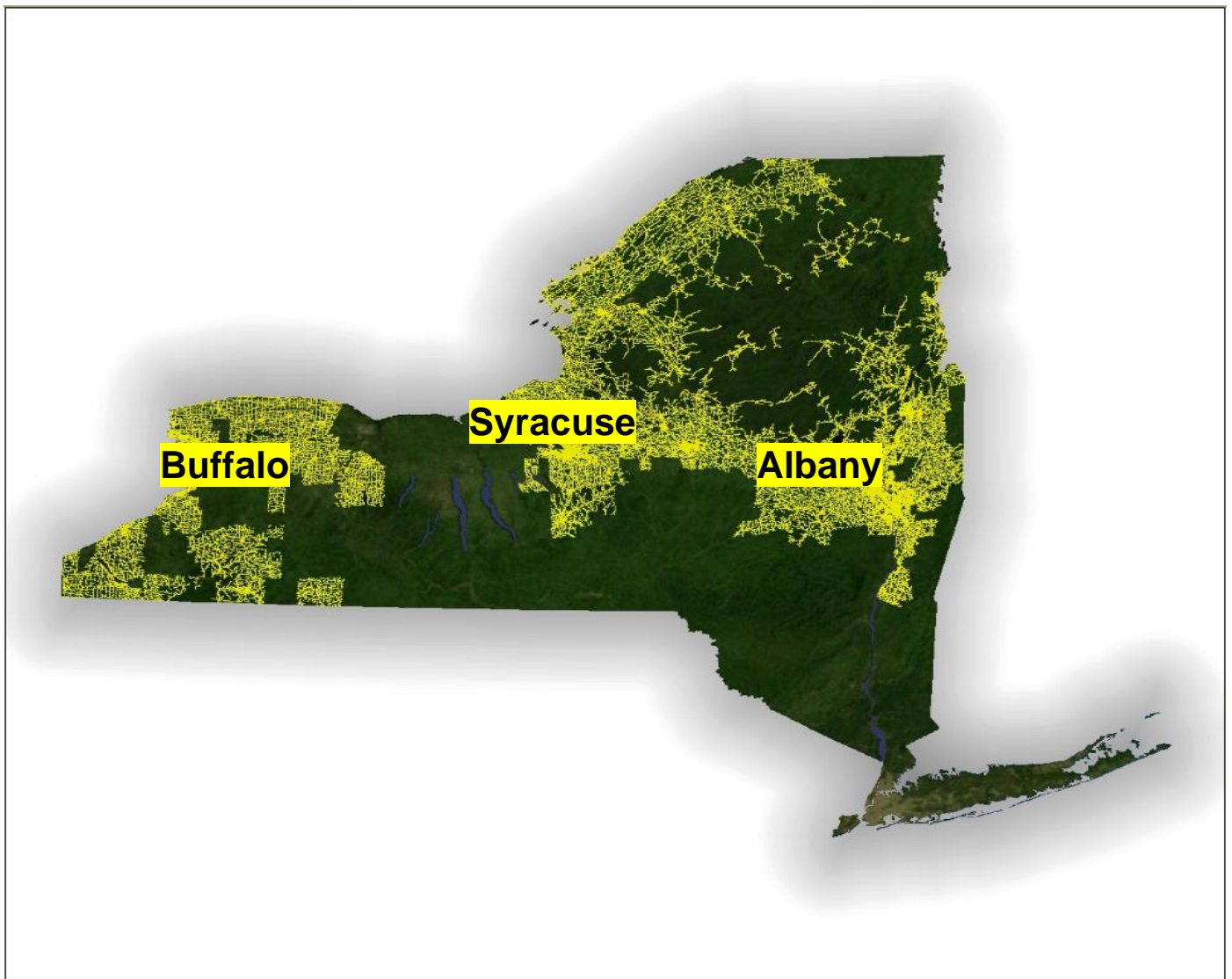




ANNUAL ELECTRIC RELIABILITY REPORT



ANNUAL ELECTRIC RELIABILITY REPORT FOR 2024
PSC CASE #25-E-0031



ANNUAL ELECTRIC RELIABILITY REPORT for 2024

PSC CASES 02-E-1240 and 25-E-0031

Prepared By:

**Customer Reliability and
Electric Distribution Planning & Engineering
MARCH 2025**

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ANNUAL ELECTRIC RELIABILITY REPORT for 2024

Introduction

Enclosed is the 2024 Annual Electric Reliability Report for Niagara Mohawk Power Corporation d/b/a National Grid (“National Grid” or “Company”). This report has been prepared based on National Grid’s electric service to its customers for the year ended December 31, 2024, in compliance with New York State Public Service Commission (“PSC”) Cases 02-E-1240 and 25-E-0031.

In 2024, National Grid met both reliability targets – System Average Interruption Frequency Index (“SAIFI”) and Customer Average Interruption Duration Index (“CAIDI”) – and as a result, no penalties were incurred.

This report reviews the reliability metrics at both the system-wide and regional levels, with analyses broken down by causes and circuits. The report includes a detailed analysis for any circuit that was among the top 5% worst performing distribution circuits in 2024. For any region where the SAIFI or CAIDI reliability metric did not meet the target, we also include a detailed analysis of the factors that contributed to the below-target performance and a description of our plan to improve performance. Information on the major storms of 2024 is also included in the report.

National Grid continues its efforts to maintain reliability. This report includes a description of the Company’s Reliability, Inspection and Maintenance, and Vegetation Management Programs. We have included a summary of expenditures and information regarding the composition of our work force as requested by Department of Public Service (“DPS”) Staff.

A. SUMMARY OF PERFORMANCE AND COMMENTS

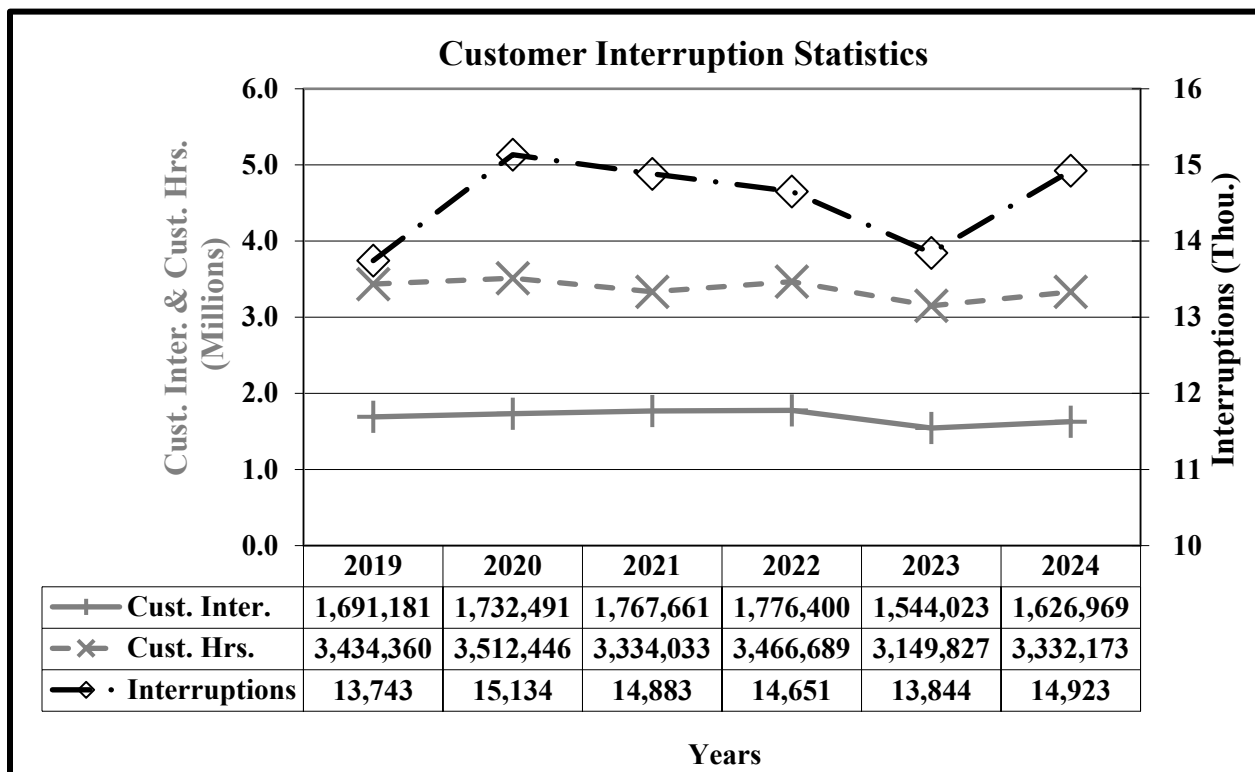
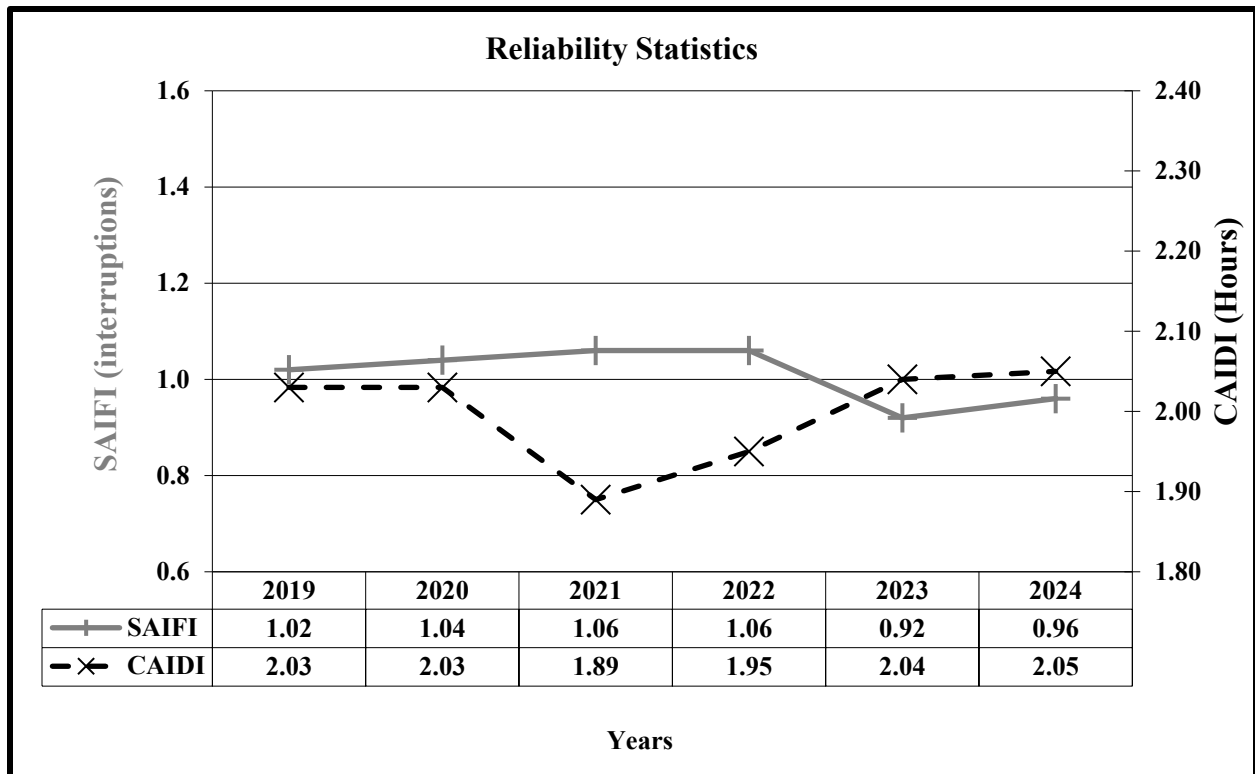
1. CORPORATE SAIFI AND CAIDI

The Company successfully met the Customer Average Interruption Duration Index (CAIDI) metric for 2024, with a value of 2.05 hours. This is 2% below the target of 2.10 hours and is 3% above the 5-year average.

The Company also successfully met the System Average Interruption Frequency Index (SAIFI) target for 2024, with a value of 0.96. This is 11% below the target of 1.08 and 6% below the 5-year average.

The number of interruptions excluding major storms was 8% above the 2023 result and was 3% above the 5-year average. The number of customers interrupted was 5% above the 2023 result and 4% below the 5-year average. The duration of customers interrupted (Customer-Hours Interrupted) was 6% above the 2023 result and was 1% below the 5-year average.

	2024	2023	2022	2021	2020	2019
CAIDI Threshold: 2.10	2.05	2.04	1.95	1.89	2.03	2.03
SAIFI Threshold: 1.08	0.96	0.92	1.06	1.06	1.04	1.02
SAIDI	1.97	1.87	2.06	1.99	2.11	2.08
Interruptions	14,923	13,844	14,651	14,883	15,134	13,743
Customers Interrupted	1,626,969	1,544,023	1,776,400	1,767,661	1,732,491	1,691,181
Customer-Hours Interrupted	3,332,173	3,149,827	3,466,689	3,334,033	3,512,446	3,434,360
Customers Served	1,690,742	1,679,956	1,678,863	1,673,962	1,663,214	1,653,868
Customers per Interruption	109.02	111.53	121.25	118.77	114.48	123.06
Availability Index	99.9776	99.9786	99.9764	99.9773	99.9760	99.9763
Interruptions/1000 Customers	8.83	8.24	8.73	8.89	9.10	8.31



2. CAIDI AND SAIFI BY REGION

The tables below illustrate CAIDI and SAIFI performance for each region. Data from 2019 through 2024 is derived from the Interruption and Disturbance System (IDS).

CAIDI performance met PSC goals in 5 of 8 regions. Customers in the Frontier region experienced the most improvement with a 15% decrease as compared to 2023. Customers in the Capital and Mohawk Valley regions also showed improvement in CAIDI from 2023.

Customers in the Genesee, Northeast and Southwest regions experienced CAIDI performance that did not meet their regional goals.

SAIFI performance met PSC goals in 5 of 8 regions. Customers in the Northeast region experienced the most improvement with a 11% decrease from 2023. Customers in the Central and Mohawk Valley regions also showed improvement in SAIFI from 2023.

Customers in the Frontier, Genesee, and Southwest regions experienced SAIFI performance that did not meet their regional goals.

CAIDI (IDS data)

Region	2024 Threshold	2024 Actual	2023 Actual	2022 Actual	2021 Actual	2020 Actual	2019 Actual
Capital	2.025	1.99	2.03*	2.00	1.86	1.92	2.28*
Central	1.899	1.70	1.67	1.84	1.70	1.65	1.65
Frontier	1.869	1.82	2.14*	1.97*	1.63	2.58*	1.63
Genesee	2.049	2.16*	1.77	1.53	1.75	1.53	1.75
Mohawk Valley	2.150	1.90	2.07	2.20*	1.94	2.35*	1.93
Northeast	2.578	2.61*	2.57	2.43	2.40	2.29	2.72*
Northern	2.111	2.04	1.92	1.49	1.81	2.07	2.00
Southwest	1.950	2.08*	1.74	1.72	1.74	1.70	1.68

SAIFI (IDS data)

Region	2024 Threshold	2024 Actual	2023 Actual	2022 Actual	2021 Actual	2020 Actual	2019 Actual
Capital	1.024	0.99	0.91	1.06*	0.99	1.07*	1.02
Central	1.226	0.95	1.00	1.15	1.40*	1.04	1.06
Frontier	0.480	0.50*	0.40	0.33	0.43	0.52*	0.46
Genesee	1.037	1.14*	0.99	1.00	0.98	1.20*	1.41*
Mohawk Valley	1.483	1.03	1.06	1.49*	1.34	1.34	1.42
Northeast	1.372	1.21	1.36	1.31	1.34	1.39*	1.26
Northern	1.412	1.13	1.08	1.61*	1.29	1.28	1.15
Southwest	1.181	1.36*	0.89	1.32*	1.06	0.99	1.11

Note: The numbers in these tables are based on data that excludes major storm events. An asterisk (*) indicates that the region fell short of the PSC goal for the region.

3. PSC CAUSE CODE ANALYSIS

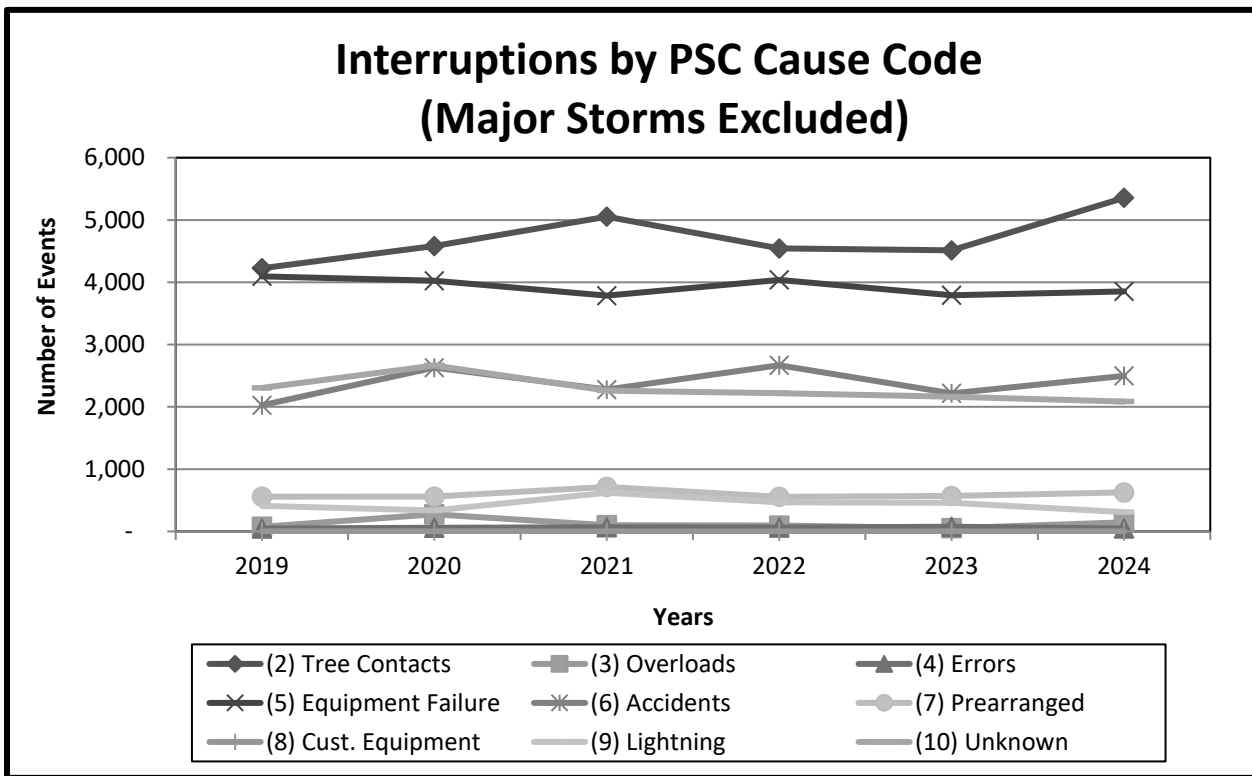
As illustrated in the table below, overall interruptions, including major storms, increased 42% in 2024 as compared to 2023. There was a decrease in Operator Error, Lightning and Unknown events. There was an increase in Major Storm, Tree Contact, Overload, Equipment Failure, Accidents, and Prearranged events.

Excluding Cause Code (1) Major Storms, the number of interruptions increased 8% from 2023. The top three contributors to the number of interruptions were (2) Tree Contacts at 46%, (5) Equipment Failure at 26%, and (6) Accidents at 14%.

In 2024, (2) Tree Contacts increased by 19% from 2023, the number of customers interrupted (CI) increased by 23%, and customer-hours increased by 33%. Despite a 19% decrease in Tree Contacts from 2023, CAIDI experienced a 8% increase in 2024 as compared to 2023. SAIFI, also experienced a 22% increase in 2024 as compared to 2023.

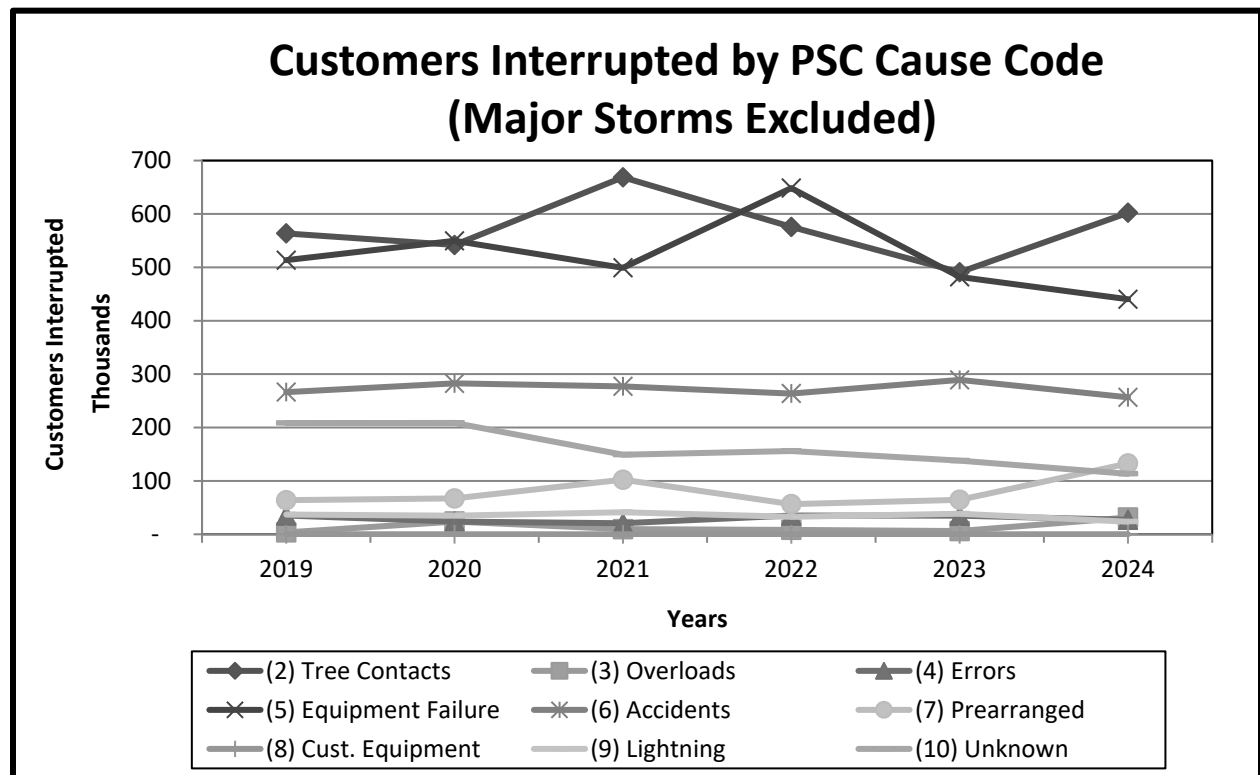
NUMBER OF INTERRUPTIONS BY CAUSE CODE

Cause Code	2024	2023	2022	2021	2020	2019
01 Major Storms	9,221	3,155	6,193	3,676	5,648	7,429
02 Tree Contacts	5,356	4,513	4,543	5,054	4,582	4,226
03 Overloads	147	52	95	101	275	75
04 Errors	47	76	63	67	60	47
05 Equipment Failure	3,854	3,792	4,039	3,786	4,025	4,095
06 Accidents	2,497	2,218	2,668	2,278	2,630	2,026
07 Prearranged	626	570	556	715	560	558
08 Customer Equipment	1	0	0	0	1	1
09 Lightning	310	461	468	621	337	411
10 Unknown	2,085	2,162	2,219	2,261	2,664	2,304
Totals	24,144	16,999	20,844	18,559	20,782	21,172



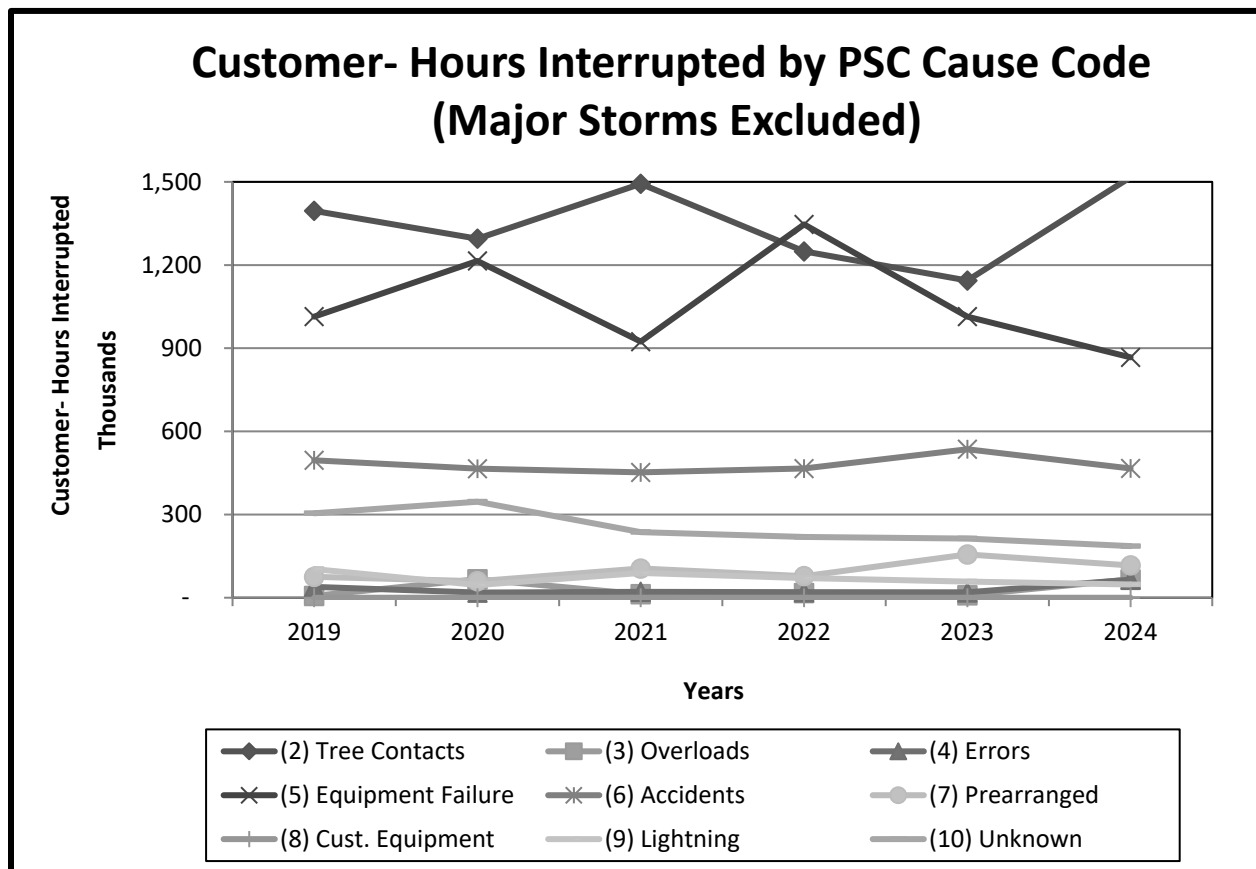
CUSTOMERS INTERRUPTED BY CAUSE CODE

Cause Code	2024	2023	2022	2021	2020	2019
01 Major Storms	1,228,091	371,398	711,979	422,542	762,303	766,788
02 Tree Contacts	602,183	490,817	575,679	668,684	541,885	563,621
03 Overloads	31,446	6,073	8,330	9,596	23,844	3,551
04 Errors	27,120	34,797	35,130	20,705	23,868	35,118
05 Equipment Failure	440,232	482,085	648,441	499,126	549,707	513,423
06 Accidents	256,565	289,223	263,655	277,079	282,628	266,276
07 Prearranged	132,673	64,580	56,485	102,170	67,108	63,860
08 Customer Equipment	2	0	0	0	18	5
09 Lightning	23,543	38,550	32,652	41,276	34,892	36,951
10 Unknown	113,205	137,898	156,028	149,025	208,541	208,376
Totals	2,855,060	1,915,421	2,488,379	2,190,203	2,494,794	2,457,969



CUSTOMER-HOURS INTERRUPTED BY CAUSE CODE

Cause Code	2024	2023	2022	2021	2020	2019
01 Major Storms	10,989,241	2,672,882	6,443,755	2,843,246	9,117,326	5,525,954
02 Tree Contacts	1,516,935	1,144,183	1,249,374	1,493,056	1,295,150	1,395,571
03 Overloads	66,169	8,832	16,579	12,619	66,766	6,617
04 Errors	65,009	19,430	19,776	21,224	18,648	38,914
05 Equipment Failure	866,944	1,013,994	1,346,687	923,628	1,214,969	1,014,061
06 Accidents	466,425	535,451	466,120	452,177	465,372	495,830
07 Prearranged	116,676	156,020	77,785	105,417	59,476	75,398
08 Cust. Equipment	7	0	0	0	26	8
09 Lightning	47,886	58,298	71,063	89,328	45,841	103,179
10 Unknown	186,121	213,617	219,303	236,584	346,198	304,782
Totals	14,321,414	5,822,707	9,910,443	6,177,279	12,629,772	8,960,314



CUSTOMERS INTERRUPTED AND CUSTOMER-HOURS
INTERRUPTED BY CAUSE CODE INCLUDING MAJOR STORMS

Code	Category	Interruptions		Customers Interrupted		Customer-Hours	
		Number	% Total	Number	% Total	Number	% Total
01	Major Storms	9,221	38.2%	1,228,091	43.0%	10,989,241	76.7%
02	Tree	5,356	22.2%	602,183	21.1%	1,516,935	10.6%
03	Overload	147	0.6%	31,446	1.1%	66,169	0.5%
04	Errors	47	0.2%	27,120	0.9%	65,009	0.5%
05	Equipment	3,854	16.0%	440,232	15.4%	866,944	6.1%
06	Accidents	2,497	10.3%	256,565	9.0%	466,425	3.3%
07	Prearranged	626	2.6%	132,673	4.6%	116,676	0.8%
08	Customers	1	0.0%	2	0.0%	7	0.0%
09	Lightning	310	1.3%	23,543	0.8%	47,886	0.3%
10	Unknown	2,085	8.6%	113,205	4.0%	186,121	1.3%
	Totals	24,144	100.0%	2,855,060	100.0%	14,321,414	100.0%

CUSTOMERS INTERRUPTED AND CUSTOMER-HOURS
INTERRUPTED BY CAUSE CODE EXCLUDING MAJOR STORMS

Code	Category	Interruptions		Customers Interrupted		Customer-Hours	
		Number	% Total	Number	% Total	Number	% Total
02	Tree	5,356	35.9%	602,183	37.0%	1,516,935	45.5%
03	Overload	147	1.0%	31,446	1.9%	66,169	2.0%
04	Errors	47	0.3%	27,120	1.7%	65,009	2.0%
05	Equipment	3,854	25.8%	440,232	27.1%	866,944	26.0%
06	Accidents	2,497	16.7%	256,565	15.8%	466,425	14.0%
07	Prearranged	626	4.2%	132,673	8.2%	116,676	3.5%
08	Customers	1	0.0%	2	0.0%	7	0.0%
09	Lightning	310	2.1%	23,543	1.4%	47,886	1.4%
10	Unknown	2,085	14.0%	113,205	7.0%	186,121	5.6%
	Totals	14,923	100.0%	1,626,969	100.0%	3,332,172	100.0%

Cause Code 01 - Major Storms

In 2024, Major Storms accounted for 38% of interruptions, 43% of customers interrupted, and 77% of Customer-Hours Interrupted.

