers. This generation amounts to approximately 12.5 million metric tons of carbon dioxide annually, or the equivalent of removing 2.8 million gas-powered cars from the road, with the Prairie Island Plant contributing two thirds of these benefits. With the Project, the Plant can continue to provide needed carbon-free energy and capacity—critical to Xcel Energy and Minnesota's abilities to reach their aggressive carbon reduction goals.

Extending the Plant will also enhance the reliability of our future electric system. The Prairie Island Plant provides reliable baseload power. The plant has achieved an average capacity factor of 95 percent over the past three years including a 99.8 percent capacity factor for Unit 1 in 2021 and a 99.9 percent capacity factor for Unit 2 in 2022. Likewise, we have experienced some of the longest runs of uninterrupted operation in the history of our nuclear fleet, including a record-setting

670 days at Prairie Island Unit 1 from 2018 to 2020, and a record-setting run of 704 days on Unit 2 from 2019 to 2021. The Plant is also an important system resource during the winter months, as it does not experience fuel supply issues and has a proven track record during cold weather events. This superior performance enables the Company to achieve and maintain our carbon reduction goals while incorporating increasing renewable energy resources and maintaining reliability—a critical need of both our residential and business customers.

Also, as discussed in detail in our IRP, continued operation of the Prairie Island Plant during the forecast period provides the most cost-effective option for consumers. Between 2019 and 2023, we have consistently maintained production costs at \$31.25 per megawatt-hour (MWh) or less, which is a decrease of more than 20 percent when compared to 2013 production costs. We believe this performance demonstrates that we can achieve deep carbon reduction along with industry-leading safety and reliability at an affordable cost. Furthermore, cost to achieve a carbon free system by 2050 is approximately \$1 billion more without the Prairie Island Plant. This is further detailed in our sensitivity analysis provided in Chapter 5, Economic Modeling Framework, of the 2024 IRP, Docket No. E002/RP24-67. 2024 IRP baseload scenario comparisons are also discussed in detail in Chapter 9 of the application.

Finally, the Prairie Island Plant provides significant economic and social benefits to our host communities and the State. The nuclear plant employees live and work in our host communities, and they play a large role in giving back to these communities. Xcel Energy strives to be a “good neighbor” and steward of our resources through resource planning, transparency, and volunteerism. In 2023, more than 2,500 employees, contractors, retirees, community members and customers volunteered at Day of Service, supporting over 130 nonprofit projects across the states we serve. Also in 2023, during the Company’s Giving Campaign, we donated more than \$2.2 million to over 1,300 nonprofit and community organizations. Combined with the Xcel Energy Foundation match to local United Way chapters, that has resulted in over \$4.1 million to our communities. While we do not have specific information on how much was given by our employees to these communities, we have approximately 1,100 full time employees (including security) working in and around the Prairie Island and Monticello Plants and the nuclear corporate office. Prairie Island Plant specifically has approximately 550 employees that support the surrounding communities in various opportunities. The Plant provides good jobs for these people and their families and provide them with the stability they need to give back to their communities.

In a 2017 NEI report, *“The Impact of Xcel Energy’s Nuclear Fleet on the Minnesota Economy,”* NEI states that, in 2016, “Xcel Energy’s nuclear facilities were estimated to

contribute \$595 million to Minnesota’s gross state product (GSP).” In addition, the report finds that “...for every dollar of output from Xcel Energy’s nuclear operations, the state economy produces \$1.98.” That same study noted that the fleet generates \$1 billion in economic activity each year. The Company’s nuclear fleet also generates substantial tax revenue for the state, contributing an estimated \$42 million in state and local taxes annually with approximately \$22 million generated by the Prairie Island Plant. Further, given the retirement of the Company’s coal plants, a significant number of existing and potential energy-related jobs will be lost within the next decade. Retiring the Prairie Island Plant on top of these other changes in 2033/2034, as would be required absent a CN for the Project, would exacerbate the difficulty of this overall job transition.

An updated comprehensive cost-benefit analysis of continued operation of the Plant through 2053/2054, which will include potential environmental and economic impacts to the neighboring communities, will be filed in the coming months to supplement the 2024 IRP and this CN application pursuant to MPUC order in Docket No. E002/RP-19-368, Order 23 E.

Carbon-free, reliable and affordable electricity provides benefits to our customers and across Minnesota’s economy. The Prairie Island Plant continues to play a critical role in our ability to deliver those benefits.

