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April 1, 2022

Mr. William Seuffert
Executive Secretary
Minnesota Public Utilities Commission
121 7th Place East, Suite 350
St. Paul, MN 55101-2147

**RE: In the Matter of Otter Tail Power Company 2021 Annual Safety, Reliability
and Service Quality Report and Proposed SAIFI, SAIDI and CAIDI Reliability
Standards for 2022
Docket No. E017/M-22-
Annual Report**

Dear Mr. Seuffert:

Otter Tail Power Company (Otter Tail) submits the enclosed Annual Report pursuant to Minn. Rules 7826.0400, 7826.0500, and 7826.1300. This Annual Report presents our safety, reliability, and service quality performance for the year 2021 and proposed reliability standards for 2022 pursuant to Minn. Rule 7826.0600. Otter Tail's proposed reliability standards for 2022 are found in Section IV, B, in the attached Annual Report and Petition.

Otter Tail has electronically filed this document with the Commission. In compliance with Minn. Rule 7829.1300, subp. 2, Otter Tail is serving a copy of this filing on the Department of Commerce – Division of Energy Resources and Office of Attorney General – Residential Utilities Division. A Summary of the filing has been served on all persons on Otter Tail's General Service list. A Certificate of Service is also enclosed.

We are available to provide any additional information or respond to any questions you may have. Feel free to contact me at (218) 739-8699 or email me at wolson@otpc.com.

Sincerely,

/s/ WENDI OLSON
Wendi Olson
Regulatory Compliance Specialist

tlk
Enclosures
By electronic filing
c: Service List

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

**In the Matter of Otter Tail Power
Company's 2021 Annual Safety,
Reliability and Service Quality Report
and Proposed SAIFI, SAIDI and CAIDI
Reliability Standards for 2022**

Docket No. E017/M-22-

SUMMARY OF FILING

Please take notice that on April 1, 2022, Otter Tail Power Company (Otter Tail), filed with the Minnesota Public Utilities Commission its annual Safety, Reliability and Service Quality Report for 2021 pursuant to Minnesota Rules 7826.0400, 7826.0500 and 7826.1300. Pursuant to Minnesota Rule 7826.0600, subp. 1, Otter Tail proposes SAIFI, SAIDI and CAIDI reliability standards for 2022.

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

**In the Matter of Otter Tail Power
Company's 2021 Annual Safety,
Reliability and Service Quality Report
and Proposed SAIFI, SAIDI and CAIDI
Standards for 2022**

**Docket No. E017/M-22-

ANNUAL REPORT
AND PETITION**

I. INTRODUCTION

Otter Tail Power Company (Otter Tail or the Company) submits this filing in compliance with Minnesota Rules 7826.0400, 7826.0500, 7826.0600, subp. 1, and 7826.1300. This filing also includes compliance items from previous Minnesota Public Utilities Commission (Commission) Orders.

II. GENERAL FILING INFORMATION

Pursuant to Minnesota Rule 7829.1300, subp. 3, Otter Tail provides the following general information.

A. Name, Address, and Telephone Number of Utility

Otter Tail Power Company
215 South Cascade Street
P. O. Box 496
Fergus Falls, MN 56538-0496
(218) 739-8200

B. Name, Address, and Telephone Number of Utility Attorney

Cary Stephenson
Associate General Counsel
Otter Tail Power Company
215 South Cascade Street
P. O. Box 496
Fergus Falls, MN 56538-0496
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cstephenson@otpc.com

C. Date of Filing

This Report is being filed on April 1, 2022.

D. Title of Utility Employee Responsible for Filing

Wendi Olson
Regulatory Compliance Specialist
Otter Tail Power Company
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(218) 739-8699
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III. MISCELLANEOUS INFORMATION

A. Service on Other Parties

Pursuant to Minnesota Rule 7829.1300, subp. 2 and Minnesota Statute §216.17, subd. 3, Otter Tail has electronically filed this Report and Proposed 2022 Reliability Standards. A summary of the filing has been served on all parties on the attached service list.

B. Summary of Filing

A one-paragraph summary of the Report is attached pursuant to Minnesota Rule 7829.1300, subp. 1.

IV. DESCRIPTION AND PURPOSE OF FILING

A. Annual Reporting

Minnesota Rules 7826.0400, 7826.0500 and 7826.1300 require electric utilities to file reports on safety, reliability, and service quality performance for the prior year. Otter Tail's 2021 Safety, Reliability, and Service Quality Report is attached.

B. Proposed reliability standards for 2022

Minnesota Rules 7826.0600 subp. 1, requires electric utilities to propose reliability performance standards for each of its work centers. The rule requires the performance standards be filed on or before April 1 of each year. The utility is to propose standards for the following reliability indices:

1. System average interruption duration index or SAIDI
2. System average interruption frequency index or SAIFI
3. Customer average interruption duration index or CAIDI

As approved in the March 2, 2022 Order in Docket E017/M-21-225, Otter Tail made a change from six service centers to four service centers for this 2021 report. Minnesota customers served by the Wahpeton and Milbank customer service centers are included in Fergus Falls and Morris customer service centers' analysis (respectively).

Also, Otter Tail agrees to set indices' standards at IEEE's Reliability Benchmark Survey median values for medium sized utilities for the corresponding year's data set, i.e. 2022 goals will be set on the 2022 IEEE Benchmark Survey results, as provided in August of 2023.

The current year report historically is completed, and results posted, the third quarter of the following year. As done in 2021, Otter Tail will provide a supplemental filing within 30 days from when IEEE's 2021 Benchmark Reliability Survey results are completed and provide explanations for standards not met.

V. CONCLUSION

Otter Tail appreciates the opportunity to provide this Safety, Reliability, and Service Quality Report for 2021, and requests Commission approval of our proposed reliability standards for 2022.

Date: April 1, 2022

Respectfully submitted,

OTTER TAIL POWER COMPANY

By: /s/ WENDI OLSON

Wendi Olson

Regulatory Compliance Specialist

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APRIL 1, 2022



Safety, Reliability, and Service Quality Report for 2021



Proposed SAIFI, SAIDI, and CAIDI
Reliability Standards for 2022
Including Additional Compliance Obligations



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I. EXECUTIVE MANAGEMENT’S VIEW OF RELIABILITY

This section provides the view of Otter Tail’s executive management towards reliability and customer satisfaction.

Otter Tail Power Company (Otter Tail or the Company) is committed to providing quality and reliable service for the rural communities we serve. Reliability at Otter Tail continues to be best summarized in the Company’s mission statement:

“To produce and deliver electricity as reliably, economically, and environmentally responsibly as possible to the balanced benefit of customers, shareholders, and employees and to improve the quality of life in the areas in which we do business.”

Otter Tail Power Company serves more than 132,500 customers in a service area that spans 70,000 square miles in western Minnesota, eastern North Dakota, and northeastern South Dakota. Our service area is predominantly rural and agricultural. We generate about one-third of revenues from residential customers, and the remaining revenues come from industrial and commercial customers. The average population of the 422 communities we serve is approximately 400, and over one-half of the communities we serve have populations of fewer than 200. Only three of our communities have populations exceeding 10,000: Fergus Falls, Minnesota (pop. 13,138), Bemidji, Minnesota (pop. 13,431), and Jamestown, North Dakota (pop. 15,427). We operate nine Customer Service Centers (CSCs) and are committed to proactive efforts of communicating, investigating, and resolving reliability issues across our service territory.

The integrity of Otter Tail’s entire transmission and distribution system is directly related to interruption frequency; thus, the accountability lies within our Asset Management area. Otter Tail’s Asset Management area is accountable for the planning, engineering and design, execution, operation and on-going maintenance and reliability oversight to ensure that we provide reliable and affordable electric service to our customers. At Otter Tail, we employ a system of Key Performance Indicators (KPIs), for the purpose of providing additional focus on achievement in particular areas of our operations. Two of Asset Management’s KPIs are reliability indices dealing with interruption frequency: the Momentary Average Interruption Frequency Index (MAIFI) and System Average Interruption Frequency Index (SAIFI).

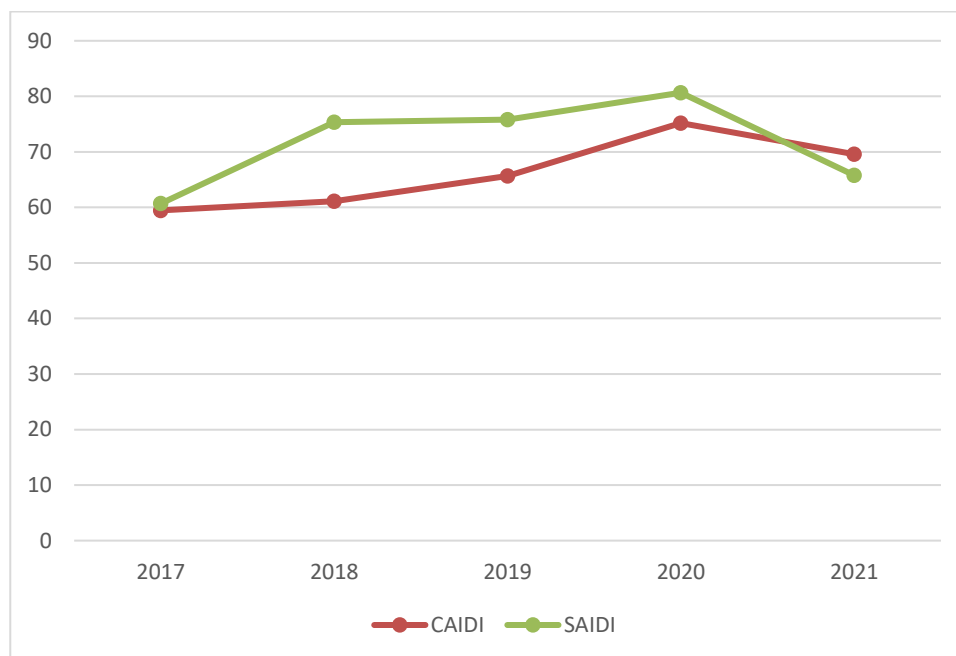
Otter Tail’s Customer Service area is accountable for responding to all interruptions. Thus, Otter Tail’s Customer Service area is accountable for the cost effective and efficient deployment of field personnel, trucks, and equipment as quickly and safely as possible, necessary for restoring service to customers when interruptions occur. One of the Customer Service area’s KPIs is Customer Average Interruption Duration Index (CAIDI). Additionally, the Reliability indices, SAIDI, SAIFI, CAIDI, and MAIFI are companywide KPI’s. These indices are communicated and reviewed with all impacted employees, on a monthly basis, with the expectation that all employees remain cognizant of our company’s reliability performance.

The Asset Management and Customer Service areas have a common goal, which is to improve the overall system reliability. Each area recognizes the overall system improvement cannot be accomplished without collaboratively working with the other area. Each area also recognizes system reliability improvements are based on cost effective decisions and overall system improvements over longer periods of time.

II. 2021 SUMMARY GRAPHS

As included in previous reports, Otter Tail provides a summary table that allows the reader to more easily assess the overall reliability of the system and identify the main factors that affect reliability. Figure 1 through Figure 5 below provides a summary of Otter Tail's overall reliability and service quality for the years 2017 through 2021. It should also be noted that Otter Tail moved from an outdated/obsolete reporting system to a new Interruption Monitoring System (IMS) in 2019. With this change, more granular SAIDI, CAIDI, and SAIFI information is captured. Thus, comparison of 2019 data to historical data should not be considered like for like.

Figure 1 – Normalized Historic Minnesota SAIDI and CAIDI



Otter Tail saw normalized performance levels decrease for both SAIDI and CAIDI for 2021 compared to 2020 results.

Figure 2 – Normalized Minnesota Historic SAIFI

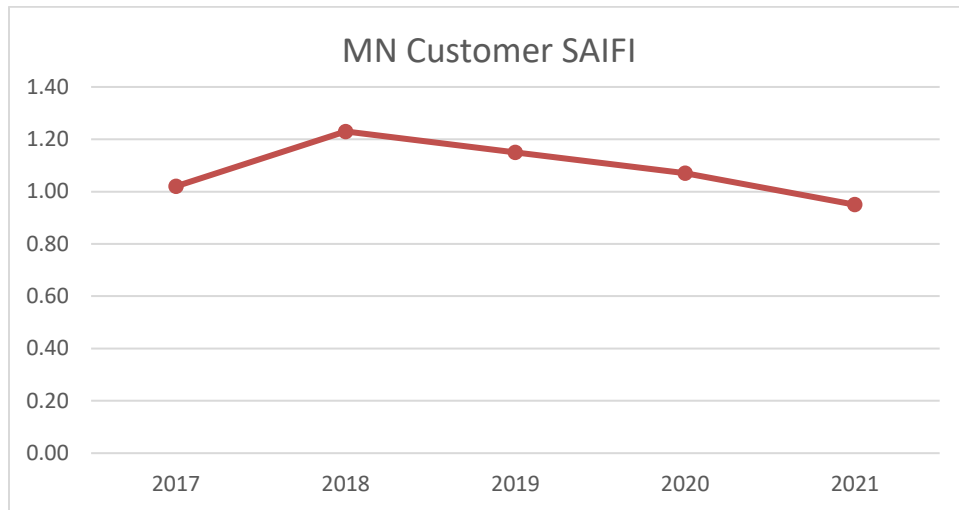


Figure 3 – Normalized Minnesota Historic MAIFI

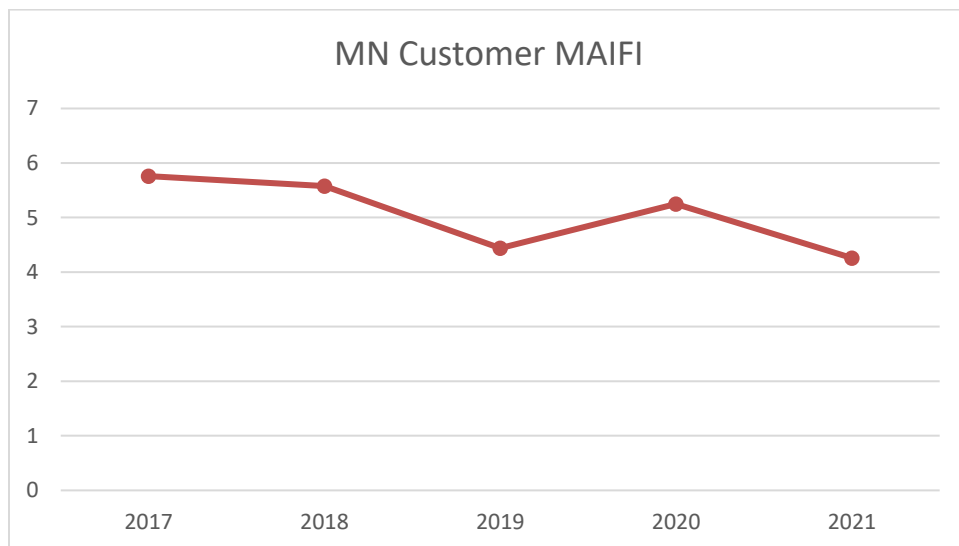
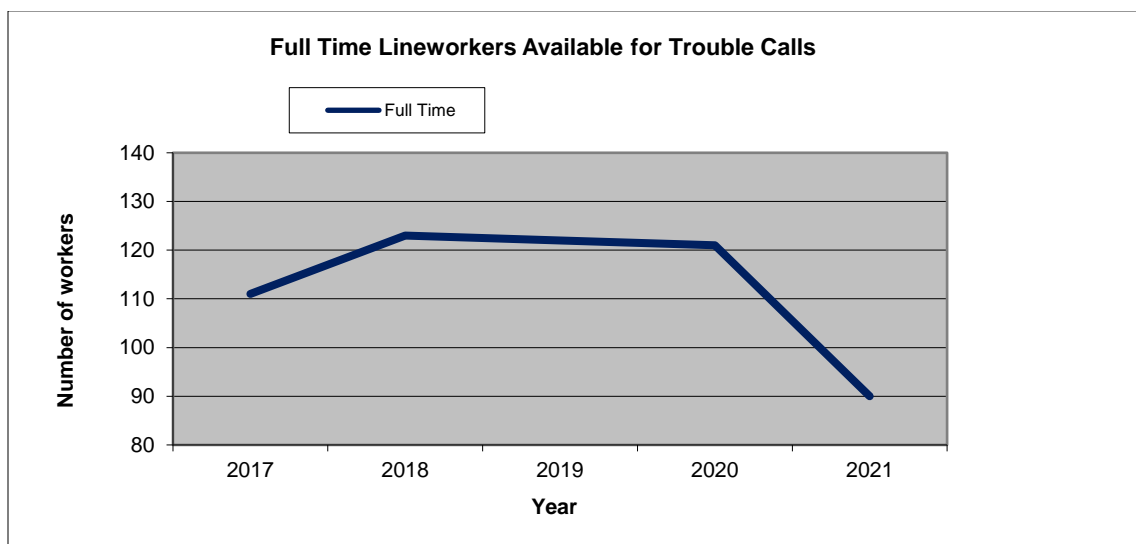