Interruptions due to Major Storm were up 192% from 2023, and up 77% over the 5-year average. Customers interrupted due to Major Storms were up 231% from 2023, and up 102% over the 5-year average. Customer-Hours interrupted were up 311% from 2023 and up 107% over the 5-year average.

The remaining PSC code descriptions do not include Major Storms in the percentages.

Cause Code 02 - Tree Contacts

In 2024, Tree Contacts accounted for 36% of interruptions, 37% of customers interrupted, and 46% of Customer-Hours Interrupted.

Interruptions due to Tree Contacts were up 19% from 2023, and up 17% over the 5-year average. Customers interrupted due to Tree Contacts were up 23% from 2023, and up 6% over the 5-year average. Customer-Hours interrupted were up 33% from 2023 and up 15% over the 5-year average.

Tree Contacts were the largest cause of interruptions in 2024.

Cause Code 03 - Overloads

In 2024, Overloads accounted for 1% of interruptions, 2% of customers interrupted, and 2% of Customer-Hours Interrupted.

Interruptions due to Overloads were up 183% from 2023, and up 23% over the 5-year average. Customers interrupted due to Overloads were up 418% from 2023, and up 206% over the 5-year average. Customer-Hours interrupted were up 649% from 2023 and up 197% over the 5-year average.

Overloads were the 7th largest cause of interruptions in 2024.

Cause Code 04 - Operator Error

In 2024, Operator Error accounted for 0% of interruptions, 2% of customers interrupted, and 2% of Customer-Hours Interrupted.

Interruptions due to Operator Error were down 38% from 2023, and down 25% over the 5-year average. Customers interrupted due to Operator Error were down 22% from 2023, and down 9% over the 5-year average. Customer-Hours interrupted were up 235% from 2023 and up 175% over the 5-year average.

Operator Error was the 8th largest cause of interruptions in 2024.

Cause Code 05 - Equipment Failure

In 2024, Equipment Failures accounted for 26% of interruptions, 27% of customers interrupted, and 26% of Customer-Hours Interrupted.

Interruptions due to Equipment Failure were up 2% from 2023, and down 2% over the 5-year average. Customers interrupted due to Equipment Failure were down 9% from 2023, and down 18% over the 5-year average. Customer-Hours interrupted were down 15% from 2023 and down 21% over the 5-year average.

Equipment Failures were the 2nd largest cause of interruptions in 2024.

Cause Code 06 - Accidents

In 2024, Accidents accounted for 17% of interruptions, 16% of customers interrupted, and 14% of Customer-Hours Interrupted.

Interruptions due to Accidents were up 13% from 2023, and up 6% over the 5-year average. Customers interrupted due to Accidents were down 11% from 2023, and down 7% over the 5-year average. Customer-Hours interrupted were down 13% from 2023 and down 3% over the 5-year average.

Accidents were the 3rd largest cause of interruptions in 2024.

Cause Code 07 - Prearranged

In 2024, Prearranged outages accounted for 4% of interruptions, 8% of customers interrupted, and 4% of Customer-Hours Interrupted.

Interruptions due to Prearranged outages were up 10% from 2023, and up 6% over the 5-year average. Customers interrupted due to Prearranged outages were up 105% from 2023, and up 87% over the 5-year average. Customer-Hours interrupted were down 25% from 2023 and up 23% over the 5-year average.

Prearranged outages were the 5th largest cause of interruptions in 2024.

Cause Code 08 - Customer Equipment

In 2024, Customer Equipment accounted for 0% of interruptions, 0% of customers interrupted, and 0% of Customer-Hours Interrupted.

Customer Equipment was the 9th largest cause of interruptions in 2024.

Cause Code 09 - Lightning

In 2024, Lightning accounted for 2% of interruptions, 1% of customers interrupted, and 1% of Customer-Hours Interrupted.

Interruptions due to Lightning were down 33% from 2023, and down 33% over the 5-year average. Customers interrupted due to Lightning were down 39% from 2023, and down 36% over the 5-year average. Customer-Hours interrupted were down 18% from 2023 and down 35% over the 5-year average.

Lightning was the 6th largest cause of interruptions in 2024.

Cause Code 10 - Unknown

In 2024, Unknown causes accounted for 14% of interruptions, 7% of customers interrupted, and 6% of Customer-Hours Interrupted.

Interruptions due to Unknown causes were down 4% from 2023, and down 10% over the 5-year average. Customers interrupted due to Unknown causes were down 18% from 2023, and down 34% over the 5-year average. Customer-Hours interrupted were down 13% from 2023 and down 30% over the 5-year average.

4. MAJOR STORMS

National Grid’s electric system experienced 44 severe weather incidents in 2024 that qualified as major storms; an increase of 29 major storms reported in 2023 (15). Of the 44 events in 2024, 18 impacted the Central Division (Central – 6; Mohawk Valley – 6; Northern – 6), 17 impacted the Eastern Division (Capital – 8; Northeast – 9), and 9 impacted the Western Division (Frontier – 1; Genesee – 4; Southwest – 4). To qualify as a major storm, a storm event period must affect at least ten percent of the customers in an operating region or have at least one customer out of service for 24 hours or more. The Company excludes all interruptions caused by major storms from the CAIDI and SAIFI indices. The storms occurred during 18 distinct time periods, affecting multiple regions and in many cases, lasting more than one day.

Major Interruptions Due to Major Storms

As shown in the table below, the number of major storm interruptions in 2024 was 76% higher than the 5-year average (2019 to 2023). All regions, except Frontier experienced a higher number of Major Storm interruptions in 2024 as compared to the 5-year average. All regions experienced a higher number of Major Storm interruptions in 2024 as compared to 2023. There was an 192% increase in the number of 2024 interruptions as compared to 2023.

Major Storm Interruptions by Region

					(a)	(b)	(c)	(d) = (b-c)/c	(e) =(b-a)/a
Regions	2019	2020	2021	2022	2023	2024	19 - 23 Average	2024 vs. 5- year average	2024 vs. 2023
Capital	1,460	2,089	587	557	1,464	2,180	1,231	77.03%	48.91%
Central	698	143	157	235	0	975	247	295.38%	N/A
Frontier	1,352	413	546	1000	0	60	662	-90.94%	N/A
Genesee	532	206	520	549	99	392	381	2.83%	295.96%
Mohawk	529	178	377	418	33	1024	307	233.55%	3003.03%
Northeast	1,749	1,810	515	1,883	962	2,736	1,384	97.72%	184.41%
Northern	945	101	670	1286	73	1243	615	102.11%	1602.74%
Southwest	264	708	300	264	522	602	412	46.26%	15.33%
Total	7,529	5,648	3,672	6,192	3,153	9,212	5,239	75.84%	192.17%

Major Storms – 2024

Date	Region	Storm Conditions	CI	CHI	Interruptions	Storm Duration	24 Hour Events	24 Hour Customers Interrupted	Qualification
1/9/2024	Northern	High Winds, Snow	85,966	1,175,834	673	6D 14H 9M	175	16,561	10%/24Hr
1/9/2024	Southwest	High Winds, Snow	35,543	446,380	452	4D 14H 31M	97	9,389	10%/24Hr
1/9/2024	Central	High Winds, Snow	33,655	120,044	273	2D 7H 22M	16	297	10%/24Hr
1/9/2024	Genesee	High Winds, Snow	18,030	69,585	137	2D 7H 44M	12	321	10%/24Hr
1/9/2024	Frontier	High Winds, Snow	1,993	7,992	60	1D 6H 52M	1	4	24Hr
1/9/2024	Mohawk	High Winds, Snow	15,212	80,506	106	1D 17H 50M	3	81	10%/24Hr
1/12/2024	Mohawk	High Winds, Snow	20,376	52,479	67	1D 16H 28M	0	0	10%
1/12/2024	Genesee	High Winds, Snow	9,703	17,279	68	2D 7H 27M	1	27	24Hr
2/28/2024	Central	High Winds	25,676	106,799	172	2D 8H 31M	11	323	24Hr
2/28/2024	Genesee	High Winds	12,455	50,578	93	1D 7H 51M	4	26	10%/24Hr
2/28/2024	Northern	High Winds	19,838	86,714	252	2D 3H 4M	19	93	10%/24Hr
2/28/2024	Northeast	High Winds	67,667	964,878	388	3D 4H 5M	99	10,404	10%/24Hr
2/28/2024	Capital	High Winds	37,695	164,826	185	2D 2H 1M	8	782	10%/24Hr
2/28/2024	Mohawk	High Winds	19,437	164,290	168	2D 6H 43M	39	535	10%/24Hr
3/9/2024	Northeast	High Winds	30,038	245,663	348	2D 23H 34M	7	70	10%/24Hr
03/11/2024	Capital	High Winds	23,092	118,844	177	1D 17H 9M	2	29	24Hr
03/23/2024	Northeast	Heavy Snow, Icing	2,526	26,394	57	2D 20H 39M	9	287	24Hr
03/23/2024	Capital	Heavy Snow, Icing	190,066	2,459,769	889	3D 23H 31M	160	27,556	10%/24Hr
04/03/2024	Central	Heavy Snow, High Winds	14,612	48,902	134	1D 13H 18M	4	81	24Hr
04/03/2024	Mohawk	Heavy Snow, High Winds	28,957	278,855	188	2D 16H 54M	22	1,741	10%/24Hr
04/03/2024	Capital	Heavy Snow, High Winds	7,902	53,648	98	2D 7H 12M	1	1	24Hr
04/03/2024	Northeast	Heavy Snow, High Winds	72,235	420,574	389	2D 3H 51M	4	56	10%/24Hr
06/20/2024	Capital	Thunderstorms, High Winds, Microburst	39,402	191,752	191	1D 8H 43M	3	40	10%/24Hr
07/09/2024	Southwest	Thunderstorms, High Winds, Tornado	7,102	7,144	27	1D 15H 51M	1	3	24Hr
07/10/2024	Central	Thunderstorms, High Winds, Tornado	21,803	69,435	95	1D 13H 55M	2	75	24Hr
07/15/2024	Capital	Thunderstorms, High Winds, Tornado	38,925	279,256	420	3D 18H 51M	67	1,844	10%/24Hr
07/15/2024	Genesee	Thunderstorms, High Winds, Tornado	14,818	60,013	94	1D 6H 39M	0	0	10%
07/15/2024	Central	Thunderstorms, High Winds, Tornado	21,743	82,521	188	2D 10H 8M	17	464	24Hr
07/15/2024	Mohawk	Thunderstorms, High Winds, Tornado	49,023	786,216	266	4D 1H 57M	103	13,083	10%/24Hr
07/15/2024	Northeast	Thunderstorms, High Winds, Tornado	85,201	1,498,942	775	4D 19H 37M	242	24,619	10%/24Hr
07/16/2024	Southwest	Thunderstorms, High Winds, Tornado	1,977	2,632	32	1D 10H 1M	1	6	24Hr
07/16/2024	Northern	Thunderstorms, High Winds, Tornado	3,597	7,200	43	1D 3H 34M	1	4	24Hr
08/05/2024	Northeast	Thunderstorms, High Winds	10,859	40,306	51	1D 4H 26M	1	12	24Hr
08/08/2024	Capital	Thunderstorms, High Winds, Heavy Rain	15,824	71,239	176	2D 10H 38M	7	14	24Hr
08/08/2024	Central	Thunderstorms, High Winds, Heavy Rain	13,534	34,011	113	1D 21H 47M	2	17	24Hr
08/09/2024	Mohawk	Thunderstorms, High Winds, Heavy Rain	17,548	125,122	229	3D 6H 21M	49	733	10%/24Hr

Date	Region	Storm Conditions	CI	CHI	Interruptions	Storm Duration	24 Hour Events	24 Hour Customers Interrupted	Qualification
08/09/2024	Northeast	Thunderstorms, High Winds, Heavy Rain	43,113	350,412	454	3D 9H 6M	78	3,392	10%/24Hr
08/09/2024	Northern	Thunderstorms, High Winds, Heavy Rain	4,963	12,289	64	1D 23H 22M	1	2	24Hr
11/21/2024	Northeast	High Winds	13,056	56,320	91	2D 18H 59M	1	17	24Hr
11/28/2024	Northeast	Heavy Snow	8,576	37,428	183	1D 10H 11M	6	21	24Hr
11/28/2024	Capital	Heavy Snow	7,635	29,365	44	1D 9H 24M	1	25	24Hr
11/29/2024	Northern	Heavy Snow, High Winds	8,562	25,158	131	3D 0H 30M	2	5	24Hr
12/11/2024	Northern	Heavy Snow, High Winds	8,068	24,370	80	1D 17H 14M	1	28	24Hr
12/29/2024	Southwest	Heavy Snow, High Winds	19,926	26,873	91	1D 16H 24M	0	0	10%

5. CIRCUIT RELIABILITY

In order to identify action plans to maintain reliability, the Company ranks each circuit system-wide on the following four reliability metrics and generates an overall ranking by summing the four rankings for each feeder. This method helps to ensure that National Grid focuses on the worst performing feeders from the viewpoint of customers regardless of physical location, voltage, or configuration.

- 1) Number of Interruptions
- 2) Number of Customer-Hours Interrupted (CHI)
- 3) SAIFI (Customers Interrupted/Customers Served)
- 4) SAIDI (Customer Hours/Customers Served)

The Company performs a detailed analysis of the reliability issues for the top 5% of circuits on this list. The location, duration of the interruptions, number of customers affected, cause(s), and physical environmental characteristics of the circuits are all analyzed to develop appropriate action plans that will address the issues.

For this report, the maximum number of feeders analyzed and evaluated in any one operating region is capped at twenty feeders. If any operating region has more than twenty feeders that rank among the top 5% worst performing, the performance for a commensurate number of next highly ranked feeders in other regions are analyzed. The following table shows the number of circuits in each operating region that were among the top 5% of feeders in terms of reliability issues. More detailed information can be found in Section L.1.

Company Operating Region	Total Number of Distribution Circuits	Company Criteria	
		Worst 5% For System	Circuits Analyzed
Capital	328	16	20
Central	297	13	18
Frontier	713	0	2
Genesee	141	10	10
Mohawk	139	9	12
Northeast	204	34	20
Northern	159	11	11
Southwest	153	14	14
Grand Total	2,134	107	107

6. RELIABILITY AND OTHER PROGRAMS

The Company has made significant investments for capital improvements and maintenance activities in recent years to develop and implement programs that will maintain the long-term performance and health of network assets.

The Reliability Program is designed to significantly improve and maintain reliability through five initiatives:

- 1) Engineering Reliability Reviews (“ERRs”)
- 2) Sub-Transmission Automation & Fault Location, Isolation, & Service Restoration (“FLISR”)
- 3) Vegetation Management
- 4) Inspection and Maintenance Program (“I&M”)
- 5) Trip Saver Installation Program

The I&M program has substantially replaced some of the strategy’s program work such as feeder hardening, potted porcelain cutout replacement, recloser installation, targeted pole replacement, manhole, and vaults. Section B of this report describes the Company’s reliability programs in more detail.

New York State continues to experience volatile weather that causes interruptions for our customers. The Company maintains a reliable grid through proactive infrastructure programs and effective storm response plans. Although the Company’s reliability metrics remain relatively stable, these ‘minor storm’ days continue to place upward pressure on them. The Company monitors the impacts of these weather events to better understand risks and develop approaches to mitigate them.

New York’s Broadband Expansion Program represented a significant increase in pole attachment activity since 2018. This unprecedented growth and speed of fiber expansion also, at times, created the need for National Grid to assist in the correction of non-compliant attachments. The total reliability impact of this corrective work has not been quantified within this report, as most corrections were completed without the interruption of power to customers. In a small number of situations, there were unplanned interruptions and/or the need to proactively de-energize sections of lines to facilitate corrections to attachments, resulting in interruption of service to a limited number of customers.

7. TRANSMISSION AND DISTRIBUTION INSPECTION AND MAINTENANCE PROGRAM

The Company takes a proactive approach to asset management. The I&M program is designed to find and fix issues before they become problems. The inspections also provide detailed information about the Company's assets for further analysis of trends. In addition, planning of the transmission and distribution system assesses capacity, reliability, and asset replacement issues in the future. The overarching objective of the initiatives is to get ahead of reliability concerns before they become events. Inspection of the transmission and distribution system is performed on a comprehensive system-wide basis using four basic methods:

- 1) A comprehensive helicopter inspection is performed to determine the condition of select lines (mainly transmission) and to help establish a repair schedule. These inspections are used to gather information to evaluate the need for maintenance or capital improvement on poorly performing circuits. The inspections provide detailed information about conductors, hardware, and structures.
- 2) Infrared testing is performed to sense heat dissipation from sub-transmission and transmission lines. Infrared testing detects faulty splices and loop sleeves so the Company can take short pre-arranged interruptions to repair problems proactively thereby avoiding potentially lengthy uncontrolled emergency interruptions.
- 3) Distribution and transmission lines are manually patrolled.
- 4) Mobile surveys of underground electric distribution systems are performed in Buffalo, Albany, and Niagara Falls to detect elevated voltage.

In compliance with the Safety Standards, National Grid met the annual performance target for inspection of its electric facilities for the period ending December 31, 2024.

The results are summarized in the following tables.

2024 Facility Inspection Program Results

Category	Total System Units	2024 Units Completed	2024 Actual Inspected
Overhead Distribution	1,268,823	234,334	18.5%
Overhead Transmission	104,362	16,727	16.0%
Underground	103,111	19,880	19.3%
Pad-mounted Transformers	73,751	14,059	19.1%
Streetlight	33,238	2,292	6.9%
Totals	1,583,285	287,292	18.1%

Inspection Performance Summary

Overhead Distribution Facilities

Inspection Year	Number of Overhead Distribution Structures Inspected	% of Overall System Inspected
2024	234,334	18%
2023	255,478	20%
2022	263,075	21%
2021	259,312	21%
2020	257,879	20%
TOTAL		100%

Overhead Transmission Facilities

Inspection Year	Number of Overhead Transmission Facilities Inspected	% of Overall System Inspected
2024	16,727	16%
2023	22,227	21%
2022	24,115	23%
2021	22,292	21%
2020	22,112	21%
TOTAL		102%

Underground Facilities

Inspection Year	Number of Underground Facilities Inspected	% of Overall System Inspected
2024	19,880	19%
2023	26,293	25%
2022	20,452	20%
2021	20,573	20%
2020	18,729	18%
TOTAL		102%

Pad-mount Transformers

Inspection Year	Number of Pad-mounted Transformers Inspected	% of Overall System Inspected
2024	14,059	19%
2023	18,167	24%
2022	14,672	20%
2021	15,502	21%
2020	13,061	18%
TOTAL		102%

Streetlights*

Inspection Year	Number of Streetlights Inspected	% of Overall System Inspected
2024	2,292	7%
2023	3,420	10%
2022	6,032	14%
2021	12,992	27%
2020	12,974	23%
TOTAL		21%

*Note: Streetlight Inspection completion percentages are calculated based on the Total System Units (number of National Grid owned assets) at the end of a given Inspection Year. These numbers may decline over time due to Municipality purchase. As a result of these Municipality purchases, the adjusted Actual % of Overall System Inspected (Cumulative) through calendar year 2024 is 81%.

In accordance with the Safety Standards, set forth in the PSC's orders in Case 04-M-0159 National Grid uses the following severity levels to establish priority for repairs and scheduling:

Level I – Repair as soon as possible but not longer than one week. A Level I classification represents an actual or imminent safety hazard to the public or a serious and immediate threat to the delivery of power. Critical safety hazards present at the time of the inspection shall be guarded until the hazard is mitigated.

Level II – Repair within one year. A Level II classification represents conditions that are likely to fail prior to the next inspection cycle and represent a threat to safety and/or reliability should a failure occur prior to repair.

Level III – Repair within three years. A Level III classification represents conditions that do not present immediate safety or operational concerns and would likely have a minimal impact on the safe and reliable delivery of power should a failure occur prior to repair.

Level IV – A Level IV classification represents conditions found but repairs are not needed at this time. Level IV is used to track atypical conditions that do not require repair within a five-year timeframe. This level is used for future monitoring purposes and planning proactive maintenance activities.

The following table summarizes the deficiencies identified by the inspection program in 2024 for the transmission and distribution system in each category. The specific issues that were identified for each asset grouping are described in the Company's 2024 Annual Stray Voltage Testing and Facility Inspection Report in Case 04-M-0159 filed on February 13, 2025. All Level I issues and most Level II issues have already been addressed. The remaining issues will be addressed consistent with the timeframes as discussed above.

Program	Level 1	Level 2	Level 3
Distribution	452	2,902	14,273
Underground	82	775	171
Transmission	4	22	725

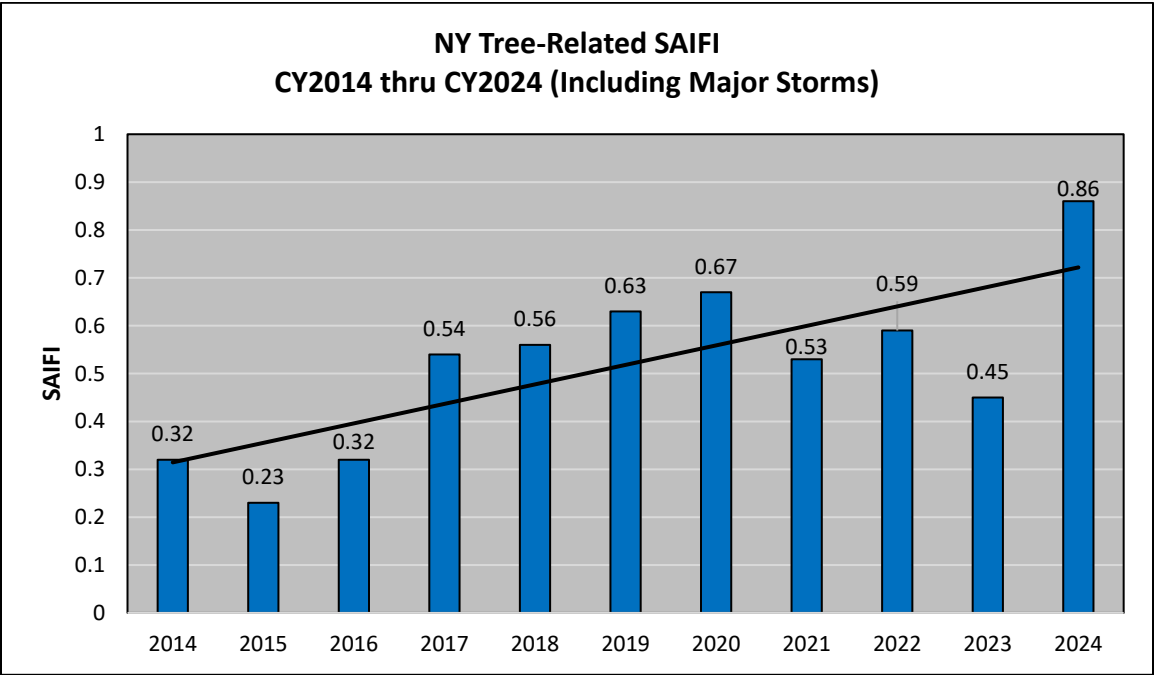
8. VEGETATION MANAGEMENT PROGRAM

National Grid's vegetation management program is divided into two sub-programs, one for the distribution system and another for the transmission system. Both programs include a time-based cycle component and a reliability improvement component to minimize tree-related interruptions from trees and limbs failing into the infrastructure as well as providing a measure of public and worker safety.