5.2 PROMOTIONAL ACTIVITIES

Xcel Energy has not engaged in promotional activities that would create a need for spent fuel storage. Promotional activities have similarly not created the need for continued generation of carbon-free baseload power.

5.3 INDUCED DEVELOPMENT

As more fully discussed in Chapter 14, during the 9-12 month concrete pad construction period between 2027 and 2029 and subsequent 3 month DFS loading campaign in 2030, the Project will employ an estimated 40 construction workers, with a peak at any one time of 12 workers and an average of 8 workers on-site each day during a 40-hour week.

Dry fuel storage (DFS) system loading and potential concrete overpack construction would occur during three subsequent loading campaigns in 2035, 2040, and 2045 over a period of about three months each. A total of 16 construction workers are estimated

for each of these loading campaigns with a peak at any one time of 10 workers and an average of 6 workers on-site each day during a 40-hour week.

The number of construction workers needed for this Project is small compared to the over 550 full-time, and contract security employees at the Prairie Island Plant. Minimal additional traffic will be generated from truck deliveries and commuting workers. Similarly, the Project should have minimal impacts on existing utilities, on water usage or on other public services because of the small number of workers needed during construction, and no additional workers needed during operation. Finally, the Project will not impact agricultural lands, nor will it necessitate relocation of any residences or businesses, as it will occur entirely within the bounds of the Prairie Island Plant. It will not induce development within or outside of the Prairie Island Plant boundaries.

CHAPTER 6: CONSERVATION PROGRAMS (MINN. R. 7855.0270)

Xcel Energy has a long history of achievements in energy efficiency and demand side management (DSM) programs. Between 1994-2022, the Company's DSM programs have saved nearly 11,813 GWh of energy and 3,733 MW of demand. Our actions to consistently adapt and judiciously grow our customer offerings have proven worthwhile as we continue to meet and exceed the state's statutory energy savings targets.

This chapter provides the information required by Minnesota Rules Part 7855.0270 related to conservation programs and discusses the Company's ongoing and planned DSM efforts and the contributions those efforts make to satisfying our customers' future energy needs. As discussed below, while the Company continues its DSM efforts, the level of additional energy and capacity savings necessary to replace the Prairie Island Plant through DSM is not a reasonable or prudent alternative to the Project and the continued operation of the Prairie Island Plant.

6.1 REQUIRED INFORMATION

Each application for a Certificate of Need pursuant to Minnesota Rules Chapter 7855.0270 must include the following information:

- A. the name of the committee, department, or individual responsible for the applicant's energy conservation and efficiency programs;
- B. a list of the applicant's energy conservation and efficiency goals and objectives;
- C. a description of the specific energy conservation and efficiency programs the applicant has considered, a list of those that have been implemented, and the reasons why the other programs have not been implemented;
- D. a description of the major accomplishments that have been made with respect to energy conservation and efficiency;
- E. a description of the applicant's future plans through the forecast years with respect to energy conservation and efficiency; and
- F. a quantification of the manner by which these programs affect or help determine the applicant's forecast of demand, a list of the total costs by program, and a discussion of the expected effects in reducing the need for new large energy facilities.

6.1.1 Individual Responsible for Energy Conservation Programs

Jessica Peterson, Manager of Program Policy in the Customer Energy and Transportation Solutions Group, is responsible for Xcel Energy’s demand-side management programs in Minnesota, North Dakota, and South Dakota.

6.1.2 Energy Conservation and Efficiency Goals and Objectives

In its Order approving Xcel Energy’s 2020-2034 IRP, the Commission adopted an average energy savings level of 780 GWh for the planning period.¹ In its proposed 2024 – 2040 IRP (which is currently under review by the Commission), Xcel Energy is proposing a yearly average of 582 GWh of energy efficiency reductions from customer programs as well as reductions seen naturally by customers as they continue to utilize more efficient equipment (such as lighting technologies); for a total of on average 780 GWh of annual savings. The Company continues to propose annual electric energy savings targets exceeding those set forth in Minn. Stat. § 216B.241 at over 1.75 percent of retail sales, aiming at 2.0 or higher. Additionally, the planning period includes the growth of our Demand Response (DR) portfolio to over 1,300 MW.

