215 South Cascade Street
PO Box 496
Fergus Falls, Minnesota 56538-0496
218 739-8200
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April 1, 2020

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 2019 Annual Safety, Reliability and Service Quality Report and Proposed SAIFI, SAIDI and CAIDI Reliability Standards for 2020
Docket No. E017/M-20-

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 2019 and proposed reliability standards for 2020 pursuant to Minn. Rule 7826.0600. Otter Tail's proposed reliability standards for 2020 are found in Table 1 of Section IV, 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 – Antitrust & 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@otpco.com.

Sincerely,

/s/ WENDI OLSON
Wendi Olson
Regulatory Compliance Specialist

cjh
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 2019 Annual Safety, Reliability and Service Quality Report and Proposed SAIFI, SAIDI and CAIDI Reliability Standards for 2020	Docket No. E017/M-20-

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SUMMARY OF FILING

Please take notice that on April 1, 2020, Otter Tail Power Company (Otter Tail), filed with the Minnesota Public Utilities Commission its annual Safety, Reliability and Service Quality Report for 2019 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 2020.

STATE OF MINNESOTA
BEFORE THE
MINNESOTA PUBLIC UTILITIES COMMISSION

In the Matter of Otter Tail Power Company's 2019 Annual Safety, Reliability and Service Quality Report and Proposed SAIFI, SAIDI and CAIDI Standards for 2020	Docket No. E017/M-20-

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. 4, 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
(218) 739-8956

C. Date of Filing and Effective Date

This Report is being filed on April 1, 2020. The proposed reliability standards will be effective for the calendar year 2020.

D. Title of Utility Employee Responsible for Filing

Wendi Olson
Regulatory Compliance Specialist
Otter Tail Power Company
215 South Cascade Street
P. O. Box 496
Fergus Falls, MN 56538-0496
(218) 739-8699

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 2020 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 2019 Safety, Reliability, and Service Quality Report is attached.

B. Proposed reliability standards for 2020

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

In compliance with Minnesota Rules 7826.0600 Subpart 1, Otter Tail includes proposed 2020 reliability performance standards for each of Otter Tail's work centers. As ordered in **Docket No. E017/M-15-322 dated August 14, 2015**, Otter Tail's reliability standards have been frozen at 2013 levels until the Company has shown sufficient improvement in indices' performance. Otter Tail proposes to make a change from six service centers to one work center, which includes all Minnesota customers as shown in **Table 1** below.

Table 1
Proposed Reliability Standards for 2020

Work Center	SAIDI	SAIFI	CAIDI
All MN Customers	94	1	94

V. CONCLUSION

Otter Tail appreciates the opportunity to provide this Safety, Reliability, and Service Quality Report for 2019, and requests Commission approval of our proposed reliability standards for 2020.

Date: April 1, 2020

Respectfully submitted,

By: */s/ WENDI OLSON*
Wendi Olson
Regulatory Compliance Specialist
Otter Tail Power Company
215 South Cascade St., PO Box 496
Fergus Falls, MN 56537
(218) 739-8699

APRIL 1, 2020

Safety, Reliability, and Service Quality Report for 2019

Proposed SAIFI, SAIDI, and CAIDI Reliability Standards for 2020

Including Additional Compliance Obligations

OTTER TAIL POWER COMPANY

TABLE OF CONTENTS

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 provides electricity to approximately 132,500 customers in 422 communities and rural areas in western Minnesota, northeastern South Dakota, and the eastern two-thirds of North Dakota. The average population of the 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 approximately 70,000 square-mile - roughly the size of North Dakota - 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).

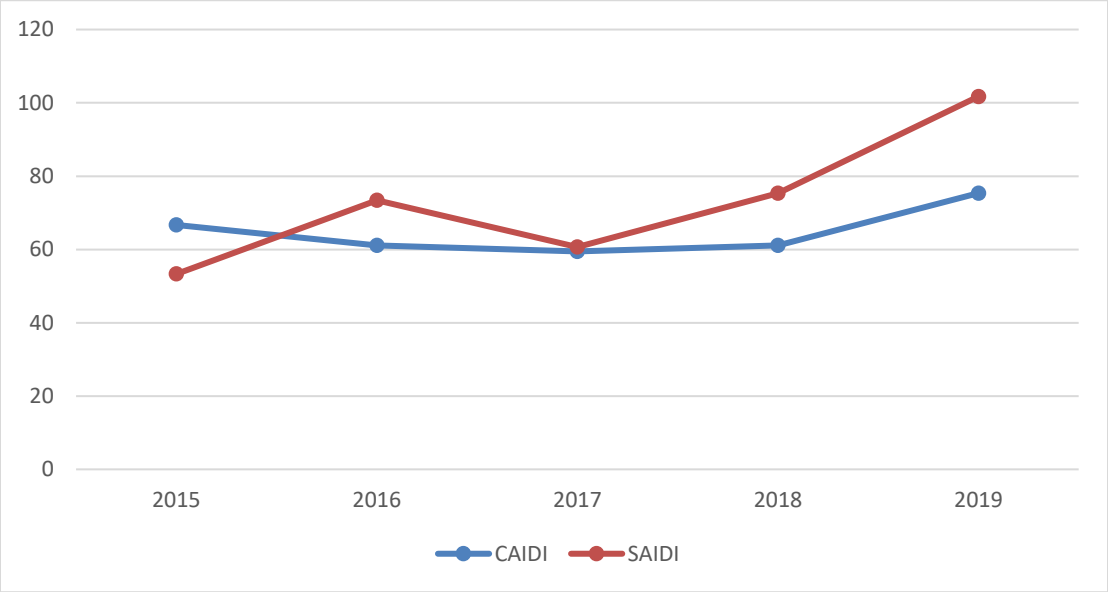
Otter Tail's Customer Service area is accountable for responding to all interruptions. Thus, Otter Tail's Customer Service area is accountable for the cost effective and efficient deployment of field personnel, trucks, and equipment as quickly and safely as possible, necessary for restoring service to 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. 2019 SUMMARY GRAPHS

As previously included 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 brief summary of Otter Tail's overall reliability and service quality for the years 2015 through 2019. 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 - Historic Minnesota SAIDI and CAIDI



Otter Tail saw performance levels increase for CAIDI and SAIDI for 2019 compared to 2018 results. 2019 results measured with the new IMS.

Figure 2 - Minnesota Historic SAIFI

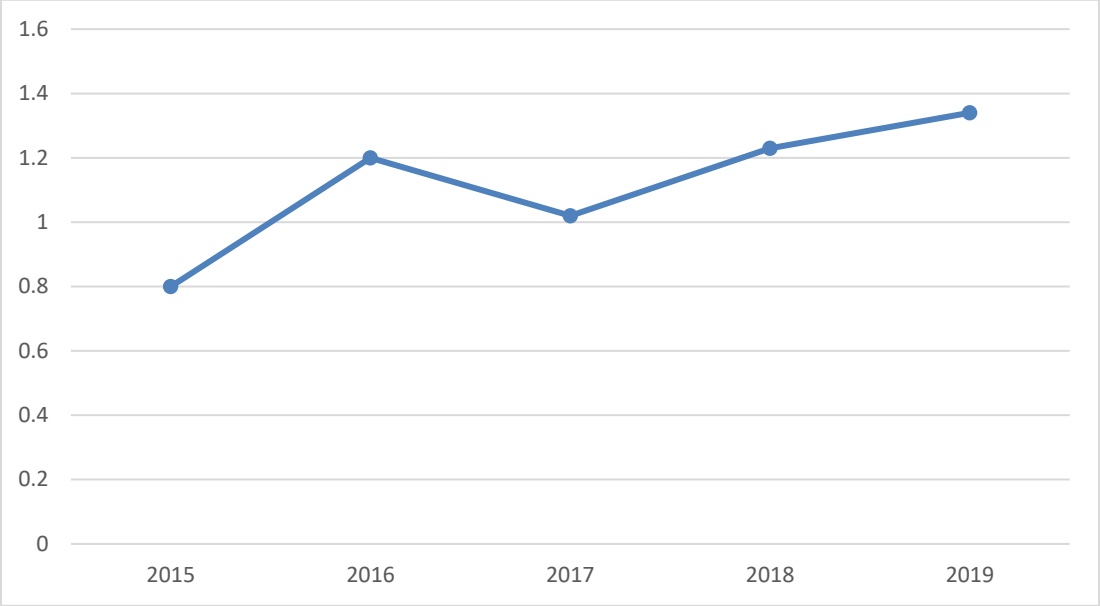


Figure 3 – Minnesota Historic MAIFI

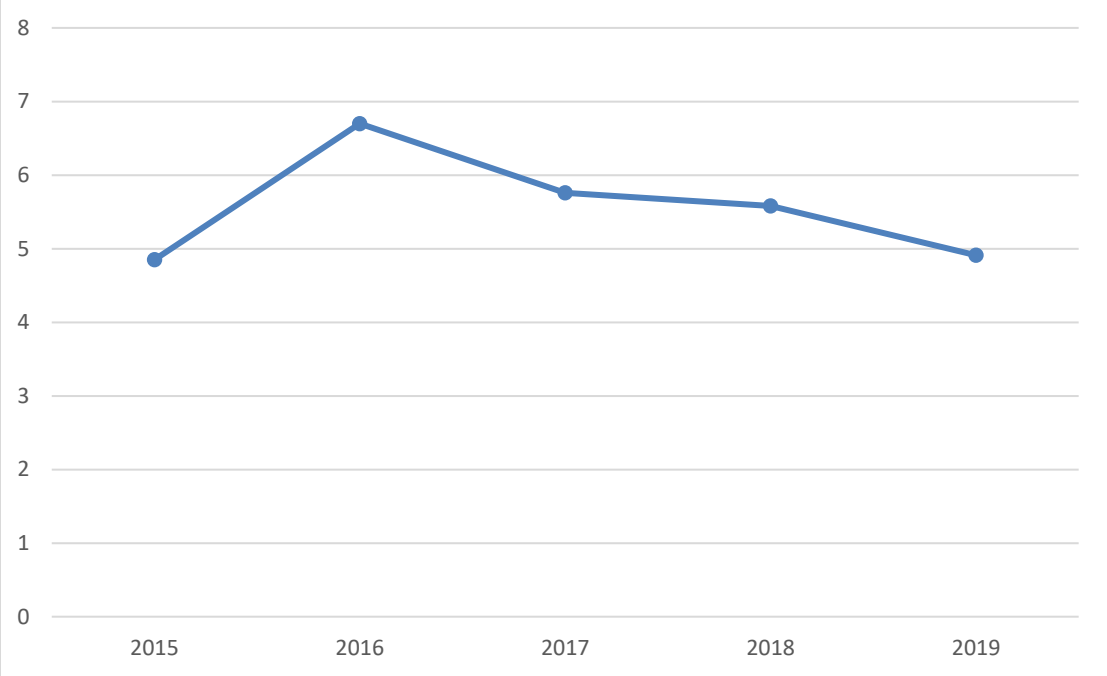


Table 1
MAIFI by Customer Service Center, normalized

CSC 2019	MAIFI
Bemidji	5.32
Crookston	7.38
Fergus Falls	4.39
Milbank	10.28
Morris	4.99
Wahpeton	1.23
MN Total	4.91

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. The data for MAIFI calculations is gathered by our new IMS. Overall, Otter Tail saw a slight reduction in 2019 results when compared to 2018.

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

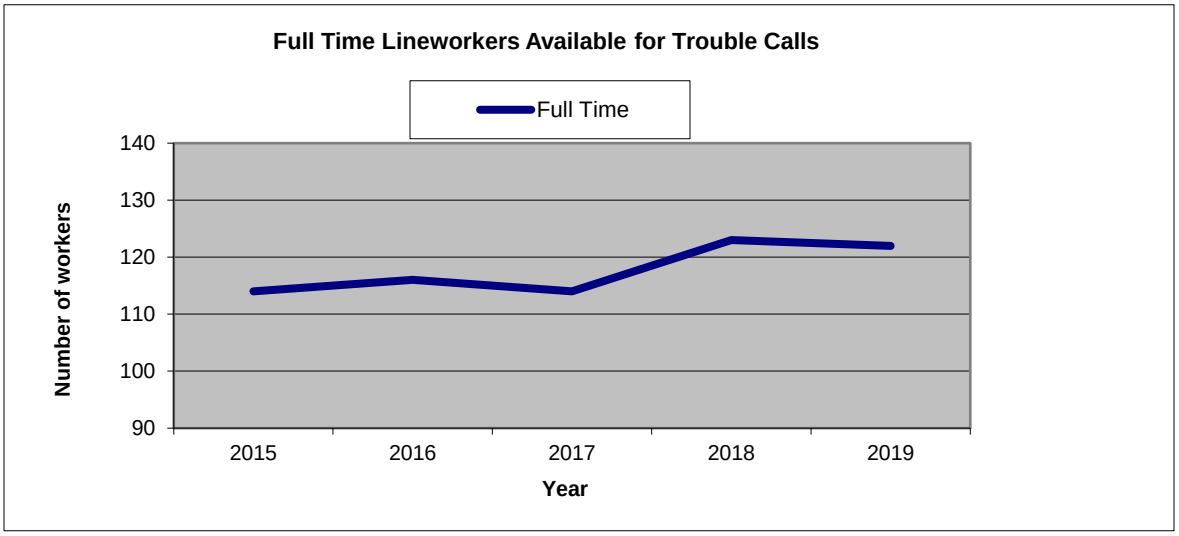
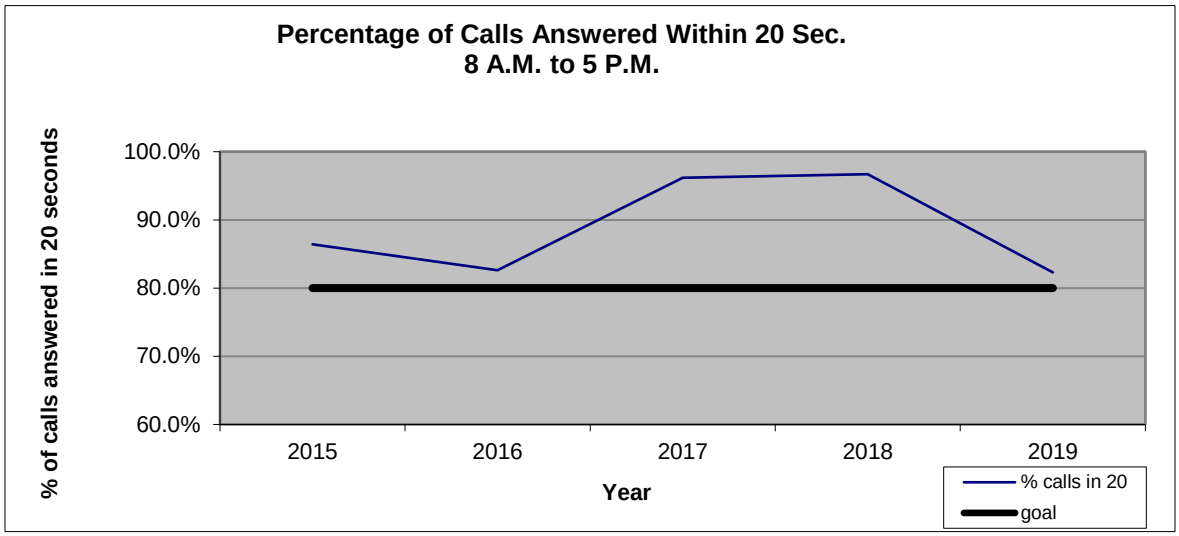


Figure 5 - Calls Answered within 20 Seconds



Otter Tail faced many challenges throughout the year as we implemented a new Customer Information System (CIS). With this significant system change we were able to maintain meeting our customers' needs and meet our regulatory obligations. We ended the year with an 82.3 percentage call response time, meeting our goal. Our customer service representatives' proficiency with the new system increased throughout 2019 so that by year-end, call response times were comparable to historic levels.

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 2019 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	3	3	4
NUMBER OF DAYS			
Total number of days of job transfer or restriction		Total number of days away from work	
239		60	
INJURY AND ILLNESS TYPES			
Injuries	Skin disorders	Respiratory conditions	Poisonings	All other illnesses
10	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**
There were no instances of personal injury due to system failures in 2019.				

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 2019 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 early 2017, 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. The system will utilize five years of data, once the system has achieved that maturity.
- The system T_{med} is utilized to run our indices for Minnesota and individual Minnesota Customer Service Centers (CSCs).

For 2019 data, the 2.5 beta parameter assumptions were as follows:

2.5 Beta Parameters:

Alpha	Beta	Major Event Day
-2.7	2.37	24.89

After applying 2.5 Beta Parameters for 2019, zero days met the criteria to be considered a Major Event Day (MED or med). In 2018, Otter Tail realized a MED on June 29, due to severe weather. That day accumulated 20 minutes of SAIDI due to the event. With a small historic data base to calculate T_{med}, the events of that day raised the bar based on the 2.5 Beta calculation process and Otter Tail believes that disqualified March 14, 2019 from qualifying as a MED due to a major blizzard across our system. March 14, 2019 saw accumulations of 17.6 minutes of SAIDI.

