

June 14, 2024

Will Seuffert  
Executive Secretary  
Minnesota Public Utilities Commission  
121 7<sup>th</sup> Place East, Suite 350  
St. Paul, Minnesota 55101-2147

RE: **Comments of the Minnesota Department of Commerce**  
Docket No. E017/M-24-30

Dear Mr. Seuffert:

Attached are the comments of the Minnesota Department of Commerce (Department) in the following matter:

Otter Tail Power Company's 2023 Annual Safety, Reliability and Service Quality Report and Proposed SAIFI, SAIDI, and CAIDI Reliability Standards for 2024.

Otter Tail Power Company (Otter Tail, OTP, or the Company) filed the Petition on April 1, 2024.

The Department:

- Recommends the Minnesota Public Utilities Commission (Commission) accept the Company's 2023 Safety and Service Quality Reports.
- Will provide a recommendation on the Company's Annual Service Reliability Report after reviewing the Company's future Supplemental Filing on Institute of Electrical and Electronic Engineers (IEEE) 2023 Benchmarking data that Otter Tail will file later in 2024.
- Recommends the Commission set the 2024 statewide and work center reliability standards at the IEEE benchmarking 2<sup>nd</sup> quartile for medium utilities.

The Department is available to answer any questions the Commission may have.

Sincerely,

/s/ Dr. SYDNIE LIEB  
Assistant Commissioner of Regulatory Analysis

MBK/ad  
Attachment



## Before the Minnesota Public Utilities Commission

### Comments of the Minnesota Department of Commerce

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Docket No. E017/M-24-30

#### I. BACKGROUND

Minnesota Rules, [Chapter 7826](#) (effective January 28, 2003) were developed for the Minnesota Public Utilities Commission (Commission) to establish safety, reliability, and service quality standards for utilities “engaged in the retail distribution of electric service to the public” and to monitor their performance as measured against those standards. There are three main annual reporting requirements set forth in the rule. These are:

1. the annual safety report ([Minnesota Rules 7826.0400](#)),
2. the annual reliability report (Minnesota Rules [7826.0500](#), subp1 and [7826.0600](#), subp. 1), and
3. the annual service quality report ([Minnesota Rules 7826.1300](#)).

In addition to the rule requirement, the Commission has issued five recent Orders that include additional reporting requirements. The Department lists these Orders chronologically.

The Commission’s January 28, 2020 [Order](#) in Docket No. E017/M-19-260 required Otter Tail Power Company (Otter Tail, OTP, or the Company) to include the following in its next annual filing:<sup>1</sup>

- a. Non-normalized SAIDI, SAIFI, and CAIDI<sup>2</sup> values;
- b. SAIDI, SAIFI, and CAIDI values calculated using the IEEE (Institute of Electrical and Electronics Engineers) 2.5 beta method;
- c. MAIFI (Momentary Average Interruption Frequency Index), normalized and non-normalized;
- d. CEMI (Customers Experiencing Multiple Interruptions) – at normalized and non-normalized outage levels of 4, 5, and 6 interruptions;
- e. The highest number of interruptions experienced by any one customer (or feeder);
- f. CELI (Customers Experiencing Lengthy Interruptions) – at normalized and non-normalized intervals of greater than 6, 12, and 24 hours;
- g. The longest experienced interruption by any one customer (or feeder);
- h. A breakdown of field versus office staff required;
- i. Estimated restoration time accuracy;
- j. IEEE benchmarking;
- k. Performance by customer class; and
- l. More discussion of leading causes of outages and mitigation strategies.

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<sup>1</sup> [E017/M-19-260 Order dated January 28, 2020](#), Order Point 2 and Attachment B provide clarification to the [March 19, 2019 Order from E017/M-18-247](#). Attachment B from the Order is included as Department Attachment 9.

<sup>2</sup> SAIDI = System Average Interruption Duration Index, SAIFI = System Average Interruption Frequency Index, CAIDI = Customer Average Interruption Duration Index.

The Commission's December 18, 2020 [Order](#) in Docket No. E017/M-20-401 required the Company to propose a transition to the full benchmarking approach to setting reliability standards, including a discussion of the definition of work centers, benchmarking for individual work centers, and other considerations. The Commission also required the Company to report information on the number of website visits, logins to electronic customer communication platforms, emails from customers, and types of emails from customers. The Commission set service territory-wide and work center-specific reliability standards for OTP based on the IEEE benchmarking second quartile for medium utilities.

In its December 2, 2021 [Order](#) in Docket No. E017/M-21-225, the Commission required the Company to provide additional information regarding:

1. Electronic utility-customer interaction beginning with the reports filed in April 2023.
2. Percentage uptime and error rate percentage information in their annual reports for the next three reporting cycles, to build baselines for web-based services.
3. To continue to provide information on electronic utility-customer interaction such that baseline data are collected:
  - a) Yearly total number of website visits;
  - b) Yearly total number of logins via electronic customer communication platforms;
  - c) Yearly total number of emails or other customer service electronic communications received; and
  - d) Categorization of email subject, and electronic customer service communications by subject, including categories for communications related to assistance programs and disconnections as part of reporting under [Minnesota Rules 7826.1700](#).
4. Public-facing summaries with their annual Safety, Reliability, and Service Quality reports.

Additionally, the Commission's November 9, 2022 [Order](#) in Docket No. E017/M-22-159 required Otter Tail Power to display, either directly or via a link to a PDF file, the utility's public-facing summary on the utility's website placed such that the summary is available to a website user after a single click away from the home page.

Lastly, in its January 18, 2023 [Order](#) in Docket No. E017/M-22-159, the Commission eliminated the standalone Annual Summary of Customer Complaints docket (YY-13) and required the Company to include customer complaint data from [Minnesota Rules 7820.0500](#) in its Annual Service Quality reports with data filed as a part of [Minnesota Rules 7826.2000](#).

On April 1, 2024, OTP filed its [2023 Annual Safety, Reliability, and Service Quality Report and Proposed SAIFI, SAIDI, and CAIDI Reliability Standards for 2024](#) (2023 SQSR Report or Annual Report) in Docket No. E017/M-24-30 to comply with the Commission's recent Orders referenced above and the requirements of [Minnesota Rules, Chapter 7826](#).

On April 26, 2024, the Commission filed a [Notice of Comment Period](#) requesting that parties respond to the following questions:

1. Should the Commission accept Minnesota Power, Otter Tail Power, and Xcel Energy's 2023 Annual Safety, Reliability, and Service Quality Reports?
2. Should the Commission approve Minnesota Power, Otter Tail Power, and Xcel Energy's proposed reliability standards for 2024?
3. Did Xcel Energy fully report the metrics regarding its Emergency Medical Account as ordered in Docket No. 23-233?
4. Are there other issues or concerns related to this matter?

## II. SUMMARY OF REPORT AND DEPARTMENT ANALYSIS

The Minnesota Department of Commerce (Department) reviewed OTP's Annual Report to assess compliance with [Minnesota Rules, Chapter 7826](#) and the Commission's various Orders. The Department used information from past annual reports to facilitate identification of issues and trends regarding OTP's performance.

The Department provides:

- Responses to the Commission's questions;
- A summary of the Department's review of OTP's 2023 Safety, Reliability, and Service Quality Reports;
- A discussion of the Company's reliability standards for 2024; and
- A discussion of the Company's compliance with other Commission Orders.

### A. RESPONSE TO COMMISSION QUESTIONS

1. *Should the Commission accept OTP's Safety, Reliability, and Service Quality Metrics Reports?*

The Department recommends that the Commission accept Otter Tail's Safety and Service Quality Reports. The Department notes that based on its review, Otter Tail has provided all the required information, and reported data for 2023 was generally consistent with its 10-year average, or explained in instances when it was different.

OTP will be supplementing its petition in the fall of 2024 which will include reliability goals developed using the IEEE benchmarking methodology for calendar year 2023. The Department plans to file supplemental comments regarding its review of that information soon after the supplemental filing is received and will provide a recommendation on the Reliability Report at that time.

2. *At what level should the Commission set OTP's 2024 Reliability Standards?*

The Department recommends the Commission continue the current process of using the IEEE Distribution Reliability Group's annual benchmarks for Otter Tails' 2024 Reliability Standards by setting the 2024 statewide and work center reliability standards at the IEEE benchmarking 2<sup>nd</sup> quartile for medium utilities. Additionally, the Department recommends that the Commission require Otter Tail to file a supplement to its 2024 SQSR report 30 days after IEEE publishes the 2024 benchmarking results, with an explanation for any standards the utility did not meet.

The Department notes that Otter Tail will be updating the source of its reliability data in the 2024 Annual Report and expects an increase in reliability metric values, resulting in the appearance of a decline in reliability, as a result of the new Outage Management System (OMS) being able to provide a greater level of granularity than the Company was able to provide in the past. The Company states that over time, this enhanced data will aid in future investment decisions to improve reliability.<sup>3</sup>

3. *Are there other issues or concerns related to this matter?*

The Department does not have additional concerns at this time.

B. *ANNUAL SAFETY REPORT*

The annual safety report consists of two parts in accordance with [Minnesota Rules 7826.0400](#):

- A. A summary of all reports filed with the United States Occupational Safety and Health Administration (OSHA) and the Occupational Safety and Health Division of the Minnesota Department of Labor and Industry (OSHD) during the calendar year; and
- B. A description of all incidents during the calendar year in which an injury requiring medical attention or property damage resulting in compensation occurred as a result of downed wires or other electrical system failures and all remedial action taken as a result of any injuries or property damage described.

The following tables are a compilation of OTP's summaries of the reports the Company filed with OSHA and OSHD for the last ten years.

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<sup>3</sup> Petition, page 14.

**Table 1: Case Data from Reports Filed with OSHA and OSHD  
 (2014 – 2023)**

	Number of Deaths	Number of Cases			Number of Days	
		with Days Away from Work	with Job Transfer or Restriction	Other Recordable Cases	Job Transfer or Restriction	Away from Work
2014	0	2	2	16	48	14
2015	0	3	7	17	349	90
2016	0	3	1	8	240	10
2017	0	1	1	10	41	11
2018	0	1	2	14	152	6
2019	0	3	3	4	239	60
2020	0	2	6	1	451	17
2021	0	1	3	10	214	33
2022	0	4	1	7	9	41
2023 <sup>4</sup>	0	3	2	4	190	49
<b>10-Year Average</b>	<b>0</b>	<b>2.3</b>	<b>2.8</b>	<b>9.1</b>	<b>193.3</b>	<b>33.1</b>
<b>Variance</b>	<b>0</b>	<b>0.7</b>	<b>-0.8</b>	<b>-5.1</b>	<b>-3.3</b>	<b>15.9</b>

The above table shows that the number of cases with days away from work or job transfers or restrictions have been relatively stable over the last ten years while other recordable cases have fluctuated. The Company has not experienced any reportable deaths in the last ten years.

The Department notes that while the 2023 days of job transfer or restriction reflects a significant increase from 2022, it is in line with the recent 10-year average. OTP reported higher-than-average days away from work, at 49 days compared to the 10-year average of 33.1 days.

In response to a Department Information Request (IR), the Company provided additional detail on the Company’s commitment to safety, following medical professionals’ recommendations, and incident intervention services that the Company utilizes to support employee safety. The Company also stated that the employee whose injury resulted in 27 lost workdays in 2023 has since returned to work with no restrictions and is doing well.<sup>5</sup>

In addition to reporting the numbers of cases and days with job transfer/restriction or away from work, OTP also reported on injury and illness types and property damage claims in the safety section of the Annual Report.

<sup>4</sup> Petition, page 8.

<sup>5</sup> Department Attachment 1 (Company Response to Department IR No. 3).