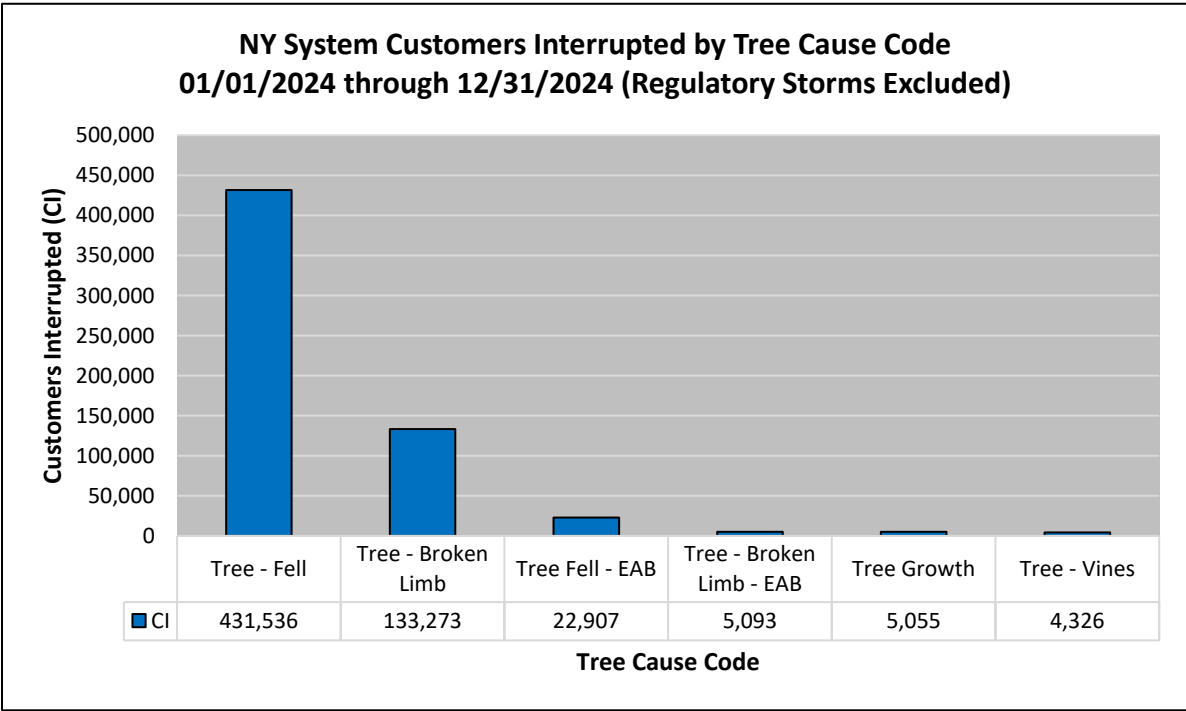
The transmission and sub-transmission systems are managed using an offset cycle-based integrated vegetation management ("IVM") program. This process includes a floor and sideline hazard tree component to manage vegetation along the floor and edge of the rights-of-way (ROW). Concurrently with the IVM program, the Vegetation Management Program utilizes ground, aerial, and photogrammetry patrols to monitor both growth and conditions in the ROWs. The ROW edges that contain tall growing species observed during patrols on a scheduled basis are maintained as needed to minimize risk. Details regarding transmission program performance are reported annually in a separate report to the PSC.

National Grid's distribution vegetation management process is circuit pruning and is a comprehensive program that provides for the pruning of vegetation along all distribution circuit miles on an average five- and one-half year interval. An optimal cycle length is set for each circuit based on growing season, growth characteristics of predominant tree species in that area, and the appropriate clearance that is obtained at the time of pruning. National Grid has maintained a level of funding necessary to operate the program for many years allowing the completion of multiple full program cycles of pruning. In addition to pruning, hazard tree removals is performed on prioritized distribution feeders. The Company identifies feeders for the inspection and removal of hazard trees based on field inspections, tree exposure, historical interruption data, number of customers served and circuit configuration.

Shown in the chart on the next page is the New York system tree-related SAIFI including major storms for the past ten years. Although tree-related interruptions are strongly correlated with wind and weather patterns; that variability and its effect on tree interruption data is mitigated when viewed over a longer period of years. As shown by the chart, SAIFI has trended upward through 2020 and has started to trend slightly down from 2021 through 2023. Due to increased storm activity, CY2024 tree SAIFI was the highest it has been in 10 years.



Demonstrated in the chart below, the distribution of tree interruptions between the six tree cause categories points to the importance of a robust hazard tree program. Tree fell interruptions accounted for 72% of all tree interruptions in CY2024, followed by 22% caused by limb failures, 1% caused by tree growth, and lastly vine growth. The minimal number of tree growth and vine growth interruptions is an indication that the current pruning program and pruning specifications are effective in minimizing interruptions related to vegetation growth. Ash tree failures have been minimized through the EAB mitigation program. Over time we are seeing the failure of White pine, Sugar Maple and other species due to invasive fungi and insects that are compromising tree health and structure. Only a robust hazard tree mitigation process can address these tree failure issue.



The Company implemented an Ash tree mitigation program in 2017 to address the decline of Ash trees due to Emerald Ash Borer (EAB). Approximately 22,230 have been taken down as part of the mitigation plan in CY24 and over 275,000 Ash trees since 2017. An outage follow-up program is maintained to monitor the number of outage events caused by Ash trees. Below is a summary of the outage follow-up. Approximately 9.7% of the forest along the utility lines in New York State are comprised of Ash trees. In CY2024, approximately 17% of all vegetation related outages were caused by Ash trees; however, Ash trees only accounted for 5% of the Customers Interrupted (CI). Ash failures have been stabilizing in the Central and Eastern divisions. The higher frequency of Ash tree events experienced in the Western division is likely due to the prevalence of Ash in that region, where it makes up 15.5% of all trees. National Grid will continue to monitor Ash tree failures and distribute resources appropriately to address any escalations.

As we move into FY26, Ash trees will continue to be a focus in the Western division and a shift to other hazard tree species will become the focus in the Central and Eastern divisions.

% of Tree Failures that were Ash								
Data based on number of events reviewed								
	2017	2018	2019	2020	2021	2022	2023	2024
Division	%Ash Failure	%Ash Failure	%Ash Failure	%Ash Failure	%Ash Failure	%Ash Failure	%Ash Failure	%Ash Failure
Eastern	4%	3%	3%	3%	3%	3%	4%	4%
Central	5%	5%	6%	8%	5%	4%	6%	5%
Western	4%	8%	13%	13%	21%	24%	23%	34%
System Average	4%	5%	6%	7%	8%	10%	10%	17%

In the table below the NY Operating Regions are ranked based on 2024 tree-related SAIFI performance. Regions with the highest tree densities also had the highest distribution line tree exposure, and these regions generally have the highest number of interruptions each year. Vegetation program budget dollars, especially for hazard tree work, are oriented with these same facts in mind.

Tree Interruptions by Region – 2024 (Excluding major storms)

Rank	Region	Number of Interruptions	Customers Interrupted	SAIFI
1	Northeast	1,160	147,701	0.63
2	Capital	928	121,803	0.36
3	Southwest	678	47,446	0.45
4	Central	678	110,128	0.38
5	Northern	565	54,489	0.39
6	Frontier	485	36,962	0.11
7	Genesee	448	43,281	0.43
8	Mohawk	415	40,380	0.29

9. ELECTRIC SUBSTATION PREVENTIVE MAINTENANCE PROGRAM

The Substation Computerized Maintenance Management System (“CMMS”) covers an array of inspections, diagnostics, and maintenance activities to be completed in accordance with National Grid Substation Maintenance Standards and Procedures. These documents identify intervals and maintenance activities to be performed on different types of substation equipment (transformers, circuit breakers, Load Tap Changers (“LTC”), batteries and chargers, etc.). Protection Systems Engineering Documents provide the substation relay calibration and testing requirements for the bulk power, transmission, distribution, and communication-protection systems.

National Grid Upstate New York Substations and Protection, Telecom and Operations (“PTO”) field personnel performed and documented 15,589 discrete maintenance activities across the system in calendar year 2024. Total expenditure for the Upstate New York Substation Maintenance Program was approximately \$5.64 million. The listing of specific substation maintenance activities are as follows:

<u>Substation Maintenance Programs</u> <u>Apparatus: Activity</u>	<u>Number</u> <u>Performed</u>
Battery: Diagnostic Inspection	578
Circuit Breaker: Diagnostics	573
Circuit Breaker: Mechanism Inspection (GCB2)	0
Circuit Switcher: Diagnostics	2
Disconnect: Motor Operator Operation	22
Load Tap Changer: DGA	924
Load Tap Changer: Internal Inspections	4
Substation: Visual & Operations (V&O) Inspections	4,538
Substation: Thermographic Inspections	748
Transformer: DGA	1,307
Transformer: Diagnostics	3
Transformer: Oil Quality (Screen Test)	23
Transformer: Cooler Cleaning	23
Voltage Regulator: DGA	24
Relay Testing: NERC	2,585
Relay Testing: Other	1,306
Battery: KF-1,KF-2 Battery Diagnostic Test (ST1/ST2)	150
Substation: KF-3 Station Service Critical Load Test (ST-3)	1
Standby Generator: KF-5 E Gen Run Test (ST-5)	118
Standby Generator: KF-6 E Gen Transfer Test (ST-6)	10
Battery: NERC PRC-005-6 Battery Bi-Monthly Check	1,045
Circuit Breaker: DC Trip Coil Verification Check - NERC PRC-005-6	1,605
Totals	15,589

The CMMS uses a Maintenance Scheduling Number (“MSN”) that provides detailed information to prioritize and schedule the substation maintenance program work tasks. The CMMS application, Cascade, is used as a data warehouse and scheduling tool to manage workloads and balance risk. It is also used to help justify decisions related to work force and budgeting requirements. Cascade is the database used to assist in the development of maintenance plans and asset replacement programs for the calendar, fiscal, or multi-year maintenance and replacement programs.

As a maintenance example, an MSN number is used to trigger maintenance notification. The MSN number continues to increase creating a prioritized backlog until the maintenance task is completed. The MSN number increases at a predetermined rate depending on the type of maintenance task. This notification allows for the scheduling of the necessary equipment outages for maintenance inspection, diagnostics, or other tests as specified by published standards or procedures. The range between 400 and 500 allows for the scheduling of outages and completion of the maintenance activity. If the equipment MSN number is greater than 500, it is considered overdue. Variance reports are generated monthly to indicate the maintenance activities performed during the reporting period and year-to-date.

The tables below are examples of the monthly reports generated by Cascade system.

Substation Maintenance Status by Equipment Class – New York

Transmission

	≥ 500 Overdue*	400-499 Due	Total Units	Month TD COMP	FYTD COMP
Animal Fence Maintenance	0	0	9	0	6
Battery & Chg: Std Insp	0	59	348	26	146
CAP PrePeak Insp	0	0	50	0	43
Circuit Breaker Diag	1	2	777	1	30
Circuit Breaker Mech Insp (GCB2)	1	0	5	2	2
CKTSW Diag	0	2	142	0	1
Disconnects: MO Diag Insp	0	2	657	0	5
EGEN Diag	0	0	15	0	0
LTC:DGA	0	55	400	27	414
Substation V&O	0	177	353	195	1614
Thermographic Insp*	0	326	326	0	121
Transf DGA	1	85	542	41	453
Transf Oil Quality	0	9	98	0	22
TRF Cooler Cleaner	0	0	22	0	22

Distribution

	≥ 500 Overdue*	400-499 Due	Total Units	Month TD COMP	FYTD COMP
Animal Fence Maintenance	0	0	71	0	38
Battery & Chg: Std Insp	0	14	216	8	115
CAP PrePeak Insp	0	0	56	0	50
Circuit Breaker Diag	24	147	3865	41	582
CKTSW Diag	0	0	7	0	0
Disconnects: MO Diag Insp	0	0	93	0	0
LTC:DGA	0	40	292	25	292
LTC: Internal Insp	0	0	6	1	3
Substation V&O Insp	0	197	429	257	1973
Thermographic Insp*	0	410	412	1	110
Transf DGA	1	58	591	27	292
Transf Oil Quality	1	5	62	0	11
TRF Cooler Cleaning	1	0	6	0	5
VREG Internal	0	0	9	0	0
VREG: DGA	0	13	70	12	56

* Testing is done by PTO Meter and Test.

* ≥ 500 Overdue column includes overdue, exemptions, and OPEX. Does not include NPCC (refer to page 10).

In addition to its functionality as an asset register, the Cascade system manages other substation maintenance work. The system generates Work Orders when maintenance is required to track follow-up work with Trouble Orders and Follow-up Work Orders. As substation mechanics perform maintenance and inspections from automatically generated Work Orders, if problems are discovered, they will have several options: fix the problem while on site, initiate a Follow-up Work Order, and/or initiate a Trouble Order. Trouble Orders track problems and failures that have occurred during normal operation of the equipment and require immediate repair. Follow-up Work Orders track problems found during Visual & Operational (V&O) Inspections or scheduled equipment inspections.

Protective relays are tested on a calendar year basis. Triggers are based on the last test date and testing interval.

B. RELIABILITY PROGRAMS AND WORK FORCE INFORMATION

1. RELIABILITY PROGRAMS

National Grid has invested in a number of capital and maintenance programs to maintain the reliability of the electric system. Programs that are specifically designed to improve reliability are described below in detail with the exception of the vegetation management program which was described in a previous section of this report.

- **Engineering Reliability Reviews (“ERRs”)**
- **Sub-Transmission Automation and Fault Location, Isolation, & Service Restoration (“FLISR”)**
- **Distribution Fault Location, Isolation, & Service Restoration (“FLISR”)**
- **Vegetation Management** – Enhanced right-of-way clearing and treatment and Enhanced Hazard Tree Maintenance (“EHTM”) removal of danger trees on critical sections of the distribution system.
- **TripSaver Installation Program** – Single-phase cutout mounted recloser installations

In addition to reliability programs, certain aspects of the I&M program contribute to improved reliability and increased likelihood that the Company will satisfy PSC reliability goals. The I&M program is designed to ensure the Company fulfills its obligation to provide safe and adequate service by inspecting its facilities and repairing identified safety and reliability issues in a timely fashion. Replacement of deteriorated overhead and underground assets helps prevent a future failure which has a cumulative effect of improving reliability over time.

ERRs

As discussed in the Company's 2020 Asset Condition Report and Capital Investment Plan filed October 1, 2020 in Case 17-E-0238, the Customer Reliability & Analytics group generates the list of Worst Performing Feeders during the preparation of the Electric Service Reliability Report. The list of feeders includes interruptions associated with supply issues (transmission or substation) and excludes major storms. From the list, a small number of geographically diverse feeders are selected for an ERR. The scope of an ERR typically includes:

- Review of one-year and multi-year historical reliability data for current issues and trends.
- Review of recently completed and/or future planned work that is expected to impact reliability.
- Review the need for the installation of radial and/or loop scheme reclosers.
- Review the need for additional line fuses to improve the sectionalization of the feeder.
- Comprehensive review of the coordination of protective devices to ensure proper operation.
- Review for equipment in poor condition.
- Review of heavily loaded equipment.
- Review for other feeder improvements such as fault indicators, feeder ties, capacitor banks, load balancing, additional switches to improve switching time, and primary reconductoring (overhead and/or underground).

This review has been in place since FY2007 and is responsible for several of the recloser installations across the Company's service territory.

Sub-Transmission Automation and Fault Location, Isolation, & Service Restoration ("FLISR")

After an initial investigation of automation and communication technologies, National Grid began a targeted Sub-Transmission Automation pilot in 2008 that deployed automation schemes on six circuits. These schemes use distributed intelligence through local controls and switches, with peer-to-peer communication through to a local substation Energy Management System ("EMS") uplink point achieved using spread spectrum 900 MHz radios. By up linking to EMS, Supervisory Control & Data Acquisition ("SCADA") capability of the automation devices is provided to the Company's Control Centers. In addition, all data is brought back to a central database warehouse for future analysis.

Following the success of pilot automation installations in 2008 and 2009, which verified the capability of advanced distribution automation enabled equipment, the Company recognized the additional benefit of identifying projects where the installation of modernized switching schemes would provide increased reliability to the Sub-Transmission system. There are currently 9 Sub-Transmission peer-to-peer automation schemes deployed on the system.

In 2020, automation on the Sub-Transmission system was transitioned away from the peer-to-peer automation system to a centralized Fault Location, Isolation, and Service Restoration (“FLISR”) system. FLISR schemes utilize sectionalizing devices with localized protection settings and 4G cellular radio communications to a common Remote Terminal Unit (“RTU”) at the Company’s Regional Control Center. The RTU houses engineering developed logic to actively restore unaffected areas of the system during a contingency event, once the faulted section has been isolated locally, by coordinating the devices that are part of the FLISR scheme to make informed restoration actions based on the system’s status. FLISR devices will communicate to the Company’s EMS system and have full SCADA capability to allow for monitoring and control of the assets deployed, similar to the previous automation system utilized at National Grid. There are currently 3 Sub-Transmission FLISR Schemes deployed on the system.

Following successful installations and operation of FLISR using the Company’s RTU based platform, additional lines were selected for FLISR deployment and there are currently 31 Sub-Transmission FLISR schemes in the design or construction phase. Each fiscal year, Sub-Transmission lines are being reviewed by engineering for their eligibility to deploy a FLISR scheme. These circuits are selected based on their reliability performance, customer impact, and other operational considerations such as communications availability. The Company will continue to scope Sub-Transmission circuits to have active FLISR schemes in the future based on the potential impact to reduce the number of outages experienced by customers served via these circuits.

Distribution Fault Location, Isolation, & Service Restoration (“FLISR”)

After the deployment of initial Sub-T FLISR schemes, National Grid investigated the potential customer impacts for deploying automated feeder ties on the 15kV class distribution system and began deploying centralized Fault Location, Isolation, and Service Restoration (“FLISR”) schemes in 2021 using the same platform as the Sub-T FLISR schemes. These FLISR schemes utilize reclosers with localized protection settings and 4G cellular radio communications to a common Remote Terminal Unit (“RTU”) at the Company’s Regional Control Center. The RTU houses engineering developed logic to actively restore unaffected areas of the system during a contingency event. Once the faulted section has been isolated locally, the devices that are part of the FLISR scheme coordinate to make informed restoration actions based on the system’s status. FLISR devices will communicate to the Company’s EMS system and have full SCADA capability to allow for monitoring and control of the assets deployed. The Company will have 47 active Distribution FLISR schemes by mid-2025. The Company also has a target of deploying FLISR such that about 60% of its NY customers connected to circuits with FLISR, potentially reducing the impact of outages to this set of customers.

TripSaver Installation Program

The Company began installing cutout mounted reclosers system-wide in 2019. These reclosers are aimed at reducing the number of sustained interruptions related to temporary faults on fused portions of the distribution system. These devices will limit the exposure to transient faults, such as tree and animal contacts, lightning and unknown causes that have led to customer outages. Locations targeted for TripSaver installations include circuits with high customer counts and historical reliability issues.

2. CAPITAL AND O&M BUDGETS AND ACTUAL EXPENDITURES

The Company develops investment plans to meet its obligation to provide safe and adequate electric delivery service to 1.6 million customers at reasonable cost. Providing this service requires the Company to maintain a vast physical infrastructure located in 450 cities and towns across our 25,000 square mile service area.

The following tables show fiscal year Capital and Operation and Maintenance expenditure over the past five years.

Fiscal Year Capital Actual Expenditures (\$ Millions)						
System	FY 2020	FY2021	FY2022	FY2023	FY2024	FY2025*
Distribution	\$341.7	\$389.2	\$416.3	\$481.8	\$631.9	\$706.3
Sub-transmission	\$38.0	\$34.2	\$33.7	\$33.3	\$39.3	\$40.7
Transmission	\$215.1	\$193.4	\$258.5	\$334.3	\$516.3	\$747.0
Totals	\$594.8	\$616.8	\$708.5	\$849.4	\$1,187.5	\$1,494.0

* Forecasted spend for FY 2025.

The following tables summarize fiscal year tree trimming operations and maintenance expenditures over the past five years.

Fiscal Year Transmission Tree Trimming Actual and Budgeted Expenditure (\$ Millions)						
Spending	FY 2020	FY2021	FY2022	FY2023	FY2024	FY2025*
Actual	\$16.70	\$17.74	\$19.63	\$19.37	\$15.95	\$16.03
Budgeted	\$16.66	\$17.14	\$15.51	\$16.65	\$15.95	\$16.03

Fiscal Year Distribution Tree Trimming Actual and Budgeted Expenditure (\$ Millions)						
Spending	FY 2020	FY2021	FY2022	FY2023	FY2024	FY2025*
Actual	\$58.00	\$58.69	\$60.95	\$63.85	\$65.96	\$66.30
Budgeted	\$57.99	\$59.08	\$62.06	\$66.58	\$65.96	\$66.30

* Forecasted spend for FY 2025.

3. WORK FORCE NUMBERS

The following table summarizes the work force numbers for field positions associated with overhead, underground, and substation crews. It should be noted that head counts are not tracked by reliability vs. non-reliability work.

Distribution

Title	2019	2020	2021	2022	2023	2024
Cable Splicer A	10	11	6	12	7	9
Cable Splicer B	14	12	12	13	14	19
Cable Splicer C	27	25	24	25	27	27
Cable Splicer Helper	5	4	6	3	5	4
Chief Cable Splicer A	33	36	31	28	30	29
Chief Electrician A	15	13	15	15	14	16
Chief Electrician B	1	1	1	1	1	
Chief Equip Operator A	7	6	5	6	6	6
Chief Laborer A	1	1	1	2	1	1
Chief Line Mechanic A Hot Stick	305	306	302	288	288	287
Chief Line Mechanic B Hot Stick						
Chief Maintenance Mechanic A	35	35	32	31	5	6
Chief Mechanic A	14	15	16	14	14	14
Chief Street Light Service Mechanic A	7	6	5	5	5	6
Chief Substation Worker A					29	33
Chief Technician A					1	
Chief Tester & Installer Elec					8	9
Communications Tester A					7	6
Communications Tester B					15	16
Communications Tester C					18	17
Distribution Inspector B						
Distribution Inspector C	19	16	13	8	7	6
Electrician A	3	3	2	1	4	
Electrician B	8	7	5	8	7	6
Electrician C	30	33	33	30	35	37
Electrician Helper			2	3		
Equipment Operator A						
Equipment Operator B	1	1	1	1	1	1
Equipment Operator C	6	7	9	7	9	9
Field Helper	11	9	24	27	15	14
Field Tester B Electric					8	8
Field Tester C Electric					12	12
Field Tester D Electric					5	7
Field Tester E Electric					30	29
Laborer				1	1	1

Title	2019	2020	2021	2022	2023	2024
Line Mechanic A	57	40	29	50	71	23
Line Mechanic B	73	101	99	67	75	110
Line Mechanic C	48	60	73	83	86	66
Line Mechanic Helper	26	22	26	30	28	25
Line Mechanic-Hot Stick	183	164	160	151	160	178
Machinist C					1	1
Maintenance Helper		3		5		
Maintenance Mechanic A	6	5	8	8		
Maintenance Mechanic B	15	14	7	15		
Maintenance Mechanic C	44	44	47	51	7	6
Mechanic A	7	3	5	1	8	3
Mechanic B	4	4	7	4	4	9
Mechanic C	25	19	18	21	18	15
Mechanic Helper		5		7	3	4
One Person Line/Trouble Mechanic	67	69	68	67	71	69
Platform Attendant	9	1	9	3	7	3
Relay Tester A			12	13	11	12
Relay Tester B		33	32	28	28	22
Relay Tester C			40	40	44	49
Relief Operator P	3	4	5	6	6	3
Safety Advocate	1	1				
Street Light Service Mechanic Helper				1		1
Street Light Service Mechanic A		1	4	3	2	
Street Light Service Mechanic B			1	1	4	2
Street Light Service Mechanic C	23	23	18	16	17	18
Substation Worker A					15	6
Substation Worker B					16	20
Substation Worker C					42	44
Technician D						
Tech-Substation Dept.	5	5	3	4	3	4
Tool Attendant C					1	1
Traveling Operator A						
Traveling Operator B			2	2	3	1
Traveling Operator C	14	18	12	15	14	15
Traveling Operator D	27	24	22	21	20	24
Trouble Mechanic A Hot Stick						
Trouble Mechanic C Hot Stick	4	5	4	5	4	5
Trouble Mechanic D Hot Stick	5	5	5	5	5	5
Welder C					1	1
Distribution Total	1,198	1,220	1,261	1,252	1,404	1,380

Transmission

Title	2019	2020	2021	2022	2023	2024
Chief Electrician B						
Chief Live Line Bare Hand Specialist	5	5	5	12	14	13
Chief Line Mechanic A Hot Stick						
Chief Line Mechanic B Hot Stick						
Electrician A						
Electrician B						
Electrician C						
Equipment Operator C						
Equipment Operator D	6	6	6	1	1	
Equipment Operator Live Line				11	11	6
Chief Equipment Operator Live Line						6
Line Worker A/3rd Class	8	8	8	20		
Line Worker B/2nd Class	2	2	2	1	16	13
Line Worker C/1st Class				7	12	1
Line Worker Hot Stick	5	5	5	15	16	15
Live Line Bare Hand Specialist B	35	35	35	21	20	32
Live Line Bare Hand Specialist A						
Safety Advocate Electric	1	1	1	1	1	1
Transmission Total	62	62	62	89	91	87

Distribution & Transmission Grand Total	1,260	1,282	1,323	1,341	1,495	1,467
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4. CONTRACTOR CREW SERVICES

The following table represents the average monthly contractor head counts utilized by the Company to implement its work plans for distribution and sub-transmission overhead and underground line work during the past six years. It should be noted that contractor head counts are not tracked by reliability vs. non-reliability work.

Distribution & Sub-transmission	2019	2020	2021	2022	2023	2024
Contractor average monthly head count	60	74	79	88	70	75

The following table represents the average monthly contractor head counts utilized by the Company to implement its work plans for transmission. It should be noted that contractor head counts are not tracked by reliability vs. non-reliability work.

Transmission	2019	2020	2021	2022	2023	2024
Contractor average monthly head count	51	49	86	58	49	55

The following table represents the average monthly contractor head counts utilized by the Company to implement its work plans for distribution vegetation management during the past six years. It should be noted that contractor head counts are not tracked by reliability vs. non-reliability work.

Distribution Vegetation Management	2019	2020	2021	2022	2023	2024
Contractor average monthly head count	534	580	612	610	584	568

C. CAPITAL REGION

1. OPERATING REGIONAL PERFORMANCE

a. HISTORIC CAIDI AND SAIFI INDICES

IDS Info:

	2024	2023	2022	2021	2020	2019
CAIDI (Threshold 2.025)	1.99	2.03	2.00	1.86	1.92	2.28
SAIFI (Threshold 1.024)	0.99	0.91	1.06	0.99	1.07	1.02
SAIDI	1.97	1.86	2.11	1.83	2.05	2.33
Interruptions	3,034	2,747	2,946	3,014	3,347	2,881
Customers Interrupted	338,144	309,984	356,687	331,968	354,996	337,576
Customer-Hours Interrupted	673,977	630,734	712,899	616,176	683,031	769,961
Customers Served	342,247	339,254	337,761	335,992	332,797	331,016
Customers Per Interruption	111.45	112.84	121.08	110.14	106.06	117.17
Availability Index	99.9776	99.9788	99.9759	99.9791	99.9766	99.9734
Interruptions/1000 Customers	8.86	8.10	8.72	8.97	10.06	8.70

b. DISCUSSION OF REGIONAL PERFORMANCE

In 2024, the Capital Region met its CAIDI reliability target and met its SAIFI reliability target as set forth by the New York Public Service Commission (PSC). The final System Average Interruption Frequency Index (SAIFI) result was 0.99 interruptions, 3% below the PSC goal of 1.024 interruptions. As shown in the table above, the Customer Average Interruption Duration index (CAIDI) was 1.99 in 2024, 2% below the PSC's regional target of 2.025 hours.

