## STATE OF MINNESOTA Before The Public Utilities Commission

Katie Sieben Joseph K. Sullivan Hwikwon Ham Valerie Means John Tuma Chair Vice Chair Commissioner Commissioner

In the Matter of Otter Tail Power Company's Proposal for a Residential Time of Day Pilot Plan DOCKET NO. E-017/M-23-261

# COMMENTS OF THE OFFICE OF THE ATTORNEY GENERAL— RESIDENTIAL UTILITIES DIVISION

## **INTRODUCTION**

The Office of the Attorney General—Residential Utilities Division (OAG) respectfully submits the following Comments in response to the Public Utilities Commission's Notice of Comment Period issued on October 2, 2024 regarding Otter Tail Power Company's proposed pilot of a residential Time of Day rate (TOD).<sup>1</sup>

Otter Tail does not currently offer a residential TOD rate. It proposes in this docket to conduct a pilot of an opt-in TOD rate to learn how a time-varying residential rate "might influence revenue collections and affect the cost of service" and to better understand how their residential ratepayers might respond to price signals in order to save on their electricity bills.<sup>2</sup> Overall, the Company intends to examine the potential benefits and drawbacks of a residential TOD rate.<sup>3</sup>

The OAG believes that some form of TOD rate could prove beneficial to Minnesotans, and the effect of TOD rates should be evaluated through a pilot before rolling them out to everyone. Pilots must be designed to protect the participants, both because it would be unfair to participants if the Company gained valuable information at their expense and because ratepayers will not want to participate if participation presents too high a risk.

<sup>&</sup>lt;sup>1</sup> As used by Otter Tail, "Time of Day" is interchangeable with "Time of Use."

<sup>&</sup>lt;sup>2</sup> Amended Filing at 8 (Sep. 20, 2024).

The OAG has three recommendations to ensure that ratepayers who participate in the pilot program are protected from excess risk and to improve the likelihood that the pilot will produce actionable learnings. First, the pilot should include bill protections for all participants. Second, Otter Tail should collect baseline data from participants before implementing the TOD rate, and should collect and analyze more specific data during the pilot than it proposes to collect.<sup>4</sup> Third, Otter Tail should refine its participant education plan to empower participants to respond effectively to the TOD rate.

## BACKGROUND

TOD rate structures charge higher rates for electricity consumed during a daily period of expected peak demand and lower rates at other times.<sup>5</sup> The immediate goal is to reduce peak electricity demand, as the increased price during system peaks should incentivize price-sensitive electricity consumers to shift their usage to the periods with lower prices.<sup>6</sup> By reducing system peak load, TOD rates can reduce system costs by limiting the need to increase system capacity.<sup>7</sup>

This section will first discuss TOD rates in general, and then highlight the aspects of Otter Tail's pilot design relevant to the OAG's recommendations.

## I. TIME-OF-DAY RATES IN GENERAL

The most common residential electric rate design in the United States is a two-part rate consisting of a fixed customer charge for customer-specific costs and a "volumetric," per-kilowatt-

<sup>&</sup>lt;sup>4</sup> Amended Filing at 15.

<sup>&</sup>lt;sup>5</sup> Jim Lazar & Wilson Gonzales, *Smart Rate Design for a Smart Future* 44 (2015), <u>https://www.raponline.org/wp-content/uploads/2023/09/rap-lazar-gonzalez-smart-rate-design-july2015.pdf</u>.

<sup>&</sup>lt;sup>6</sup> E.g., Brendon Baatz, *Rate Design Matters* (2017), <u>https://www.aceee.org/research-report/u1703</u> (*Rate Design Matters*); Daniel Boff et al., *Understanding the Behavioral Aspects of Rate Design* (2022), <u>https://www.pnnl.gov/main/publications/external/technical\_reports/PNNL-33384.pdf</u> (*Understanding the Behavioral Aspects of Rate Design*).

 $<sup>^{\</sup>hat{7}}$  Rate Design Matters at 9.

hour rate to recover system costs.<sup>8</sup> It is a reasonable design in that it is relatively simple to understand and administer, is somewhat cost reflective, and incentivizes energy conservation to the extent that greater consumption of electricity leads to a larger customer bill.