OTP has reported only injuries over the last ten years (no illnesses) in reports filed with OSHA and OSHD. The Company reported nine injuries in 2023 which is below the ten-year average of 13.5 injuries and ties with 2020 as the lowest number of injuries reported since 2014.<sup>6</sup>

Otter Tail achieved its fifth year in a row without any new property damage claims in 2023.

The Department acknowledges OTP's fulfillment of the requirements of Minnesota Rules 7826.0400.

### C. ANNUAL RELIABILITY REPORT

Minnesota Rules [7826.0500](#) through 7826.0700 succinctly delineate the:

- Reliability reporting requirements;
- Reliability standards; and
- Reporting requirements for major service interruptions.

The Department provides a brief summary and analysis of the reliability reporting requirements from statute and as modified by Commission Orders below.

#### 1. Reliability Performance

In accordance with Minnesota Rules 7826.0500, OTP reports the utility's SAIDI, SAIFI, and CAIDI<sup>7</sup> by work center and for all Minnesota customers for each calendar year.

The Commission established a benchmarking approach to setting reliability standards for investor-owned utilities,<sup>8</sup> and has set OTP's statewide and work center reliability standards at the IEEE (Institute of Electrical and Electronic Engineers) benchmarking second quartile for medium utilities.<sup>9</sup>

IEEE does not publish its benchmarking results for the prior year until August of the following year, so OTP does not yet know how the 2023 performance metrics compare to the 2023 benchmarks. The Company will make a supplemental filing within 30 days of when IEEE's 2023 Benchmark Reliability Survey results are completed.<sup>10</sup>

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<sup>6</sup> Petition, page 8.

<sup>7</sup> SAIDI = System Average Interruption Duration Index, SAIFI = System Average Interruption Frequency Index, CAIDI = Customer Average Interruption Duration Index.

<sup>8</sup> The new benchmarking methodology was first adopted in the [Docket No. E017/M-20-401 Order dated December 18, 2020](#) for system-wide reliability standards, Order point 9. This benchmarking methodology was extended to the work-center level in the [Docket No. E017/M-21-225 Order dated March 2, 2022](#), Order point 5. Additionally, this order established four work centers for OTP (Order point 7): Bemidji, Crookston, Fergus Falls, and Morris.

<sup>9</sup> The [Docket No. E017/M-23-76 Order dated December 5, 2023](#) is the most recent Annual Report's order, and maintains the IEEE benchmarking methodology for OTP's reliability standards.

<sup>10</sup> Petition, page 11.

*i. 2022 Performance and Benchmarks*

In Docket No. E017/M-23-76, OTP filed the Company’s reliability benchmarks as informed by the 2022 IEEE Benchmark Reliability Survey that was published in August 2023.

**Table 2: OTP 2022 Reliability Performance vs IEEE Benchmark<sup>11</sup>**

Work Center	Metric	2022 IEEE Benchmark	2022 OTP Performance	Met Benchmark?
Bemidji	SAIDI	143	141.28	Yes
	SAIFI	1.11	1.65	No
	CAIDI	134	85.55	Yes
Crookston	SAIDI	143	151.18	No
	SAIFI	1.11	1.78	No
	CAIDI	134	84.97	Yes
Fergus Falls	SAIDI	143	100.44	Yes
	SAIFI	1.11	1.47	No
	CAIDI	134	68.25	Yes
Morris	SAIDI	143	141.09	Yes
	SAIFI	1.11	2.09	No
	CAIDI	134	67.51	Yes
All MN Customers	SAIDI	143	119.77	Yes
	SAIFI	1.11	1.62	No
	CAIDI	134	73.83	Yes

The Company did not meet the SAIFI benchmark in 2022 for any of OTP’s work centers or for the Minnesota territory-wide region. OTP performed well overall on the SAIDI and CAIDI metrics, with only Crookston’s SAIDI exceeding the benchmark (performing worse than the goal). The Company stated that it believes that these SAIFI values are indicative of OTP’s unique rural service territory and low customer density which requires greater system exposure to service fewer customers per mile of transmission or distribution line relative to the average benchmark survey participant.

The Company experienced a system peak for SAIFI in 2022. There were several severe weather events in 2022 including a Derecho (straight-line windstorm) on May 12 that severely impacted the Morris customer service center. Otter Tail noted that while this event was a major event day (and as a result excluded from the normalized data), this and other severe weather events in 2022 created weak points in the system, contributing to several interruptions in the following weeks and months.<sup>12</sup>

<sup>11</sup> Docket No. E017/M-23-76. Actuals from [Initial Filing](#) dated April 3, 2023, Table 4 at page 12. IEEE Benchmarks from [IEEE Supplemental Filing](#) dated August 15, 2023, Table 1 at page 2.

<sup>12</sup> Department Attachment 2 (Company response to Department IR No. 5).



The Department provided further commentary on the 2022 performance in its [letter](#) dated September 28, 2023 in Docket No. E017/M-23-76.

*ii. 2023 Performance*

Since 2023 IEEE Benchmark Reliability Survey results will not be available until August, the Department reviewed 2023 performance against the 2022 IEEE benchmarks to serve as a useful proxy for the yet-to-be-calculated 2023 benchmarks. The following table shows the Company’s 2023 reliability performance compared with the 2022 goals set to IEEE second quartile benchmarks for medium utilities.

**Table 3: OTP’s 2023 Reliability Performance Compared with 2022 IEEE Benchmark<sup>13</sup>**

Work Center	Metric	2023 OTP Performance	2022 IEEE Benchmark
Bemidji	SAIDI	106.29	143
	SAIFI	1.94	1.11
	CAIDI	54.73	134
Crookston	SAIDI	128.63	143
	SAIFI	1.70	1.11
	CAIDI	75.57	134
Fergus Falls	SAIDI	70.96	143
	SAIFI	1.04	1.11
	CAIDI	68.24	134
Morris	SAIDI	135.71	143
	SAIFI	1.61	1.11
	CAIDI	84.15	134
All MN Customers	SAIDI	96.28	143
	SAIFI	1.38	1.11
	CAIDI	69.89	134

In Table 6, the text highlighted in green indicates that the 2023 performance met the 2022 IEEE benchmark while red highlighted text indicates that the 2023 performance did not meet the 2022 benchmark.

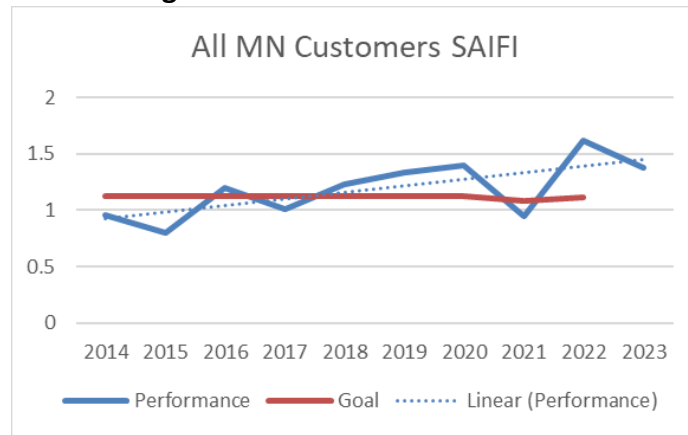
The Department notes that this comparison is meant to provide a point of reference for OTP’s actual 2023 reliability performance compared to the most-recent available goals. The Department will provide an updated letter reviewing the 2023 performance against the 2023 benchmarks after the Company submits its supplemental filing with the 2023 IEEE Benchmark Results Survey.

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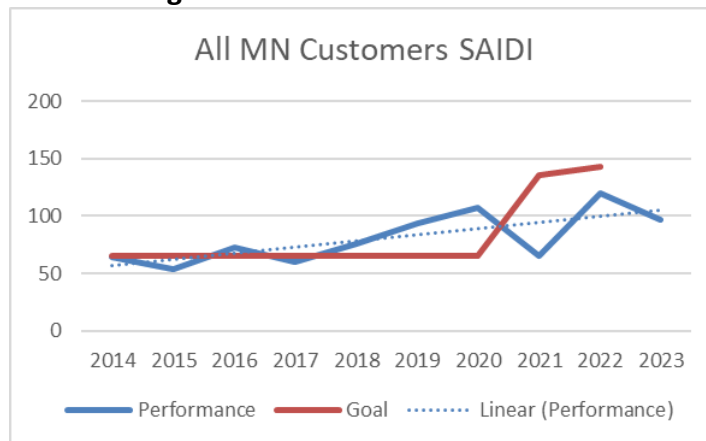
<sup>13</sup> Performance data for 2023 is from petition, page 11. IEEE Benchmarks for 2022 is from [IEEE Supplemental Filing](#) dated August 15, 2023, Table 1 at page 2.

The Department provides Figures 1 – 3 below, showing OTP’s All MN Customer’s SAIFI, SAIDI, and CAIDI performance rates and goals over the last five years. As the figures show, the Company’s SAIFI, SAIDI, and CAIDI rates have all trended up over the last five years. The benchmarking goals have fluctuated, so achievement of goals has also fluctuated. OTP described system upgrades and maintenance activities intended to improve future performance in its action plan for remedying any failure to comply with reliability standards<sup>14</sup> and in Department Attachment 2.<sup>15</sup>

**Figure 1: All MN Customers SAIFI**

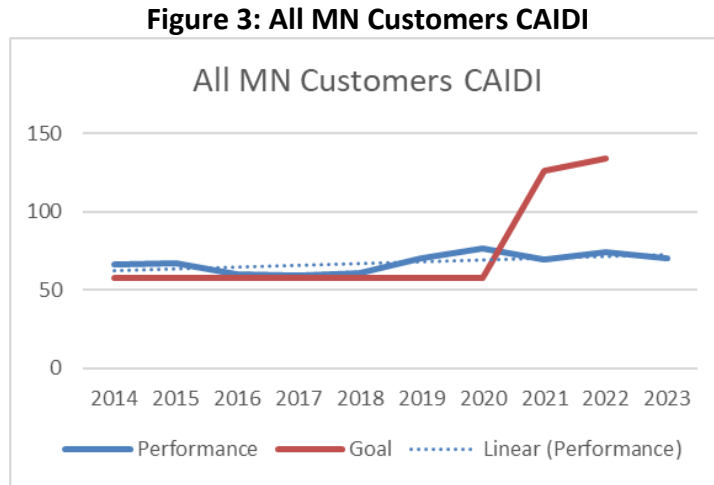


**Figure 2: All MN Customers SAIDI**



<sup>14</sup> Petition, page 14.

<sup>15</sup> Department Attachment 2 (Company response to Department IR No. 5).



Based on its review of Otter Tail’s 2023 system-wide reliability requirements reporting, the Department concludes the Company appears to have fulfilled the requirements of [Minnesota Rules 7826.0500](#) subpart 1A, B, and C.

*iii. Transition to OMS Data*

Otter Tail’s new Outage Management System (OMS) went live in December 2022, and will be the data source for reliability performance reporting beginning with the 2024 Annual Report. Otter Tail anticipates future increases in reported SAIFI, SAIDI, and CAIDI as a result of OMS’ ability to provide more granular information than the Company’s Interruption Monitoring System (IMS) which was the reliability performance data source through the 2023 Annual Report.<sup>16</sup>

In response to Department IR No. 7, the Company provided the 2023 performance data from the OMS and noted that Itron AMI meters are currently being replaced as part of the system AMI deployment, and IMS data will not be available going forward.<sup>17</sup>

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<sup>16</sup> Petition, page 14.

<sup>17</sup> Department Attachment 3 (Company response to Department IR No. 7).