The energy and demand savings targets established in the IRP are implemented through the Energy Conservation and Optimization (ECO) program administered by the Department of Commerce (DOC), Division of Energy Resources (DER). The Company filed their first ECO Triennial Plan, resulting from the landmark ECO Act of 2021. The 2024-2026 ECO Triennial Plan was approved by the Deputy Commissioner on December 1, 2023² establishing DSM targets:

Table 6-1
2024-2026 ECO Triennial Plan Approved Targets

	2024	2025	2026	Total
Budget	\$152,464,140	\$159,988,308	\$165,921,964	\$478,374,412
Generator kW	214,693	231,201	250,929	696,823
Generator kWh	615,431,718	614,507,259	640,650,635	1,870,589,612

¹ *In the Matter of Xcel Energy’s 2020-2034 Integrated Resource Plan*, Docket No. E-002/RP-19-368, Order Amending Prior Order, June 14, 2022.

² Decision, *In the Matter of Xcel Energy’s 2024-2026 Energy Conservation and Optimization Triennial Plan*, Department of Commerce, December 1, 2023.

Although DSM activities in many states around the country have ebbed and flowed over time, Minnesota, and Xcel Energy as its largest utility, have maintained a consistent and high level of achievement. Between 1994-2022, the Company invested nearly \$2.2 billion (nominal) in DSM activities, resulting in 11,813 GWh of electric savings and 3,733 MW of electric demand savings. Xcel Energy's DSM portfolio has surpassed the statutory energy savings targets for electricity every year since 2011. The Company continues to propose annual electric energy savings targets exceeding those set forth in Minnesota Statute §216B.241 at over two percent of retail sales for the 2024 – 2026 ECO Triennial Plan.

6.1.3 Energy Conservation and Efficiency Programs Considered, Implemented, and Not Implemented

Beginning in 2024, the Company offers a combination of more than forty business, residential, income qualified, demand response, and fuel-switching programs. With support ranging from home energy audits that identify and influence homeowners' and renters' behavioral patterns to a process efficiency program targeted at energy management and capital investment improvements for large to mid-sized industrial customers, the Company strives to provide a diverse array of programs that support the needs of each unique customer segment.

Additionally, we continually evaluate current program models and emerging technologies to confirm existing program strategies, while also looking for new opportunities to expand our extensive portfolio of cost-effective energy efficiency options. To ensure our programs are relevant today and into the future, we perform cost-benefit analyses during the evaluation process. A cost-benefit analysis weighs the cost against the benefit of each program from a utility, participant, ratepayer, and societal perspective – yielding a ratio that indicates how beneficial (a ratio above one is considered cost effective) a program is from each perspective.

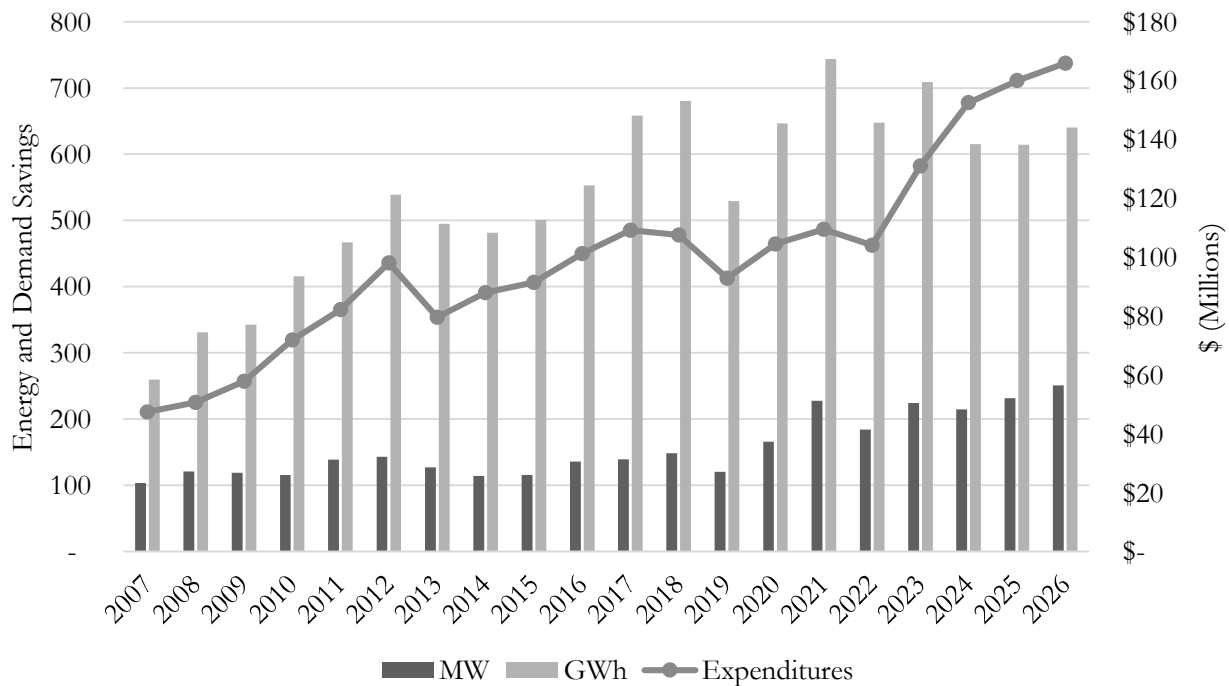
While each of the above perspectives can provide insight into a program's performance, the Minnesota Cost Test, which measures the net cost/benefit of a program in relation to the policy goals of the state of Minnesota, is also applied, as it is the benchmark measure used to determine if a program is viable for inclusion by the DOC. If a program does not pass the Minnesota Cost Test, the Company will look to other cost test perspectives before determining whether the program should be included as part of its ECO plans including the societal test, participant test, rate impact test and utility test. Ultimately, the DOC determines which programs are approved as part of the utility's portfolio. The approved programs in 2024 include over 35 programs in four segments including Residential, Business, Income Qualified