Table 4 shows Otter Tail's 2019 SAIFI, CAIDI and SAIDI results based on the IEEE 2.5 Beta Method for each CSC and the entire Minnesota system. **2019 results were gathered by our new Interruption Monitoring System which captures more customer minutes and sustained customer interruptions.**

The goals used for 2019 are the standards that were established in 2013, consistent with the previous six years, as set by the Commission until sufficient improvement in results are realized. Based on Otter Tail's 2019 standards **we met 22 percent of our CSC targets in 2019, compared to 33 percent in 2018.**

Table 4

2.5 Beta

CSC	2019	SAIFI	SAIDI	CAIDI
Bemidji	OES Goal	1.26	70.64	56.06
	Actual	1.52	127.33	83.85
Crookston	OES Goal	1.19	69.33	58.26
	Actual	1.86	128.55	69.11
Fergus Falls	OES Goal	1.11	66.97	60.33
	Actual	1.31	95.12	72.79
Milbank	OES Goal	1.82	75.49	41.48
	Actual	3.35	244.74	73.12
Morris	OES Goal	1.01	55.78	55.23
	Actual	1.15	51.13	44.36
Wahpeton	OES Goal	1.13	57.24	50.65
	Actual	0.19	33.93	180.71
MN Total	OES Goal	1.13	64.95	57.48
	Actual	1.33	93.51	70.28

Table 4a shows Otter Tail's 2019 SAIFI, CAIDI and SAIDI non-normalized results for each CSC and the entire Minnesota system. As previously stated, there were no major event days recorded in 2019 from our new IMS.

Table 4a

Non-Normalized

CSC	2019	SAIFI	SAIDI	CAIDI
Bemidji	OES Goal	1.26	70.64	56.06
	Actual	1.52	127.33	83.85
Crookston	OES Goal	1.19	69.33	58.26
	Actual	1.86	128.55	69.11
Fergus Falls	OES Goal	1.11	66.97	60.33
	Actual	1.31	95.12	72.79
Milbank	OES Goal	1.82	75.49	41.48
	Actual	3.35	244.74	73.12
Morris	OES Goal	1.01	55.78	55.23
	Actual	1.15	51.13	44.36
Wahpeton	OES Goal	1.13	57.24	50.65
	Actual	0.19	33.93	180.71
MN Total	OES Goal	1.13	64.95	57.48
	Actual	1.33	93.51	70.28

Below Otter Tail provides a description of events that had the greatest impact on normalized SAIDI, SAIFI and CAIDI indices in 2019.

Otter Tail's 2019 SAIDI standards – In 2019, the Bemidji, Crookston, Fergus Falls, and Milbank Customer Service Centers failed to meet the 2019 SAIDI reliability standards.

Bemidji CSC: The Bemidji CSC experienced 74 sustained interruptions in 2019, resulting in a SAIDI of 127.33 minutes compared to the goal of 70.64. The greatest impact to the SAIDI results in the Bemidji CSC were interruptions occurring on September 5 due to a severe thunderstorm with very high winds. Communities of Erskine, Mcintosh, Fertile, Twin Valley, and Gary, all experienced long duration interruptions due to this event. Erskine had several trees blown down and into the city's distribution circuitry causing the East feeder to experience an eight and a half hour interruption and the West feeder, six and a half hour interruption. Damage was extensive adding to the duration of these restorations.

Crookston CSC: The Crookston CSC experienced 163 sustained interruptions in 2019, resulting in a SAIDI of 128.55 minutes compared to the goal of 69.33. The greatest impact to the SAIDI results in the Crookston CSC was an interruption lasting 3 hours and 51 minutes impacting 834 customers. On September 5, a fault indicator on the Crookston Barrette Street South Feeder indicated an underground fault during an interruption. Responding crews searched and tested the circuit to locate the underground fault, but they were unable to. The crew then conducted a line patrol and found a tree branch across the line. The branch was cleared and the breaker reset. The erroneous fault indicator has been replaced and the feeder is in vegetation management compliance with the last trims occurring in 2017, to be repeated in 2021.

Fergus Falls CSC: The Fergus Falls CSC experienced 120 sustained interruption in 2019, resulting in a SAIDI of 95.12 minutes compared to the goal of 66.97. The greatest impact to the SAIDI results in the Fergus Falls CSC was an interruption lasting 2 hours and 54 minutes, impacting 547 customers on the Fergus Falls SE Substation South East Feeder. On July 14, severe thunderstorms caused several issues on the Feeder. Tree branches and trees were blown into the lines at several locations. There was also a broken power bank pole that required repair as a result. This feeder is in vegetation management compliance with the last trims occurring in 2019.

Milbank CSC: The Minnesota customers served out of the Milbank CSC experienced five sustained interruptions in 2019, resulting in a SAIDI of 244.74 minutes compared to the goal of 75.49. The greatest impact to the SAIDI results in the Milbank CSC was the March 14 blizzard. That event alone caused 101 minutes of SAIDI accumulation in this region. The storm saw numerous downed distribution and transmission poles and lines in the area.

Otter Tail 2019 SAIFI standards – In 2019, the Bemidji, Crookston, Fergus Falls, Milbank and Morris Customer Service Centers failed to meet the 2019 SAIFI reliability standards.

Bemidji CSC: The Bemidji CSC experienced 74 sustained interruptions in 2019, resulting in a SAIFI of 1.52 interruptions compared to a goal of 1.26.

Crookston CSC: The Crookston CSC experienced 163 sustained interruptions in 2019, resulting in a SAIFI of 1.86 interruptions compared to a goal of 1.19.

Fergus Falls CSC: The Fergus Falls CSC experienced 121 sustained interruptions in 2019, resulting in a SAIFI of 1.31 interruptions compared to a goal of 1.11.

Milbank CSC: The Milbank CSC experienced five sustained interruptions in 2019, resulting in a SAIFI of 3.35 interruptions compared to a goal of 1.82.

Morris CSC: The Morris CSC experienced 99 sustained interruptions in 2019, resulting in a SAIFI of 1.15 interruptions compared to a goal of 1.01.

Otter Tail 2019 CAIDI standards – The Bemidji, Crookston, Fergus Falls, Milbank, and Wahpeton Customer Service Centers failed to meet the 2019 CAIDI reliability standards.

Bemidji CSC: The Bemidji CSC experienced 74 sustained interruptions in 2019, resulting in a CAIDI of 83.85 minutes compared to a goal of 56.06 minutes. The most impactful feeder interruptions occurred on September 5 due to the same weather event mentioned within the SAIDI results. On that day, a severe thunderstorm with high winds, uprooted trees and propelled them into distribution circuits in Erskine. As a result, the East Feeder was interrupted for 8 hours and 27 minutes. The West Feeder was interrupted for 6 hours and 35 minutes.

Crookston CSC: The Crookston CSC experienced 163 sustained interruptions in 2019, resulting in a CAIDI of 69.11 minutes compared to a goal of 58.26 minutes. The most impactful feeder interruption occurred on March 14 due to a powerful spring blizzard with heavy wet snow. This event caused the Northcote West Feeder lines to gallop which eventually caused two phases to wrap-up into each other, resulting in an interruption in excess of 17.5 hours. This event only impacted two customer premises, and neither of them were present at the location, subsequently we had no notice from a customer regarding the interruption. The issues related to this event have all been mitigated by reducing line slack, during a follow-up scheduled maintenance shut down.

Fergus Falls CSC: The Fergus Falls CSC experienced 120 sustained interruptions in 2019, resulting in a CAIDI of 72.79 minutes compared to a goal of 60.33 minutes. The most impactful feeder interruptions occurred on May 5 and July 10. On May 5, Otter Tail took a planned maintenance interruption at West Central Turkey (WCT) in Pelican Rapids with the duration of 6 hours and 58 minutes. This interruption only impacted WCT. On July 10, a thunderstorm with high winds blew a large tree into transmission lines downing several poles causing a seven hour and ten minute interruption on the East Feeder fed from the Otter Outlet Substation. Restoration was hampered due to the fact that this was in an area where downed poles were in and crossing a slough.

Milbank CSC: The Milbank CSC experienced five sustained interruptions in 2019, resulting in a CAIDI of 73.12 minutes compared to a goal of 41.48 minutes. Due to regional reorganizations, Milbank CSC now has only two feeders feeding MN customers. The most impactful feeder interruption occurred during the March 14 blizzard due to damage to transmission lines in the area, i.e. downed poles and wires, resulting in a 2 hour and 33 minute interruption.

Wahpeton CSC: The Wahpeton CSC experienced three sustained interruptions in 2019, resulting in a CAIDI of 180.71 minutes compared to a goal of 50.65 minutes. Due to regional reorganizations, Wahpeton CSC has only two feeders feeding MN customers. The most impactful feeder interruption occurred on March 16 during a blizzard lasting 5 hours and 16 minutes, occurring on the Nashua Tintah – Tintah Feeder. The interruption was caused by a failed transmission insulator. Due to the blizzard, the patrol time was extended greatly due to accessibility of vehicles and visibility of the fault. Once the fault was located, it was necessary for line workers to climb the pole due to the fact they could not get their trucks near the fault area.

Reliability Standard Summary

When compared to 2018, Otter Tail's 2019 overall Minnesota reliability performance realized an increase in SAIFI, CAIDI, and SAIDI. MAIFI realized a slight improvement year to year. This is largely due to the change in how the new interruption monitoring system records interruptions. Our new system captures more interruptions and duration with monitoring meters on all three phases, when compared to our old system. As Otter Tail gathers additional historic data, it will become apparent which appropriate standards and goals to utilize for measuring performance. For further discussion, see future standard recommendations in section IV, L, as part of the Docket No. E017/M-19-260 January 28, 2020 PUC Order.

Reliable service continues to be one of Otter Tail's top priorities and we are cognizant 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 good results.

Table 5 provides a summary of the different types of interruption causes that affect overall system reliability. As of note, migration into the new IMS has taken place allowing for more cause granularity. In our 2018 filing, interruption cause data lacked the detail for detailed post analysis. Otter Tail expects increased capabilities with the new system in this area, as noted by this year's breakdown in equipment failure cause by equipment category.

Table 5
2019 MN Sustained Interruption Summary by CSC and cause

	Bemidji	Crookston	Fergus Falls	Milbank	Morris	Wahpeton	Work Center Totals
Animal	3	1	2				6
Bird		1	1		2		4
Equip Fail Arrester	6		2		3		11
Equip Fail Conductor		2	4				6
Equip Fail Cutout	3	2	6				11
Equip Fail Insulator			5		5		10
Equip Fail Pole		1	3				4
Equip Fail Substation	8	2			5		15
Equip Fail Transformer			2		2		4
Equip Fail Underground	1	1	5				7
Equipment Failure	1	19	8	1	2		31
Planned	6	11	12		3		32
Underground			1		1		2
Unknown	7	4	1				12
Vandalism	1						1
Vegetation		3	4				7
Vehicle Accident		15	6		3		24
Weather	28	67	8	3	28		134
Unidentified	10	33	51	1	31	3	129
Totals	**74**	**162**	**121**	**5**	**85**	**3**	**450**

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. **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.

2. **Electronic Tracking Process for Transmission Patrol Reports and Maintenance Activities:** Otter Tail continues to improve electronic tracking of internal reports and has integrated the process into our GIS. 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 mitigated identified reliability concerns.

3. **Lightning Tracking System:** Otter Tail implemented a lightning tracking system seven 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.

4. **GIS Data Integration:** 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.

5. **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. In 2019, Otter Tail purchased cellular fault indicators to test in 2020 as well.

6. **<u>Installation of Remote Real-Time Voltage, Current, and Power Monitors</u>**: In 2014 Otter Tail began installing remote real-time power monitors in the field to assist with investigating interruption events and power quality issues. Today, Otter Tail has 118 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. Continued deployment of this equipment has improved Otter Tail's efforts in identifying power quality problems and issues in the field.

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 2019 calendar year, Otter Tail reports that there were two sustained interruptions to a Minnesota Bulk Power Supply Facility. On April 11, 2019 at 5:06 PM, a 115KV transmission line, Benson and Xcel Energy's Maynard, opened due to wind and icing dropping out Kerkhoven and downstream customers served from 41.6 KV sub transmission. The interruption lasted seven and a half minutes. On June 8, 2019, just before 4:00 PM, the Donaldson 115KV line locked out due to a broken cross arm causing a 22 minute and 29 second interruption to MN customers.

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.

Pursuant to Minnesota Rule 7826.0500, Subpart 1g, Otter Tail provides as Attachment 1, a copy of each report filed under part 7826.0700, reporting major service interruptions.

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 six CSC's. This year, Otter Tail is changing 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. This year, Otter Tail will continue to define a circuit as a distribution feeder, however, it will 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
2019 MN Worst Performing Feeders

Service Center	Substation Name	Feeder Description	Customer Count	Total Sustained Customer Minutes	SAIFI	CAIDI	SAIDI	MAIFI
BEMIDJI	Bemidji 25th Street	East Feeder	935	71496	2	38.23	76.49	9
CROOKSTON	Crookston South Main	Crescent Feeder	933	92849	1	99.52	99.52	8
FERGUS FALLS	Otter City	North Feeder	875	78267	2	44.6	89.35	24
MILBANK	Browns Valley	South Feeder	322	64169	3.4	58.98	199.28	10.7
MORRIS	Appleton NW	North Feeder	1031	0	0	0	0	10
WAHPETON	Nashua Tintah	Tintah Feeder	67	31870	3	158.56	475.67	1

Bemidji CSC: The East Feeder fed from the Bemidji 25th St. Substation was the worst performing feeder in 2019 for the Bemidji CSC. This feeder experienced two sustained and nine momentary interruptions impacting 935 customers in 2019. The nine momentary interruptions were due to the breaker tripping on overload conditions. The breaker has been adjusted and tuned and this problem has been alleviated with no further occurrences since then. The two sustained interruptions, on June 7 (39 minutes) and July 28 (37 minutes), were both due to squirrels inside the substation. Repairs have been made and appropriate animal guards installed to prevent future occurrences.

Crookston CSC: The Crescent Feeder fed from the Crookston South Main Substation was the worst performing feeder in 2019 in the Crookston CSC. This feeder experienced one sustained interruption and eight momentary interruptions impacting 933 customers in 2019. Four of the momentary interruptions were due to high wind/weather events. One was due to a hawk and three were investigated/patrolled with no known cause identified. On March 9 heavy wet snow tracked across insulators causing a phase to burn down, resulting in a 1 hour and 40 minute interruption. The resulting restoration required the pole to be cut off, reframed, and new insulators.

As a result of this circuits 2019 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 2019 for the Fergus Falls CSC. This feeder experienced 2 sustained and 24 momentary interruptions, impacting 875 customers in 2019. Eight momentary interruptions were due to a single event in which a tree branch fell into the line and the tap fuse did not open. Six momentary interruptions were due to squirrels. The remaining momentary interruptions have been investigated with no cause identified. On January 7, high winds and ice damaged a pole in the circuit resulting in a 1 hour and 21 minute interruption. On August 20, Great River Energy (GRE) was conducting transformer maintenance at the Henning 230KV substation. Shortly following their work and after all equipment was returned to its normal state, two 41.6KV breakers opened for an unknown reason causing an 8 minute and 45 second interruption. GRE conducted a follow-up investigation and made the necessary changes to prevent future occurrences.

This feeder was last trimmed in 2015 and is currently being trimmed again as part of its five-year cycle and will be completed by spring. Investigations into proactive maintenance activities continues to be conducted to improve this feeder's performance in the future.

Milbank CSC: The South Feeder fed out of the Browns Valley Substation was the worst performing feeder in 2019 for the Milbank CSC. This feeder experienced four sustained and nine momentary interruptions, impacting 322 customers in 2019. Several momentary interruptions were due to weather, including the March 13 blizzard which eventually resulted in sustained interruptions. Two momentary interruptions were due to equipment failures in the transmission system. On March 13 and March 14, a massive blizzard hit regions of southwest Minnesota and South Dakota, downing several transmission structures. On March 13 this feeder experienced two sustained interruptions, one 2 hours and 33 minutes and one 24 minutes, both due to downed transmission structures and/or downed lines. On March 25 a planned maintenance interruption, lasting 11 minutes, was taken to replace several cutouts that had been

damaged in the March 13 blizzard. On September 17, high winds during a thunderstorm, blew a tree branch into the 41.6KV transmission line between Wilmot and Marvin-Corona Junction. On October 5 an insulator failed on the 41.6KV transmission line causing an hour and 26-minute interruption. This feeder received a vegetation clearing in 2018.

There have been no further sustained interruptions on this line section since the 2019 events. The fact that there is only one substation (two feeders) serving Minnesota customers out of this CSC will be discussed later in this filing at section IV, L when reviewing the 2018 Annual SRSQ, docket number E017/M-19-260, January 28, 2020 PUC Order.

Morris CSC: The North Feeder fed from the Appleton Northwest Substation was the worst performing feeder in 2019 for the Morris CSC. This feeder experienced ten momentary interruptions, impacting 1031 customers in 2019. Causes for the momentary interruptions vary. Two interruptions were due to failing underground feeding an irrigator. One was due to a truck with its auger up breaking three poles outside of Appleton. One interruption was due to icing which caused an insulator on the 41.6KV transmission to break and fall into the distribution under build. Several others were investigated but no known cause was identified.

Otter Tail did partial rebuilds on both distribution and the serving transmission lines in 2019. Also, several sections of old distribution underground were replaced. This maintenance activity will improve future performance of this circuit. Since October 19, 2019 (the last interruption on this feeder), there have been no further issues or interruptions on this circuit.