**Table 4: 2023 OTP Reliability Performance Data from IMS vs OMS for 2023**

Metric	Work Center	2023 IMS Data <sup>18</sup>	2023 New OMS Data <sup>19</sup>	Difference (OMS – IMS data)
SAIDI	Bemidji	106.29	106.46	0.17
	Crookston	128.63	163.59	34.96
	Fergus Falls	70.96	194.21	123.25
	Morris	135.71	203.51	67.80
	MN Total	96.28	NA*	
SAIFI	Bemidji	1.94	1.22	(0.72)
	Crookston	1.70	1.62	(0.08)
	Fergus Falls	1.04	1.95	0.91
	Morris	1.61	1.35	(0.26)
	MN Total	1.38	NA*	
CAIDI	Bemidji	54.73	87.29	32.56
	Crookston	75.57	101.17	25.60
	Fergus Falls	68.24	99.8	31.56
	Morris	84.15	150.36	66.21
	MN Total	69.89	NA*	

*\*See footnote 20, information Not Available (NA).*

As Table 4 above shows, the 2023 OMS data reflects higher average interruption duration indexes (SAIDI and CAIDI) than the IMS data for the same period. This reflects the greater level of granularity that OTP anticipates the OMS being able to provide, and the Company anticipates using this enhanced data to inform future investment decisions.<sup>20</sup> In comparing 2023 OMS data to 2022 IMS data, the Department notes that 2023 OMS data indicates worse performance; however, when comparing IMS data for 2023 and 2022, the Company saw improved performance in 2023.

As discussed in the Department’s September 28, 2023 [letter](#) in Docket No. E017/M-23-76, the Department expects to see more volatility in SAIDI, SAIFI, and CAIDI reported values as OTP begins reporting reliability performance data from the OMS. The Department anticipates that it will take several years of data reported from the OMS to begin to be able to assess trends in the Company’s reliability metrics included in the Annual Report and as the Company is not able to report IMS data after 2023.

<sup>18</sup> Petition, page 11.

<sup>19</sup> Department Attachment 3 (Company response to Department IR No. 7). \*MN Total data from OMS for 2023 was not available at the time that the Company responded to Department IR 7. OTP staff advised that they expect to be able to provide this figure in the supplemental filing in the fall and will be able to report this figure on a go-forward basis in future SRSQ reports as they transition to reporting OMS data next year.

<sup>20</sup> Petition, page 14.

## 2. *Storm-Normalization Method*

OTP calculated its 2023 SAIDI, SIAFI, and CAIDI indexes using the IEEE 2.5 beta method for storm normalization; however, OTP reported that there were no Major Event Days (MED) in Minnesota in 2023, so the normalized and non-normalized values are the same. There was one Major Event Day in OTP's entire system in 2023 which caused prolonged interruptions and equipment damage in North Dakota as a result of a severe ice storm.<sup>21</sup>

The Department acknowledges OTP's fulfillment of the requirements of Minnesota Rules 7826.0500, subpart 1D.

## 3. *Action Plan to Improve Reliability*

Otter Tail provided its original action plan as a [compliance filing](#) per the Commission's Order in its 2011 Annual Report. The Company has provided regular updates in its Annual Reports since that time and cautions that "overall system improvements will be realized over longer periods of time," but its proposed action plan signifies continued contribution towards cost-effective improvement of overall system reliability.<sup>22</sup>

The action plan is detailed in pages 14 – 16 of the Petition, and the Department highlights a few of the updates below:

- **Outage Management System (OMS).** As discussed in the reliability performance section above, OTP's new OMS system went live in December 2022 and will provide more granular data than the Company was previously able to provide on interruptions. This is anticipated to result in higher than historical interruption values, but the enhanced data will also help inform future investments.<sup>23</sup>
- **GIS Data Integration & Improvements.** Otter Tail started work in 2021 to improve the quality of its GIS data through a data collection effort performed by a third party. The data collection was completed in 2023, and quality review was completed in March 2024. OTP will use the data to better inform reliability improvement projects and continue the integration of critical system data into its GIS.<sup>24</sup>
- **Vegetation Management Improvement.** OTP signed a 1-year pilot program with AiDash in mid-2023 which allows the company to use satellite imagery in combination with AI to direct vegetation management more strategically and efficiently.<sup>25</sup>

The Department acknowledges OTP's fulfillment of the requirements of Minnesota Rules 7826.0500, subpart 1E.

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<sup>21</sup> Petition, page 10.

<sup>22</sup> Petition, page 16.

<sup>23</sup> Petition, page 14.

<sup>24</sup> Petition, page 15.

<sup>25</sup> Petition, page 16.

#### 4. *Bulk Power Supply Interruptions*

OTP reported that its customers experienced two interruptions to its Minnesota bulk power supply facility in 2023.<sup>26</sup>

- On February 3, 2023, a conductor fed from the MPC Oslo 115 KV substation failed, impacting 587 OTP customers in the Oslo and Manvel area for 84 minutes.
- On September 28, 2023, a protection relay failed at the MPC Winger 230 KV substation, impacting 791 OTP customers in the Callaway, Ogema, White Earth, and Waubun area for 67 minutes.

In response to a Department IR, the Company provided further detail on the February 3 event at MPC Oslo. The conductor failed due to an improperly installed trunnion clamp which caused increased vibration and conductor movement. Following the repair, service representatives patrolled the entire line to identify and correct other problematic installations. OTP no longer uses this type of trunnion clamp and selected a replacement with greater vibration dampening characteristics.<sup>27</sup>

The Department acknowledges OTP's fulfillment of the requirements of Minnesota Rules 7826.0500, subpart 1F.

#### 5. *Major Service Interruptions*

On December 18, 2020, the Commission granted OTP a variance to [Minnesota Rule 7826.0500](#), subpart 1G, which required Otter Tail to provide a copy of each report filed under [Minnesota Rules 7826.0700](#).<sup>28</sup> Instead, OTP now provides a summary table that includes the information contained in the reports in Attachment 1 to the 2023 SRSQ Report.

The Company reported 26 major service interruptions in 2023<sup>29</sup> compared to 21 in 2022. The interruption which affected the most customers (2,665) occurred on April 5, 2023, and the interruption that lasted the longest (four hours and four minutes for 257 customers and one hour and nine minutes for 506 customers) occurred on July 16, 2023. Both were related to weather. The interruption from the April event was caused by heavy ice and high winds from a storm. OTP has developed design improvements to help mitigate future interruptions on transmission lines related to wind and ice. The July interruption was preceded by a lightning strike nearby; lightning arrestors near this location have been replaced.<sup>30</sup>

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<sup>26</sup> Ibid.

<sup>27</sup> Department Attachment 4 (Company response to Department IR No. 8).

<sup>28</sup> [Docket No. E017/M-20-401 Order dated December 18, 2020](#), order point 4.

<sup>29</sup> Petition, Attachment 1 includes the major service interruption reporting and lists events by month as well as a count by month. The December summary lists two events, but three individual events are listed; OTP staff confirmed via email that there were three qualifying events in December.

<sup>30</sup> Department Attachment 5 (Company response to Department IR No. 9).

The Department acknowledges OTP’s fulfillment of the requirements of Minnesota Rules 7826.0500, subpart 1G as varied by the Commission.

6. *Worst Performing Circuit*

Otter Tail uses customer interruptions (momentary and sustained) to determine the worst performing circuit and defines circuit as a distribution feeder.<sup>31</sup>

The Department uses past annual reports’ historical data to identify potential areas of concern with feeders that have been repeat worst performers. In 2023, the worst performing feeders by Customer Service Center (CSC) included a few repeat poor performers.

**Table 5: OTP’s Worst Performing Circuit Details**

CSC	Feeder	Substation	Recent Worst Performer Record
Fergus Falls	North Feeder	Ottertail City	Last five years
Bemidji	Main Feeder	Twin Valley	Three out of the last four years
Crookston	South Feeder	Crookston Barrette St.	Last two years
Morris	North Feeder	Wheaton	New worst performer

OTP experienced peak SAIDI values for most of its system in 2022. The SAIDI and CAIDI at Fergus Falls’ North Feeder and Crookston’s South Feeder improved in 2023 compared to 2022 while these metrics increased at Bemidji’s Main Feeder in 2023. In 2023, Morris’ North Feeder from the Wheaton substation was reported as the worst performing circuit for the first time.

OTP described efforts at these feeders to address performance issues including vegetation management and upgrades. OTP is completing a project to convert overhead to underground cabling at Fergus Falls’ North Feeder, and after supply chain issues led to a delay in 2023, the Company took delivery of padmount transformers for this project in January 2024 that will allow OTP to complete these upgrades.<sup>32</sup>

The Department acknowledges OTP’s fulfillment of the requirements of Minnesota Rules 7826.0500, subpart 1H.

7. *Compliance with ANSI Voltage Standards*

OTP provided updated data on instances in which nominal electric service voltages on the utility’s side of the meter were greater or less than the American National Standards Institute (ANSI) standards in response to a Department IR (limiting the response to events affecting Minnesotan customers). This update is included in Table 6 below which shows that below/above threshold events have been increasing over the last five years.

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<sup>31</sup> Petition, page 17.

<sup>32</sup> Petition, pages 17 – 19.

**Table 6: Summary of Below/Above Threshold Events in Minnesota (2019 – 2023)<sup>33</sup>**

	2019	2020	2021	2022	2023
Below Threshold Events	131	407	456	1,137	1,846
Above Threshold Events	58,341	152,630	164,198	204,683	250,332

In addressing the increase in events over time, OTP explained that 2019 values were based on voltage violations lasting greater than five minutes, and the Company began reporting instantaneous intervals in 2020, which resulted in larger values. The Company has not performed a systemic analysis of the change in threshold events and stated that it is not feasible with the AMI bellwether configuration but may be possible in the future after their full AMI deployment. OTP does investigate circuits with excessive below/above threshold events and is pursuing remediation steps to address.<sup>34</sup>

The Department acknowledges OTP’s fulfillment of the requirements of Minnesota Rules 7826.0500, subpart 1l.

*8. Work Center Staffing Levels*

OTP provided information on staffing levels by work center as of December 31, 2023. The following table summarizes total staffing levels over the past 10 years.

**Table 7: OTP Work Center Staffing Levels (2014 – 2023)<sup>35</sup>**

Year	Field	Office	Total
2014	107	33	140
2015	114	29	143
2016	116	32	148
2017	111	43	154
2018	123	39	132
2019	122	43	165
2020	121	45	166
2021	86	45	131
2022	92	45	137
2023	89	50	139
<b>10-Year Avg</b>	<b>108.1</b>	<b>40.4</b>	<b>145.5</b>
<b>Variance</b>	<b>(19.1)</b>	<b>9.6</b>	<b>(6.5)</b>

Otter Tail explained in the 2021 Annual Report that the observed decrease in work center staffing between 2020 and 2021 is the result of an accounting change, and operationally the number of staff

<sup>33</sup> Department Attachment 6 (Company response to Department IR No. 10) at page 2.

<sup>34</sup> Ibid.

<sup>35</sup> Petition, page 26.



available did not change. When OTP consolidated Minnesota-based facilities in the Milbank and Wahpeton customer service centers, the Company began to include only staff working on Minnesota-jurisdictional projects in the revised Morris and Crookston work center figures.<sup>36</sup>

The Company has been decreasing field staff and increasing office staff in recent years. OTP's new OMS went live in December 2022, and the Company added six new OMS operators to the Customer Care and Relations department. The Company noted that it anticipates employee reductions as a result of AMI implementation between now and 2032.<sup>37</sup>

The Department acknowledges OTP's fulfillment of the requirements of Minnesota Rules 7826.0500, subpart 1J.