Table 1
Normalized MAIFI by Customer Service Center

CSC 2021	MAIFI
Bemidji	2.06
Crookston	4.48
Fergus Falls	4.17
Morris	5.85
MN Total	4.26

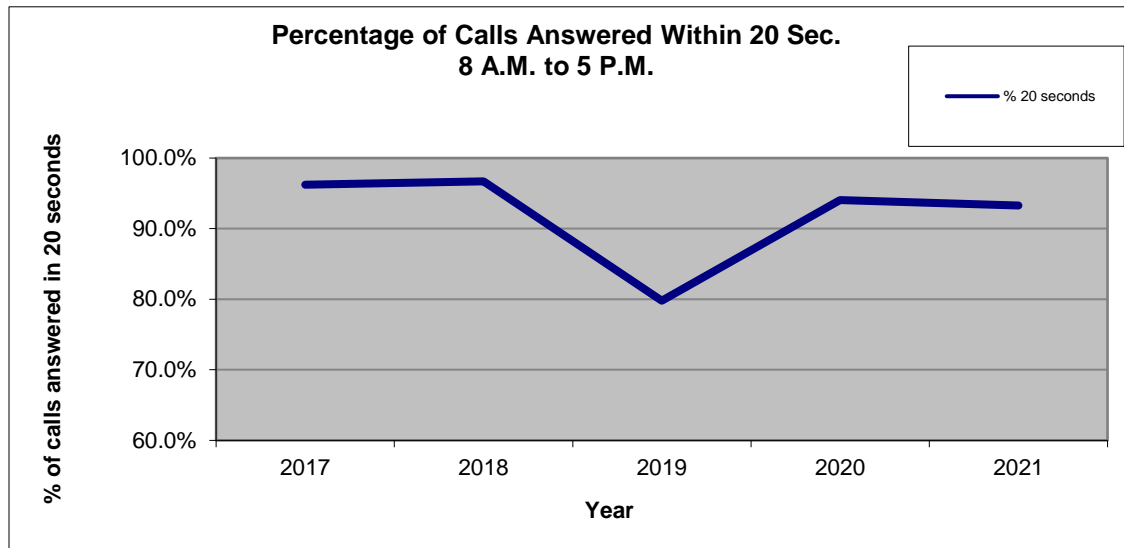
MAIFI is the momentary average interruption frequency index. It is an indication of the average number of momentary interruptions the average customer received over the course of a year, for a particular region. Otter Tail views MAIFI as a leading indicator for future SAIDI and thus tracks and analyzes line sections with excessive momentary interruptions for future capital improvements or possible vegetation management needs. Overall, Otter Tail saw a decrease in 2021 results when compared to 2020.

Figure 4 – Full Time Lineworkers available for trouble calls and for the operation and maintenance of Minnesota distribution lines



New for 2021 reporting, MN customers served out of the Milbank, SD service center have been moved into the Morris service center and MN customers served out of the Wahpeton, ND service center have been moved into the Fergus Falls service center for indices calculations. Both Milbank and Wahpeton Service Centers have only two feeders serving MN customers. With this new change we are now including the field personnel only responsible for the Minnesota customers on the two feeders that are located in our Milbank and Wahpeton CSCs. In Prior reports we included all the employees within the Milbank and Wahpeton CSCs into our employee count. Otter Tail's overall staffing levels have not changed; however, we are reporting a lower employee count due to consolidation of our customer service centers. We will continue this reporting method for future reports.

Figure 5 - Calls Answered within 20 Seconds



III. ANNUAL SAFETY REPORT 7826.0400

Pursuant to Minnesota Rule 7826.0400, ANNUAL SAFETY REPORT, each utility shall file a report on its safety performance during the last calendar year. This report shall include the following information.

A. Summary of all reports filed with the United States Occupational Safety and Health Administration and the Occupational Safety and Health Division of the Minnesota Department of Labor and Industry during the 2021 Calendar year.

Table 2

NUMBER OF CASES				
Total number of deaths	Total number of cases with days away from work	Total number of cases with job transfer or restriction	Total number of other recordable cases	
0	1	3	10	
NUMBER OF DAYS				
Total number of days of job transfer or restriction		Total number of days away from work		
214		33		
INJURY AND ILLNESS TYPES				
Injuries	Skin disorders	Respiratory conditions	Poisonings	All other illnesses
14	0	0	0	0

When an injury or illness involves one or more days away from work, you must record the injury or illness on the OSHA 300 Log with a check mark in the space for cases involving days away and an entry of the number of calendar days away from work in the number of days column. The number of cases with job transfers or restrictions safety metric employers determine how many workplace injuries and illnesses required employees to miss work, perform restricted work activities or transfer to another job within a calendar year. The number of other recordable cases describes the work-related injury of illness that does not involve death, days away from work, or days of restricted work or job transfer, and where the employee receives medical treatment beyond first aid. The total number of days away from work shows the total number of calendar days away from work for all work-related injuries and illnesses.

- 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 electric system failures and all remedial action taken as a result of any injuries or property damage described, are shown in Table 3.

Table 3

ANNUAL SAFETY REPORT				
Date	Cause	Type	Action Taken	Expense
<i>There were no instances of personal injury due to system failures in 2021.</i>				

IV. RELIABILITY REPORTING REQUIREMENTS 7826.0500

Subpart 1. Annual reporting requirements. On or before April 1 of each year, each utility shall file on its reliability performance during the last calendar year.

A – D. REPORT OF OTTER TAIL’S SAIDI, SAIFI, AND CAIDI FOR 2021 AND STORM NORMALIZATION OF RELIABILITY DATA

Minnesota Rule 7826.0500, Subparts 1a, 1b, 1c, and 1d requires the utility to file a report on its SAIDI, SAIFI and CAIDI for the calendar year, by work center and for its assigned service area as a whole. Additionally, this rule requires the utility to provide an explanation of how the utility normalized its reliability data to account for major storms.

In 2016, Otter Tail selected Itron to replace Otter Tail’s end of life interruption monitoring system with a new Interruption Monitoring System (IMS), including working with Itron to incorporate the IEEE 2.5 beta method process to normalize reliability data. System installations began in late 2016, with completion in late 2018. 2019 was the first entire year with the new IMS. Otter Tail’s 2.5 Beta process is based on the following assumptions:

- Itron calculates annual system T_{med} (SAIDI/Day threshold) based on all historic data available, 2016 - 2020.
- The system T_{med} is utilized to run our indices for Minnesota and individual Minnesota Customer Service Centers (CSCs).

Early in 2022, an issue was discovered with Itron’s Major Event Day (MED) calculation methodology. Corrections were performed by Itron, and their system was updated. For 2021 data, the 2.5 beta parameter assumptions are as follows:

2.5 Beta Parameters:

Alpha	Beta	Major Event Day
-1.93	1.57	7.43

After applying 2.5 Beta Parameters for 2021, two days met the criteria to be considered an MED, October 9, 2021, and November 11, 2021.

- October 9, 2021 – A downed 115KV structure (lightning) north of Fergus Falls caused 4–5-hour interruption durations to much of Fergus Falls. Ogema and Ashby also experienced long duration interruptions due to weather. The SAIDI/day accumulation was 8.09 minutes.
- November 29, 2021 – The substation transformer serving Harvey, ND failed, and the city experienced an 18 hour and 51-minute interruption resulting in 9.07 minutes of SAIDI/day accumulation. It is noted that there were no sustained interruptions in Minnesota that day, thus, the exclusion has no impact on Minnesota normalized indices.

Table 4 below depicts the corrected MN total results for the years since Otter Tail deployed the Itron system.

Table 4
Updated MN System Total Results

Updated IEEE 2.5 Results		SAIFI	SAIDI	CAIDI
MN Total	OES Goal	1.13	64.95	57.48
	2021 Actual	0.95	65.78	69.61
	2020 Actual	1.07	80.66	75.19
	2019 Actual	1.15	75.8	65.69

Table 4a shows Otter Tail’s 2021 SAIFI, CAIDI, and SAIDI normalized results based on the IEEE 2.5 Beta Method for each CSC and the entire Minnesota system. **2021 results were gathered by our Itron Interruption Monitoring System, implemented in 2019.**

New for 2021 reporting approved in the **March 2, 2022, Commission Order in Docket No. E017/M-21-225**, MN customers served out of the Milbank, SD service center have been moved into the Morris service center and MN customers served out of the Wahpeton, ND service center have been moved into the Fergus Falls service center for indices calculations. Both Milbank and Wahpeton Service Centers have only two feeders serving MN customers.

Due to the fact that the 2021 IEEE Reliability Benchmarking Report will not be completed until the August 2022 timeframe, Otter Tail will compare statewide and work center results and will provide those results, including explanations for standards not met, in the supplemental filing required within 30 days from when IEEE’s 2021 Benchmark Reliability Survey results are completed.

Table 4a

2.5 Beta 2021			
CSC	SAIFI	SAIDI	CAIDI
Bemidji	0.46	30.32	66.03
Crookston	1.13	85.67	76.08
Fergus Falls	1.15	76.49	66.44
Morris	1.05	72.82	69.14
MN Total	0.95	65.78	69.61

Table 4b shows Otter Tail’s 2021 SAIFI, CAIDI, and SAIDI non-normalized results for each CSC and the entire Minnesota system.

Table 4b

Non-Normalized 2021			
CSC	SAIFI	SAIDI	CAIDI
Bemidji	0.47	32.94	69.42
Crookston	1.13	85.67	76.08
Fergus Falls	1.35	115.44	85.49
Morris	1.07	73.71	69.21
MN Total	1.04	83.08	74.24

Reliability Standard Summary

When compared to 2020, Otter Tail’s 2021 overall Minnesota reliability performance realized a decrease in SAIFI, SAIDI, CAIDI and MAIFI. As described in last year’s filing, our new system (first utilized for 2019 recording) captures more interruptions and duration with monitoring meters on all three phases, when compared to our old system. Otter Tail attributes improved results to several reasons:

- Ongoing system upgrades focused to improve reliability performance.
- A 2021 spring, summer, fall, that saw reduced severe weather.
- The correction to Itron’s MED calculation providing an accurate analysis of our systems normal operations.

Reliable service continues to be one of Otter Tail’s top priorities and we are mindful that ongoing improvements in reliability will continue to happen over time and must be done cost effectively. We believe the continued maturity of our current processes and the application of new technologies and tools will provide improved results.

Table 5 provides a summary of the different types of interruption causes that affect overall system reliability. Of note, migration into the Itron IMS has taken place allowing for more cause granularity. Each year we audit cause data to determine additional cause classification to provide better detailed post analysis of our system’s performance.

Table 5
2021 MN Sustained Interruption Summary
by CSC and cause

	Bemidji	Crookston	Fergus Falls	Morris	Work Center Totals
Animal			1		1
Bird			1		1
Equip Fail Arrester			1	1	2
Equip Fail Conductor		3	3	10	16
Equip Fail Cutout	1		5		6
Equip Fail Fuse unknown cause		1	1		2
Equip Fail Insulator	1	1	8	17	27
Equip Fail Other	1	4	1	2	8
Equip Fail Pole	1		1	2	4
Equip Fail Substation	2	1		2	5
Equip Fail Transformer		1			1
Equip Fail Underground		1	4	2	7
Lightning	1		14		15
Other		1		2	3
Planned	6	9	11	4	30
Unknown	2	10	1	2	15
Vegetation		5	5	7	17
Vehicle Accident	1	4	1	4	10
Weather	1	9	10	22	42
Unidentified	4	21	19	2	46
Totals	21	71	87	79	258

E. ACTION PLAN FOR REMEDYING ANY FAILURE TO COMPLY WITH RELIABILITY STANDARDS

Minnesota Rule 7826.0500, Subpart 1e, requires utilities to file an action plan for remedying any failure to comply with reliability standards set forth in part 7826.0600 or an explanation as to why non-compliance was unavoidable under the circumstances.

In compliance with the Commission's **December 20, 2012 Order in Docket No. E017/M-12-325**, Otter Tail submitted a compliance filing on February 4, 2013 describing Otter Tail's action plans to address not meeting the 2011 reliability standards set by the Commission. In that filing, Otter Tail described several enhanced or new processes adopted by the Company to improve system reliability performance. The following is an update of our action plan:

- 1. Outage Management System:** As discussed in both Otter Tail's Integrated Distribution Plan (IDP) and Otter Tail's Electric Utility Infrastructure Cost (EUIC) recovery rider for Advanced Metering Infrastructure (AMI) petition, Otter Tail is implementing an Outage Management System (OMS) in 2022. In short summary, the OMS will drastically improve the way in which outage information is organized and summarized for Otter Tail crews to respond to outages which will improve restoration times. In addition, the more granular information from an OMS when compared to today's IMS will be used to inform future investment decisions to improve reliability. More details can be found in Otter Tail's EUIC recovery rider Docket No. E017/M-21-382.
- 2. Customer Service and Asset Management Joint Monthly Team Meetings:** This monthly meeting has replaced our former Reliability Improvement Initiative Team Meetings. Otter Tail's Customer Service and Asset Management cross functional team meets monthly for a comprehensive overview of our system's reliability. This process continues to provide increased awareness, focus and attention to reliability related issues through the prioritization of resources. In addition to managers from each of the Customer Service and Asset Management business units, Otter Tail's Vice Presidents of both Customer Service and Asset Management attend these monthly meetings.
- 3. Electronic Tracking Process for Transmission Patrol Reports and Maintenance Activities:** In 2021, the company approved a new field app (Field Worker) that has a direct tie to Otter Tail's staking system. This allows for a more efficient and seamless transition from when an issue is identified in the field to development of a work order to correct the concern. This allows the Company to more effectively schedule and manage maintenance activities based on historic and current maintenance data. This lends itself for a more efficient prioritization of resources. In addition, specific budget dollars are allocated for mitigating identified reliability concerns.

- 4. Lightning Tracking System:** Otter Tail implemented a lightning tracking system ten years ago. It tracks lightning activity within Otter Tail's service territory. This tool has been beneficial in identifying remote areas hit by lightning, assisting in follow-up patrols and inspections to identify damaged equipment. In 2019, the integration of the lightning data with our GIS was completed. Now strike data can be tracked in comparison to our asset locations, identifying areas for needed patrol following lightning/storm events.
- 5. GIS Data Integration & Improvements:** As discussed in both Otter Tail's Integrated Distribution Plan (IDP) and Otter Tail's Electric Utility Infrastructure Cost (EUIC), Otter Tail is greatly improving the quality of its GIS data through a data collection effort performed by a third-party. This work started in 2021 and will finish in 2022. The information collected will be used to better inform reliability improvement programs and projects. In addition, Otter Tail continues the integration of critical system data into its GIS. Underground fault data, patrol information, SEL distance relay data, lightning strike location data, and pole inspection data is all integrated into GIS providing an optimized approach to reliability related activities in the future.
- 6. Fault Indicator Installations at Transmission Line Junctions:** Otter Tail continues to install and utilize fault indicators on transmission line junctions (line splits). Otter Tail will continue to monitor and investigate the improvements this equipment provides in our abilities to identify fault location detection which are aimed at improving CAIDI and subsequently SAIDI as well.
- 7. Installation of Real-Time Voltage, Current, and Power Quality Monitors:** In 2014 Otter Tail began installing remote real-time power quality monitors in the field to assist with investigating interruption events and power quality issues. Today, Otter Tail has 137 of these power quality monitors installed and operating in our system. These tools are located in identified problem areas and then redeployed in other areas once the issues are resolved. Data provided is real-time and displayed via a web browser or via downloads. Continued deployment of this equipment has improved Otter Tail's efforts in identifying power quality problems and issues in the field.
- 8. Installation of Grid Monitoring Power Sensors:** In 2020, Otter Tail purchased and installed 15 sets of medium voltage power sensors for monitoring overhead distribution and 41.6KV transmission circuits. They communicate critical power quality attributes via wireless cellular and data is provided real time via a web browser. Otter Tail continues to learn and apply this tool and use its data for continued system optimization.

