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August 15, 2024



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

**RE: In the Matter of Otter Tail Power Company 2023 Annual Safety, Reliability and Service Quality Report and Proposed SAIFI, SAIDI and CAIDI Reliability Standards for 2024  
Docket No. E017/M-24-30  
IEEE Supplemental Filing**

Dear Mr. Seuffert:

Otter Tail Power Company (Otter Tail) submits this IEEE Supplemental filing in the above-referenced matter in compliance with ordering paragraph 3 of the Minnesota Public Utilities Commission's Order dated December 5, 2023, in Docket No. E017/M-23-76 (In the matter of Otter Tail Power Company's 2022 Annual Safety, Reliability and Service Quality Report and Proposed SAIFI, SAIDI and CAIDI Reliability Standards for 2023 and future standards).

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

The attached IEEE 2023 Benchmark Reliability Survey results were completed July 23, 2024. Note that the 2023 IEEE Benchmark Results include all utilities, small, medium and large, thus the results shown below include all utilities and no breakdown by size was included.

**Table 1** shows Otter Tail's 2023 normalized SAIFI, CAIDI and SAIDI results based on the IEEE 2.5 Beta Method for the entire Minnesota system and work centers, compared with

the IEEE benchmarking second quartile for all responding utilities. Otter Tail’s **2023 results were gathered by our Interruption Monitoring System which captures customer minutes and sustained customer interruptions at the feeder level.**

**Table 1**

	<b>SAIDI IEEE</b>	<b>SAIFI IEEE</b>	<b>CAIDI IEEE</b>
<b>2023 IEEE Benchmark Median</b>	119	0.98	136
<b>Bemidji</b>	106.29	1.94	54.73
<b>Crookston</b>	128.63	1.7	75.57
<b>Fergus Falls</b>	70.96	1.04	68.24
<b>Morris</b>	135.71	1.61	84.15
<b>MN Total</b>	96.28	1.38	69.89

SAIFI, the measurement of interruption frequency, exceeds the IEEE benchmark median results for all utilities due to the fact we serve several rural communities with low customer densities. This rural demographic requires greater system exposure, i.e. greater transmission distances, when compared to most of the benchmark survey participants. As noted in previous Otter Tail SRSQ filings, we are currently in the process of migrating to more granular interruption data from our reporting in the 2024 timeframe. At that time, it’s expected we will see impacts to all metrics.

Regarding the excessive SAIDI results for Crookston and Morris, Otter Tail believes that if the benchmark survey had broken down results by utility size, the results would have met the 2<sup>nd</sup> quartile median for medium sized utilities. For example, 2022 2<sup>nd</sup> quartile SAIDI IEEE medium sized utility results were 143 minutes.

Also included in this supplemental filing is Otter Tail’s response to Information Request MN-DOC-007, Docket No. E017-M-24-30. Specifically: *Provide the 2023 OMS system data for SAIDI, SAIFI, and CAIDI using the 2.5 Beta Method for each CSC and the enter Minnesota System (if available).*

Otter Tail’s original response did not include indices for our Minnesota System. These are included in **Table 2.**

**Table 2**

**OMS 2.5 Beta  
2023**

<b>CSC</b>	<b>CAIDI</b>	<b>SAIDI</b>	<b>SAIFI</b>
<b>Bemidji</b>	87.29	106.46	1.22
<b>Crookston</b>	101.17	163.59	1.62
<b>Fergus Falls</b>	99.8	194.21	1.95
<b>Morris</b>	150.36	203.51	1.35
<b>MN Total</b>	101.77	178.86	1.76

Otter Tail has electronically filed this document with the Minnesota Public Utilities Commission and on all persons on the official service list for the above-referenced docket. A Certificate of Service is also enclosed.

Please contact me at (218) 739-8552 or [rjensen@otpc.com](mailto:rjensen@otpc.com), should you have any questions.

Sincerely,

*/s/ ROD D. JENSEN*  
Rod D. Jensen  
Senior Reliability Engineer

lcd  
Enclosures  
By electronic filing  
c: Service List





# IEEE Benchmark Year 2024 Results for 2023 Data

2024 Distribution Reliability Working Group Meeting

July 23, 2024 Seattle, WA

# History of the Study

## Background

- 1. Initiated in 2003, conducted annually*
- 2. Participants are anonymous with key identifier to retain anonymity*
- 3. Participation list is not revealed to anyone*
- 4. Each participant can choose to share their results*
- 5. No inference is made about good or bad reliability*
- 6. Intended to provide information for users to assess their performance relative to peers*
- 7. Called the 2024 Study (for 2023 Results)*

# Benchmarking

**Using annual key metrics (SAIDI, SAIFI and CAIDI) to assess performance of a system may be useful, however, needs to be tempered with judgment**

DRWG Study attempts to identify various aspects that could cause a difference in reported metrics

Data may not be directly comparable, since

- Data collection & system differences exist
- Certain exclusion differences can occur, although we strive to have the differences minimized
- No exclusions for performance beyond catastrophic event day levels which could influence trend in subsequent years and then roll off

IEEE 1366-2003/2012/2022

- addresses data issues by clearly defining the rules (i.e. what data should be excluded)
- It **DOES NOT** address the data collection issues
- Companies may not report all forms of outages, due to data collection issues or other reasons





