



Appendix G

Demand Side Management and Conservation

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Minnesota Rule 7849.0290 requires a Certificate of Need application to provide information related to an applicant's energy conservation and efficiency programs and a quantification of the impact of these programs on the forecast information required by Minn. R. 7849.0270. Applicants requested and were granted an exemption to this rule requirement by the Minnesota Public Utilities Commission (Commission). Applicants agreed to provide a summary of their respective Integrated Resource Plan (IRP) and Energy Conservation and Optimization (ECO) filings. Applicants also agreed to provide information regarding how conservation and energy efficiency was considered by Midcontinent Independent System Operator, Inc. (MISO) in its evaluation of Tranche 2.1 and the Project. A summary of this information is provided in this appendix and/or discussed in **Section 5** of the Application.

Dairyland Power Cooperative

Dairyland has a robust energy conservation and demand side management program. The state of Minnesota's Energy Conservation and Optimization Act (ECO) acts as a modernized Conservation Improvement Program (CIP) to provide a more comprehensive approach to energy conservation and efficiency programs. Under this program, Dairyland provides support to its Minnesota member co-ops through energy efficiency rebates to promote beneficial electrification and energy efficiency upgrades. Additional information regarding Dairyland's most recent CIP/ECO Plan is available in Docket No. CIP-24-24.¹

Xcel Energy

Within Xcel Energy, the Regulatory Policy team is responsible for filing its conservation and efficiency programs at Xcel Energy. Christopher Shaw is the individual who submits these details to the DOC-DER for approval.

Consistent with its exemption request, Xcel Energy provides the summary below of the conservation information in the most recent IRP and CIP/Energy Conservation and Optimization (ECO) filings.

For decades, Minnesota has been a national leader in energy efficiency. The state's utility-sponsored energy efficiency programs are among the longest-standing in the country, and Minnesota is the only Midwestern state that is consistently ranked in the top ten on the American Council for an Energy Efficient Economy's (ACEEE) State Energy Efficiency Scorecard. Minnesota utilities' energy savings achievements through demand side management (DSM) have saved billions of dollars for customers and avoided millions of tons of greenhouse gas and other pollutants while creating and supporting jobs in the state.² Indeed, based on 2024 data, the Company

¹ See e.g., Energy Conservation and Optimization (ECO) Results and Plan Review, Department of Commerce, (June 5, 2025), MPUC Docket No. CIP-24-24 (January 15, 2025).

² Docket No. E, G002/CIP-23-92. 2024-2026 Xcel Energy ECO Triennial Plan (January 29, 2024). ("Triennial Plan") at 2.

has saved nearly 13,588 gigawatt-hours (GWh) of energy and 4,829 MW of demand and 22.7 million cubic feet of natural gas savings, since 1990. Xcel Energy's electric CIP portfolio has surpassed the statewide target of 1.5 percent every year since 2011, with a peak of electricity savings of 1.90 percent in 2024.³

Xcel Energy's 2024-2026 ECO Triennial Plan provides a description of specific energy conservation and efficiency programs that Xcel Energy has considered.⁴ A list of specific energy conservation and efficiency programs implemented can be found in the Executive Summary of its ECO Status Reports. Xcel Energy provides these in detail on the Xcel Energy website.⁵ A review of ongoing new measures is conducted as new technologies are identified and reviewed compared to the cost-effective analysis required by the Minnesota Department of Commerce. All additional programs reviewed, and their approvals, can be found in Docket No. E.G002/CIP-23-92 as required by the Minnesota Department of Commerce through a "Modification Approval." Xcel Energy continues to strive to provide customers with a wide variety of options for saving energy.⁶ The Triennial Plan proposed ambitious goals of saving 1,871 GWh, 672 MW, and 3,532,624 dekatherms over the three-year period and at a cost of \$587 million.