This traditional design does not, however, fully account for the way that customers impose costs on the grid. The utility must provide reliable electricity at all times, including periods of system-wide (coincident) peak. This means that multiple consumers using energy concurrently will impose greater costs than if their use was staggered because the utility must build infrastructure capable of meeting the total combined demand. For the same reason, a residential consumer with periods of high demand often imposes greater costs on the grid than a residential consumer with more consistent use even if each consumer uses the same amount of electricity overall.

Until the 1990s, the traditional residential rate structure was seen as sufficiently reflecting costs.<sup>9</sup> Recently, however, various changes in policy and the economy have led to projections of increased demand growth, meaning that utilities may need to increase their capacity to handle higher peaks.<sup>10</sup> The potential for new demand growth has given rise to two related questions: 1) how can the costs of increasing system capacity be imposed on users who cause the need for

<sup>10</sup> See, e.g., John Wilson & Zach Zimmerman, *The Era of Flat Power Demand is Over* (2023), https://gridstrategiesllc.com/wp-content/uploads/2023/12/National-Load-Growth-Report-<u>2023.pdf</u>. However, past electricity demand projections have overestimated demand growth by a large margin, and demand in MISO is projected to grow less than four percent by 2033, less than in the vast majority of the rest of the United States. Gimon et al., *Meeting Growing Electricity Demand Without Gas* at 1 (2024), <u>https://energyinnovation.org/publication/meeting-electricity-</u> demand-without-growing-gas/ (available for download upon form submission).

<sup>&</sup>lt;sup>8</sup> Arne Olson et al., *Rate Design for the Energy Transition* at 1 (2023), <u>https://www.esig.energy/rate-design-for-the-energy-transition-getting-the-most-out-of-flexible-load-on-a-changing-grid/</u>.

<sup>&</sup>lt;sup>9</sup> Understanding the Behavioral Aspects of Rate Design at 3.

increased capacity; and 2) how can consumers be incentivized to stagger their usage to avoid coincident peaks and thus avoid construction of expensive new capacity altogether?

Many jurisdictions have turned to Time of Day rate designs as one potential answer.<sup>11</sup> The basic premise is to set different volumetric rates for different periods of the day, with higher prices charged during the part of the day with the greatest coincident use and lower prices charged at other times.<sup>12</sup> This creates a "price signal," or an incentive for customers to engage in energy-intensive activities at times of the day when system-wide energy use (and, under this rate design, the volumetric rate) is lower. If customers respond to the price signal and move use away from system peak periods, the system peaks are reduced. This means less infrastructure needs to be built and rates do not need to increase to pay for as much new infrastructure.

There is significant variation between residential TOD designs. They usually consist of two pricing periods—a peak rate and an off-peak rate—or three pricing periods, divided into peak rate, base rate, and off-peak rate periods. The length of a peak period is typically anywhere from two to six hours long. At least one analysis suggested that shorter peak periods lead to a 17 percent average reduction in peak usage, whereas longer peak periods only yield an average reduction of 8 percent.<sup>13</sup> Longer peak periods may also lead to less customer engagement.<sup>14</sup>

<sup>&</sup>lt;sup>11</sup> As of 2019, roughly half of IOUs offered a residential TOU rate. Ahmad Faruqui et al., *A Survey* of Residential Time-of-Use (TOU) Rates 4 (2019), <u>https://www.brattle.com/wp-content/</u><u>uploads/2021/05/17904\_a\_survey\_of\_residential\_time-of-use\_tou\_rates.pdf</u> (A Survey of Residential TOU Rates).

<sup>&</sup>lt;sup>12</sup> Rate Design Matters at 2.