# 2024 Benchmark Results

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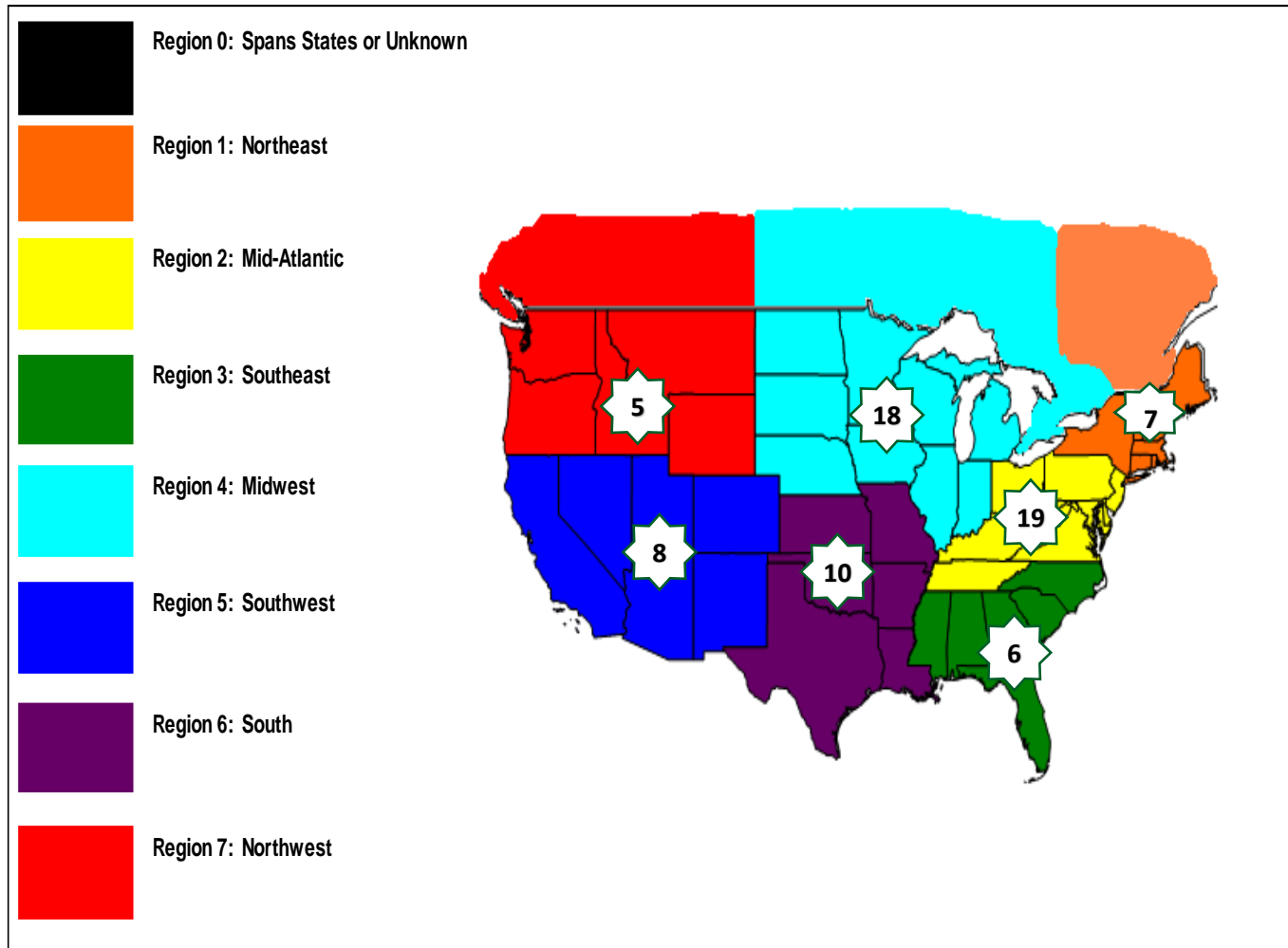
For calendar data 2023

# Regions represented by the participants

## 2024 Benchmark Study

Reports on reliability for just over 70 million customers (74,266,805) represented by 73 operating companies with sizes grouped by:

- Small  $\leq 100$  k
- Medium  $< 1$  m
- Large  $> 1$  m





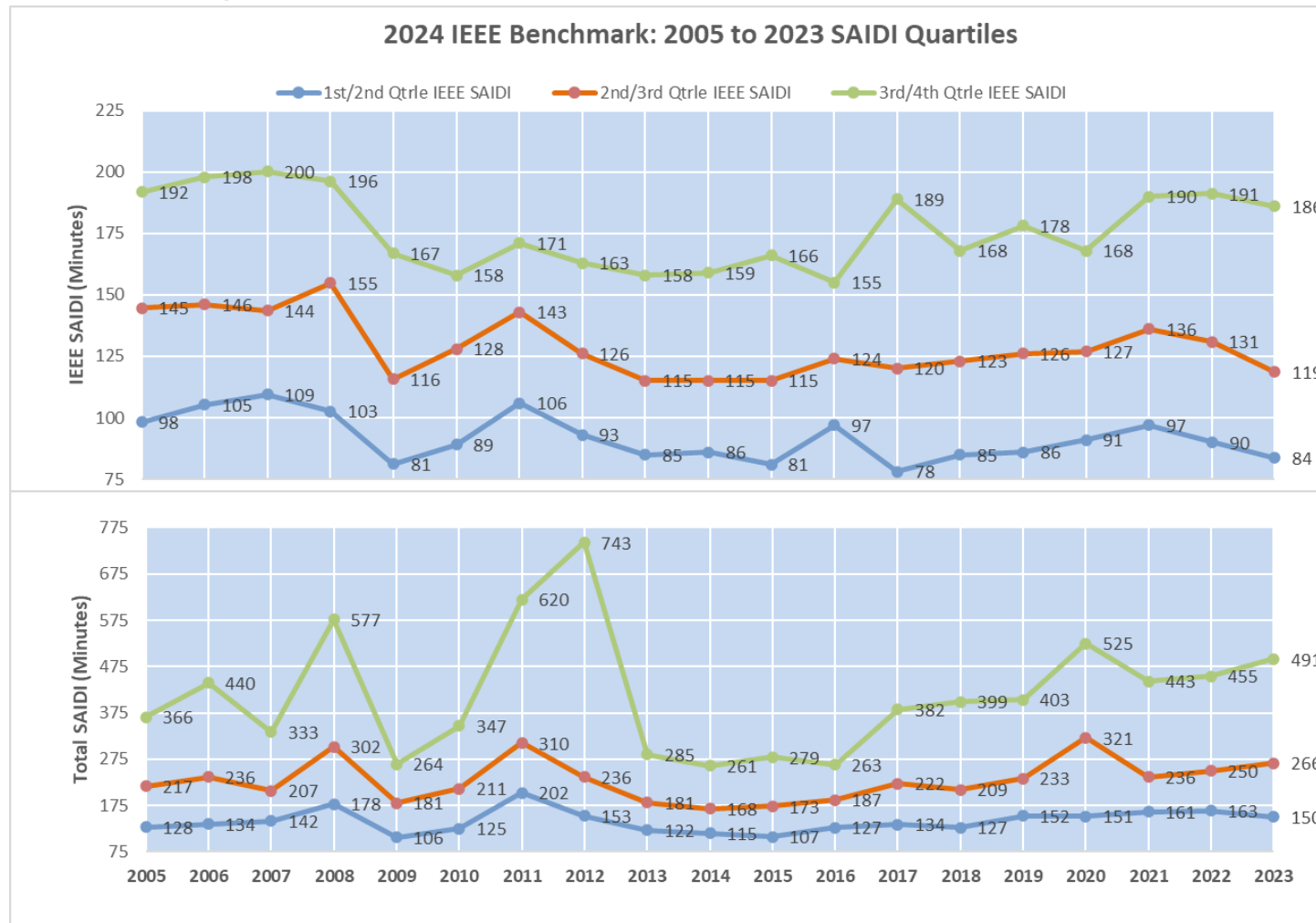
# Respondents in 2024: 73

Quartile All	ALL	73	SAIDI ALL	SAIDI IEEE	SAIDI WOF	SAIDI WOP	SAIFI ALL	SAIFI IEEE	SAIFI WOF	SAIFI WOP	CAIDI ALL	CAIDI IEEE	CAIDI WOF	CAIDI WOP
0		MIN	37	24	24	24	0.06	0.06	0.06	0.06	69	61	61	58
1		Q1	150	84	80	74	0.95	0.70	0.65	0.58	156	109	112	108
2		MEDIAN	266	119	110	94	1.27	0.98	0.86	0.78	192	136	140	140
3		Q3	491	186	182	156	1.64	1.27	1.22	1.08	306	154	158	157
4		MAX	2822	401	401	349	5.07	3.45	2.84	2.64	1032	589	562	562

# Results in 2023: 74 Respondents

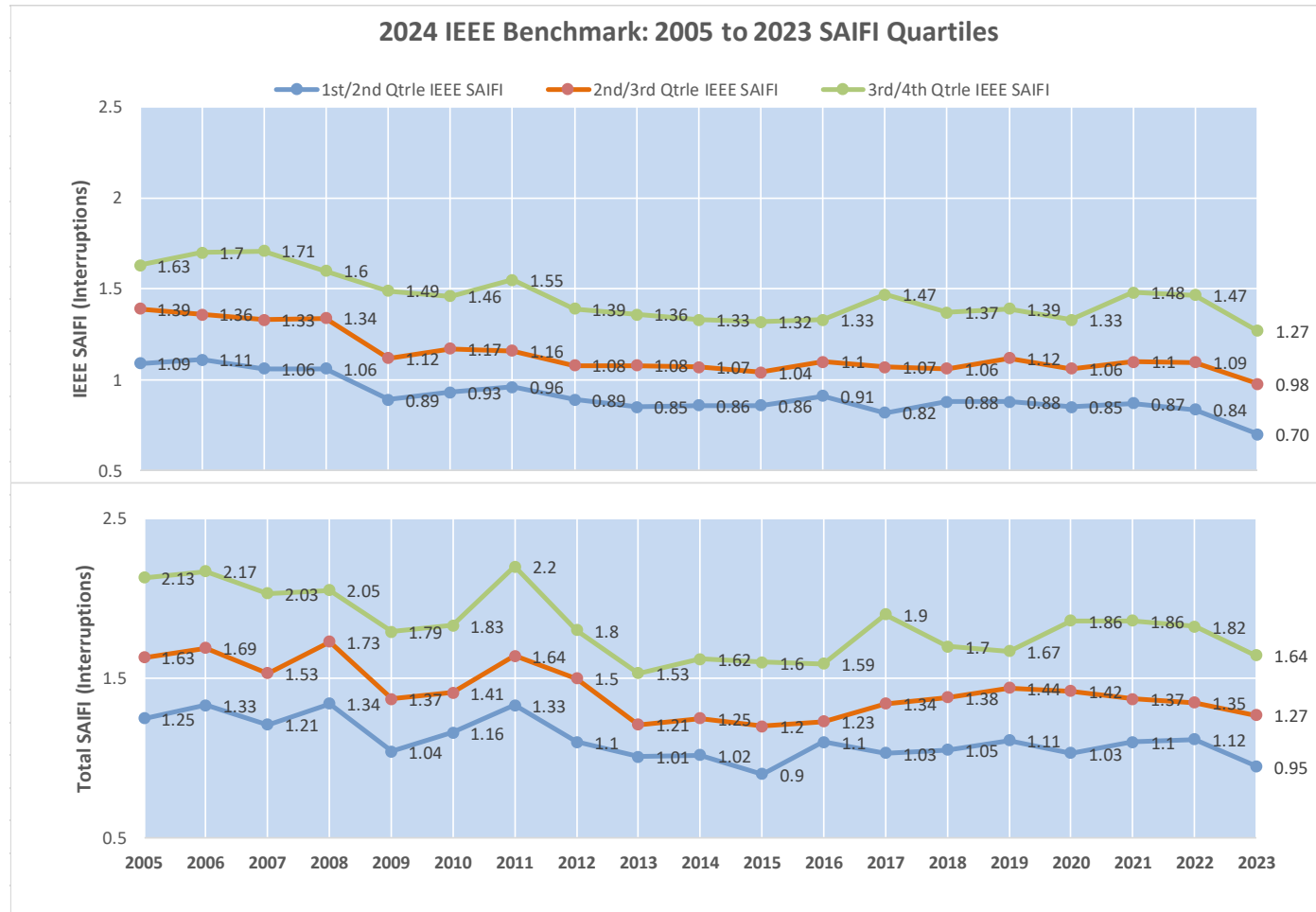
ALL	74	SAIDI ALL	SAIDI IEEE	SAIDI WOF	SAIDI WOP	SAIFI ALL	SAIFI IEEE	SAIFI WOF	SAIFI WOP	CAIDI ALL	CAIDI IEEE	CAIDI WOF	CAIDI WOP
	MIN	38	22	22	22	0.39	0.20	0.20	0.20	42	39	42	41
	Q1	163	90	86	84	1.12	0.84	0.77	0.68	138	106	109	107
	MEDIAN	250	131	119	111	1.35	1.09	0.93	0.86	183	128	133	134
	Q3	455	191	171	158	1.82	1.47	1.25	1.14	277	149	155	153
	MAX	1711	582	556	518	4.15	2.45	2.42	2.05	603	275	279	289