#### *9. Other Information*

This section of OTP's Annual Report provided updates on continuing developments from the Company's efforts to utilize power quality monitors, deploy AMI meters and its new OMS, measure reliability, and improve grid resilience and reliability as discussed in its Integrated Distribution Plan (IDP).<sup>38</sup>

The Department appreciates OTP's efforts and additional information provided and acknowledges OTP's fulfillment of the requirements of Minnesota Rules 7826.0500, subpart 1K.

#### *D. PROPOSED RELIABILITY STANDARDS FOR 2024*

Otter Tail proposes to continue to set reliability indices at IEEE's Reliability Benchmark Survey median values for medium-sized utilities for the corresponding year's data set, i.e. 2024 goals will be based on the 2024 IEEE Benchmark Survey results, anticipated to become available in August 2025.<sup>39</sup>

Please see section C.1. for further commentary on OTP's reliability performance and standards for 2022 and 2023.

#### *E. ANNUAL SERVICE QUALITY REPORT*

Minnesota Rules [7826.1300](#) requires each utility to file information regarding the reporting requirements detailed in Minnesota Rules 7826.1400 through 7826.2000 regarding service quality performance.

The Department provides a brief summary and analysis of the service quality reporting requirements from statute and as modified by Commission Orders below.

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<sup>36</sup> Docket No. E017/M-22-159 [Initial Filing](#) dated April 1, 2022 at pages 26 – 27.

<sup>37</sup> Petition, page 27.

<sup>38</sup> Petition, page 28 – 29. OTP's IDP is Docket No. E017/RP-23-380.

<sup>39</sup> Petition, page 3.

1. *Meter-Reading Performance* ([Minn. R. 7826.1400](#))

The following information is required for reporting on meter-reading performance by customer class for each month:

- A. The number and percentage of customer meters read by utility personnel;
- B. The number and percentage of customer meters self-read by customers;
- C. The number and percentage of customer meters that have not been read by utility personnel for periods of six to 12 months and for period of longer than 12 months, and an explanation as to why they have not been read; and
- D. Data on monthly meter-reading staffing levels, by work center or geographical area.

OTP provided detailed meter-reading information, including information on its monthly meter-reading staffing levels. Table 8 summarizes OTP’s meter-reading statistics.

**Table 8: Meter-Reading Performance 2014 – 2023<sup>40</sup>**

	<b>Percent Read by OTP</b>	<b>Percent Read by Customer</b>	<b>Percent Not Read</b>
2014	95.9%	1.8%	2.4%
2015	95.9%	1.7%	2.4%
2016	96.4%	1.5%	2.2%
2017	96.4%	1.5%	2.2%
2018	97.3%	1.5%	1.2%
2019	97.5%	1.3%	1.2%
2020	97.1%	1.3%	1.6%
2021	97.0%	1.4%	1.6%
2022	96.5%	1.1%	2.4%
2023	96.7%	0.8%	2.5%
<b>5-Year Average (2019 – 2023)</b>	<b>96.95%</b>	<b>1.19%</b>	<b>1.85%</b>

OTP’s meter-reading performance over the years had remained consistent, and 2023 was no departure from this trend.

[Minnesota Rules 7826.0900](#), subpart 1 requires that at least 90% of all meters during the months of April through November and at least 80% of all meters during the months of December through March are read monthly. The Company’s information reflects that it read at least 94.8% of all meters each month during 2023. According to OTP, there were 30 meters that were not read for a period of six to 12 months and one meter which was not read for a period of greater than 12 months in 2023. The Company stated that these meters went unread due to access issues where meters were located in

<sup>40</sup> Petition, Table 22 Otter Tail Power Company Meter Reading Performance for Total – MN at page 44.

locked buildings or otherwise inaccessible due to obstructions and that in all instances OTP worked with the customer to obtain access and readings.<sup>41</sup>

The Company reported that it maintained an average of 50 meter-reading customer service representatives in 2023.<sup>42</sup> OTP also uses third parties to read meters in select cities within the Company’s service territory. As the Company implements more AMI meters, OTP anticipates reducing meter-reading staff<sup>43</sup> and will narrow third party meter reading services.<sup>44</sup>

The Department acknowledges OTP’s fulfillment of the requirements of Minnesota Rules 7826.1400.

2. *Involuntary Disconnections* ([Minn. R. 7826.1500](#))

The following table summarizes residential customer disconnection statistics reported by OTP in its annual reports.

**Table 9: Residential Customer Involuntary Disconnect Information<sup>45</sup>**

	Received Disconnect Notice	CWR Protection			Disconnected Involuntarily	Restored within 24 Hours		Restored by Entering Payment Plan
		Sought	Granted	% Granted		Count	%	
2014	44,894	1,430	1,424	99.6%	1,413	619	43.8%	104
2015	49,185	1,130	1,125	99.6%	629	232	36.9%	66
2016	49,368	932	928	99.6%	924	301	32.6%	42
2017	48,421	817	814	99.6%	1,044	415	39.8%	33
2018	62,201	659	657	99.7%	1,022	403	39.4%	32
2019	51,024	441	398	90.2%	463	146	31.5%	27
2020	14,082	121	82	67.8%	55	15	27.3%	17
2021	28,624	360	292	81.1%	702	330	47.0%	76
2022	43,732	444	379	85.4%	853	395	46.3%	78
2023	53,194	911	811	89.0%	1,239	614	49.6%	103
<b>10-Yr Avg</b>	<b>44,473</b>	<b>725</b>	<b>691</b>	<b>91.2%</b>	<b>834</b>	<b>347</b>	<b>39.41%</b>	<b>58</b>

OTP reported that 57,690 disconnection notices were sent to residential, small commercial, and large commercial customers in 2023 with 53,194 (92%) of these notices being for residential customers. The Department anticipated an increase in disconnection notices following the end of the disconnection

<sup>41</sup> Petition, page 44.

<sup>42</sup> Petition, page 45.

<sup>43</sup> Petition, page 27.

<sup>44</sup> Petition, page 46.

<sup>45</sup> Department corrections made to historical data as needed to limit table data to residential customers and reflect corrected involuntary disconnect totals. Data retrieved from prior years’ reports (Docket Nos. E017/M-15-322, E017/M-16-276, E017/M-17-256, E017/M-18-247, E017/M-19-260, E017/M-20-401, E017/M-21-225, E017/M-22-159, E017/M23-76). 2023 data comes from Petition, Tables 24, 25, and 26.

moratorium, and the current notice levels are in line with the years immediately preceding the COVID-19 pandemic.<sup>46</sup>

OTP noted that the difference between the number of customers seeking and granted cold weather rule protection is due to customers choosing an alternative payment option or obtaining payment assistance, not being denied cold weather rule protection.<sup>47</sup>

The Department acknowledges OTP's fulfillment of the requirements of Minnesota Rules 7826.1500. The Department asks that OTP begin including annual totals by customer class to the data reporting number of customers whose service was disconnected involuntarily, and the number of those customers restored to service within 24 hours (Table 26 in the 2023 SRSQ Report).

3. *Service Extension Request Response Times* ([Minn. R. 7826.1600](#))

The following information is required for reporting on service extension request response times by customer class and calendar month:

- A. The number of customers requesting service to a location not previously served by the utility and the intervals between the date service was installed and the later of the in-service date requested by the customer or the date the premises was ready for service; and
- B. The number of customers requesting service to a location previously served by the utility, but not served at the time of the request, and the intervals between the date service was installed and the later of the in-service date requested by the customer or the date the premises were ready for service.

OTP reported the number of service extensions requests received each month by customer class. In 2023, 421 customers requested service to a location not previously served with 37% of these requests were installed within zero to two days of the requested in-service date.<sup>48</sup> This figure represents a decline from OTP's recent service extension request response time for locations not previously served. In responding to a Department IR, OTP noted that the Company has historically used the start date of the service order when reporting this metric, which does not account for delays caused by a site not being ready for service. OTP will be adding a field to track the date that the location is ready for service to improve the reporting for this metric going forward.<sup>49</sup>

For locations previously served, OTP reported that 1,422 requests were made in 2023 with 89% installed within zero to two days of the requested in-service date.<sup>50</sup>

The Department acknowledges that OTP has fulfilled the requirements of Minnesota Rules 7826.1600.

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<sup>46</sup> The disconnection moratorium was in effect from March 2020 to August 2021. See Docket E, G999/CI-20-375.

<sup>47</sup> Petition, page 48.

<sup>48</sup> Petition, pages 52 – 55, Tables 28 to 31.

<sup>49</sup> Department Attachment 7 (Company response to Department IR No. 11).

<sup>50</sup> Petition, pages 56 – 59.

4. *Call Center Response Times* ([Minn. R. 7826.1700](#))

The annual service quality report must include a detailed report on monthly call center response times, including calls to the business office and calls regarding service interruptions. Further, Minnesota Rules 7826.1200 requires that 80% of calls be answered within 20 seconds.

Table 10 below summarizes OTP’s annual call center response times over the last five years.

**Table 10: Call Center Response Times**

<b>Year</b>	<b>Calls Offered</b>	<b>Calls Abandoned</b>	<b>Calls Answered After 20 Seconds</b>	<b>Calls Answered within 20 Seconds</b>	<b>% Calls Answered within 20 Seconds</b>
	<b>(A)</b>	<b>(B)</b>	<b>(C)</b>	<b>(D)</b>	<b>(E = D/A)</b>
2019	66,555	1,682	11,768	54,787	82.32%
2020	55,180	192	3,097	51,891	94.04%
2021	53,747	527	3,097	50,123	93.26%
2022	56,022	556	5,458	50,008	89.26%
2023 <sup>51</sup>	54,752	892	11,779	42,081	76.86%

OTP did not meet the requirement to answer 80% of calls within 20 seconds. In 2023, OTP answered an average of 76.86% of calls within 20 seconds. January was the lowest performance month with 63.4% of calls answered within 20 seconds, and November was the highest performance month with 92.2% of calls answered within 20 seconds.

The Company attributed these rates to turnover in customer service representative (CSR) roles and had 11 staff complete the new CSR training in 2023. The call center response times rebounded late in 2023.

The Department concludes OTP is in compliance with the reporting required under Minnesota Rules 7826.1200 and has been working to improve call answer times through CSR staffing.

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<sup>51</sup> Department Attachment 8 (Company response to Department IR 1) provides an update to the Petition’s Table 36 on page 60.

5. *Emergency Medical Account Status* ([Minn. R. 7826.1800](#))

The reporting on emergency medical accounts must include the number of customers who requested emergency medical account status under Minnesota Statutes section 216B.098, subdivision 5, the number of applications granted, the number of applications denied, and the reasons for each denial.

In 2023, ten OTP customers requested, and all were granted emergency medical account status. This is an increase from six customers who requested and were granted emergency medical account status in 2022.

The Department acknowledges OTP's fulfillment of the requirements of Minnesota Rules 7826.1800.

6. *Customer Deposits* ([Minn. R. 7826.1900](#))

No customers were required to make a deposit as a condition of receiving service in 2023.

OTP suspended customer deposits in 2020, during the COVID-19 pandemic, and the Company made the decision to stop collecting deposits. The Company will continue to assess the need for deposits and reinstate the process to collect deposits if needed.

The Department acknowledges OTP's fulfillment of the requirements of Minnesota Rules 7826.1900.

7. *Customer Complaints* ([Minn. R. 7826.2000](#))

The reporting on customer complaints must include the following information by customer class and calendar month:

- A. The number of complaints received;
- B. The number and percentage of complaints alleging billing errors, inaccurate metering, wrongful disconnection, high bills, inadequate service, and the number involving service-extension intervals, service-restoration intervals, and any other identifiable subject matter involved in 5% or more of customer complaints;
- C. The number and percentage of complaints resolved upon initial inquiry, within 10 days, and longer than 10 days;
- D. The number and percentage of complaints resolved by taking: the action the customer requested, a mutually agreed upon compromise, providing the customer with information that demonstrates the grieved situation is not within the utility's control, or refusing to take the action requested by the customer; and
- E. The number of complaints forwarded to the utility by the Commission's Consumer Affairs Office (CAO) for further investigation and action.

