APPENDIX J
Energy Conservation and Efficiency Information

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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. The Applicants requested an exemption from this content requirement and proposed to provide substitute information related either to their conservation programs or to the conservation programs that are available to their members' serving load in Minnesota. In response, the Department agreed that the proposed information will better inform the record as to the need for the proposed Project and recommended that the Commission grant the requested exemption with the provision of the proposed alternative data.[1] The Commission approved the Applicants' requested exemption with provision of the alternative data.[2] The required information is provided below.

A. Great River Energy's Energy Conservation and Efficiency Programs

Great River Energy's most recent Integrated Resource Plan (IRP) was filed with the Commission on March 31, 2023.[3] A comment period on that IRP ended on October 2, 2023.[4] Great River Energy's IRP covers the planning period for 2023 through 2037 and provides a comprehensive view of Great River Energy's portfolio plan (Plan) for the next 15 years. The Plan builds on changes in Great River Energy's resource portfolio that have already significantly reduced carbon emissions and increased generation from carbon-free resources. The Plan includes additions of only carbon-free resources consisting of wind, solar, and storage. In addition, and as relevant here, the Plan describes recent innovative initiatives regarding energy efficiency and demand response (DR) programs. A summary of those efforts is included below; for further detail, see Sections 9 and 10 of Great River Energy's IRP.

Great River Energy operates one of the most robust DR programs in the nation; these programs intentionally change their members' end-users' electric usage patterns from their normal consumption patterns in response to changes in the price of electricity, grid needs, or incentive payments. Great River Energy's energy efficiency programs use an "all of the above" approach to member energy efficiency engagement. The total program is made up of five components:

- **Equipment incentive programs –** These programs provide incentives for members' end users to invest in equipment having greater efficiency than equipment that meets

[1] *See* Docket No E002, E017, ET2, E015, ET10/CN-22-538, Comments of the Minnesota Department of Commerce, Division of Energy Resources (March 30, 2023) at 5.
[2] *See* Docket No. E002, E017, ET2, E015, ET10/CN-22-538, Order Approving Notice Plan Petition and Request for Exemption from Certain Certificate of Need Application Content Requirements (April 19, 2023).
[3] *In the Matter of Great River Energy's 2023-2037 Integrated Resource Plan*, Docket No. ET-2/RP-22-75 (March 31, 2023), eDockets ID 20233-194396-01, 20233-194396-06.
[4] *Id.* at Notice of Comment Period (April 5, 2023).

current federal standards. Incentives are based on budget and the current commercial state of the technology. As technologies mature and the market for these technologies transform, the overall rebate for those technologies will be decreased.

- **Consumer behavior programs –** Consumer behavior programs focus on educating end users about their energy use and providing relevant comparisons that seek to illustrate ways in which the member-consumer can reduce their consumption and lower their overall cost of energy. Several of Great River Energy's members have employed tools like SmartHub, which leverages member-owner investments in Advanced Metering Infrastructure to present energy consumption data through an online web portal. In addition, several members have employed direct appeals to their end users to reduce their consumption during the hottest months of the year. These "Beat the Peak" programs ask member-consumers to voluntarily reduce their consumption and are associated with contests that reward end users that realize the greatest reduction in their overall electric consumption.

- **Supply-side efficiency –** Efficiency is a central focus of Great River Energy's culture of business improvement. Recent generation efficiency improvements include combustion turbine tuning to minimize heat rates and major overhauls of several combustion turbines based on operating hours. In addition, Great River Energy has also been actively engaging with third-party wind forecasting developers to identify improvements in day-ahead wind forecasting ability. Additional efficiency gains are being developed regarding Ambient Adjusted Ratings of Great River Energy's transmission lines which will aid in reducing both congestion charges and renewable energy generation curtailment.

- **Market transformation –** Great River Energy's long history of efficiency engagement with members has resulted in member-consumers who are well versed in the benefits associated with investments in efficiency. As the market share of products that carry labels indicating efficient products (e.g., ENERGY STAR®) have expanded, many members have adopted these technologies without taking advantage of rebate programs.