# Historic SAIDI Quartiles Without Major Events & Total



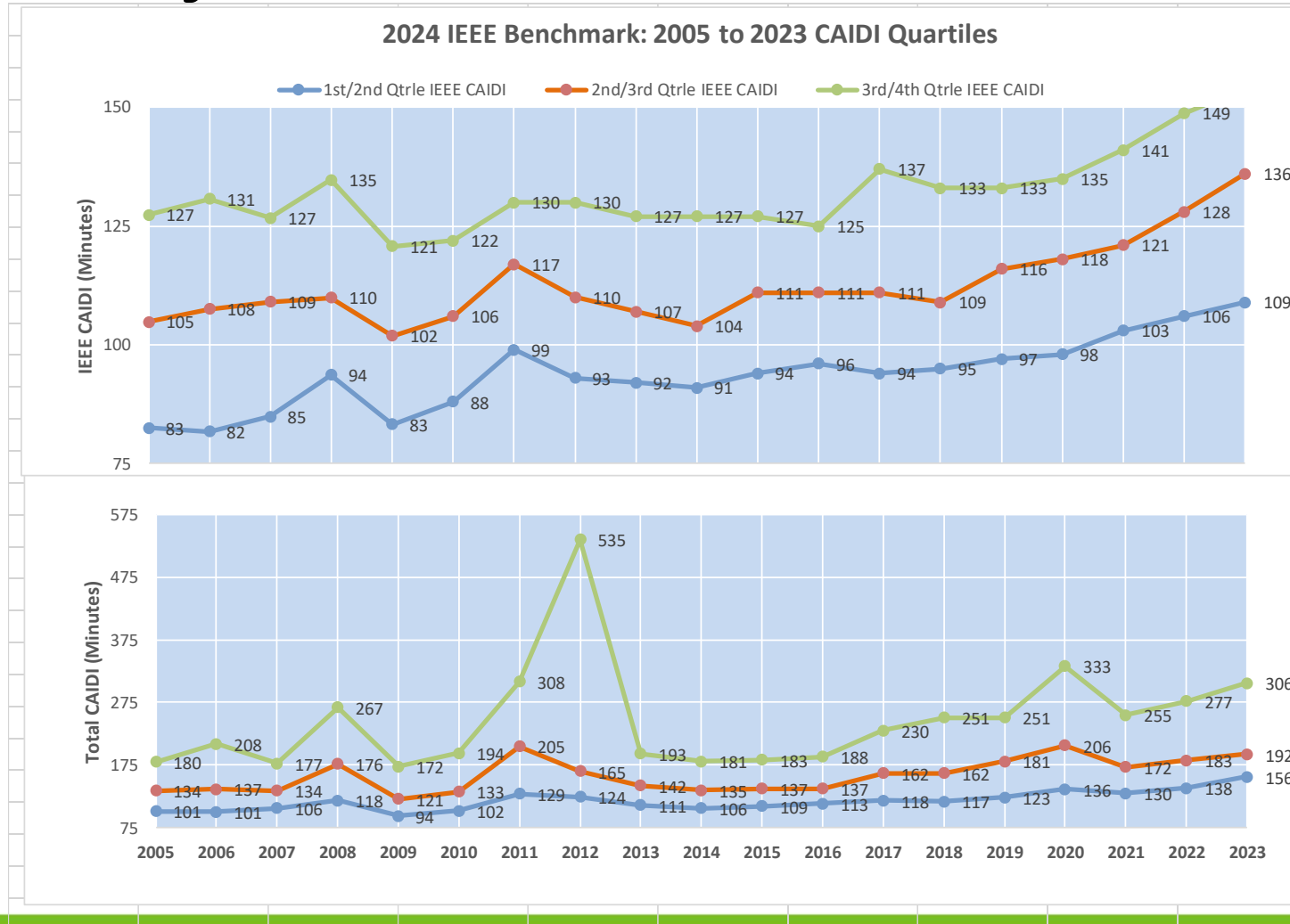
# Historic SAIFI Quartiles

## Without Major Events & Total

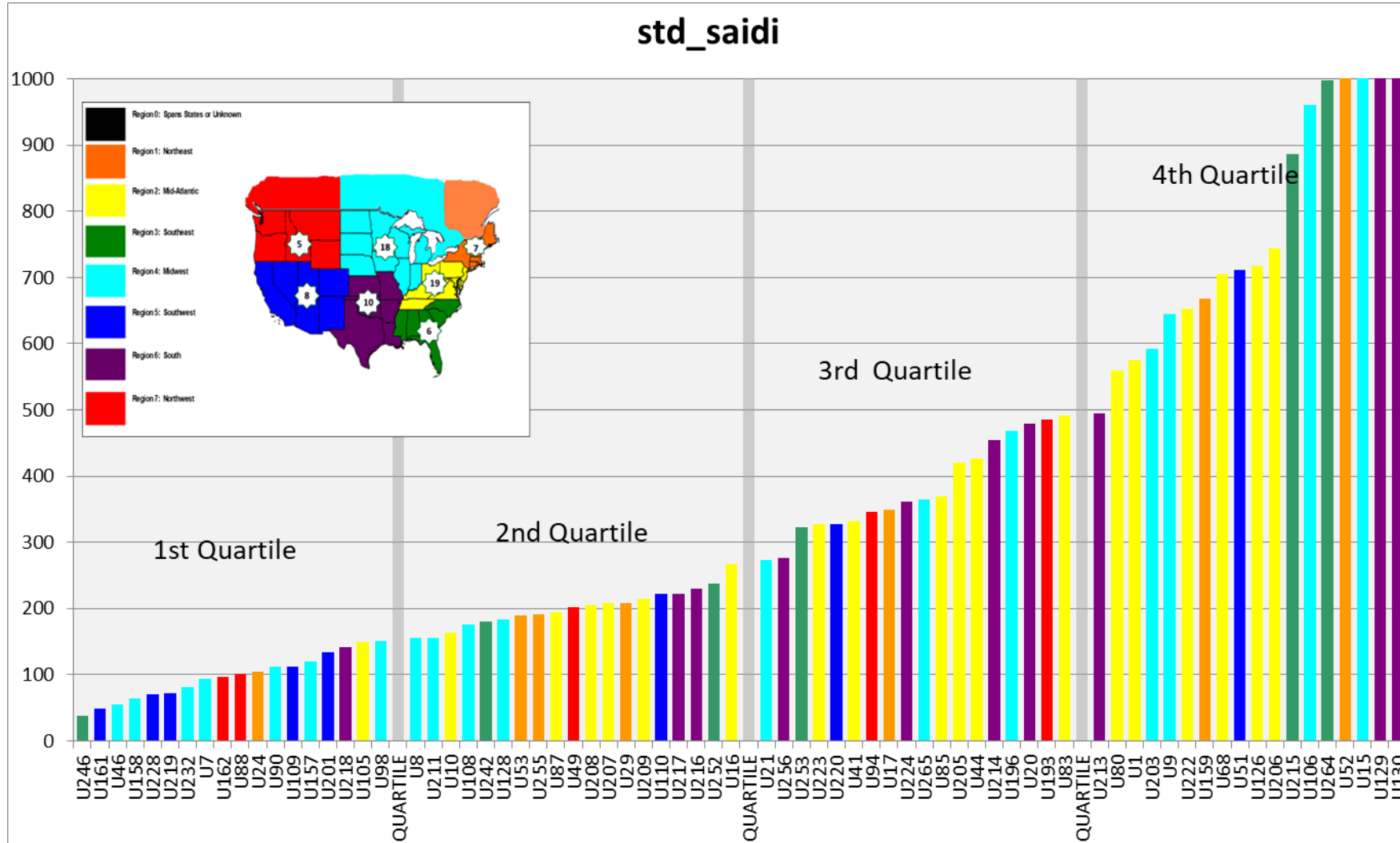


# Historic CAIDI Quartiles

## Without Major Events & Total

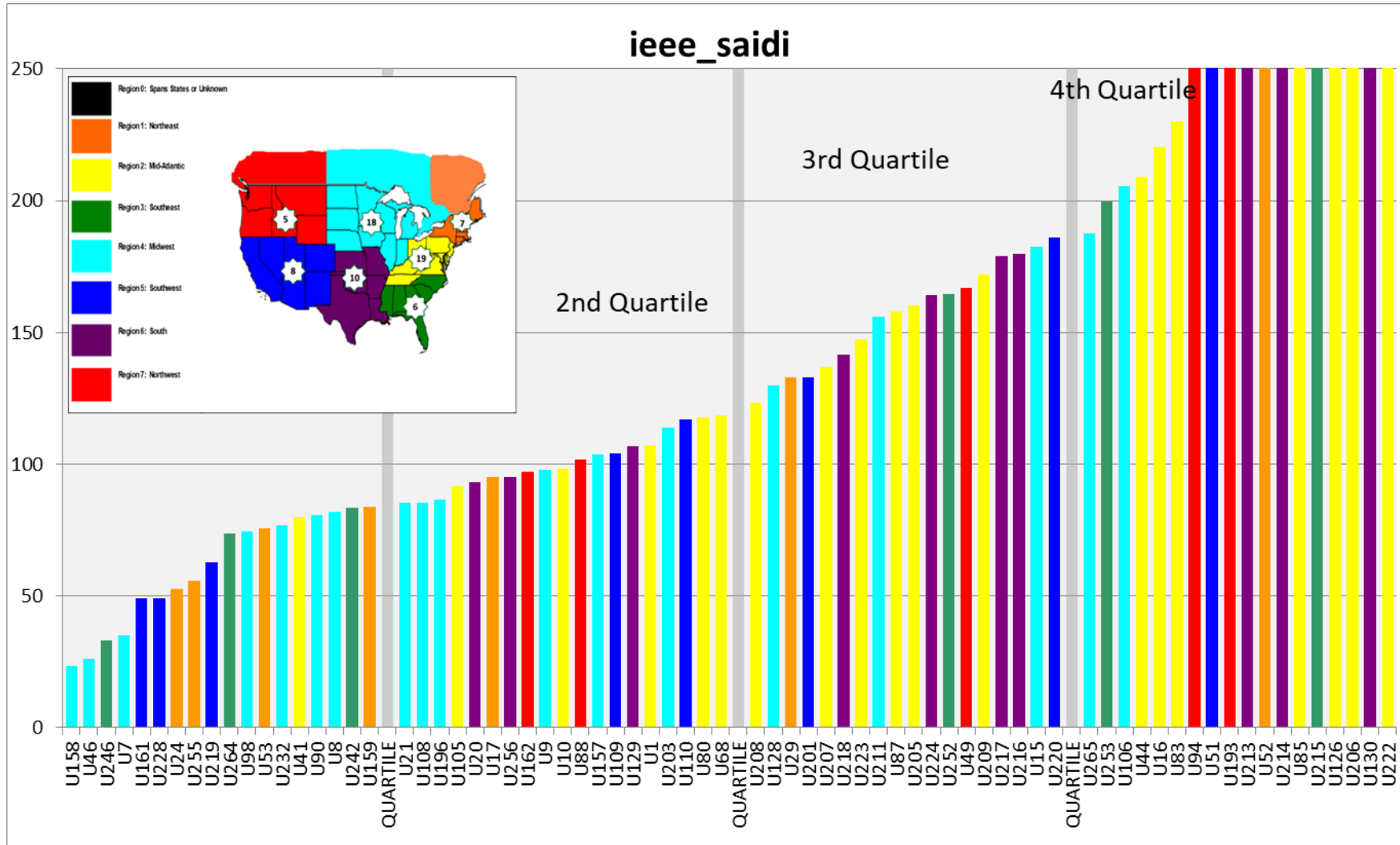


# Total SAIDI

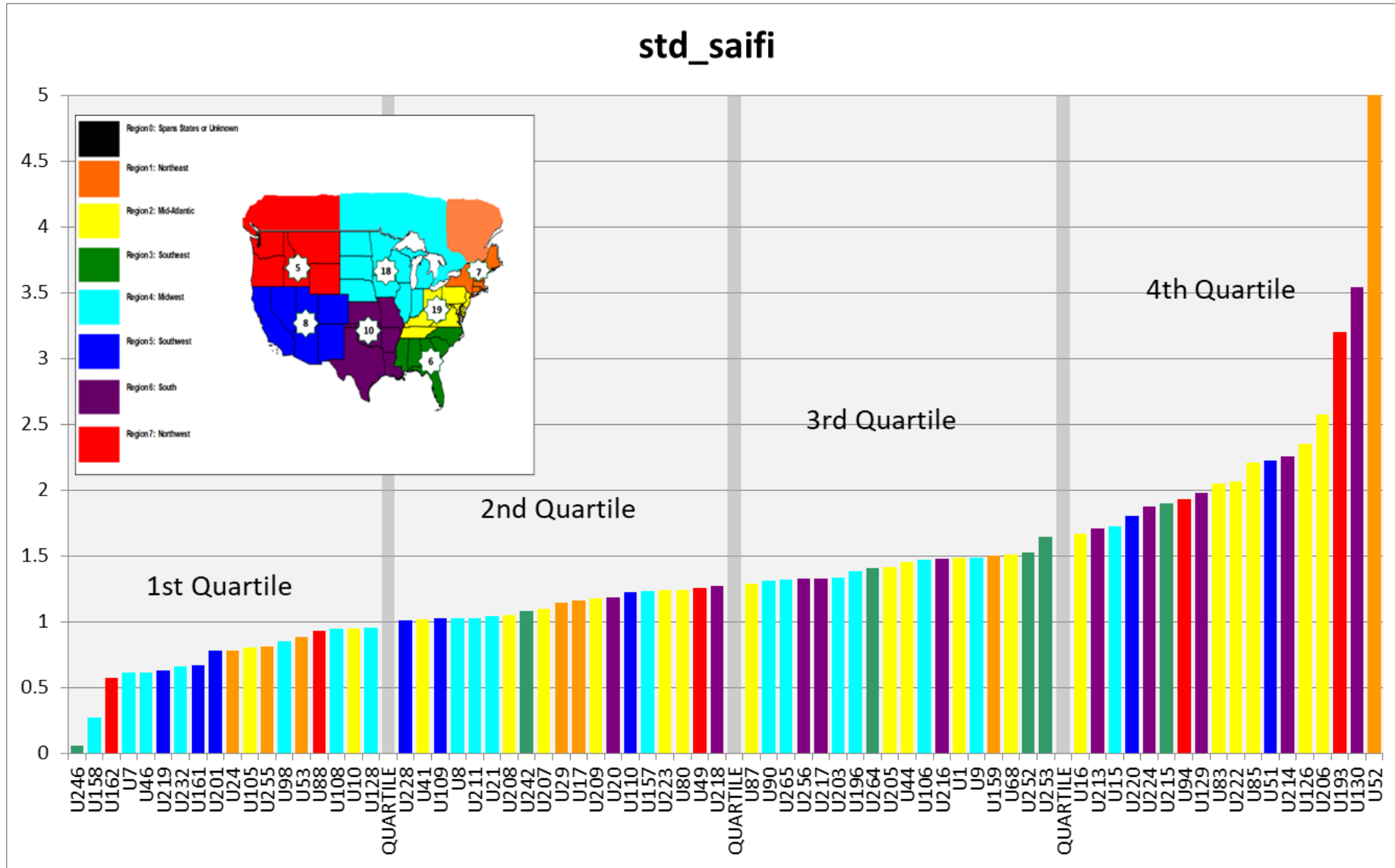




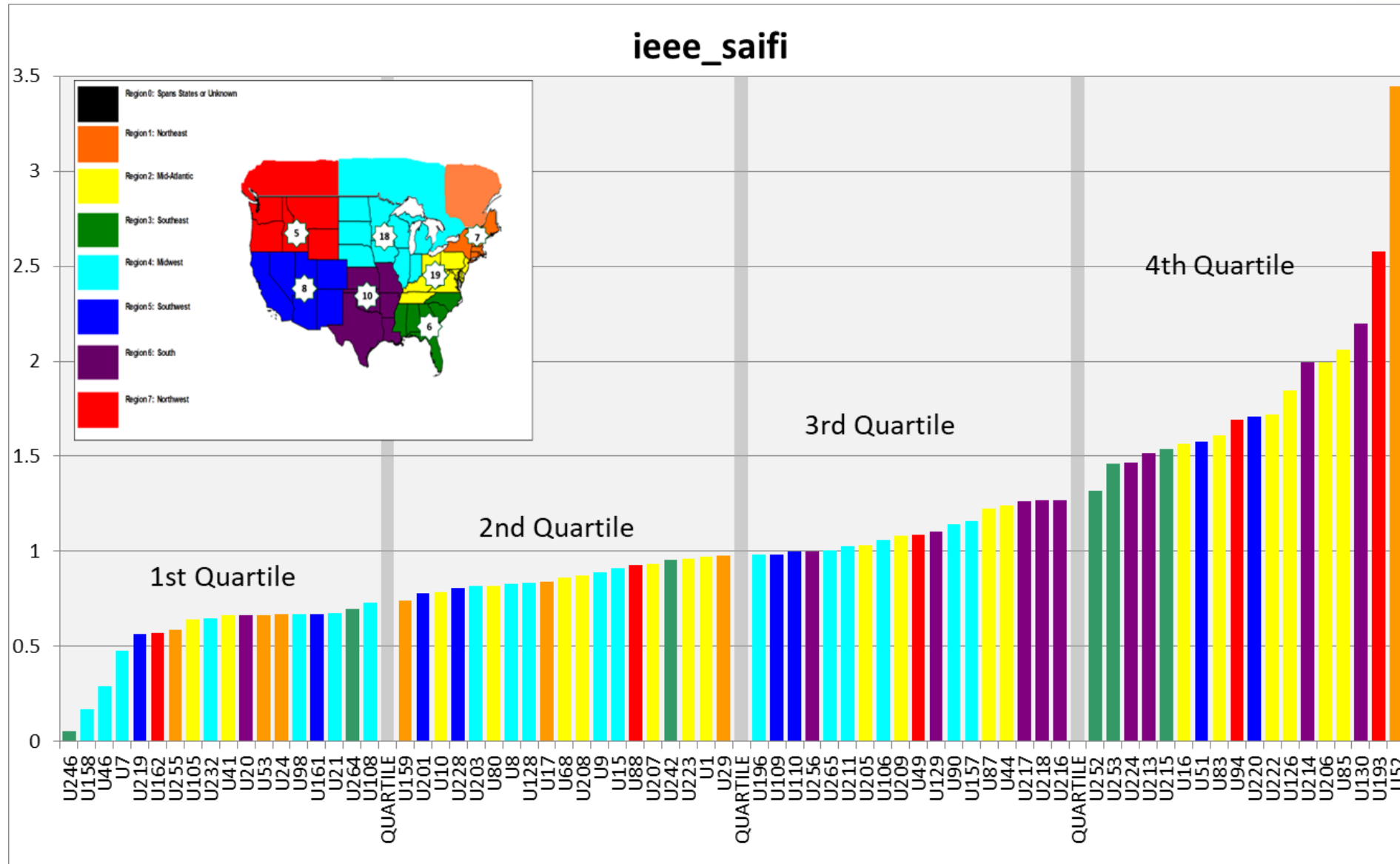
# IEEE SAIDI



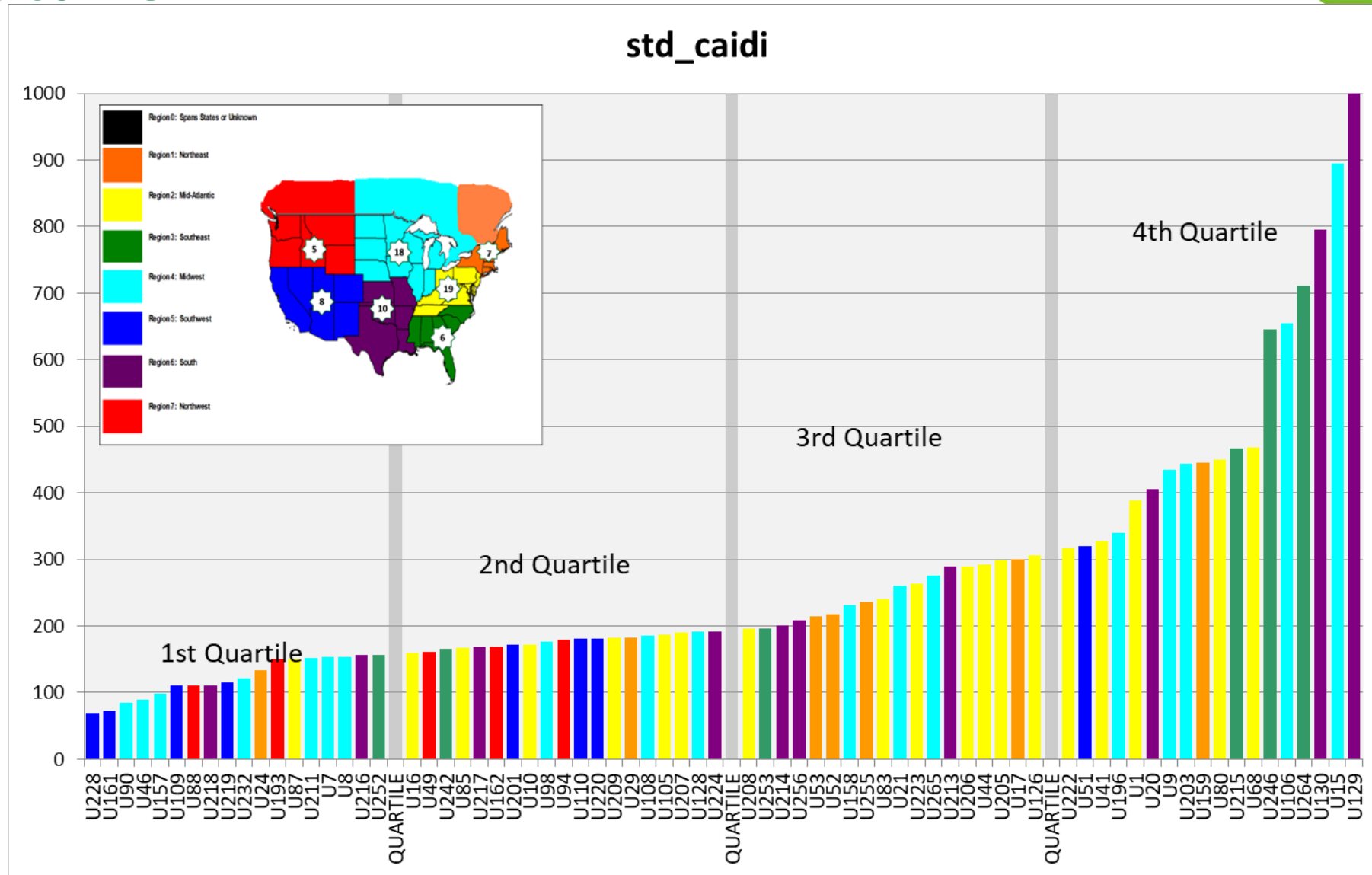