OTP's report on customer complaints included the required information. Table 11 contains a limited summary of OTP's customer complaint history.

**Table 11: Customer Complaint Selected Summary (2014 – 2023)<sup>52</sup>**

Year	Number of Complaints	# Forwarded by CAO	% Resolved on Initial Inquiry	% Resolved by Taking Customer-Requested Action	Top Complaint	
					Category <sup>53</sup>	%
2014	98	3	82.6%	31.3%	High Bills	12%
2015	86	4	76.7%	23.3%	Alleged Billing Errors & High Bills (tie)	22% (each)
2016	28	2	93.0%	53.6%	Walk-in Service	17.9%
2017	33	2	91.0%	24.2%	Alleged Billing Errors	15.63%
2018	34	5	47.0%	20.6%	Property Damage	47.06%
2019	28	13	54.0%	82.1%	High Bills	17.86%
2020	30	4	80.0%	46.7%	High Bills	30.00%
2021	113	7	94.0%	18.0%	Alleged Billing Errors	58.41%
2022	109	7	82.0%	40.0%	High Bills	30.28%
2023	85	5	95.0%	43.5%	Inadequate Service – Field/Operations	45.88%
<b>10-Year Average</b>	<b>64.4</b>	<b>5</b>	<b>79.5%</b>	<b>38.3%</b>		

The Company received five customer complaints that were forwarded from the Commission’s CAO, which matches the 10-year average of complaints forwarded by the CAO to OTP. OTP resolved four of these complaints and is working with CAO to resolve the remaining complaint.

The total number of complaints in 2023 was 85 which is down from 2022 but remains above the 10-year average of 64.4. In the Company’s Reply Comments in Docket No. E017/M-23-76, OTP noted that complaint logging increased in 2021 and 2022 as a result of increased touchpoints for training on complaints including implementing an annual refresher for CSRs. The Company also noted that CSRs use their best judgment when logging complaints.<sup>54</sup>

The Department acknowledges OTP’s fulfillment of the requirements of Minnesota Rules 7826.2000.

<sup>52</sup> Petition, pages 64-67.

<sup>53</sup> Table 13 excludes “Other” as the top complaint category in favor of the top descriptive complaint category. “Other” was the top complaint category in 2014, 2015, 2016, 2017, 2018 (tie), 2020, and 2022.

<sup>54</sup> Docket No. E017/M-23-76 [OTP Reply Comments](#) dated June 30, 2023 at page 3.

F. *COMPLIANCE WITH PERTINENT COMMISSION ORDERS*

The following section covers OTP's compliance with Commission Orders requiring additional data to be included in the Annual Report.

1. *Docket No. E017/M-19-260 [Order](#) dated January 28, 2020<sup>55</sup>*

The Commission's January 28, 2020 Order in Docket No. E017/M-19-260 included Attachment B: Updated Annual Reporting Requirements.<sup>56</sup> The Department summarizes OTP's compliance with each reporting requirement in turn below.

The requirements outlined in Attachment B include some reliability performance metrics that were discussed earlier in these comments as well as some additional metrics.

The Department notes that the Order required utilities to provide normalized and non-normalized data for several metrics. From the Department's perspective, normalizing data may be useful when looking at broad system trends such as SAIDI and SAIFI, and average customer impacts such as CAIDI and MAIFI can be deduced by these system trends. In contrast, the purpose of capturing CEMI and CELI is to better understand extremes (rather than averages), so normalizing this data seems to minimize the impact of multiple or lengthy interruptions experienced by customers by erasing the most extreme examples. With that said, the Department can appreciate the usefulness of being able to compare normalized and non-normalized data, and so will not make a reporting recommendation at this time.

*i. Non-normalized SAIDI, SAIFI, and CAIDI values*

There were no major event days in 2023 affecting Minnesota customers, so the normalized and non-normalized SAIDI, SAIFI, and CAIDI values were identical. OTP provided this information on page 11 of the Petition. The Department provided commentary on these values in section C.1. above.

*ii. Normalized SAIDI, SAIFI, and CAIDI values*

See above.

*iii. MAIFI<sup>57</sup> – Normalized and Non-normalized*

OTP provided this information on page 33 of its 2023 SQSR Report. Table 12 shows the Company's MAIFI values for 2023; the normalized and non-normalized values were the same in 2023.

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<sup>55</sup> The [January 28, 2020 Order in Docket No. E017/M-19-260](#) provides clarification of the reporting requirements that the [Order dated March 19, 2019 in Docket No. E017/M-18-247](#) set. Department Attachment 9 provides Attachment B from the clarifying order.

<sup>56</sup> The Order's Attachment B is included as Department Attachment 9.

<sup>57</sup> MAIFI = Momentary Average Interruption Frequency Index.



**Table 12: 2023 MAIFI (Normalized and Non-normalized are the same)**

Work Center	MAIFI
Bemidji	4.52
Crookston	6.51
Fergus Falls	3.46
Morris	3.87
MN Total	4.05

These values are within the range of MAIFI values over the last five years and reflect a decrease from the 2022 MAIFI for all work centers and for the Minnesota system-wide total.

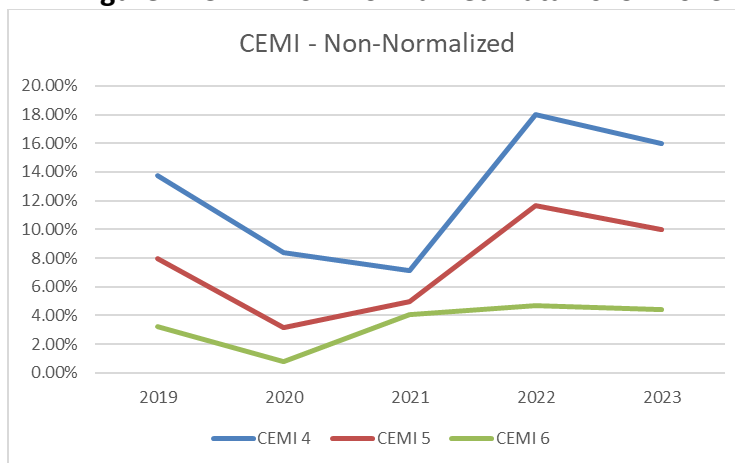
*iv. CEMI<sup>58</sup> – Normalized and Non-normalized outage levels of 4, 5, and 6*

OTP provided this information in Tables 10 and 10a on pages 33 – 34 of its Annual Report. Table 13 below shows the Company’s CEMI performance for 2023 at various intervals, and Figure 4 shows the CEMI trends over the last five years.

**Table 13: 2023 Non-normalized and Normalized CEMI 4, 5, 6**

Number of Interruptions	Non-Normalized	Normalized
4+	15.98%	12.97%
5+	9.96%	6.59%
6+	4.41%	2.75%

**Figure 4: CEMI Non-Normalized Data 2019 - 2023**



CEMI was at a five-year peak in 2022, and is down modestly in 2023, though still above the 2021 values.

<sup>58</sup> CEMI = Customers Experiencing Multiple Interruptions.

v. *Highest number of interruptions experienced by any one customer*

OTP provided this information on page 34 of its Annual Report. OTP stated that the North Feeder fed from the Wheaton substation experienced the most interruptions and was the Morris CSC’s worst performing circuit with five sustained and 12 momentary interruptions. The causes of the sustained interruptions included overhead line conductor failure, two of which were due to icing breaking off tree limbs. This feeder was last trimmed in 2019 and is schedule to be trimmed again in 2024. The feeder is also scheduled for upgrades in 2024.<sup>59</sup>

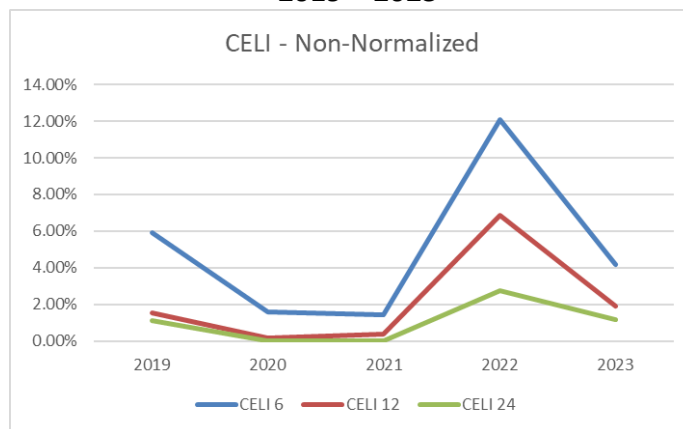
vi. *CELI<sup>60</sup> – Normalized and Non-normalized at intervals greater than 6, 12, and 24 hours*

OTP provided this information in Tables 11 and 11a on page 34 of its Annual Report. Table 14 below shows the Company’s CELI performance for 2023 at various intervals, and Figure 5 shows the CELI trends over the last five years.

**Table 14: 2023 CELI at 6, 12, and 24 hours**

Length of Interruptions	Non-Normalized	Normalized
6	4.18%	3.08%
12	1.90%	0.83%
24	1.20%	0.25%

**Figure 5: CELI Non-Normalized Data 2019 – 2023**



<sup>59</sup> Petition, page 19.

<sup>60</sup> CELI = Customers Experiencing Lengthy Interruptions.

CELI levels were at a five-year high in 2022 (for all but normalized customers experiencing six hour interruptions) and decreased in 2023.

*vii. Longest interruption experienced by any one customer*

OTP provided this information on page 34 of its Annual Report. The Company stated that the Main Feeder fed from Foxhome Substation experienced the longest duration interruption, with an interruption lasting 10 hours and 11 minutes on February 14, 2023. This outage was the result of a severe ice storm, and the hazardous travel conditions increased the duration of this event.<sup>61</sup>

*viii. Breakdown of field versus office staff*

OTP provided this information on page 26 of its Annual Report. The Department previously discussed this information in Table 7 of these comments.

*ix. Estimated restoration times*

OTP implemented its OMS in late 2022 which allowed it to begin reporting on restoration times in 2023. Approximately 50% of the restoration times were entered in the field while the remainder used a default entry of the system's CAIDI goal.

OTP reported that 76.8% of restorations were completed by or before the estimated restoration time in 2023. 9.7% were restored within 30 minutes of the estimated restoration time, and 13.5% were restored over thirty minutes later than the estimated restoration time.<sup>62</sup>

*x. IEEE Benchmarking results for SAIDI, SAIFI, CAIDI, and MAIFI*

This requirement was superseded by a similar requirement in the Commission's [Order](#) dated March 2, 2022 in Docket No. E017/M-21-225. Reliability performance and benchmarking is discussed further in section C.1. Reliability Performance of these comments.

*xi. Performance by customer class*

With the implementation of OTP's new OMS in December 2022, 2023 is the first year that the Company has been able to provide this data. The Company provided this information on page 35 of its Annual Report and supplemented this information in response to a Department IR.<sup>63</sup>

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<sup>61</sup> Department Attachment 10 (Company response to Department IR 13).

<sup>62</sup> Petition, page 35.

<sup>63</sup> Department Attachment 11 (Company response to Department IR 16).

Because the customer class level data comes from OTP's OMS, the Department will plan to complete a comparison of these metrics against the MN-Total OMS data when it is provided by the Company in the supplemental filing.

*xii. Causes of sustained customer outages, by work center*

OTP provided this information in its discussion of the reliability reporting requirements in Section IV of the 2023 Annual Report and provided a categorized table of sustained interruptions by customer service center and cause in Table 5 of the filing. The new OMS allowed OTP to provide this detail at a greater level of granularity for 2023 than past reports.

