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November 20, 2025

Dr. Sydnie Lieb
Assistant Commissioner of Regulatory Analysis
Minnesota Department of Commerce
Division of Energy Resources
85 7th Place East, Suite 500
St. Paul, Minnesota 55101-2198

**RE: In the Matter of Technical Reference Manual Version 5.0
Docket No. E,G999/CIP-18-694
Initial Comments**

Dear Assistant Commissioner Lieb:

Otter Tail Power Company (Otter Tail Power) hereby submits to the Minnesota Department of Commerce, Division of Energy Resources (Department) its Initial Comments in the above-referenced matter.

We have electronically filed this document with the Department and copies have been served on all parties on the attached service list. A Certificate of Service is also enclosed.

Please feel free to contact me at 218-739-8240 or czuniga@otpco.com if you have any questions regarding this filing.

Sincerely,

/s/ CRISTINA ZUNIGA
Cristina Zuniga, Supervisor
Demand Side Management
Retail Energy Solutions

kde
Enclosures
By electronic filing
c: Service List

**STATE OF MINNESOTA
BEFORE THE
MINNESOTA PUBLIC UTILITIES COMMISSION**

**In the Matter of Technical
Reference Manual Version 5.0**

Docket No. E, G999/CIP-18-694

INITIAL COMMENTS

I. INTRODUCTION

Otter Tail Power Company (Otter Tail Power, the Company) appreciates the leadership, time, and work on the part of the Minnesota Department of Commerce (Department) and The Cadmus Group LLC (Cadmus) in gathering meaningful feedback from utilities and other stakeholders in drafting the latest Minnesota Technical Reference Manual (TRM) 5.0. The TRM is an encompassing, very detailed, resource that serves Otter Tail Power well in developing energy efficiency, demand response, and Efficient Fuel Switching (EFS) measures for consideration in the Company's Energy Conservation and Optimization Plan (ECO). Otter Tail Power looks forward to working with TRM 5.0 in the upcoming 2027-2029 Triennial ECO Plan and engaging with the Department, Cadmus, and others in future TRM revisions.

II. OTTER TAIL RESPONSES

Otter Tail Power staff participated in meetings and discussions regarding the TRM 5.0 process and carefully reviewed the draft TRM 5.0. Following its review, the Company has three minor suggested edits and a recommendation not to update the Residential Furnace baseline from 80% to 90% as a part of TRM 5.0.

Residential HVAC— EMC Circulators

On page 93 of TRM 5.0 the Algorithms for Unit kWh Savings per year and Unit Peak kW Savings have been combined to the same line. Otter Tail Power suggests the Unit Peak kW equation be moved down to its own line for better readability and consistency with other measures.

Algorithms

Unit kWh Savings per Year = $(W_{BASE} \times HOU_{BASE} - W_{ECM} \times HOU_{EFF}) / 1,000$ Unit Peak kW Savings = $(W_{BASE} - W_{ECM}) / 1,000 \times CF$

Residential Hot Water – Desuperheater

On page 226 of TRM 5.0 the measure life listed for the Desuperheater is 13 years. Otter Tail Power recommends that the measure life be increased to 25 years to match the measure life of the ground source heat pump which is referenced on page 62 of TRM 5.0. For this specific measure it is more appropriate to use the ground source heat pump life rather than a residential water heater.

On the following page, the example calculation for a desuperheater appears to have a disconnect between the assumption text citing a gas storage water heater, but the resulting savings being presented as electric savings. It is Otter Tail Power's understanding that this measure was not designed to be considered fuel switching and therefore the example calculation should remain consistent between either gas or electric assumptions.

Residential HVAC Furnaces Baseline

Otter Tail Power, along with other Minnesota Utilities, filed joint comments addressing the TRM 5.0 recommendation to increase the Residential baseline from 80% Annual Fuel Utilization Efficiency (AFUE) to 90% AFUE. Those comments encompass the concerns Otter Tail Power holds not only with the recommended change in TRM 5.0, but also future implications of degradation in transparency, questions around resource standards, and the inclusiveness of the TRM stakeholders' group. Within these comments the Company will discuss specific issues with the proposed change in more detail.