The 2024 CAIDI result was 2% below the 2023 result of 2.03 hours, and 1% below the previous 5-year average of 2.02 hours. The 2024 SAIFI was 9% above the 2023 result of 0.91 interruptions, and 2% below the previous 5-year average of 1.01 interruptions.

In 2024, excluding major storms, the Capital Region experienced 9 transmission interruptions. These interruptions accounted for 0.3% of the region's total interruptions (9 of 3,034), 6% of the region's total customers interrupted (CI), (21,634 of 338,144), and 6% (42,459 of 673,976) of the region's total customer-hours interrupted (CHI). Overall, transmission interruptions had a CAIDI of 1.96 hours, and a SAIFI of 0.06 interruptions.

The number of transmission-related interruptions decreased from 11 in 2023 to 9 in 2024 (a decrease of 18%). The number of customers interrupted decreased from 52,274 in 2023, to 21,634 in 2024 (a decrease of 59%), while the customer-hours interrupted decreased from 75,126 in 2023, to 42,459 in 2024 (a decrease of 43%).

In 2024, excluding major storms, the Capital Region experienced 15 substation interruptions. These interruptions accounted for 0.5% of the region's total interruptions (15 of 3,034), 16% of the region's total customers interrupted, (53,489 of 338,144), and 4% (26,930 of 673,976) of the region's total customer-hours interrupted. Overall, substation interruptions had a CAIDI of .5 hours, and a SAIFI of 0.16 interruptions.

The number of substation-related interruptions increased from 8 to 15 from 2023 to 2024 (an increase of 88%). The number of customers interrupted increased from 28,348 in 2023, to 53,489 in 2024 (an increase of 89%), while the customer-hours interrupted decreased from 50,881 in 2023, to 26,930 in 2024 (a decrease of 47%).

In 2024, excluding major storms, the Capital Region experienced 3,010 distribution interruptions. These interruptions accounted for 99% of the region's total interruptions (3,010 of 3,034), 78% of the region's total customers interrupted, (263,021 of 338,144), and 90% (604,587 of 673,976) of the region's total customer-hours interrupted. Overall, distribution interruptions had a CAIDI of 2.3 hours, and a SAIFI of 0.77 interruptions.

The number of distribution-related interruptions increased from 2,728 to 3,010 from 2023 to 2024 (an increase of 10%). The number of customers interrupted increased from 229,362 in 2023, to 263,021 in 2024 (an increase of 15%), while the customer-hours interrupted increased from 504,728 in 2023, to 604,587 in 2024 (an increase of 20%).

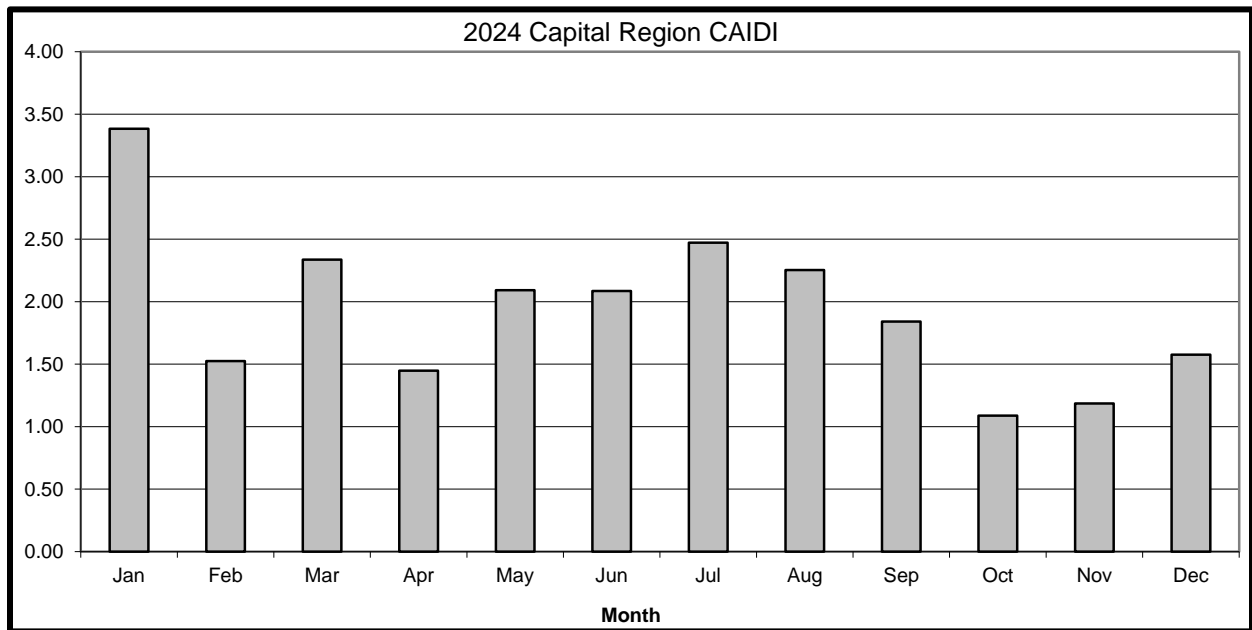
c. MONTHLY CAIDI AND SAIFI GRAPHS

The graphs on the following page show the monthly CAIDI and SAIFI for the Capital Region for 2024 (excluding Major Storms).

The CAIDI graph shows the individual CAIDI, by month, for the Capital Region for 2024. The year-end CAIDI was below the CAIDI threshold of 2.025 hours. The Capital Region ended 2024 with a CAIDI of 1.99, approximately 1.7% below the threshold. The three (3) best-performing months were October (1.09), November (1.19), and April (1.45). The four (4) worst performing months for CAIDI in 2024 was; January (3.38), July (2.47), March (2.34), and August (2.25).

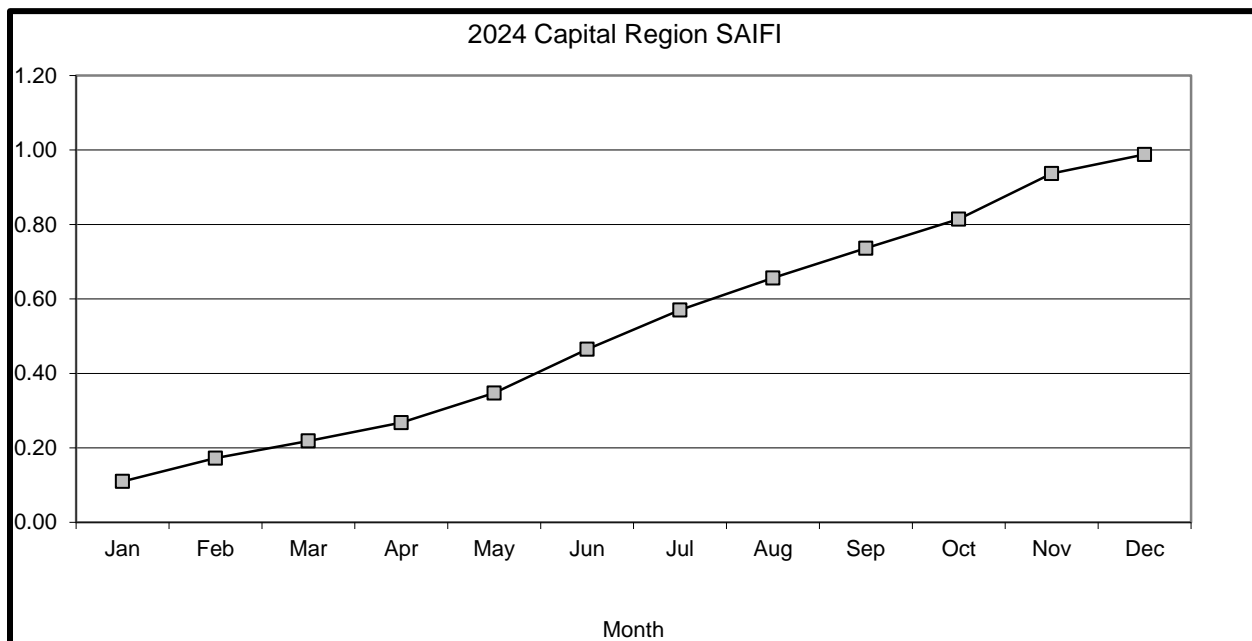
The SAIFI graph shows the cumulative SAIFI, by month, for the Capital Region for 2024. The year-end SAIFI was below the SAIFI threshold of 1.024 for the year. The Capital Region ended 2024 with a SAIFI of 0.99, approximately 3% below the threshold. The greatest increases occurred during the months of June (0.12), November (0.12), and January (0.11); these months accounted for 35% of the total SAIFI accrued. The lowest three (3) months for SAIFI were March (0.05), April (0.05), and December (0.05); these months contributed to only 15% of the total SAIFI accrued.

GRAPH OF MONTHLY CAIDI AND SAIFI FOR THE CAPITAL REGION



PSC CAIDI Goal:	
Threshold	2.025
2024 Actual	1.99

PSC SAIFI Goal:	
Threshold	1.024
2024 Actual	0.99



d. PSC CAUSE CODES

1) Number of Events by Cause – Historical

IDS Info

Cause Code	2024	2023	2022	2021	2020	2019
01 Major Storms	2,188	1,464	557	587	2,089	1,459
02 Tree Contacts	927	744	829	914	934	770
03 Overloads	26	9	14	13	33	12
04 Operator Error	12	18	6	8	7	12
05 Equipment	795	835	854	808	886	835
06 Accidents	509	438	502	445	607	487
07 Prearranged	191	193	161	215	131	161
08 Customer Equip.	-	-	-	-	-	-
09 Lightning	23	36	37	66	23	53
10 Unknown	551	474	543	545	726	551
Total	5,222	4,211	3,503	3,601	5,436	4,340

2) Customers Interrupted by Cause – Historical

IDS Info

Cause Code	2024	2023	2022	2021	2020	2019
01 Major Storms	360,700	182,049	93,574	97,510	314,863	161,241
02 Tree Contacts	121,796	87,081	117,674	127,913	121,887	119,201
03 Overloads	4,836	1,760	2,287	3,382	3,701	874
04 Operator Error	5,347	5,343	3,918	1,057	6,433	14,097
05 Equipment	69,060	116,254	124,395	90,765	117,049	87,827
06 Accidents	66,514	62,235	52,438	50,726	64,581	70,772
07 Prearranged	47,662	11,330	11,016	19,032	9,597	8,814
08 Customer Equip.	-	-	-	-	-	-
09 Lightning	1,435	547	10,268	2,133	6,306	17,483
10 Unknown	21,494	25,434	34,691	36,960	25,442	18,508
Total	698,844	492,033	450,261	429,478	669,859	498,817

3) Customer-Hours Interrupted by Cause – Historical

IDS Info

Cause Code	2024	2023	2022	2021	2020	2019
01 Major Storms	3,372,017	1,447,305	344,535	327,224	4,969,123	892,262
02 Tree Contacts	318,068	176,338	212,266	260,838	283,408	301,946
03 Overloads	15,255	2,821	1,490	4,120	7,366	736
04 Operator Error	5,540	4,741	2,864	942	3,718	19,637
05 Equipment	143,941	261,392	317,987	170,220	231,855	200,229
06 Accidents	125,583	116,562	92,871	86,652	99,616	135,777
07 Prearranged	20,326	17,023	15,067	21,955	6,984	13,040
08 Customer Equip.	-	-	-	-	-	-
09 Lightning	2,666	1,887	13,324	6,748	5,907	57,520
10 Unknown	42,597	49,970	57,030	64,700	44,176	41,074
Total	4,045,993	2,078,040	1,057,433	943,399	5,652,152	1,662,220

4) Interruptions, Customers Interrupted, and Customer-Hours Interrupted – 2024

Cause Code	Interruptions		Customers Interrupted		Customer-hours Interrupted	
	Number	% Total	Number	% Total	Number	% Total
01 Major Storms	2,188	41.9%	360,700	51.6%	3,372,017	83.3%
02 Tree Contacts	927	17.8%	121,796	17.4%	318,068	7.9%
03 Overloads	26	0.5%	4,836	0.7%	15,255	0.4%
04 Operator Error	12	0.2%	5,347	0.8%	5,540	0.1%
05 Equipment	795	15.2%	69,060	9.9%	143,941	3.6%
06 Accidents	509	9.7%	66,514	9.5%	125,583	3.1%
07 Prearranged	191	3.7%	47,662	6.8%	20,326	0.5%
08 Customer Equip.	0	0.0%	0	0.0%	0	0.0%
09 Lightning	23	0.4%	1,435	0.2%	2,666	0.1%
10 Unknown	551	10.6%	21,494	3.1%	42,597	1.1%
Total	5,222	100.0%	698,844	100.0%	4,045,993	100.0%

e. **INTERRUPTION REVIEW BY PSC CAUSE CODES**

Cause Code 01 - Major Storms

In 2024, Major Storms accounted for 42% of interruptions, 52% of customers interrupted, and 83% of Customer-Hours Interrupted.

Interruptions due to Major Storms were up 49% from 2023, and up 78% over the 5-year average. Customers interrupted due to Major Storms were up 98% from 2023, and up 112% over the 5-year average. Customer-Hours interrupted were up 133% from 2023 and up 111% over the 5-year average.

The remaining PSC code descriptions do not include Major Storms in the percentages.

Cause Code 02 - Tree Contacts

In 2024, Tree Contacts accounted for 31% of interruptions, 36% of customers interrupted, and 47% of Customer-Hours Interrupted.

Interruptions due to Tree Contacts were up 25% from 2023, and up 11% over the 5-year average. Customers interrupted due to Tree Contacts were up 40% from 2023, and up 6% over the 5-year average. Customer-Hours interrupted were up 80% from 2023 and up 29% over the 5-year average.

Tree Contacts were the largest cause of interruptions in 2024.

Cause Code 03 - Overloads

In 2024, Overloads accounted for 1% of interruptions, 1% of customers interrupted, and 2% of Customer-Hours Interrupted.

Interruptions due to Overloads were up 189% from 2023, and up 63% over the 5-year average. Customers interrupted due to Overloads were up 175% from 2023, and up 101% over the 5-year average. Customer-Hours interrupted were up 441% from 2023 and up 361% over the 5-year average.

Overloads were the 6th largest cause of interruptions in 2024.

Cause Code 04 - Operator Error

In 2024, Operator Error accounted for 0% of interruptions, 2% of customers interrupted, and 1% of Customer-Hours Interrupted.

Interruptions due to Operator Error were down 33% from 2023, and up 20% over the 5-year average. Customers interrupted due to Operator Error were up 0% from 2023, and down 13% over the 5-year average. Customer-Hours interrupted were up 17% from 2023 and down 13% over the 5-year average.

Operator Error was the 8th largest cause of interruptions in 2024.

Cause Code 05 - Equipment Failure

In 2024, Equipment Failures accounted for 26% of interruptions, 20% of customers interrupted, and 21% of Customer-Hours Interrupted.

Interruptions due to Equipment Failure were down 5% from 2023, and down 6% over the 5-year average. Customers interrupted due to Equipment Failure were down 41% from 2023, and down 36% over the 5-year average. Customer-Hours interrupted were down 45% from 2023 and down 39% over the 5-year average.

Equipment Failures were the 2nd largest cause of interruptions in 2024.

Cause Code 06 - Accidents

In 2024, Accidents accounted for 17% of interruptions, 20% of customers interrupted, and 19% of Customer-Hours Interrupted.

Interruptions due to Accidents were up 16% from 2023, and up 3% over the 5-year average. Customers interrupted due to Accidents were up 7% from 2023, and up 11% over the 5-year average. Customer-Hours interrupted were up 8% from 2023 and up 18% over the 5-year average.

Accidents were the 4th largest cause of interruptions in 2024.

Cause Code 07 - Prearranged

In 2024, Prearranged accounted for 6% of interruptions, 14% of customers interrupted, and 3% of Customer-Hours Interrupted.

Interruptions due to Prearranged were down 1% from 2023, and up 11% over the 5-year average. Customers interrupted due to Prearranged were up 321% from 2023, and up 299% over the 5-year average. Customer-Hours interrupted were up 19% from 2023 and up 37% over the 5-year average.

Prearranged was the 5th largest cause of interruptions in 2024.

Cause Code 08 - Customer Equipment

There were no Customer Equipment interruptions in 2024.

Cause Code 09 - Lightning

In 2024, Lightning accounted for 1% of interruptions, 0% of customers interrupted, and 0% of Customer-Hours Interrupted.

Interruptions due to Lightning were down 36% from 2023, and down 47% over the 5-year average. Customers interrupted due to Lightning were up 162% from 2023, and down 80% over the 5-year average. Customer-Hours interrupted were up 41% from 2023 and down 84% over the 5-year average.

Lightning was the 7th largest cause of interruptions in 2024.

Cause Code 10 - Unknown

In 2024, Unknown causes accounted for 18% of interruptions, 6% of customers interrupted, and 6% of Customer-Hours Interrupted.

f. DISCUSSION OF REGIONAL CAPEX PROJECTS WITH 2024/25 SPENDS:

The Company continues to work on capital projects in the Capital Region to maintain customer satisfaction and future reliability. Engineering works with Field Operations to address localized concerns raised through PSC complaints and other customer inquiries in the Capital Region. These solutions were varied and included fusing, installing reclosers, installing cutout-mounted reclosers, replacing bare wire for tree wire, rebuilds, conversions, installing animal guards, and tree trimming.

Some specific projects that were either constructed in CY2024 or are scheduled to be designed and/or constructed in CY2025 are listed below.

Delmar Unionville Area Conversions and Transfers

The southern Bethlehem area has seen a large growth in residential developments that is driving the need for load relief and improvements to reliability.

A capital improvement project was completed in early 2025 to transfer load to the Unionville 27652 picking up load from the Delmar substation in the Bethlehem/Delmar area.

An additional capital improvement project will allow the Bethlehem 02155 to pick up load from the Quail Hollow substation which will enable the retirement of the Quail Hollow substation. Quail Hollow distribution will be converted from 4.8 kV delta to 13.2 kV which will create a feeder tie with the Selkirk 14952 that will be capable of picking up more of the Selkirk 14952 load in the event of an N-1 condition.

An additional capital improvement project will transfer load from Unionville distribution to Bethlehem Distribution to allow Unionville to be able to pick up Vista Tech Park loading during construction of both the Elsmere and the New Krumkill Substations.

Sand Creek

The Karner substation, serving parts of the Town of Colonie, has been identified for retirement based on its asset condition report. As part of this process, three of its six distribution feeders will be transferred to Ruth Road 38151 and Ruth Road 38152 after the substation and overhead distribution work is completed. The Karner 31715, Karner 31716, and Karner 31718 feeders will be moved to the Sand Creek substation via a new 13.2 kV feeder breaker and distribution getaway.

The existing distribution on Sand Creek Road will be rebuilt to double-circuit construction to support the future Sand Creek 45254, which will extend south along Peter Drive and convert from 4.16 kV to 13.2 kV along Locust Park and Central Avenue. This will enable Sand Creek 45254 to offload the Karner 31715, 31716, and 31718 feeders from the Karner substation. The existing Sand Creek 45253 will continue to serve customers along Sand Creek Road. The Sand Creek breaker, R540, was installed in 2024, and distribution work is scheduled to begin in 2025.

Chrisler Avenue Substation Project

The Chrisler Avenue Substation Project aims to enhance electrical service capacity and reliability for the Schenectady, NY area, including the city of Schenectady and the town of Rotterdam. The project addresses asset condition issues at the Chrisler Avenue and Emmet Street substations by rebuilding the Chrisler Avenue substation from 34.5 kV / 4.16 kV to 34.5 kV / 13.2 kV, featuring a 12/16/20 MVA power transformer and four distribution feeders through a 5-bay, metal-clad switchgear. This upgrade will support the community's distribution needs and facilitate the retirement of the Emmet Street substation.

The project converts a 4.16 kV island to 13.2 kV, providing greater operational flexibility during contingencies. Construction and energization of the substation were completed in 2023, with two of the four feeders constructed and commissioned. Chrisler Avenue 25754 was commissioned in early 2024, and Chrisler Avenue 25752 was commissioned at the end of 2024. Construction of Chrisler Avenue 25751 and 25753 is scheduled for 2026.

New Krumkill Area Study

This area study will serve the growing area of south Albany and north Bethlehem by increasing system capacity and significantly improving reliability. There are numerous aging assets internal to New Krumkill substation nearing both end of life and nearing their thermal ratings on loading. The New Krumkill 4.16 kV will be replaced with 13.2 kV feeders increasing the load limits and the capacity of feeder ties with Avenue A and other 5kV stations improving reliability by allowing a single 13.2kV tie to pick up multiple 5kV feeders.

The New Krumkill transformer will be upgraded to a 40 MVA unit with 13.2kV distribution out of the substation. This increased bank size will allow for further load growth internal to Vista Tech Park, south Albany and north Bethlehem. The 13.2kV distribution feeders out of the New Krumkill Substation will tie to Voorheesville, Elsmere, McKownville and Unionville 13.2kV distribution feeders with FLISR schemes which will significantly improve both reliability and capacity.

This additional capacity will be critical, as assets are already nearing their ratings. Additionally, being a more urban environment, EV adoption and all electric construction is forecasted to be high with minimal opportunity for large, distributed energy resources for load mitigation, making these larger transformers and new 13.2 kV feeders all that much more critical in serving the significant load growth.

Elnora Future R550 Breaker and Feeder Getaway

The Shore Road substation, serving parts of Ballston Spa and Charlton, has been identified for retirement based on the condition of its assets. Two of its three distribution feeders are being transferred to the completed Lasher Road substation (Lasher Road 322152 and Lasher Road 322153), while the remaining Shore Road 28186 load will move to a new feeder from the Elnora substation.

A new 13.2 kV feeder breaker and distribution getaway will be constructed at the Elnora Substation. The existing distribution on Ballston Lake Road will be rebuilt to double-circuit construction with the Elnora 44256 and the future Elnora 44255. The Elnora 44255 feeder will extend west along Ballston Lake Road, absorbing part of Elnora 44256 via Ashdown and Waite Roads. The existing 1-phase, 4.8 kV section of Shore Road 28186 will be rebuilt and converted to 3-phase, 13.2 kV, with the Elnora 44255 absorbing the remaining load from the Shore Road substation.

Construction for the Elnora 44255 breaker, R550, was completed in 2023. The feeder getaway and the first phase of overhead distribution construction are scheduled for 2026, with the second phase set for 2027, allowing for the retirement of the Shore Road substation.

Lasher Road Station Project

The Lasher Road Substation Project aims to enhance electrical service capacity and reliability for the growing Ballston, NY area, particularly in the Towns of Ballston and Glenville. The project addresses post-contingency thermal overloading of the Luther Forest - Eastover Road #308, 115 kV line due to the planned Global Foundries expansion. It includes a 115 kV / 13.2 kV, 15/20/25 MVA power transformer with four feeders through a 7-bay, metal-clad switchgear, facilitating the retirement of the Shore Road substation. Construction of the substation was completed in March 2020.

Distribution construction linked to the Lasher Road substation began in 2019, starting with the work closest to the substation. The Lasher 322152 and 322153 projects were completed in 2024, enabling the transfer of most of the Shore Road substation to the Lasher Road substation. Shore Road only has one remaining feeder, 28186, which will be offloaded to the Elnora substation by 2027.

Williams Street Conversion Project – Valkin 42753

The Williams Street Conversion Project was completed in early 2025 and will serve the growing area of Hudson, NY by converting over a mile of overhead distribution to 13.2 kV. The Village of Kinderhook was originally an island of 4.8 kV infrastructure which resulted in limited feeder ties in the area. This project is the second of three (3) phases to eliminate this 4.8 kV island.

In this second phase to convert the Village of Kinderhook to 13.2 kV, Williams Street will be converted in its entirety. A half-mile section of Chatham Street and a quarter-mile section of Railroad Avenue will also be converted. Once this phase is complete, this section of overhead distribution will be fed from the south via Hudson Street. This section being fed from the south is temporary until phase three, the Kinderhook Street Conversion Project, is complete. At that time, it will once again be fed from the north, allowing for new potential switching and feeder tie configurations.

Kinderhook Street Conversion Project – Valkin 42753

The Kinderhook Street Conversion Project is the third phase of the plan to eliminate the 4.8 kV island in the Village of Kinderhook. The scope of this project includes the removal of a 2,500 kVA, pad-mounted ratio transformer, converting approximately 5,000' of overhead distribution to 13.2 kV, and creating an internal 13.2 kV tie. This pad-mounted ratio transformer is located off Kinderhook Street.

The second phase of this project, Williams Street Conversion Project, opened a switch on Chatham Street to feed this section of overhead distribution from the south temporarily until phase three, this project, is complete. Upon completion, this job will close the switch on Chatham Street and open the switch at the intersection of Williams Street and Hudson Street. This will create an internal 13.2 kV tie that can be utilized to manually isolate and restore power from an alternate direction in the event of a sustained outage.

Troy Area Enhancements

The City of Troy is powered by antiquated infrastructure, with every substation serving our customers at our former standard voltage of 4.16 kV. Not only is the infrastructure aging, but the City of Troy has also seen significant load growth; growth of which the 4.16 kV cannot handle when compared to our current standard voltage of 13.2 kV. Adding to the significant load growth, thus requiring significant upgrades, is an increased installation of EV chargers, heat pumps, rising residential loading, new commercial businesses, commercial business expansions, and the electrification of city buses. Furthermore, due to the urban nature of the environment, there are minimal opportunities to mitigate this load with large-scale, distributed energy resources.

The suite of projects encompassed within the Troy Area Enhancements will upgrade the Corliss Park substation, Liberty Street substation, and Seventh Avenue substation to 13.2 kV. Each substation will be equipped with a larger transformer, in some cases an additional transformer. This will aid in mitigating the existing load growth while future-proofing the system in anticipation of forecasted load growths. In addition to substation work, all feeders will be converted to 13.2 kV. This will create critical feeder ties with neighboring 13.2 kV feeders, thereby reducing restoration times and minimizing customer-hours interrupted. These upgrades will also allow for the retirement of the Lansingburgh substation and the Tibbits Avenue substation, both of which pose significant reliability concerns due to their aging assets.

Newtonville Area Study

This area study will serve the growing area north of Albany by increasing system capacity and significantly improving reliability. There are numerous aging assets surrounding the Newtonville area, including the Newtonville substation itself, and many of these assets are nearing their maximum ratings. Lastly, the Newtonville substation is the only substation operating at our former standard voltage of 4.16 kV, making it a 4.16 kV island amongst neighboring 13.2 kV feeders. As such, this limits the capacity of feeder ties which puts a considerable strain on reliability.

To enable the retirement of the Newtonville substation, surrounding substations will be upgraded. Most notably, the Johnson substation and the Maplewood substation will have their transformers upsized to 40 MVA; one (1) at Maplewood substation and two (2) at Johnson substation. Additionally, a new 13.2 kV feeder will be commissioned out of both the Johnson substation and the Forts Ferry substation which will significantly improve both reliability and capacity.

This additional capacity will be critical, as assets are already nearing their maximum ratings. Additionally, being a more urban environment, EV adoption and heat pump adoption is forecasted to be high with minimal opportunity for large, distributed energy resources for load mitigation, thus making the installation of larger transformers and the commissioning of new 13.2 kV feeders critical in serving the significant load growth.

Elsmere/Delmar Area Study

This area study will serve the growing area of City of Bethlehem including hamlet of Delmar and Elsmere by increasing system capacity and significantly improving reliability. There are numerous aging assets surrounding the Delmar area, including the Delmar, Elsmere, Juniper, Quail Hollow substation nearing both end of life and nearing their thermal ratings on loading. Lastly, the Delmar, Elsmere and Quail Hollow substation are the only substations operating at 4.16 kV, making it a 4.16 kV island amongst neighboring 13.2 kV feeders. As such, this limits the capacity of feeder ties which puts a considerable strain on reliability.

