



*Water Works and Lighting Commission*

*221 16<sup>th</sup> Street South P.O. Box 399 Wisconsin Rapids, WI 54495-0399 715/423-6300 FAX: 715/423-2831*

**AGENDA**

There will be a Regular Meeting of the Water Works and Lighting Commission in the conference room on Wednesday, February 8, 2023, at 2:00 PM.

Listed below is the agenda for this meeting.

1. Call to order
2. Approval, additions, or corrections to the minutes of the following meeting
  - 2.1. Regular Commission Meeting held January 11, 2023
  - 2.2. Special Commission Meeting held January 24, 2023
3. Action items
4. Department updates
  - 4.1. Safety Committee
  - 4.2. Line Superintendent
  - 4.3. Water Department Operations
  - 4.4. Customer Support Supervisor
  - 4.5. Director of Finance
  - 4.6. Information Systems Administrator
  - 4.7. Conservation Manager
  - 4.8. Electrical Engineer
  - 4.9. Director of Engineering & Electric Operations
  - 4.10. General Manager
5. Review of accounts payable
6. Adjourn

*If given 72 hours' notice, efforts will be made by the General Manager's office to accommodate the needs of disabled individuals through sign language interpreters and other auxiliary aids.*

Regular Meeting of the Water Works and Lighting Commission  
Wednesday, January 11, 2023

**There were present:**

Commissioner Jay Bemke  
Commissioner John Bergin  
Commissioner John Harper  
Commissioner Rick Merdan

Also in attendance: Roxanne Gronski, Jeff Kuhn, Josh Elliott, Lynn Schroer, Adam Breunig, Shawn Reimer, and Matt Stormoen.

**1. Call to Order**

Chairman John Bergin called the meeting to order at 2:00 PM. Commissioner Jeff Penzkover asked to be excused from today's meeting.

**2. Approval, additions or corrections to the minutes of the following meeting**

**2.1 Regular Commission Meeting held December 14, 2022**

There was a motion made by Rick Merdan, seconded by John Harper, and carried to approve the minutes of the Regular Commission Meeting held on December 14, 2022, and to place them on file. There were no nay votes recorded.

**2.2 Special Commission Meeting held December 19, 2022**

There is a correction to the minutes of the Special Commission Meeting of December 19, 2022, to show that the meeting was called to order by Chairperson John Bergin. With that correction made, there was a motion made by Jay Bemke, seconded by Rick Merdan, and carried to approve the minutes of the Special Commission Meeting held on December 19, 2022, and to place them on file. There were no nay votes recorded.

**3. Action items**

**3.1** There were no action items.

**4.0 Department updates**

**4.1 Safety Committee Report**

The commissioners reviewed the December safety committee report and

the safety coordinator's monthly report.

#### **4.2 Line Superintendent's Report**

This report was reviewed and discussed. Josh Elliott answered questions regarding the number of trouble slips, work orders and call-ins for December. Josh stated that the electric inventory has been completed and no major discrepancies were found.

#### **4.3 Water Department Operations Report**

This report was reviewed and the December water projects were discussed. Adam Breunig answered questions regarding the chart of the last 5-year water depths at monitoring wells.

#### **4.4 Customer Support Supervisor's Report**

This report was reviewed and discussed. Lynn Schroer answered questions regarding the various programs that are available to WW&LC to help in the collection of past due accounts receivables.

#### **4.5 Director of Finance's Report**

This report was reviewed and there was a lengthy discussion regarding the financial statements.

#### **4.6 Information System's Administrator's Report**

This report was reviewed and Matt Stormoen answered questions regarding upcoming projects.

#### **4.7 Conservation Manager's Report**

This report was reviewed and discussed. Shawn Reimer answered questions regarding a meeting he attended with WRPS Maintenance Superintendent to explore CLOCworks and what they had to offer the school district. CLOCworks is an electric analytics company, that uses detection and diagnostic software to save on energy costs by enhancing operations and improving their building's performance.

#### **4.8 Electrical Engineer's Report**

This report was reviewed and discussed. Josh Elliott answered questions regarding the annual inspection of transformer equipment. This is a contracted

service that if we were to do inhouse would involve a very large outlay of money for the equipment and vacuum pumps that would be required.

#### **4.9 Director of Engineering & Electric Operations**

This report was reviewed and discussed. Jeff Kuhn answered questions regarding the electrical projects that were completed in 2022 and stated that even with the increase in material costs we were able to stay under the budget.

#### **4.10 General Manager's Report**

This report was reviewed and discussed. Jeff Kuhn answered questions regarding ACES, GLU's power supply services provider beginning in July of 2023.

#### **5. Review of accounts payables**

A listing of all invoices and checks covering December was provided to the commission for review.

#### **6. Adjourn**

There was a motion made by Rick Merdan, seconded by John Harper, and carried to adjourn at 2:29 PM. No nay votes were recorded.

Respectfully submitted,

Rick Merdan, Secretary

Special Meeting of the Water Works and Lighting Commission  
Tuesday, January 24, 2023

**There were present:**

Commissioner Jay Bemke  
Commissioner John Bergin  
Commissioner John Harper  
Commissioner Jeff Penzkover

Also in attendance: Jem Brown, Jeff Kuhn, Todd Weiler, and Josh Elliott.

**1. Call to Order**

Chairman John Bergin called the meeting to order at 8:30 AM. Commissioner Rick Merdan was excused from today's meeting.

**2. Investment report update by Ehlers**

Tammi Olszewski, Senior Investment Advisor with Ehlers, presented a review of the WW&LC investment portfolio.

**3. Policy review and changes**

Updates to policies were reviewed and discussed. Policies were tabled for future discussion.

**4. Review and approve electric rate case application**

Director of Finance Jeff Kuhn discussed the electric rate case process and application. After several questions and comments, there was a motion by John Harper, seconded by Jeff Penzkover, and carried to approve the filing of the rate application. No nay votes were recorded.

**5. Adjourn**

There was a motion made by Jay Bemke, seconded by John Harper, and carried to adjourn at 9:36 AM. No nay votes were recorded.

Respectfully submitted,

John Harper, Acting Secretary



**Wisconsin Rapids Water Works & Lighting Commission  
January 2023**

Prepared By: Sean T. Wall, MEUW Senior Regional Safety Coordinator

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## SAFETY REPORT

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### **ACCOMPLISHMENTS**

#### **1. Training**

- a. Bloodborne Pathogens safety training (Electric & Water crews)
  - i. Also discussed Mall of America shooting incident over Christmas holiday season
  - ii. Also discussed NFL CPR incident with player that needed CPR on the field

#### **2. Audits/Inspections**

- a. No audits conducted

#### **3. Compliance/Risk Management**

- a. Attended Safety Committee meeting
- ~~b. Attended Commission meeting~~
  - i. Was not able to attend Commission meeting due to annual MEUW conference
- c. Bloodborne Pathogens written safety program sent out for review at Safety Committee

### **GOALS AND OBJECTIVES**

#### **1. Training**

- a. Hearing Conservation & PPE safety training (Water & Electric)

#### **2. Audits/Inspections**

- a. No inspections planned

#### **3. Compliance/Risk Management**

- a. Attend Safety Committee meeting
- b. Attend Commission meeting
- c. Review Hearing Conservation written safety program for Safety Committee



*Water Works and Lighting Commission*

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**LINE SUPERINTENDENT'S REPORT  
January, 2023**