This feeder and its supplying transmission circuit will continue to be monitored to ensure improved performance in the future.

Wahpeton CSC: The Tintah Feeder fed from the Nashua Tintah Substation was the worst performing feeder in 2019 for the Wahpeton CSC. This feeder experienced three sustained and one momentary interruption, impacting 67 customers in 2019. On March 16 (as previously described), this feeder experienced a 5 hour and 16 minute interruption due to a broken insulator on the 41.6KV transmission. The duration was excessive due to blizzard conditions. On April 29 the feeder experienced a 2 hour and 15 minute interruption due to a broken pole on the 41.6KV transmission line. During the interruption, a blown insulator was identified at the Nashua Tap. This was repaired at the same time. A planned maintenance interruption was taken on October 3, 2019 for substation maintenance activities, resulting in a 25 minute interruption.

There have been no further issues or interruptions on this line section since the events occurring in 2019. The line will continue to be monitored to ensure improved performance in the future.

The fact that there is only one substation (two feeders) serving Minnesota customers out of this CSC will be discussed later in this filing at section IV, L when reviewing the 2018 Annual SRSQ January 28, 2020 PUC Order in Docket No. E017/M-19-260.

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 stands 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
Feeders and Number of Occurrences – Voltage fell outside the ANSI Voltage Range

CSC	Feeder	Number of Events Below Threshold	Number of Events Above Threshold
Bemidji CSC	Bemidji_Birchmont_NorthFeeder	0	1
Bemidji CSC	Twin_Valley_MainFeeder	0	1
Bemidji CSC	BemidjI_115_South_Lake_IrvingFeeder	0	2
Bemidji CSC	Bemidji_Airport_Highway2Feeder	0	2
Bemidji CSC	Cass_Lake_SouthFeeder	0	3
Bemidji CSC	WiltonMN_MainFeeder	0	4
Bemidji CSC	Winger_MainFeeder	0	5
Bemidji CSC	Bemidji_Hydro_MainFeeder	0	7
Bemidji CSC	Bemidji_Industrial_Park_Industrial_ParkFeeder	0	8
Bemidji CSC	Bemidji_25th_Street_EastFeeder	0	11
Bemidji CSC	Ogema_White_Earth_OgemaFeeder	0	11
Bemidji CSC	Oklee_MainFeeder	0	13
Bemidji CSC	Erskine_EastFeeder	0	15
Bemidji CSC	Bemidji_Nymore_BRECFeeder	0	17
Bemidji CSC	Bemidji_Potlatch_MainFeeder	0	21
Bemidji CSC	Ulen_MainFeeder	0	21
Bemidji CSC	Bemidji_Birchmont_SouthFeeder	0	30
Bemidji CSC	Bemidji_State_University_MainFeeder	0	30
Bemidji CSC	Gully_MainFeeder	0	51
Bemidji CSC	Callaway_MainFeeder	0	57
Bemidji CSC	Gonvick_MainFeeder	0	146
Bemidji CSC	Gary_MN_MainFeeder	0	149
Bemidji CSC	Fertile_NorthFeeder	0	191
Bemidji CSC	Mentor_MainFeeder	0	274
Bemidji CSC	Bemidji_Nymore_East_ExpressFeeder	0	1,172
Bemidji CSC	Trail_Gravel_Pit_MainFeeder	0	3,296
Bemidji CSC	Clearbrook_MainFeeder	0	3,440

CSC	Feeder	Number of Events Below Threshold	Number of Events Above Threshold
Bemidji CSC	Bemidji_115_DowntownFeeder	1	0
Bemidji CSC	Bemidji_115_High_SchoolFeeder	1	0
Bemidji CSC	Bemidji_Airport_East_15th_StreetFeeder	1	0
Bemidji CSC	Bemidji_Nymore_East_DowntownFeeder	1	0
Bemidji CSC	Mahnomen_115_CasinoFeeder	1	2
Bemidji CSC	Hitterdal_MainFeeder	1	13
Bemidji CSC	Cass_Lake_NorthFeeder	1	33
Bemidji CSC	Bemidji_Industrial_Park_NymoreFeeder	2	0
Bemidji CSC	McIntosh_MainFeeder	4	706
Crookston CSC	Drayton_NorthFeeder	0	1
Crookston CSC	Halma_MainFeeder	0	1
Crookston CSC	Hoople_MainFeeder	0	1
Crookston CSC	Minto_MainFeeder	0	1
Crookston CSC	Mountain_MainFeeder	0	1
Crookston CSC	Crookston_South_Main_CrescentFeeder	0	2
Crookston CSC	Brooks_MainFeeder	0	4
Crookston CSC	Hamilton_Bathgate_BathgateFeeder	0	6
Crookston CSC	Pembina_WestFeeder	0	6
Crookston CSC	Red_Lake_Falls_East_NorthFeeder	0	6
Crookston CSC	Greenbush_EastFeeder	0	8
Crookston CSC	Walhalla_SouthMainFeeder	0	8
Crookston CSC	Argyle_NorthFeeder	0	9
Crookston CSC	Holt_Junction_MainFeeder	0	9
Crookston CSC	Ardoch_Beet_Dump_MainFeeder	0	10
Crookston CSC	Forest_River_MainFeeder	0	10
Crookston CSC	St_Thomas_SouthEastFeeder	0	14
Crookston CSC	Pembina_EastFeeder	0	17
Crookston CSC	Walhalla_EastFeeder	0	26
Crookston CSC	Crookston_South_Main_DahlgrensFeeder	0	31
Crookston CSC	Red_Lake_Falls_East_SouthFeeder	0	31
Crookston CSC	Oslo_MainFeeder	0	77
Crookston CSC	Walhalla_NorthMainFeeder	0	109
Crookston CSC	Fisher_MainFeeder	0	122
Crookston CSC	Beltrami_and_LockhartFeeder	0	140
Crookston CSC	Beltrami_Junction_Beltrami_Rural_NorthFeeder	0	166
Crookston CSC	Beltrami_Junction_Beltrami_Rural_EastFeeder	0	202
Crookston CSC	Red_Lake_Falls_East_StHilaireFeeder	0	286
Crookston CSC	Gilby_Orr_Jct_MainFeeder	0	1,015
Crookston CSC	Hamilton_Bathgate_HamiltonFeeder	0	1,467
Crookston CSC	Climax_MainFeeder	0	3,936
Crookston CSC	Humboldt_MainFeeder	0	5,112

CSC	Feeder	Number of Events Below Threshold	Number of Events Above Threshold
Crookston CSC	Crookston_Enbridge_MainFeeder	0	7,928
Crookston CSC	Crookston_South_Main_HospitalFeeder	1	0
Crookston CSC	Hallock_Northwest_SouthFeeder	1	0
Crookston CSC	Crystal_MainFeeder	1	1
Crookston CSC	Red_Lake_Falls_SW_SoutheastFeeder	1	3
Crookston CSC	Northcote_WestFeeder	1	8
Crookston CSC	Crookston_Barrette_St_SouthFeeder	1	10
Crookston CSC	Adams_Milton_AdamsFeeder	2	1
Crookston CSC	Strandquist_MainFeeder	2	802
Crookston CSC	Adams_Milton_MiltonFeeder	4	8
Crookston CSC	Oslo_Manvel	8	0
Crookston CSC	Fanny_Rural_MainFeeder	11	0
Fergus Falls CSC	Battle_Lake_NorthFeeder	0	1
Fergus Falls CSC	Detroit_Lakes_NW_Rural_MainFeeder	0	1
Fergus Falls CSC	Elbow_Lake_North_Rural_MainFeeder	0	1
Fergus Falls CSC	Erdahl_Melby_Ashby_MainFeeder	0	1
Fergus Falls CSC	Parkers_Prairie_RoseCity_EastFeeder	0	1
Fergus Falls CSC	Perham_BongardFeeder	0	1
Fergus Falls CSC	Perham_Dent_RichvilleFeeder	0	1
Fergus Falls CSC	Pelican_Rapids_North_MainFeeder	0	2
Fergus Falls CSC	Perham_BarrelOFunFeeder	0	2
Fergus Falls CSC	Perham_SE_SoutheastFeeder	0	2
Fergus Falls CSC	Perham_WestFeeder	0	2
Fergus Falls CSC	Otter_Outlet_NorthFeeder	0	4
Fergus Falls CSC	Perham_TuffysFeeder	0	4
Fergus Falls CSC	Pomme_De_Terre_Gravel_Pit_MainFeeder	0	4
Fergus Falls CSC	Vergas_MainFeeder	0	5
Fergus Falls CSC	Dalton_Jct_Swan_LakeFeeder	0	12
Fergus Falls CSC	Frazee_SouthFeeder	0	16
Fergus Falls CSC	Parkers_Prairie_RoseCity_WestFeeder	0	19
Fergus Falls CSC	Battle_Lake_SouthFeeder	0	21
Fergus Falls CSC	Perham_SouthFeeder	0	30
Fergus Falls CSC	Vining_MainFeeder	0	59
Fergus Falls CSC	Pelican_Rapids_West_SouthFeeder	0	69
Fergus Falls CSC	Fergus_Falls_Northeast_Springen_AvenueFeeder	0	73
Fergus Falls CSC	Fergus_Falls_Edgetown_BuseExpressFeeder	0	76
Fergus Falls CSC	Urbank_MainFeeder	0	78
Fergus Falls CSC	Garfield_HolmesCity_TownFeeder	0	95
Fergus Falls CSC	Carlos_Miltona_BelleRiver_CarlosFeeder	0	207
Fergus Falls CSC	Ottertail_City_NorthFeeder	0	298
Fergus Falls CSC	Garfield_HolmesCity_SouthFeeder	0	351

CSC	Feeder	Number of Events Below Threshold	Number of Events Above Threshold
Fergus Falls CSC	Ottertail_City_SouthFeeder	0	715
Fergus Falls CSC	New_York_Mills_SouthFeeder	0	5,034
Fergus Falls CSC	Foxhome_MainFeeder	0	7,125
Fergus Falls CSC	Audubon_NorthFeeder	1	0
Fergus Falls CSC	Aurdal_Rural_Wall_Lake_Aurdal_Rural_North_Feeder	1	0
Fergus Falls CSC	Fergus_Falls_SE_WestFeeder	1	0
Fergus Falls CSC	GRE_Alexandria_ForadaFeeder	1	123
Fergus Falls CSC	Aurdal_Rural_Wall_Lake_Aurdal_Rural_Wall_Lake_Feeder	2	0
Fergus Falls CSC	Deer_Creek_MainFeeder	2	0
Fergus Falls CSC	Dalton_Jct_DaltonFeeder	3	0
Fergus Falls CSC	Pelican_Rapids_West_EastFeeder	3	0
Fergus Falls CSC	Rush_OtterTail_MainFeeder	7	1
Fergus Falls CSC	Brandon_TownFeeder	8	1
Jamestown CSC	Ayr_MainFeeder_Ayr_and_Rural	0	21
Jamestown CSC	Berlin_MainFeeder	0	24
Morris CSC	Holloway_NorthFeeder	0	1
Morris CSC	Minneota_EastFeeder	0	1
Morris CSC	Minneota_WestFeeder	0	1
Morris CSC	Wheaton_SouthFeeder	0	1
Morris CSC	Chokio_MainFeeder	0	4
Morris CSC	Dawson_EastFeeder	0	5
Morris CSC	Graceville_NorthFeeder	0	5
Morris CSC	Green_Valley_Xcel_MainFeeder	0	7
Morris CSC	Ivanhoe_WestFeeder	0	14
Morris CSC	Morris_NE_UMMFeeder	0	17
Morris CSC	Canby_NE_EastFeeder	0	27
Morris CSC	Canby_NE_WestFeeder	0	73
Morris CSC	Kerkhoven_WestFeeder	0	124
Morris CSC	Minneota_Industrial_MainFeeder	0	493
Morris CSC	Odessa_Bellingham_SouthFeeder	0	970
Morris CSC	Canby_SW_EastFeeder	0	1,443
Morris CSC	Canby_SW_WestFeeder	0	4,027
Morris CSC	Canby_SW_ElevatorFeeder	0	4,761
Morris CSC	Burr_MainFeeder	1	0
Morris CSC	Murdock_MainFeeder	1	0
Morris CSC	Barry_MainFeeder	1	4
Morris CSC	Farwell_MainFeeder	1	69
Morris CSC	Kerkhoven_EastFeeder	50	76
Rugby CSC	Anamoose_MainFeeder	0	5
Rugby CSC	Barton_MainFeeder	0	5
Rugby CSC	Balfour_Butte_and_KiefFeeder	0	329

CSC	Feeder	Number of Events Below Threshold	Number of Events Above Threshold
Rugby CSC	Benedict_MainFeeder	1	0
Rugby CSC	Antler_Kuroki_MainFeeder	1	24
Wahpeton CSC	Nashua_Tintah_TintahFeeder	0	17
Wahpeton CSC	Nashua_Tintah_NashuaFeeder	0	31

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, 2019 are shown in **Table 8** below.

Table 8

	Department	Type	Total
	Bemidji	Field Office	15 2
	Bemidji Total		17
	Crookston	Field Office	17 1
	Crookston Total		18
	Delivery Maintenance*	Field Office	11 1
	Delivery Maintenance Total		12
	Fergus Falls	Field Office	21 1
	Fergus Falls Total		22
	Milbank**	Field Office	19 2
	Milbank Total		21
	Morris	Field Office	18 1
	Morris Total		19
	Operations Support***	Field Office	4 1
	Operations Support Total		5
	Wahpeton****	Field Office	17 1
	Wahpeton Total		18
	Customer Care & Relations*****		33
12/31/2019 Total			**165**

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

**The Milbank CSC serves customers in both Minnesota and South Dakota and the number of employees indicated represents all employees located in the CSC.

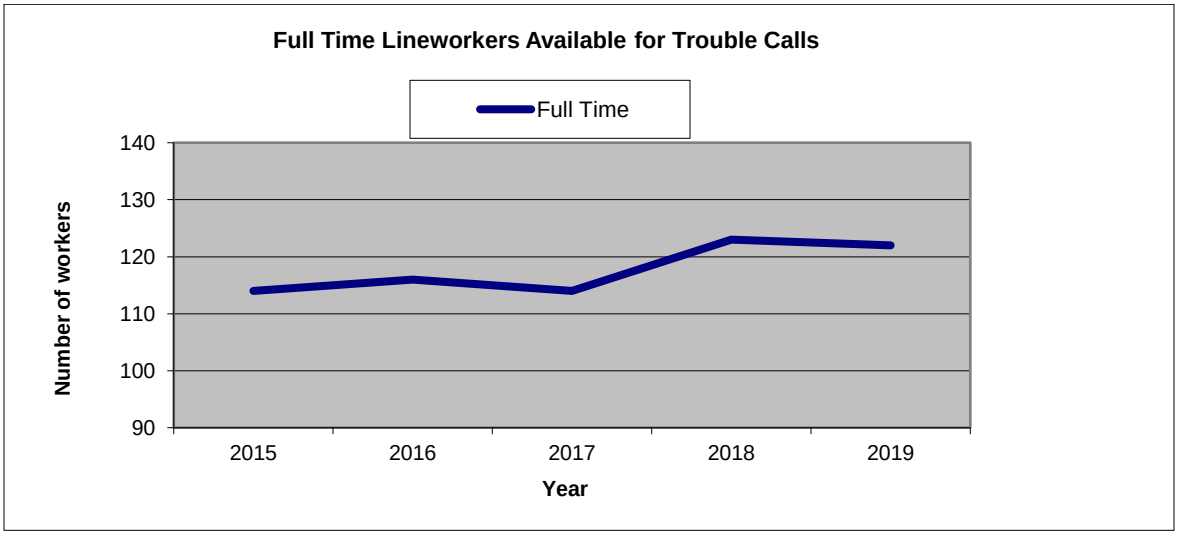
***Operations Support is based in Fergus Falls and the field employees are dispatched to assist CSC's in need throughout the entire system. The office employees coordinate resources.

****The Wahpeton CSC serves customers in Minnesota, North Dakota, and South Dakota and the number of employees indicated represents all employees located in the CSC.

***** 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 Customer Service Centers throughout our service territory. In 2015, we reorganized the office staff into one department. Since Otter Tail operates a Virtual Call Center, all of 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 33.

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.**

Otter Tail's legacy Interruption Monitoring System (IMS), implemented in 2005 was shut down on December 31, 2019. Otter Tail completed the install of the next generation of interruption monitoring solution (NextGen IMS) utilizing AMI technology in Minnesota, South Dakota, and North Dakota at the end of 2018. 2019 is the first complete year with system reliability data, and the first-year data for the SRSQ filing will be gathered from. This system is more granular then our old system, thus, Otter Tail expects future recorded results to be different then historic values. Otter Tail provides the following information relating to its IMS and overall reliability.

1. **IMS obsolescence and adoption of the NextGen IMS:** Otter Tail has completed a project to replace its obsolete IMS. Our implementation plan included the completion of the new system in North Dakota in 2017. Installation in Minnesota and South Dakota was completed in late 2018. The new system will provide added tools and analysis features that will allow Otter Tail to continue its reliability focus and efforts in the future.

   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 have the ability to 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 was also utilized to fill short term gaps/pockets created during our NextGen IMS implementation during installation and system transfer.