<sup>&</sup>lt;sup>13</sup> Ahmad Faruqui & Ziyi Tang, *Time Varying Rates (TVRs) Are Moving From the Periphery to the Mainstream of Electricity Pricing for Residential Customers in the United States*, HANDBOOK ON ELECTRICITY REGULATION (forthcoming) (manuscript at 15), <u>https://www.brattle.com/wp-content/uploads/2023/07/Time-Varying-Rates-TVRs-Are-Moving-from-the-Periphery-to-the-Mainstream-of-Electricity-Pricing-for-Residential-Customers-in-the-United-States.pdf (*TVRs Are Moving From the Periphery to the Mainstream*).</u>

<sup>&</sup>lt;sup>14</sup> Rocky Mountain Institute, *A Review of Alternative Rate Designs* 31 (2016), <u>https://rmi.org/wp-content/uploads/2017/04/A-Review-of-Alternative-Rate-Designs-2016.pdf</u> (*A Review of Alternative Rate Designs*).

The magnitude of the price signal is measured as the ratio of the peak price to the off-peak price, and can range from less than 2-to-1 to more than 11-to-1, with a median price ratio of 2.7-to-1.<sup>15</sup> The United States Energy Information Administration (EIA) found in 2016 that a price ratio of 2-to-1 led, on average, to a 6 percent reduction in peak demand and a ratio greater than 4-to-1 led to an average reduction of 18 percent.<sup>16</sup> The full range across all price ratios, however, was a 1 percent increase in demand to a 29 percent decrease.<sup>17</sup> As the chart below shows, the relationship between price ratio and peak reduction is statistically significant, but far from definitive.

Figure 1 – Correlation Between TOD Pilot Price Ratio and Peak Reduction<sup>18</sup>



<sup>15</sup> A Survey of Residential TOU Rates at 8-9.

16 U.S. Dep't of Energy, Customer Acceptance, Retention. and Response to Time-Based Rates from the Consumer **Behavior** Studies 63 (2016),https://www.energy.gov/sites/prod/files/2016/12/f34/CBS Final Program Impact Report Draft 20161101 0.pdf.

<sup>&</sup>lt;sup>17</sup> *Id.* at 62.

<sup>&</sup>lt;sup>18</sup> A Survey of Residential TOU Rates at 18.

TOD rates have largely been offered on an opt-in basis to ratepayers, although the number of opt-out and even mandatory TOD rates has gradually increased over time. Studies tend to show that opt-in TOD rate designs have a stronger effect on per-participant demand reduction and fewer customers who leave the rate than opt-out rate designs, but opt-in designs also have lower participation overall.<sup>19</sup> That said, some opt-in designs have been very successful at increasing participation, which is an optimal outcome in that these designs have decreased peak demand through customer choice.<sup>20</sup>

The overall lesson here is that there is no one-size-fits-all TOD design, and the design is a critical element in whether a TOD rate succeeds or fails. When TOD rates fail, the public backlash can be severe.<sup>21</sup> This means that TOD pilots play a critical role in ensuring the long-term success of TOD rates whenever a utility is considering deploying them, as the utility will need to collect and analyze information on its customers' responses to TOD rates if it is to design a successful rate.

## II. OTTER TAIL'S TOD PILOT PROPOSAL

The current proposal is not Otter Tail's first TOD pilot proposal. Otter Tail initially proposed a TOD pilot in February 2020, after the Commission ordered Otter Tail in its 2016 rate case to file a TOD pilot after consultation with stakeholders and the Department of Commerce.<sup>22</sup> There were disagreements between Otter Tail and commenters regarding that proposal.<sup>23</sup> The Commission postponed consideration of the proposal until after Otter Tail had deployed Advanced

<sup>19</sup> Sanem Sergici et al., *Do Customers Respond to Time-Varying Rates: A Preview of Arcturus 3.0* at 11 (The Brattle Group, Working Paper, 2023), <u>https://www.brattle.com/wp-content/uploads/2023/02/Do-Customers-Respond-to-Time-Varying-Rates-A-Preview-of-Arcturus-3.0.pdf</u>; *A Review of Alternative Rate Designs* at 40.

<sup>&</sup>lt;sup>20</sup> TVRs Are Moving From the Periphery to the Mainstream at 15.

<sup>&</sup>lt;sup>21</sup> *Id.* at 10.

<sup>&</sup>lt;sup>22</sup> Docket No. E-017/M-20-331, Petition at PDF page 3 (Feb. 28, 2020).