This action plan will provide continued contribution towards cost-effective improvement of the Company's overall system reliability. Overall system improvements will be realized over longer periods of time. These improvements will come through new technology, improved efficiencies, disciplined primary cause investigation and analysis, situational awareness, and attention to overall cross-functional accountabilities.

F. INTERRUPTION OF BULK POWER SUPPLY FACILITY

Pursuant to Minnesota Rule 7826.0500, Subpart 1f, to the extent feasible, a report on each interruption of a bulk power supply facility during the calendar year, including the reasons for interruption, duration of interruption, and any remedial steps that have been taken or will be taken to prevent future interruption.

For the 2021 calendar year, Otter Tail reports that there were three bulk power supply interruptions, all on non-Otter Tail assets, but all causing sustained interruptions to MN customers.

On January 15, strong winds and ice caused transmission lines to gallop. This resulted in several failures in the Appleton MRES 115KV Substation. Several MN towns, including Appleton experienced interruptions in excess of three and a half hours. The durations were extensive due to the fact that Otter Tail's service representative was not given access by the facility operator to enter the substation to conduct switching to restore customers sooner.

On June 15, the 115KV transmission line out of the Thief River Falls MPC substation went to lockout. At the time, HLH-6-33 procedures were in effect, thus, all motor operators were decoupled and tagged preventing timely restoration. A fiber optic line was also cut, preventing communications to the RTU. This event caused several communities in the area to experience interruptions in excess of one hour and 30 minutes. The SEL mileage locations were patrolled with no cause ever determined.

On June 30, a lightning arrestor failed in the Graceville GRE 115KV substation resulting in an interruption in excess of 50 minutes to both Dumont and Wheaton.

G. REPORTING MAJOR SERVICE INTERRUPTIONS

Minnesota Rule 7826.0500, Subpart 1g, requires utilities to file a copy of each report filed under part 7826.0700, reporting major service interruptions.

Minnesota Rule 7826.0500, Subpart 1g, requires utilities to file a copy of each report filed under part 7826.0700, reporting major service interruptions. On December 18, 2020, the Minnesota Public Utilities Commission issued an order in Docket No. E017/M-20-401 granting a variance to Minnesota Rule 7826.0500, Subpart 1g. Otter Tail provides as required by this variance as Attachment 1, a summary table that includes the information contained in the reports.

H. CIRCUIT INTERRUPTION DATA

Minnesota Rule 7826.0500, Subparts 1h, requires utilities, to the extent technically feasible, to file circuit interruption data, including identifying the worst performing circuit in each work center, stating the criteria the utility used to identify the worst performing circuit, stating the circuit's SAIDI, SAIFI, and CAIDI, explaining the reasons that the circuit's performance is in last place, and describing any operational changes the utility has made, is considering, or intends to make to improve its performance.

In compliance with this rule, **Table 6** shows the worst performing circuit for each of Otter Tail's four CSCs. Two years ago, Otter Tail changed the criteria for the purpose of identifying the worst performing circuit. In previous years, we defined a circuit as a distribution feeder and the criterion that was used to identify the worst performing circuit was customer minutes. Otter Tail now continues to define a circuit as a distribution feeder and it will again use customer interruptions, both momentary and sustained, as the criteria for identifying worst performers. We are including momentary customer interruptions as conditions due to the fact that we believe this is "forward looking" and that MAIFI is a predictor of future SAIDI. Also, benchmark surveys show that multiple momentary interruptions have a negative impact on customer satisfaction.

Table 6
2021 MN Worst Performing Feeders

Service Center	Substation Name	Feeder Description	Customer Count	Total Sustained Customer Minutes	SAIFI	CAIDI	SAIDI	MAIFI
BEMIDJI	Bemidji Industrial Park	Nymore Feeder	1254	104814	1	83.58	83.58	4
CROOKSTON	Minto	Main Feeder	451	63373	1	140.52	140.52	12
FERGUS FALLS	Ottertail City	North Feeder	876	109441	1.8	69.44	124.93	20.75
MORRIS	Appleton NW	North Feeder	1043	10770.44	1.42	179.15	254.38	15.81

Bemidji CSC: The Nymore Feeder fed from the Bemidji Industrial Park Substation was the worst performing feeder in 2021 for the Bemidji CSC. This feeder experienced one sustained and four momentary interruptions impacting 1254 customers in 2021. The causes of momentary interruptions were unknown. The cause of the sustained interruptions was a lightning strike to the distribution system, causing severe damage to a pole, interrupting service to customers for one hour and 35 minutes.

This feeder was last trimmed in 2018 as part of our vegetation management process. It is scheduled to be trimmed again in 2023. 2022 work on this feeder will include converting old overhead lines to underground. Also, operations and engineering are investigating animal guards for deployment in areas where we have experienced animal caused interruptions. Investigations into other proactive maintenance activities continues to improve this feeder's performance in the future.

Crookston CSC: The Main Feeder fed from the Minto Substation was the worst performing feeder in 2021 in the Crookston CSC. This feeder experienced one sustained interruption and 12 momentary interruptions impacting 451 customers in 2021. The causes of momentary interruptions were mainly transmission related including several occurrences of ice on the lines. The sustained interruption was due to a planned interruption to replace high side arrestors and fused cutouts identified during a proactive substation inspection.

This feeder was last trimmed in 2020 as part of our vegetation management process. It is scheduled to be trimmed again in 2025. In 2022, investments are planned to improve transmission breakers at the Oslo Substation which will improve the momentary interruptions. As a result of this circuit's 2021 performance, Otter Tail will continue to monitor this feeder to ensure improved results in the future.

Fergus Falls CSC: The North Feeder fed out of the Ottertail City Substation was the worst performing feeder in 2021 for the Fergus Falls CSC. This feeder was also the worst performer in 2020 out of the Fergus Falls CSC. This feeder experienced 2 sustained and 22 momentary interruptions, impacting 876 customers in 2021. The causes of the momentary interruptions include, vegetation, animals, equipment failure, and weather. The causes of the sustained interruptions were due to an equipment hot tap failure and a bird nest on/near the three-phase overhead distribution causing a breaker operation.

This feeder, which resides in a heavily wooded area was last trimmed late summer/fall of 2021 as part of our vegetation management process. A project to replace an old section of underground primary was completed during the summer of 2021. A large project to replace existing overhead primary with underground is budgeted for 2022. It is expected that this upgrade will provide much improvement in service due to the heavily wooded area and feeder surroundings. Investigations into other proactive maintenance activities continues to improve this feeder's performance in the future.

Morris CSC: The North Feeder fed from the Appleton NW Substation was the worst performing feeder in 2021 for the Morris CSC. This feeder experienced two sustained and 14 momentary interruptions, impacting 1043 customers in 2021. The momentary interruptions were largely transmission related, due to equipment failure (insulator and underground) and an animal. One sustained interruption (as described above) was due to a weather event on January 15. Ice and strong winds caused damage to the 115K MRES line west of Appleton. The second sustained interruption was due to a primary underground fault due to a boring crew during new primary install.

This feeder was last trimmed in 2019 as part of our vegetation management process. It is scheduled to be trimmed again in 2024. Late in 2021, recloser settings were changed which will minimize interruptions and allow downline fuses to operate prior to the breaker opening.

Otter Tail will also be adding fuses at each distribution tap in Q1 of 2022. Otter Tail will continue to monitor this feeder to ensure improved results in the future.

I. REPORT OF NOMINAL ELECTRIC SERVICE VOLTAGES

Minnesota Rule 7826.0500, Subpart 1i, requires that utilities shall file a report providing data on all known instances in which nominal electric service voltages on the utility's side of the meter did not meet the standards of the American National Standards Institute for nominal system voltages greater or less than voltage range B.

Otter Tail provides, in **Table 7** below, the feeders and number of occurrences where the voltage fell outside the ANSI voltage range B. Most of the feeders, with numerous occurrences, are feeders with a single large customer that has a very large load and are mostly pipelines.

Table 7
MN Feeders and Number of Occurrences – Voltage fell outside the ANSI Voltage Range

Customer Service Center	Feeder	Number of Volt(RMS) Below Threshold	Number of Volt(RMS) Above Threshold
Bemidji CSC	Bejou_MainFeeder	0	3
Bemidji CSC	Bemidji_115_DowntownFeeder	0	2
Bemidji CSC	Bemidji_115_High_SchoolFeeder	0	2
Bemidji CSC	Bemidji_115_South_Lake_IrvingFeeder	0	2
Bemidji CSC	Bemidji_Airport_AirportFeeder	0	6
Bemidji CSC	Bemidji_Airport_Highway2Feeder	0	1
Bemidji CSC	Bemidji_Hydro_MainFeeder	0	40
Bemidji CSC	Bemidji_Nymore_East_ExpressFeeder	0	2,999
Bemidji CSC	Bemidji_Potlatch_MainFeeder	0	31
Bemidji CSC	Callaway_MainFeeder	0	1
Bemidji CSC	Clearbrook_MainFeeder	0	12
Bemidji CSC	Clearbrook_MN_Pipeline_MainFeeder	0	75
Bemidji CSC	Erskine_EastFeeder	0	17
Bemidji CSC	Erskine_WestFeeder	0	21
Bemidji CSC	Fertile_NorthFeeder	0	4
Bemidji CSC	Fertile_SouthFeeder	0	9
Bemidji CSC	Gary_MN_MainFeeder	0	39
Bemidji CSC	Gonvick_MainFeeder	0	101
Bemidji CSC	Gully_MainFeeder	0	36
Bemidji CSC	Hitterdal_MainFeeder	0	22
Bemidji CSC	McIntosh_MainFeeder	0	16

Customer Service Center	Feeder	Number of Volt(RMS) Below Threshold	Number of Volt(RMS) Above Threshold
Bemidji CSC	Ogema_White_Earth_OgemaFeeder	0	9
Bemidji CSC	Ogema_White_Earth_WhiteEarthFeeder	0	10
Bemidji CSC	Oklee_MainFeeder	0	4
Bemidji CSC	Syre_MainFeeder	0	2
Bemidji CSC	Trail_Gravel_Pit_MainFeeder	0	11
Bemidji CSC	Twin_Valley_MainFeeder	0	5
Bemidji CSC	Ulen_MainFeeder	0	25
Bemidji CSC	Waubun_MainFeeder	0	7
Bemidji CSC	WiltonMN_MainFeeder	2	3
Bemidji CSC	Winger_MainFeeder	0	4
Crookston CSC	Adams_Milton_AdamsFeeder	1	67
Crookston CSC	Adams_Milton_MiltonFeeder	6	6
Crookston CSC	Angus_Roan_MainFeeder	2	4
Crookston CSC	Argyle_NorthFeeder	0	18
Crookston CSC	Argyle_SouthFeeder	0	9
Crookston CSC	Badger_MainFeeder	1	29
Crookston CSC	Beltrami_and_LockhartFeeder	2	4
Crookston CSC	Beltrami_Junction_Beltrami_Rural_EastFeeder	0	5
Crookston CSC	Beltrami_Junction_Beltrami_Rural_NorthFeeder	0	11
Crookston CSC	Brooks_MainFeeder	0	4
Crookston CSC	Climax_MainFeeder	0	25,537
Crookston CSC	Crookston_Barrette_St_NorthFeeder	0	3
Crookston CSC	Crookston_Barrette_St_SouthFeeder	1	2
Crookston CSC	Crookston_Enbridge_MainFeeder	0	10,478
Crookston CSC	Crookston_Parkview_U_of_M_Feeder	0	1
Crookston CSC	Crookston_Parkview_West_East_and_SouthFeeder	0	1
Crookston CSC	Crookston_South_Main_CrescentFeeder	0	451
Crookston CSC	Crookston_South_Main_DahlgrensFeeder	0	452
Crookston CSC	Crookston_South_Main_Industrial_ParkFeeder	0	1,168
Crookston CSC	Crystal_MainFeeder	4	42
Crookston CSC	Donaldson_MainFeeder	0	6
Crookston CSC	Fanny_Rural_MainFeeder	0	2
Crookston CSC	Fisher_MainFeeder	0	23
Crookston CSC	Greenbush_EastFeeder	2	25
Crookston CSC	Greenbush_WestFeeder	3	22
Crookston CSC	Hallock_Northwest_NorthFeeder	0	1
Crookston CSC	Hallock_Northwest_SouthFeeder	0	3
Crookston CSC	Halma_MainFeeder	0	27

Customer Service Center	Feeder	Number of Volt(RMS) Below Threshold	Number of Volt(RMS) Above Threshold
Crookston CSC	Hamilton_Bathgate_BathgateFeeder	1	4
Crookston CSC	Harold_MainFeeder	0	4,318
Crookston CSC	Hensel_MainFeeder	0	42
Crookston CSC	Holt_Junction_MainFeeder	0	73
Crookston CSC	Humboldt_MainFeeder	0	5,474
Crookston CSC	Karlstad_NorthFeeder	0	13
Crookston CSC	Karlstad_SouthFeeder	0	4
Crookston CSC	Kennedy_MainFeeder	0	254
Crookston CSC	Mountain_MainFeeder	0	5
Crookston CSC	Northcote_EastFeeder	0	5
Crookston CSC	Northcote_WestFeeder	0	5
Crookston CSC	Oslo_MainFeeder	1	3
Crookston CSC	Oslo_Manvel	4	0
Crookston CSC	Red_Lake_Falls_East_NorthFeeder	0	9,241
Crookston CSC	Red_Lake_Falls_East_SouthFeeder	0	5,416
Crookston CSC	Red_Lake_Falls_East_StHilaireFeeder	0	6,184
Crookston CSC	Ross_Rural_MainFeeder	0	1
Crookston CSC	Stephen_Rural_MainFeeder	0	1
Crookston CSC	Strandquist_MainFeeder	0	2
Fergus Falls CSC	Ashby_Line_Jct_MainFeeder	0	4
Fergus Falls CSC	Brandon_TownFeeder	0	12
Fergus Falls CSC	Campbell_Jct_MainFeeder	3	2
Fergus Falls CSC	Clitherall_MainFeeder	12	183
Fergus Falls CSC	Dalton_Jct_DaltonFeeder	0	3
Fergus Falls CSC	Dalton_Jct_Swan_LakeFeeder	0	3
Fergus Falls CSC	Dayton_Hollow_Rural_MainFeeder	0	2
Fergus Falls CSC	Deer_Creek_MainFeeder	5	0
Fergus Falls CSC	Detroit_Lakes_NW_Rural_MainFeeder	0	1,234
Fergus Falls CSC	Doran_MainFeeder	0	3
Fergus Falls CSC	Elbow_Lake_North_Rural_MainFeeder	0	4
Fergus Falls CSC	Erdahl_Melby_Ashby_Erdahl_MainFeeder	0	5
Fergus Falls CSC	Erdahl_Melby_Ashby_MainFeeder	0	12
Fergus Falls CSC	Evansville_EastFeeder	0	12
Fergus Falls CSC	Evansville_WestFeeder	0	4
Fergus Falls CSC	Fergus_Falls_Edgetown_BuseExpressFeeder	0	2
Fergus Falls CSC	Fergus_Falls_Edgetown_CollegeFeeder	0	125
Fergus Falls CSC	Fergus_Falls_Edgetown_Convention_CenterFeeder	0	154
Fergus Falls CSC	Fergus_Falls_Edgetown_Industrial_ParkFeeder	0	452