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 new 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 new 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.

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.

Figures 7, 8, and 9. The following graphs show Otter Tail's SAIDI, SAIFI and CAIDI for the period of 2015 through 2019. When compared to 2018 results, Minnesota customers experienced an increase in overall SAIDI, SAIFI, and CAIDI.

Figure 7

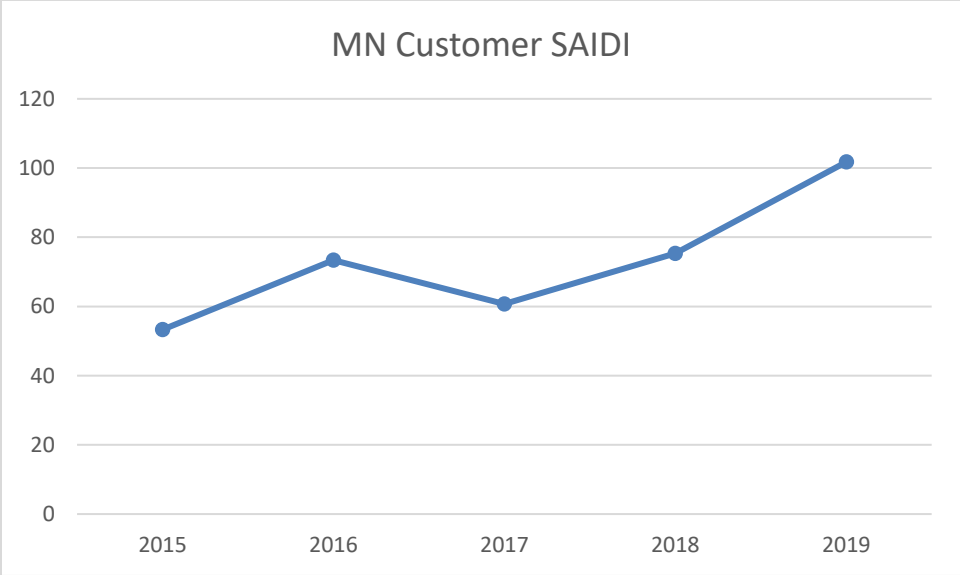


Figure 8

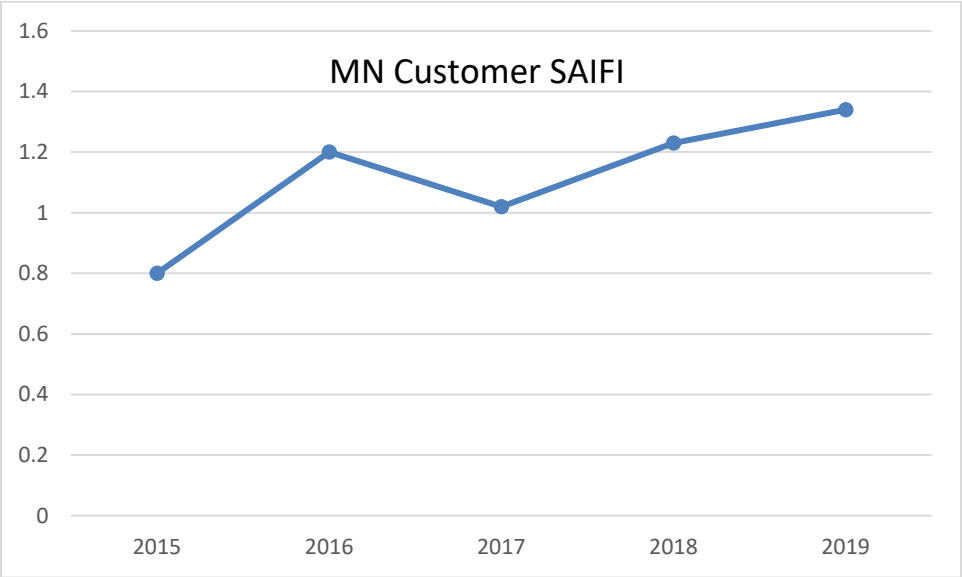
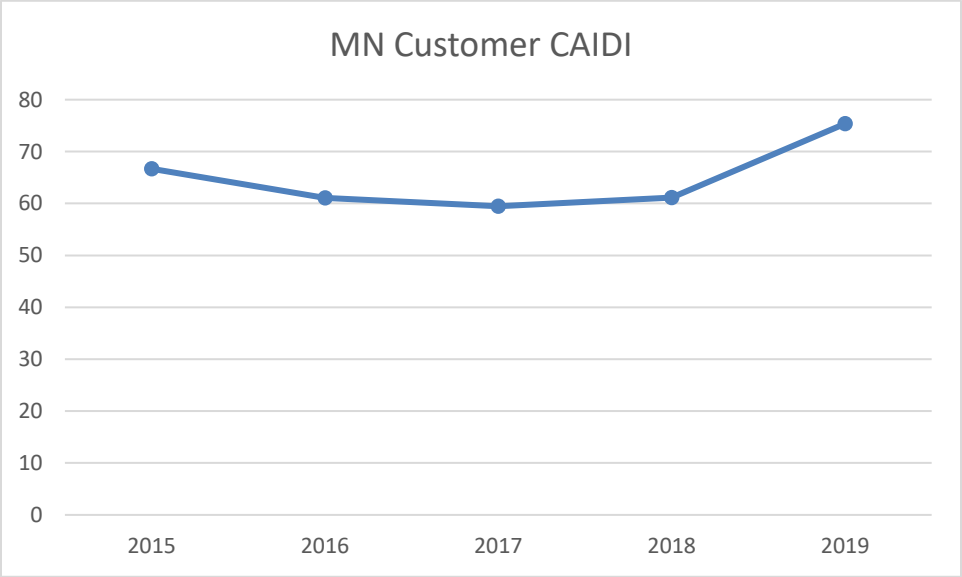


Figure 9



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 continue 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 2020 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 are 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.

    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.

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.

1. **January 28, 2020 PUC Order in Docket No. E017/M-19-260 (2018 Annual SRSQ Report)**

    a. ***Ordering paragraph 3:*** *In their 2019 Safety, Reliability, and Service Quality Reports, utilities shall discuss the feasibility of the following metric, and if the utility does not think the metric is feasible, provide an alternative: Provide a comparison of the reliability (SAIDI, SAIFI, CAIDI, MAIFI, normalized/non-normalized) of feeders with grid modernization investments, such as Advanced Metering Infrastructure (AMI) or Fault Location, Isolation, and Service Restoration (FLISR), to the historic 5-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.

    b. ***Ordering paragraph 4:*** *In their 2019 Safety, Reliability, and Service Quality Reports, utilities shall discuss transitioning from a five year rolling average method of proposing SAIDI, SAIFI, and CAIDI standards, to standards that are similar to the second quartile rank of similarly sized investor-owned utilities under either the IEEE benchmarking study or using United States Energy Information Administration (EIA) reliability data, and may propose and discuss other alternatives*

    Otter Tail began using a new interruption monitoring system for its 2019 system reliability reporting. Otter Tail believes that a transition from a five-year rolling average method for proposing standards is appropriate due to the fact that our new system captures more interruptions, and previous standards set (locked at 2013 values) are no longer relevant. Otter Tail is open to transitioning towards using second quartile benchmarking studies (quartile midpoint) as new standards for the future. Adjustments in these values may need to be made to reflect that SAIDI = CAIDI X SAIFI, as benchmark results are the culmination of data from different companies.

Otter Tail would also propose to transition away from Customer Service Center (CSC) regions (currently six) to just one regional work center, i.e. Minnesota Customers, for its 2020 SRSQ Reliability filing. Reasons for this transition are as follows:

1. Our Wahpeton CSC has experienced a regional service reorganization and now has one substation (two feeders) that serves Minnesota customers. The other three feeders are currently a part of our Fergus Falls CSC.
2. Our Milbank CSC has experienced a regional service reorganization and now has one substation (two feeders) that serve MN customers. The other four feeders are currently a part of our Morris CSC.
3. Our Crookston CSC has experienced a regional service reorganization and now is responsible for nine North Dakota communities along the Red River Valley encompassing 15 feeders.
4. Our CSC boundaries are constantly changing as Otter Tail continues to improve how it best services its customers.
5. Our CSC's do not function autonomously with strict borders. Interruptions due to larger events often have service personal from several CSC's responding to restore service. The company has found that cross customer service center collaboration improves customer service and restoration times.

The above reasons, and the facts that we have a new interruption monitoring system and will likely be transitioning towards standards set by industry benchmarking, support the move towards one region, i.e. "Minnesota customers."

Overall our customer density within each CSC is relatively small in comparison to peers. Because of this, large year to year swings within metrics occur due to individual events which makes annual comparisons difficult and less meaningful.

With this move, Otter Tail would provide a summary of its five worse performing circuits that serve MN customers.

c. ***Ordering paragraph 5:*** *Within 30 days, the utilities shall make a compliance filing with additional data as follows: CEMI (4+, 5+, 6+) and CELI historical data (6, 12, and 24 hours), both normalized and non-normalized, from 2010 to 2018, as a spreadsheet (.xlsx).*

Otter Tail submitted this compliance filing in Docket No. E017/M-19-260 on February 12, 2020.

d. ***Ordering paragraph 12*****:** *Utilities shall consult with Commission staff to draft a brief summary of their annual service-quality and reliability metrics that is digestible and useable for general audiences and file it as an attachment to their next annual report due April 1, 2020.*

Provided as Attachment 2 is a summary of Otter Tail's annual service-quality and reliability metrics.

2. 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 Reliability Reporting Requirements 7826.0500, Table 4a.

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

These are previously shown in section IV Reliability Reporting Requirements 7826.0500, Table 4.

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

Table 9

normalized and non-normalized	
CSC 2019	**MAIFI**
Bemidji	5.32
Crookston	7.38
Fergus Falls	4.39
Milbank	10.28
Morris	4.99
Wahpeton	1.23
MN Total	4.91

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

Table 10

2019 system normalized and non-normalized CEMI	
CEMI4	13.74%
CEMI5	7.95%
CEMI6	3.24%

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

The North Feeder fed from the Ottertail City Substation was the feeder experiencing the most interruptions. This Fergus Falls CSC worst performing circuit had 2 sustained and 24 momentary interruptions.

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

Table 11

2019 system normalized and non-normalized CELID	
CELID6	5.90%
CELID12	1.57%
CELID24	1.12%

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

The West Feeder fed from the Northcote substation experienced the longest duration interruption at 17 hours and 31 minutes. The East Feeder fed from the Erskine Substation was number two at 8 hours and 27 minutes.

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 9.

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.

j. ***Attachment B paragraph 10:*** *IEEE benchmarking results for SAIDI, SAIFI, CAIDI, and MAIFI from the IEEE benchmarking working group*

Otter Tail located a working group summary of IEEE's 2017 Benchmark Reliability Survey results and compared its 2019 results with second quartile results in **Table 12** below. As discussed in previous filings, Otter Tail is a member of Edison Electric Institute (EEI) and has been participating in their Reliability Benchmark Survey for the past seven years. Otter Tail also

provides the performance comparison utilizing the second quartile results from the 2018 EEI Reliability Survey.

Table 12

	2019 MN Normalized Results	2019 System Normalized Results	2017 IEEE second quartile normalized	2018 EEI second quartile normalized
SAIFI	1.33	1.45	0.82 - 1.07	0.88 - 1.056
SAIDI	95.51	128.24	78 - 120	86.26 - 107.68
CAIDI	70.28	88.73	94 - 111	95.05 - 107.45
MAIFI	4.91	5.53	NA	1.232 - 1.479

The 2018 EEI Reliability Survey collected data from 99 utility companies. Summarizing, Otter Tail performs in the first quartile for CAIDI, Mid quartiles for SAIDI, and bottom quartiles for SAIFI and MAIFI. **Figure 10** through **Figure 13** below, provide a visual summary of charts indicating where Otter Tail (#80) fits in terms of the benchmarked results. Otter Tail's results are represented by the red line on the bar graphs. Note that there are fewer respondents for the MAIFI survey due to participating utilities lack of reporting regarding this index.