<sup>&</sup>lt;sup>23</sup> See Docket No. E-017/M-20-331, Pilot Update and Request to Delay Pilot (Aug. 20, 2021).

Metering Infrastructure (AMI), which is necessary to implement a TOD rate, and to provide additional time for Otter Tail to collect more customer and cost information.<sup>24</sup> Otter Tail was ordered to make a new filing before mid-2023.<sup>25</sup>

Otter Tail proposes a one-year opt-in pilot with three price periods that vary depending on the season.<sup>26</sup> In the summer, the mid-peak would occur from 12 p.m. to 2 p.m. and 8 p.m. to 9 p.m. on weekdays, as well as from 2 p.m. to 8 p.m. on weekends, and the peak window would occur from 2 p.m to 8 p.m. on weekdays.<sup>27</sup> All other times would be off-peak.<sup>28</sup> In the winter, mid-peak would occur from 6 a.m. to 7 a.m. and then from 10 a.m. to 9 p.m. on weekdays, the peak window would be from 7 a.m. to 10 a.m. on weekdays, and all other times would be off-peak, including the entire weekend.<sup>29</sup>

Otter Tail proposes to randomly select ratepayers to receive invitations to participate, beginning with ratepayers who use its online customer portal, and aims to recruit between 270 and 300 households.<sup>30</sup> It does not propose any bill protection mechanism for participants. Otter Tail says nothing about collecting usage or billing information from the customers before they are transitioned to the TOD rate, so it appears that it does not plan to measure same-customer load shifting or bill impacts.<sup>31</sup> It plans to conduct a post-pilot customer satisfaction survey but does not mention surveying participants during the pilot.<sup>32</sup>

<sup>&</sup>lt;sup>24</sup> Docket No. E-017/M-20-331, Order at 1-2 (Jul. 8, 2022).

<sup>&</sup>lt;sup>25</sup> Id.

<sup>&</sup>lt;sup>26</sup> Amended Filing at 8-9.

<sup>&</sup>lt;sup>27</sup> *Id.* at 12.

<sup>&</sup>lt;sup>28</sup> Id.

<sup>&</sup>lt;sup>29</sup> *Id.* 

 $<sup>^{30}</sup>$  *Id.* at 13-14.

 $<sup>^{31}</sup>$  See *id.* at 9, 15.

<sup>&</sup>lt;sup>32</sup> *Id.* at 15.

#### ANALYSIS

The OAG has three recommendations to protect pilot participants from excess risk and to improve the likelihood that the pilot will produce actionable learnings. First, the OAG recommends including bill protections for all participants. Second, the OAG recommends improvements to Otter Tail's plan for data collection and analysis. Finally, the OAG makes recommendations regarding Otter Tail's recruitment and education plans to improve the likelihood that participants understand the TOD rate.

# I. THE PILOT SHOULD INCLUDE BILL PROTECTION FOR PARTICIPANTS TO MITIGATE RISK AND ENCOURAGE PARTICIPATION.

The nature of this pilot necessitates bill protection. The pilot is an experiment with a new rate design that Otter Tail has not tried before,<sup>33</sup> and that means the full extent of the risks of unexpected bill increases will not be known until the pilot is over and the data has been analyzed. Moreover, the current design proposal from Otter Tail is substantially different from its original proposal, underscoring the large range of TOD design options, which in turn highlights how difficult it is to know in advance what the effect of the rate will be. Ratepayers who opt into the pilot are offering valuable insights to Otter Tail, their fellow ratepayers, and the Commission, and they should be able to offer this benefit to others without taking on the risk of excessive bills. Ratepayers will also be more willing to participate in the pilot if they know that there are protections in place that will prevent financial hardship.