To enable the retirement of Delmar, Juniper and Quail Hollow substations, the Elsmere substation will be upgraded to a 20 MVA station with 13.2kV distribution out of the substation. This 13.2kV distribution feeders out of the new Elsmere Substation will tie to Voorheesville, Bethlehem and Unionville 13.2kV distribution feeders with FLISR schemes which will significantly improve both reliability and capacity.

This additional capacity will be critical, as assets are already nearing their ratings. Additionally, being a more urban environment, EV adoption and all electric construction is forecasted to be high with minimal opportunity for large, distributed energy resources for load mitigation, making these larger transformers and new 13.2 kV feeders all that much more critical in serving the significant load growth.

Capital Region Capital Projects in Excess of \$1M Completed in 2024:

Region	Project Name	Project Type	Fin Sys Project No.	Finish	Total Spend
Capital	DG NY 257886 Altamont Rd	D-Line	C085758	5/27/2024	\$1,332,000
Capital	Unionville 27652 tie w Beth 02158 - C089693	D-Line	C089693	1/11/2024	\$1,581,288
Capital	T5610 Rosa Rd- G E R D - 30651997 - 1 Strc - Insulator	T-Line	C026923	12/6/2024	\$28,860,000
Capital	Amsterdam-Rotterdam 3 4 5 69kV - C081471	T-Line	C081471	2/20/2024	\$14,173,000
Capital	Re-Insulate - New Scotland - Bethlehem #4 - C092993	T-Line	C092993	4/26/2024	\$2,316,000
Capital	Re-Insulate - New Scotland - Alps #6 - C095263	T-Line	C095263	6/25/2024	\$1,110,000
Capital	PAD 3321 Transformer Replacement	D-Line	C084734	11/15/2024	\$1,571,412
Capital	Strc Replacement - Crescent-North Troy 20 - C087209	Sub-T	C087209	4/16/2024	\$1,469,744
Capital	Unionville 52-Convert Delmar 27941	D-Line	C089575	12/16/2024	\$2,242,547
Capital	FLISR Church St 53 - Maple Ave 54	D-Line	C080089	5/20/2024	\$4,806,000
Capital	FLISR Pinebush 55 - Mcknownville 56	D-Line	C080089	11/13/2024	\$4,806,000
Capital	PROSPECT HILL STATION - REPLACE METALCLAD - C080223	D-Sub	C080223	5/15/2024	\$4,967,000
Capital	M9000 - GILBOA (NYPA) M9000 RTU - C069437	T-Sub	C069437	6/3/2024	\$1,870,000
Capital	CURRY ROAD STATION - TRF#2 REPLACEMENT - C088915	D-Sub	C088915	2/16/2024	\$1,800,000
Capital	WATT ST STATION - TB3 DF - C090059	D-Sub	C090059	10/18/2024	\$2,450,000
Capital	Lasher Road - 53 Feeder - C068348	D-Line	C068348	3/15/2024	\$8,154,000

g. DISCUSSION OF REGIONAL PERFORMANCE OF LOW VOLTAGE AC (LVAC) NETWORK DISTRIBUTION SYSTEM(S)

Albany Secondary LVAC Network

The Albany secondary network serves the downtown area of Albany, NY and is supplied by ten (10) 13.2 kV feeders that originate from the Riverside and Trinity substations. This system serves approximately 3,055 customer accounts and experienced a peak load of approximately 24.7 MVA in 2024.

The table below lists each distribution circuit serving the Albany secondary network with the number of events that caused an operation of the substation breaker.

Substation	Feeder	# Breaker Operations from Faults / Failures
Riverside	28801	0
Riverside	28802	0
Riverside	28805	1
Trinity	16406	0
Riverside	28807	0
Trinity	16408	0
Trinity	16410	0
Riverside	28811	0
Riverside	28812	0
Riverside	28815	0

As shown above, the Albany secondary network experienced one (1) unplanned distribution circuit outage in 2024.

Major equipment replacements in 2024 consisted of one (1) transformer vault roof, eight (8) network transformers, and eight (8) network protectors. Annual maintenance consisted of manhole and vault inspections, network protector and transformer inspections, and network protector operation checks.

Troy Secondary LVAC Network

The Troy secondary network serves the downtown area bounded by River Street, Congress Street, and Union Street. This network is supplied by six (6) 4.16 kV and two (2) 13.2 kV feeders that originate from the Liberty Street substation. This system serves approximately 1,480 customer accounts and experienced a peak load of approximately 8.3 MVA in 2024.

The table below lists each distribution circuit serving the Troy secondary network with the number of events that caused an operation of the substation breaker.

Substation	Feeder	# Breaker Operations from Faults / Failures
Liberty	09425	0
Liberty	09427	0
Liberty	09431	1
Liberty	09432	1
Liberty	09442	0
Liberty	09444	0
Liberty	09451	0
Liberty	09411	0

As shown above, the Troy secondary network experienced two (2) unplanned distribution circuit outages in 2024.

Annual maintenance consisted of manhole and vault inspections, network protector and transformer inspections, and network protector operation checks.

Schenectady Secondary LVAC Network

The Schenectady secondary network serves the downtown area around State Street from Nott Terrace to Washington Avenue, Erie Boulevard from State Street to River Road, and Broadway to Smith Street. This network is supplied by five (5) 13.2 kV feeders that originate from the Front Street Substation. This system serves approximately 1,200 customer accounts and experienced a peak load of approximately 9.6 MVA in 2024.

The table below lists each distribution circuit serving the Schenectady secondary network with the number of events that caused an operation of the substation breaker.

Substation	Feeder	# Breaker Operations from Faults / Failures
Front	36002	2
Front	36003	1
Front	36006	1
Front	36007	1
Front	36008	0

As shown above the Schenectady secondary network experienced a total of five (5) unplanned distribution circuit outages in 2024.

Annual maintenance consisted of manhole and vault inspections, network protector and transformer inspections, and network protector operation checks.

2. OPERATING CIRCUIT LISTS

The next three (3) tables will provide the following information for the Capital Region.

- a. Worst Performing Circuit List
- b. Worst Performing Circuits with 3 Year History for CAIDI and SAIFI Indices
- c. Worst Performing Circuits by # of Momentary Interruptions

a. NATIONAL GRID WORST PERFORMING CIRCUIT LIST

CAPITAL REGION

FEEDER #	A CUST. SERVED	B TOTAL INTER.	C # CUST. INTER.	D CUST. HRS. INTER.	C/A SAIFI	D/A SAIDI	D/C CAIDI	NUMBER OF MOMENTARIES
BRUNSWICK 26453	1,808	47	9,929	35,302	5.49	19.53	3.56	2
BRUNSWICK 26452	2,008	48	5,579	20,822	2.78	10.37	3.73	0
HOOSICK 31451	1,773	33	8,069	14,666	4.55	8.27	1.82	0
HEMSTREET 32851	1,888	39	7,094	14,066	3.76	7.45	1.98	2
VOORHEESVILLE 17853	2,048	33	7,326	14,760	3.58	7.21	2.01	6
ELNORA 44256	2,491	29	7,634	19,420	3.06	7.80	2.54	1
GROOMS ROAD 34552	1,698	22	4,851	9,011	2.86	5.31	1.86	1
BOYNTONVILLE 33351	2,150	55	3,189	14,915	1.48	6.94	4.68	0
HOAGS CORNERS 22151	976	21	1,558	10,757	1.60	11.02	6.90	0
HOOSICK 31452	1,548	32	5,587	5,140	3.61	3.32	0.92	1
INMAN ROAD 37056	1,593	17	5,122	7,173	3.22	4.50	1.40	2
BLUE STORES 30351	1,571	36	2,798	6,947	1.78	4.42	2.48	6
PINEBUSH 37151	814	11	3,157	7,773	3.88	9.55	2.46	3
VALKIN 42753	2,322	37	6,582	5,635	2.83	2.43	0.86	0
MENANDS 10157	2,300	12	6,999	10,814	3.04	4.70	1.55	1
CHRISLER AVE 25754	956	13	2,439	5,978	2.55	6.25	2.45	0
ROTTERDAM 13853	1,423	27	2,609	5,700	1.83	4.01	2.18	0
FIREHOUSE 44952	2,110	16	4,428	8,990	2.10	4.26	2.03	0
LYNN ST 32055	1,257	10	4,096	7,603	3.26	6.05	1.86	0
NORTH TROY 12351	1,363	27	2,794	4,748	2.05	3.48	1.70	1

Regional Goals:

CAIDI: 2.025

SAIFI: 1.024

b. NATIONAL GRID WORST PERFORMING CIRCUITS WITH 3 YEAR HISTORY FOR CAIDI AND SAIFI INDICES

CAPITAL REGION

FEEDER #	2024 CAIDI	2023 CAIDI	2022 CAIDI	2021 CAIDI	2024 SAIFI	2023 SAIFI	2022 SAIFI	2021 SAIFI
BRUNSWICK 26453	3.56	2.45	2.37	2.34	5.49	3.59	0.83	3.24
BRUNSWICK 26452	3.73	1.78	1.67	3.20	2.78	2.73	0.89	3.39
HOOSICK 31451	1.82	4.58	1.63	2.07	4.55	0.35	2.61	0.72
HEMSTREET 32851	1.98	2.44	1.90	1.62	3.76	1.68	2.55	2.48
VOORHEESVILLE 17853	2.01	1.80	1.64	3.20	3.58	0.76	0.49	1.23
ELNORA 44256	2.54	0.85	1.45	1.12	3.06	0.99	1.62	1.14
GROOMS ROAD 34552	1.86	2.45	1.56	0.70	2.86	0.48	0.46	1.00
BOYNTONVILLE 33351	4.68	2.23	1.84	2.58	1.48	1.66	2.52	2.42
HOAGS CORNERS 22151	6.90	4.74	2.40	2.74	1.60	1.49	1.15	1.89
HOOSICK 31452	0.92	2.47	4.33	1.93	3.61	0.14	2.20	1.27
INMAN ROAD 37056	1.40	1.92	2.87	2.29	3.22	2.29	0.49	2.29
BLUE STORES 30351	2.48	2.25	2.46	2.91	1.78	0.59	2.29	1.16
PINEBUSH 37151	2.46	3.39	2.88	2.08	3.88	1.02	0.07	2.11
VALKIN 42753	0.86	3.09	2.46	1.64	2.83	0.60	1.35	1.59
MENANDS 10157	1.55	2.17	2.05	1.97	3.04	0.16	0.52	0.23
CHRISLER AVE 25754	2.45	N/A	N/A	N/A	2.55	N/A	N/A	N/A
ROTTERDAM 13853	2.18	2.15	1.79	0.59	1.83	0.75	1.52	1.52
FIREHOUSE 44952	2.03	1.00	1.17	3.92	2.10	0.96	1.46	0.32
LYNN ST 32055	1.86	2.09	2.70	0.98	3.26	1.96	2.16	1.06
NORTH TROY 12351	1.70	2.35	3.02	4.29	2.05	0.16	0.80	0.32

Regional Goals:

CAIDI 2.025

SAIFI 1.024

c. NATIONAL GRID WORST PERFORMING CIRCUITS BY # OF MOMENTARY INTERRUPTIONS

CAPITAL REGION

Feeders			Customer Momentaries				Ranks		
Volts (kV)	Station Name	Ckt/F No.	Substation	Transmission	Distribution	Total	Within Region	Within System	Reliability Ranking
No circuits experienced 10 or more momentary interruptions in 2024.									

d. WORST PERFORMING CIRCUIT ANALYSIS

This year, the Capital Region's list of Worst Feeders consists of twenty (20) 13.2 kV feeders.

For the Capital Region the CAIDI performance threshold is 2.025 and SAIFI performance threshold is 1.024.

1. BRUNSWICK 26453 – 13.2 kV

Profile: 1,808 Customers, 102.9 Circuit Miles

Indices: CAIDI = 3.56, SAIFI = 5.49

CAUSE CODE PERFORMANCE TABLE

Code	Category	Interruptions		Customers Interrupted		Customer Hours	
		Number	% Total	Number	% Total	Number	% Total
2	TREE	26	55.32%	4,943	49.78%	26,473	74.99%
3	OVERLOADS	0	0.00%	0	0.00%	0	0.00%
4	OPER. ERROR	1	2.13%	2	0.02%	8	0.02%
5	EQUIPMENT	9	19.15%	1,602	16.13%	782	2.22%
6	ACCIDENTS	5	10.64%	3,333	33.57%	7,867	22.28%
7	PREARRANGED	1	2.13%	2	0.02%	4	0.01%
8	CUST. EQUIP.	0	0.00%	0	0.00%	0	0.00%
9	LIGHTNING	0	0.00%	0	0.00%	0	0.00%
10	UNKNOWN	5	10.64%	47	0.47%	168	0.47%
Totals		47	100.00%	9,929	100.00%	35,302	100.00%

Problem Analysis:

- There were 47 interruptions on the Brunswick 26453 in 2024.
- There was 1 transmission interruption.
 - This Transmission interruption occurred on March 17, 2024, coded as a cause of tree fell (PSC cause code 02). This lockout accounted for 18% of the total customers interrupted (1,807 of 9,929), and 16% of the total customer-hours interrupted (5,662 of 35,302).
- There were no substation interruptions.
- The remaining 46 events occurred at the distribution level.
- The distribution circuit breaker for the Brunswick 26453 experienced 2 momentary operations in 2024.
- The distribution circuit breaker for the Brunswick 26453 experienced 2 sustained operations (lockouts) in 2024. These interruptions accounted for 36% of the total amount of customers interrupted (3,615 out of 9,929) and 61% of the total amount of the customer-hours interrupted (21,661 out of 35,302).
 - The first lockout occurred on January 09, 2024, coded as a cause of tree fell (PSC cause code 02). This lockout accounted for 18% of the total customers interrupted (1,804 of 9,929), and 41% of the total customer-hours interrupted (14,463 of 35,302).
 - The second lockout occurred on September 21, 2024, coded as a cause of vehicle (PSC cause code 06). This lockout accounted for 18% of the total customers interrupted (1,811 of 9,929), and 20% of the total customer-hours interrupted (7,198 of 35,302).

- Trees were the leading cause of interruptions on the Brunswick 26453 in 2024, accounting for 55% of total interruptions (26 of 47). Equipment Failures were the 2nd leading cause of interruptions, accounting for 19% of total interruptions (9 of 47). Accidents were the 3rd leading cause of interruptions, accounting for 11% of total interruptions (5 of 47).
- Trees were the leading cause of customers interrupted (CI) on the Brunswick 26453 in 2024, accounting for 50% of total customers interrupted (4,943 of 9,929). Accidents were the 2nd leading cause of customers interrupted, accounting for 34% of total customers interrupted (3,333 of 9,929). Equipment Failures were the 3rd leading cause of customers interrupted, accounting for 16% of total customers interrupted (1,602 of 9,929).
- Trees were the leading cause of customer-hours interrupted (CHI) on the Brunswick 26453 in 2024, accounting for 75% of total customer-hours interrupted (26,473 of 35,302). Accidents were the 2nd leading cause of customer-hours interrupted, accounting for 22% of total customer-hours interrupted (7,867 of 35,302). Equipment Failures were the 3rd leading cause of customer-hours interrupted, accounting for 2% of total customer-hours interrupted (782 of 35,302).
- Of the 47 interruptions on this circuit, 25 affected 10 customers or less, with 11 being single customer outages.

Actions Taken:

- A maintenance foot patrol was performed in 2021 and all identified level 1, level 2, and level 3 maintenance has been completed.
- Tree trimming and a hazard tree review was completed in fiscal year 2025.

Action Plan:

- Tree trimming and a hazard tree review are scheduled to be performed in fiscal year 2030.

2. BRUNSWICK 26452 – 13.2 kV

Profile: 2,008 Customers, 95.4 Circuit Miles

Indices: CAIDI = 3.73, SAIFI = 2.78

CAUSE CODE PERFORMANCE TABLE

Code	Category	Interruptions		Customers Interrupted		Customer Hours	
		Number	Total	Number	% Total	Number	% Total
2	TREE	34	70.83%	5,195	93.12%	19,868	95.42%
3	OVERLOADS	0	0.00%	0	0.00%	0	0.00%
4	OPER. ERROR	0	0.00%	0	0.00%	0	0.00%
5	EQUIPMENT	3	6.25%	143	2.56%	306	1.47%
6	ACCIDENTS	6	12.50%	27	0.48%	43	0.21%
7	PREARRANGED	0	0.00%	0	0.00%	0	0.00%
8	CUST. EQUIP.	0	0.00%	0	0.00%	0	0.00%
9	LIGHTNING	1	2.08%	58	1.04%	194	0.93%
10	UNKNOWN	4	8.33%	156	2.80%	411	1.98%
Totals		48	100.00%	5,579	100.00%	20,822	100.00%

Problem Analysis:

- There were 48 interruptions on the Brunswick 26452 in 2024.
- There was 1 transmission interruption.
 - This Transmission interruption occurred on March 17, 2024, coded as a cause of tree fell (PSC cause code 02). This lockout accounted for 36% of the total customers interrupted (2,008 of 5,579), and 33% of the total customer-hours interrupted (6,961 of 20,822).
- There were no substation interruptions.
- The remaining 47 events occurred at the distribution level.
- The distribution circuit breaker for the Brunswick 26452 experienced 0 momentary operations in 2024.
- The distribution circuit breaker for the Brunswick 26452 experienced 0 sustained operations (lockouts) in 2024.
- Trees were the leading cause of interruptions on the Brunswick 26452 in 2024, accounting for 71% of total interruptions (34 of 48). Accidents were the 2nd leading cause of interruptions, accounting for 13% of total interruptions (6 of 48). Unknown were the 3rd leading cause of interruptions, accounting for 8% of total interruptions (4 of 48).
- Trees were the leading cause of customers interrupted (CI) on the Brunswick 26452 in 2024, accounting for 93% of total customers interrupted (5,195 of 5,579). Unknown were the 2nd leading cause of customers interrupted, accounting for 3% of total customers interrupted (156 of 5,579). Equipment Failures were the 3rd leading cause of customers interrupted, accounting for 3% of total customers interrupted (143 of 5,579).

- Trees were the leading cause of customer-hours interrupted (CHI) on the Brunswick 26452 in 2024, accounting for 95% of total customer-hours interrupted (19,868 of 20,822). Unknown were the 2nd leading cause of customer-hours interrupted, accounting for 2% of total customer-hours interrupted (411 of 20,822). Equipment Failures were the 3rd leading cause of customer-hours interrupted, accounting for 1% of total customer-hours interrupted (306 of 20,822).
- Of the 48 interruptions on this circuit, 19 affected 10 customers or less, with 9 being single customer outages.

Actions Taken:

- A maintenance foot patrol was performed in 2023 and all identified level 1 and level 2 maintenance has been completed.
- Tree trimming and a hazard tree review was completed in fiscal year 2025.

Action Plan:

- Complete all identified level 3 maintenance.
- Tree trimming and a hazard tree review are scheduled to be performed in fiscal year 2030.

3. HOOSICK 31451 – 13.2 kV

Profile: 1,773 Customers, 97.2 Circuit Miles

Indices: CAIDI = 1.82, SAIFI = 4.55

CAUSE CODE PERFORMANCE TABLE

Code	Category	Interruptions		Customers Interrupted		Customer Hours	
		Number	% Total	Number	% Total	Number	% Total
2	TREE	13	39.39%	1,968	24.39%	6,705	45.72%
3	OVERLOADS	0	0.00%	0	0.00%	0	0.00%
4	OPER. ERROR	0	0.00%	0	0.00%	0	0.00%
5	EQUIPMENT	7	21.21%	2,214	27.44%	5,765	39.31%
6	ACCIDENTS	3	9.09%	190	2.35%	1,685	11.49%
7	PREARRANGED	5	15.15%	3,584	44.42%	368	2.51%
8	CUST. EQUIP.	0	0.00%	0	0.00%	0	0.00%
9	LIGHTNING	0	0.00%	0	0.00%	0	0.00%
10	UNKNOWN	5	15.15%	113	1.40%	144	0.98%
Totals		33	100.00%	8,069	100.00%	14,666	100.00%

Problem Analysis:

- There were 33 interruptions on the Hoosick 31451 in 2024.
- There were no transmission interruptions.
- There was 1 substation interruption.
 - This Substation interruption occurred on February 25, 2024, coded as a cause of prearranged (PSC cause code 07). This lockout accounted for 22% of the total customers interrupted (1,766 of 8,069), and 1% of the total customer-hours interrupted (177 of 14,666).
- The remaining 32 events occurred at the distribution level.
- The distribution circuit breaker for the Hoosick 31451 experienced 0 momentary operations in 2024.
- The distribution circuit breaker for the Hoosick 31451 experienced 1 sustained operation (lockout) in 2024. This interruption accounted for 22% of the total amount of customers interrupted (1,770 out of 8,069) and 33% of the total amount of the customer-hours interrupted (4,830 out of 14,666).
 - This lockout occurred on September 17, 2024, coded as a cause of device failed (PSC cause code 05). This lockout accounted for 22% of the total customers interrupted (1,770 of 8,069), and 33% of the total customer-hours interrupted (4,830 of 14,666).
- Trees were the leading cause of interruptions on the Hoosick 31451 in 2024, accounting for 39% of total interruptions (13 of 33). Equipment Failures were the 2nd leading cause of interruptions, accounting for 21% of total interruptions (7 of 33). Prearranged were the 3rd leading cause of interruptions, accounting for 15% of total interruptions (5 of 33).

- Prearranged were the leading cause of customers interrupted (CI) on the Hoosick 31451 in 2024, accounting for 44% of total customers interrupted (3,584 of 8,069). Equipment Failures were the 2nd leading cause of customers interrupted, accounting for 27% of total customers interrupted (2,214 of 8,069). Trees were the 3rd leading cause of customers interrupted, accounting for 24% of total customers interrupted (1,968 of 8,069).
- Trees were the leading cause of customer-hours interrupted (CHI) on the Hoosick 31451 in 2024, accounting for 46% of total customer-hours interrupted (6,705 of 14,666). Equipment Failures were the 2nd leading cause of customer-hours interrupted, accounting for 39% of total customer-hours interrupted (5,765 of 14,666). Accidents were the 3rd leading cause of customer-hours interrupted, accounting for 11% of total customer-hours interrupted (1,685 of 14,666).
- Of the 33 interruptions on this circuit, 12 affected 10 customers or less, with 6 being single customer outages.

Actions Taken:

- A maintenance foot patrol was performed in 2023 and all identified level 1 and level 2 maintenance has been completed.
- Tree trimming and a hazard tree review was completed in fiscal year 2021.

Action Plan:

- Complete all identified level 3 maintenance.
- Tree trimming and a hazard tree review are scheduled to be performed in fiscal year 2027.

4. HEMSTREET 32851 – 13.2 kV

Profile: 1,888 Customers, 123.7 Circuit Miles

Indices: CAIDI = 1.98, SAIFI = 3.76

CAUSE CODE PERFORMANCE TABLE

Code	Category	Interruptions		Customers Interrupted		Customer Hours	
		Number	% Total	Number	% Total	Number	% Total
2	TREE	13	33.33%	2,946	41.53%	6,554	46.60%
3	OVERLOADS	0	0.00%	0	0.00%	0	0.00%
4	OPER. ERROR	0	0.00%	0	0.00%	0	0.00%
5	EQUIPMENT	7	17.95%	62	0.87%	210	1.50%
6	ACCIDENTS	11	28.21%	1,832	25.82%	5,573	39.62%
7	PREARRANGED	0	0.00%	0	0.00%	0	0.00%
8	CUST. EQUIP.	0	0.00%	0	0.00%	0	0.00%
9	LIGHTNING	1	2.56%	256	3.61%	179	1.27%
10	UNKNOWN	7	17.95%	1,998	28.16%	1,550	11.02%
Totals		39	100.00%	7,094	100.00%	14,066	100.00%

Problem Analysis:

- There were 39 interruptions on the Hemstreet 32851 in 2024.
- There was 1 transmission interruption.
 - This Transmission interruption occurred on December 13, 2024, coded as a cause of unknown (PSC cause code 10). This lockout accounted for 27% of the total customers interrupted (1,882 of 7,094), and 8% of the total customer-hours interrupted (1,161 of 14,066).
- There were no substation interruptions.
- The remaining 38 events occurred at the distribution level.
- The distribution circuit breaker for the Hemstreet 32851 experienced 2 momentary operations in 2024.
- The distribution circuit breaker for the Hemstreet 32851 experienced 1 sustained operation (lockout) in 2024. This interruption accounted for 27% of the total amount of customers interrupted (1,890 out of 7,094) and 19% of the total amount of the customer-hours interrupted (2,711 out of 14,066).
 - This lockout occurred on September 16, 2024, coded as a cause of tree fell (PSC cause code 02). This lockout accounted for 27% of the total customers interrupted (1,890 of 7,094), and 19% of the total customer-hours interrupted (2,711 of 14,066).
- Trees were the leading cause of interruptions on the Hemstreet 32851 in 2024, accounting for 33% of total interruptions (13 of 39). Accidents were the 2nd leading cause of interruptions, accounting for 28% of total interruptions (11 of 39). Equipment Failures were the 3rd leading cause of interruptions, accounting for 18% of total interruptions (7 of 39).

- Trees were the leading cause of customers interrupted (CI) on the Hemstreet 32851 in 2024, accounting for 42% of total customers interrupted (2,946 of 7,094). Unknown were the 2nd leading cause of customers interrupted, accounting for 28% of total customers interrupted (1,998 of 7,094). Accidents were the 3rd leading cause of customers interrupted, accounting for 26% of total customers interrupted (1,832 of 7,094).
- Trees were the leading cause of customer-hours interrupted (CHI) on the Hemstreet 32851 in 2024, accounting for 47% of total customer-hours interrupted (6,554 of 14,066). Accidents were the 2nd leading cause of customer-hours interrupted, accounting for 40% of total customer-hours interrupted (5,573 of 14,066). Unknown were the 3rd leading cause of customer-hours interrupted, accounting for 11% of total customer-hours interrupted (1,550 of 14,066).
- Of the 39 interruptions on this circuit, 22 affected 10 customers or less, with 8 being single customer outages.

Actions Taken:

- A maintenance foot patrol was performed in 2020 and all identified level 1, level 2, and level 3 maintenance has been completed.
- Tree trimming and a hazard tree review was completed in fiscal year 2023.

Action Plan:

- Tree trimming and a hazard tree review are scheduled to be performed in fiscal year 2029.