Figure 10

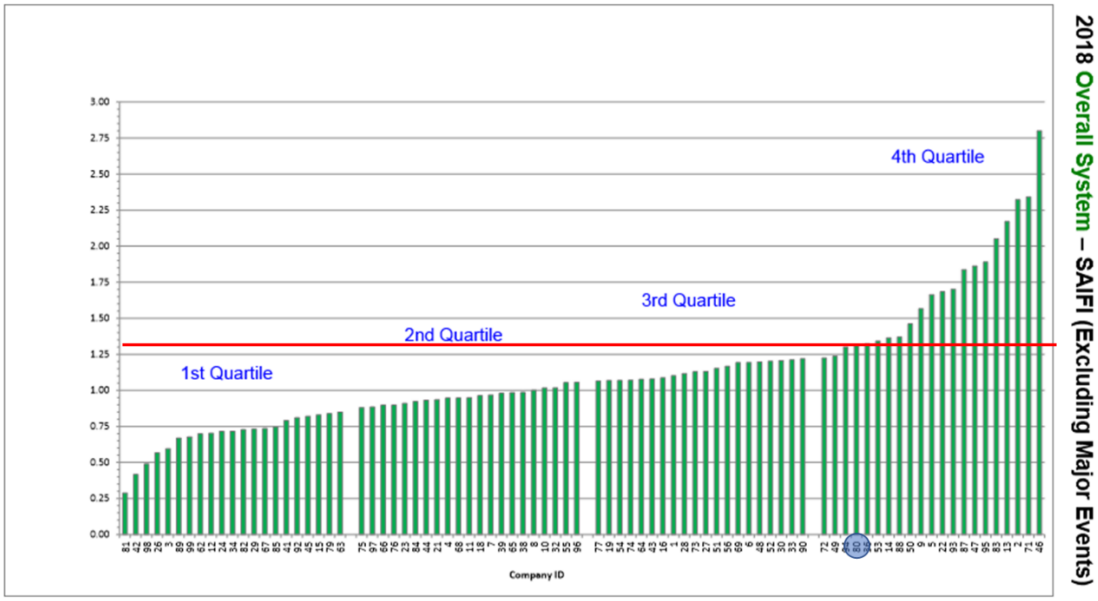


Figure 11

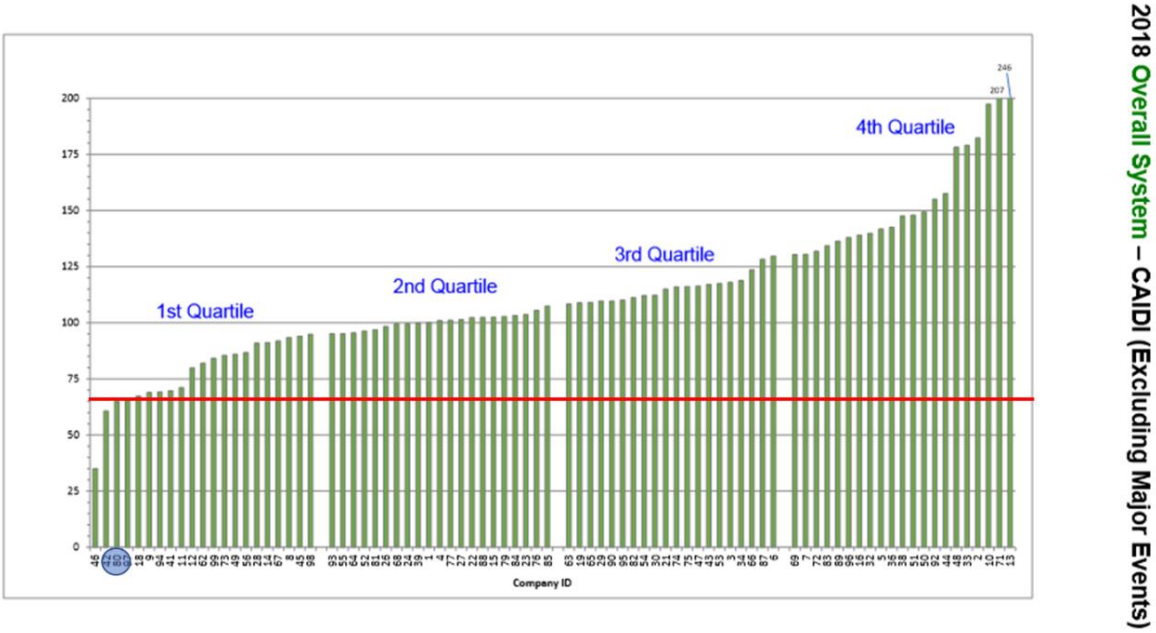


Figure 12

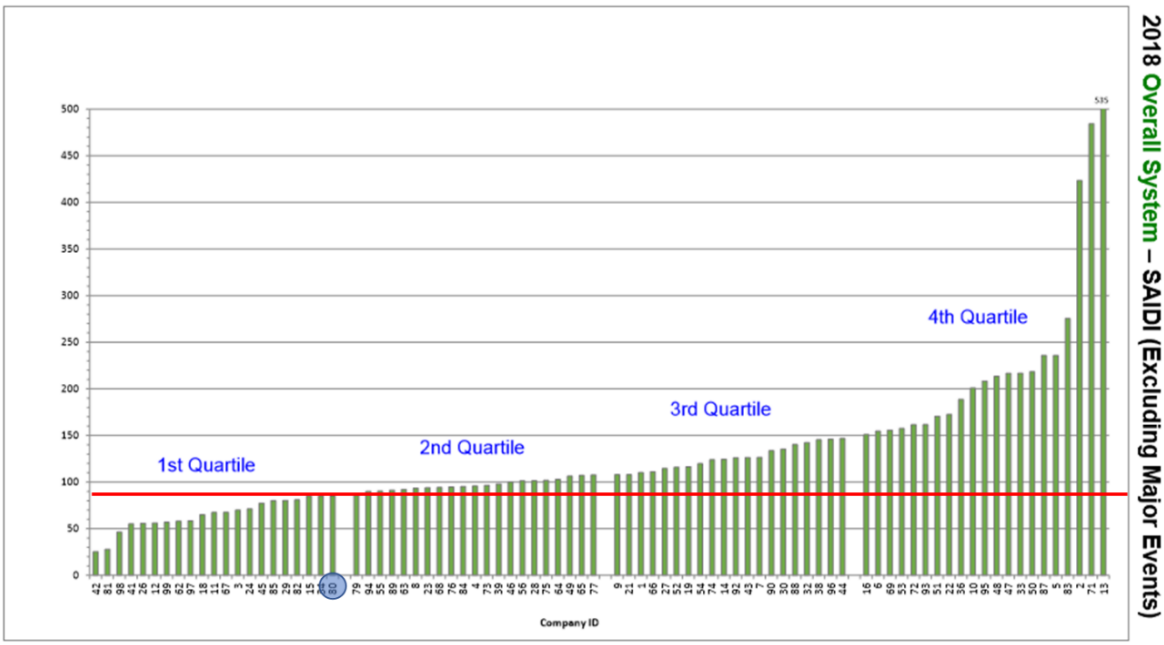
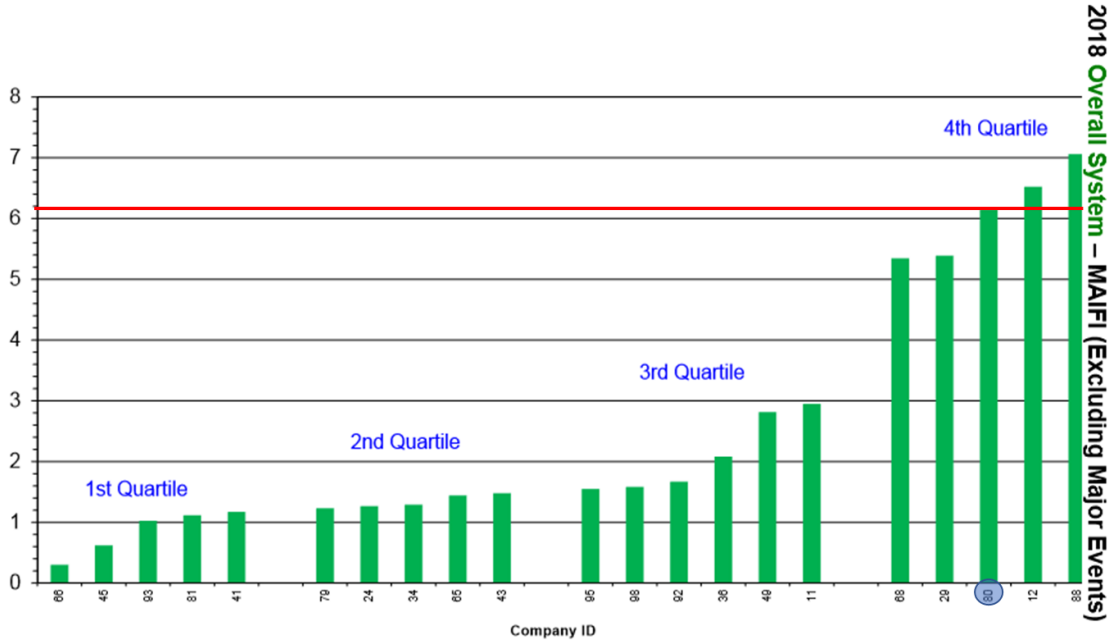


Figure 13



k. ***Attachment B paragraph 10:*** *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.

l. ***Attachment B paragraph 11:*** *Causes of sustained customer outages, by work center*

Previously shown in section IV, Table 5.

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.

As ordered in **Docket No. E017/M-15-322 dated August 14, 2015**, Otter Tail's reliability standards have been frozen, until the company has shown sufficient improvement in indices' performance.

As anticipated in last year's filing, Otter Tail did realize increases in SAIDI, SAIFI, and CAIDI with the implementation of the new Interruption Monitoring System in 2019. This was due to the new system's method of feeder data collection, increasing the number of interruptions seen, i.e. greater granularity.

As previously stated, Otter Tail proposes to make a change from six service centers to one work center, which includes all Minnesota Customers. Reasons for this change are detailed in section IV, L above when reviewing the **2018 Annual SRSQ January 28, 2020 PUC Order in Docket No. E017/M-19-260.**

Otter Tail also proposes to set indices' standards at IEEE 2017 second quartile normalized values. **Table 13** details these proposed values.

Table 13
Proposed Reliability Standards for 2020

Work Center	SAIDI	SAIFI	CAIDI
All MN Customers	94	1	94

Otter Tail Customer Information System Implementation

In February of 2019, Otter Tail implemented a new Customer Information System (CIS). Our prior legacy system was from the late 1980's. We decided to move forward with a new CIS system to ensure we have future options for our customers and yet meet the needs they have today. With the implementation of the new CIS system, Otter Tail will be well positioned moving forward to better assist our customers.

The implementation was successful however as with any system implementation we encountered challenges that impacted various areas with respect to performance within the means of this report. We include narrative in specific areas where we saw a change due to our implementation.

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 14-17** for its meter reading performance for 2019.

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 14
Otter Tail Power Company Meter Reading Performance
January 1, 2019 to December 31, 2019
Residential – MN

Residential							
Month	Meters Read	%	Meters Estimated	%	Self Read	%	Total Meters
1	62,785	98.64%	23	0.04%	840	1.32%	63,648
2	62,208	97.95%	483	0.76%	818	1.29%	63,509
3	61,456	97.16%	1,003	1.59%	792	1.25%	63,251
4	62,212	98.39%	208	0.33%	807	1.28%	63,227
5	62,030	97.95%	545	0.86%	754	1.19%	63,329
6	62,843	98.06%	498	0.78%	745	1.16%	64,086
7	62,786	97.20%	1,099	1.70%	711	1.10%	64,596
8	63,545	98.01%	535	0.83%	756	1.17%	64,836
9	63,352	97.91%	629	0.97%	726	1.12%	64,707
10	62,538	97.07%	1,197	1.86%	689	1.07%	64,424
11	61,976	97.08%	1,135	1.78%	727	1.14%	63,838
12	61,600	96.67%	1,416	2.22%	706	1.11%	63,722
	749,331	97.67%	8,771	1.14%	9,071	1.18%	767,173

Table 15
Otter Tail Power Company Meter Reading Performance
January 1, 2019 to December 31, 2019
Small Commercial – MN

Small Commercial						
Meters Read	%	Meters Estimated	%	Self Read	%	Total Meters
14,993	97.84%	8	0.05%	323	2.11%	15,324
14,825	96.64%	205	1.34%	310	2.02%	15,340
14,671	95.86%	352	2.30%	281	1.84%	15,304
14,939	97.44%	89	0.58%	304	1.98%	15,332
15,407	96.83%	231	1.45%	273	1.72%	15,911
15,532	97.04%	187	1.17%	287	1.79%	16,006
15,445	96.36%	315	1.97%	268	1.67%	16,028
15,663	97.34%	130	0.81%	298	1.85%	16,091
15,550	96.97%	219	1.37%	267	1.67%	16,036
15,395	95.91%	381	2.37%	275	1.71%	16,051
15,302	95.93%	375	2.35%	274	1.72%	15,951
14,752	95.61%	413	2.68%	264	1.71%	15,429
182,474	96.65%	2,905	1.54%	3,424	1.81%	188,803

Table 16
Otter Tail Power Company Meter Reading Performance
January 1, 2019 to December 31, 2019
Large Commercial – MN

Large Commercial						
Meters Read	%	Meters Estimated	%	Self Read	%	Total Meters
936	100.00%	.		.		936
928	99.36%	6	0.64%	.		934
912	98.81%	11	1.19%	.		923
907	99.89%	1	0.11%	.		908
905	99.02%	9	0.98%	.		914
914	99.56%	4	0.44%	.		918
916	99.46%	5	0.54%	.		921
919	99.78%	2	0.22%	.		921
916	99.57%	4	0.43%	.		920
912	99.56%	4	0.44%	.		916
903	98.58%	13	1.42%	.		916
923	99.14%	8	0.86%	.		931
10,991	99.39%	67	0.61%	.		11,058

Table 17
Otter Tail Power Company Meter Reading Performance
January 1, 2019 to December 31, 2019
Total – MN

System						
Meters Read	%	Meters Estimated	%	Self Read	%	Total Meters
78,714	98.51%	31	0.04%	1,163	1.46%	79,908
77,961	97.72%	694	0.87%	1,128	1.41%	79,783
77,039	96.93%	1,366	1.72%	1,073	1.35%	79,478
78,058	98.23%	298	0.37%	1,111	1.40%	79,467
78,342	97.74%	785	0.98%	1,027	1.28%	80,154
79,289	97.88%	689	0.85%	1,032	1.27%	81,010
79,147	97.06%	1,419	1.74%	979	1.20%	81,545
80,127	97.90%	667	0.81%	1,054	1.29%	81,848
79,818	97.74%	852	1.04%	993	1.22%	81,663
78,845	96.87%	1,582	1.94%	964	1.18%	81,391
78,181	96.87%	1,523	1.89%	1,001	1.24%	80,705
77,275	96.49%	1,837	2.29%	970	1.21%	80,082
942,796	97.49%	11,743	1.21%	12,495	1.29%	967,034

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 2019, two 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.

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

Table 18

Count of Location	Column Labels												
Row Labels	Jan-19	Feb-19	Mar-19	Apr-19	May-19	Jun-19	Jul-19	Aug-19	Sep-19	Oct-19	Nov-19	Dec-19	Grand Total
Bemidji	**9**	**9**	**9**	**9**	**9**	**9**	**9**	**9**	**9**	**9**	**9**	**9**	**108**
Service Rep.	9	9	9	9	9	9	9	9	9	9	9	9	108
Crookston	**14**	**14**	**13**	**13**	**14**	**14**	**13**	**13**	**13**	**13**	**13**	**13**	**160**
Apprentice Service Rep.	3	3	2	3	3	2	2	2	2	2	2	2	28
Service Rep.	11	11	11	10	11	12	11	11	11	11	11	11	132
Fergus Falls	**13**	**13**	**13**	**13**	**13**	**13**	**13**	**13**	**13**	**13**	**13**	**13**	**156**
Service Rep.	13	13	13	13	13	13	13	13	13	13	13	13	156
Milbank	**16**	**16**	**14**	**16**	**16**	**14**	**14**	**13**	**13**	**14**	**14**	**15**	**175**
Apprentice Service Rep.	3	3	1	3	3	1	1			1	1	2	19
Service Rep.	13	13	13	13	13	13	13	13	13	13	13	13	156
Morris	**13**	**13**	**13**	**13**	**13**	**13**	**13**	**13**	**13**	**13**	**13**	**13**	**156**
Apprentice Service Rep.	1	1	1	1	1	1	1	1	1	1	1	1	12
Journeyman Meter Reader	1	1	1	1	1	1	1	1	1	1	1	1	12
Service Rep.	11	11	11	11	11	11	11	11	11	11	11	11	132
Wahpeton	**10**	**10**	**10**	**10**	**10**	**10**	**10**	**10**	**10**	**10**	**10**	**10**	**120**
Service Rep.	10	10	10	10	10	10	10	10	10	10	10	10	120
Grand Total	**75**	**75**	**72**	**74**	**75**	**73**	**72**	**71**	**71**	**72**	**72**	**73**	**875**

Note: Milbank - The Milbank CSC serves customers in both Minnesota and South Dakota and the number of employees represents all employees for the CSC.

Note: Wahpeton - The Wahpeton CSC Center serves customers in Minnesota, North Dakota and South Dakota and the number of employees represents all employees for the CSC.

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
Argyle MN
Audubon MN
Battle Lake MN
Bejou MN
Beltrami MN
Bemidji MN
Brooks MN
Boyd MN
Burr MN
Campbell MN
Canby MN
Clearbrook MN
Climax, MN
Clitherall MN
Crookston MN
Dalton MN
Dent MN
Deer Creek MN
Detroit Lakes MN
Doran MN
Dumont MN
Eldred MN
Erskine MN
Fergus Falls MN
Fertile MN
Fisher MN
Frazee MN
Foxhome MN
Gentily MN
Green Valley MN
Gonvick MN
Gully MN
Hallock MN
Henning MN
Kent MN
Lockhart MN
Mahnomen MN
Marshall MN (Rural)
McIntosh MN
Milroy MN
Minneota MN
Nashua MN
New York Mills MN
Oklee MN
Oslo MN
Ottertail MN
Pelican Rapids MN
Perham MN
Plummer MN
Porter MN
Red Lake Falls MN
Richville MN
Rothsay MN
Saint Hilaire MN
Shevlin MN
Solway MN
St. Leo MN
Taunton MN
Tenney MN
Tintah MN
Trail MN
Twin Valley MN
Ulen MN
Underwood MN
Vergas MN
Vining MN
Waubun MN
Wendell MN
Wheaton MN
Wilton MN
Winger MN

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 19

Month	Large Commercial	Residential	Small Commercial	Grand Total
January	14	4203	322	4951
February	17	4224	364	4605
March	26	4471	506	5003
April	41	5862	585	6488
May	28	4734	495	5257
June	33	4113	458	4604
July	28	4278	445	4751
August	15	2491	269	2775
September	14	3579	298	3891
October	15	4330	366	4711
November	15	4238	374	4627
December	14	4152	377	4543
Grand Total	267	51024	4966	56257

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 20

Month	Customers who sought Cold Weather Rule Protection in 2019	Number Granted Cold Weather Protection in 2019
January	84	84
February	39	39
March	31	31
April	0	0
May	0	0
June	0	0
July	0	0
August	0	0
September	0	0
October	118	100
November	87	73
December	82	71

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

Table 21

7826.1500 Subpart C - Customers involuntarily disconnected in 2019				
Month	**Customer Class**	**Disconnected For more than 24 hours**	**Service Restored within 24 hours**	**Grand Total**
January	Residential	15	15	30
	Small Commercial	0	0	0
January Total		15	15	30
February	Residential	0	0	0
	Small Commercial	0	0	0
February Total		0	0	0
March	Residential	13	1	14
	Small Commercial	2	0	2
March Total		15	1	16
April	Residential	40	26	66
	Small Commercial	4	0	4
April Total		44	26	70
May	Residential	84	25	109
	Small Commercial	2	3	5
May Total		86	28	114
June	Residential	40	16	56
	Small Commercial	3	1	4
June Total		43	17	60
July	Residential	56	24	80
	Small Commercial	6	0	6
July Total		62	24	86
August	Residential	17	10	27
	Small Commercial	2	1	3
August Total		19	11	30
September	Residential	29	14	43
	Small Commercial	2	2	4
September Total		31	16	47
October	Residential	21	12	33
	Small Commercial	2	0	2
October Total		23	12	35
November	Residential	2	3	5
	Small Commercial	1	5	6
November Total		3	8	11
December	Residential	0	0	0
	Small Commercial	0	0	0
December Total		0	0	0
Grand Total		341	158	499

Overall, the total number of disconnections completed is lower when comparing to prior years. There were multiple factors that equated to fewer disconnections. We did suspend disconnections from February 4 until March 11. This time was needed as we converted to the new CIS system and to allow for disconnect notices to be generated from the new system.

We did encounter programming challenges throughout the year that were corrected on case by case basis. As an example, when we went live we experienced a situation where our field personnel had a lower number of days to act on a disconnection service order. Upon discovery of such situations, we made necessary corrections to resolve the situation at hand and eliminate the possibility of this situation reoccurring.

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

Table 22

Month	Residential	Small Commercial	Large Commercial	Total
January	0	0	0	0
February	0	0	0	0
March	1	0	0	1
April	3	0	0	3
May	9	0	0	9
June	2	1	1	4
July	3	0	0	3
August	2	0	0	2
September	4	0	0	4
October	1	0	0	1
November	2	0	0	2
December	0	0	0	0
Totals	27	1	1	29

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 23** 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 23.

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 23.