2. Docket No. E017/M-20-401 [Order](#) dated December 18, 2020<sup>64</sup>

- i. **Ordering paragraph 5:** The utilities must file the reliability for feeders with grid modernization investments such as Advanced Metering Infrastructure (AMI) or Fault Location Isolation and Service Restoration (FLISR) to the historic five-year average reliability for the same feeders before modernization investments.*

This requirement is not applicable to OTP as it does not yet have AMI or FLISR installed on its system. OTP began full scale AMI installations in February 2024 and estimated completion is expected in mid-2025.<sup>65</sup>

- ii. **Ordering paragraph 16:** After consultation with Department and Commission staff, each utility must file revised categories for reporting complaint data.*

As a result of the 2021 Complaint Category Working Session, parties agreed to provide additional detail for reporting of the "Inadequate Service" category to include four sub-categories: Field/Operations, Customer Service, Programs and Services, and Cold Weather Rule Protection.<sup>66</sup> The 2023 SRSQ Report is the first report reflecting these additional categories, and Inadequate service – Field/Operations was the top complaint category in 2023.<sup>67</sup>

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<sup>64</sup> This Order was followed up with an [Erratum Notice](#) from the PUC on January 15, 2021 to correct the 2020 reliability SAIDI standard for OTP's Fergus Falls location.

<sup>65</sup> Petition, page 36.

<sup>66</sup> Docket No. E017/M-23-76, [OTP Initial Filing](#) at page 66.

<sup>67</sup> Petition, page 64.

3. Docket No. E017/M-21-225 [Order](#) dated December 2, 2021

- i. **Ordering paragraph 2 and 3:** Required OTP to provide new information regarding electronic utility-customer interactions beginning with its reports filed in 2023 and required to report for three reporting cycles.

OTP provided uptime and error rate percentage metrics for its electronic utility-customer interactive platforms in Table 15 of its filing,<sup>68</sup> reproduced here:

**Table 15: Uptime and Error Rate Percentage**

Percentage Uptime		
	General Website	99.58%
	Payment Services	99.87%
	Third-party web payment services	100.00%
	Outage map &/or Outage Info page	99.42%
Error Rate Percentage		
	Payment Services	0.13%

The above data is in line with the up-time and error rate percentage reported in OTP's 2022 Report.

OTP indicated that it is not able to provide more granular data to further categorize error rates into unexpected, outside the customer's control, or other meaningful categorizations.

- ii. **Ordering paragraph 4:** Required OTP to continue to provide information on electronic utility-customer interactions as outlined in the Order.

OTP provided the required information in Tables 16 through 18 on pages 38 and 39 of the 2023 Annual Report. Website views were up significantly (132%) from the 2022 report, but in 2022, OTP had noted that the code to report analytics was broken from January to early June 2022 and was not able to report the number of website visits during that time.

- iii. **Ordering paragraph 7:** Required OTP to include a public-facing summary with its annual SRSQ Report.

The Company includes its 2023 public-facing summary as Attachment 2 to the SRSQ Report and published it online at [www.otpc.com/help-center/](http://www.otpc.com/help-center/).

4. Docket No. E017/M-22-159 [Order](#) dated November 9, 2022

- i. **Ordering paragraph 8:** Required the public-facing SRSQ summary to be published on the website after a single click away from the home page.

See 3.iii. immediately above. OTP noted that it created a new left hand navigation option within the help center page to provide visibility to the summary.

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<sup>68</sup> Petition, page 37.

The Department notes that from the home page, the SRSQ summary is more than one-click from the home page, but the “Safety, Reliability, and Service Quality” link is visible after one click from the home page. Once the user selects the “Safety, Reliability, and Service Quality” link from the Help Center page, they can select the desired year’s summary link to view the report (web path: OTP Home Page > Help Center > Safety, Reliability, and Service Quality > Select desired year’s report).

5. Docket No. E017/M-22-159 [Order](#) dated January 18, 2023

Eliminated the standalone Annual Summary of Customer Complaints docket (YY-13) and required utilities to include customer complaint data from [Minnesota Rules 7826.2000](#) in the Annual Service Quality Reports.

6. Docket No. E017/M-23-76 [Order](#) dated December 5, 2023

- i. **Ordering paragraph 3:** *Set Otter Tail Power’s 2023 statewide Reliability Standard at the IEEE benchmarking 2<sup>nd</sup> Quartile for medium utilities. Set Otter Tail’s work center reliability standards at the IEEE benchmarking 2<sup>nd</sup> quartile for medium utilities. Required Otter Tail to file a supplement to its 2023 SQSR report 30 days after IEEE publishes the 2023 benchmarking results, with an explanation for any standards the utility did not meet.*

The Company noted these requirements in its filing and agreed that it will provide a supplemental filing within 30 days from when the IEEE publishes the 2023 benchmarking results.

### III. RECOMMENDATIONS

The Department:

- Recommends that the Commission accept OTP’s Annual Safety and Service Quality Reports.
- Recommends the Commission set the 2024 statewide and work center reliability standards at the IEEE benchmarking 2<sup>nd</sup> quartile for medium utilities and require OTP to file a supplement to its 2024 SQSR report 30 days after IEEE publishes the 2024 benchmarking results with an explanation for any standards the utility did not meet.
- Will provide a recommendation on the Company’s Annual Service Reliability Report after reviewing the Company’s future supplemental filing on IEEE benchmarking data for 2023.

The Department also asks that OTP begin including annual totals by customer class to the data reporting number of customers whose service was disconnected involuntarily, and the number of those customers restored to service within 24 hours (Table 26 in the 2023 SRSQ Report).

**OTTER TAIL POWER COMPANY**  
Docket No: E017-M-24-30

Response to: MN Department of Commerce

Analyst: Mary Beth Kehrwald

Date Received: May 02, 2024

Date Due: May 13, 2024

Date of Response: May 13, 2024

Responding Witness: Matthew J. Olsen, Manager, Regulatory Strategy/Compliance,  
(218) 739-8657

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Information Request:

OTP reported higher-than-average days away from work in 2023 compared to the 10-year average, and this value has trended up since 2020.

Please provide further information regarding the Company's efforts to ensure employee safety and mitigate the need for OSHA and OSHD-related days of job transfer/restriction or days away from work.

Attachments: 0

Response:

Safety is one of 6 Values at Otter Tail Power Company. We are proud of the fact that we had our lowest Total Case Incident or OSHA Rate, 1.01, in company history last year. Unfortunately, one of our injuries to an Electrical Line worker resulted in a sprained ankle in which the doctor requested no work resulting in 27 lost workdays. This injury happened in the winter months and the doctor was concerned about slippery conditions even though we offered light duty office work or line inspections that could be accomplished from a vehicle. The injury occurred when the employee stumbled while walking between a street and sidewalk. We are pleased to report this employee has returned to work with no restrictions and is doing well.

Otter Tail Safety Services department is dedicated to ensuring that our employees receive the necessary care required for their injuries. In addition to this we want to accommodate the restrictions and days needed for those injuries to heal. We follow the recommendations given by medical professionals. The Safety Services department and WorkCare can recommend restricted days over lost days, however, the final call is with medical professionals.

Otter Tail utilizes the services of a third-party company called WorkCare. We currently use their Incident Intervention services. WorkCare provides a 24/7 telehealth triage program for management of work-related injuries, illnesses, and physical discomfort. Occupational health nurses and physicians are always on call to assess symptoms and provide compassionate care guidance with minimal disruption in workflow. Following best medical practices WorkCare

advocates return to full- or modified-duty during recovery. Otter Tail employees are encouraged to contact WorkCare anytime they are involved in an incident. WorkCare will facilitate referral to a qualified local provider or virtual telemedicine visits with a WorkCare TeleM.D. occupational doctor. If an incident has occurred and WorkCare has not been contacted, the Safety Services department encourages employees to call. The WorkCare number is available to all employees 24/7.

Otter Tail has recently added the Industrial Athlete Program from WorkCare. The industrial athlete program provides prevention and intervention. This program is new and will be utilized more effectively moving forward.

In following the trend of our Days Away Restricted or Transferred (DART) numbers, we are studying the benefits of Dr. Hallowell’s finding on Significant Injuries and Fatalities (SIF) and how that information can help up continue our journey to zero injuries. Dr. Hallowell and his Safety Function team have partnered with Edison Electric Institute (EEI) who we are a member and have joined the industry and Dr. Hallowell to try learning more about preventing SIF related incidents.

Below is data from EEI. Otter Tail is compared to other utility companies doing similar work with comparable employee numbers. Otter Tail is generally better than our peers and generally better than the total average when comparing Lost Work Day (LWD). Our number in 2022 was the highest since 2007, which was concerning, and we were happy to see it drop a bit in 2023. To date, May 10, 2024, we are happy to report zero lost workday cases in 2024.

Lost Work Day Rates	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	
EEI PEERS rate	1.25	1.33	1.32	1.02	1.18	1.18	0.95	0.53	0.56	0.48	0.48	0.45	0.79	0.76	0.62	0.46	0.62	0.24	0.3	0.38	0.41	0.47	
EEI Total Avg	0.86	0.8	0.67	0.725	0.78	0.78	0.73	0.63	0.55	0.50	0.45	0.38	0.42	0.35	0.48	0.45	0.45	0.33	0.37	0.41	0.42	0.63	
OTP	0.89	0.39	0.68	0.76	0.84	0.41	0.8	0	0.26	0.48	0.36	0.13	0.38	0.25	0.39	0.38	0.13	0.13	0.39	0.27	0.13	0.54	0.38

Our LWD looks good compared to our peers, but we aren’t satisfied with any injuries to our employees, and we continue our efforts to prevent all injuries, at work, and at home. Otter Tail continues to have an active safety program, supported at all levels of the organization. Examples of our safety program includes the following: safety committees at workgroups across the company, monthly safety meetings for all craft workers, a monthly safety magazine for employees to use at work and at home, an annual Safety Roundtable that includes over 10 percent of our employees, quarterly safety meetings for our employees in our General Office setting, annual online trainings required of all employees, training on the SafeStart program, behavior-based observations conducted with all craft workers, job briefings, specific task training, monthly leadership meetings to discuss leading indicators, near misses, and any actual incidents where there was, or could have been an injury, and a focus on recognizing the safety behaviors that ensure a safe workplace for our employees. We’ll continue to actively manage positive returns-to-work when there are injuries, and we’ll continue our emphasis to eliminate all injuries.



OTTER TAIL POWER COMPANY  
Docket No: E017-M-24-30

Response to: MN Department of Commerce  
Analyst: Mary Beth Kehrwald  
Date Received: May 02, 2024  
Date Due: May 13, 2024  
Date of Response: May 13, 2024  
Responding Witness: Mike Riewer, Manager, System Infrastructure & Reliability  
(218) 739-8565

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Information Request:

In 2022, no OTP work center achieved the IEEE benchmark for the SAIFI metric.

Crookston and Fergus Falls reliability performance appears to be stable or improving in the most recent five years, but Morris and Bemidji's performance appears to be worsening in the most recent five-years compared to the ten-year trend.