**Work Performed**

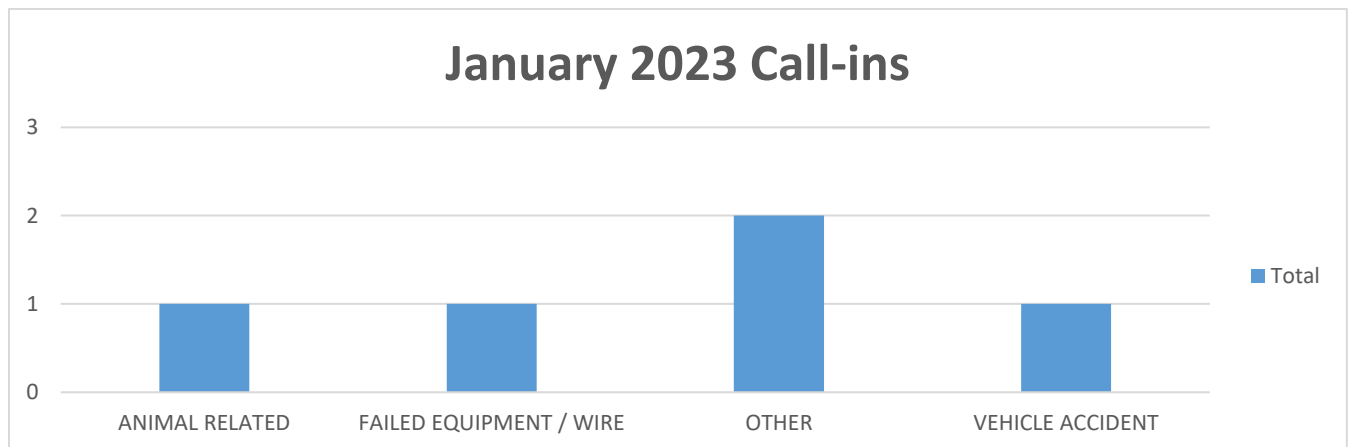
During January, the Electric Department processed 12 work orders, 4 electric service orders, and 56 trouble slips.

**Other Projects**

- Continued pole replacements.
- Continued tree trimming.
- Began 2023 construction season planning.

**After Hours Calls**

In December there were 5 after hour call-ins.



In January there were 5 after hour call-ins. The call-in for “Failed Equipment” was for a bad arrestor. The calls for “Other” were for a structure fire and a customer scheduled outage.

Respectfully submitted,

Josh Elliott  
Electric Line Superintendent



*Water Works and Lighting Commission*

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**WATER DEPARTMENT OPERATIONS REPORT  
January 2023**

**WATER PROJECTS**

During January, the water department worked on the following projects.

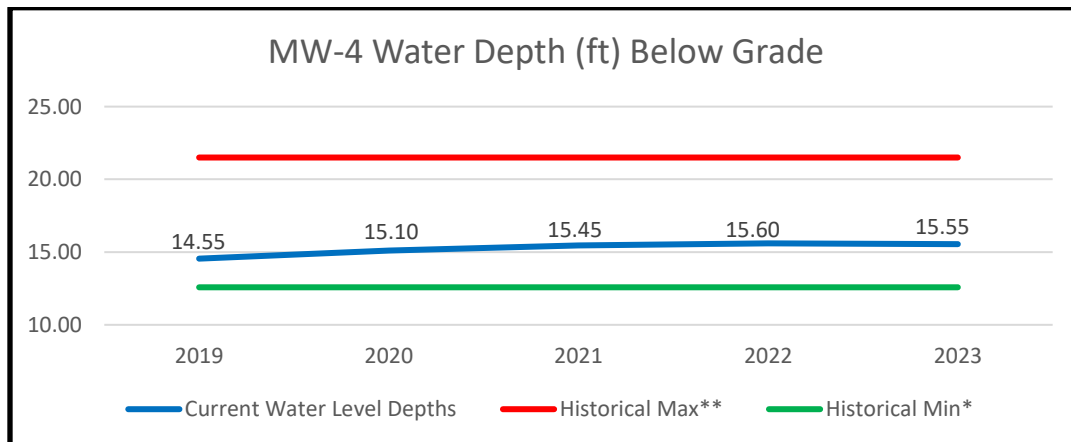
- Crews repaired an 8-Inch water main break located at 2711 Reddin Rd.
- Crews repaired a 6-Inch water main break located at 1611 Clark St.
- Crews repaired a 6-Inch water main break located at 438 Dewey St.
- Crews began the annual maintenance of the East Clarifier in the Water Treatment Plant.
- Contractors have begun the annual corrosion prevention maintenance in the Water Treatment Plant.

**TROUBLE CALLS**

The water meter crew responded to 36 trouble calls. Tested 16 meters.

**WATER DEPTHS AT MONITORING WELL (MW) 4 FOR THE LAST 5 YEARS**

The readings given below were taken during the last week of December of the year.



\* Historical minimum depth below grade for MW-4 was 12'-7" on July 2<sup>nd</sup>, 2004.

\*\* Historical maximum depth below grade for MW-4 was 21'-6" on September 11<sup>th</sup>, 2009.

Sincerely,

*Adam Breunig*

Water Superintendent



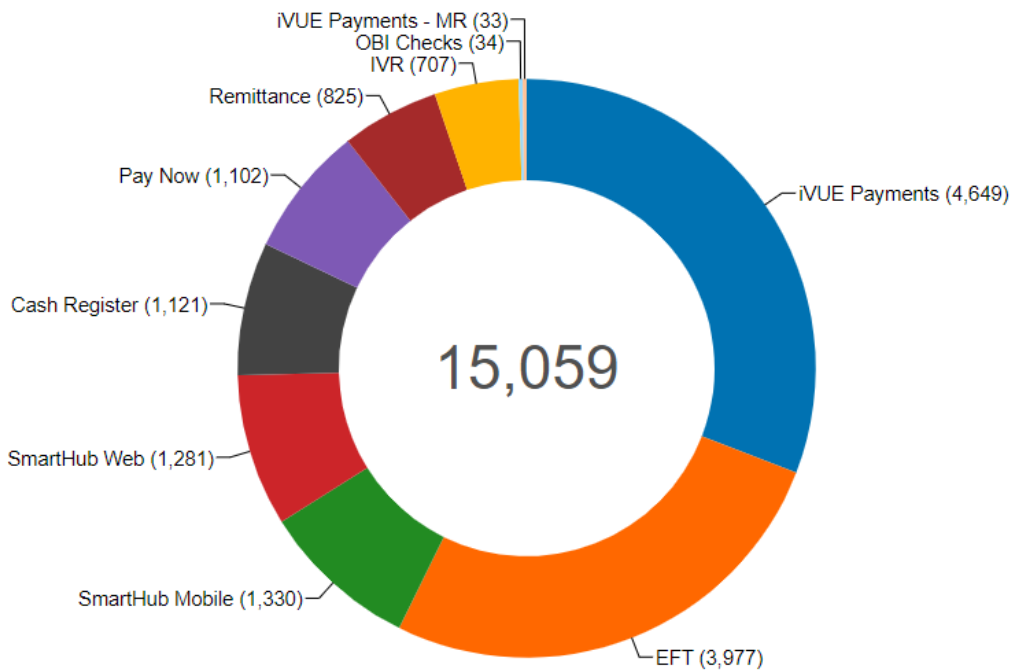


## **OFFICE INFORMATION**

- ✚ Office staff processed three new electric services and 115 electric move orders. There was one new water service and 59 water move orders. Twenty of these orders were received electronically.
- ✚ Forty-seven welcome letters were sent to new customers.
- ✚ Office staff answered 1,864 customer calls in January.
- ✚ In January 953 customers entered the lobby to either pay in person or seek customer assistance.
- ✚ Fifty Water Allowed to Run (WAR) and 10 P-value letters were sent to customers.

## **OFFICE PAYMENTS**

We received 15,059 payments in January with approximately 61 percent received via one of our electronic payment options.