Customer Service Center	Feeder	Number of Volt(RMS) Below Threshold	Number of Volt(RMS) Above Threshold
Fergus Falls CSC	Fergus_Falls_Northeast_High_SchoolFeeder	0	1
Fergus Falls CSC	Fergus_Falls_Northeast_Jensen_AdditionFeeder	0	1
Fergus Falls CSC	Fergus_Falls_Northeast_Springen_AvenueFeeder	1	1
Fergus Falls CSC	Fergus_Falls_Northeast_Water_PlantFeeder	1	223
Fergus Falls CSC	Foxhome_MainFeeder	0	12,483
Fergus Falls CSC	Frazees_SouthFeeder	0	1
Fergus Falls CSC	Garfield_HolmesCity_SouthFeeder	23	441
Fergus Falls CSC	Garfield_HolmesCity_TownFeeder	0	6,766
Fergus Falls CSC	Millerville_Leaf_Valley_MainFeeder	0	48
Fergus Falls CSC	Miltona_MainFeeder	0	1
Fergus Falls CSC	Miltona_RuralFeeder	1	0
Fergus Falls CSC	Nashua_Tintah_NashuaFeeder	0	206
Fergus Falls CSC	Nashua_Tintah_TintahFeeder	0	1
Fergus Falls CSC	New_York_Mills_NorthFeeder	0	22
Fergus Falls CSC	New_York_Mills_SouthFeeder	0	26,628
Fergus Falls CSC	Otter_Outlet_EastFeeder	0	1
Fergus Falls CSC	Otter_Outlet_NorthFeeder	0	1
Fergus Falls CSC	Ottertail_City_NorthFeeder	148	2,206
Fergus Falls CSC	Ottertail_City_SouthFeeder	0	2,849
Fergus Falls CSC	Perham_BarrelOfFunFeeder	0	64
Fergus Falls CSC	Perham_Dent_RichvilleFeeder	0	49
Fergus Falls CSC	Perham_SE_NorthFeeder	2	2
Fergus Falls CSC	Perham_SE_Richville_DentFeeder	1	1
Fergus Falls CSC	Perham_SE_SoutheastFeeder	0	1
Fergus Falls CSC	Perham_TuffysFeeder	0	24
Fergus Falls CSC	Pokegama_MainFeeder	0	1
Fergus Falls CSC	Pomme_De_Terre_Gravel_Pit_MainFeeder	0	2
Fergus Falls CSC	Rothsay_MainFeeder	0	13,151
Fergus Falls CSC	Rush_OtterTail_MainFeeder	0	1
Fergus Falls CSC	Rush_OtterTailLake_Rush_LakeFeeder	131	4
Fergus Falls CSC	Urbank_MainFeeder	0	4
Fergus Falls CSC	Vining_MainFeeder	0	54
Fergus Falls CSC	Wendell_MainFeeder	0	3
Morris CSC	Alberta_MainFeeder	0	4
Morris CSC	Appleton_NW_NorthFeeder	0	47
Morris CSC	Appleton_NW_SouthFeeder	0	13
Morris CSC	Barrett_EastFeeder	1	32
Morris CSC	Barrett_WestFeeder	0	5

Customer Service Center	Feeder	Number of Volt(RMS) Below Threshold	Number of Volt(RMS) Above Threshold
Morris CSC	Barry_MainFeeder	0	2
Morris CSC	Beardsley_MainFeeder	51	1
Morris CSC	Browns_Valley_NorthFeeder	0	3
Morris CSC	Browns_Valley_SouthFeeder	0	3
Morris CSC	Burr_MainFeeder	1	1
Morris CSC	Canby_NE_EastFeeder	0	89
Morris CSC	Canby_NE_WestFeeder	1	6
Morris CSC	Canby_S_Rural_MainFeeder	0	4
Morris CSC	Canby_SW_EastFeeder	0	4,638
Morris CSC	Canby_SW_ElevatorFeeder	0	4,255
Morris CSC	Canby_SW_WestFeeder	0	3,839
Morris CSC	Canby_W_Rural_MainFeeder	0	1
Morris CSC	Chokio_MainFeeder	1	7
Morris CSC	Clinton_MainFeeder	1	3
Morris CSC	Clontarf_MainFeeder	0	1
Morris CSC	Correll_MainFeeder	1	5
Morris CSC	Cyrus_MainFeeder	0	82
Morris CSC	Danvers_MainFeeder	6	2
Morris CSC	Dawson_AGP_EastFeeder	0	3
Morris CSC	Dawson_AGP_WestFeeder	0	3
Morris CSC	Dawson_EastFeeder	20	13
Morris CSC	Dawson_Rural265	0	3
Morris CSC	Dawson_RuralBoyd	0	4
Morris CSC	Donnelly_MainFeeder	0	157
Morris CSC	Dumont_MainFeeder	0	2
Morris CSC	Farwell_MainFeeder	0	30
Morris CSC	Ghent_MainFeeder	1	3
Morris CSC	Graceville_NorthFeeder	0	2
Morris CSC	Graceville_SouthFeeder	0	2
Morris CSC	Green_Valley_TownFeeder	0	3
Morris CSC	Green_Valley_Xcel_MainFeeder	2	31
Morris CSC	Hancock_MainFeeder	0	1
Morris CSC	Hendricks_EastFeeder	0	5
Morris CSC	Hendricks_WestFeeder	0	7
Morris CSC	Herman_MainFeeder	0	10
Morris CSC	Hoffman_MainFeeder	0	72
Morris CSC	Holloway_NorthFeeder	2	146
Morris CSC	Holloway_SouthFeeder	0	100

Customer Service Center	Feeder	Number of Volt(RMS) Below Threshold	Number of Volt(RMS) Above Threshold
Morris CSC	Ivanhoe_EastFeeder	1	15
Morris CSC	Ivanhoe_WestFeeder	0	7
Morris CSC	Ivanhoe_WilnoFeeder	0	20
Morris CSC	Johnson_MainFeeder	0	1,526
Morris CSC	Kensington_MainFeeder	0	37
Morris CSC	Kerkhoven_EastFeeder	0	774
Morris CSC	Kerkhoven_WestFeeder	0	150
Morris CSC	Lake_Benton_EastFeeder	0	295
Morris CSC	Lake_Benton_WestFeeder	0	286
Morris CSC	Louisburg_LacQuiParle_NorthwestFeeder	0	34
Morris CSC	Louisburg_LacQuiParle_SouthFeeder	0	7
Morris CSC	Marietta_MainFeeder	0	8
Morris CSC	Milan_Jct_West_RuralFeeder	1	49
Morris CSC	Minneota_EastFeeder	0	1
Morris CSC	Minneota_Industrial_MainFeeder	0	119
Morris CSC	Minneota_WestFeeder	0	3
Morris CSC	Morris_NE_PrairieInn	0	9
Morris CSC	Morris_NE_UMMFeeder	0	27
Morris CSC	Morris_S_115_EthanolFeeder	0	2
Morris CSC	Morris_S_115_SouthWestFeeder	0	1
Morris CSC	Murdock_MainFeeder	0	730
Morris CSC	Nassau_MainFeeder	0	1
Morris CSC	Odessa_Bellingham_MainFeeder	4	4
Morris CSC	Odessa_Bellingham_SouthFeeder	2	4,459
Morris CSC	Ortonville_Cold_Spring_Quarry_ColdSpringFeeder	0	5
Morris CSC	Ortonville_Cold_Spring_Quarry_Ortonville_Ston_CompanyFeeder	0	3
Morris CSC	Taunton_StLeoFeeder	0	1
Morris CSC	Taunton_TownFeeder	0	1
Morris CSC	Verdi_MainFeeder	0	1,557
Morris CSC	Wheaton_NorthFeeder	0	2
Morris CSC	Wheaton_SouthFeeder	2	3

J. STAFFING LEVELS AT EACH WORK CENTER

Minnesota Rule 7826.0500, Reliability Reporting Requirements, Subpart 1j, requires utilities to file a report providing data on staffing levels at each work center, including the number of full-time equivalent positions held by field employees responsible for responding to trouble and for the operation and maintenance of distribution lines.

In compliance with this rule, Otter Tail reports staffing levels by CSC including the number of full-time equivalent positions held by field employees responsible for responding to trouble and for the operation and maintenance of distribution lines. The staffing levels of Otter Tail's Minnesota CSCs as of December 31, 2021, are shown in **Table 8** below.

Table 8

	Department	Type	Total
	Bemidji	Field	16
		Office	2
	Bemidji Total		18
	Crookston	Field	17
		Office	1
	Crookston Total		18
	Fergus Falls	Field	22
		Office	2
	Fergus Falls Total *		23
	Morris	Field	20
		Office	3
	Morris Total **		23
	Operations Support	Field	4
	Operations Support Total ***		4
	Trans Constr/Maintenance	Field	11
		Office	1
	Trans Constr/Maintenance Total****		12
	Customer Care & Relations*****	Office	32
12/31/2021			130

New for 2021 reporting, MN customers served out of the Milbank, SD service center have been moved into the Morris service center and MN customers served out of the Wahpeton, ND service center have been moved into the Fergus Falls service center for indices calculations. Both Milbank and Wahpeton Service Centers have only two feeders serving MN customers. With this new change we are now including the field personnel only responsible for the Minnesota customers on the two feeders that are located in our Milbank and Wahpeton CSCs. In Prior reports we included all the employees within the Milbank and Wahpeton CSCs into our employee count. Otter Tail's overall staffing levels have not changed; however, we are reporting a lower employee count due to consolidation of our customer service centers. We will continue this reporting method for future reports.

*The Fergus Falls CSC includes the addition of one field personnel and one office employee that are located in our Wahpeton CSC. Our Wahpeton CSC serves communities in Minnesota. The additional employees into the Fergus Falls CSC count are responsible for responding to trouble and for the operation and maintenance of distribution lines.

**The Morris CSC includes the addition of three field personnel and two office employee that are located in our Milbank CSC. Our Milbank CSC serves communities in Minnesota. The additional employees into the Morris CSC count are responsible for responding to trouble and for the operation and maintenance of distribution lines.

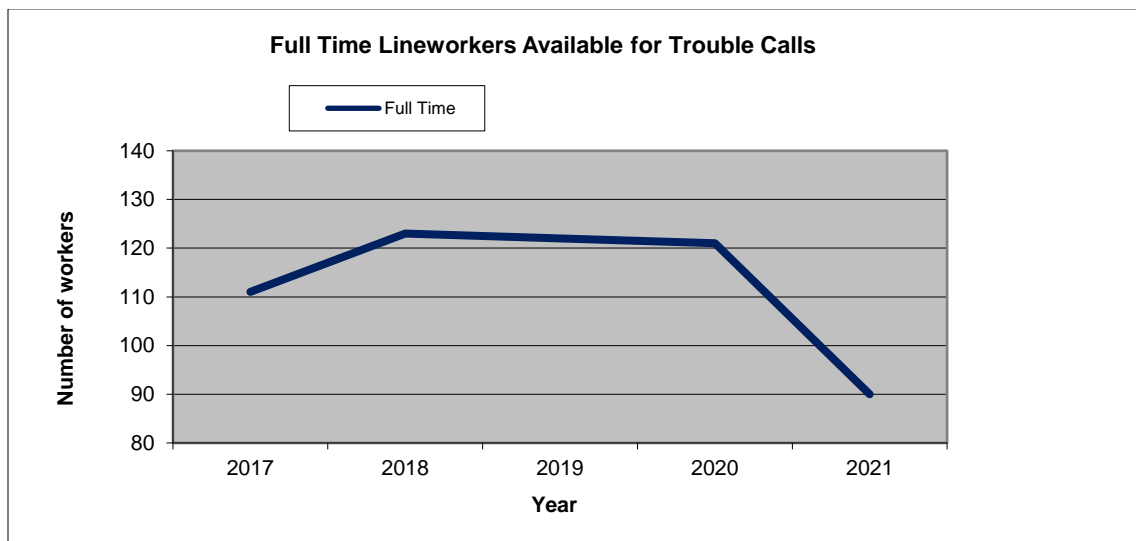
***Operations Support is based in Fergus Falls and the field employees are dispatched to assist CSCs in need throughout the entire system. The office employees coordinate resources.

**** Transmission Construction and Maintenance is a department with employees that work in substations and with substation related equipment. During trouble they are dispatched to complete switching and other work associated with substation equipment.

**** Customer Care and Relations is the office staff that is made up of Customer Service Representatives, Lead Customer Service Representatives and Customer Service Management that are located in CSCs throughout our service territory. Since Otter Tail operates a Virtual Call Center, all the office staff located throughout the territory are accountable for answering outage calls in all states. The employee count for Customer Care and Relations is 32.

Figure 6 below depicts by year the number of full-time line workers available for trouble and for the operation and maintenance of distribution lines. Otter Tail also has a reliability engineer who supports system reliability related functions. This individual is not included in the above staffing level information. Additionally, Otter Tail has engineers in its Asset Management area who, due to the nature of their roles, support reliability on a daily, weekly, monthly, and annual basis.

Figure 6



K. OTHER INFORMATION RELEVANT IN EVALUATING RELIABILITY PERFORMANCE

Minnesota Rule 7826.0500, Subpart 1k, requires utilities to file any other information the utility considers relevant in evaluating its reliability performance over the calendar year.

This is Otter Tail's third year utilizing our Itron interruption monitoring system, IMS, for reliability monitoring/reporting and purposes of data collection. The Itron system utilizes AMI technology in a bellwether configuration. As previously mentioned, Otter Tail will be implementing an Outage Management System (OMS) in 2022. The OMS will improve the way in which outage information is organized and summarized for Otter Tail crews, improving response and restoration times (CAIDI). However, the addition of more granular information from an OMS will cause increases in both SAIDI and SAIFI.

1. **Power Quality monitoring improvements:** Otter Tail continues to install and utilize wireless power quality monitors in identified problem areas. These devices monitor voltage, current, power, voltage unbalance, histograms, profiles, etc. in near real-time. Monitors also can gather sub cycle data for transient, harmonic, etc. analysis. These monitors have greatly improved our ability to monitor, identify, and analyze issues in the field. This tool is also utilized to monitor critical loads on feeders with additional customers, as the IMS monitors at the feeder level.
2. **Challenges in achieving reliability:** Otter Tail has the unique challenge of delivering reliable services to its customers across a large rural service territory, which has tremendous exposure to hazards such as vegetation, lightning, wind, and other weather-related issues. Our NextGen IMS and the use of power quality meters will continue to provide optimized and focused deployment of our vegetation management and maintenance resources to specific areas that are identified through the interruption data collection and analysis processes.
3. **Measuring reliability:** Otter Tail continues to evaluate alternate indices and the subsequent relationship towards reliability and customer satisfaction tracking. Our Itron interruption monitoring system has the capability to monitor the following indices: SAIFI, SAIDI, CAIDI, CTAIDI, CAIFI, ASAI, CEMI-5, CELID-s60, MAIFI, MAIFe, CEMSMI-5, and Total sustained customer minutes. With the adoption of a new OMS, Otter Tail will take another step forward in its ability to improve performance due to the application of additional and better field and system data.

4. **SIRI Initiative:** Through the company’s strategic planning process, Otter Tail’s leadership identified the need for an initiative to focus on improving the electrical network and infrastructure to meet three strategic objectives; improve reliability, improve customer engagement, and improve business efficiency while looking forward to the future. The initiative was developed to help address aging infrastructure, as well as prepare for future system needs and technology. This information is further discussed in Otter Tail’s Integrated Distribution Plan filing (Docket No. E017/RP-21-339).

Figures 7, 8, and 9. The following graphs show Otter Tail’s Normalized(*) SAIDI, SAIFI and CAIDI for the period of 2017 through 2021. When compared to 2020 results, Minnesota customers experienced a decrease in overall SAIDI, SAIFI, and CAIDI. As previously discussed, early in 2022, an issue was discovered with Itron’s Major Event Day (MED) calculation methodology. Corrections were performed by Itron in their system. The results presented in the figures below include these corrections for 2019 and 2020 data.