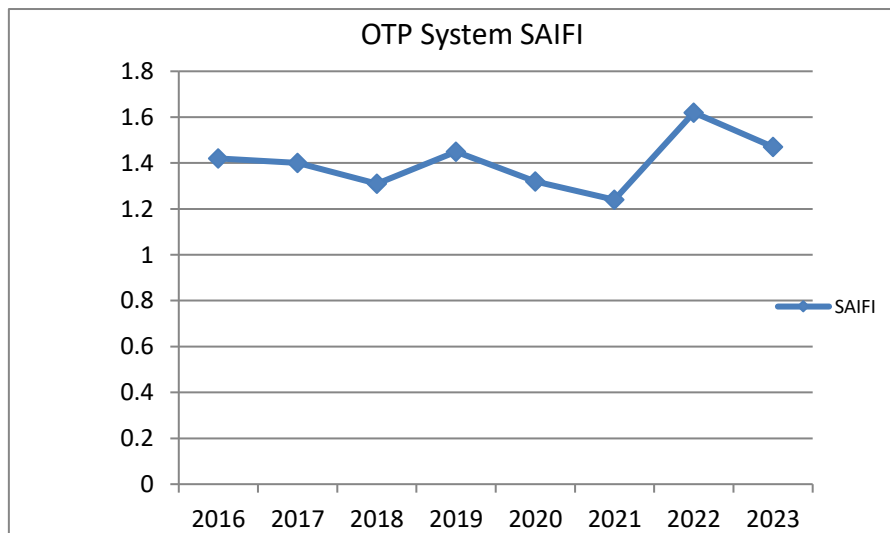
Please describe any considerations that explain:

- A. The 2022 system-wide SAIFI performance;
- B. Recent reliability performance trends in Morris and Bemidji; and
- C. Efforts underway to improve the reliability performance at these work centers beyond what was provided on pages 18-19 of the Petition regarding worst performing feeders.

Attachments: 0

Response:

- A. 2022 SAIFI was a system peak for Otter Tail looking back eight years. 2022 System SAIFI was 1.62 interruptions/customer that year.



Much of Minnesota sustained several severe weather events during the spring of 2022, including a Derecho on May 12 that severely impacted our Morris CSC. Although this event was a major event day, this event and several other severe weather events created weak points in the system, Damage sustained due to spring severe weather caused several interruptions in the weeks/months following. Otter Tail service personnel worked diligently to repair and replace damaged equipment over a large service area of following several severe spring weather events.

- B. Recent 2024 SAIFI system performance through YTD shows both Morris and Bemidji performing in the top 50 percent of Otter Tail's System CSCs.

Date-Start:	1/1/2024	
Date-End:	5/6/2024	
Division:	All Customer Service Centers	
Major Event Days Included		
Customer Service Center	SAIFI	
Morris	0.142052	
Crookston	0.203354	
Fergus Falls	0.210407	
Bemidji	0.281799	
Devils Lake	0.314887	
Wahpeton	0.362215	
Jamestown	0.375597	
Milbank	0.40494	
Rugby	0.560938	

- C. The following efforts are underway in both Bemidji and Morris CSCs to proactively improve reliability performance.

**Bemidji CSC:**

Feeders in the area were last trimmed in 2021 as part of our vegetation management process. Otter Tail had crews to the area to trim/clear in Q1 of 2024. Also in 2024, 41.6KV transmission lines in the CSC will continue to be upgraded. This work includes replacing insulators and poles. These efforts were started in 2023.

**Morris CSC:**

Feeders in the area were last trimmed in 2019 as part of our vegetation management process. The area is scheduled to be trimmed again in 2024. Upgrades are planned to replace aging underground and convert overhead to underground in 2024. Investigations into additional proactive maintenance activities continue to improve Morris CSC's performance in the future.

Otter Tail continues to maintain a focus on investing into various system wide programs to improve grid resilience and reliability. Over the past 3-5 years, Otter Tail has increased programs associated with replacement of aging assets by nearly 2x. For more information regarding these programs and spending levels, please visit Otter Tail's 2023 Minnesota Integrated Distribution Plan (Docket No. E017/RP-23-380).

**OTTER TAIL POWER COMPANY**  
Docket No: E017-M-24-30

Response to: MN Department of Commerce  
Analyst: Mary Beth Kehrwald  
Date Received: May 02, 2024  
Date Due: May 13, 2024  
Date of Response: May 13, 2024  
Responding Witness: Mike Riewer, Manager, System Infrastructure & Reliability  
(218) 739-8565

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Information Request:

- A. Was Itron interruption monitoring system (IMS) data used for 2023 reliability performance (SAIFI, SAIDI, CAIDI, MAIFI) reporting in the petition?
- B. Will 2024 be the first year reporting performance data from the Outage Management System (OMS)?
- C. Provide the 2023 OMS system data for SAIDI, SAIFI, and CAIDI using the 2.5 Beta Method for each CSC and the enter Minnesota System (if available).
- D. Will IMS data continue to be provided during the initial implementation of OMS performance reporting (to allow comparable analysis of current and historical reliability performance while OTP increases the granularity of reporting)?

Attachments: 0

Response:

- A. The Itron interruption system was used for 2023 indices reporting.
- B. 2024 will be the first year the Outage Management System will be utilized for Otter Tail's SRSQ reporting.

C.

CSC	CAIDI	SAIDI	SAIFI
Bemidji	87.29	106.46	1.22
Crookston	101.17	163.59	1.62
Fergus Falls	99.8	194.21	1.95
Morris	150.36	203.51	1.35
MN total	NA	NA	NA

- D. Itron AMI meters are currently being replaced with L&G AMI meters as part of our system AMI deployment, thus, IMS data will not be available.

OTTER TAIL POWER COMPANY  
Docket No: E017-M-24-30

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Date Received: May 02, 2024

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Date of Response: May 13, 2024

Responding Witness: Mike Riewer, Manager, System Infrastructure & Reliability  
(218) 739-8565

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Information Request:

- A. Are the causes of the failures leading to bulk power supply interruptions in 2023 known? If so, please provide a description.
- B. What, if any, remedial steps are underway to prevent similar failures in the future?

Attachments: 0

Response:

February 3, 2023 event and the failed conductor out of the MPC Oslo 115KV substation:

This event was due to a trunnion clamp that was improperly installed causing increased vibration and conductor movement resulting in the conductor to break. Otter Tail repaired the conductor and re-installed the trunnion clamp correctly. Following the event, service reps patrolled the entire line with spotting scopes identifying other problematic installations and corrected the situation. Otter Tail no longer uses this type of trunnion clamp and has selected a replacement with greater vibration dampening characteristics.

September 28, 2023 event and failed protection relay inside the Minnkota Power Cooperative (MPC) Winger 230KV substation:

Per NERC standard PRC-004, MPC is required to investigate the protection system operations for this voltage level and determine if equipment operated as designed. Any incorrect operations or mis-operations are required to be mitigated through corrective action plans.

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(218) 739-8565

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Information Request:

The major service interruption affecting the most customers occurred on April 5, 2023, affecting multiple feeders and 2,665 customers. The longest duration major service interruption noted in Attachment 1 was on July 16, 2023 affecting multiple feeders for a duration of up to 4:04:35. Please describe the circumstances of these service interruptions, resolutions, and any efforts to mitigate similar future interruptions.

Attachments: 0

Response:

The major service interruption referenced on April 5, 2023, that affected the most customers and the major service interruption on July 16, 2023, that lasted the longest, were related to weather. Additional details are included below.

**April 5, 2023:**

Location	Customers	Start Time	End Time	Duration (HH:MM:SS)
Hendricks	394	4/5/2023 14:02	4/5/2023 15:34	1:32:00
Ivanhoe	92	4/5/2023 14:02	4/5/2023 15:34	1:32:00
Ivanhoe	446	4/5/2023 14:02	4/5/2023 15:34	1:32:00
Dumont	89	4/5/2023 14:09	4/5/2023 15:43	1:33:37
Wheaton	1464	4/5/2023 14:09	4/5/2023 15:43	1:33:37
Wheaton	180	4/5/2023 14:09	4/5/2023 15:43	1:33:23

The interruption in Hendricks & Ivanhoe were caused by heavy ice on the lines and hard winds from a storm. Otter Tail had 4 broken poles and 4 broken x-arms in one section of a 41.6 kV line. Poles and lines were repaired.

The Dumont & Wheaton interruption was due to ice and high winds. Lines were galloping and slapping together on a 115 kV line north of Wheaton. Ice was removed from the lines and power was restored.

To mitigate interruptions in the future related to wind and ice on transmission lines, Otter Tail has developed a few design improvements. First, Otter Tail studies an extreme ice loading case at 1.5” radial ice vs NESC design for heavy ice which is only 0.5” radial ice. This leads to heavier structures and more robust design. In addition, twisted pair conductor is used in new designs and has better ice performance as its designed to shed ice buildup. Dead ends are all class one or heavier poles, and certain span lengths have been decreased in new designs to help with ice & wind performance. Lastly, vegetation management remains a focus to ensure lines are clear of vegetation in such events.

**July 16, 2023:**

Location	Customers	Start Time	End Time	Duration (HH:MM:SS)
Rothsay	257	2023-07-16 23:40	2023-07-17 03:45	4:04:35
Elizabeth	185	2023-07-16 23:40	2023-07-17 00:50	1:09:42
Erhard	72	2023-07-16 23:40	2023-07-17 00:50	1:09:42
Diversion Rural	249	2023-07-16 23:40	2023-07-17 00:50	1:09:29

Our 41.6 KV line was down between Erhard and Rothsay on 350<sup>th</sup> Street West off Highway 59. Elizabeth, Erhard, and Diversion Rural customers were able to be rerouted/switched to restore earlier.

Otter Tail’s Lightning tracking system shows a strike near that location preceding the event. Lightning arrestors near this location have been replaced.

**OTTER TAIL POWER COMPANY**  
Docket No: E017-M-24-30

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Analyst: Mary Beth Kehrwald  
Date Received: May 02, 2024  
Date Due: May 13, 2024  
Date of Response: May 13, 2024  
Responding Witness: Mike Riewer, Manager, System Infrastructure & Reliability  
(218) 739-8565

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**Information Request:**

The Department reviewed OTP's 2019 to 2023 Reports for information on occurrences of voltage outside the ANSI voltage range and notes that both the number of events below and above threshold have been trending higher each year, and 2023 reflects a significant increase from 2022's figures.

**Summary of Below/Above Threshold Events (2019, 2022, 2023)**

	<b>2019</b>	<b>2022</b>	<b>2023</b>
<b>Below Threshold Events</b>	131	1,137	19,365
<b>Above Threshold Events</b>	58,341	204,683	473,949

The Department also reviewed OTP's response to Department Information Request 6 in Docket No. E017/M-23-76 which identified feeders in 2022 which had greater than 1,000 high voltage occurrences and data collection around load variations.

- A. Explain why the number of events below and above threshold has been increasing significantly in recent years.
- B. Has OTP performed a systemic analysis (beyond the scope of feeder-level analysis provided in the response to Information Request 6 in Docket No. E017/M-23-76) of the increasing trend of events outside the ANSI voltage range? If so, please provide that analysis. If not, please explain why it has not studied this issue.
- C. Please describe systemic efforts OTP is pursuing to address the increasing number of occurrences of voltages above and below threshold.

Attachments: 0

**Response:**

The number of above and below threshold violations reported in 2023 is a system wide total. The corrected values are in the following table:



**2023 corrected summary of below/above threshold events (2019-2023)**

	<b>2019</b>	<b>2020</b>	<b>2021</b>	<b>2022</b>	<b>2023</b>
<b>Below Threshold Events</b>	131	407	456	1,137	1,846
<b>Above Threshold Events</b>	58,341	152,630	164,198	204,683	250,332

Threshold events have been provided annually by Itron. 2019 values are based on five-minute intervals, meaning the voltage violation had to last greater than five minutes. In 2020, there was a change and values reported by Itron were based on instantaneous intervals, which would result in larger values.

Otter Tail has not conducted a systemic analysis and it is not technically feasible with our AMI bellwether configuration. This may be possible in the future following our full-scale AMI deployment.