## **SOCIAL MEDIA AND WEBSITE ANALYTICS**



We posted six messages on Facebook generating 15,420 views.  
Four messages were posted on Twitter generating 193 impressions.  
We had over 2,483 users on our website. 1,563 were new visitors and 920 were returning users.

Respectfully submitted,  
*Lynn Schroer*  
Customer Support Supervisor



*Water Works and Lighting Commission*

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**Director of Finance Report**

January 2023

**Financial Reports**

December financial reports are not included in this month’s packet as the year-end closing is still ongoing, and we await the final invoices and expenses for the year. The auditors have scheduled final on-site fieldwork starting March 1. Utility revenue has been reconciled and accrued, as shown below.

Electric sales revenue in total were about 6.8% higher in 2022 compared to 2021. Total electric sales for 2022 were 260,084,220 kWh, which is an increase of 0.5% from 2021’s sales amount (258,830,554 kWh).

	2022	2021	2020
	YTD	YTD	YTD
<b>Sales of Electricity</b>			
Residential Sales	\$ 11,222,130	\$ 11,257,234	\$ 11,049,641
General Service	\$ 4,124,371	\$ 4,056,947	\$ 3,879,401
Small Power (CP1)	\$ 3,245,709	\$ 3,160,580	\$ 3,400,515
Large Power (CP2 & CP3)	\$ 4,129,143	\$ 4,202,402	\$ 4,142,034
Industrial Power (CP4)	\$ 3,550,759	\$ 3,520,416	\$ 3,306,689
Street & Athletic Field Lighting	\$ 634,570	\$ 639,370	\$ 621,916
Power Cost Adjustment Clause	\$ 1,501,378	\$ (246,482)	\$ (1,431,634)
Total Sales of Electricity	\$ 28,408,060	\$ 26,590,467	\$ 24,968,561

Sales of water revenue decreased roughly 0.9% in 2022, or \$35,306. Overall, the utility billed 633,582,000 gallons of water in 2022.

	2022	2021	2020
	YTD	YTD	YTD
<b>Metered Sales of Water</b>			
Residential Sales	\$ 1,846,214	\$ 1,885,524	\$ 1,903,150
Commercial Sales	\$ 777,426	\$ 745,684	\$ 734,213
Industrial Sales	\$ 599,540	\$ 606,109	\$ 726,744
Irrigation Sales	\$ 401,163	\$ 426,649	\$ 381,644
Multi-Family Residential Sales	\$ 207,590	\$ 212,840	\$ 207,515
Public Authority Sales	\$ 190,418	\$ 180,851	\$ 170,044
Total Sales of Water	\$ 4,022,351	\$ 4,057,657	\$ 4,123,310

## Insurance Update

The last couple of years have seen increases in insurance premiums. In 2022, our Cybersecurity liability insurance increased 175% when changing to a new insurer. The previous insurer would have increased the premium 500% and increased the deductible tenfold.

This year, liability premiums did increase 4% overall. Property insurance increased 11.7%, driven primarily by an inflationary increase to property values by 7%. Our Workers Compensation insurance increased 11.5% over 2021 based on our mod factor increasing from .71 to .83. The utility and the City share the same Workers Compensation claims. A .83 is still a good mod factor, as 1.0 is considered typical.

Below is a summary of the insurance the utility carries.

Insurance Type	Expiring Policy	Renewal	\$ Increase	% Increase
Liability Insurance	\$72,715	\$75,735	\$3,020	4.0%
Property Insurance	\$47,088	\$53,336	\$6,248	11.7%
Workers Compensation Insurance	\$35,286	\$39,892	\$4,606	11.5%
Total	\$155,089	\$168,963	\$13,874	8.2%

*Jeff Kuhn*

Jeff Kuhn

Director of Finance

Wisconsin Rapids Water Works and Lighting Commission  
Cash Flow Summary  
for Month Ending January 31, 2023

	Year to Date	Prior Year to Date
Cash Receipts:		
Utility Receipts, Net of Returns	\$ 3,378,586	\$ 3,257,262
Interest and Dividends	\$ 242	\$ 176
Transfer from Investments	\$ 576,709	\$ 645,186
ATC Dividend Payment	\$ 142,485	\$ 135,001
Total Cash Receipts	<b>\$ 4,098,022</b>	<b>\$ 4,037,625</b>
 Disbursements		
AP Payments	\$ (2,004,061)	\$ (1,502,801)
GLU Power Bill	\$ (1,718,170)	\$ (1,481,720)
Transfer to Investments	\$ (210,000)	\$ (400,000)
ATC - Voluntary Capital Call	\$ (38,101)	\$ (132,538)
Sales Tax Payment	\$ (33,775)	\$ (32,592)
Payroll	\$ (439,498)	\$ (447,271)
Service Fees	\$ (3,691)	\$ (4,711)
Total Disbursements	<b>\$ (4,447,296)</b>	<b>\$ (4,001,633)</b>
 Net Cash Flow	<b>\$ (349,274)</b>	<b>\$ 35,992</b>