# Total SAIFI



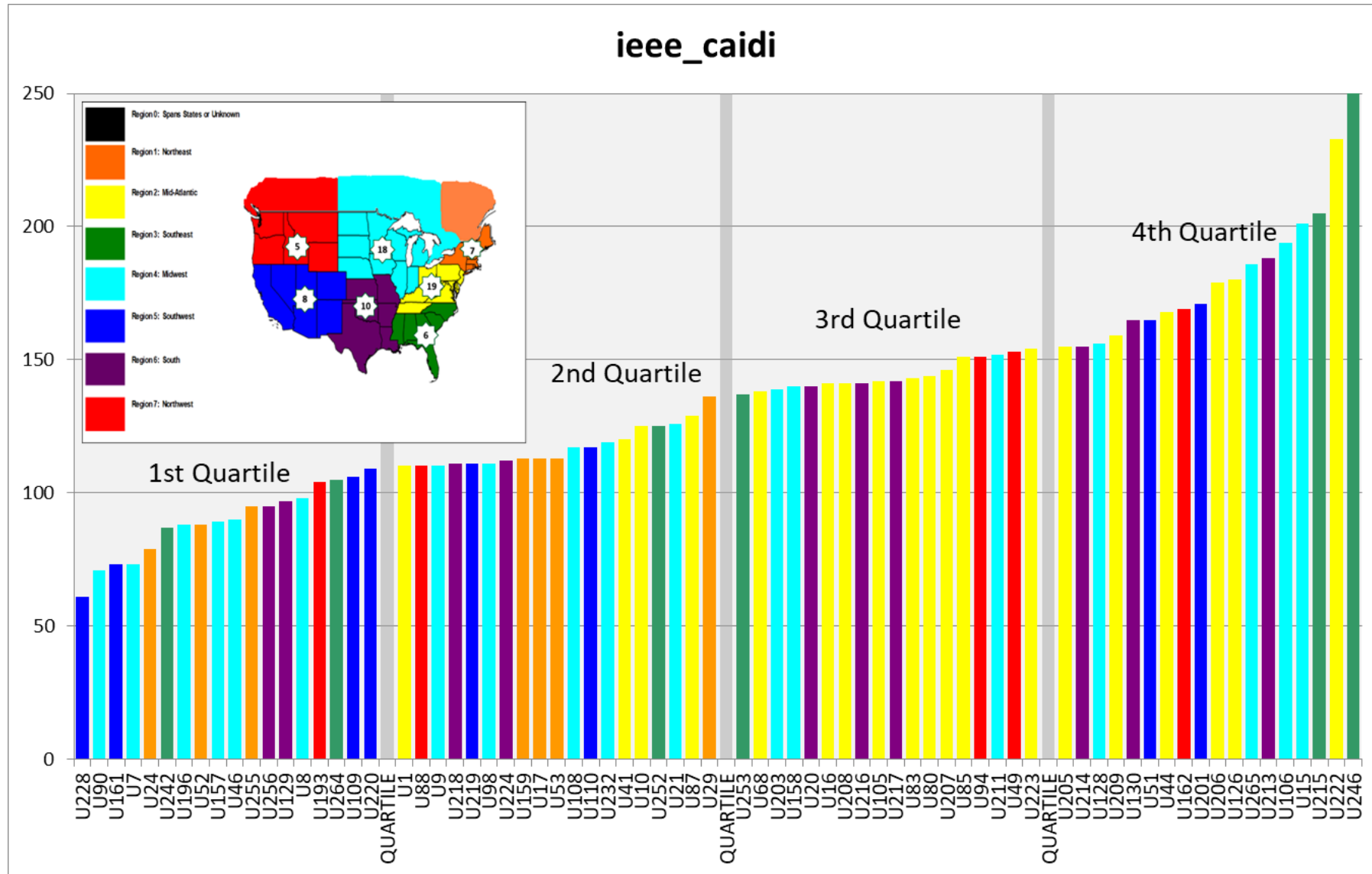
# IEEE SAIFI



# Total CAIDI



# Total CAIDI





# Questions



OTTER TAIL POWER COMPANY

Docket No: E017-M-24-30

Response to: MN Department of Commerce

Analyst: Mary Beth Kehrwald

Date Received: May 02, 2024

Date Due: May 13, 2024

Date of Response: May 13, 2024

Responding Witness: Mike Riewer, Manager, System Infrastructure & Reliability

(218) 739-8565

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Information Request:

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

Attachments: 0

Response:

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

C.

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

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

## CERTIFICATE OF SERVICE

**RE: In the Matter of Otter Tail Power Company 2023 Annual Safety, Reliability and Service Quality Report and Proposed SAIFI, SAIDI and CAIDI Reliability Standards for 2024  
Docket No. E017/M-24-30**

I, Laura Dewey, 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  
IEEE Supplemental Filing**

Dated this 15<sup>th</sup> day of August, 2024.

/s/ LAURA DEWEY

Laura Dewey  
Regulatory Filing Coordinator  
Otter Tail Power Company  
215 South Cascade Street  
Fergus Falls MN 56537  
(218) 739-8604

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Generic Notice	Commerce Attorneys	commerce.attorneys@ag.state.mn.us	Office of the Attorney General-DOC	445 Minnesota Street Suite 1400  St. Paul, MN 55101	Electronic Service	Yes	OFF_SL_24-30_Official
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Kavita	Maini	kmains@wi.rr.com	KM Energy Consulting, LLC	961 N Lost Woods Rd  Oconomowoc, WI 53066	Electronic Service	No	OFF_SL_24-30_Official
Andrew	Moratzka	andrew.moratzka@stoel.com	Stoel Rives LLP	33 South Sixth St Ste 4200  Minneapolis, MN 55402	Electronic Service	No	OFF_SL_24-30_Official

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