and Demand Response. Program details can be found in Xcel Energy’s approved 2024-2026 ECO Triennial in Docket No. G, E002/CIP-23-92.

6.1.4 Major Accomplishments

Between 1994-2022, the Company invested nearly \$2.2 billion (nominal) in its DSM efforts resulting in 11,813 GWh of electric savings and 3,733 MW of electric demand savings. Xcel Energy’s DSM portfolio has surpassed the statutory energy savings targets for electricity every year since 2011. Figure 6-2 below provide an illustration of our recent expenditures and energy savings achievements through 2022, the approved 2023 targets, and the Company’s recently approved targets for 2024-2026.

Figure 6-2
Historical Electric CIP Achievements 1990-2026



In addition to delivering energy and cost savings for our customers, our energy efficiency portfolio has a significant carbon reduction benefit. Technologies and improvements implemented as a result of energy efficiency programs generally last for several years. Energy savings from these programs, therefore, result in avoided carbon emissions over the life of the improvement.

6.1.5 Future Plans

The Company's 2024 IRP proposes an average 582 GWh yearly over the 2024-2040 planning period. Adding natural occurring energy savings, these results amount to approximately 780 GWh of savings on average throughout the plan. In addition, as part of DSM, the 2024 IRP grows our Demand Response portfolio to over 1,300 MWs. The Company further discusses its ongoing and planned efforts to achieve these aggressive targets in Section 6.2 below.

6.1.6 Effects on Demand Forecast, Total Costs by Program and Expected Effects in Reducing the Need for New Large Energy Facilities from DSM Programs

As Xcel Energy considers future demand needs, it draws from its long history and deep understanding of the savings potential that DSM programs provide to ensure that informed and accurate estimates are reflected in our forecasts. Section 6.2 below provides a detailed description of how DSM savings are forecasted. The estimated total costs by program are provided in Table 6-2 below.

6.2 COMBINING DSM AND THE INTEGRATED RESOURCE PLAN

Xcel Energy's 2024 IRP charts the path toward achieving some of the most ambitious carbon reduction goals of any utility in the United States. Specifically, we aim to reduce carbon emissions by 88 percent below 2005 levels by the year 2030, and to provide 100 percent carbon-free energy by 2050. The Company's projections for energy efficiency savings of over two percent of retail sales are critical to these goals and are based on a combination of two major types of energy efficiency: energy savings from ECO programs and naturally occurring energy savings as customer behavior impacts future load growth. In this section, we discuss the Company's current projections for efficiency savings from ECO programs, how we developed those projections, and the important contribution they make to the targets outlined in the Company's 2024 IRP.