**Wisconsin Rapids Water Works & Lighting Commission  
Investment Report**

**12/31/2022**

INSTITUTION	FACE VALUE	FACE VALUE & ACCRUED INT	RATE/ YIELD	MATURITY DATE	DATE ACQUIRED	TYPE
<b>Local Government Investment Pool (LGIP)</b>	393,757.67	<b>393,757.67</b>	4.050%			
<b>Prevail Bank</b>	3,620,122.58	<b>3,620,122.58</b>	3.250%			
<b>Ehlers Investments</b>						
US TREASURY BOND	500,000.00	<b>500,000.00</b>	2.480%	12/31/2022	6/30/2022	NOTE
WELLS FARGO NATIONAL BANK WEST	248,000.00	<b>248,037.73</b>	1.900%	1/30/2023	1/30/2020	CD
UNITED STATES TREASURY	197,000.00	<b>198,757.08</b>	1.080%	2/28/2023	3/3/2022	NOTE
WISCONSIN STATE FINANCE AUTHORITY	70,000.00	<b>71,166.67</b>	5.000% *	3/1/2023	12/29/2020	NOTE
AMERANT BANK	250,000.00	<b>250,109.59</b>	3.990%	3/28/2023	9/20/2022	CD
US TREASURY BOND	502,000.00	<b>502,094.58</b>	2.730%	5/1/2023	6/30/2022	NOTE
US TREASURY BOND	252,000.00	<b>249,826.64</b>	3.950%	4/15/2023	10/12/2022	NOTE
COLORADO HOUSING AND FINANCE AUTHORITY	150,000.00	<b>150,275.00</b>	1.100%	5/1/2023	1/31/2022	NOTE
WISCONSIN STATE GENERAL FUND REV BOND	210,000.00	<b>210,717.15</b>	2.049%	5/1/2023	1/30/2020	NOTE
MUKWONAGO WIS BOND	170,000.00	<b>171,416.67</b>	4.250%	6/1/2023	10/6/2022	NOTE
US TREASURY BOND	507,000.00	<b>503,219.30</b>	2.910%	6/30/2023	6/30/2022	NOTE
HOCKING TECHNICAL COLLEGE OHIO	300,000.00	<b>301,527.00</b>	0.788%	7/1/2023	11/23/2020	NOTE
OKLAHOMA STATE HIGHWAY CAPITAL IMPROVE	50,000.00	<b>51,322.50</b>	5.290% *	7/1/2023	12/29/2020	NOTE
ILLINOIS HOUSING AUTHORITY	50,000.00	<b>50,395.83</b>	1.900% *	8/1/2023	12/29/2020	NOTE
NEW YORK STATE DORMITORY AUTHORITY	100,000.00	<b>101,250.00</b>	5.000% *	10/1/2023	12/29/2020	NOTE
SYNCHRONY BANK	245,000.00	<b>245,217.44</b>	0.450%	10/23/2023	10/28/2021	CD
WEB BANK	205,000.00	<b>205,012.64</b>	0.750%	12/29/2023	12/29/2021	CD
FEDERAL HOME LOAN BANK	300,000.00	<b>300,180.50</b>	0.600%	2/23/2024	11/30/2021	NOTE
AMERICAN EXPRESS BANK	200,000.00	<b>201,013.33</b>	1.600%	3/1/2024	3/3/2022	CD
CITY OF WATERFORD GO BOND	200,000.00	<b>200,950.00</b>	1.900% *	4/1/2024	1/30/2020	NOTE
MUKWONAGO WIS BOND	100,000.00	<b>100,833.33</b>	4.340%	6/1/2024	10/6/2022	NOTE
BARCLAY'S BANK DELAWARE	248,000.00	<b>248,569.37</b>	2.000%	6/3/2024	5/31/2022	CD
FALLBROOK (CA) PUB UTILITY DIST REV BOND	200,000.00	<b>200,484.67</b>	0.725%	9/1/2024	1/27/2021	CD
UNITED STATES TREASURY	251,000.00	<b>250,294.25</b>	0.950%	11/15/2024	12/15/2021	NOTE
FEDERAL HOME LOAN BANK	250,000.00	<b>250,268.75</b>	0.900%	11/18/2024	10/28/2021	NOTE
CALIFORNIA STATE BOND	245,000.00	<b>247,067.19</b>	2.840%	4/28/2025	4/28/2022	NOTE
FEDERAL HOME LOAN BANK	145,000.00	<b>145,602.66</b>	2.360%	4/28/2025	4/28/2022	NOTE
COWETA COUNTY (GA) WATER STSTEM REV BONI	300,000.00	<b>300,500.00</b>	2.000% *	6/1/2025	6/9/2021	NOTE
FEDERAL HOME LOAN BANK	265,000.00	<b>265,039.38</b>	5.340%	6/30/2025	12/7/2022	NOTE
CAPITAL ONE NATIONAL ASSOCIATION	175,000.00	<b>177,575.62</b>	3.430%	7/28/2025	7/21/2022	CD
AUSTIN TELCO FEDERAL CREDIT UNION	225,000.00	<b>225,955.48</b>	5.000%	11/28/2025	11/28/2022	CD
CLAYTON WIS WATER SYSTEM REV BOND	250,000.00	<b>250,416.67</b>	2.000% *	6/1/2026	6/1/2021	NOTE
FEDERAL HOME LOAN BANK	500,000.00	<b>500,114.44</b>	1.029% *	6/23/2026	6/2/2021	NOTE
FEDERAL HOME LOAN BANK	300,000.00	<b>303,791.67</b>	4.990%	9/30/2027	9/13/2022	NOTE
FDIC INSURED MONEY MARKET	14,690.05	<b>14,690.05</b>				MM
		<b>8,193,693.17</b>				
<b>TOTAL INVESTMENTS</b>	<b>12,188,570.30</b>	<b>12,207,573.42</b>				
<b>ACCOUNT BALANCES POST-JOURNAL ENTRY</b>						
<b>ELECTRIC UTILITY DEPRECIATION FUND</b>						
0-1261-00		4,826,241.75				
<b>ELECTRIC REVENUE BOND REDEMPTION</b>						
0-1252-00		447,492.00				
<b>WATER UTILITY DEPRECIATION FUND</b>						
2-1261-00		5,404,888.99				
<b>TAX ESCROW FUND</b>						
0-1361-00		710,156.71				
2-1361-00		602,057.70				
<b>GENERAL FUND</b>						
0-1365-00		184,041.77				
2-1365-00		32,694.51				
<b>TOTAL INVESTMENTS</b>		<b>12,207,573.42</b>				



*Water Works and Lighting Commission*

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**INFORMATION SYSTEMS ADMINISTRATOR'S REPORT**  
**January 2023**

**SCADA Server Replacement**

Todd and I met with the Werner Electric rep on January 17<sup>th</sup> and asked him to set up a meeting for us to discuss the SCADA server install. I will follow up with him at the end of February if we don't hear back from him.

**Outage Management Review**

Kyle Dewitt and I reviewed the Outage Management System with a representative from NISC the week of January 9<sup>th</sup>. During the sessions the Rep showed us the new capabilities of the system and suggested some configuration changes to help the system run smoother.

**Work Management Review**

We have engaged with NISC to review our Work Management processes. During the week of February 13<sup>th</sup> we will be looking closely at our service order and work order processes with a representative from NISC.

**Projects**

1. Cyber Security
2. SCADA Server Replacement
3. Network Hardware Replacement
4. Server Hardware Replacement

Sincerely,

Matt Stormoen  
Information Systems Administrator



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**Conservation Manager Report  
January 2023**

**Ocean Spray Cranberry**

Last month's meeting with Ocean Spray led to their Controls & Automation Engineer contacting me to discuss further specifics on how to shave demand and energy charges within their operation. We discussed certain equipment that may be capable of shifting loads to Off-Peak hours. The main area discussed was their chiller/cold storage area that may offer a nice savings if cooling times were to be shifted only to Off-Peak hours. Considering we have had huge success in working with other cold storage facilities with shifting their cooling times, we are confident if directed it will offer an attractive electric cost savings if the recommendation is performed.

**Lincoln High School**

Water Works & Lighting Commission has committed, once again, to participate with LHS's annual Reality Check on March 7<sup>th</sup> in the LHS fieldhouse. The 2023 financial literacy simulation will prepare graduating seniors with a realistic experience in budgeting, understanding financial responsibilities, and making potential life choices while interacting with business and community members.

**2023 Water Works & Lighting Scholarship**

Applications have been distributed to Mid-State Technical College, River Cities, Assumption and Lincoln High School. We will market the scholarship, similar to other years, through WWLC website, Facebook and twitter. We will be attempting to reach more students by passing out the scholarship applications during the 2023 Reality Check with efforts to reach more seniors that may qualify for the scholarship offer.

**Rate Analysis and Recommendations**

Two commercial customers have been notified upon recent review of their organization's electric bill displaying an increase in electric usage. Analysis have been performed and recommendations are waiting on confirmation by the customer to discuss the best rate options and practices available to benefit their organization.

Respectfully,  
Shawn Reimer  
Key Accounts/Conservation Manager





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**ELECTRICAL ENGINEER'S REPORT**  
**January, 2023**

**PLC Upgrade Project Update**

We replaced the PLC for the east water tower with the new updated one, and it has been working with no hitches for almost a month. This is great news, as I can now confidently go forward with replacing the rest of the compact PLC's we have in the system. My plan is to replace all of the compact PLC's first, before attempting to replace the full-sized units.

**High School Sub Regulator Maintenance**

We finally had some good weather and finished up the regulator maintenance for the High School Sub regulators. This maintenance included draining the old oil, replacing with new oil, and untanking the switching mechanism so it could be cleaned of any carbon buildup. We plan to test an oil sample after a month of service to confirm that the maintenance got rid of the problem.

*Tyler Sneen*  
Electrical Engineer



*Water Works and Lighting Commission*

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**DIRECTOR OF ENGINEERING AND ELECTRIC OPERATIONS REPORT  
January 2023**

**MEUW Electric Operations Conference**

I attended the MEUW Electric Operations Conference in the Wisconsin Dells January 11-13. This conference always has good breakout sessions. This year I attended one on the comparison between designing substations for public versus investor owned utilities and another session on substation security which reviewed both physical and cyber security strategies.

**PSC Preventative Maintenance Report**

As part of the PSC regulations that WW&LC follows, it is required to file a preventative maintenance report with them every 2 years. This was filed on January 2<sup>nd</sup>.