Figure 7

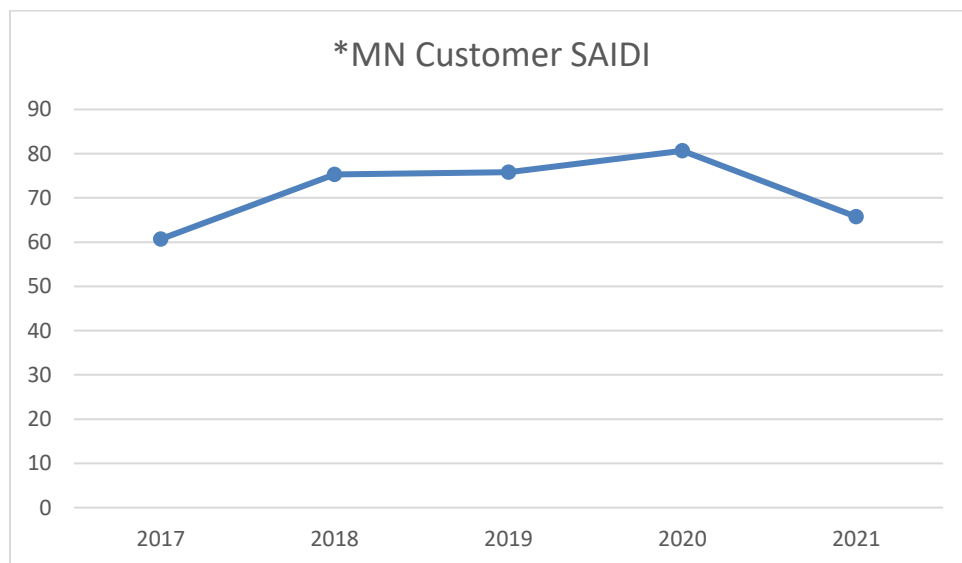


Figure 8

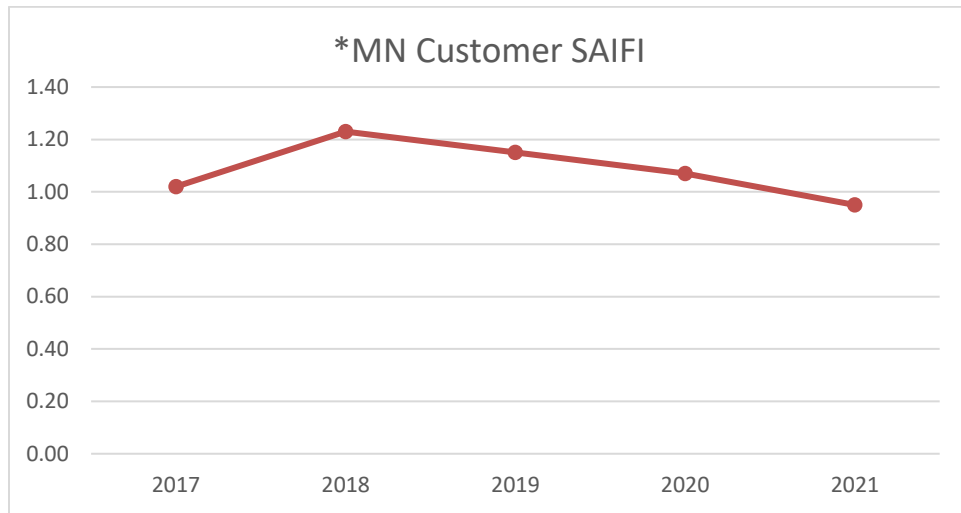
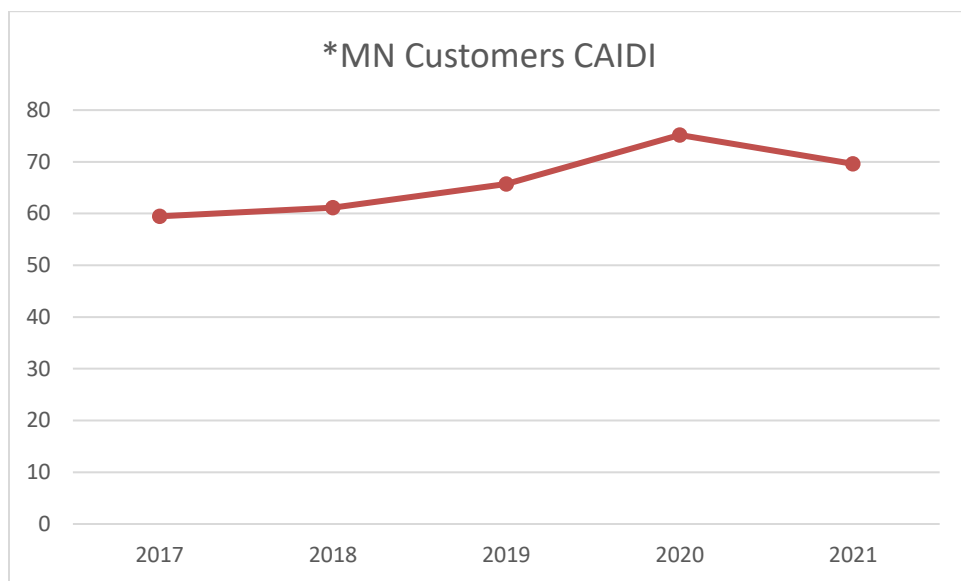


Figure 9



L. OTTER TAIL POLICIES, PROCEDURES, AND ADDITIONAL COMPLIANCE OBLIGATIONS

Otter Tail provides the following description of the policies and procedures that it has previously implemented and continues to utilize to improve reliability. Additional compliance obligation requirements are also provided.

The following is a list of reports that continue to be distributed internally. These reports ensure that Otter Tail employees are aware of issues in the system on a timely basis and can respond quickly to maintain and improve overall system reliability.

1. Internal Reporting

- a. **Monthly Reliability Report:** Otter Tail distributes to all employees an overall summary of system performance as compared to internal KPI's. This report shows SAIDI, SAIFI, CAIDI, and MAIFI for the system.
- b. **Additional reporting:** Otter Tail will continue to evaluate and track other indices in 2022 and develop internal KPI's that are reported and published to Otter Tail's Asset Management and Customer Service Departments.

2. Proactive Inspections and Testing

- a. **Field Inspections:** Otter Tail conducts several periodic patrols and inspections throughout the transmission and distribution system. Transmission substations and lines are inspected and patrolled on an annual basis and more often when issues are identified. Distribution substations are inspected for safety and equipment concerns on a periodic basis. The oil in substation transformers is sampled and tested for dissolved gas. Transformers greater than 10 MVA are tested annually and transformers less than 10 MVA are tested every three years.
- b. **Pole integrity testing:** Otter Tail currently contracts for ground line inspections and treatment work of aged transmission poles for replacement identification. Otter Tail is currently also developing a more robust distribution pole inspection program to proactively identify and remove deteriorating poles before they fail.
- c. **Underground Replacement:** Otter Tail continues its focus on replacing outdated and failing underground conductors. The Area Engineers proactively identify areas of concern and budget for replacement during the following year. Potential replacement candidates are identified and included in Otter Tail's Proactive UG Replacement project listing. Within the SIRI initiative, Otter Tail funding for the Underground Replacement program has greatly increased over the past two years.

- d. Cut-Out Replacement Program:** In 2022, Otter Tail will be kicking off a cut-out replacement program to replace failing porcelain cut-outs as well as add animal protection to poles and other distribution assets. This program is also a part of the SIRI initiative and is discussed in the IDP.

Additional Items: In addition to the above-mentioned items, Otter Tail also employs a number of other policies, procedures, and committees to evaluate reliability and safety concerns that include, but are not limited to:

- Distribution Standards Committee
- Line inspections
- Workforce Planning Committee
- Transformer Installation and Change-out Loading Guide
- Voltage upgrades and evaluations as needed
- Mobile underground fault locating vans and associated equipment
- Wildlife protection and deterrent devices

The following are additional compliance obligation requirements.

3. Attachment B: Updated Annual Reporting Requirements (*Clarifications to March 2019 Order Requirements*) of January 28, 2020 PUC Order in Docket No. E017/M-19-260

- a. Attachment B paragraph 1:** *Non-normalized SAIDI, SAIFI, and CAIDI values.*

These are previously shown in section IV, A-D, Table 4b.

- b. Attachment B paragraph 2:** *SAIDI, SAIFI, and CAIDI, MAIFI, CEMI, and CELI normalized values calculated using the IEEE 1366 Standard.*

SAIDI, SAIFI, and CAIDI values are previously shown in section IV, A-D, at table 4a. MAIFI normalized values are previously shown in section II at Table 1, both normalized and non-normalized are shown below in section c, at Table 9 and 9a. CEMI, and CELI normalized and non-normalized values follow in section d, at Table 10 and 10a.

c. *Attachment B paragraph 3: MAIFI – normalized and non-normalized.*

Table 9

2.5 normalized

CSC 2021	MAIFI
Bemidji	2.06
Crookston	4.48
Fergus Falls	4.17
Morris	5.85
MN Total	4.26

Table 9a

non-normalized

CSC 2021	MAIFI
Bemidji	2.16
Crookston	4.48
Fergus Falls	4.42
Morris	5.9
MN Total	4.26

d. *Attachment B paragraph 4: CEMI – at normalized and non-normalized outage levels of 4, 5, and 6 interruptions.*

Table 10

2021 system normalized CEMI

CEMI4	6.96%
CEMI5	4.99%
CEMI6	3.48%

Table 10a

2021 system non-normalized CEMI

CEMI4	7.12%
CEMI5	4.99%
CEMI6	4.04%

e. *Attachment B paragraph 5: The highest number of interruptions experienced by any one customer (or feeder, if customer level is not available).*

Since no designation is given regarding the “type” of interruption, the North Feeder fed from the Ottertail City Substation was the feeder experiencing the most interruptions. This Fergus Falls CSC worst performing circuit had one sustained and 27 momentary interruptions impacting 876 customers.

- f. **Attachment B paragraph 6:** *CELI – at normalized and non-normalized intervals of greater than 6 hours, 12 hours, and 24 hours.*

Table 11

2021 system normalized CELID

CELID6	1.07%
CELID12	0.00%
CELID24	0.00%

Table 11a

2021 system non-normalized CELID

CELID6	1.46%
CELID12	0.40%
CELID24	0.00%

- g. **Attachment B paragraph 7:** *The longest experienced interruption by any one customer (or feeder, if customer level is not available).*

The Red Lake Falls East St. Hilaire Feeder experienced the longest duration interruption lasting 7 hours and 54 minutes impacting 203 customers. On August 19, rain caused a cracked cutout to track and burn a pole top off.

- h. **Attachment B paragraph 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.*

Previously shown in section IV, J, Table 8. OTP does not utilize contractors for these services.

- i. **Attachment B paragraph 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*

It is not currently feasible for Otter Tail to estimate restoration times. Otter Tail does not have a system (such as an Advanced Distribution Management System or Outage Management System) in which to create, track, and manage estimated restoration times. Otter Tail has plans to implement an OMS before the end of 2022.

j. Attachment B paragraph 11: *Performance by customer class.*

It is not feasible for Otter Tail to provide performance by customer class at this time. Otter Tail measures reliability at the feeder level. Otter Tail has feeders with more than one class on them. Otter Tail will work with our OMS vendor to determine the feasibility of developing a reliability report by customer class.

k. Attachment B paragraph 12: *Causes of sustained customer outages, by work center.*

Previously shown in section IV, A-D, Table 5.

4. December 18, 2020 PUC Order in Docket No. E017/M-20-401 (2019 Annual SRSQ Report)

a. Ordering paragraph 4: *The Commission hereby grants a variance to Minn. R. 7826.0500, subp. 1, item G, applicable to Minnesota Power, Otter Tail, and Xcel. The utilities must file a summary table that includes the information contained in the reports, similar to Attachment G of Xcel's filing.*

This variance was referenced previously at section IV, G and the summary is included as Attachment 1 to this report.

b. Ordering paragraph 5: *The utilities must file the reliability (SAIDI, SAIFI, CAIDI, MAIFI, normalized/non-normalized) for feeders with grid modernization investments such as Advanced Metering Infrastructure or Fault Location Isolation and Service Restoration to the historic five-year average reliability for the same feeders before grid modernization investments.*

This is not applicable for Otter Tail at this time given the company does not have AMI nor FLISR installed.

c. Ordering paragraph 16: *After consultation with Department and Commission staff, each utility must file revised categories for reporting complaint data. The Commission hereby delegates authority to the Executive Secretary to approve additional reporting categories, with the goal of establishing them by the April 1, 2021 reporting deadline.*

Commission Staff, including the Consumer Affairs Office, convened a work group meeting on Monday, March, 1, 2021 with the Department of Commerce, Xcel Energy, Minnesota Power, and Otter Tail to review and discuss current complaint categories used in annual Safety, Reliability, and Service Quality ("SRSQ") reports. Minnesota Rule 7826.2000 was reviewed along with the current categories used by each of the utilities and the Consumer Affairs Office. The group agreed to work together to further refine definitions for existing categories to allow for greater specificity and seek consistency, where possible. As part of this review, additional categories may be considered based on emerging topics of interest. Quarterly meetings continued in 2021

with the objective of establishing a recommendation for use with the next calendar year (2022) to align with SRSQ reporting cycles.

See section XII, A&B below for an additional work group summary.

5. December 2, 2021 PUC Service Quality Order in Docket No. E017/M-21-225 (2020 Annual SRSQ Report)

- a. **Ordering paragraph 2:** Required Minnesota Power, Otter Tail Power, and Xcel Energy to provide the following new information regarding electronic utility-customer interaction beginning with the reports filed in April 2023:*

Percentage Uptime		[to second decimal]
	General Website	XX.XX%
	Payment Services	XX.XX%
	Outage map &/or Outage Info page	XX.XX%
Error Rate Percentage		[to third decimal]
	Payment Services*	XX.XXX%

**If more granular data is available, please break down the error rate for unexpected errors, errors outside of the customer's control (i.e. how often to online payments fail for reasons other than insufficient funds or expired payment methods), and/or some other meaningful categorization.*

- b. **Ordering paragraph 3:** Required Minnesota Power, Otter Tail Power, and Xcel Energy to provide percentage uptime and error rate percentage information in their annual reports for the next three reporting cycles, to build baselines for web-based service metrics.*

Response to a and b above: Otter Tail is working with our internal team to capture this data for inclusion with our report filed April of 2023.

- c. **Ordering paragraph 4:** Required Minnesota Power, Otter Tail Power, and Xcel Energy 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 Minn. R.7826.1700.*

Table 12 below is a count of customer requests from our self-service area within our website. The information within the table is broken out by our categories on our website. These requests create an email to our office team to complete the transaction for our customers. We were unable to separate this information by state. The information in this table represents inquiries from our entire service territory.

Table 12

Service Request Type	Count
Mailing address Changes	672
Start Service	742
Submit meter readings	2516
Grand Total	3930

Table 13 below is a count of our Minnesota customer contacts that were submitted through our Contact Us section within our website. Contact Us is the area on our website where customers can ask their questions and engage in dialogue via email. When a customer utilizes the Contact Us feature, they are prompted to choose a topic as the subject for their inquiry. Below are the number of our 2021 Contact Us emails by topic.

Table 13

Contact Us Topic	Topic Count
Business Energy Expert	5
Economic development	7
Energy control	74
Enroll in EMP	274
Generation interconnection	9
Help with technical issue	38
Jobs	12
My account	657
Other	216
Otter Tail Investments	10
Payment programs/ arrangements	158
Rebates/ programs/ financing	88
Send copy of my last bill	29
Street light/ security light	51
Tell us how we're doing	12
Tree trimming request	54
Turn on/ turn off/ transfer service	77
Grand Total	1771

Table 14 below is a count of our website visits and logins for our various customer communication platforms. The information in this table represents our entire service territory.

Table 14

	Website	Facebook	Twitter	LinkedIn	My Account
2021 Total	2,314,977	17,797	13,905	6,048	72,108

*Data within My Account is for a partial year, August through December 2021. Reporting was created to capture this data moving forward.

- d. **Ordering paragraph 7:** Required Minnesota Power, Otter Tail Power, and Xcel Energy to file public facing summaries with their annual Safety, Reliability, and Service Quality reports. Utilities shall work with the Executive Secretary to publish those summaries in locations visible to consumers.*

Otter Tail’s 2021 Public Facing Summary is included as Attachment 2 and has been published on our website at otpc.com/OurGuarantee.com.

6. March 2, 2022 PUC Service Quality Order in Docket No. E017/M-21-225 (2020 Annual SRSQ Report)

- a. **Ordering paragraph 5:** The Commission sets Otter Tail Power’s 2021 statewide reliability standard at the IEEE benchmarking second quartile for medium utilities and sets work center reliability standards at the IEEE benchmarking second quartile for medium utilities.*
- b. **Ordering paragraph 6:** Otter Tail must file a supplemental filing to its 2021 safety, service quality, and reliability report 30 days after IEEE publishes the 2021 benchmarking results. The supplemental filing must include an explanation for any standards the utility did not meet.*

Response to a and b above: Otter Tail will provide a supplemental filing within 30 days from when IEEE publishes the 2021 benchmarking results. Otter Tail will compare it’s results with the median values of SAIFI, SAIDI, and CAIDI for “medium” sized utilities as reported in the survey results and provide explanations for standards not met.

V. RELIABILITY STANDARDS 7826.0600

PROPOSED RELIABILITY PERFORMANCE STANDARDS

Minnesota Rule 7826.0600, Subpart 1, requires utilities to file proposed reliability performance standards in the form of proposed numerical values for the SAIDI, SAIFI, and CAIDI for each of its work centers.

Otter Tail did realize decreases in SAIDI, SAIFI, CAIDI and MAIFI 2021 results, compared to 2020. The decrease in indices results is due to several reasons:

- Otter Tail's system and operational improvements, based on adherence and use of better data and data collection systems.
- 2021 was a year with exceptionally low severe spring, summer, fall severe weather events.
- The correction to Itron's MED calculation process. Otter Tail is now confident it has calculations consistent with the intent of IEEE 1386 2.5 Beta method application.

As previously mentioned, Otter Tail will be implementing an Outage Management System (OMS) in 2022. The OMS will improve the way in which outage information is organized and summarized for Otter Tail crews, improving response and restoration times (CAIDI). However, the addition of more granular information from an OMS will cause increases in both SAIDI and SAIFI, and possible increases to CAIDI.