Table 23

7826.1600 - Otter Tail Power Company Service Extension Request Response Time Report - 2019

Month	Request Type	Days	Large Commercial	Residential	Small Commercial	Grand Total
January	**Locations not previously served**	**0**		**19**	**3**	**22**
	Locations previously served	0		71	8	79
		1		1		1
		7		1		1
		12		1		1
January Total			**0**	**93**	**11**	**104**
February	**Locations not previously served**	**0**		**1**	**1**	**2**
	Locations previously served	0		254	14	268
		1		64	1	65
		2		8	1	9
		3		1		1
February Total			**0**	**328**	**17**	**345**

Month	Request Type	Days	Large Commercial	Residential	Small Commercial	Grand Total
March	**Locations not previously served**	**0**		**1**		**1**
		1		**1**		**1**
	Locations previously served	0		328	23	351
		1		97	12	109
		2		16		16
		3		8		8
		4		1		1
		5			1	1
		6		1		1
		7		1		1
March Total			**0**	**454**	**36**	**490**
April	**Locations not previously served**	**0**		**5**		**5**
		1			**1**	**1**
		2			**1**	**1**
		22		**1**		**1**
	Locations previously served	0		445	44	489
		1		138	15	153
		2		19	6	25
		3		4		4
		4		2		2
		5		1		1
April Total			**0**	**615**	**67**	**682**
May	**Locations not previously served**	**0**		**6**		**6**
		1		**2**	**1**	**3**
		3		**2**		**2**
		5		**2**	**1**	**3**
		6			**1**	**1**
		7		**1**		**1**
		9		**1**		**1**
		10		**1**		**1**
		18		**1**		**1**
	Locations previously served	0		771	38	809
		1	1	156	14	171
		2		24	3	27
		3		2		2
		4				0
		5		1		1
		6		1		1
		7			1	1
		8		1		1
		9		1		1
May Total			**1**	**973**	**59**	**1,033**

Month	Request Type	Days	Large Commercial	Residential	Small Commercial	Grand Total
June	**Locations not previously served**	**0**				**0**
		1		**7**		**7**
		2		**3**		**3**
		4		**3**		**3**
		6		**1**		**1**
		16		**1**		**1**
		23		**1**		**1**
		45		**1**		**1**
	Locations previously served	0	2	565	24	591
		1		196	24	220
		2		23	20	43
		3		4	3	7
		4		1		1
		5		1		1
		6		1		1
		10		1		1
		11		1		1
June Total			**2**	**810**	**71**	**883**
July	**Locations not previously served**	**0**		**4**		**4**
		1		**7**		**7**
		2		**3**		**3**
		5		**1**		**1**
		6		**1**		**1**
		7		**3**		**3**
		44		**1**		**1**
	Locations previously served	0	1	626	27	654
		1		165	13	178
		2		27		27
		3		1	1	2
		4		3	1	4
		5		1		1
		7		2		2
		11		1		1
July Total			**1**	**846**	**42**	**889**

Month	Request Type	Days	Large Commercial	Residential	Small Commercial	Grand Total
August	**Locations not previously served**	**0**		**8**		**8**
		1		**3**		**3**
		2		**3**		**3**
		3		**14**		**14**
		4		**2**		**2**
		6		**1**		**1**
		7		**1**		**1**
		8		**2**		**2**
		10		**1**		**1**
		14		**2**		**2**
		15		**1**		**1**
		35		**1**		**1**
	Locations previously served	0	1	672	38	711
		1		214	14	228
		2		31	3	34
		3		7		7
		4		4		4
		5		3		3
		6		1		1
						0
August Total			**1**	**971**	**55**	**1,027**
September	**Locations not previously served**	**0**	**2**	**2**	**1**	**5**
		1		**2**	**2**	**4**
		2		**1**	**1**	**2**
		3		**2**	**2**	**4**
		4		**1**		**1**
		5		**1**		**1**
		6		**1**		**1**
		11		**1**		**1**
		15		**1**		**1**
		17		**2**		**2**
		25		**1**		**1**
	Locations previously served	0	3	423	26	452
		1	2	177	17	196
		2		29	6	35
		3		12		12
		5		1		1
		28		1		1
		29		1		1
September Total			**7**	**659**	**55**	**721**

Month	Request Type	Days	Large Commercial	Residential	Small Commercial	Grand Total
October	**Locations not previously served**	**0**		**2**	**1**	**3**
		1		**8**	**6**	**14**
		2		**1**	**1**	**2**
		3		**2**	**1**	**3**
		4		**2**	**3**	**5**
		5			**2**	**2**
		7		**3**		**3**
		8		**1**		**1**
		9		**1**	**1**	**2**
		12			**2**	**2**
		14		**1**		**1**
		25		**1**		**1**
		30		**1**		**1**
		32		**1**		**1**
		33		**1**		**1**
		38		**1**		**1**
		45		**1**		**1**
		62		**1**		**1**
		68		**1**		**1**
	Locations previously served	0		513	22	535
		1		183	16	199
		2		32		32
		3		10	2	12
		4		1		1
		5		2		2
		10		2		2
		15		1		1
		41		1		1
October Total			**0**	**774**	**57**	**831**
November	**Locations not previously served**	**0**		**2**	**3**	**5**
		1		**3**	**3**	**6**
		2			**2**	**2**
		3		**1**	**3**	**4**
		4				**0**
		7		**1**	**1**	**2**
		9			**1**	**1**
		11		**1**		**1**
		23		**1**	**4**	**5**
		24			**10**	**10**
		25			**1**	**1**
		28		**1**		**1**
		50		**1**		**1**

Month	Request Type	Days	Large Commercial	Residential	Small Commercial	Grand Total
	Locations previously served	0	2	359	14	375
		1	1	167	8	176
		2		30	2	32
		3		6	3	9
		4		1	2	3
		6			1	1
November Total			**3**	**574**	**58**	**635**
December	**Locations not previously served**	**0**	**1**	**1**	**2**	**4**
		1	**1**	**1**	**2**	**4**
		2		**2**	**1**	**3**
		3		**1**	**2**	**3**
		4		**1**		**1**
		6		**1**		**1**
		8		**1**		**1**
		10		**1**		**1**
		19		**1**		**1**
		37			**1**	**1**
		38			**1**	**1**
		41			**1**	**1**
		54		**1**		**1**
		85		**1**		**1**
	Locations previously served	0		320	18	338
		1	1	112	7	120
		2	1	26	4	31
		3		3		3
		4		2		2
		5		1		1
December Total			**4**	**476**	**39**	**519**
Grand Total			**19**	**7,573**	**567**	**8,159**

When we converted to our new CIS system, we also implemented a process to address adding new locations fitting the capabilities of the new system. In this process, we have our customers call us to create an account. During this discussion with the customer, as a part of the process, the system creates a service order to our field personnel to have the power connected when the customer is ready for service.

In 2019 we realized the need to refine this process. By creating service orders at the time customers create their accounts, service orders will sit in an open status until the customer is ready for service to be connected, which might be months later.

As an example, a customer may call us to let us know they are beginning the process of building a home. We would create a new account for the customer which will create a service order for the field personnel and begin the day counter for this requirement. The customer may not actually be ready for service for another 60 or more days. Once the customer calls us to inform us they are ready to have their service connected, the field personnel will use the open service order from the original call (60 days or more prior) to complete the work and have the account connected within the billing system.

For this reporting, we are utilizing the dates on the service order to obtain our data set for this requirement. When reviewing the data and comparing it to the 2018 data, our current process is overstating the number days to complete the order in some cases.

We are in the process of making changes to the New Location process to ensure the day counter for this requirement more accurately represents the number of days a service order is pending for future reporting.

This table shows a significant increase in the number of accounts connected compared to previous years. This report includes all of the accounts we activated in the months of February through December 2019. We were unable to delineate the data to specifically identify the accounts that were previously served but not served at the time of the customer's request (such as a property where service is disconnected between tenants). We are working with our Business Process Analyst to resolve this issue to provide more concise data in future reports.

The data for January was pulled from our converted data files and we were unable to obtain the number of days.

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 2019 in **Table 24**. **Figure 14** shows a historical graph showing the percent of Minnesota calls answered within 20 seconds.

Table 24

	(A)	(B)	(C)	(D)	(E)
Month	**Offered**	**Calls Abandoned**	**Calls Answered after 20 Seconds**	**Answered within 20 Seconds**	**Percent Answered within 20 seconds[1]**
January-2019	3327	32	124	3203	96.3
February-2019	4851	90	439	4412	90.9
March-2019	6056	94	799	5257	86.8
April-2019	6700	295	1947	4753	70.9
May-2019	6520	173	1050	5470	83.8
June-2019	5246	103	951	4295	81.8
July-2019	5916	172	1404	4512	76.2
August-2019	6632	245	1672	4960	74.7
September-2019	5627	140	1069	4558	81.0
October-2019	6348	220	1489	4859	76.5
November-2019	4885	73	547	4338	88.8
December-2019	4447	45	277	4170	93.7
Total	66555	1682	11768	54787	82.3

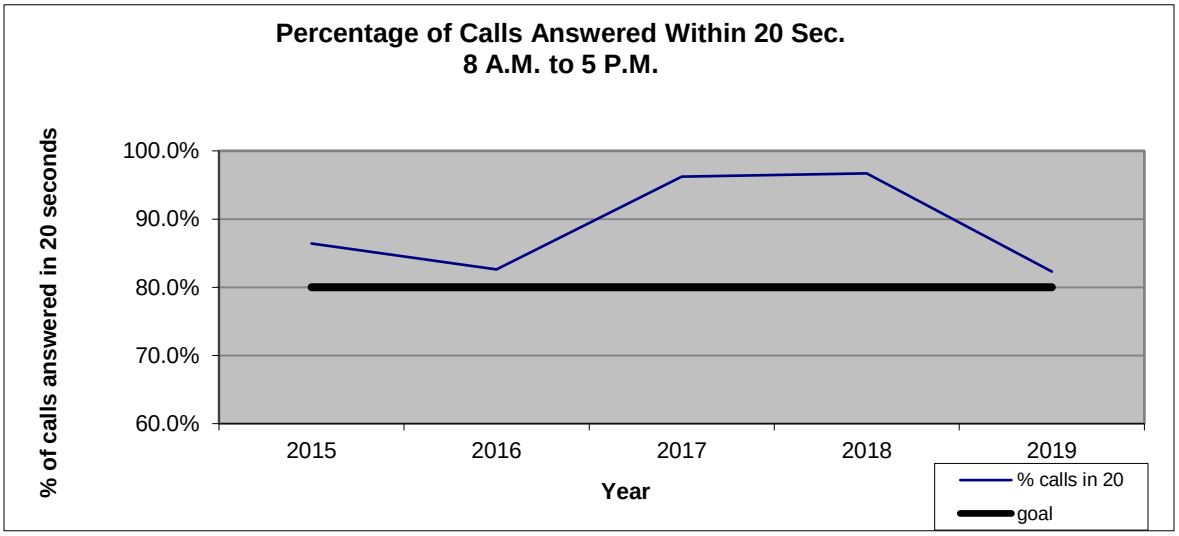
[1]Column (D) / Column (A) = Percent answered within 20 Seconds

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. The auto attendant for selecting the state is for reporting purposes only.

In February of 2019, Otter Tail went live to our new Customer Information System. With this move to the new system, we did see a change in our performance when making a year to year comparison. In 2018 we took 60,713 calls and our call center response time was 96.7 percent. In 2019 we received 66,555 calls and our call center response time is 82.3 percent. Although we did meet the requirement of answering 80 percent of our calls within 20 seconds, we did see a decrease for multiple reasons.

When moving to the new system we did experience longer call durations. With gaining comfort with the new system, calls in general took more time to complete than what our norm had been in years past. This did cause longer wait times and more abandoned calls. During this time, we experienced a colder winter which, combining with higher cost of energy charges, drove an influx of calls. We also experienced turnover within our Customer Service Representative (CSR) work group lowering the number of CSRs available to answer our customers' calls. In Q3 and Q4 of 2019, we conducted two waves of hiring to bring our employee count to more historic levels. Towards the end of 2019, our call center response times rebounded to our historic level.

Figure 14



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 2019 Otter Tail had 14 Minnesota customers request emergency medical account status. Otter Tail granted this status to all 14 customers.

In compliance with Ordering point number 5 of the May 14, 2019 Order in docket number E017/M-18-247.

> *Utilities shall engage in a dialogue with Commission Staff and stakeholders on emergency-medical-account-status protection as outlined in Minn. Stat.§ 216B.098, Subd. 5, and reported under Minn. R. 7826.1800.*

Currently, Otter Tail does not conduct a formal outreach for this specific protection. We do include language in our Customer Information booklet that goes to our new customers about this protection.

Otter Tail does not require a specific form. We accept reasonable verification/documentation from a medical professional certifying that the customer requires medical equipment that operates on electricity. This certification can be provided in any form convenient for the customer and medical professional.

Otter Tail processes Emergency Medical requests as we receive them. If the customer states loss of electricity would be a detriment to their health, Otter Tail requires verification from a medical professional. The initial verification can be written or verbal. If verbal verification is provided, we require the medical professional to provide documentation within five business days. When we receive the proper verification from the medical professional, requests are documented on the customer's account within the same or next business day depending on time of receipt.

Otter Tail along with other IOUs have begun discussions with Commission staff regarding outreach plans.

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 652 customers were required to make a deposit as a condition of receiving service during 2019. The number of deposit requests decreased by 33 when compared to 2018.

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 2019.

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 25

Complaint Type	Total	Percent of Total
Alleged Billing Errors	0	0.00%
Load Control	1	3.57%
High Bills	5	17.86%
Inaccurate Meter reading	0	0.00%
Tree Trimming	0	0.00%
Other	19	67.86%
Property Damage	3	10.71%
	28	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 include such things as rebate timing, planned outages and third-party meter readers.

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

Table 26

2019		
Resolved by	**Total**	**Percentage**
(1) Resolved on Initial Inquiry	15	54%
(2) Resolved within 10 days	5	18%
(3) Resolved in greater than 10 days	8	28%
Grand Total	28	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 27

Action Taken	Total	Percentage
(1) Took action the Customer requested	23	82.14%
(2) Provided the customer with information that demonstrates that the situation complained of is not reasonably within the control of Otter Tail	1	3.57%
(3) Took an action the customer and the utility agree is an acceptable compromise	1	3.57%
(4) Refused to take action the customer requested	3	10.72%
Grand Total	28	100.00%

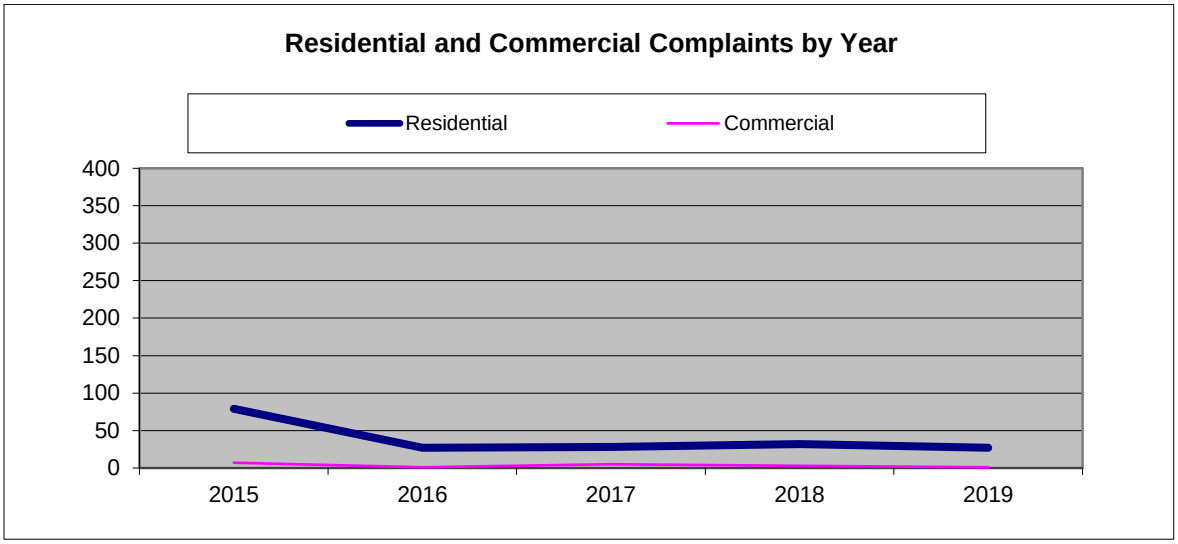
In compliance with Ordering point number 4 of the May 14, 2019 Order in docket number E017/M-18-247 (2017 Annual SRSQ Report).

Utilities shall further break down and explain the percentage of complaints they received that were not within the utilities' control (i.e., those related to energy-efficiency providers, solar installers, or other vendors/matters) and include a short summary in their electric service quality reports due April 1, 2020.

In 2019, Otter Tail has one complaint that was classified as outside of the utilities control. Within the specific complaint, the customer filed a complaint as they lost power during a storm that had high winds, heavy wet snow, and a tree branch came in contact with a primary line. The concern was resolved as the customer was satisfied with our response.

Figure 15 below is a graph showing complaints by customer class for the previous five years.

Figure 15



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

Otter Tail received thirteen customer complaints in 2019 that were forwarded from the Commission's Consumer Affairs Office, all of which have been resolved. The number of complaints received in 2019 increased in comparison to 2018.

	2018	2019
Customer Complaints	5	13

In compliance with Ordering point number 3 of the May 14, 2019 Order in docket number E017/M-18-247 (2017 Annual SRSQ Report).

> *Utilities shall examine the definition of "customer complaint" and provide a short summary of their observations and conclusions in their electric service-quality reports due April 1, 2020.*

Members from Otter Tail's Customer Service and Regulatory departments met to review our definition of customer complaint. This group did examine the current company policy and determined the definition of a complaint needed updating to best encompass our practices and provide direction to our teams when assisting our customers. The definition below is taken directly from our updated policy.