**Reliability Statistics**

I included the 2022 reliability statistics in this month's packet. 2022 was the best year the utility has had since WW&LC started collecting and calculating this data.

*Todd Weiler, P.E.*

Director of Engineering & Electric Operations

## **2022 RELIABILITY STATISTICS**

The end of 2022 marked the tenth year that WW&LC has collected outage statistics in order to implement a service reliability program. Included in this packet is the summary of those results and the reliability index graphs which compare the last four years of data.

**2022 was the best year WW&LC has seen since collecting the data. Some of this can be attributed to the lower amount of severe weather events the city experienced in 2022, but most of it is a result of the capital improvements added to the electrical system since 2008 and the second tree trimming crew that has been in service since the 2019 storm.**

The following is a summary of items that were concluded from the information that has been collected to date:

- **The number of outages has consistently dropped since hiring the second tree trimming crew in 2019. There were 92 outages in 2019, 86 in 2020, 71 in 2021, and 70 in 2022. Outages caused by trees dropped 65% from 2019 to 2020, 43% from 2020 to 2021, and 50% from 2021 to 2022.**
- **It was determined that the largest percentage of all of our outages were still caused by squirrels, 36% of them. The number of outages caused by squirrels did drop from 49 outages in 2020 to 26 outages in 2021, and 25 outages in 2022. The changes we have made to prevent squirrel outages are showing positive results. These efforts include adding squirrel guards to the transformer bushings, relocating/guarding the arrestor on the transformer, and eliminating the fuse/arrestor combination for the transformer. Even with all of the efforts WW&LC has taken over the past 10 years to prevent them, there are still a lot of locations, especially along back lot lines that are still susceptible.**

- The **ASAI** measurement is what percent of the year power was available to our customers. **A percentage above 99.9000% is considered a good number. WWLC's number for 2022 was 99.9955%. The efficiency of the distribution system to deliver electric energy to our customers is 99.9955%.**
- The **CAIDI** measurement is the average amount of minutes a customer is without power when an outage occurs. **105 minutes is considered average, our CAIDI measurement for 2022 was 43 minutes. The average customer that experiences an outage on our distribution system is out for 43 minutes.**
- The **SAIDI** measurement is the average duration of interruptions for customers served during the year. **If all the customers on the distribution system were without power the same amount of time, they would have been out for 1.98 minutes.**
- The **SAIFI** measurement is the number of times a customer is interrupted in a year. **A number below 1.00 interruptions is considered a very good statistic.** This measurement has drastically dropped when compared with the data from 2012. I believe it is because we have made great strides to sectionalize off our customers using breakers, re-closures, and fuses so that an outage event is localized instead of felt across an entire circuit. Our SAIFI measure for 2012 was 0.24 interruptions compared with 0.05 interruptions in 2022.
- Almost all tree and weather related incidents took place North and South of Lake Wazeecha. That is why the tree trimming crews have focused the majority on their time in 2022 trimming back the single phase circuits in this area of our distribution system.
- A lightning strike to the 46kV line feeding our Peach Street Substation on July 15<sup>th</sup> caused our largest outage for the year. It effected 6,493 customers for 32 minutes.

- There were 2 events which took place inside the WR West Substation that effected our largest customer, Ocean Spray. On May 29<sup>th</sup> the 15kV bus in the switchgear faulted causing an interruption which lasted 102 minutes as repairs were made. The other event occurred on September 6<sup>th</sup> when a fox squirrel climbed a 12 foot metal I-beam and jumped across 2 phases resulting in 6 cable terminations being damaged. Both events might be an indication that this 1989 equipment and design might need to be updated or replaced in the next 5 years.

**Todd Weiler**

Wisconsin Rapids WW&LC Yearly Reliability report		Jan-Dec 2022	Jan-Dec 2021
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**Number of Outages per year(by Cause)**

0 Supply to City	0	0
1 Overhead Equipment Failure	19	21
2 Underground Equipment Failure	1	0
3 Weather	12	10
4 Birds, Animals, Snakes, etc.	25	26
5 Trees	2	4
6 Foreign Interference	0	1
7 Human	0	2
8 Other	1	0
9 Unknown	9	6
10 Vehicle	1	1
<b>Total</b>	<b>70</b>	<b>71</b>

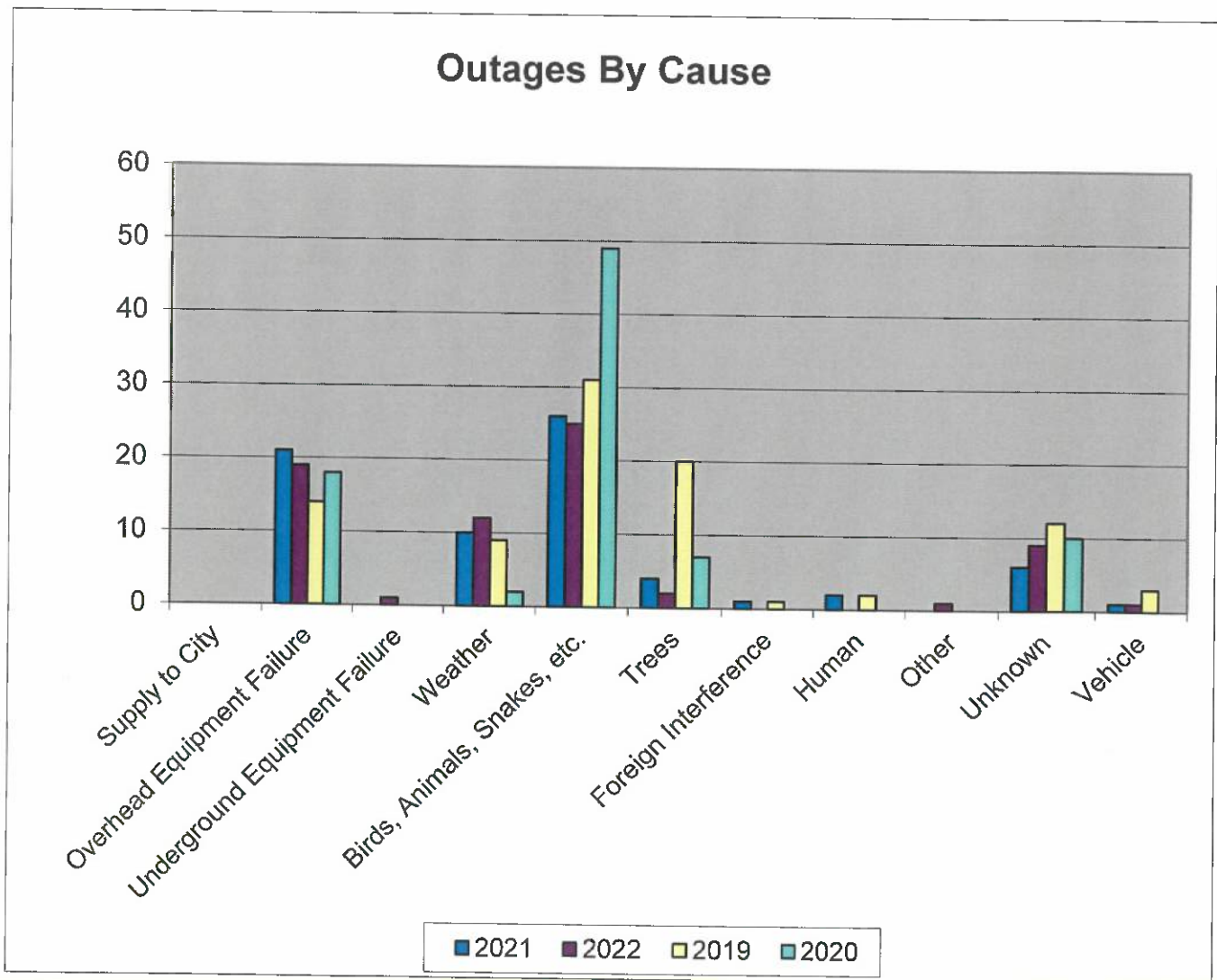
**Outage Statistics**

ASAI (%)	99.995474	0
CAIDI (Long) (min)	42.594893	0
SAIDI (Long) (min)	1.9822576	0
SAIFI (Long) (ints/tot cust)	0.0465374	0
SAIFI (Short) (ints/tot cust)	0.0102214	0