As provided last year, Otter Tail proposed to set indices' standards at IEEE's Reliability Benchmark Survey median values for medium sized utilities for the corresponding year's data set, i. e. 2022 goals will be set on the 2022 IEEE Benchmark Survey results, as provided in August of 2023.

The current year report historically is completed, and results posted, the third quarter of the following year. As done in 2021, Otter Tail will provide a supplemental filing within 30 days from when IEEE's 2021 Benchmark Reliability Survey results are completed and provide explanations for standards not met.

VI. REPORTING METER-READING PERFORMANCE 7826.1400

Minnesota Rule 7826.1400, Reporting Meter Reading Performance, requires utilities to provide a detailed report on the utility's meter-reading performance. In compliance with this rule, Otter Tail provides Tables 15-18 for its meter reading performance for 2021.

A & B. The number and percentage of customer meters read by utility personnel and the number and percentage of customer meters self-read by the customer.

Table 15
Otter Tail Power Company Meter Reading Performance
January 1, 2021 to December 31, 2021
Residential – MN

	Residential						
Month	Meters Read	%	Meters Estimated	%	Self Read	%	Total Meters
1	61,953	96.75%	1,229	1.92%	849	1.33%	64,031
2	61,963	96.69%	1,274	1.99%	847	1.32%	64,084
3	62,742	97.92%	488	0.76%	847	1.32%	64,077
4	62,194	97.06%	1,033	1.61%	853	1.33%	64,080
5	62,770	97.68%	642	1.00%	852	1.33%	64,264
6	62,530	96.02%	1,743	2.68%	849	1.30%	65,122
7	63,320	97.21%	974	1.50%	842	1.29%	65,136
8	63,381	97.25%	957	1.47%	838	1.29%	65,176
9	63,054	96.95%	1,145	1.76%	840	1.29%	65,039
10	63,217	97.77%	603	0.93%	838	1.30%	64,658
11	62,412	97.41%	824	1.29%	835	1.30%	64,071
12	62,360	97.54%	740	1.16%	832	1.30%	63,932
	751,896	97.19%	11,652	1.51%	10,122	1.31%	773,670

Table 16
Otter Tail Power Company Meter Reading Performance
January 1, 2021 to December 31, 2021
Small Commercial – MN

	Small Commercial						
Month	Meters Read	%	Meters Estimated	%	Self Read	%	Total Meters
1	14,766	95.33%	399	2.58%	325	2.10%	15,490
2	14,772	95.65%	345	2.23%	326	2.11%	15,443
3	14,938	96.79%	170	1.10%	325	2.11%	15,433
4	14,883	96.22%	257	1.66%	328	2.12%	15,468
5	15,489	96.54%	232	1.45%	323	2.01%	16,044
6	15,342	95.04%	473	2.93%	328	2.03%	16,143
7	15,503	96.19%	289	1.79%	325	2.02%	16,117
8	15,547	96.21%	285	1.76%	327	2.02%	16,159
9	15,391	95.42%	411	2.55%	327	2.03%	16,129
10	15,512	96.41%	250	1.55%	327	2.03%	16,089
11	15,415	96.25%	273	1.70%	327	2.04%	16,015
12	14,813	96.33%	246	1.60%	318	2.07%	15,377
	182,371	96.03%	3,630	1.91%	3,906	2.06%	189,907

Table 17
Otter Tail Power Company Meter Reading Performance
January 1, 2021 to December 31, 2021
Large Commercial – MN

	Large Commercial						
Month	Meters Read	%	Meters Estimated	%	Self Read	%	Total Meters
1	928	97.99%	19	2.01%	.		947
2	926	98.41%	15	1.59%	.		941
3	949	100.00%	0	0.00%	.		949
4	939	99.68%	3	0.32%	.		942
5	934	99.79%	2	0.21%	.		936
6	926	98.20%	17	1.80%	.		943
7	929	98.52%	14	1.48%	.		943
8	929	99.04%	9	0.96%	.		938
9	926	99.14%	8	0.86%	.		934
10	931	99.68%	3	0.32%	.		934
11	928	98.62%	13	1.38%	.		941
12	941	99.37%	6	0.63%	.		947
	11,186	99.03%	109	0.97%	.		11,295

Table 18
Otter Tail Power Company Meter Reading Performance
January 1, 2021 to December 31, 2021
Total – MN

Month	System						
	Meters Read	%	Meters Estimated	%	Self Read	%	Total Meters
1	77,647	96.49%	1,647	2.05%	1,174	1.46%	80,468
2	77,661	96.51%	1,634	2.03%	1,173	1.46%	80,468
3	78,629	97.73%	658	0.82%	1,172	1.46%	80,459
4	78,016	96.93%	1,293	1.61%	1,181	1.47%	80,490
5	79,193	97.48%	876	1.08%	1,175	1.45%	81,244
6	78,798	95.85%	2,233	2.72%	1,177	1.43%	82,208
7	79,752	97.03%	1,277	1.55%	1,167	1.42%	82,196
8	79,857	97.06%	1,251	1.52%	1,165	1.42%	82,273
9	79,371	96.67%	1,564	1.90%	1,167	1.42%	82,102
10	79,660	97.53%	856	1.05%	1,165	1.43%	81,681
11	78,755	97.20%	1,110	1.37%	1,162	1.43%	81,027
12	78,114	97.33%	992	1.24%	1,150	1.43%	80,256
	945,453	96.98%	15,391	1.58%	14,028	1.44%	974,872

C. The number and percentage of customer meters that have not been read by utility personnel for periods of 6 to 12 months and for periods of longer than 12 months, and an explanation as to why they have not been read.

In 2021, 23 meters for customers of Otter Tail were not read by utility personnel for a period of 6 months to 12 months. Otter Tail had zero meters not read for a period greater than 12 months. We encountered access issues where meters were located in locked buildings or meters had obstructions in front of them such as a fence. In all instances we worked with the customer to obtain access.

D. Data on monthly meter-reading staffing levels, by work center or geographical area.

Table 19

Row Labels	Jan-21	Feb-21	Mar-21	Apr-21	May-21	Jun-21	Jul-21	Aug-21	Sep-21	Oct-21	Nov-21	Dec-21	Grand Total
Bemidji	9	9	9	9	9	9	9	9	9	9	9	9	108
Service Representative	9	9	9	9	9	9	9	9	9	9	9	9	108
Crookston	13	13	13	13	13	13	13	13	13	13	13	13	156
Apprentice Service Repres	1	1	1										3
Service Representative	12	12	12	13	13	13	13	13	13	13	13	13	153
Fergus Falls	14	14	14	14	14	14	14	14	14	14	14	14	168
Service Representative	14	14	14	14	14	14	14	14	14	14	14	14	168
Morris	16	16	16	16	16	16	16	16	16	16	16	16	192
Apprentice Service Repres	3	2	2	2	2	2	2	2	2	1			20
Service Representative	13	14	14	14	14	14	14	14	14	15	16	16	172
Grand Total	52	52	52	52	52	52	52	52	52	52	52	52	624

Note: Milbank CSC and Wahpeton CSC serve Minnesota Communities where we read meters. The employees accountable for meter reading in those Minnesota communities have been included in the employee count in Morris and Fergus Falls.

Otter Tail utilizes its Service Representatives to read its meters on a monthly basis except in the following towns where a third party reads the Company's meters:

Amiret MN	Eldred MN	New York Mills MN
Argyle MN	Erskine MN	Oklee MN
Audubon MN	Fergus Falls MN	Oslo MN
Battle Lake MN	Fertile MN	Ottertail MN
Barry MN	Fisher MN	Pelican Rapids MN
Beardsley MN	Frazee MN	Pennock MN
Bejou MN	Foxhome MN	Perham MN
Bellingham MN	Gentily MN	Plummer MN
Beltrami MN	Ghent MN	Porter MN
Bemidji MN	Graceville MN	Red Lake Falls MN
Brooks MN	Green Valley MN	Richville MN
Campbell MN	Gonvick MN	Rothsay MN
Canby MN	Gully MN	Saint Hilaire MN
Chokio MN	Hancock MN	Shevlin MN
Clearbrook MN	Hallock MN	Solway MN
Climax, MN	Henning MN	St. Leo MN
Clinton MN	Holloway MN	Sunburg MN
Clitherall MN	Johnson MN	Taunton MN
Correll MN	Kent MN	Tenney MN
Crookston MN	Kerkhoven MN	Tintah MN
Cyrus MN	Lockhart MN	Trail MN
Dalton MN	Loouisburg MN	Twin Valley MN
Danvers MN	Mahnomen MN	Ulen MN
Dawson MN	Marshall MN (Rural)	Underwood MN
Dent MN	McIntosh MN	Vergas MN
Deer Creek MN	Milan MN	Vining MN
Degraff MN	Milroy MN	Waubun MN
Detroit Lakes MN	Minneota MN	Wendell MN
Doran MN	Morris MN	Wheaton MN
Dumont MN	Murdock MN	Wilton MN
	Nashua MN	Winger MN

In 2021, we did decrease the number of towns being read by our third-party meter reader by Otter Tail resuming meter reading in the Boyd and Burr communities.

VII. REPORTING INVOLUNTARY DISCONNECTIONS 7826.1500

Minnesota Rule 7826.1500, Reporting Involuntary Disconnections, requires utilities to provide a detailed report on involuntary disconnections of service. In compliance with this rule, Otter Tail provides its report of involuntary disconnections of service.

A. Number of customers who received disconnection notices.

Table 20

Month	Large Commercial	Residential	Small Commercial	Grand Total
January	14	0	0	14
February	18	0	0	18
March	18	0	0	18
April	19	0	0	19
May	12	0	0	12
June	17	4723	406	5146
July	10	3678	312	4000
August	15	4282	327	4624
September	13	4554	388	4955
October	12	4272	292	4576
November	10	3802	325	4137
December	11	3313	273	3597
Grand Total	169	28624	2323	31116

In June of 2021 the initial phase of our transition plans to resume collection activity began, by resuming the mailing of disconnection notices to small general service and residential customers.

B. Number of customers who sought cold weather rule protection under Minnesota Statutes §216B.096 and §216B.097 and the number who were granted cold weather rule protection.

Table 21

Month	Customers who sought Cold Weather Rule Protection in 2021	Number Granted Cold Weather Protection in 2021
January	73	53
February	27	20
March	3	3
April	1	1
May	0	0
June	0	0
July	0	0
August	0	0
September	0	0
October	105	83
November	89	80
December	62	52
Grand Total	360	292

*The deviation between customers who sought CWP, and the customers granted CWP is due to Otter Tail having to access the CWP form within our customer information system to begin our CWP discussion with the customer on the monthly amount of their CWP amount. Customers are not denied CWP but rather the customer chose an alternative payment option.

C. Total number of customers whose service was disconnected involuntarily, and the number of these customers restored to service within 24 hours.

Table 22

7826.1500 Subpart C - Customers involuntarily disconnected in 2021

Month	Customer Class	Disconnected For more than 24 hours	Service Restored within 24 hours	Grand Total
January	Residential	0	0	0
	Small Commercial	0	0	0
January Total		0	0	0
February	Residential	0	0	0
	Small Commercial	0	0	0
February Total		0	0	0
March	Residential	0	0	0
	Small Commercial	0	0	0
March Total		0	0	0
April	Residential	0	0	0
	Small Commercial	0	0	0
April Total		0	0	0
May	Residential	0	0	0
	Small Commercial	0	0	0
May Total		0	0	0
June	Residential	0	0	0
	Small Commercial	0	0	0
June Total		0	0	0
July	Residential	0	0	0
	Small Commercial	0	0	0
July Total		0	0	0
August	Residential	207	162	369
	Small Commercial	11	2	13
August Total		218	164	382
September	Residential	123	139	262
	Small Commercial	5	1	6
September Total		128	140	268
October	Residential	18	10	28
	Small Commercial	2	2	4
October Total		20	12	32
November	Residential	14	10	24
	Small Commercial	2	0	2
November Total		16	10	26
December	Residential	10	9	19
	Small Commercial	1	0	1
December Total		11	9	20
Grand Total		393	335	728

As a part of our transition plan, Otter Tail resumed collection practices in August of 2021. Prior to August 2021, we temporarily suspended collection activity due to the COVID-19 pandemic.

D. Number of disconnected customers restored to service by entering into a payment plan.

Table 23

Month	Residential	Small Commercial	Large Commercial	Total
January	0	0	0	0
February	0	0	0	0
March	0	0	0	0
April	0	0	0	0
May	0	0	0	0
June	0	0	0	0
July	0	0	0	0
August	27	1	0	28
September	35	0	0	35
October	9	0	0	9
November	1	1	0	2
December	4	0	0	4
Totals	76	2	0	78

VIII. REPORTING SERVICE EXTENSION REQUEST RESPONSE TIMES

7826.1600

Minnesota Rule 7826.1600, Reporting Service Extension Request Response Times, requires utilities to provide a report on service extension request response times.

In compliance with this rule, Otter Tail provides in **Table 24** below its report of service extension request response times by customer class for each calendar month, in the following categories:

- A. The number of customers requesting service to a location not previously served by Otter Tail 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, shown in Table 24.
- 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, shown in Table 24.

Table 24

7826.1600 - Otter Tail Power Company Service Extension Request Response Time Report – 2021

2021	Request Type	Days	Large Commercial	Residential	Small Commercial	Grand Total
January	Locations not previously served	0	1	4	3	8
		1	0	26	2	28
		2	0	7	1	8
		3	0	0	1	1
		5	0	2	0	2
		10	0	0	1	1
	Locations previously served	0	0	48	3	51
		1	0	20	0	20
		2	0	3	0	3
		3	0	1	0	1
	January Total		1	111	11	123

2021	Request Type	Days	Large Commercial	Residential	Small Commercial	Grand Total
February	Locations not previously served	0	0	0	10	10
		1	0	0	1	1
		8	1	0	0	1
	Locations previously served	0	0	29	0	29
		1	0	14	1	15
		2	0	1	1	2
		3	0	1	0	1
	February Total		1	45	13	59
	Locations not previously served	0	0	2	0	2
		1	0	3	0	3
March		5	0	8	0	8
		13	0	1	0	1
		19	0	8	0	8
		60	0	1	0	1
	Locations previously served	0	0	64	10	74
		1	0	27	3	30
		2	0	4	0	4
		3	0	3	1	4
		4	0	2	0	2
	March Total		0	123	14	137
April	Locations not previously served	0	0	4	3	7
		1	0	8	4	12
		2	0	2	0	2
		8	0	1	0	1
		9	0	1	0	1
		30	0	2	0	2
		50	0	1	0	1
		92	0	0	1	1
	Locations previously served	0	0	132	24	156
		1	0	36	11	47
		2	0	5	3	8
		3	0	0	1	1
		6	0	0	2	2
		8	0	1	0	1
	April Total		0	193	49	242

2021	Request Type	Days	Large Commercial	Residential	Small Commercial	Grand Total
May	Locations not previously served	0	0	6	5	11
		1	0	12	3	15
		2	0	2	3	5
		3	0	6	2	8
		4	0	4	0	4
		5	0	4	1	5
		6	0	1	1	2
		7	0	2	0	2
		8	0	0	1	1
		10	0	0	1	1
		15	0	1	0	1
		16	0	1	0	1
		18	0	1	0	1
		19	0	4	0	4
		20	0	2	0	2
		21	0	0	1	1
		26	0	0	1	1
		27	0	1	0	1
		40	0	1	0	1
		45	0	0	1	1
		54	0	1	0	1
		87	0	1	0	1
	Locations previously served	0	0	116	17	133
		1	0	19	5	24
		2	0	9	3	12
		3	0	2	0	2
		4	0	1	0	1
		6	0	1	0	1
		21	0	1	0	1
	May Total		0	199	45	244

2021	Request Type	Days	Large Commercial	Residential	Small Commercial	Grand Total
June	Locations not previously served	0	0	8	8	16
		1	0	7	4	11
		2	0	4	2	6
		3	0	1	1	2
		4	0	2	1	3
		6	0	2	0	2
		7	0	1	0	1
		8	0	1	0	1
		10	0	2	2	4
		11	0	1	0	1
		12	0	0	1	1
		14	0	1	0	1
		19	0	1	0	1
		20	0	1	0	1
		28	0	1	1	2
		30	0	1	0	1
		36	0	2	0	2
		40	0	1	0	1
		43	0	1	0	1
		47	0	1	0	1
		53	0	1	0	1
		59	0	1	0	1
	Locations previously served	0	0	81	12	93
		1	0	29	2	31
		2	0	7	0	7
		3	0	2	0	2
		4	0	1	0	1
		10	0	1	0	1
	June Total		0	162	34	196