Otter Tail should offer the same bill protection mechanism that was used in Xcel's residential Time of Use pilot. That bill protection applied if, after 12 continuous months of participation at the same location, the annual bill impact for a participant amounted to an annual

<sup>&</sup>lt;sup>33</sup> Otter Tail does have a number of non-residential TOD rates, but they generally have very different designs and are designed to serve very different ratepayers.

bill increase of ten percent or more compared to if the participant had been on the regular residential rate.<sup>34</sup> The protection was available as a one-time credit equaling the difference between the participant's actual bill increase during the 12 months of the pilot and a ten percent average bill increase.<sup>35</sup>

Otter Tail's pilot is opt-in instead of opt-out, but the basic reasons for bill protection remain. While an opt-in model provides protection to ratepayers generally, in that a household only participates if it chooses to do so, opt-in enrollment does not provide any protection to the individual ratepayers who offer to be the test subjects. There is no data on Otter Tail's design, meaning that even the most engaged or savvy participants cannot know in advance how effective they will be at shifting their electricity usage. In the worst case, opting into an untested TOD rate without bill protection could lead to bill delinquencies for some customers. Even for customers who can afford an unexpected bill increase, shock at a significantly higher bill could lead to them dropping out of the pilot. By contrast, if ratepayers know that they can opt into the pilot without significant risks, they will be more likely to try it out.

Bill protection also affords Otter Tail an opportunity to engage in customer education and keep participants in the pilot if the first months on the pilot rate go poorly. Rather than a surprise bill causing the pilot participant to immediately drop out, the knowledge that they will be made whole at the end of the pilot offers an incentive to stay in. If Otter Tail's customer service staff is adequately educated about the pilot, they could help participants identify their electrical use that most likely caused a sharply increased bill and educate the participant to be successful on the rate rather than dropping out. In the same way that bill protection will encourage people to opt into the TOD rate, it will encourage people to stay in the pilot if their early experience is a negative one.

<sup>&</sup>lt;sup>34</sup> Docket No. E-002/M-17-775, Petition at 27 (Nov. 1, 2017).

<sup>&</sup>lt;sup>35</sup> *Id*.

Otter Tail's TOD pilot is an experiment, and experiments must have safeguards for participants. Bill protection in the form of a true-up at the end of the pilot for any participants whose annual bill increased by more than 10 percent is an appropriate safeguard.

# II. OTTER TAIL SHOULD TRACK AND ANALYZE MORE DATA TO ASSESS THE RATE'S ABILITY TO REDUCE PEAK AND RATEPAYERS' ABILITY TO RESPOND TO PRICE SIGNALS.

There are many ways to design a TOD rate, and finding an effective design for Otter Tail's service territory will require proper data collection and analysis. Otter Tail proposes to evaluate data according to eight metrics: monthly load allocation; yearly load allocation; monthly total and average energy usage; yearly total and average energy usage; monthly total and average bills; yearly total and average bills; total costs for additional marketing and system installations; and an end-of-pilot customer satisfaction survey.<sup>36</sup> Otter Tail certainly should analyze this data, but there are additional metrics it needs to analyze to understand whether the rate design was effective and evaluate the customer experience.

Specific data that Otter Tail should collect and report on are:

- Participation metrics, including the number of participants who are low-income, identified both by Energy Assistance Program status and by self-identification during participant signup;
- Customer experience, including satisfaction, preferences, attitudes, acceptance, and comprehension, including awareness of the specific on-peak, mid-peak, and off-peak periods. Surveys should be conducted mid-way through the pilot and after the pilot;
- 3. Participant bill impacts compared to historical participant bills and compared to what a participant's bill would have been on the standard residential rate, including

<sup>&</sup>lt;sup>36</sup> Amended Filing at 15.

minimum, maximum, and average bill increases/decreases, and charts showing the full distribution of bill impacts annually and by season, overall and for low-income participants;

- The number of participants who received bill protection, overall and for low-income participants;
- 5. The number of pilot participants who have their service disconnected, if any;
- 6. Participant peak impact (percent reduction in peak usage) and load shifting (percent of load shifted to and from off-peak, peak, and shoulder periods) based on historical participant usage, annually and by season, overall and for low-income participants;
- 7. Load shifting comparison of pilot participants versus residential ratepayers on the traditional rate, annually and by season, overall and for low-income participants; and
- System coincident peak impact of TOD participants compared to pre-pilot coincident peak of participants, annually and by season.