Energy Efficiency Scenarios

The Company based our EE bundles on our proposed 2024-2026 ECO Triennial Plan.³ Three bundles of EE were developed, based on (1) minimum statutory requirements in Minn. Stat. §216B.241, (2) estimated savings derived from our

³ 2024-2026 ECO Triennial Plan, as filed, Docket No. G, E002/CIP-23-92, June 29, 2023.

2024-2026 ECO Triennial, and (3) high achievement. Internal experts provided estimated costs, and energy and demand avoidance characteristics for the programs. Multiple sources were considered for the different scenarios including the 2018 *Minnesota Energy Efficiency Potential Study* findings, the Company's ECO Triennial Plan, and IRA policies and funding. In addition to the bundles, naturally occurring energy efficiency is embedded in the load forecast.

The Minimum Bundle (Bundle 1) corresponds to the statutory minimum savings requirements in Minn. Stat. §216B.241. The Program Bundle (Bundle 2) is derived from programmatic savings in our proposed 2024-2026 ECO Triennial Plan.⁴ Each bundle is modeled in Encompass in the same manner as a supply side resource. These first two bundles are forced into the model and are not selectable as they represent our planned program achievement for EE. The other High Achievement Bundle (Bundle 3) was offered as a selectable resource by the EnCompass model as part of the optimization process. Bundle 3 was developed by the Company drawing on the Optimal Bundle in the 2019 IRP.

Table 6-2
Energy Efficiency Scenarios

	2024		2028	
	GWh	Costs (\$M)	GWh	Costs (\$M)
Bundle 1	477	\$86	468	\$82
Bundle 2	615	\$134	623	\$140
Bundle 3	774	\$214	870	\$264

Modeling Results

The Company continues its commitment to Energy Efficiency as part of the 2024-2040 IRP. As part of the modeling process, both Bundle 1 and Bundle 2 were used in the baseline for the Encompass model. Bundle 1 was used because of compliance requirements and Bundle 2 was used as a result of the Company's commitment to energy efficiency through the 2024-2026 ECO Triennial and anticipated growth over time. Bundle 3 was not used as part of the modeling analysis due to the cost of additional energy efficiency.

⁴ The 2024-2026 ECO Triennial Plan was approved with minor adjustments to savings on December 1, 2023. Decision, *In the Matter of Xcel Energy's 2024-2026 Energy Conservation and Optimization Triennial Plan*, Department of Commerce, December 1, 2023.

The Company notes that while the modeled energy efficiency is lower than what has been previously modeled, we have captured the ongoing energy efficiency with a reduction in the energy forecast. This is an important aspect of our Preferred Plan, as the Company sees the reduction of lighting technologies as mainstream versus available through ECO. This is a result of LEDs becoming mainstream in the market.

6.2 IMPACT OF DSM EFFORTS

Now, more than ever, there is a growing urgency to address the risk of climate change. As an industry leader in reducing carbon and other emissions, we are the first major U.S. power company to announce its vision to provide customers 100 percent carbon-free electricity. To support our vision, we have taken bold action in pursuing aggressive energy and demand response savings through the framework of our ECO programs. As important as the Company's and our customers' energy efficiency efforts are, and as substantial as our future achievements may be, they alone cannot eliminate the need for reliable, affordable, and carbon-free baseload power.

As discussed in Section 6.2, further expanding our DSM efforts beyond the currently proposed levels in the 2024 IRP is not a reasonable option. The Company did model a higher level of energy efficiency (Bundle 3), but that level was not selected by the Encompass model due to overall cost. In other words, the measures required to move from Bundle 2 to Bundle 3 yield energy savings that have the highest cost to capture, resulting in a cost that approximately doubles the cost of the energy efficiency portfolio. More importantly, as it relates to this Application, the difference in savings between these bundles, or energy efficiency scenarios, are less than either the capacity or the energy production of the Prairie Island Plant. Thus, even the high achievement scenario could not replace either the capacity or the energy the Plant provides.

Based on these results, the Company concludes that the level of additional energy and capacity savings necessary to replace the Prairie Island Plant through energy efficiency and DSM is not a more reasonable or prudent alternative than the Project and continued operation of the Plant.

**CHAPTER 7: OTHER DATA FILED WITH APPLICATIONS
(MINN. R. 7855.0280)**

In addition to the information required by these rules, an applicant may file additional data if it believes that such data is relevant to the commission's decision.

The Company believes this application is complete and no additional data is required.