- **Demand response –** Great River Energy's robust DR efforts focus on modifying the load curve during the periods of monthly peak demand, as well as ongoing efforts to shift as many end uses to off-peak periods as possible. The effort to shift end uses to off-peak periods is most pronounced in the areas of electric storage water heating and EV charging efforts.

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Great River Energy planned or plans the following energy efficiency program activities throughout the Five-Year Action Plan identified in the IRP:

- Survey members in 2023 regarding key electric end uses within homes and businesses;
- Participate in research to further characterize energy efficiency end use technologies, including the expansion of the efficient fuel switching opportunities under Minnesota's 2021 Energy Conservation and Optimization Act;
- Work with members to identify and market new programs that improve awareness of energy consumption, increase the adoption of efficient end-use technologies where practical, and minimize rate impacts; and
- Further evaluate the efficiency opportunities within our members' service territories.

B. Otter Tail Power's Energy Conservation and Efficiency Programs

Otter Tail Power Company (Otter Tail) has a long history of delivering highly cost-effective demand-side solutions to our customers. Between 1994 and 2023, Otter Tail invested over $124 million (nominal) resulting in 943 gigawatt hours (GWh) of electric energy savings, 291 megawatts (MW) of electric demand. In 2023, Otter Tail achieved over 61 GWh of electric savings, or 3.62 percent of sales[5] while spending $7.7 million to achieve the savings results.

In its 2024-2026 Energy Conservation and Optimization Triennial Plan[6], approved by the Deputy Commissioner of the Department of Commerce on December 1, 2023, Otter Tail proposed to achieve over 2.5 percent energy savings, significantly higher than Minnesota's goal of 1.75 percent. In addition, Otter Tail's plan provides a wide breadth of energy solutions for customers, including heating and cooling solutions, water heating, building envelope, lighting, appliances, transportation, load management, renewables, education, and commercial/industrial process solutions.

Otter Tail's Triennial Plan proposed ambitious goals of saving 147 GWh, and 226 MW over the three-year period at a cost of approximately $30 million. The proposed electric savings goals also align with Otter Tail's conservation commitments filed in its most recent Integrated Resource Plan (Otter Tail's IRP).[7]

In Otter Tail's IRP, the Company filed an Application for Supplemental Resource Plan Approval

[5] *See* Docket No. E,G002/CIP-20-475, 2022 CIP Status Report (April 3, 2023).
[6] See Docket No. E017/CIP-23-94, Otter Tail Power Company's 2024-2026 Energy Conservation and Optimization Plan (June 30, 2023).
[7] See Docket No. E017/RP-21-339, Otter Tail Power Company's 2022-2036 Integrated Resource Plan (March 31, 2023).

with the Minnesota Public Utility Commission (MPUC), which was approved on July 22, 2024. Consistent with the results of the 2018 Minnesota Energy Efficiency Potential Study,[8] the Company included 1.9 percent to 2.0 percent annual savings for conservation efforts made by the Company for the 2024-2026 triennial period in the IRP.

C. Western Minnesota's Energy Conservation and Efficiency Programs

Western Minnesota Municipal Power Agency owns generation and transmission facilities, the capacity and output of which are sold to Missouri River Energy Services (MRES). MRES provides energy and energy services to its 61 member municipal utilities, and assists member municipalities with their energy efficiency, conservation, and other DSM programs by providing incentives and developing joint programs with members. In its most recent IRP, MRES discussed the comprehensive portfolio of energy efficiency incentives developed by MRES for customers served by its member municipal utilities.[9] In 2020, MRES completed an updated study of the maximum amount of DSM that can be implemented for its members' retail customers, under certain avoided cost assumptions provided by MRES. The study results show an expected potential for DSM of up to 93.9 MW of demand savings by 2036, coincident with the peak demands of the MRES member loads. In 2023, MRES spent nearly $2.8 million resulting in 4,869 kilowatts (kW) of peak demand savings (not including load control savings and costs).

[8] Minnesota Energy Efficiency Potential Study: 2020-2029, Conservation Applied Research and Development (CARD) Final Report (December 4, 2018).
[9] *See* Docket No. ET10/RP-21-414, Missouri River Energy Services 2022-2036 Resource Plan (July 1, 2021) at 32.