<u>Complaint</u> - Any oral or written communication alleging a violation of a statute, rule or utilities tariff from one of the above listed sources[1] or any communication from a customer stating a grievance with respect to service to the customer.

With definition in place, the Supervisor of Customer Care did conduct training with our field personnel and office staffs to ensure a consistent application of a complaint can be applied.

[1] *Sources: MPUC, ND PSC, SD PUC, other state agencies, OTC officers, OTP executives, and customers.*

From: Olson, Wendi
To: Staff, CAO (PUC)
Cc: Regulatory
Subject: Otter Tail Power Company Major Interruptions - West Central MN Communities
Date: Monday, January 7, 2019 9:31:03 AM
Attachments: image002.png

Good morning,
Otter Tail Power Company customers experienced outages overnight.

Where: Ottertail, Deer Creek and Henning
When 12:30 AM
Approximate Number of Customers Affected: 1236
Cause of the Interruption: Ice build-up on the line along with windy conditions and galloping lines caused a broken insulator on the 41.6 Deer Creek Line.
Estimated Restoration Times(s): Power was restored @ 2:00 am
Estimated Duration: 1 hour and 30 minutes

Where: Ashby, Millerville, Urbank, Erdahl, Brandon, and Evansville
Feeders: Evansville west #2 (187 customers), Erdahl Main(497), Evansville East #1 (171), Millerville Main (154), Urbank Main (76)
When 11:03 PM
Approximate Number of Customers Affected: 1100
Cause of the Interruption: Wet conditions with the ice build-up caused the insulation to become compromised and allowed voltage to track to the pole. It resulted in burning off a 41.6 pole with distribution under build on it.
Estimated Restoration Times(s): Power was restored @ 1:00 am
Estimated Duration: 2 hours and 3 minutes

Let me know if you have any questions.
Thanks, Wendi

OTTER TAIL POWER COMPANY

Wendi Olson
Regulatory Compliance Specialist
Regulatory Affairs
218-739-8699
Cell: 218-205-5936
wolson@otpco.com

From: Olson, Wendi
To: Staff, CAO (PUC)
Cc: Regulatory; Olsen, Matthew
Subject: Otter Tail Power Company Major Interruption - Fergus Falls, Minnesota
Date: Wednesday, January 30, 2019 11:24:16 AM
Attachments: image002.png

Good morning,
Otter Tail Power Company customers experienced outages overnight in Fergus Falls, MN.

Where: Fergus Falls
Feeder: Buse_NW Feeder Section
When: January 30, 2019
Outage Time: 12:34 AM
Restoration Time: Power was restored at 2:56 AM
Estimated Duration: 2 hours and 22 minutes
Approximate Number of Customers Affected: 1648
Cause of the Interruption: Extreme cold and high winds contributed to a tie wire breaking on the distribution causing a short.

Let me know if you have any questions.
Thanks, Wendi

Wendi Olson
Regulatory Compliance Specialist
Regulatory Affairs
218-739-8699
Cell: 218-205-5936
wolson@otpco.com

From: Olson, Wendi
To: Staff, CAO (PUC)
Cc: Regulatory; Olsen, Matthew
Subject: Otter Tail Power Company Major Interruption - Fergus Falls, Minnesota
Date: Monday, March 11, 2019 9:36:28 AM
Attachments: image001.png

Good morning,
Otter Tail Power Company customers experienced outages over the weekend in Crookston, Garfield and Holmes City, MN.

Where: Crookston, MN
When: March 9, 2019
Outage Time: 3:54 PM
Restoration Time: Power was restored at 5:34 PM
Estimated Duration: 1 hour and 40 minutes
Approximate Number of Customers Affected: 933
Cause of the Interruption: A rubber tie that broke let a conductor fall on the arm and caused a phase to ground fault. The fault caused a phase to burn down that fell to the ground. This took some time to find and repair.

Where: Garfield & Holmes City, MN
When: March 9, 2019
Outage Time: 7:27 AM
Restoration Time: Power was restored at 8:42 AM
Estimated Duration: 1 hour and 15 minutes
Approximate Number of Customers Affected: 747
Cause of the Interruption: A 41.6 kV pole caught fire. Prior to the snow, there was freezing rain, mist and ice that is believed to have tracked to the pole causing the fire.

Let me know if you have any questions.
Thanks, Wendi

OTTER TAIL POWER COMPANY

Wendi Olson
Regulatory Compliance Specialist
Regulatory Affairs

218-739-8699
Cell: 218-205-5936

wolson@otpco.com

From: Olson, Wendi
To: Staff, CAO (PUC)
Cc: Regulatory
Subject: Otter Tail Power Company Major Interruption - Waubun, Winger, Bejou
Date: Thursday, May 16, 2019 9:09:56 AM
Attachments: image001.png

Good morning!
Otter Tail Power Company customers experienced outages last night that meet reporting thresholds.

When: May 15, 2019
Outage Time: 10:44 PM

Winger – 211 Customers
Bejou – 26 Customers
Approximate Restoration Time: 12:11 AM
Estimated Duration: 1 hour and 26 minutes

Waubun – 321 Customers
Approximate Restoration Time: 1:42 AM
Estimated Duration: 2 hours and 57 minutes

Cause of the Interruption: A storm rolled through the area with strong straight-line winds causing damage including a broken pole and several broken insulators.

Let me know if you have any questions.
Thanks, Wendi

Wendi Olson
Regulatory Compliance Specialist
Regulatory Affairs
218-739-8699
Cell: 218-205-5936
wolson@otpco.com

From: Olson, Wendi
To: Staff, CAO (PUC)
Cc: Regulatory
Subject: Otter Tail Power Company Major Interruption - Canby to Elkton
Date: Wednesday, May 22, 2019 9:48:39 AM
Attachments: image001.png

Good morning!
Otter Tail Power Company customers experienced outages last night.

When: May 21, 2019
Outage Time: 7:20 PM

Community	Customers	Restoration Time	Duration
CANBY SOUTH RURAL - MAIN FEEDER	39	7:42 PM	0:22:35
CANBY SOUTHWEST - EAST FEEDER	269	7:47 PM	0:27:16
CANBY WEST RURAL - MAIN FEEDER	12	7:47 PM	0:27:16
HENDRICKS - EAST FEEDER	171	7:49 PM	0:29:52
HENDRICKS - WEST FEEDER	356	7:49 PM	0:29:52
IVANHOE - EAST 2	185	8:07 PM	0:47:30
LAKE BENTON - EAST FEEDER	314	8:34 PM	1:14:51
LAKE BENTON - WEST FEEDER	139	8:33 PM	1:13:27

Cause of the Interruption: A storm rolled through the area with extremely high winds causing a broken pole top insulator on a 40,000 line.

Let me know if you have any questions.
Thanks, Wendi

OTTER TAIL POWER COMPANY

Wendi Olson
Regulatory Compliance Specialist
Regulatory Affairs
218-739-8699
Cell: 218-205-5936
wolson@otpco.com

From: Olson, Wendi
To: Staff, CAO (PUC)
Cc: Regulatory
Subject: Otter Tail Power Company Major Interruption - Bemidji
Date: Thursday, May 23, 2019 2:43:59 PM
Attachments: image001.png

Otter Tail Power Company customers in Bemidji experienced an outage last night.

When: May 22, 2019
Where: Bemidji 25th St. Sub Mall Feeder
Outage Time: 6:33 PM
Approximate Restoration Time: 8:15 PM
Approximate Duration: 1 hour and 42 minutes
Customers Affected: Approximately 720
Cause of the Interruption: A burnt x arm and per bank. Arm needed to be repaired to get the feeder back up. Power bank needed to be rebuilt after the feeder was up.

Let me know if you have any questions.
Thanks, Wendi

Wendi Olson
Regulatory Compliance Specialist
Regulatory Affairs
218-739-8699
Cell: 218-205-5936
wolson@otpco.com

From: Olson, Wendi
To: Staff, CAO (PUC)
Cc: Regulatory
Subject: Otter Tail Power Company Major Interruption - Garfield and Holmes City
Date: Tuesday, May 28, 2019 9:34:23 AM
Attachments: image001.png

Good morning,

Otter Tail Power Company customers in the Garfield and Holmes City service areas experienced an outage last Friday afternoon.

Where: Garfield and Holmes City
When: Friday, May 24, 2019
Outage Time: 12:50 PM
Approximate Restoration Time: 2:01 PM
Estimated Duration: 1 hour and 11 minutes
Approximate Number of Customers Affected: 579
Cause of the Interruption: The cause was a failed porcelain cutout that burnt the top of pole off. Primary dropped into the neutral. Crews reframed the pole and got everyone back on.

I apologize for the delayed report. Let me know if you have any questions.
Thanks, Wendi

OTTER TAIL POWER COMPANY

Wendi Olson
Regulatory Compliance Specialist
Regulatory Affairs
218-739-8699
Cell: 218-205-5936
wolson@otpco.com

From: Olson, Wendi
To: Staff, CAO (PUC)
Cc: Regulatory
Subject: Otter Tail Power Company Major Interruption - Bemidji
Date: Tuesday, May 28, 2019 8:34:12 AM
Attachments: image001.png

Otter Tail Power Company customers in the Bemidji service area experienced an outage last night.

Where: Bemidji, Minnesota
When: Monday, May 27, 2019
Outage Time: 6:45 PM
Approximate Restoration Time: 8:15 PM
Estimated Duration: 1 hour and 30 minutes
Approximate Number of Customers Affected: 850
Cause of the Interruption: The Bemidji 115 KV Sub was out due to a form of equipment failure. The exact cause is still unknown, but a potential substation transformer issue is being looked into.

Let me know if you have any questions.
Thanks, Wendi

OTTER TAIL POWER COMPANY

Wendi Olson
Regulatory Compliance Specialist
Regulatory Affairs
218-739-8699
Cell: 218-205-5936
wolson@otpco.com

From: Olson, Wendi
To: Staff, CAO (PUC)
Cc: Regulatory
Subject: Otter Tail Power Company Major Interruption - Bemidji
Date: Tuesday, June 11, 2019 9:09:08 AM
Attachments: image001.png

Otter Tail Power Company customers in the Bemidji service area experienced an outage.

Where: Bemidji, MN
When: June 8, 2019
Outage Time: 5:15 PM
Approximate Restoration Time: 7:15 PM
Estimated Duration: 2 hours
Approximate Number of Customers Affected: 1000
Cause of the Interruption: There were equipment issues that took some time to locate which caused this lengthy outage. The breaker would not reclose.

Thanks, Wendi

OTTER TAIL POWER COMPANY

Wendi Olson
Regulatory Compliance Specialist
Regulatory Affairs
218-739-8699
Cell: 218-205-5936
wolson@otpco.com

From: Olson, Wendi
To: Staff, CAO (PUC)
Cc: Regulatory
Subject: Otter Tail Power Company Major Interruption - Battle Lake - Otter Tail Lake
Date: Tuesday, June 11, 2019 8:33:51 AM
Attachments: image001.png

Otter Tail Power Company customers in the Battle Lake and the south end of Otter Tail Lake service area experienced an outage.

Where: Otter Outlet - East Feeder
When: June 9, 2019
Outage Time: 4:30 AM
Approximate Restoration Time: 8:50 AM
Estimated Duration: 4 hour and 20 minutes
Approximate Number of Customers Affected: 776
Cause of the Interruption: A tree fell and took down the lines

Thanks, Wendi

Wendi Olson
Regulatory Compliance Specialist
Regulatory Affairs
218-739-8699
Cell: 218-205-5936
wolson@otpco.com

From: Olson, Wendi
To: Staff, CAO (PUC)
Cc: Regulatory
Subject: Otter Tail Power Company Major Interruption - Hallock, MN
Date: Tuesday, June 18, 2019 9:01:51 AM
Attachments: image001.png

Good morning,

Otter Tail Power Company customers in and around Hallock experienced an outage early this morning.

Where: Hallock, MN
When: Tuesday, June 18, 2019
Outage Time: 5:01 AM
Approximate Restoration Time: 6:21 AM
Estimated Duration: 1 hour and 20 minutes
Approximate Number of Customers Affected:
Hallock_Northwest – 685
Hallock_Northwest_NorthFeeder - 475
Cause of the Interruption: Scheduled Substation Maintenance

*Customers were notified by radio station announcements and printed flyers around the community.

Thanks, Wendi

OTTER TAIL POWER COMPANY

Wendi Olson
Regulatory Compliance Specialist
Regulatory Affairs
218-739-8699
Cell: 218-205-5936
wolson@otpco.com

From: Olson, Wendi
To: Staff, CAO (PUC)
Cc: Regulatory
Subject: Otter Tail Power Company - Major Interruption - Rush Lake-Otter Tail City
Date: Wednesday, July 10, 2019 8:28:37 AM
Attachments: image001.png

Good morning,

Otter Tail Power Company customers experienced an outage late Tuesday, July 9, 2019.

Location: Rush - Otter Tail Lake Substation
When: Tuesday, July 9, 2019
Outage Time: 9:06 PM
Approximate Restoration Time: 10:43 PM
Approximate Duration: 1 hour and 37 minutes
Approximate Number of Customers Affected: 780
Cause of the Interruption: Due to the storm that rolled through this area, a tree went down and intertwined in three-phase distribution.

Thank you, Wendi

Wendi Olson
Regulatory Compliance Specialist
Regulatory Affairs
218-739-8699
Cell: 218-205-5936
wolson@otpco.com

From: Olson, Wendi
To: Staff, CAO (PUC)
Cc: Regulatory
Subject: Otter Tail Power Company - Major Interruption - Fergus Falls
Date: Monday, July 15, 2019 8:20:33 AM
Attachments: image006.png

Good morning,

Otter Tail Power Company customers experienced outages last night.

Location: Fergus SE Feeder
When: Sunday, July 14, 2019
Outage Time: 5:23 PM
Approximate Restoration Time: 8:17 PM
Approximate Duration: 2 hour and 54 minutes
Approximate Number of Customers Affected: 547
Cause of the Interruption: A three phase main line pole was broken due to the storm that rolled through Fergus Falls.

Location: Fergus Falls Edgetown Cleveland Express Feeder
When: Sunday, July 14, 2019
Outage Time: 5:19 PM
Approximate Restoration Time: 7:00 PM
Approximate Duration: 1 hour and 40 minutes
Approximate Number of Customers Affected: 776
Cause of the Interruption: The storm that rolled through Fergus Falls caused down trees which damaged our lines.

Thank you and have a great week. Wendi

OTTER TAIL POWER COMPANY

Wendi Olson
Regulatory Compliance Specialist
Regulatory Affairs
218-739-8699
Cell: 218-205-5936
wolson@otpco.com

From: Olson, Wendi
To: Staff, CAO (PUC)
Cc: Regulatory
Subject: Otter Tail Power Company - Major Interruption - Battle Lake | Clitherall | Vining
Date: Monday, July 15, 2019 4:44:39 PM
Attachments: image001.png

Otter Tail Power Company customers are currently experiencing an outage.

Where: Battle Lake, Clitherall and Vining

When 3:23PM

Approximate Number of Customers Affected:
Battle Lake - Town Feeder = 315
Battle Lake - North Feeder = 177
Battle Lake - South Feeder = 155
Clitherall = 372
Vining = 119

Total: 1138

Cause of the Interruption: Storm (Details not known at this time.)

Estimated Restoration Times(s): There is no ETR at this time

Thank you, Wendi

Wendi Olson
Regulatory Compliance Specialist
Regulatory Affairs
218-739-8699
Cell: 218-205-5936
wolson@otpco.com

From: Olson, Wendi
To: Staff, CAO (PUC)
Cc: Regulatory
Subject: Otter Tail Power Company - Major Interruption - Crookston
Date: Tuesday, July 16, 2019 8:22:39 AM
Attachments: image001.png

Good morning,

Otter Tail Power Company customers in the Crookston area experienced an outage last night.

Where: Crookston - Barrett St South Feeder

When: 8:27 PM

Restored: 9:43 PM

Duration: 1 hour and 16 minutes

Approximate Number of Customers Affected: 834

Cause of the Interruption: Faulted UG feeder

Thank you, Wendi

Wendi Olson
Regulatory Compliance Specialist
Regulatory Affairs
218-739-8699
Cell: 218-205-5936
wolson@otpco.com

From: Olson, Wendi
To: Staff, CAO (PUC)
Cc: Regulatory
Subject: RE: Otter Tail Power Company - Major Interruption - Battle Lake | Clitherall | Vining - UPDATE
Date: Tuesday, July 16, 2019 10:26:16 AM
Attachments: image001.png

The Vining and Clitherall outages were caused by lightning damaging an insulator on the 40kVw transmission line feeding those feeders and the Battle Lake feeder outages were caused by storm induced damage to a pole.

Approximate Restoration Times:
Battle Lake = 5:30 (1 hour and 53 minutes)
Clitherall = 4:00 (37 minutes)
Vining = 4:00 (37 minutes)

From: Olson, Wendi <wolson@otpco.com>
Sent: Monday, July 15, 2019 4:45 PM
To: Staff, CAO (PUC) <consumer.puc@state.mn.us>
Cc: Regulatory <OTPRegulatory@otpco.com>
Subject: Otter Tail Power Company - Major Interruption - Battle Lake | Clitherall | Vining

Otter Tail Power Company customers are currently experiencing an outage.