The proposed electric savings goals also aligned with Xcel Energy's DSM commitments in the IRP. In reviewing the Triennial Plan, the Minnesota Department of Commerce concluded that, "Xcel's 2024-2026 overall energy savings goals are generally aligned with the overall results from the Minnesota Energy Efficiency Potential Study."⁷

In its 2024 CIP Status Report, Xcel Energy stated that, for more than a decade, it had exceeded the State of Minnesota's energy targets. Specifically, in 2024, the electric portfolio met and surpassed the state's new energy savings target of 1.75 percent,⁸ achieving nearly 516 GWh of electric savings, or 1.90 percent of sales.⁹ Xcel Energy spent a total of \$168 million to achieve its savings results, including \$139 million on electric programs and \$29 million on natural gas programs.¹⁰

Likewise, Xcel Energy's IRP filing included energy efficiency (EE) and demand response (DR) investments.¹¹ In the Commission's April 21, 2025, Order the Commission directed Xcel Energy to achieve an annual level of at least 580 GWh of programmatic energy savings. The Company's current 2024-2026 Triennial Plan meets these requirements.

³ Docket No. E.G002/CIP-23-92. 2024 CIP Status Report (April 1, 2025).

⁴ Docket No. E.G002/CIP-23-92. 2024-2026 Xcel Energy ECO Triennial Plan (January 29, 2024). ("Triennial Plan").

⁵ Xcel Energy. Minnesota Demand-Side Management. Available online at: https://www.xcelenergy.com/company/rates_and_regulations/filings/minnesota_demand-side_management.

⁶ Xcel Energy's next Triennial Plan will be submitted on June 1, 2026.

⁷ Docket Nos GE002/CIP-23-92. E7030/CIP-23-99, G7033 and E7031/CIP-23-100, G7034 and E7032/CIP-23-101, G7036 and E7035/CIP-23-102 Decision (December 1, 2023) at 64.

⁸ Minn. Statute § 216B.214.

⁹ Docket No. E.G002/CIP-23-92, 2024 Energy Conservation and Optimization Consolidated Filing at 3 (Apr. 1, 2025).

¹⁰ *Id.* at 3.

¹¹ *Id.*

MISO Conservation and Energy Efficiency Considerations

MISO's base forecasts for conservation, energy efficiency, and demand response (collectively referred to by MISO as "Distributed Energy Resources" [DER]) are developed by aggregating each MISO member's forecasts. To consider a broader range of potential DER outcomes to "bookend" uncertainty, MISO creates forecasts considering varying adoption rates, technological advancements, and economic factors in the MISO Transmission Expansion Plan Futures process. MISO's forecasts are developed for each of MISO's ten Local Resource Zones, to consider regional differences, and then are aggregated to a MISO-wide forecast.

Consistent with previous cycles, in the MTEP24 Futures MISO commissioned Applied Energy Group (AEG) to develop DER technical potential for the MISO footprint. The technical potential is the maximum feasible amount of DER. AEG developed estimates of DER impacts through survey of MISO load-serving entities (LSE) and secondary research. To support modeling, AEG compiled DER programs by type and cost into program blocks. DER were modeled as program blocks in three main categories: Demand Response (DR), Energy Efficiency (EE), and Distributed Generation (DG). Programs also fall into two sectors: Residential and Commercial and Industrial (C&I); see **Table G-1** for details on DER programs considered by MISO in MTEP24.