2021	Request Type	Days	Large Commercial	Residential	Small Commercial	Grand Total
July	Locations not previously served	0	1	6	3	10
		1	0	4	0	4
		2	0	5	0	5
		3	0	2	0	2
		4	0	2	0	2
		6	0	6	0	6
		11	0	0	1	1
		16	0	1	0	1
		28	0	1	0	1
		29	0	1	0	1
		31	0	1	0	1
		32	0	1	0	1
		40	0	1	0	1
		41	0	0	1	1
		42	0	1	0	1
		43	0	1	0	1
		44	0	1	0	1
		57	0	0	1	1
		71	0	1	0	1
		74	0	1	0	1
		79	0	1	0	1
	Locations previously served	0	0	62	9	71
		1	0	31	5	36
		2	0	5	1	6
		3	0	4	2	6
		4	0	0	1	1
	July Total		1	139	24	164

2021	Request Type	Days	Large Commercial	Residential	Small Commercial	Grand Total
August	Locations not previously served	0	0	7	2	9
		1	0	1	1	2
		2	0	1	0	1
		3	0	1	0	1
		4	0	2	0	2
		6	0	0	1	1
		7	0	0	2	2
		8	0	1	0	1
		12	0	1	0	1
		16	0	1	0	1
		17	0	1	0	1
		21	0	1	0	1
		28	0	0	1	1
		32	0	4	1	5
		41	0	1	0	1
		44	0	1	0	1
		54	0	1	0	1
	Locations previously served	0	1	87	4	92
		1	0	28	6	34
		2	0	4	3	7
		3	0	0	1	1
		4	0	1	0	1
		5	0	1	0	1
		6	0	0	1	1
	August Total		1	145	23	169

2021	Request Type	Days	Large Commercial	Residential	Small Commercial	Grand Total
September	Locations not previously served	0	0	5	10	15
		1	0	7	2	9
		2	0	2	2	4
		3	0	1	0	1
		4	0	1	1	2
		5	0	0	1	1
		12	0	1	0	1
		15	0	1	0	1
		21	0	1	0	1
		28	0	1	0	1
		29	0	0	1	1
		88	0	0	1	1
		90	0	1	0	1
		109	0	1	0	1
		138	0	0	1	1
	Locations previously served	0	0	71	6	77
		1	0	23	1	24
		2	0	5	0	5
		3	0	2	1	3
		4	0	1	0	1
		6	0	1	0	1
		7	0	1	0	1
		8	0	0	1	1
		11	0	1	0	1
		13	0	2	0	2
		14	0	1	0	1
		46	0	1	0	1
	September Total		0	131	28	159

2021	Request Type	Days	Large Commercial	Residential	Small Commercial	Grand Total
October	Locations not previously served	0	0	4	2	6
		1	0	6	2	8
		2	0	1	1	2
		4	0	3	0	3
		6	0	1	0	1
		7	0	1	1	2
		10	0	4	0	4
		12	0	0	1	1
		15	0	0	1	1
		17	0	1	0	1
		18	0	1	0	1
		19	0	1	0	1
		21	0	1	0	1
		33	0	1	0	1
		39	0	2	0	2
		41	0	0	1	1
		42	0	1	0	1
		44	0	1	0	1
		57	0	1	0	1
		59	0	1	0	1
		68	0	0	1	1
		151	0	1	0	1
		241	0	0	1	1
	Locations previously served	0	1	52	5	58
		1	0	22	3	25
		2	0	2	1	3
		3	0	1	0	1
		4	0	1	0	1
		11	0	1	0	1
		14	0	1	0	1
	October Total		1	112	20	133

2021	Request Type	Days	Large Commercial	Residential	Small Commercial	Grand Total
November	Locations not previously served	0	0	1	8	9
		1	0	2	1	3
		2	0	1	4	5
		3	0	1	1	2
		4	0	0	1	1
		5	0	4	0	4
		7	0	0	2	2
		14	0	1	0	1
		20	0	2	0	2
		21	0	1	0	1
		23	0	1	1	2
		24	0	1	0	1
		27	1	0	0	1
		35	0	0	1	1
	Locations previously served	0	0	39	10	49
		1	1	22	2	25
		2	0	2	0	2
		3	0	2	0	2
		4	0	2	0	2
		5	0	1	0	1
		17	0	1	0	1
		21	0	1	0	1
		24	0	1	0	1
	November Total		2	86	31	119

2021	Request Type	Days	Large Commercial	Residential	Small Commercial	Grand Total
December	Locations not previously served	0	0	2	5	7
		1	0	2	3	5
		2	0	1	0	1
		3	0	2	1	3
		5	0	1	0	1
		7	0	1	0	1
		10	0	1	0	1
		17	0	1	0	1
		33	0	1	0	1
		44	0	1	0	1
		65	0	1	0	1
		111	0	0	1	1
	Locations previously served	0	0	31	7	38
		1	0	7	0	7
		3	0	2	1	3
	December Total		0	54	18	72
	Grand Total		7	1,500	310	1,817

In 2021, our data shows that we saw an increase within the number of days to complete for Locations Not Previously Served. As previously reported, we have enhanced this process since we went live with our new customers information system in 2019. Within our New Location process, the day count begins when the new location service order is created as a step within creating the new account for the customer. The new location service order would remain open until our field personnel completes the work to serve that location. This initial process resulted in our report showing many locations with high number days to complete and in many circumstances the location was not ready for service resulting in the service order remaining open for extended period of time.

Learning that our service orders were remaining open for extended period time, we later created a new step within the new location process to allow for a new location inquiry service order. This service order allows our office staff and the field personnel to have the initial conversations with the customer about their project before creating the account allowing us to not create the new location service order as the new location may not be ready for service.

When customers contact us regarding a new location, our office staff will inquire with the customer to determine if the customer is ready for service. If the customer is in the initial phases of their project, we will enter the new location inquiry service order to allow for the customer and the field personnel make contact and discuss the project. Based on our initial inquiry with the customer, if we determine they are ready for service, the customer's account and new location service order will be created.

Adding this additional step within the new location process, we have been able to more accurately determine the number of days to complete the new location service order. However, for a small number of customers we are seeing that new location service orders are being sent when the location is not ready for service.

Otter Tail has a team reviewing our new location process for enhancements that will more clearly depict the number of days to complete the work for the new locations.

IX. REPORTING CALL CENTER RESPONSE TIMES 7826.1700

Minnesota Rule 7826.1700, Reporting Call Center Response Times, requires utilities to provide a detailed report on call center response times, including calls to the business office and calls regarding service interruptions. The report must include a month-by-month breakdown of information.

In compliance with this rule, Otter Tail provides its report of call center response times for 2021 in **Table 25**. **Figure 10** shows a historical graph of the percent of Minnesota calls answered within 20 seconds.

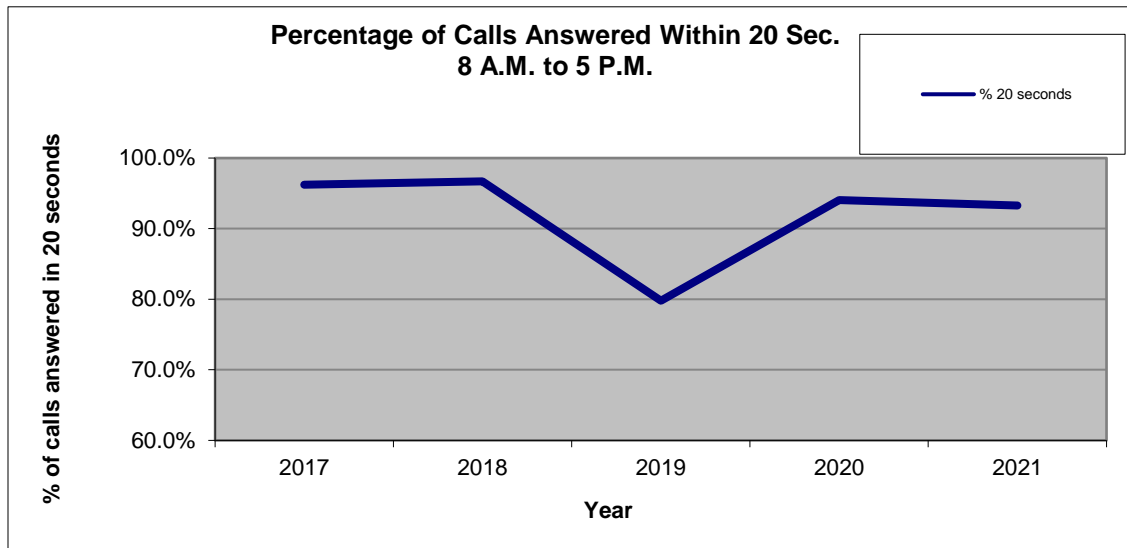
Table 25

Month	Offered	Calls Abandoned	Calls Answered after 20 Seconds	Answered within 20 Seconds	Percent Answered within 20 seconds ¹
January - 2021	3,501	10	100	3,391	96.86%
February - 2021	3,309	3	66	3,240	97.91%
March - 2021	3,923	4	68	3,851	98.16%
April - 2021	3,960	4	114	3,842	97.02%
May - 2021	4,013	4	42	3,967	98.85%
June - 2021	5,093	21	431	4,641	91.13%
July -2021	4,933	34	224	4,675	94.77%
August - 2021	6,222	176	293	5,753	92.46%
September - 2021	5,495	17	467	5,011	91.19%
October - 2021	5,112	15	719	4,378	85.64%
November - 2021	4,301	28	323	3,950	91.84%
December - 2021	3,885	211	250	3,424	88.13%
Total	53,747	527	3,097	50,123	93.26%

Otter Tail operates a call center using agents located in nine office locations across our entire service territory. Agents in these office locations answer calls from our Minnesota, North Dakota, and South Dakota customers. With our telecommunications system, our auto attendant allows customers to select the state in which the account or service the customer is calling to inquire about. This auto attendant for selecting the state for reporting purposes only.

In 2021, our agents maintained an overall high service standard for our customers. As we did transition some team members back to our offices, some remained working remotely. As we continued to maneuver through the pandemic, we have been able to maintain our availability for our customers.

Figure 10



X. REPORTING EMERGENCY MEDICAL ACCOUNT STATUS 7826.1800

Minnesota Rule 7826.1800, Reporting Emergency Medical Account Status, requires utilities to provide a report that includes the number of customers who requested emergency medical account status under Minnesota Statutes, section 216B.098 subdivision 5, the number whose applications were granted, and the number whose applications were denied and the reason for each denial.

In compliance with this rule, Otter Tail reports that during 2021 Otter Tail had six Minnesota customers request emergency medical account status. Otter Tail granted this status to all six customers.

XI. REPORTING CUSTOMER DEPOSITS 7826.1900

Minnesota Rule 7826.1900, Reporting Customer Deposits, requires utilities to provide a report on the number of customers who were required to make a deposit as a condition of receiving service.

In compliance with this rule, Otter Tail reports that zero customers were required to make a deposit as a condition of receiving service during 2021. The number of deposit requests decreased by 297 when compared to 2020. The decrease has a direct correlation with suspending collection activities due to the COVID-19 pandemic.

XII. REPORTING CUSTOMER COMPLAINTS 7826.2000

Minnesota Rule 7826.2000, Reporting Customer Complaints, requires utilities to provide a detailed report on complaints by customer class and calendar month.

In compliance with this rule, Otter Tail provides the following information on complaints the Company received during 2021.

A & 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 five percent or more of the customer complaints.

Table 26

Complaint Type	Total	Percent of Total
Alleged Billing Errors	66	58.41%
Load Control	2	1.77%
High Bills	1	0.88%
Inaccurate Meter reading	0	0.00%
Tree Trimming	5	4.42%
Other	35	30.97%
Wrongful Disconnect	1	0.88%
Inadequate Service	3	2.65%
Property Damage	0	0.00%
	113	100.00%

*Other – this category contains any complaints not included within the various complaint sections in our Customer Information System. The types of complaints included in the “Other” category in 2021 included such things as, planned outages, third-party meter readers payment or payment options, and reliability.

Commission Staff, including the Consumer Affairs Office, convened a work group meeting on Monday, March, 1, 2021 with the Department of Commerce, Xcel Energy, Minnesota Power, and Otter Tail to review and discuss current complaint categories used in annual Safety, Reliability, and Service Quality (“SRSQ”) reports. Minnesota Rule 7826.2000 was reviewed along with the current categories used by each of the utilities and the Consumer Affairs Office. The group agreed to work together to further refine definitions for existing categories to allow for greater specificity and seek consistency, where possible.

Additional work group meetings were held in June 2021, January 2022, and March 2022 to further discuss and compare the complaint reporting for commonalities. In the March 2022 meeting, the utilities each brought further details regarding the practical application of complaint categories their respective organizations used. These were discussed in detail to find consensus categories and application, where possible, for reporting in annual service quality reports,

including category definitions and timing for any changes determined as part of the work group process. Ultimately, parties agreed to additional detail for reporting of the category “Inadequate Service,” as listed in Minnesota Rule 7826.2000.

Inadequate Service is a broad topic and separating this category further will assist in the overall depiction of the types of complaints reported. Utilities will break out Inadequate Service into:

- Inadequate Service – Field/Operations
- Inadequate Service – Customer Service
- Inadequate Service – Programs and Services
- Inadequate Service – Cold Weather Rule Protection.

Parties in the work group generally agreed that, beginning with the 2023 SRSQ Annual Report, filed in April of 2024, the utilities would report on the customer complaint categories agreed to by consensus. Beginning with those SRSQ reports, the utilities will include a table of the agreed upon complaint categories, definitions of what falls into those categories, and count of complaints by category.

C. The number and percentage of complaints resolved upon initial inquiry, within ten days, and longer than ten days.

Table 27

2021		
Resolved by	Total	Percentage
(1) Resolved on Initial Inquiry	106	94%
(2) Resolved within 10 days	7	6%
(3) Resolved in greater than 10 days	0	0%
Grand Total	113	100.00%

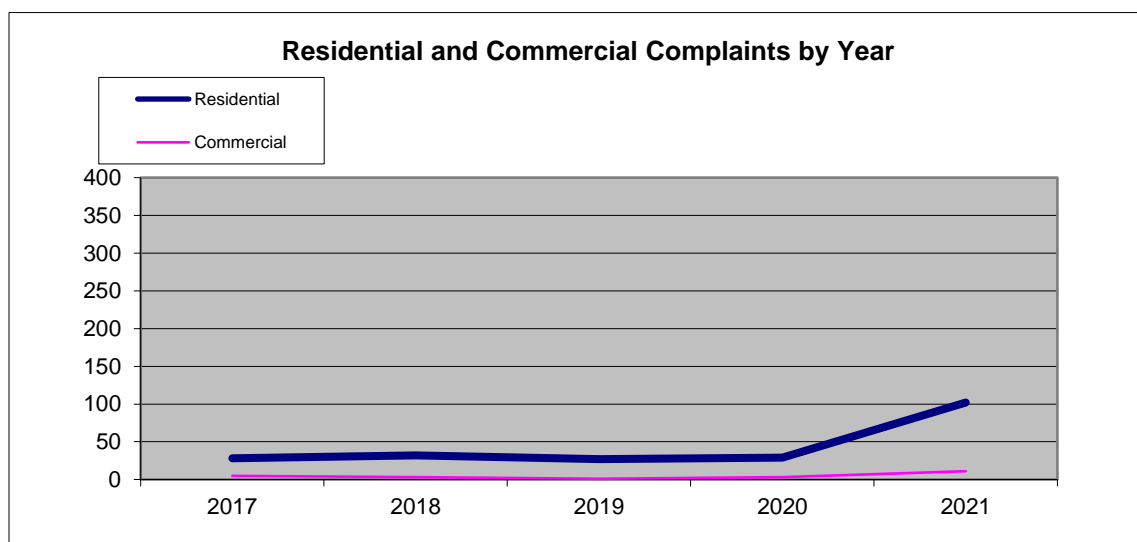
- D. The number and percentage of all complaints resolved by taking any of the following actions: (1) taking the action the customer requested; (2) taking an action the customer and the utility agree is an acceptable compromise, (3) providing the customer with information that demonstrates that the situation complained of is not reasonably within the control of the utility or (4) refusing to take the action the customer requested.