Where: Battle Lake, Clitherall and Vining

When 3:23PM

Approximate Number of Customers Affected:
Battle Lake - Town Feeder = 315
Battle Lake - North Feeder = 177
Battle Lake - South Feeder = 155
Clitherall = 372
Vining = 119

Total: 1138

Cause of the Interruption: Storm (Details not known at this time.)

Estimated Restoration Times(s): There is no ETR at this time

Thank you, Wendi

Wendi Olson
Regulatory Compliance Specialist

From: Olson, Wendi
To: Staff, CAO (PUC)
Cc: Regulatory
Subject: Otter Tail Power Company Major Interruption - Otter Tail Lake Area
Date: Tuesday, September 3, 2019 10:13:00 AM
Attachments: image001.png

Otter Tail Power Company customers near Otter Tail Lake experienced an outage last night.

Date: September 2, 2019
Where: Otter Tail Lake – North and West side
Approximate Outage Time: 7:30 p.m. September 2, 2019
Approximate Restoration Time: 1:45 p.m. September 3, 3019
*100 customers power was restored at approximately 11:00 p.m.
Duration: 6 hours and 15 minutes
Approximate Number of Customers Affected: 610
Cause of the Interruption: A storm rolled through the area with high winds causing trees to go down on power lines.

Thank you, Wendi

Wendi Olson
Regulatory Compliance Specialist
Regulatory Affairs
218-739-8699
Cell: 218-205-5936
wolson@otpco.com

From: Olson, Wendi
To: Staff, CAO (PUC)
Cc: Regulatory
Subject: Otter Tail Power Company Major Service Interruption Report - Crookston and surrounding areas
Date: Thursday, September 5, 2019 8:34:39 AM

Otter Tail Power Company Major Service Interruption Report – Crookston and surrounding areas

Locations, number of customers affected, and outage time:

Beltrami Substation - 36	(Outage – 3:54 a.m.)
Fertile Substation - 796	(Outage – 3:54 a.m.)
Gary Substation – 197	(Outage – 3:54 a.m.)
Twin_Valley Substation - 721	(Outage – 3:54 a.m.)
Erskine_East Feeder - 188	(Outage – 3:46 a.m.)
Crookston Feeder - 834	(Outage – 3:18 a.m.)

Total of approximately 2770 customers

Date: September 5, 2019
Cause: Storm in the area
Restoration Times:

Beltrami Substation - 36	(Restored – 7:15 a.m.) 3 hours and 21 minutes
Fertile Substation - 796	(Restored – 6:35 a.m.) 2 hours and 41 minutes
Gary Substation – 197	(Restored – 5:35 a.m.) 1 hour and 41 minutes
Twin_Valley Substation - 721	(Restored – 5:35 a.m.) 1 hour and 41 minutes
Erskine_East Feeder - 188	(Restored – 4:25 a.m.) 37 minutes
Crookston Feeder - 834	(Restored – 5:20 a.m.) 2 hours and 2 minutes

Otter Tail Power Company Major Service Interruption Report – Town of McIntosh

Location: Town of McIntosh
Customers affected: 525
Outage Time: 7:00 a.m. (approximate)
Date: September 5, 2019
Cause: Storm in the area
Restoration Time: Unknown

We'll send an update as soon as we know more.

Thank you!

Wendi A. Olson
Otter Tail Power Company | Regulatory Compliance Specialist
215 South Cascade Street | Fergus Falls, MN 56538-0496
Phone: 218-739-8699 | wolson@otpco.com

From: Olson, Wendi
To: Staff, CAO (PUC)
Cc: Regulatory
Subject: UPDATE - Otter Tail Power Company Major Service Interruption Report - Crookston and surrounding areas
Date: Thursday, September 5, 2019 2:53:24 PM

Power was restored to our Customers in the Town of McIntosh around 12:30 this afternoon. These customers were without power for approximately 5 hours and 30 minutes.
Thank you, Wendi

From: Olson, Wendi <wolson@otpco.com>
Sent: Thursday, September 5, 2019 8:35 AM
To: Staff, CAO (PUC) <consumer.puc@state.mn.us>
Cc: Regulatory <OTPRegulatory@otpco.com>
Subject: Otter Tail Power Company Major Service Interruption Report - Crookston and surrounding areas

Otter Tail Power Company Major Service Interruption Report – Crookston and surrounding areas

Locations, number of customers affected, and outage time:

Beltrami Substation - 36	(Outage – 3:54 a.m.)
Fertile Substation - 796	(Outage – 3:54 a.m.)
Gary Substation – 197	(Outage – 3:54 a.m.)
Twin_Valley Substation - 721	(Outage – 3:54 a.m.)
Erskine_East Feeder - 188	(Outage – 3:46 a.m.)
Crookston Feeder - 834	(Outage – 3:18 a.m.)

Total of approximately 2770 customers

Date: September 5, 2019
Cause: Storm in the area
Restoration Times:

Beltrami Substation - 36	(Restored – 7:15 a.m.) 3 hours and 21 minutes
Fertile Substation - 796	(Restored – 6:35 a.m.) 2 hours and 41 minutes
Gary Substation – 197	(Restored – 5:35 a.m.) 1 hour and 41 minutes
Twin_Valley Substation - 721	(Restored – 5:35 a.m.) 1 hour and 41 minutes
Erskine_East Feeder - 188	(Restored – 4:25 a.m.) 37 minutes
Crookston Feeder - 834	(Restored – 5:20 a.m.) 2 hours and 2 minutes

Otter Tail Power Company Major Service Interruption Report – Town of McIntosh

Location: Town of McIntosh
Customers affected: 525
Outage Time: 7:00 a.m. (approximate)
Date: September 5, 2019

Cause: Storm in the area
Restoration Time: Unknown

We'll send an update as soon as we know more.

Thank you!

Wendi A. Olson
Otter Tail Power Company | Regulatory Compliance Specialist
215 South Cascade Street | Fergus Falls, MN 56538-0496
Phone: 218-739-8699 | wolson@otpco.com

From: Olson, Wendi
To: Staff, CAO (PUC)
Cc: Regulatory
Subject: CORRECTED - Otter Tail Power Company Major Interruption - Hancock & Clontarf
Date: Wednesday, September 18, 2019 8:36:21 AM
Attachments: image001.png

Good morning!

This outage occurred Tuesday morning the 17th at 7:41 rather than Monday evening the 16th. I've updated the report here and marked the changes below.
Sorry for the incorrect reporting.
Thank you, Wendi

Corrected Report:
When: Tuesday, September 17, 2019

Community | Equipment Type	Customers	Outage Time	Restoration Time	Duration
Hancock | Substation	490	7:41 AM	8:45 AM	1 hour and 4 minutes
Clontarf | Substation	116	7:41 AM	8:45 AM	1 hour and 4 minutes

Cause of the Interruption: Farm equipment accident. Farm equipment box was raised into the line.

From: Olson, Wendi <wolson@otpco.com>
Sent: Tuesday, September 17, 2019 10:04 AM
To: Staff, CAO (PUC) <consumer.puc@state.mn.us>
Cc: Regulatory <OTPRegulatory@otpco.com>
Subject: Otter Tail Power Company Major Interruption - Hancock & Clontarf

Good morning!
Otter Tail Power Company Hancock and Clontarf customers experienced an outage last night.

When: Tuesday, September ~~16~~17, 2019

Community | Equipment Type	Customers	Outage Time	Restoration Time	Duration
Hancock | Substation	490	7:41 AM~~PM~~	8:45 AM~~PM~~	1 hour and 4 minutes
Clontarf | Substation	116	7:41 AM~~PM~~	8:45 AM~~PM~~	1 hour and 4 minutes

Cause of the Interruption: Farm equipment accident. Farm equipment box was raised into the line.

Let me know if you have any questions.
Thanks, Wendi

Wendi Olson
Regulatory Compliance Specialist
Regulatory Affairs
218-739-8699
Cell: 218-205-5936
wolson@otpco.com

From: Olson, Wendi
To: Staff, CAO (PUC)
Cc: Regulatory
Subject: Otter Tail Power Company Major Interruption - Hancock & Clontarf
Date: Tuesday, September 17, 2019 10:03:55 AM
Attachments: image001.png

Good morning!
Otter Tail Power Company Hancock and Clontarf customers experienced an outage last night.

When: September 16, 2019

Community | Equipment Type	Customers	Outage Time	Restoration Time	Duration
Hancock | Substation	490	7:41 PM	8:45 PM	1 hour and 4 minutes
Clontarf | Substation	116	7:41 PM	8:45 PM	1 hour and 4 minutes

Cause of the Interruption: Farm equipment accident. Farm equipment box was raised into the line.

Let me know if you have any questions.
Thanks, Wendi

Wendi Olson
Regulatory Compliance Specialist
Regulatory Affairs
218-739-8699
Cell: 218-205-5936
wolson@otpco.com

From: Olson, Wendi
To: Staff, CAO (PUC)
Cc: Regulatory
Subject: Otter Tail Power Company Major Interruption - Battle Lake, MN
Date: Friday, December 6, 2019 4:45:22 PM
Attachments: image001.png

Otter Tail Power Company customers in the Battle Lake area experienced an outage this morning.

When: December 6, 2019
Where: Otter Tail Lake-Amor Substation
Outage Time: 10:51 AM
Approximate Restoration Time: 12:45 PM
Approximate Duration: 1 hour and 55 minutes
Customers Affected: Approximately 1387
Cause of the Interruption: An arrester shorted out which destroyed the breaker in the substation. Tied both circuits in substation to one breaker temporarily to get power restored. Breaker will be replaced when new equipment is available.

Let me know if you have any questions.
Thanks, Wendi

Wendi Olson
Regulatory Compliance Specialist
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218-739-8699
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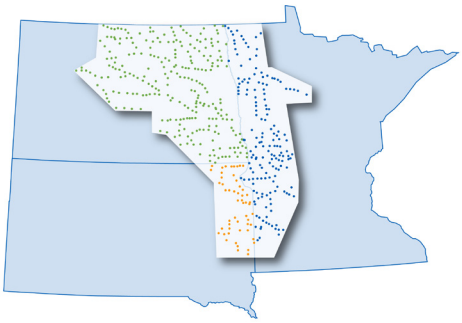
wolson@otpco.com

2019 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.**



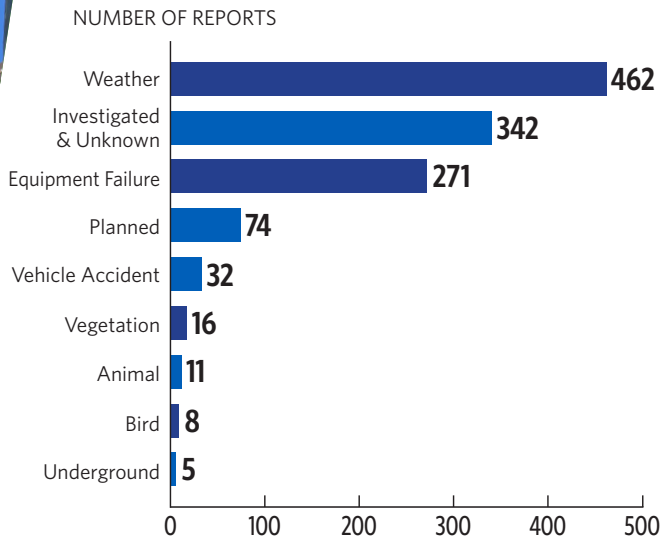
Communities: 422
Average population: 400

SYSTEM RELIABILITY

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 are the average number of interruptions and average length of time our customers were without power.

What causes interruptions?



Keeping our lines clear of trees and other vegetation helps ensure safe and reliable power. We trimmed 900 miles of transmission and power lines in 2019.

There are **8,760 HOURS** in one year. That's

525,600 TOTAL MINUTES

THINK ABOUT THIS

In 2019, our customers experienced an average of only

124 MINUTES without power

and an average of less than 2 interruptions

LONGER THAN 5 MINUTES

OUTAGE PREVENTION

As part of our long-term reliability strategy, we perform critical analyses of our transmission and distribution systems to identify areas requiring proactive maintenance. We've also implemented a new interruption monitoring system.

Our plans for improving reliability include:

- integrating geographic information system data
- strengthening the electrical system
- developing continuous improvement workshops to improve efficiencies and processes.

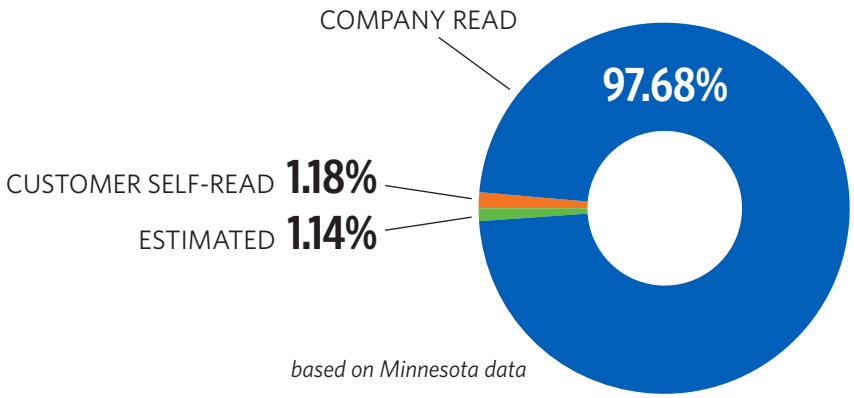
CUSTOMER SERVICE TEAM

If there is a power outage, our customer service team is dispersed throughout the communities we serve. In 2019 we had **185 lineman and service representatives** available to safely and quickly restore power to our customers. And our customer service representatives answered **83% of incoming phone calls during business hours within 20 seconds.**

HIGH SERVICE STANDARDS

Company read meters

We also read almost all of our residential meters to ensure accuracy in billing.



based on Minnesota data

MOVING? WE TURN ON ELECTRICITY QUICKLY!

94%

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

CERTIFICATE OF SERVICE

RE: In the Matter of Otter Tail Power Company 2019 Annual Safety, Reliability and Service Quality Report and Proposed SAIFI, SAIDI and CAIDI Reliability Standards for 2020
Docket No. E017/M-20-

I, Carly Haiby, 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, 2020

/s/ CARLY HAIBY
Carly Haiby, Regulatory Filing Coordinator
Otter Tail Power Company
215 South Cascade Street
Fergus Falls MN 56537
(218) 739-8472

First Name	Last Name	Email	Company Name	Address	Delivery Method	View Trade Secret	Service List Name
Christopher	Anderson	canderson@allete.com	Minnesota Power	30 W Superior St Duluth, MN 558022191	Electronic Service	No	GEN_SL_Otter Tail Power Company_GEN_SL_Otter Tail Power Company_SRSQ 2019 Report
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_GEN_SL_Otter Tail Power Company_SRSQ 2019 Report
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_GEN_SL_Otter Tail Power Company_SRSQ 2019 Report
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_GEN_SL_Otter Tail Power Company_SRSQ 2019 Report
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_GEN_SL_Otter Tail Power Company_SRSQ 2019 Report
Shane	Henriksen	shane.henriksen@enbridge.com	Enbridge Energy Company, Inc.	1409 Hammond Ave FL 2 Superior, WI 54880	Electronic Service	No	GEN_SL_Otter Tail Power Company_GEN_SL_Otter Tail Power Company_SRSQ 2019 Report
Douglas	Larson	dlarson@dakotaelectric.com	Dakota Electric Association	4300 220th St W Farmington, MN 55024	Electronic Service	No	GEN_SL_Otter Tail Power Company_GEN_SL_Otter Tail Power Company_SRSQ 2019 Report
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_GEN_SL_Otter Tail Power Company_SRSQ 2019 Report
Kavita	Maini	kmaini@wi.rr.com	KM Energy Consulting, LLC	961 N Lost Woods Rd Oconomowoc, WI 53066	Electronic Service	No	GEN_SL_Otter Tail Power Company_GEN_SL_Otter Tail Power Company_SRSQ 2019 Report
Andrew	Moratzka	andrew.moratzka@stoel.com	Stoel Rives LLP	33 South Sixth St Ste 4200 Minneapolis, MN 55402	Electronic Service	No	GEN_SL_Otter Tail Power Company_GEN_SL_Otter Tail Power Company_SRSQ 2019 Report

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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_GEN_SL_Otter Tail Power Company_SRSQ 2019 Report
Larry L.	Schedin	Larry@LLSResources.com	LLS Resources, LLC	332 Minnesota St, Ste W1390 St. Paul, MN 55101	Electronic Service	No	GEN_SL_Otter Tail Power Company_GEN_SL_Otter Tail Power Company_SRSQ 2019 Report
Will	Seuffert	Will.Seuffert@state.mn.us	Public Utilities Commission	121 7th Pl E Ste 350 Saint Paul, MN 55101	Electronic Service	No	GEN_SL_Otter Tail Power Company_GEN_SL_Otter Tail Power Company_SRSQ 2019 Report
Cary	Stephenson	cStephenson@otpco.com	Otter Tail Power Company	215 South Cascade Street Fergus Falls, MN 56537	Electronic Service	No	GEN_SL_Otter Tail Power Company_GEN_SL_Otter Tail Power Company_SRSQ 2019 Report
Stuart	Tommerdahl	stommerdahl@otpco.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_GEN_SL_Otter Tail Power Company_SRSQ 2019 Report