5. VOORHEESVILLE 17853 – 13.2 kV

Profile: 2,258 Customers, 40 Circuit Miles

Indices: CAIDI = 2.01, SAIFI = 3.58

CAUSE CODE PERFORMANCE TABLE

Code	Category	Interruptions		Customers Interrupted		Customer Hours	
		Number	% Total	Number	% Total	Number	% Total
2	TREE	8	24.24%	3,220	43.95%	7,593	51.45%
3	OVERLOADS	0	0.00%	0	0.00%	0	0.00%
4	OPER. ERROR	1	3.03%	3	0.04%	53	0.36%
5	EQUIPMENT	12	36.36%	2,327	31.76%	3,151	21.35%
6	ACCIDENTS	3	9.09%	282	3.85%	1,299	8.80%
7	PREARRANGED	4	12.12%	672	9.17%	867	5.88%
8	CUST. EQUIP.	0	0.00%	0	0.00%	0	0.00%
9	LIGHTNING	0	0.00%	0	0.00%	0	0.00%
10	UNKNOWN	5	15.15%	822	11.22%	1,796	12.17%
Totals		33	100.00%	7,326	100.00%	14,760	100.00%

Problem Analysis:

- There were 33 interruptions on the Voorheesville 17853 in 2024.
- There were no transmission interruptions.
- There were no substation interruptions.
- All 33 events occurred at the distribution level.
- The distribution circuit breaker for the Voorheesville 17853 experienced 6 momentary operations in 2024.
- The distribution circuit breaker for the Voorheesville 17853 experienced 2 sustained operations (lockouts) in 2024. These interruptions accounted for 56% of the total amount of customers interrupted (4,092 out of 7,326) and 39% of the total amount of the customer-hours interrupted (5,682 out of 14,760).
 - The first lockout occurred on July 06, 2024, coded as a cause of device failed (PSC cause code 05). This lockout accounted for 28% of the total customers interrupted (2,080 of 7,326), and 14% of the total customer-hours interrupted (2,080 of 14,760).
 - The second lockout occurred on August 19, 2024, coded as a cause of tree fell (PSC cause code 02). This lockout accounted for 28% of the total customers interrupted (2,046 of 7,326), and 25% of the total customer-hours interrupted (3,602 of 14,760). The recloser settings were reviewed when the recloser did not lock out and the station breaker did. The settings on the recloser were changed for improved coordination with the station breaker.
- Equipment failures were the leading cause of interruptions on the Voorheesville 17853 in 2024, accounting for 36% of total interruptions (12 of 33). Trees were the 2nd leading cause of interruptions, accounting for 24% of total interruptions (8 of 33). Unknown caused outages were the 3rd leading cause of interruptions, accounting for 15% of total interruptions (5 of 33).

- Trees were the leading cause of customers interrupted (CI) on the Voorheesville 17853 in 2024, accounting for 44% of total customers interrupted (3,220 of 7,326). Equipment failures were the 2nd leading cause of customers interrupted, accounting for 32% of total customers interrupted (2,327 of 7,326). Unknown were the 3rd leading cause of customers interrupted, accounting for 11% of total customers interrupted (822 of 4,326).
- Trees were the leading cause of customer-hours interrupted (CHI) on the Voorheesville 17853 in 2024, accounting for 51% of total customer-hours interrupted (7,593 of 14,760). Equipment failures were the 2nd leading cause of customer-hours interrupted, accounting for 21% of total customer-hours interrupted (3,151 of 14,760). Unknown events were the 3rd leading cause of customer-hours interrupted, accounting for 12% of total customer-hours interrupted (1,796 of 14,760).
- Of the 33 interruptions on this circuit, 20 affected 10 customers or less, with 13 being single customer outages.

Actions Taken:

- There are four (4) 3-phase reclosers and six (6) cutout-mounted reclosers on the Voorheesville 17853. These reclosers have assisted with minimizing customers interrupted and customer-hours interrupted since they were installed.
- A maintenance foot patrol was completed on the Voorheesville 17853 in 2023, and all identified level 1 and 2 maintenance has been completed.
- Tree trimming and a hazard tree review was completed on Voorheesville 17853 in 2020.
- A capital improvement project was completed for regulator removals and replacement on the Voorheesville 17853 to prevent low voltage upon failure of the remaining regulator. This was from Computapole inspection and M&T review that found multiple regs non-functional or stuck.
- Recloser settings were reviewed and updated in 2024.

Action Plan:

- Complete all identified level 3 maintenance on the Voorheesville 17853.
- Tree trimming and a hazard tree review are scheduled to be performed on Voorheesville 17853 in CY24/FY25.
- Engineering to review if additional 3-phase reclosers or single-phase cutout mounted reclosers will assist in minimizing customers interrupted and customer-hours interrupted; to install if warranted.

6. ELNORA 44256 – 13.2 kV

Profile: 2,491 Customers, 73 Circuit Miles

Indices: CAIDI = 2.54, SAIFI = 3.06

CAUSE CODE PERFORMANCE TABLE

Code	Category	Interruptions		Customers Interrupted		Customer Hours	
		Number	% Total	Number	% Total	Number	% Total
2	TREE	6	20.69%	851	11.15%	3,434	17.68%
3	OVERLOADS	0	0.00%	0	0.00%	0	0.00%
4	OPER. ERROR	0	0.00%	0	0.00%	0	0.00%
5	EQUIPMENT	8	27.59%	49	0.64%	268	1.38%
6	ACCIDENTS	11	37.93%	6,541	85.68%	15,457	79.59%
7	PREARRANGED	1	3.45%	11	0.14%	30	0.16%
8	CUST. EQUIP.	0	0.00%	0	0.00%	0	0.00%
9	LIGHTNING	0	0.00%	0	0.00%	0	0.00%
10	UNKNOWN	3	10.34%	182	2.38%	231	1.19%
Totals		29	100.00%	7,634	100.00%	19,420	100.00%

Problem Analysis:

- There were 29 interruptions on the Elnora 44256 in 2024.
- There were no transmission interruptions.
- There were no substation interruptions.
- All 29 events occurred at the distribution level.
- The distribution circuit breaker for the Elnora 44256 experienced 1 momentary operation in 2024.
- The distribution circuit breaker for the Elnora 44256 experienced 0 sustained operations (lockouts) in 2024.
- Accidents were the leading cause of interruptions on the Elnora 44256 in 2024, accounting for 38% of total interruptions (11 of 29). Equipment Failures were the 2nd leading cause of interruptions, accounting for 27% of total interruptions (8 of 29). Trees were the 3rd leading cause of interruptions, accounting for 21% of total interruptions (6 of 29).
- Accidents were the leading cause of customers interrupted (CI) on the Elnora 44256 in 2024, accounting for 86% of total customers interrupted (6,541 of 7,634). Trees were the 2nd leading cause of customers interrupted, accounting for 11% of total customers interrupted (851 of 7,634). Unknown were the 3rd leading cause of customers interrupted, accounting for 2% of total customers interrupted (182 of 7,634).
- Accidents were the leading cause of customer-hours interrupted (CHI) on the Elnora 44256 in 2024, accounting for 80% of total customer-hours interrupted (15,457 of 19,420). Trees were the 2nd leading cause of customer-hours interrupted, accounting for 18% of total customer-hours interrupted (3,434 of 19,420). Equipment were the 3rd leading cause of

customer-hours interrupted, accounting for 1% of total customer-hours interrupted (268 of 19,420).

- Of the 29 interruptions on this circuit, 13 affected 10 customers or less, with 7 being single customer outages.

Actions Taken:

- A maintenance foot patrol was completed on the Elnora 44256 in 2023 and all identified level 1 and 2 maintenance has been completed.
- Tree trimming and a hazard tree review was completed on Elnora 44256 in 2022.

Action Plan:

- Complete all identified level 3 maintenance.
- Tree trimming and a hazard tree review are scheduled to be performed on Elnora 44256 in 2026.

7. GROOMS ROAD 34552 – 13.2 kV

Profile: 1,698 Customers, 47 Circuit Miles

Indices: CAIDI = 1.86, SAIFI = 2.86

CAUSE CODE PERFORMANCE TABLE

Code	Category	Interruptions		Customers Interrupted		Customer Hours	
		Number	% Total	Number	% Total	Number	% Total
2	TREE	8	36.36%	551	11.36%	2,045	22.70%
3	OVERLOADS	0	0.00%	0	0.00%	0	0.00%
4	OPER. ERROR	0	0.00%	0	0.00%	0	0.00%
5	EQUIPMENT	7	31.82%	3,701	76.29%	5,467	60.67%
6	ACCIDENTS	4	18.18%	483	9.96%	1,290	14.31%
7	PREARRANGED	0	0.00%	0	0.00%	0	0.00%
8	CUST. EQUIP.	0	0.00%	0	0.00%	0	0.00%
9	LIGHTNING	1	4.55%	5	0.10%	24	0.26%
10	UNKNOWN	2	9.09%	111	2.29%	185	2.06%
Totals		22	100.00%	4,851	100.00%	9,011	100.00%

Problem Analysis:

- There were 22 interruptions on the Grooms Road 34552 in 2024.
- There were no transmission interruptions.
- There were no substation interruptions.
- All 22 events occurred at the distribution level.
- The distribution circuit breaker for the Grooms Road 34552 experienced 1 momentary operation in 2024.
- The distribution circuit breaker for the Grooms Road 34552 experienced 2 sustained operations (lockouts) in 2024. These interruptions accounted for 70% of the total amount of customers interrupted (3,395 out of 4,851) and 53% of the total amount of the customer-hours interrupted (4,808 out of 9,011).
 - The first lockout occurred on November 11, 2024, coded as a cause of device failed (PSC cause code 05). This lockout accounted for 35% of the total customers interrupted (1,697 of 4,851), and 34% of the total customer-hours interrupted (3,024 of 9,011).
 - The second lockout occurred on November 12, 2024, coded as a cause of device failed (PSC cause code 05). This lockout accounted for 35% of the total customers interrupted (1,698 of 4,851), and 20% of the total customer-hours interrupted (1,784 of 9,011).
- Trees were the leading cause of interruptions on the Grooms Road 34552 in 2024, accounting for 36% of total interruptions (8 of 22). Equipment Failures were the 2nd leading cause of interruptions, accounting for 32% of total interruptions (7 of 22).

Accidents were the 3rd leading cause of interruptions, accounting for 18% of total interruptions (4 of 22).

- Equipment Failures were the leading cause of customers interrupted (CI) on the Grooms Road 34552 in 2024, accounting for 76% of total customers interrupted (3,701 of 4,851). Trees were the 2nd leading cause of customers interrupted, accounting for 11% of total customers interrupted (551 of 4,851). Accidents were the 3rd leading cause of customers interrupted, accounting for 10% of total customers interrupted (482 of 4,851).
- Equipment were the leading cause of customer-hours interrupted (CHI) on the Grooms Road 34552 in 2024, accounting for 61% of total customer-hours interrupted (5,467 of 9,011). Trees were the 2nd leading cause of customer-hours interrupted, accounting for 23% of total customer-hours interrupted (2,045 of 9,011). Accidents were the 3rd leading cause of customer-hours interrupted, accounting for 6% of total customer-hours interrupted (1,290 of 9,011).
- Of the 22 interruptions on this circuit, 12 affected 10 customers or less, with 1 being a single customer outages.

Actions Taken:

- A maintenance foot patrol was completed on the Grooms Road 34552 in 2023 and all identified level 1 and 2 maintenance has been completed.
- Tree trimming and a hazard tree review was completed on Grooms Road 34552 in 2021.

Action Plan:

- Complete all level 3 maintenance.
- Tree trimming and a hazard tree review is scheduled to be performed on Grooms Road 34552 in 2026.

8. BOYNTONVILLE 33351 – 13.2 kV

Profile: 2,150 Customers, 154.0 Circuit Miles

Indices: CAIDI = 4.68, SAIFI = 1.48

CAUSE CODE PERFORMANCE TABLE

Code	Category	Interruptions		Customers Interrupted		Customer Hours	
		Number	% Total	Number	% Total	Number	% Total
2	TREE	28	50.91%	1,785	55.97%	11,257	75.48%
3	OVERLOADS	0	0.00%	0	0.00%	0	0.00%
4	OPER. ERROR	0	0.00%	0	0.00%	0	0.00%
5	EQUIPMENT	11	20.00%	266	8.34%	1,358	9.11%
6	ACCIDENTS	9	16.36%	1,051	32.96%	2,076	13.92%
7	PREARRANGED	1	1.82%	1	0.03%	2	0.01%
8	CUST. EQUIP.	0	0.00%	0	0.00%	0	0.00%
9	LIGHTNING	1	1.82%	4	0.13%	20	0.13%
10	UNKNOWN	5	9.09%	82	2.57%	202	1.36%
Totals		55	100.00%	3,189	100.00%	14,915	100.00%

Problem Analysis:

- There were 55 interruptions on the Boyntonville 33351 in 2024.
- There were no transmission interruptions.
- There were no substation interruptions.
- All 55 events occurred at the distribution level.
- The distribution circuit breaker for the Boyntonville 33351 experienced 0 momentary operations in 2024.
- The distribution circuit breaker for the Boyntonville 33351 experienced 0 sustained operations (lockouts) in 2024.
- Trees were the leading cause of interruptions on the Boyntonville 33351 in 2024, accounting for 51% of total interruptions (28 of 55). Equipment Failures were the 2nd leading cause of interruptions, accounting for 20% of total interruptions (11 of 55). Accidents were the 3rd leading cause of interruptions, accounting for 16% of total interruptions (9 of 55).
- Trees were the leading cause of customers interrupted (CI) on the Boyntonville 33351 in 2024, accounting for 56% of total customers interrupted (1,785 of 3,189). Accidents were the 2nd leading cause of customers interrupted, accounting for 33% of total customers interrupted (1,051 of 3,189). Equipment Failures were the 3rd leading cause of customers interrupted, accounting for 8% of total customers interrupted (266 of 3,189).
- Trees were the leading cause of customer-hours interrupted (CHI) on the Boyntonville 33351 in 2024, accounting for 75% of total customer-hours interrupted (11,257 of 14,915). Accidents were the 2nd leading cause of customer-hours interrupted, accounting for 14% of total customer-hours interrupted (2,076 of 14,915). Equipment Failures were the 3rd

leading cause of customer-hours interrupted, accounting for 9% of total customer-hours interrupted (1,358 of 14,915).

- Of the 55 interruptions on this circuit, 32 affected 10 customers or less, with 12 being single customer outages.

Actions Taken:

- A maintenance foot patrol was performed in 2023 and all identified level 1 and 2 maintenance has been completed.
- Tree trimming and a hazard tree review was completed in fiscal year 2020.

Action Plan:

- Complete all identified level 3 maintenance.
- Tree trimming and a hazard tree review is scheduled to be performed in fiscal year 2026.

9. HOAGS CORNERS 22151 – 13.2 kV

Profile: 976 Customers, 56.4 Circuit Miles

Indices: CAIDI = 6.90, SAIFI = 1.60

CAUSE CODE PERFORMANCE TABLE

Code	Category	Interruptions		Customers Interrupted		Customer Hours	
		Number	% Total	Number	% Total	Number	% Total
2	TREE	14	66.67%	1,414	90.76%	10,228	95.08%
3	OVERLOADS	0	0.00%	0	0.00%	0	0.00%
4	OPER. ERROR	0	0.00%	0	0.00%	0	0.00%
5	EQUIPMENT	5	23.81%	22	1.41%	136	1.26%
6	ACCIDENTS	0	0.00%	0	0.00%	0	0.00%
7	PREARRANGED	1	4.76%	1	0.06%	1	0.01%
8	CUST. EQUIP.	0	0.00%	0	0.00%	0	0.00%
9	LIGHTNING	0	0.00%	0	0.00%	0	0.00%
10	UNKNOWN	1	4.76%	121	7.77%	392	3.64%
Totals		21	100.00%	1,558	100.00%	10,757	100.00%

Problem Analysis:

- There were 21 interruptions on the Hoags Corners 22151 in 2024.
- There were no transmission interruptions.
- There were no substation interruptions.
- All 21 events occurred at the distribution level.
- The distribution circuit breaker for the Hoags Corners 22151 experienced 0 momentary operations in 2024.
- The distribution circuit breaker for the Hoags Corners 22151 experienced 0 sustained operations (lockouts) in 2024.
- Trees were the leading cause of interruptions on the Hoags Corners 22151 in 2024, accounting for 67% of total interruptions (14 of 21). Equipment Failures were the 2nd leading cause of interruptions, accounting for 24% of total interruptions (5 of 21). Prearranged were the 3rd leading cause of interruptions, accounting for 5% of total interruptions (1 of 21).
- Trees were the leading cause of customers interrupted (CI) on the Hoags Corners 22151 in 2024, accounting for 91% of total customers interrupted (1,414 of 1,558). Unknown were the 2nd leading cause of customers interrupted, accounting for 8% of total customers interrupted (121 of 1,558). Equipment Failures were the 3rd leading cause of customers interrupted, accounting for 1% of total customers interrupted (22 of 1,558).
- Trees were the leading cause of customer-hours interrupted (CHI) on the Hoags Corners 22151 in 2024, accounting for 95% of total customer-hours interrupted (10,228 of 10,757). Unknown were the 2nd leading cause of customer-hours interrupted, accounting for 4% of total customer-hours interrupted (392 of 10,757). Equipment Failures were the 3rd leading

cause of customer-hours interrupted, accounting for 1% of total customer-hours interrupted (136 of 10,757).

- Of the 21 interruptions on this circuit, 10 affected 10 customers or less, with 7 being single customer outages.

Actions Taken:

- A maintenance foot patrol was performed in 2024 and all identified level 1 maintenance has been completed.
- Tree trimming and a hazard tree review was completed in fiscal year 2025.

Action Plan:

- Complete all identified level 2 and level 3 maintenance.
- Tree trimming and a hazard tree review are scheduled to be performed in fiscal year 2029.

10. HOOSICK 31452 – 13.2 kV

Profile: 1,548 Customers, 57.6 Circuit Miles

Indices: CAIDI = 0.92, SAIFI = 3.61

CAUSE CODE PERFORMANCE TABLE

Code	Category	Interruptions		Customers Interrupted		Customer Hours	
		Number	% Total	Number	% Total	Number	% Total
2	TREE	12	37.50%	552	9.88%	1,641	31.93%
3	OVERLOADS	0	0.00%	0	0.00%	0	0.00%
4	OPER. ERROR	0	0.00%	0	0.00%	0	0.00%
5	EQUIPMENT	3	9.38%	3	0.05%	24	0.47%
6	ACCIDENTS	4	12.50%	29	0.52%	95	1.84%
7	PREARRANGED	7	21.88%	4,919	88.04%	3,167	61.62%
8	CUST. EQUIP.	0	0.00%	0	0.00%	0	0.00%
9	LIGHTNING	1	3.13%	1	0.02%	13	0.25%
10	UNKNOWN	5	15.63%	83	1.49%	200	3.89%
Totals		32	100.00%	5,587	100.00%	5,140	100.00%

Problem Analysis:

- There were 32 interruptions on the Hoosick 31452 in 2024.
- There were no transmission interruptions.
- There was 1 substation interruption.
 - This Substation interruption occurred on February 25, 2024, coded as a cause of prearranged (PSC cause code 07). This lockout accounted for 28% of the total customers interrupted (1,546 of 5,587), and 3% of the total customer-hours interrupted (155 of 5,140).
- The remaining 31 events occurred at the distribution level.
- The distribution circuit breaker for the Hoosick 31452 experienced 1 momentary operation in 2024.
- The distribution circuit breaker for the Hoosick 31452 experienced 0 sustained operations (lockouts) in 2024.
- Trees were the leading cause of interruptions on the Hoosick 31452 in 2024, accounting for 38% of total interruptions (12 of 32). Prearranged were the 2nd leading cause of interruptions, accounting for 22% of total interruptions (7 of 32). Unknown were the 3rd leading cause of interruptions, accounting for 16% of total interruptions (5 of 32).
- Prearranged were the leading cause of customers interrupted (CI) on the Hoosick 31452 in 2024, accounting for 88% of total customers interrupted (4,919 of 5,587). Trees were the 2nd leading cause of customers interrupted, accounting for 10% of total customers interrupted (552 of 5,587). Unknown were the 3rd leading cause of customers interrupted, accounting for 1% of total customers interrupted (83 of 5,587).

- Prearranged were the leading cause of customer-hours interrupted (CHI) on the Hoosick 31452 in 2024, accounting for 62% of total customer-hours interrupted (3,167 of 5,140). Trees were the 2nd leading cause of customer-hours interrupted, accounting for 32% of total customer-hours interrupted (1,641 of 5,140). Unknown were the 3rd leading cause of customer-hours interrupted, accounting for 4% of total customer-hours interrupted (200 of 5,140).
- Of the 32 interruptions on this circuit, 14 affected 10 customers or less, with 9 being single customer outages.

Actions Taken:

- A maintenance foot patrol was performed in 2023 and all identified level 1 and level 2 maintenance has been completed.
- Tree trimming and a hazard tree review was completed in fiscal year 2021.

Action Plan:

- Complete all identified level 3 maintenance.
- Tree trimming and a hazard tree review are scheduled to be performed in fiscal year 2027.

11. INMAN ROAD 37056 – 13.2 kV

Profile: 1,593 Customers, 38 Circuit Miles

Indices: CAIDI = 1.40, SAIFI = 3.22

CAUSE CODE PERFORMANCE TABLE

Code	Category	Interruptions		Customers Interrupted		Customer Hours	
		Number	% Total	Number	% Total	Number	% Total
2	TREE	7	41.18%	3,835	74.87%	4,484	62.51%
3	OVERLOADS	0	0.00%	0	0.00%	0	0.00%
4	OPER. ERROR	0	0.00%	0	0.00%	0	0.00%
5	EQUIPMENT	6	35.29%	95	1.85%	392	5.47%
6	ACCIDENTS	2	11.76%	1,125	21.96%	2,244	31.28%
7	PREARRANGED	1	5.88%	12	0.23%	13	0.18%
8	CUST. EQUIP.	0	0.00%	0	0.00%	0	0.00%
9	LIGHTNING	0	0.00%	0	0.00%	0	0.00%
10	UNKNOWN	1	5.88%	55	1.07%	40	0.56%
Totals		17	100.00%	5,122	100.00%	7,173	100.00%

Problem Analysis:

- There were 17 interruptions on the Inman Road 37056 in 2024.
- There were no transmission interruptions.
- There were no substation interruptions.
- All 17 events occurred at the distribution level.
- The distribution circuit breaker for the Inman Road 37056 experienced 2 momentary operations in 2024.
- The distribution circuit breaker for the Inman Road 37056 experienced 2 sustained operations (lockouts) in 2024. These interruptions accounted for 62% of the total amount of customers interrupted (3,198 out of 5,122) and 30% of the total amount of the customer-hours interrupted (2,176 out of 7,173).
 - The first lockout occurred on August 16, 2024, coded as a cause of tree fell (PSC cause code 02). This lockout accounted for 31% of the total customers interrupted (1,597 of 5,122), and 2% of the total customer-hours interrupted (146 of 7,173).
 - The second lockout occurred on November 01, 2024, coded as a cause of tree fell (PSC cause code 02). This lockout accounted for 31% of the total customers interrupted (1,601 of 5,122), and 28% of the total customer-hours interrupted (2,030 of 7,173).
- Trees were the leading cause of interruptions on the Inman Road 37056 in 2024, accounting for 40% of total interruptions (4 of 10). Equipment Failures were the 2nd leading cause of interruptions, accounting for 40% of total interruptions (4 of 10). Prearranged were the 3rd leading cause of interruptions, accounting for 10% of total interruptions (1 of 10).

- Trees were the leading cause of customers interrupted (CI) on the Inman Road 37056 in 2024, accounting for 75% of total customers interrupted (3,835 of 5,122). Accidents were the 2nd leading cause of customers interrupted, accounting for 22% of total customers interrupted (1,125 of 5,122). Equipment Failures were the 3rd leading cause of customers interrupted, accounting for 2% of total customers interrupted (95 of 5,122).
- Trees were the leading cause of customer-hours interrupted (CHI) on the Inman Road 37056 in 2024, accounting for 63% of total customer-hours interrupted (4,484 of 7,173). Accidents were the 2nd leading cause of customer-hours interrupted, accounting for 31% of total customer-hours interrupted (2,244 of 7,173). Equipment Failures were the 3rd leading cause of customer-hours interrupted, accounting for 5% of total customer-hours interrupted (392 of 7,173).
- Of the 17 interruptions on this circuit, 8 affected 10 customers or less, with 2 being single customer outages.

Actions Taken:

- A maintenance foot patrol was completed on the Inman 37056 in 2022 and all identified level 1 and 2 maintenance has been completed.
- Tree trimming and a hazard tree review was completed on Inman 37056 in 2024.

Action Plan:

- Complete all identified level 3 maintenance.
- Tree trimming and a hazard tree review are scheduled to be performed on Inman Road 37056 in 2029.

12. BLUE STORES 30351 – 13.2 kV

Profile: 1,724 Customers, 83.431 Circuit Miles

Indices: CAIDI = 2.48, SAIFI = 1.78

CAUSE CODE PERFORMANCE TABLE

Code	Category	Interruptions		Customers Interrupted		Customer Hours	
		Number	% Total	Number	% Total	Number	% Total
2	TREE	17	47.22%	2,485	88.81%	5,644	81.24%
3	OVERLOADS	0	0.00%	0	0.00%	0	0.00%
4	OPER. ERROR	0	0.00%	0	0.00%	0	0.00%
5	EQUIPMENT	7	19.44%	30	1.07%	222	3.20%
6	ACCIDENTS	3	8.33%	123	4.40%	622	8.96%
7	PREARRANGED	0	0.00%	0	0.00%	0	0.00%
8	CUST. EQUIP.	0	0.00%	0	0.00%	0	0.00%
9	LIGHTNING	0	0.00%	0	0.00%	0	0.00%
10	UNKNOWN	9	25.00%	160	5.72%	459	6.60%
Totals		36	100.00%	2,798	100.00%	6,947	100.00%

Problem Analysis:

- There were 36 interruptions on the Blue Stores 30351 in 2024.
- There were no transmission interruptions.
- There were no substation interruptions.
- All 36 events occurred at the distribution level.
- The distribution circuit breaker for the Blue Stores 30351 experienced 6 momentary operations in 2024.
- The distribution circuit breaker for the Blue Stores 30351 experienced 1 sustained operation (lockout) in 2024. This lockout occurred on July 01, 2024, when a tree limb fell on the primary just outside the station (PSC cause code 02). This interruption accounted for 56% of the total customers interrupted (1,579 of 2,798), and 38% of the total customer-hours interrupted (2,611 of 6,947).
- Trees were the leading cause of interruptions on the Blue Stores 30351 in 2024, accounting for 47% of total interruptions (17 of 36). Unknown were the 2nd leading cause of interruptions, accounting for 25% of total interruptions (9 of 36). Equipment Failures were the 3rd leading cause of interruptions, accounting for 19% of total interruptions (7 of 36).
- Trees were the leading cause of customers interrupted (CI) on the Blue Stores 30351 in 2024, accounting for 89% of total customers interrupted (2,485 of 2,798). Unknown were the 2nd leading cause of customers interrupted, accounting for 6% of total customers interrupted (160 of 2,798). Accidents were the 3rd leading cause of customers interrupted, accounting for 5% of total customers interrupted (123 of 2,798).
- Trees were the leading cause of customer-hours interrupted (CHI) on the Blue Stores 30351 in 2024, accounting for 81% of total customer-hours interrupted (5,644 of 6,947).

Accidents were the 2nd leading cause of customer-hours interrupted, accounting for 9% of total customer-hours interrupted (622 of 6,947). Unknown were the 3rd leading cause of customer-hours interrupted, accounting for 7% of total customer-hours interrupted (459 of 6,947).

- Of the 36 interruptions on this circuit, 19 affected 10 customers or less, with 4 being single customer outages.

Actions Taken:

- A maintenance foot patrol was completed on the Blue Stores 30351 in 2022 and all identified level 1, 2 and 3 maintenances have been completed.
- Tree trimming and a hazard tree review was completed on Blue Stores 30351 in 2022.

Action Plan:

- Complete all identified level 4 maintenance.
- Tree trimming and a hazard tree review are scheduled to be performed on Blue Stores 30351 in 2027.