Table 28

Action Taken	Total	Percentage
(1) Took action the Customer requested	20	18%
(2) Provided the customer with information that demonstrates that the situation complained of is not reasonably within the control of Otter Tail	39	35%
(3) Took an action the customer and the utility agree is an acceptable compromise	51	45%
(4) Refused to take action the customer requested	3	2%
Grand Total	113	100.00%

Figure 11 below is a graph showing complaints by customer class for the previous five years. In 2021, Otter Tail did see an increase in the overall volume of complaints when compared to prior years. Otter Tail enhanced our complaint reporting process within our customer information system. Training on the enhanced process was completed which included a refresher training on complaint definitions.

Figure 11



E. The number of complaints forwarded to the utility by the Commission's Consumer Affairs Office for further investigation and action.

Otter Tail received four customer complaints in 2021 that were forwarded from the Commission's Consumer Affairs Office, all of which have been resolved. The number of complaints received in 2021 increased in comparison to 2020.

Table 29

	2020	2021
Customer Complaints	4	7

Reporting Major Service Interruptions Summary

Minnesota Rule 7826.0500, Subpart 1g, required utilities to file a copy of each report filed under part 7826.0700, reporting major service interruptions. Per PUC order dated December 18, 2020 in E017/M-20-401 PUC granted a variance to MN Rule 7826.0500 Subpart 1.G. Require utilities to file a summary

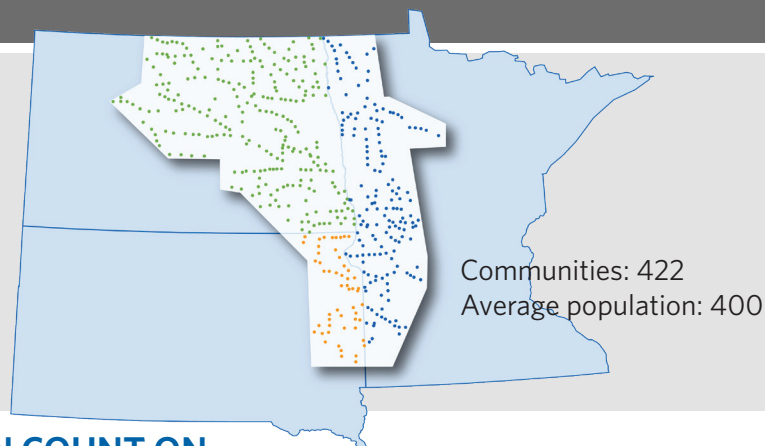
	Feeder	Primary Event #	Begin Time	Completion Time	Duration Min.	Customers Out	Region	Email sent to CAO
JANUARY = 1 total qualifying event, 0 events with no email								
1	Appleton_NW		1/15/2021 6:13	1/15/2021 10:05	232	983		x
	Appleton_NW_South Feeder		1/15/2021 6:13	1/15/2021 10:04	231	148		x
	Odessa_Bellingham		1/15/2021 6:13	1/15/2021 8:20	127	331		x
	Odessa_Bellingham		1/15/2021 8:48	1/15/2021 10:33	104	331		x
	Correll		1/15/2021 6:13	1/15/2021 6:13	1	53		x
	Danvers		1/15/2021 6:13	1/15/2021 10:06	233	66		x
	Holloway		1/15/2021 6:13	1/15/2021 10:06	233	174		x
	Milan		1/15/2021 6:13	1/15/2021 10:06	233	260		x
FEBRUARY = 0 total qualifying events, 0 events with no email								
MARCH = 0 total qualifying events, 0 events with no email								
APRIL = 2 total qualifying events, 0 events with no email								
1	McIntosh		4/9/2021 2:59	4/9/2020 4:51	112	526		x
2	Bemidji_Nymore_Lavinia Feeder		4/26/2021 17:24	4/26/2021 18:28	63	882		x
MAY = 0 total qualifying events, 0 events with no email								
JUNE = 2 total qualifying events, 0 events with no email								
1	Viking		6/15/2021 9:25	6/15/2020 12:28	182	98		x
	Karlstad		6/15/2021 9:25	6/15/2020 11:20	115	419		x
	New Folden		6/15/2021 9:26	6/15/2021 11:20	114	10		x
	Holt Junction		6/15/2021 9:25	6/15/2021 11:20	114	91		x
	Strandquist		6/15/2021 9:25	6/15/2021 11:20	114	68		x
	Halma		6/15/2021 9:25	6/15/2021 10:57	91	47		x
	Lake Bronson		6/15/2021 9:26	6/15/2021 10:57	91	182		x
	Lancaster		6/15/2021 9:26	6/15/2021 10:57	91	240		x
	Badger		6/15/2021 9:25	6/15/2021 10:52	86	146		x
	Greenbush		6/15/2021 9:25	6/15/2021 10:52	86	422		x
2	Ottertail		6/20/2021 6:57	6/20/2021 8:50	113	875		x
JULY = 2 total qualifying events, 0 events with no email								
1	Bemidji Industrial Park Nymore Feeder		7/19/2021 11:12	7/19/2021 12:35	83	1254		x
2	Fergus Falls NE High School Feeder		7/24/2021 1:29	7/24/2021 4:46	197	1172		x
AUGUST = 1 total qualifying events, 0 events with no email								
1	Fergus Falls / Buse NW Feeder Section		8/26/2021 12:32	8/26/2021 14:39	127	1648		x
SEPTEMBER = 0 total qualifying events, 0 events with no email								
OCTOBER = 3 total qualifying events, 0 events with no email								
1	Buse NW Feeder Section		10/9/2021 20:08	10/10/2021 1:07	299	1648		x
	Fergus Falls SE Westfeeder		10/9/2021 20:08	10/10/2021 0:28	260	368		x
	Buse South - SW Feeder Section		10/9/2021 20:08	10/10/2021 0:28	260	687		x
	Millerville Leaf Valley		10/9/2021 20:53	10/10/2021 0:20	207	16		x
	Fergus Falls Northeast Springen Avenue Feeder		10/9/2021 20:13	10/9/2021 23:38	204	975		x
	Ogema White Earth White Earth Feeder		10/9/2021 22:39	10/10/2021 1:30	170	183		x
	Fergus Falls Northeast Springen Avenue Feeder		10/9/2021 20:13	10/9/2021 23:04	170	1443		x
	Urbank		10/9/2021 20:53	10/9/2021 22:46	112	48		x
	Clitherall		10/9/2021 22:09	10/9/2021 23:55	105	393		x
	Vining		10/9/2021 22:10	10/9/2021 23:55	105	147		x
	Kensington		10/9/2021 20:55	10/9/2021 22:10	75	210		x
2	Fergus Falls Northeast Hospital Feeder		10/10/2021 8:27	10/10/2021 10:18	110	2723		x
	Fergus Falls Northeast Springen Avenue Feeder		10/10/2021 8:28	10/10/2021 10:18	110	1443		x
	Pelican Rapids North		10/10/2021 17:56	10/10/2021 19:39	103	81		x
	Fergus Falls Edgetown		10/10/2021 17:55	10/10/2021 19:08	72	3972		x
	Fergus Falls SE West Feeder		10/10/2021 17:56	10/10/2021 19:08	72	368		x
	Fergus Falls North Cleveland		10/10/2021 17:56	10/10/2021 19:08	72	533		x
3	Fergus Falls Northeast Springen		10/23/2021 5:52	10/23/2021 7:31	99	759		x
	Fergus Falls Northeast Hospital		10/23/2021 5:52	10/23/2021 6:28	36	975		x
NOVEMBER = 0 total qualifying event, 0 events with no email								
DECEMBER = 2 total qualifying events, 0 events with no email								
1	Erdahl Melby Ashby		12/9/2021 14:03	12/9/2021 15:04	61	518		x
2	Fergus Falls Northeast Jensen Addition		12/16/2021 12:19	12/16/2021 1:45	85	780		x

2021 MINNESOTA SAFETY, RELIABILITY, AND SERVICE QUALITY

Our focus on reliable electricity and timely, courteous customer service

OUR MISSION

To produce and deliver electricity as reliably, economically, and environmentally responsibly as possible to the balanced benefit of customers, shareholders, and employees and to improve the quality of life in the areas in which we do business.



RELIABLE ELECTRICITY CUSTOMERS CAN COUNT ON

We strive to minimize the frequency and duration of service interruptions. And we deploy field personnel as safely and quickly as possible to restore power to customers when interruptions occur.

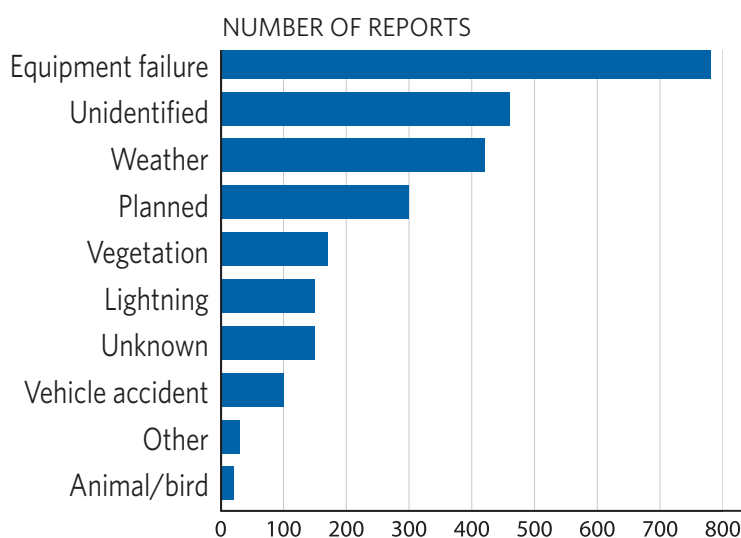
Two of the ways we measure our reliability include the average number of interruptions and average length of time our customers are without power.



SAFETY

In 2021 no injury-related incidents were reported that required medical attention as a result of downed wires or other electrical system failures.

WHAT CAUSES INTERRUPTIONS?



1.07% of our customers experienced an interruption greater than **six hours**.



3.48% of our customers experienced four or more interruptions lasting greater than **five minutes**.

Keeping our lines clear of trees and other vegetation helps ensure safe and reliable service. We trimmed **900 miles** of transmission line in 2021.



OUTAGE PREVENTION

As part of our long-term reliability strategy, we regularly perform critical analyses of our transmission and distribution systems.

We'll continue investing in innovative, resourceful ways to create a more resilient regional transmission grid, including:

- Identifying areas requiring proactive maintenance.
- Integrating geographic information system data.
- Expanding continuous improvement workshops to improve efficiencies and processes.



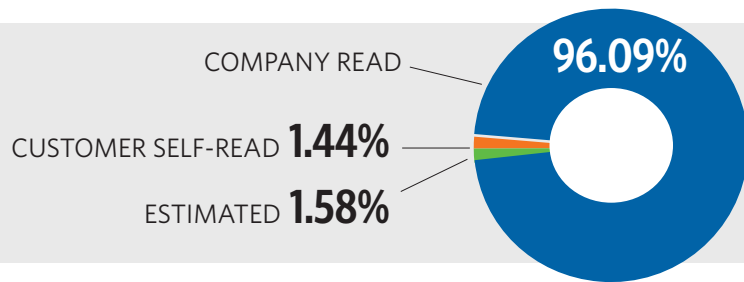
CUSTOMER SERVICE TEAM

We're here so our customers can focus on what matters most.

If there's a power outage, our customer service team is ready to help. In 2021, **168 linemen and service representatives** were available to safely and quickly restore power to our customers.

Company-read meters

Our service representatives and contracted meter readers read almost all of our residential meters to ensure accuracy in billing.



HIGH SERVICE STANDARDS

Our **28 customer service representatives** and lead customer service representatives are ready to assist our customers.

In 2021 our team received over **53,000 customer calls** during business hours. Of those, we answered **93%** within **20 seconds**.

We promoted several resources during more than **26,000 outbound calls** throughout our service area to customers in need, offering:

- Payment plans.
- Protection under the Minnesota Cold Weather Rule.
- Energy assistance options.



MOVING?
WE TURN ON ELECTRICITY QUICKLY!

94%
of locations we've
previously served
receive electricity
within 24 hours.



800-257-4044 or 218-739-8877
or visit **otpc.com**



Facebook.com/OtterTailPowerCo



Twitter.com/OtterTailPwrCo



YouTube.com/OtterTailPowerCo



LinkedIn.com/Company/Otter-Tail-Power-Company

CERTIFICATE OF SERVICE

RE: In the Matter of Otter Tail Power Company 2021 Annual Safety, Reliability and Service Quality Report and Proposed SAIFI, SAIDI and CAIDI Reliability Standards for 2022
Docket No. E017/M-22-

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

Otter Tail Power Company
Annual Report

Dated this 1st day of **April, 2022**

/s/ TAMMY KUBELA

Tammy Kubela
Regulatory Filing Coordinator
Otter Tail Power Company
215 South Cascade Street
Fergus Falls MN 56537
(218) 739-8807

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	GEN_SL_Otter Tail Power Company_Otter Tail Power Company_2022 SRSQ
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	No	GEN_SL_Otter Tail Power Company_Otter Tail Power Company_2022 SRSQ
Brooke	Cooper	bcooper@allete.com	Minnesota Power	30 W Superior St Duluth, MN 558022191	Electronic Service	No	GEN_SL_Otter Tail Power Company_Otter Tail Power Company_2022 SRSQ
James C.	Erickson	jericksonkbc@gmail.com	Kelly Bay Consulting	17 Quechee St Superior, WI 54880-4421	Electronic Service	No	GEN_SL_Otter Tail Power Company_Otter Tail Power Company_2022 SRSQ
Sharon	Ferguson	sharon.ferguson@state.mn.us	Department of Commerce	85 7th Place E Ste 280 Saint Paul, MN 551012198	Electronic Service	No	GEN_SL_Otter Tail Power Company_Otter Tail Power Company_2022 SRSQ
Jessica	Fyhrie	jfyhrie@otpc.com	Otter Tail Power Company	PO Box 496 Fergus Falls, MN 56538-0496	Electronic Service	No	GEN_SL_Otter Tail Power Company_Otter Tail Power Company_2022 SRSQ
Adam	Heinen	aheinen@dakotaelectric.com	Dakota Electric Association	4300 220th St W Farmington, MN 55024	Electronic Service	No	GEN_SL_Otter Tail Power Company_Otter Tail Power Company_2022 SRSQ
Nick	Kaneski	nick.kaneski@enbridge.com	Enbridge Energy Company, Inc.	11 East Superior St Ste 125 Duluth, MN 55802	Electronic Service	No	GEN_SL_Otter Tail Power Company_Otter Tail Power Company_2022 SRSQ
James D.	Larson	james.larson@avantenergy.com	Avant Energy Services	220 S 6th St Ste 1300 Minneapolis, MN 55402	Electronic Service	No	GEN_SL_Otter Tail Power Company_Otter Tail Power Company_2022 SRSQ
Kavita	Maini	kmairi@wi.rr.com	KM Energy Consulting, LLC	961 N Lost Woods Rd Oconomowoc, WI 53066	Electronic Service	No	GEN_SL_Otter Tail Power Company_Otter Tail Power Company_2022 SRSQ

First Name	Last Name	Email	Company Name	Address	Delivery Method	View Trade Secret	Service List Name
Andrew	Moratzka	andrew.moratzka@stoel.com	Steel Rives LLP	33 South Sixth St Ste 4200 Minneapolis, MN 55402	Electronic Service	No	GEN_SL_Otter Tail Power Company_Otter Tail Power Company_2022 SRSQ
Matthew	Olsen	molsen@otpc.com	Otter Tail Power Company	215 South Cascade Street Fergus Falls, MN 56537	Electronic Service	No	GEN_SL_Otter Tail Power Company_Otter Tail Power Company_2022 SRSQ
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	No	GEN_SL_Otter Tail Power Company_Otter Tail Power Company_2022 SRSQ
Will	Seuffert	Will.Seuffert@state.mn.us	Public Utilities Commission	121 7th PI E Ste 350 Saint Paul, MN 55101	Electronic Service	No	GEN_SL_Otter Tail Power Company_Otter Tail Power Company_2022 SRSQ
Cary	Stephenson	cStephenson@otpc.com	Otter Tail Power Company	215 South Cascade Street Fergus Falls, MN 56537	Electronic Service	No	GEN_SL_Otter Tail Power Company_Otter Tail Power Company_2022 SRSQ
Stuart	Tommerdahl	stommerdahl@otpc.com	Otter Tail Power Company	215 S Cascade St PO Box 496 Fergus Falls, MN 56537	Electronic Service	No	GEN_SL_Otter Tail Power Company_Otter Tail Power Company_2022 SRSQ