Table G-1
MTEP24 Distributed Energy Resource Programs ^a

| DER Type | Program Block | DER Program(s) Included |
|-----------------|--|---|
| DR | C&I Demand Response | Curtailable & Interruptible, Other DR, Wholesale Curtailable |
| DR | C&I Price Response | C&I Price Response |
| DR | Residential Direct Load Control | Res. Direct Load Control |
| DR | Residential Price Response | Res. Price Response |
| EE | C&I High-Cost EE | Customer Incentive High, New Construction High |
| EE | C&I Low-Cost EE | Customer Incentive Low, Lighting Low, Construction Low, Prescriptive Rebate Low, Retro-commissioning Low |
| EE | C&I Mid-Cost EE | Customer Incentive Mid, Lighting Mid, Construction Mid, Prescriptive Rebate Mid, Retro-commissioning Mid |
| EE | Residential High-Cost EE | Appliance Incentives High, Appliance Recycling, Low Income, Multifamily High, New Construction High, School Kits, Whole Home Audit High |
| EE | Residential Low-Cost EE | Appliance Incentives Low, Behavior Programs, Lighting, Multifamily Low, New Construction Low, School Kits, Whole Home Audit Low |
| DG | C&I Customer Solar PV | C&I Customer Solar PV |
| DG | C&I Utility Incentive Distributed Generation | Combined Heat & Power, Community-Based DG, Customer Wind Turbine, Thermal Storage, Utility Incentive Battery Storage |
| DG | C&I Utility Incentive Solar PV | C&I Utility Incentive Solar PV |
| DG | Residential Customer Solar PV | Res. Customer Solar PV |
| DG | Residential Utility Incentive Distributed Generation | Customer Wind Turbine, Electric Vehicle Charging, Thermal Storage, Utility Incentive Battery Storage |

| | | |
|--|--|---------------------------------|
| DG | Residential Utility Incentive Solar PV | Res. Utility Incentive Solar PV |
| a See Appendix E.2 – MISO Futures Series 1A Report. Page 49 | | |

During the program selection phase to develop the MTEP24 Futures, each block was offered against supply-side alternatives (e.g., new renewable resources, natural gas power plant, battery storage, etc.) to determine economic viability. For all three MTEP24 Futures, MISO's transmission planning tool, EGEAS – an integrated resource planning tool - determined the lowest cost combination of supply and demand size resources to serve the forecasted gross demand and energy. **Tables G-2 and G-3** provide the MTEP24 Futures 20-year technical potential and additions to the MISO footprint. Additions ("Added") are those which were economically superior (lower cost) than other alternatives and were included in the MTEP24 Futures planning models. All values in **Tables G-2 and G-3** are in addition to DER included in MISO load-serving entity base forecasts.

According to AEG data, Future 1A DER program levels represent minimum expected resource levels. Therefore, Future 1A programs are included as minimum within the base model of all Series 1A scenarios. Futures 2A and 3A employ all F1A program amounts and allow incremental program blocks (the difference of total F2A or F3A programs and F1A levels) for selection.

| Table G-2 DER Capacity (GW): 20-Year Technical Potential Additions in MISO in MTEP24 Futures ^a | | | | | |
|--|-----------|-----------|-----------|-----------|-------|
| MTEP24 DERs Capacity (GW) | Future 1A | Future 2A | | Future 3A | |
| Technical Potential and Added | Added | Added | Potential | Added | Added |
| Demand Response (DR) | 10.8 | 11.2 | 11.2 | 11.2 | 11.0 |
| Energy Efficiency (EE) | 17.7 | 19.4 | 17.7 | 20.5 | 20.5 |
| Distributed Generation (DG) | 19.9 | 19.9 | 19.9 | 28.6 | 20.5 |

^a See **Appendix E.2**, Page 48 for additional details.

| Table G-3 DER Capacity (GWh): 20-Year Technical Potential Additions in MISO in MTEP24 Futures ^a | | | | | |
|---|-----------|-----------|-----------|-----------|--------|
| MTEP24 DERs Capacity (GWh) | Future 1A | Future 2A | | Future 3A | |
| Technical Potential and Added | Added | Added | Potential | Added | Added |
| Demand Response (DR) | 1,051 | 1,147 | 1,147 | 1,154 | 1,142 |
| Energy Efficiency (EE) | 75,620 | 80,247 | 75,620 | 78,763 | 78,763 |
| Distributed Generation (DG) | 34,977 | 34,977 | 34,977 | 48,173 | 35,993 |

^a See **Appendix E.2**, Page 48 for additional details.