Otter Tail Power disagrees with the stance taken by the Department that all measures impacted by the proposed baseline change do not need to be updated at the same time. The TRM should remain a complete, inclusive, and up to date guide for all utilities. Having mixed assumptions between measures is confusing and like in this example, puts gas and electric utilities on an unlevel playing field, by dramatically impacting the gas utilities but not impacting electric utilities efficient fuel switching initiatives. The Company holds the opinion that the increase from 80% to 90% was done prematurely, which is supported by the statement in the Department's Proposed Decision explaining why the 90% AFUE was not also used for Residential Air Source Heat Pump Systems:

Not updated in the Proposed Decision on the MN TRM v5.0.
Department Staff Propose updating this measure with the 90% AFUE Baseline for Residential Furnaces in the MN TRM v5.1 due to the significant amount of work required of update this modeled methodology.

Had the TRM stakeholders been given the opportunity to properly vet, research, and agree on the change, the Department would have had ample time to tackle the significant amount of work to fully implement the ramifications of changing the baseline.

Further, the Company struggles understanding the Department declaring the Wisconsin Contractor Study not being sufficiently representative of Minnesota at the end of July and then three months later using the same study as a primary resource to support the increase in baseline. The topic that once required future research was then deemed to be complete in October.¹ Otter Tail Power additionally struggles with the lack of detailed information on the impact of the last-minute change. The Department highlighted the change on two PowerPoint slides with zero implications of how the change would impact measures or their associated savings.² This information was only provided to utilities after Otter Tail Power made a request to the Department during the October 27th meeting when the Company was first informed of this proposed change.³ These actions, or lack thereof, by the Department support that the proposal was made in haste and should receive further evaluation.

The evaluation and discussions around changing the baseline as a part of the TRM is critical and should not only be robust but also include all stakeholders. In the HVAC sector, opportunities to influence customer decisions are limited. Electric resistance and fuel furnaces, despite their inefficiency, are often seen as reliable, easy to repair, and low maintenance. As a result, many customers only consider upgrades after catastrophic equipment failure, such as a cracked heat exchanger or failed Air Conditioning system. Even then, replacing the furnace is not guaranteed, even when a heat pump is installed. Customers electing to switch from a non-condensing furnace to a higher efficiency condensing furnace must invest in a new venting system due to the lower temperature of the exhaust. These are all issues utilities consider while designing and implementing programs but were never addressed by the Department as a part of its proposal.

Otter Tail Power recommends the Department retract their proposed change to the Residential Furnace Baseline from 80% AFUE to 90% AFUE as a part of TRM 5.0. Otter Tail Power supports continued discussions and research on this topic in TRM 5.1, but cannot support the currently proposed change with the information and data supplied by the Department.

¹ [Minnesota TRM 5.0 TRM Update 7/25/2025 slide fifteen.](#)

² [Minnesota TRM 5.0 TRM Update 10/27/2025 slides five and six.](#)

³ The Department ultimately indicated that Ground Source Heat Pumps would experience a decrease of 86% in savings, Furnaces and Boilers would experience 8.49% decrease in savings and in contrast Air Source Heat Pumps, Low E Storm Windows and Cellular Shade Window Coverings would not be impacted by the 5.0 change.

III. CONCLUSION

Since its original development in Minnesota, the Department's TRM has proven to be an integral part of past CIP, and now ECO, planning for Otter Tail Power. The Company appreciates the time the Department and Staff have dedicated through past TRM reviews as well as the most recent TRM 5.0 developments. The Company respectfully requests the Department address the suggested changes to the TRM 5.0 document addressed in these comments and remove the proposed changes to the Residential Furnace Baseline.

Dated: November 20, 2025

Respectfully submitted,

OTTER TAIL POWER COMPANY

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CERTIFICATE OF SERVICE

**RE: In the Matter of Technical Reference Manual Version 4.2
Docket No. E,G999/CIP-18-694**

I, Khris Ekstrom, hereby certify that I have this day served a copy of the following, or a summary thereof, on Sasha Bergman and Sharon Ferguson by e-filing, and to all other persons on the attached service list by electronic service or by First Class Mail.

**Otter Tail Power Company
Initial Comments**

Dated this **20th** day of **November, 2025**.

/s/ KHRIS EKSTROM
Khris Ekstrom
Regulatory Filing Coordinator
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