These metrics are substantially similar to the metrics ordered in Xcel's 2020 TOU pilot, modified to apply to Otter Tail's smaller, opt-in pilot.<sup>37</sup> Participation metrics will help Otter Tail, stakeholders, and the Commission assess customer adoption of the new TOU rate. Reporting on customer experience will allow stakeholders and the Commission to assess Otter Tail's customer education and engagement efforts. Reporting on bill impacts – and particularly the full distribution of bill impacts – will give stakeholders and the Commission a full picture of the monetary impact of the rate on pilot participants, as will reporting on bill protection and disconnections. Reporting on peak, coincident peak, and load shifting will allow stakeholders and the Commission to assess whether the rate is effective at reducing peak and how participants respond to the price signals.

<sup>&</sup>lt;sup>37</sup> Docket No. E-002/M-17-775, Order Approving Pilot Program, Setting Reporting Requirements, and Denying Certification Request at 8 (Aug. 7, 2018).

To report on these metrics, Otter Tail will need to measure baseline participant usage, load curves, and bills before participants move onto the TOD rate. It should collect usage and load curve data is necessary to measure the impacts of the TOD rate on customer behavior such as load shifting and on aggregate peak reduction. Historical monthly and yearly bill information is necessary to understand the bill impact of the pilot rate. In other words, a proper evaluation of the pilot rate will demonstrate the *changes* that the rate causes, not just the difference between participant usage and everyone else's usage. Without baseline data from participants against which the pilot data will be measured, it is unclear how Otter Tail would be able to measure those changes.

Accordingly, once a customer has opted into the pilot, Otter Tail should compile their usage data for at least six months before beginning the pilot rate in order to compare pilot usage data.<sup>38</sup> This usage data should include participant load curves, energy consumption, and monthly, seasonal, and annual bills. The OAG requests that Otter Tail describe in reply comments what baseline data from participants it will be able to collect or compile from ratepayers immediately upon installation of new AMI meters. If it does not immediately collect and store data that will allow calculation of pre-pilot load curves, the OAG recommends that Otter Tail begin collecting and storing this data for at least six months before beginning the pilot.

Otter Tail states that it will report pilot data monthly in a dashboard report, as well as a more detailed report halfway through the pilot, and a "comprehensive assessment" after one year of the pilot. The OAG recommends opening a comment period after Otter Tail files its

<sup>&</sup>lt;sup>38</sup> Xcel collected participant data for nine months before beginning its pilot, but Xcel's pilot was much larger and tracked data by physical premises rather than by customer, so it did not need to consider the possibility of participant turnover in the same way. Because Otter Tail has a smaller sample size, it makes sense to collect data for a shorter period before starting the pilot.

comprehensive assessment so that stakeholder can evaluate the results and make recommendations to the Commission regarding next steps.

## III. OTTER TAIL SHOULD DEVELOP A MORE ROBUST PARTICIPANT EDUCATION PLAN.

Studies have established that a robust customer education program is necessary for TOD rates to achieve optimum demand reductions and to increase the likelihood of public acceptance.<sup>39</sup> If participants do not understand the details of a TOD rate regime – including all of the time windows, differences between weekdays and weekends, seasonal variations, and which appliances they own that contribute the most to their peaks – they will not be able to shift their load enough to meaningfully reduce peak usage and save money. Participants will then be more likely to drop out of the pilot, reducing the quality of pilot data to be studied. Otter Tail's proposed pilot rate design is not simple, particularly because its summer and winter price periods are so different.<sup>40</sup> It will, therefore, take more effort on Otter Tail's part to properly educate pilot participants.

Otter Tail needs a better education plan if the pilot is going to be successful. To its credit, it does mention that it plans to provide materials both online and via physical mail that will describe how the pilot works and how to effectively shift participant load.<sup>41</sup> Importantly, Otter Tail states that it plans to send additional educational materials throughout the pilot, and specifically mentions that it will send reminders about the seasonal changes to the rate.<sup>42</sup> And it already plans to submit a supplemental filing in early 2025 "to provide all parties . . . with a clearer understanding of what customers can expect to receive."<sup>43</sup> The OAG approves of this in principle, but stresses that the

<sup>&</sup>lt;sup>39</sup> TVRs Are Moving From the Periphery to the Mainstream at 14.