13. PINEBUSH 37151 – 13.2 kV

Profile: 853 Customers, 5 Circuit Miles

Indices: CAIDI = 2.46, SAIFI = 3.88

CAUSE CODE PERFORMANCE TABLE

Code	Category	Interruptions		Customers Interrupted		Customer Hours	
		Number	% Total	Number	% Total	Number	% Total
2	TREE	3	27.27%	845	26.77%	2,120	27.27%
3	OVERLOADS	0	0.00%	0	0.00%	0	0.00%
4	OPER. ERROR	0	0.00%	0	0.00%	0	0.00%
5	EQUIPMENT	6	54.55%	2,281	72.25%	5,621	72.32%
6	ACCIDENTS	0	0.00%	0	0.00%	0	0.00%
7	PREARRANGED	1	9.09%	24	0.76%	16	0.20%
8	CUST. EQUIP.	0	0.00%	0	0.00%	0	0.00%
9	LIGHTNING	0	0.00%	0	0.00%	0	0.00%
10	UNKNOWN	1	9.09%	7	0.22%	16	0.20%
Totals		11	100.00%	3,157	100.00%	7,773	100.00%

Problem Analysis:

- There were 11 interruptions on the Pinebush 37151 in 2024.
- There were no transmission interruptions.
- There were no substation interruptions.
- All 11 events occurred at the distribution level.
- The distribution circuit breaker for the Pinebush 37151 experienced 3 momentary operations in 2024.
- The distribution circuit breaker for the Pinebush 37151 experienced 3 sustained operations (lockouts) in 2024. These interruptions accounted for 77% of the total amount of customers interrupted (2,441 out of 3,157) and 47% of the total amount of the customer-hours interrupted (3,650 out of 7,773).
 - The first lockout occurred on June 10, 2024, coded as a cause of tree fell (PSC cause code 02). This lockout accounted for 26% of the total customers interrupted (815 of 3,157), and 25% of the total customer-hours interrupted (1,970 of 7,773).
 - The second lockout occurred on October 05, 2024, coded as a cause of deterioration (PSC cause code 05). This lockout accounted for 26% of the total customers interrupted (813 of 3,157), and 20% of the total customer-hours interrupted (1,587 of 7,773). This was a failure on the underground cable between switchgear 5862 and 7507. Switchgear 5862 was replaced and related cable were replaced in response to this failure. Emergency repair on underground cable between switchgear 5862 and 7507.
 - The third lockout occurred on October 06, 2024, coded as a cause of deterioration (PSC cause code 05). This lockout accounted for 26% of the total customers

interrupted (813 of 3,157), and 1% of the total customer-hours interrupted (81 of 7,773). Further replacement of switchgear 1877 and 6910.

- Equipment failures were the leading cause of interruptions on the Pinebush 37151 in 2024, accounting for 54% of total interruptions (6 of 11). Tree events were the 2nd leading cause of interruptions, accounting for 27% of total interruptions (3 of 11). Prearranged were the 3rd leading cause of interruptions, accounting for 9% of total interruptions (1 of 11).
- Equipment failures were the leading cause of customers interrupted (CI) on the Pinebush 37151 in 2024, accounting for 72% of total customers interrupted (2,281 of 3,157). Tree events were the 2nd leading cause of customers interrupted, accounting for 27% of total customers interrupted (845 of 3,157). Prearranged outages were the 3rd leading cause of customers interrupted, accounting for 1% of total customers interrupted (24 of 3,157).
- Equipment failures were the leading cause of customer-hours interrupted (CHI) on the Pinebush 37151 in 2024, accounting for 72% of total customer-hours interrupted (5,621 of 7,773). Tree events were the 2nd leading cause of customer-hours interrupted, accounting for 27% of total customer-hours interrupted (2,120 of 7,773). Prearranged outages were the 3rd leading cause of customer-hours interrupted, accounting for 0.2% of total customer-hours interrupted (16 of 7,773).
- Of the 11 interruptions on this circuit, 4 affected 10 customers or less, with 1 being single customer outages.

Actions Taken:

- A maintenance foot patrol was completed on the Pinebush 37151 in 2021, and all identified level 1 and level 2 maintenance has been completed.
- Tree trimming and a hazard tree review was completed on the Pinebush 37151 in 2024.
- A capital improvement project C090174 was completed to replace switchgear 1877, 6910 & 5862 on the Pinebush 37151.
- Off-cycle forestry, brush hogging and tree trimming work was completed under a work request for vegetation that was affecting switchgear operation at the corner of Madison Ave Ext and New Karner Road.

Action Plan:

- Complete all identified level 3 maintenance on the Pinebush 37151.
- Engineering to review if additional 3-phase reclosers or single-phase cutout mounted reclosers will assist in minimizing customers interrupted and customer-hours interrupted; to install if warranted.

14. VALKIN 42753 – 13.2 kV

Profile: 2,585 Customers, 74.112 Circuit Miles

Indices: CAIDI = 0.86, SAIFI = 2.83

CAUSE CODE PERFORMANCE TABLE

Code	Category	Interruptions		Customers Interrupted		Customer Hours	
		Number	% Total	Number	% Total	Number	% Total
2	TREE	16	43.24%	2,726	41.42%	2,244	39.82%
3	OVERLOADS	0	0.00%	0	0.00%	0	0.00%
4	OPER. ERROR	0	0.00%	0	0.00%	0	0.00%
5	EQUIPMENT	11	29.73%	1,247	18.95%	2,564	45.50%
6	ACCIDENTS	1	2.70%	1	0.02%	4	0.06%
7	PREARRANGED	4	10.81%	2,367	35.96%	509	9.03%
8	CUST. EQUIP.	0	0.00%	0	0.00%	0	0.00%
9	LIGHTNING	0	0.00%	0	0.00%	0	0.00%
10	UNKNOWN	5	13.51%	241	3.66%	315	5.58%
Totals		37	100.00%	6,582	100.00%	5,635	100.00%

Problem Analysis:

- There were 37 interruptions on the Valkin 42753 in 2024.
- There were no transmission interruptions.
- The substation circuit breaker for the Valkin 42753 experienced 1 interruption in 2024. This interruption occurred on November 12, 2024, when the substation circuit breaker was opened for mechanical inspection (PSC cause code 0). This lockout accounted for 35% of the total customers interrupted (2,319 of 6,582), and 6% of the total customer-hours interrupted (338 of 5,635).
- The remaining 36 events occurred at the distribution level.
- The distribution circuit breaker for the Valkin 42753 experienced 0 momentary operations in 2024.
- The distribution circuit breaker for the Valkin 42753 experienced 1 sustained operation (lockout) in 2024. This lockout occurred on April 19, 2024, when a tree limb fell on the primary just outside the station (PSC cause code 02). This interruption accounted for 35% of the total customers interrupted (2,324 of 6,582), and 26% of the total customer-hours interrupted (1,463 of 5,635).
- The Valkin 42753 experienced one (1) sustained 3-phase recloser operation in 2024. This lockout occurred on February 3, 2024, when an insulator failed (PSC cause code 05). This interruption accounted for 17% of the total amount of customers interrupted (1,100 of 6,582) and 22% of the total amount of the customer-hours interrupted (1,453 of 5,635).
- Trees were the leading cause of interruptions on the Valkin 42753 in 2024, accounting for 43% of total interruptions (16 of 37). Equipment Failures were the 2nd leading cause of

interruptions, accounting for 29% of total interruptions (11 of 37). Unknown were the 3rd leading cause of interruptions, accounting for 13% of total interruptions (5 of 37).

- Trees were the leading cause of customers interrupted (CI) on the Valkin 42753 in 2024, accounting for 41% of total customers interrupted (2,726 of 6,582). Prearranged were the 2nd leading cause of customers interrupted, accounting for 36% of total customers interrupted (2,367 of 6,582). Equipment Failures were the 3rd leading cause of customers interrupted, accounting for 19% of total customers interrupted (1,247 of 6,582).
- Equipment Failures were the leading cause of customer-hours interrupted (CHI) on the Valkin 42753 in 2024, accounting for 45% of total customer-hours interrupted (2,564 of 5,635). Trees were the 2nd leading cause of customer-hours interrupted, accounting for 40% of total customer-hours interrupted (2,244 of 5,635). Prearranged were the 3rd leading cause of customer-hours interrupted, accounting for 9% of total customer-hours interrupted (509 of 5,635).
- Of the 37 interruptions on this circuit, 21 affected 10 customers or less, with 8 being single customer outages.

Actions Taken:

- A maintenance foot patrol was completed on the Valkin 42753 in 2020 and all identified level 1, 2 and 3 maintenances have been completed.
- Tree trimming and a hazard tree review was completed on Valkin 42753 in 2024.

Action Plan:

- Complete all identified level 4 maintenance.
- Tree trimming and a hazard tree review are scheduled to be performed on Valkin 42753 in 2029.

15. MENANDS 10157 – 13.2 kV

Profile: 3,123 Customers, 12 Circuit Miles

Indices: CAIDI = 1.55, SAIFI = 3.04

CAUSE CODE PERFORMANCE TABLE

Code	Category	Interruptions		Customers Interrupted		Customer Hours	
		Number	% Total	Number	% Total	Number	% Total
2	TREE	1	8.33%	2,297	32.82%	1,072	9.91%
3	OVERLOADS	1	8.33%	2,296	32.80%	7,041	65.11%
4	OPER. ERROR	1	8.33%	2,304	32.92%	2,534	23.44%
5	EQUIPMENT	4	33.33%	38	0.54%	62	0.58%
6	ACCIDENTS	3	25.00%	47	0.67%	74	0.69%
7	PREARRANGED	1	8.33%	16	0.23%	25	0.23%
8	CUST. EQUIP.	0	0.00%	0	0.00%	0	0.00%
9	LIGHTNING	0	0.00%	0	0.00%	0	0.00%
10	UNKNOWN	1	8.33%	1	0.01%	5	0.04%
Totals		12	100.00%	6,999	100.00%	10,814	100.00%

Problem Analysis:

- There were 12 interruptions on the Menands 10157 in 2024.
- There were no transmission interruptions.
- There was 1 substation interruption.
 - This Substation interruption occurred on October 28, 2024, coded as a cause of improper installation (PSC cause code 04). This lockout accounted for 33% of the total customers interrupted (2,304 of 6,999), and 23% of the total customer-hours interrupted (2,534 of 10,814). The Menands Control house was being replace and technician operated a 13.2kV bus 99 on phase rotation on 87A/TR2 relaying.
- The remaining 11 events occurred at the distribution level.
- The distribution circuit breaker for the Menands 10157 experienced 1 momentary operation in 2024.
- The distribution circuit breaker for the Menands 10157 experienced 2 sustained operations (lockouts) in 2024. These interruptions accounted for 66% of the total amount of customers interrupted (4,593 out of 368) and 75% of the total amount of the customer-hours interrupted (8,113 out of 799).
 - The first lockout occurred on May 24, 2024, coded as a cause of tree - broken limb (PSC cause code 02). This lockout accounted for 33% of the total customers interrupted (2,297 of 6,999), and 10% of the total customer-hours interrupted (1,072 of 10,814).
 - The second lockout occurred on August 27, 2024, coded as a cause of feeder overload (PSC cause code 03). This lockout accounted for 33% of the total customers interrupted (2,296 of 6,999), and 65% of the total customer-hours

interrupted (7,041 of 10,814). Eastern Regional Control Center added Menands 10158 load to Menands 10157 feeder causing overload operating station breaker open.

- Equipment failures were the leading cause of interruptions on the Menands 10157 in 2024, accounting for 33% of total interruptions (4 of 12). Accidents were the 2nd leading cause of interruptions, accounting for 25% of total interruptions (3 of 12).
- Operator error events were the leading cause of customers interrupted (CI) on the Menands 10157 in 2024, accounting for 33% of total customers interrupted (2,297 of 6,999). Tree events were the 2nd leading cause of customers interrupted, accounting for 33% of total customers interrupted (2,297 of 6,999). Overloads were the 3rd leading cause of customers interrupted, accounting for 33% of total customers interrupted (2,296 of 6,999).
- Overloads were the leading cause of customer-hours interrupted (CHI) on the Menands 10157 in 2024, accounting for 65% of total customer-hours interrupted (7,041 of 10,814). Operator error was the 2nd leading cause of customer-hours interrupted, accounting for 23% of total customer-hours interrupted (2,534 of 10,814). Tree events were the 3rd leading cause of customer-hours interrupted, accounting for 10% of total customer-hours interrupted (1,072 of 10,814).
- Of the 12 interruptions on this circuit, 19 affected 10 customers or less, with 12 being single customer outages.

Actions Taken:

- A maintenance foot patrol was completed on the Menands 10157 in 2023 and all identified level 1 and 2 maintenance has been completed.
- Tree trimming and a hazard tree review was completed on Menands 10157 in 2022.
- Capital improvement work C053966 has been partially completed to replace the Menands 10157. The remainder of this work is scheduled for 2027.

Action Plan:

- Complete all identified level 3 maintenance on the Menands 10157.
- A work request has been entered to convert and create a new tie with Maplewood distribution feeder to give a 3-phase 15kV tie between Menands 10157 and Maplewood distribution feeder.
- Capital improvement work is scheduled C053966 to replace the Menands 10157 under I787 in 2027.
- Engineering to review if additional 3-phase reclosers or single-phase cutout mounted reclosers will assist in minimizing customers interrupted and customer-hours interrupted; to install if warranted.

16. CHRISLER AVE 25754 – 13.2 kV

Profile: 956 Customers, 9 Circuit Miles

Indices: CAIDI = 2.45, SAIFI = 2.55

CAUSE CODE PERFORMANCE TABLE

Code	Category	Interruptions		Customers Interrupted		Customer Hours	
		Number	% Total	Number	% Total	Number	% Total
2	TREE	1	7.69%	1	0.04%	1	0.02%
3	OVERLOADS	2	15.38%	598	24.52%	1,186	19.84%
4	OPER. ERROR	0	0.00%	0	0.00%	0	0.00%
5	EQUIPMENT	5	38.46%	773	31.69%	3,584	59.97%
6	ACCIDENTS	3	23.08%	1,053	43.17%	1,173	19.62%
7	PREARRANGED	0	0.00%	0	0.00%	0	0.00%
8	CUST. EQUIP.	0	0.00%	0	0.00%	0	0.00%
9	LIGHTNING	0	0.00%	0	0.00%	0	0.00%
10	UNKNOWN	2	15.38%	14	0.57%	33	0.56%
Totals		13	100.00%	2,439	100.00%	5,978	100.00%

Problem Analysis:

- There were 13 interruptions on the Chrysler Ave 25754 in 2024.
- There was 1 transmission interruption.
 - This Transmission interruption occurred on August 03, 2024, coded as a cause of animal (PSC cause code 06). This lockout accounted for 39% of the total customers interrupted (953 of 2,439), and 16% of the total customer-hours interrupted (985 of 5,978).
- There were no substation interruptions.
- The remaining 12 events occurred at the distribution level.
- The distribution circuit breaker for the Chrysler Ave 25754 experienced 0 momentary operations in 2024.
- The distribution circuit breaker for the Chrysler Ave 25754 experienced 0 sustained operations (lockouts) in 2024.
- Equipment Failures were the leading cause of interruptions on the Chrysler Ave 25754 in 2024, accounting for 38% of total interruptions (5 of 13). Accidents were the 2nd leading cause of interruptions, accounting for 23% of total interruptions (3 of 13). Overloads were the 3rd leading cause of interruptions, accounting for 15% of total interruptions (2 of 13).
- Accidents were the leading cause of customers interrupted (CI) on the Chrysler Ave 25754 in 2024, accounting for 43% of total customers interrupted (1,053 of 2,439). Equipment Failures were the 2nd leading cause of customers interrupted, accounting for 32% of total customers interrupted (773 of 2,439). Overloads were the 3rd leading cause of customers interrupted, accounting for 25% of total customers interrupted (598 of 2,439).

- Equipment Failures were the leading cause of customer-hours interrupted (CHI) on the Chrisler Ave 25754 in 2024, accounting for 60% of total customer-hours interrupted (3,584 of 5,978). Overloads were the 2nd leading cause of customer-hours interrupted, accounting for 20% of total customer-hours interrupted (1,186 of 5,978). Accidents were the 3rd leading cause of customer-hours interrupted, accounting for 20% of total customer-hours interrupted (1,173 of 5,978).
- Of the 13 interruptions on this circuit, 6 affected 10 customers or less, with 3 being single customer outages.

Actions Taken:

- Tree trimming and a hazard tree review was completed on Chrisler Ave 25754 in 2024.

Action Plan:

- Tree trimming and a hazard tree review are scheduled to be performed on Chrisler Ave 25754 in 2029.

17. ROTTERDAM 13853 – 13.2 kV

Profile: 1,423 Customers, 67 Circuit Miles

Indices: CAIDI = 2.18, SAIFI = 1.83

CAUSE CODE PERFORMANCE TABLE

Code	Category	Interruptions		Customers Interrupted		Customer Hours	
		Number	% Total	Number	% Total	Number	% Total
2	TREE	11	40.74%	578	22.15%	1,690	29.65%
3	OVERLOADS	0	0.00%	0	0.00%	0	0.00%
4	OPER. ERROR	0	0.00%	0	0.00%	0	0.00%
5	EQUIPMENT	7	25.93%	1,443	55.31%	2,636	46.25%
6	ACCIDENTS	3	11.11%	379	14.53%	866	15.19%
7	PREARRANGED	0	0.00%	0	0.00%	0	0.00%
8	CUST. EQUIP.	0	0.00%	0	0.00%	0	0.00%
9	LIGHTNING	0	0.00%	0	0.00%	0	0.00%
10	UNKNOWN	6	22.22%	209	8.01%	508	8.91%
Totals		27	100.00%	2,609	100.00%	5,700	100.00%

Problem Analysis:

- There were 27 interruptions on the Rotterdam 13853 in 2024.
- There were no transmission interruptions.
- There were no substation interruptions.
- All 27 events occurred at the distribution level.
- The distribution circuit breaker for the Rotterdam 13853 experienced 0 momentary operations in 2024.
- The distribution circuit breaker for the Rotterdam 13853 experienced 1 sustained operation (lockout) in 2024. This interruption accounted for 55% of the total amount of customers interrupted (1,425 out of 2,609) and 45% of the total amount of the customer-hours interrupted (2,548 out of 5,700).
 - This lockout occurred on January 06, 2024, coded as a cause of deterioration (PSC cause code 05). This lockout accounted for 55% of the total customers interrupted (1,425 of 2,609), and 45% of the total customer-hours interrupted (2,548 of 5,700).
- Trees were the leading cause of interruptions on the Rotterdam 13853 in 2024, accounting for 41% of total interruptions (11 of 27). Equipment Failures were the 2nd leading cause of interruptions, accounting for 26% of total interruptions (7 of 24). Unknown were the 3rd leading cause of interruptions, accounting for 22% of total interruptions (6 of 27).
- Equipment Failures were the leading cause of customers interrupted (CI) on the Rotterdam 13853 in 2024, accounting for 55% of total customers interrupted (1,443 of 2,609). Trees were the 2nd leading cause of customers interrupted, accounting for 22% of total customers interrupted (578 of 2,609). Accidents were the 3rd leading cause of customers interrupted, accounting for 8% of total customers interrupted (209 of 2,609).

- Equipment were the leading cause of customer-hours interrupted (CHI) on the Rotterdam 13853 in 2024, accounting for 46% of total customer-hours interrupted (2,636 of 5,700). Trees were the 2nd leading cause of customer-hours interrupted, accounting for 30% of total customer-hours interrupted (1,690 of 5,700). Accidents were the 3rd leading cause of customer-hours interrupted, accounting for 15% of total customer-hours interrupted (866 of 5,700).
- Of the 27 interruptions on this circuit, 12 affected 10 customers or less, with 8 being single customer outages.

Actions Taken:

- A maintenance foot patrol was completed on the Rotterdam 13853 in 2022 and all identified level 1 and 2 maintenance has been completed.
- Tree trimming and a hazard tree review was completed on Rotterdam 13853 in 2024.

Action Plan:

- Complete all identified level 3 maintenance.
- Tree trimming and a hazard tree review are scheduled to be performed on Rotterdam 13853 in 2029.

18. FIREHOUSE 44952 – 13.2 kV

Profile: 2,110 Customers, 31.0 Circuit Miles

Indices: CAIDI = 2.03, SAIFI = 2.10

CAUSE CODE PERFORMANCE TABLE

Code	Category	Interruptions		Customers Interrupted		Customer Hours	
		Number	% Total	Number	% Total	Number	% Total
2	TREE	7	43.75%	2,383	53.82%	3,277	36.45%
3	OVERLOADS	0	0.00%	0	0.00%	0	0.00%
4	OPER. ERROR	0	0.00%	0	0.00%	0	0.00%
5	EQUIPMENT	1	6.25%	19	0.43%	97	1.08%
6	ACCIDENTS	2	12.50%	8	0.18%	29	0.33%
7	PREARRANGED	1	6.25%	30	0.68%	47	0.53%
8	CUST. EQUIP.	0	0.00%	0	0.00%	0	0.00%
9	LIGHTNING	0	0.00%	0	0.00%	0	0.00%
10	UNKNOWN	5	31.25%	1,988	44.90%	5,539	61.61%
Totals		16	100.00%	4,428	100.00%	8,990	100.00%

Problem Analysis:

- There were 16 interruptions on the Firehouse 44952 in 2024.
- There were no transmission interruptions.
- There were no substation interruptions.
- All 16 events occurred at the distribution level.
- The distribution circuit breaker for the Firehouse 44952 experienced 0 momentary operations in 2024.
- The distribution circuit breaker for the Firehouse 44952 experienced 2 sustained operations (lockouts) in 2024. These interruptions accounted for 95% of the total amount of customers interrupted (4,222 out of 4,428) and 94% of the total amount of the customer-hours interrupted (8,492 out of 8,990).
 - The first lockout occurred on February 14, 2024, coded as a cause of tree fell (PSC cause code 02). This lockout accounted for 51% of the total customers interrupted (2,274 of 4,428), and 33% of the total customer-hours interrupted (2,975 of 8,990).
 - The second lockout occurred on June 29, 2024, coded as a cause of unknown (PSC cause code 10). This lockout accounted for 44% of the total customers interrupted (1,948 of 4,428), and 61% of the total customer-hours interrupted (5,517 of 8,990).
- Trees were the leading cause of interruptions on the Firehouse 44952 in 2024, accounting for 44% of total interruptions (7 of 16). Unknown were the 2nd leading cause of interruptions, accounting for 31% of total interruptions (5 of 16). Accidents were the 3rd leading cause of interruptions, accounting for 13% of total interruptions (2 of 16).
- Trees were the leading cause of customers interrupted (CI) on the Firehouse 44952 in 2024, accounting for 54% of total customers interrupted (2,383 of 4,428). Unknown were the

2nd leading cause of customers interrupted, accounting for 45% of total customers interrupted (1,988 of 4,428). Prearranged were the 3rd leading cause of customers interrupted, accounting for 1% of total customers interrupted (30 of 4,428).

- Unknown were the leading cause of customer-hours interrupted (CHI) on the Firehouse 44952 in 2024, accounting for 62% of total customer-hours interrupted (5,539 of 8,990). Trees were the 2nd leading cause of customer-hours interrupted, accounting for 36% of total customer-hours interrupted (3,277 of 8,990). Equipment Failures were the 3rd leading cause of customer-hours interrupted, accounting for 1% of total customer-hours interrupted (97 of 8,990).
- Of the 16 interruptions on this circuit, 9 affected 10 customers or less, with 1 being single customer outages.

Actions Taken:

- A maintenance foot patrol was performed in 2022 and all identified level 1 and level 2 maintenance has been completed.
- Tree trimming and a hazard tree review was completed in fiscal year 2025.

Action Plan:

- Complete all identified level 3 maintenance.
- Tree trimming and a hazard tree review are scheduled to be performed in fiscal year 2030.

19. LYNN ST 32055 – 13.2 kV

Profile: 1,257 Customers, 9 Circuit Miles

Indices: CAIDI = 1.86, SAIFI = 3.26

CAUSE CODE PERFORMANCE TABLE

Code	Category	Interruptions		Customers Interrupted		Customer Hours	
		Number	% Total	Number	% Total	Number	% Total
2	TREE	2	20.00%	909	22.19%	1,845	24.27%
3	OVERLOADS	1	10.00%	16	0.39%	18	0.24%
4	OPER. ERROR	0	0.00%	0	0.00%	0	0.00%
5	EQUIPMENT	3	30.00%	1,880	45.90%	3,710	48.79%
6	ACCIDENTS	1	10.00%	1,258	30.71%	1,950	25.64%
7	PREARRANGED	2	20.00%	19	0.46%	35	0.46%
8	CUST. EQUIP.	0	0.00%	0	0.00%	0	0.00%
9	LIGHTNING	0	0.00%	0	0.00%	0	0.00%
10	UNKNOWN	1	10.00%	14	0.34%	46	0.60%
Totals		10	100.00%	4,096	100.00%	7,603	100.00%

Problem Analysis:

- There were 10 interruptions on the Lynn St 32055 in 2024.
- There were no transmission interruptions.
- There was 1 substation interruption.
 - This Substation interruption occurred on May 07, 2024, coded as a cause of animal (PSC cause code 06). This lockout accounted for 31% of the total customers interrupted (1,258 of 4,096), and 26% of the total customer-hours interrupted (1,950 of 7,603).
- The remaining 9 events occurred at the distribution level.
- The distribution circuit breaker for the Lynn St 32055 experienced 0 momentary operations in 2024.
- The distribution circuit breaker for the Lynn St 32055 experienced 1 sustained operation (lockout) in 2024. This interruption accounted for 31% of the total amount of customers interrupted (1,253 out of 4,096) and 8% of the total amount of the customer-hours interrupted (602 out of 7,603).
 - This lockout occurred on June 11, 2024, coded as a cause of device failed (PSC cause code 05). This lockout accounted for 31% of the total customers interrupted (1,253 of 4,096), and 8% of the total customer-hours interrupted (602 of 7,603).
- Equipment Failures were the leading cause of interruptions on the Lynn St 32055 in 2024, accounting for 30% of total interruptions (3 of 10). Trees were the 2nd leading cause of interruptions, accounting for 20% of total interruptions (2 of 10). Prearranged were the 3rd leading cause of interruptions, accounting for 20% of total interruptions (2 of 10).

- Equipment Failures were the leading cause of customers interrupted (CI) on the Lynn St 32055 in 2024, accounting for 46% of total customers interrupted (1,880 of 4,096). Accidents were the 2nd leading cause of customers interrupted, accounting for 31% of total customers interrupted (1,258 of 4,096). Trees were the 3rd leading cause of customers interrupted, accounting for 22% of total customers interrupted (909 of 4,096).
- Equipment Failures were the leading cause of customer-hours interrupted (CHI) on the Lynn St 32055 in 2024, accounting for 49% of total customer-hours interrupted (3,710 of 7,603). Accidents were the 2nd leading cause of customer-hours interrupted, accounting for 26% of total customer-hours interrupted (1,950 of 7,603). Tree were the 3rd leading cause of customer-hours interrupted, accounting for 24% of total customer-hours interrupted (1,845 of 7,603).
- Of the 10 interruptions on this circuit, 1 affected 10 customers or less, with 0 being single customer outages.

Actions Taken:

- A maintenance foot patrol was completed on the Lynn Street in 2023 and all identified level 1 and 2 maintenance has been completed.
- Tree trimming and a hazard tree review was completed on Lynn Street 32055 in 2024.

Action Plan:

- Complete all identified level 3 maintenance.
- Tree trimming and a hazard tree review are scheduled to be performed on Lynn Street 32055 in 2029.