# Outage Reasons

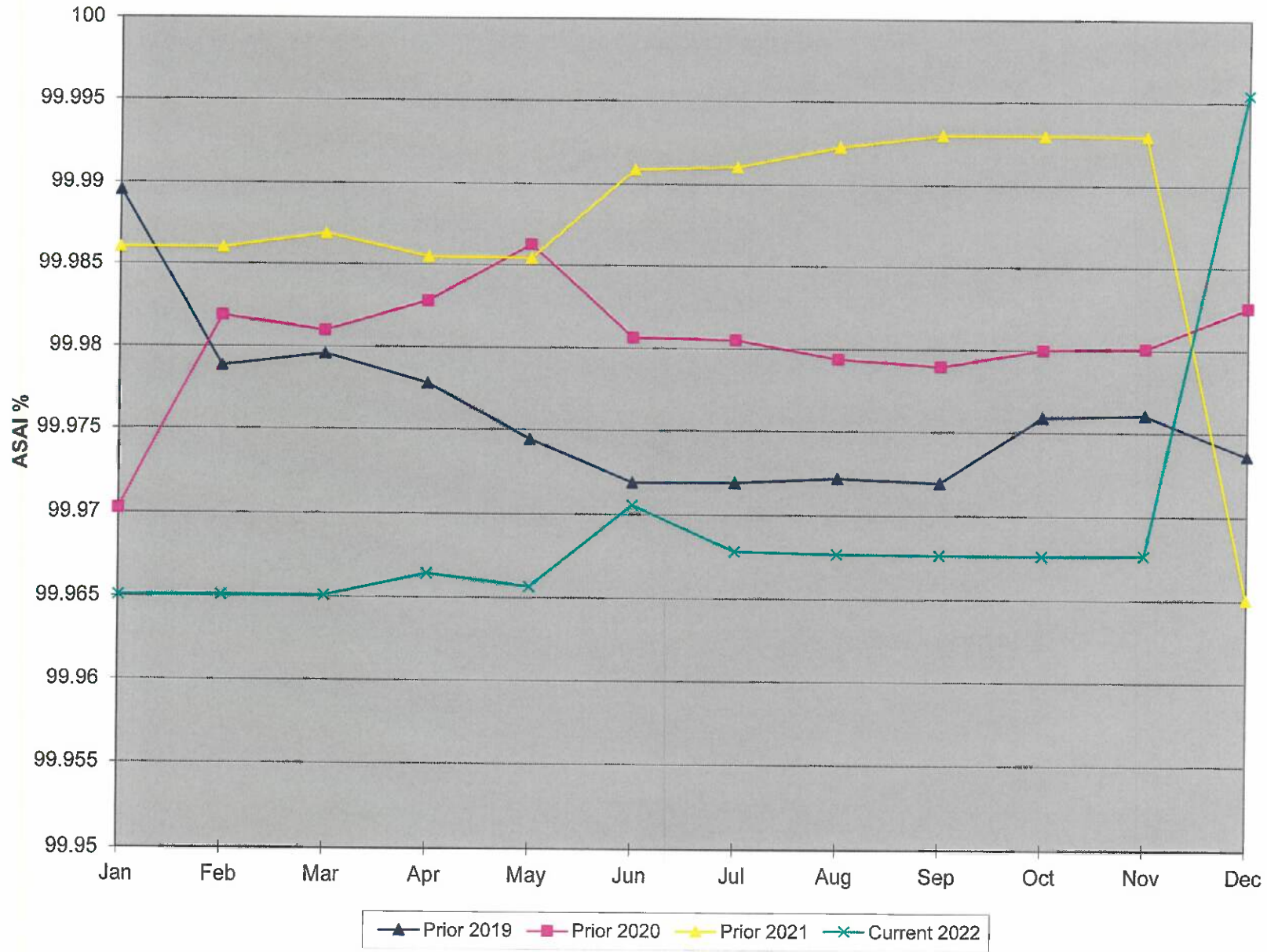
1/27/2023

Number of Outages (by Cause)	2021	2022	Increase	2019	2020
Supply to City	0	0	0%	0	0
Overhead Equipment Failure	21	19	-10%	14	18
Underground Equipment Failure	0	1	1%	0	0
Weather	10	12	20%	9	2
Birds, Animals, Snakes, etc.	26	25	-4%	31	49
Trees	4	2	-50%	20	7
Foreign Interference	1	0	-1%	1	0
Human	2	0	-2%	2	0
Other	0	1	1%	0	0
Unknown	6	9	50%	12	10
Vehicle	1	1	0%	3	0



ASAI (Average Service Availability Index)