As described in response to the Department Information Request 6 in in Docket No. E017/M-23-76, Otter Tail has and continues to utilize wireless power quality monitors in identified possible problem areas. In these specific situations, Otter Tail installs monitors at various locations downstream of the feeder substation breaker. These monitors are setup with voltage range B thresholds and duration interval alarm settings. Typically, the duration intervals are set to two minutes, eliminating momentary events and allowing for voltage regulators to respond to voltage threshold outlier occurrences. Those circuits with excessive alarms (low or high) are investigated and remediation steps are taken and addressed.

OTTER TAIL POWER COMPANY  
Docket No: E017-M-24-30

Response to: MN Department of Commerce

Analyst: Mary Beth Kehrwald

Date Received: May 02, 2024

Date Due: May 13, 2024

Date of Response: May 13, 2024

Responding Witness: Collin Kremeier, Supervisor Customer Care, Customer Care,  
(218)739-8443

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Information Request:

In 2023, OTP reported 36.6% of service extension requests for locations not previously served were completed within 0-2 days which was a significant drop from 2022 and prior.

Please explain the reason for the increased timeline to complete service extension requests for locations not previously served and what timeline OTP anticipates for service extension requests to sites not previously served going forward.

Attachments: 0

Response:

We have had challenges in the past with being able to report this number. The challenge occurs when a customer calls in for service however upon inspection the customer's site is not ready for service. We utilize the start date of the service order and the close date of the order to calculate the number of days. In these situations, our field personnel will leave the service order open until the site is ready for service. This approach artificially inflated the number of days if the location is not ready for service. We did research options to better display these situations however, using the service order dates was our best option.

Early in 2023 we added in a new field within these service orders for our field personnel to add in the date the location was ready for service. However, when pulling our numbers for this report, we found the additional question did not make it to our production environment. We worked with our programmers and had the question placed into production. We expect our numbers to rise to a illustrate a more accurate depiction of the service we are providing.

OTTER TAIL POWER COMPANY  
Docket No: E017-M-24-30

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Analyst: Mary Beth Kehrwald  
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(218) 739-8443

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Information Request:

Provide Petition Attachment 1 in Excel.

Attachments: 1

The totals shown on Table 36 for column B (Calls Abandoned) and column C (Calls Answered after 20 Seconds) do not equal the sum of the monthly totals for these calls. Please provide an updated Table 36 correcting any errors in this data.

Response:

Otter Tail would like to thank the Department for bringing this forward. When completing the table, it appears that when completing the total columns for Column B and Column C, we did not pull the formula down to account for all rows. Those have been adjusted. The yearend percent answered within 20 seconds remains unchanged.

Month	Offered	Calls Abandoned	Calls Answered after 20 Seconds	Answered within 20 Seconds	Percent Answered within 20 seconds <sup>1</sup>
January	4,267	138	1,424	2,705	63.39%
February	3,761	68	986	2,707	71.98%
March	4,381	23	410	3,948	90.12%
April	4,394	21	694	3,679	83.73%
May	5,521	101	1,424	3,996	72.38%
June	4,959	87	1,022	3,850	77.64%
July	4,504	130	1,209	3,165	70.27%
August	5,361	97	1,317	3,947	73.62%
September	5,193	119	1,427	3,647	70.23%
October	4,957	71	1,232	3,654	73.71%
November	4,145	17	307	3,821	92.18%
December	3,309	20	327	2,962	89.51%
Total	54,752	892	11,779	42,081	76.86%

**Attachment B: Updated Annual Reporting Requirements**

1. Non-normalized SAIDI, SAIFI, and CAIDI values
2. SAIDI, SAIFI, and CAIDI, MAIFI, CEMI, and CELI normalized values calculated using the IEEE 1366 Standard.
3. MAIFI – normalized and non-normalized.
4. CEMI – at normalized and non-normalized outage levels of 4, 5, and 6 interruptions.
5. The highest number of interruptions experienced by any one customer (or feeder, if customer level is not available).
6. CELI – at normalized and non-normalized intervals of greater than 6 hours, 12 hours, and 24 hours.
7. The longest experienced interruption by any one customer (or feeder, if customer level is not available).
8. A breakdown of field versus office staff as required Minn. Rules 7826.0500 Subp. 1, J, including separate information on the number of contractors for each work center.
9. Estimated restoration time accuracy, using the following windows:
  - a. Within -90 minutes to 0 of estimated restoration time
  - b. Within 0 to +30 minutes of estimated restoration time
10. IEEE benchmarking results for SAIDI, SAIFI, CAIDI, and MAIFI from the IEEE benchmarking working group
11. Performance by customer class:

		ASAI	SAIDI	SAIFI	CAIDI	MAIFI
Residential	Non-normalized					
	Normalized					
Commercial	Non-normalized					
	Normalized					
Industrial	Non-normalized					
	Normalized					

If reporting by class is not yet possible, an explanation of when the utility will have this capability.

12. Causes of sustained customer outages, by work center.

OTTER TAIL POWER COMPANY  
Docket No: E017-M-24-30

Response to: MN Department of Commerce  
Analyst: Mary Beth Kehrwald  
Date Received: May 02, 2024  
Date Due: May 13, 2024  
Date of Response: May 13, 2024  
Responding Witness: Mike Riewer, Manager, System Infrastructure & Reliability  
(218) 739-8565

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Information Request:

Please describe what led to the 10 hour outage at the Main Feeder fed from Foxhome Substation on February 14, 2023 and how the issue was resolved.

Attachments: 0

Response:

There was a severe ice storm with high winds on February 14<sup>th</sup>. Ice formed on the lines and they were galloping causing phase to phase interruptions. Spacers were installed on the line to prevent future galloping.

Travel was very hazardous during this event, consequently, the local service representative slid off the road and spent the night in his vehicle during his patrol. Travel conditions increased the duration of this event.

**OTTER TAIL POWER COMPANY**  
Docket No: E017-M-24-30

Response to: MN Department of Commerce

Analyst: Mary Beth Kehrwald

Date Received: May 23, 2024

Date Due: June 03, 2024

Date of Response: June 03, 2024

Responding Witness: Mike Riewer, Manager, System Infrastructure & Reliability  
(218) 739-8565

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Information Request:

Limited performance by customer class data (SAIDI, SAIFI, and CAIDI) was provided on Petition, page 35.

- A. Is the data provided in the Petition's Table 14 (page 35) normalized or non-normalized?
- B. Please provide the remaining performance by customer class data (indicate all customers vs class denominator) outlined in the Docket No. E017/M-19-261, January 28, 2020 Order's Attachment B:

		ASAI	SAIDI	SAIFI	CAIDI	MAIFI
Residential	Non-normalized					
	Normalized					
Commercial	Non-normalized					
	Normalized					
Industrial	Non-normalized					
	Normalized					

- C. If not all of the data outlined in Attachment B, item 11 is available, please provide a description of the reporting limitations and if/when OTP anticipates being able to provide the remaining data points.

Attachments: 0

Response:

As indicated in the Petition's description of Otter Tail's storm normalization process on page 10, Otter Tail received one major event day, MED in 2023. That event did not impact Minnesota customers or assets, thus normalized and non-normalized data in table 14 represents both.

Otter Tail will not have MAIFI data by class until Landis+Gyr AMI deployment is completed, and a total year of data collection is available.

The missing values from this request are ASAI and they are provided below.

2023 MN Performance by Customer Class - All  
Customers Denominator

	ASAI
Commercial	.999944
Industrial	.999997
Residential	.999718

2023 MN Performance by Customer Class - Class  
Denominator

	ASAI
Commercial	0.999791
Industrial	0.999808
Residential	0.999799

## **CERTIFICATE OF SERVICE**

I, Sharon Ferguson, hereby certify that I have this day, served copies of the following document on the attached list of persons by electronic filing, certified mail, e-mail, or by depositing a true and correct copy thereof properly enveloped with postage paid in the United States Mail at St. Paul, Minnesota.

**Minnesota Department of Commerce**  
**Comments**

**Docket No. E017/M-24-30**

Dated this **14<sup>th</sup>** day of **June 2024**

**/s/Sharon Ferguson**



First Name	Last Name	Email	Company Name	Address	Delivery Method	View Trade Secret	Service List Name
Ray	Choquette	rchoquette@agp.com	Ag Processing Inc.	12700 West Dodge Road PO Box 2047 Omaha, NE 68103-2047	Electronic Service	No	OFF_SL_24-30_Official
Generic Notice	Commerce Attorneys	commerce.attorneys@ag.state.mn.us	Office of the Attorney General-DOC	445 Minnesota Street Suite 1400  St. Paul, MN 55101	Electronic Service	Yes	OFF_SL_24-30_Official
Sharon	Ferguson	sharon.ferguson@state.mn.us	Department of Commerce	85 7th Place E Ste 280  Saint Paul, MN 551012198	Electronic Service	No	OFF_SL_24-30_Official
Jessica	Fyhrie	jfyhrie@otpc.com	Otter Tail Power Company	PO Box 496  Fergus Falls, MN 56538-0496	Electronic Service	No	OFF_SL_24-30_Official
Adam	Heinen	aheinen@dakotaelectric.com	Dakota Electric Association	4300 220th St W  Farmington, MN 55024	Electronic Service	No	OFF_SL_24-30_Official
Nick	Kaneski	nick.kaneski@enbridge.com	Enbridge Energy Company, Inc.	11 East Superior St Ste 125  Duluth, MN 55802	Electronic Service	No	OFF_SL_24-30_Official
Collin	Kremeier	ckremeier@otpc.com	Otter Tail Power Company	PO Box 496  Fergus Falls, MN 56538-0496	Electronic Service	Yes	OFF_SL_24-30_Official
James D.	Larson	james.larson@avantenergy.com	Avant Energy Services	220 S 6th St Ste 1300  Minneapolis, MN 55402	Electronic Service	No	OFF_SL_24-30_Official
Kavita	Maini	kmains@wi.rr.com	KM Energy Consulting, LLC	961 N Lost Woods Rd  Oconomowoc, WI 53066	Electronic Service	No	OFF_SL_24-30_Official
Andrew	Moratzka	andrew.moratzka@stoel.com	Stoel Rives LLP	33 South Sixth St Ste 4200  Minneapolis, MN 55402	Electronic Service	No	OFF_SL_24-30_Official

First Name	Last Name	Email	Company Name	Address	Delivery Method	View Trade Secret	Service List Name
Matthew	Olsen	molsen@otpco.com	Otter Tail Power Company	215 South Cascade Street Fergus Falls, MN 56537	Electronic Service	No	OFF_SL_24-30_Official
Wendi	Olson	wolson@otpco.com	Otter Tail Power Company	215 South Cascade Fergus Falls, MN 56537	Electronic Service	Yes	OFF_SL_24-30_Official
Generic Notice	Regulatory	regulatory_filing_coordinators@otpco.com	Otter Tail Power Company	215 S. Cascade Street Fergus Falls, MN 56537	Electronic Service	Yes	OFF_SL_24-30_Official
Generic Notice	Residential Utilities Division	residential.utilities@ag.state.mn.us	Office of the Attorney General-RUD	1400 BRM Tower 445 Minnesota St St. Paul, MN 551012131	Electronic Service	Yes	OFF_SL_24-30_Official
Will	Seuffert	Will.Seuffert@state.mn.us	Public Utilities Commission	121 7th Pl E Ste 350 Saint Paul, MN 55101	Electronic Service	Yes	OFF_SL_24-30_Official
Cary	Stephenson	cStephenson@otpco.com	Otter Tail Power Company	215 South Cascade Street Fergus Falls, MN 56537	Electronic Service	Yes	OFF_SL_24-30_Official
Stuart	Tommerdahl	stommerdahl@otpco.com	Otter Tail Power Company	215 S Cascade St PO Box 496 Fergus Falls, MN 56537	Electronic Service	No	OFF_SL_24-30_Official