<sup>&</sup>lt;sup>40</sup> Amended Filing at 12.

<sup>&</sup>lt;sup>41</sup> *Id.* at 14-15.

<sup>&</sup>lt;sup>42</sup> *Id.* at 15.

<sup>&</sup>lt;sup>43</sup> *Id*.

recruitment and education plan needs to be fully developed well enough in advance of the pilot to enable stakeholders to provide feedback.

The OAG recommends that the supplemental filing include the following information regarding Otter Tail's recruitment and education plan:

- 1. Examples of the messaging that pilot materials will include and a description of the form that they will take (emails, mailers, notices on customer bills, etc.);
- 2. More detailed cost estimates for each feature in Otter Tail's proposed outreach plan;
- Otter Tail's plan for additional training to prepare customer support staff to answer questions about the pilot;
- 4. The timeline of when each step or communication strategy will be implemented; and
- 5. Any other relevant aspects of Otter Tail's proposal for customer outreach and education.

A comment period should open after Otter Tail files its recruitment and education plan to ensure stakeholders can review the plan and recommend changes or improvements if necessary.

### CONCLUSION

TOD rates have become more and more popular, but residential ratepayers in Minnesota still have relatively little experience with them. Pilots such as this are crucial to understanding whether and how TOD rates can help reduce peaks and reduce residential energy bills. To ensure the success of this pilot, the OAG recommends:

 The pilot must include a bill protection mechanism that ensures no participants' annual bill increase more than ten percent compared to what their bill would have been on the standard residential rate. This should take the form of a one-time credit that returns to participants the difference between their actual annual bill and a ten percent increase to their annual bill, only if their actual annual bill is more than ten percent higher than it would have been on the standard residential rate;

- 2. The mid-pilot and post-pilot report from Otter Tail must include analysis of the following:
  - Participation metrics, including the number of participants who are lowincome, identified both by Energy Assistance Program status and by selfidentification during participant signup;
  - b. Customer experience, including satisfaction, preferences, attitudes, acceptance, and comprehension, including awareness of the specific on-peak, mid-peak, and off-peak periods. Surveys should be conducted mid-way through the pilot and after the pilot;
  - c. Participant bill impacts compared to historical participant bills and compared to what a participant's bill would have been on the standard residential rate, including minimum, maximum, and average bill increases/decreases, and charts showing the full distribution of bill impacts annually and by season, overall and for low-income participants;
  - d. The number of participants who received bill protection, overall and for lowincome participants;
  - e. The number of pilot participants who have their service disconnected, if any;
  - f. Participant peak impact (percent reduction in peak usage) and load shifting (percent of load shifted to and from off-peak, peak, and shoulder periods) based on historical participant usage, annually and by season, overall and for lowincome participants;

- g. Load shifting comparison of pilot participants versus residential ratepayers on the traditional rate, annually and by season, overall and for low-income participants; and
- h. System coincident peak impact of TOD participants compared to pre-pilot coincident peak of participants, annually and by season; and
- 3. Otter Tail should file its recruitment and education plan far enough in advance of beginning recruitment to enable a comment period in which stakeholders can evaluate the sufficiency of its plan. The plan it files should include the following:
  - a. Examples of the messaging that pilot materials will include and a description of the form that they will take (emails, mailers, notices on customer bills, etc.);
  - b. More detailed cost estimates for each feature in Otter Tail's proposed outreach plan;
  - c. Otter Tail's plan for additional training to prepare customer support staff to answer questions about the pilot;
  - d. The timeline of when each step or communication strategy will be implemented; and
  - e. Any other relevant aspects of Otter Tail's proposal for customer outreach and education.
- 4. In addition, the OAG requests that Otter Tail address in reply what usage, consumption, and billing data it already collects and whether this data can be used to develop baseline load curves for participants. If this data is not already collected, the OAG recommends collecting load curve, energy usage, and bill information from participants for at least six months prior to beginning the pilot.

Dated: December 17, 2024

Respectfully submitted,

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