1/27/2023

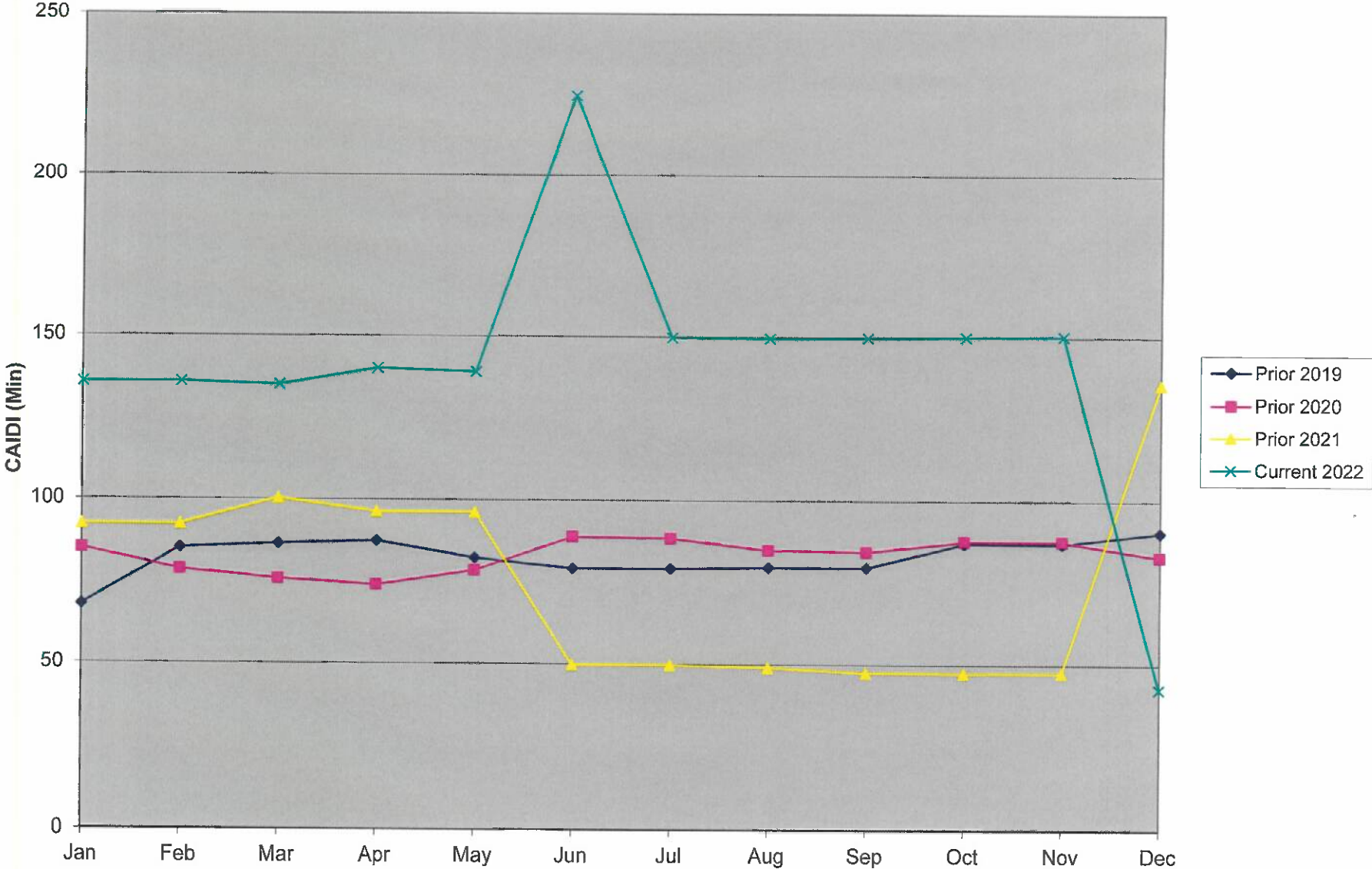


The ratio of the total customer minutes that service was available divided by the total customer minutes demanded (expected) in a time period. It is expressed as a percent.

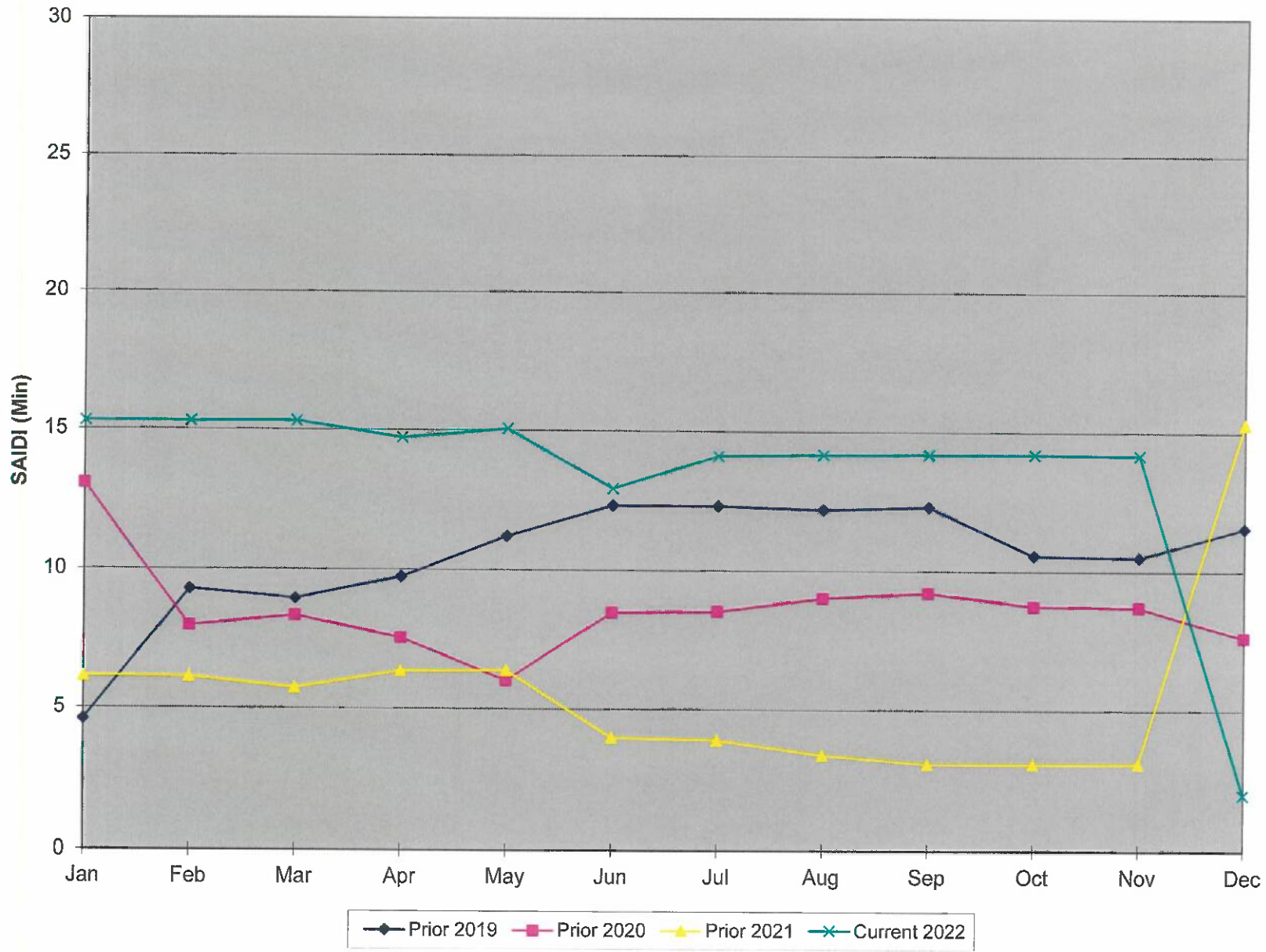


CAIDI (Customer Average Interruption Duration Index)

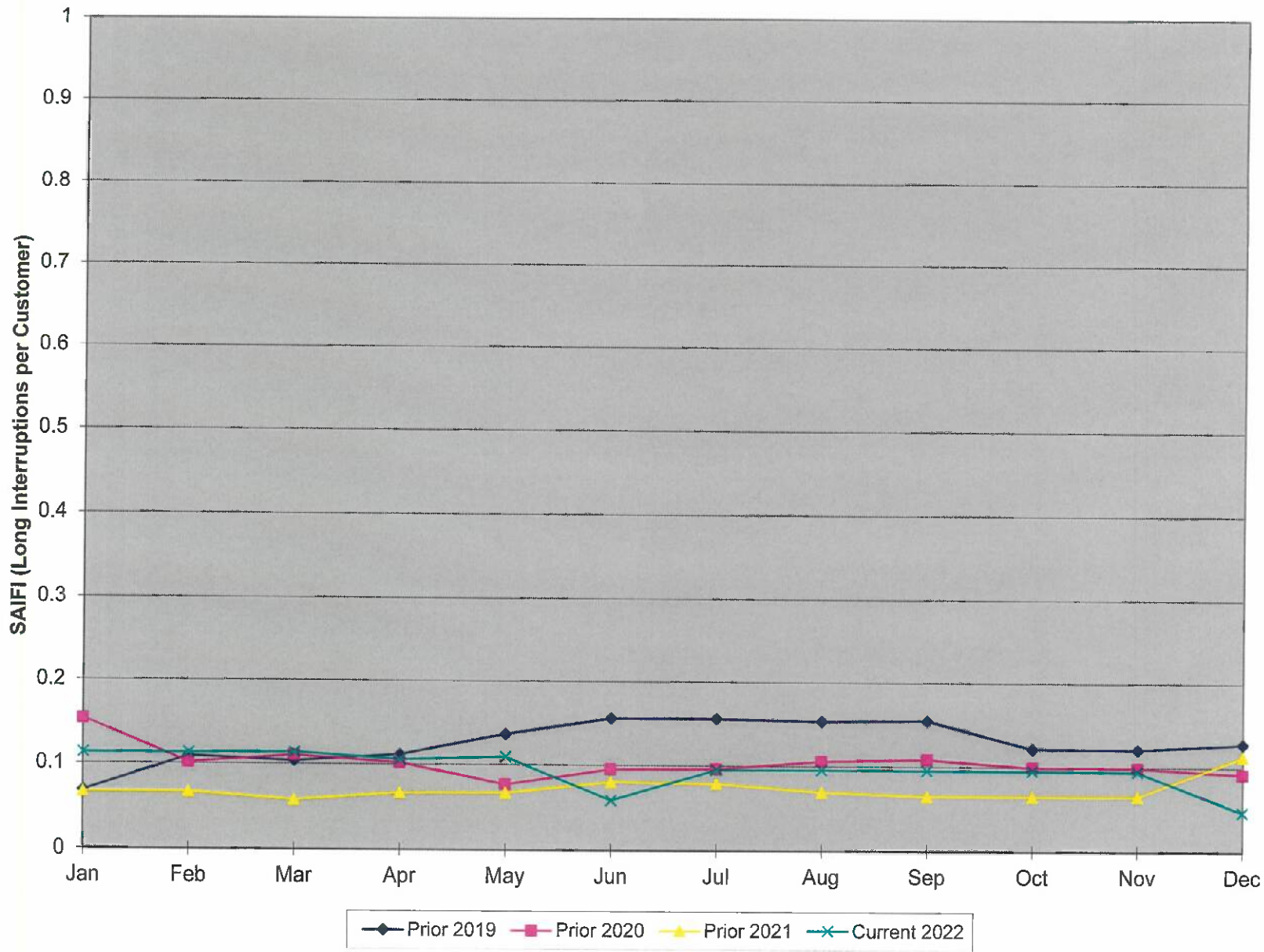
1/27/2023



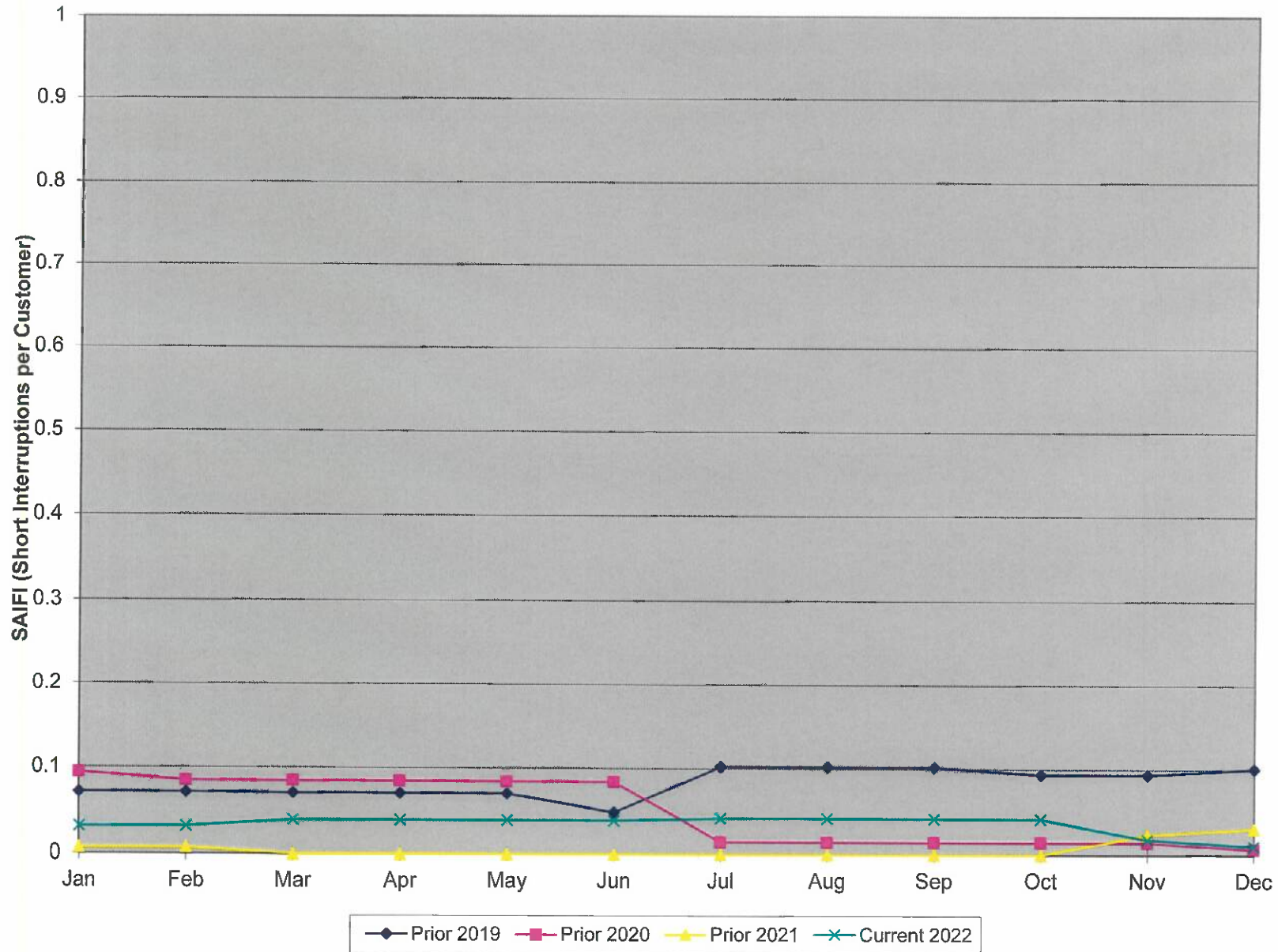
This is the average duration of a customer outage, and is calculated by dividing the sum of the customer minutes off by the number of customers who experienced long interruptions.



This is the avg interruption duration for all customers served, and is calculated by dividing the sum of the customer minutes off by the avg number of customers served.



The number of times a customer is interrupted (>1 minute), averaged over all customers. Divide total customer interruptions by an avg of total customers served.



The number of times a customer is interrupted (<1 minute), averaged over all customers. Divide total short customer interruptions by the avg number of all customers served.



*Water Works and Lighting Commission*

221 16<sup>th</sup> Street So. P.O. Box 399 Wisconsin Rapids, WI 54495-0399 715/423-6300 FAX: 715/423-2831

**GENERAL MANAGER'S REPORT  
January 2023**

**Clifton Larson:** January 3<sup>rd</sup>, Jeff and I had a conference call with our auditors. The conference call was scheduled to discuss recent GASB changes that will impact our audit process this year and future audits.

**Municipal Electric Utilities of Wisconsin:** January 11<sup>th</sup> and 12<sup>th</sup>, Todd and I attended the Electric Operations Conference in the Dells. There were good presentations regarding relevant employee issues, Public Service Commission priorities and recent changes, and safety. This was the first time I attended a conference/seminar in person in a few years. It was nice to interact with the conference attendees. An MEUW Board meeting was held the morning of January 13<sup>th</sup>. Updates were provided from the CEO and the Director of Legislative and Regulatory Affairs. A long discussion regarding mutual aid outside of the State of Wisconsin took place.

**Great Lakes Utilities:** A conference call was held on January 10<sup>th</sup> with Pivot Energy. They are the company that successfully won the GLU RFP for a 50-75mW solar project. The call was scheduled so Pivot Energy could provide an update on their progress. They have secured a site for the project in Southern Wisconsin. Solar supply chain issues are creating increases in pricing and affecting availability of materials. An adjustment in our agreed upon delivery price will be negotiated. A GLU Board meeting was held on January 17<sup>th</sup> in Wisconsin Rapids. The rate stabilization PCAC target requests were adjusted to more closely align with the 2023 budget. A legal update was also provided.

Jem Brown  
General Manager