20. NORTH TROY 12351 – 13.2 kV

Profile: 1,363 Customers, 69.3 Circuit Miles

Indices: CAIDI = 1.70, SAIFI = 2.05

CAUSE CODE PERFORMANCE TABLE

Code	Category	Interruptions		Customers Interrupted		Customer Hours	
		Number	% Total	Number	% Total	Number	% Total
2	TREE	9	33.33%	881	31.53%	3,218	67.77%
3	OVERLOADS	0	0.00%	0	0.00%	0	0.00%
4	OPER. ERROR	0	0.00%	0	0.00%	0	0.00%
5	EQUIPMENT	2	7.41%	9	0.32%	50	1.05%
6	ACCIDENTS	4	14.81%	40	1.43%	87	1.83%
7	PREARRANGED	5	18.52%	1,641	58.73%	729	15.36%
8	CUST. EQUIP.	0	0.00%	0	0.00%	0	0.00%
9	LIGHTNING	1	3.70%	33	1.18%	122	2.58%
10	UNKNOWN	6	22.22%	190	6.80%	542	11.41%
Totals		27	100.00%	2,794	100.00%	4,748	100.00%

Problem Analysis:

- There were 27 interruptions on the North Troy 12351 in 2024.
- There were no transmission interruptions.
- There was 1 substation interruption.
 - This Substation interruption occurred on October 22, 2024, coded as a cause of prearranged (PSC cause code 07). This lockout accounted for 49% of the total customers interrupted (1,375 of 2,794), and 3% of the total customer-hours interrupted (160 of 4,748).
- The remaining 26 events occurred at the distribution level.
- The distribution circuit breaker for the North Troy 12351 experienced 1 momentary operation in 2024.
- The distribution circuit breaker for the North Troy 12351 experienced 0 sustained operations (lockouts) in 2024.
- Trees were the leading cause of interruptions on the North Troy 12351 in 2024, accounting for 33% of total interruptions (9 of 27). Unknown were the 2nd leading cause of interruptions, accounting for 22% of total interruptions (6 of 27). Prearranged were the 3rd leading cause of interruptions, accounting for 19% of total interruptions (5 of 27).
- Prearranged were the leading cause of customers interrupted (CI) on the North Troy 12351 in 2024, accounting for 59% of total customers interrupted (1,641 of 2,794). Trees were the 2nd leading cause of customers interrupted, accounting for 32% of total customers interrupted (881 of 2,794). Unknown were the 3rd leading cause of customers interrupted, accounting for 7% of total customers interrupted (190 of 2,794).

- Trees were the leading cause of customer-hours interrupted (CHI) on the North Troy 12351 in 2024, accounting for 68% of total customer-hours interrupted (3,218 of 4,748). Prearranged were the 2nd leading cause of customer-hours interrupted, accounting for 15% of total customer-hours interrupted (729 of 4,748). Unknown were the 3rd leading cause of customer-hours interrupted, accounting for 11% of total customer-hours interrupted (542 of 4,748).
- Of the 27 interruptions on this circuit, 14 affected 10 customers or less, with 7 being single customer outages.

Actions Taken:

- A maintenance foot patrol was performed in 2022 and all identified level 1, level 2, and level 3 maintenance has been completed.
- Tree trimming and a hazard tree review was completed in fiscal year 2023.

Action Plan:

- Tree trimming and a hazard tree review are scheduled to be performed in fiscal year 2028.

3. ACTION PLAN SUMMARIES

a. SUMMARY OF ACTION ITEM PLANS FOR 2024 WORST PERFORMING CIRCUITS

Station	Feeder	Report Year	Action Plan	Estimated Completion Date	Comments
Brunswick	26453	2024	Tree trimming and hazard tree review.	3/2030	
Brunswick	26452	2024	Complete all identified level 3 maintenance.	3/2026	
Brunswick	26452	2024	Tree trimming and hazard tree review.	3/2030	
Hoosick	31451	2024	Complete all identified level 3 maintenance.	3/2026	
Hoosick	31451	2024	Tree trimming and hazard tree review.	3/2027	
Heemstreet	32851	2024	Tree trimming and hazard tree review.	3/2029	
Voorheesville	17853	2024	Complete all identified level 3 maintenance.	3/2026	
Voorheesville	17853	2024	Tree trimming and hazard tree review.	3/2025	
Voorheesville	17853	2024	Review of additional 3-phase recloser or cutout mounted recloser	3/2026	
Elnora	44256	2024	Complete all identified level 3 maintenance.	3/2026	
Elnora	44256	2024	Tree trimming and hazard tree review.	3/2026	
Grooms Road	34552	2024	Complete all identified level 3 maintenance.	3/2026	
Grooms Road	34552	2024	Tree trimming and hazard tree review.	3/2026	
Boyntonville	33351	2024	Complete all identified level 3 maintenance.	3/2026	
Boyntonville	33351	2024	Tree trimming and hazard tree review.	3/2026	
Hoags	22151	2024	Complete all identified level 2 and level 3 maintenance.	3/2026	
Hoags	22151	2024	Tree trimming and hazard tree review.	3/2029	
Hoosick	31452	2024	Complete all identified level 3 maintenance.	3/2026	
Hoosick	31452	2024	Tree trimming and hazard tree review.	3/2027	
Inman Road	37056	2024	Complete all identified level 3 maintenance.	3/2026	
Inman Road	37056	2024	Tree trimming and hazard tree review.	3/2029	
Blue Stores	30351	2024	Complete all identified level 4 maintenance.	3/2026	
Blue Stores	30351	2024	Tree trimming and hazard tree review.	3/2027	
Pinebush	37151	2024	Complete all identified level 3 maintenance.	3/2026	
Pinebush	37151	2024	Review of additional 3-phase recloser or cutout mounted recloser	3/2026	
Valkin	42753	2024	Complete all identified level 4 maintenance.	3/2026	
Valkin	42753	2024	Tree trimming and hazard tree review.	3/2029	
Menands	10157	2024	Complete all identified level 3 maintenance.	3/2026	
Menands	10157	2024	Construction of new 3-phase tie with Maplewood distribution feeder	3/2026	

Station	Feeder	Report Year	Action Plan	Estimated Completion Date	Comments
Menands	10157	2024	Capital improvement work under FP C053966 to be completed in 2027	3/2027	
Menands	10157	2024	Review of additional 3-phase recloser or cutout mounted recloser	3/2026	
Chrisler Ave	25754	2024	Tree trimming and hazard tree review.	3/2029	
Rotterdam	13853	2024	Complete all identified level 3 maintenance.	3/2026	
Rotterdam	13853	2024	Tree trimming and hazard tree review.	3/2029	
Firehouse	44952	2024	Complete all identified level 3 maintenance.	3/2026	
Firehouse	44952	2024	Tree trimming and hazard tree review.	3/2030	
Lynn	32055	2024	Complete all identified level 3 maintenance.	3/2026	
Lynn	32055	2024	Tree trimming and hazard tree review.	3/2029	
North Troy	12351	2024	Tree trimming and hazard tree review.	3/2028	

b. STATUS OF ACTION PLANS FOR 2023 WORST PERFORMING CIRCUITS

Station	Feeder	Action Plan	Estimated Completion Date	Comments
Curry Road	36552	Tree trimming and hazard tree review.	3/2025	Complete.
Curry Road	36552	New 3-phase recloser installation review.	3/2025	Complete
Curry Road	36552	Existing 3-phase recloser settings review.	3/2025	Complete.
Curry Road	36552	Fault indicator installation review.	3/2025	Complete
Curry Road	36552	Curry Road 36552 / Pinebush 37153 tie	3/2028	On Track
Curry Road	36557	Tree trimming and hazard tree review.	3/2026	On Track
Curry Road	36557	Maintenance foot patrol.	3/2026	On Track
Curry Road	36557	Fusing coordination review.	3/2024	Complete
Burdeck St	26553	Tree trimming and hazard tree review.	3/2026	On Schedule.
Burdeck St	26553	Maintenance foot patrol.	3/2026	On Track
Burdeck St	26553	New 3-phase recloser installation review.	3/2025	Complete
Burdeck St	26553	Rear lot removal review	3/2025	Complete
Burdeck St	26553	Complete level 3 maintenance.	3/2025	Awaiting Scheduling
Front St	36051	Tree trimming and hazard tree review.	3/2025	Complete
Front St	36051	Maintenance foot patrol.	3/2025	Complete
Front St	36051	New 3-phase recloser installation review.	3/2025	Complete.
Front St	36051	Glen Avenue conversion.	3/2027	On Track
Front St	36051	Complete level 3 maintenance.	3/2025	Awaiting Scheduling
Swaggertown	36451	Tree trimming and hazard tree review.	3/2026	On Track
Swaggertown	36451	New 3-phase recloser installation review.	3/2025	Complete
Swaggertown	36451	Complete level 2 maintenance.	3/2025	Complete
Swaggertown	36451	Complete level 3 maintenance.	3/2025	Awaiting Scheduling
Watt St	23052	New 3-phase recloser installation review.	3/2025	Complete.
Watt St	23052	Complete level 2 maintenance.	3/2025	Complete
Watt St	23052	Complete level 3 maintenance.	3/2025	Awaiting Scheduling
Brunswick	26453	Complete level 3 maintenance.	5/2024	Complete.
Brunswick	26453	Tree trimming and hazard tree review.	12/2025	On Schedule.
Brunswick	26453	Protection coordination study.	4/2024	Complete.
Brunswick	26453	NY-2 recloser installation.	3/2026	Awaiting Scheduling.
Brunswick	26453	Taconic Lake Road tie.	3/2026	Awaiting Scheduling.
Brunswick	26453	White Church Road conversion.	3/2026	Awaiting Scheduling.
Brunswick	26453	Moonlawn Road conversion.	3/2026	In Construction.
Brunswick	26453	Tamarac Road conversion.	3/2027	Awaiting Scheduling.
Brunswick	26452	Complete level 2 maintenance.	4/2024	Complete.
Brunswick	26452	Complete level 3 maintenance.	3/2026	On Schedule.
Brunswick	26452	Tree trimming and hazard tree review.	12/2025	On Schedule.
Brunswick	26452	Protection coordination study.	4/2024	Complete.
Brunswick	26452	Weatherwax Road recloser installation.	3/2026	Awaiting Scheduling.
Brunswick	26452	Blue Factory Road conversion.	3/2026	Awaiting Scheduling.
Brunswick	26452	Blue Factory Road tie.	3/2026	Awaiting Scheduling.
Brunswick	26452	Swankey Road rear lot removal.	3/2026	Awaiting Scheduling.
Brunswick	26452	Fifty Six Road rear lot removal.	3/2026	In Design.
Brunswick	26452	Abbott Drive conversion.	3/2026	Awaiting Scheduling.

Station	Feeder	Action Plan	Estimated Completion Date	Comments
Brunswick	26452	Clement Drive conversion.	3/2026	Awaiting Scheduling.
Brunswick	26452	Averill Park Road conversion.	3/2027	In Design.
Brunswick	26452	White Church Road conversion.	3/2027	In Design.
North Troy	12353	Tree trimming and hazard tree review.	12/2028	On Schedule.
North Troy	12353	Protective device settings review.	4/2024	Complete.
North Troy	12353	North Troy to Sycaway switching.	3/2026	Awaiting Scheduling.
North Troy	12353	Protection coordination study.	4/2024	Complete.
North Troy	12353	Frear Park View conversion.	3/2026	Awaiting Scheduling.
North Troy	12353	Gypsy Lane rear lot removal.	3/2026	Awaiting Scheduling.
North Troy	12353	Bellview Road conversion.	3/2026	Awaiting Scheduling.
Hemstreet	32851	Tree trimming and hazard tree review.	12/2029	On Schedule.
Hemstreet	32851	Protective device settings review.	4/2024	Complete.
Hemstreet	32851	Protection coordination study.	4/2024	Complete.
Hemstreet	32851	Johnsonville Road recloser installation.	3/2026	Awaiting Scheduling.
Hemstreet	32851	Hemstreet Road tie.	3/2026	Awaiting Scheduling.
Hemstreet	32851	Ridge Road rear lot removal.	3/2026	In Design.
Hemstreet	32851	Farm to Market Road rear lot removal.	3/2026	Awaiting Scheduling.
Boyntonville	33351	Complete level 2 maintenance.	4/2024	Complete.
Boyntonville	33351	Complete level 3 maintenance.	3/2026	On Schedule.
Boyntonville	33351	Tree trimming and hazard tree review.	12/2026	On Schedule.
Boyntonville	33351	NY-7 recloser relocation.	3/2024	Complete.
Boyntonville	33351	NY-7 recloser installation (East).	3/2026	Awaiting Scheduling.
Boyntonville	33351	NY-7 recloser installation (West).	1/2024	Complete.
Boyntonville	33351	Parker School Road recloser installation.	3/2026	Awaiting Scheduling.
Boyntonville	33351	Babcock Lake recloser installation.	3/2026	Awaiting Scheduling.
Boyntonville	33351	Kautz Hollow Road fault indicators.	3/2026	Awaiting Scheduling.
Boyntonville	33351	Babcock Lake load split.	3/2026	In Design.
Lansingburgh	09313	Complete level 3 maintenance.	9/2024	Complete.
Lansingburgh	09313	Tree trimming and hazard tree review.	12/2026	On Schedule.
Lansingburgh	09313	Service transformer load split.	3/2026	Awaiting Scheduling.
Everett Road	42051	3-phase recloser location review.	3/2025	Complete
Everett Road	42051	Cutout-mounted recloser location review.	3/2025	Scheduled
Everett Road	42051	Complete level 3 maintenance.	3/2025	Complete.
Everett Road	42051	Tree trimming and hazard tree review.	3/2025	Complete.
Oathout Lane	40251	Cutout-mounted recloser location review	3/2025	Complete.
Oathout Lane	40251	Fuse coordination review.	3/2025	Complete.
Oathout Lane	40251	Tree trimming and hazard tree review	3/2024	Complete.
Blue Stores	30353	Tree trimming and hazard tree review.	3/2026	Awaiting Schedule.
Blue Stores	30353	Complete level 3 maintenance.	3/2026	Awaiting Schedule.
Blue Stores	30353	Bells Pond Road conversion.	3/2025	Awaiting Schedule.
Blue Stores	30353	County Route 27 3-phase extension.	3/2026	On Schedule
Blue Stores	30353	Albany Post Road rear lot relocation.	3/2025	Awaiting Schedule.
Blue Stores	30353	Switch installation.	3/2025	Awaiting Schedule.

D. CENTRAL REGION

1. OPERATING REGIONAL PERFORMANCE

a. HISTORIC CAIDI AND SAIFI INDICES

IDS Info:

	2024	2023	2022	2021	2020	2019
CAIDI (Target 1.899)	1.70	1.67	1.84	1.70	1.65	1.65
SAIFI (Target 1.226)	0.95	1.00	1.15	1.40	1.04	1.06
SAIDI	1.61	1.68	2.11	2.37	1.72	1.75
Interruptions	2,238	2,251	2,414	2,479	2,103	2,003
Customers Interrupted	277,758	291,957	333,799	406,484	301,159	305,267
Customer-Hours Interrupted	471,477	488,254	613,424	690,331	495,444	503,716
Customers Served	292,778	290,947	291,189	290,852	288,777	287,348
Customers Per Interruption	124.11	129.70	138.28	163.97	143.20	152.40
Availability Index	99.9817	99.9808	99.9760	99.9729	99.9805	99.9800
Interruptions/1000 customers	7.64	7.74	8.29	8.52	7.28	6.97

b. DISCUSSION OF REGIONAL PERFORMANCE

In 2024, the Central Region met its CAIDI reliability target and met its SAIFI reliability target as set forth by the New York Public Service Commission (PSC). The final System Average Interruption Frequency Index (SAIFI) result was 0.95 interruptions, 23% below the PSC goal of 1.226 interruptions. As shown in the table above, the Customer Average Interruption Duration index (CAIDI) was 1.70 in 2024, 10% below the PSC's regional target of 1.899 hours.

The 2024 CAIDI result was 2% above the 2023 result of 1.67 hours, and equal to the previous 5-year average of 1.70 hours. The 2024 SAIFI was 5% below the 2023 result of 1.00 interruptions, and 16% below the previous 5-year average of 1.13 interruptions.

In 2024, excluding major storms, the Central Region experienced 11 transmission interruptions. These interruptions accounted for 0.5% of the region's total interruptions (11 of 2,238), 9% of the region's total customers interrupted (CI), (24,664 of 277,758), and 12% (55,166 of 471,476) of the region's total customer-hours interrupted (CHI). Overall, transmission interruptions had a CAIDI of 2.24 hours, and a SAIFI of 0.08 interruptions.

The number of transmission-related interruptions decreased from 15 in 2023 to 11 in 2024 (a decrease of 27%). The number of customers interrupted decreased from 33,086 in 2023, to 24,664 in 2024 (a decrease of 25%), while the customer-hours interrupted decreased from 71,818 in 2023, to 55,166 in 2024 (a decrease of 23%).

In 2024, excluding major storms, the Central Region experienced 12 substation interruptions. These interruptions accounted for 1% of the region's total interruptions (12 of 2,238), 12% of the region's total customers interrupted, (32,231 of 277,758), and 6% (26,340 of 471,476) of the region's total customer-hours interrupted. Overall, substation interruptions had a CAIDI of .82 hours, and a SAIFI of 0.11 interruptions.

The number of substation-related interruptions increased from 8 to 12 from 2023 to 2024 (an increase of 50%). The number of customers interrupted increased from 15,514 in 2023, to 32,231 in 2024 (an increase of 108%), while the customer-hours interrupted increased from 22,691 in 2023, to 26,340 in 2024 (an increase of 16%).

In 2024, excluding major storms, the Central Region experienced 2,215 distribution interruptions. These interruptions accounted for 99% of the region's total interruptions (2,215 of 2,238), 80% of the region's total customers interrupted, (220,863 of 277,758), and 83% (389,970 of 471,476) of the region's total customer-hours interrupted. Overall, distribution interruptions had a CAIDI of 1.77 hours, and a SAIFI of 0.75 interruptions.

The number of distribution-related interruptions decreased from 2,228 to 2,215 from 2023 to 2024 (a decrease of 1%). The number of customers interrupted decreased from 243,357 in 2023, to 220,863 in 2024 (a decrease of 9%), while the customer-hours interrupted decreased from 393,745 in 2023, to 389,970 in 2024 (a decrease of 1%).

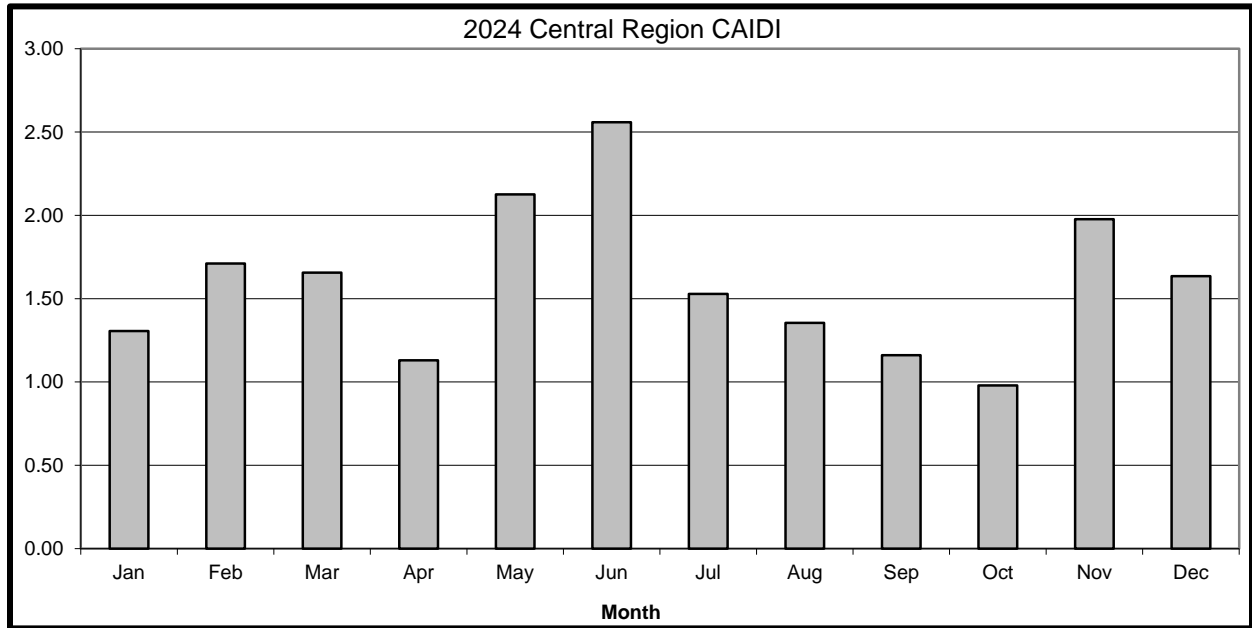
c. MONTHLY CAIDI AND SAIFI GRAPHS

The following graphs show the monthly CAIDI and SAIFI for the Central Region for 2024 (Excluding Major Storms).

Regional CAIDI exceeded the PSC threshold of 1.899 hours in May (2.13), June (2.56) and November (1.98). CAIDI in May as influenced by long sub-transmission interruption on a radial tap. CAIDI in June was influenced by weather events between June 20th and June 24th. CAIDI in November was influenced by weather on the 22nd.

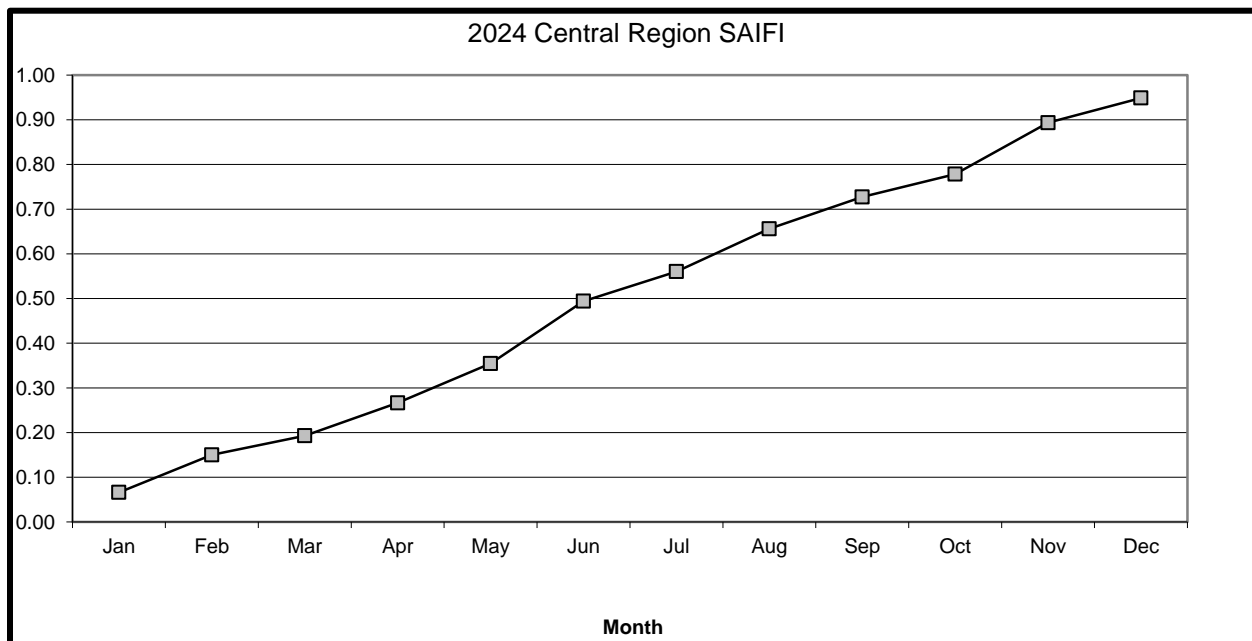
Regional SAIFI was above the monthly thresholds in June (0.14) and November (0.13). June's SAIFI was impacted by weather events between June 20th and June 24th. November's SAIFI was impacted by a weather event on the 22nd.

GRAPH OF MONTHLY CAIDI AND SAIFI FOR CENTRAL REGION



PSC CAIDI Goal:	
Threshold	1.899
2024 Actual	1.70

PSC SAIFI Goal:	
Threshold	1.226
2024 Actual	0.95



d. PSC CAUSE CODES

1) Number of Events by Cause – Historical

IDS Info:

Cause Code	2024	2023	2022	2021	2020	2019
01 Major Storms	975	-	235	157	143	698
02 Tree Contacts	678	661	682	781	528	500
03 Overloads	23	6	11	10	56	22
04 Operator Error	6	12	17	9	13	5
05 Equipment	718	695	776	774	667	732
06 Accidents	440	426	470	395	455	358
07 Prearranged	118	101	94	125	108	96
08 Customer Equip.	1	-	-	-	1	1
09 Lightning	22	58	97	129	24	36
10 Unknown	232	292	267	256	252	253
Total	3,213	2,251	2,649	2,636	2,246	2,246

2) Customers Interrupted by Cause – Historical

IDS Info:

Cause Code	2024	2023	2022	2021	2020	2019
01 Major Storms	131,023	-	29,242	21,494	30,121	87,616
02 Tree Contacts	110,128	100,441	113,048	171,635	92,186	78,098
03 Overloads	1,708	72	413	144	4,730	243
04 Operator Error	5,980	1,604	4,953	2,231	7,025	110
05 Equipment	74,172	88,161	133,946	110,069	98,212	108,707
06 Accidents	48,319	68,953	51,917	80,899	54,427	46,402
07 Prearranged	24,639	12,088	6,678	20,632	11,617	17,497
08 Customer Equip.	2	-	-	-	18	5
09 Lightning	1,668	3,462	4,841	5,963	2,691	6,171
10 Unknown	11,142	17,176	18,003	14,911	30,298	48,034
Total	408,781	291,957	363,041	427,978	331,280	392,883

3) Customer-Hours Interrupted by Cause – Historical

IDS Info:

Cause Code	2024	2023	2022	2021	2020	2019
01 Major Storms	462,679	-	119,036	77,026	92,052	370,365
02 Tree Contacts	224,818	169,047	230,936	325,960	150,754	166,050
03 Overloads	1,235	159	996	438	18,050	1,222
04 Operator Error	3,545	1,506	3,544	3,628	8,345	168
05 Equipment	121,711	158,809	242,778	171,910	186,351	173,269
06 Accidents	74,150	91,431	86,826	126,879	72,988	74,079
07 Prearranged	18,105	32,098	7,653	20,260	11,309	26,962
08 Customer Equip.	7	-	-	-	26	8
09 Lightning	3,290	4,058	10,669	15,302	3,628	15,700
10 Unknown	24,616	31,148	30,022	25,950	44,063	46,258
Total	934,154	488,254	732,460	767,354	587,495	874,081

4) Interruptions, Customers Interrupted and Customer-Hours Interrupted - 2024

Cause Code	Interruptions		Customers Interrupted		Customer-Hours Interrupted	
	Number	% Total	Number	% Total	Number	% Total
01 Major Storms	975	30.3%	131,023	32.1%	462,679	49.5%
02 Tree Contacts	678	21.1%	110,128	26.9%	224,818	24.1%
03 Overloads	23	0.7%	1,708	0.4%	1,235	0.1%
04 Operator Error	6	0.2%	5,980	1.5%	3,545	0.4%
05 Equipment	718	22.3%	74,172	18.1%	121,711	13.0%
06 Accidents	440	13.7%	48,319	11.8%	74,150	7.9%
07 Prearranged	118	3.7%	24,639	6.0%	18,105	1.9%
08 Customer Equip.	1	0.0%	2	0.0%	7	0.0%
09 Lightning	22	0.7%	1,668	0.4%	3,290	0.4%
10 Unknown	232	7.2%	11,142	2.7%	24,616	2.6%
Total	3,213	100.0%	408,781	100.0%	934,154	100.0%

e. **INTERRUPTION REVIEW BY PSC CAUSE CODES**

Cause Code 01 - Major Storms

In 2024, Major Storms accounted for 30% of interruptions, 32% of customers interrupted, and 50% of Customer-Hours Interrupted.

Interruptions due to Major Storm were - from 2023, and up 295% over the 5-year average. Customers interrupted due to Major Storms were - from 2023, and up 289% over the 5-year average. Customer-Hours interrupted were - from 2023 and up 251% over the 5-year average.

The remaining PSC code descriptions do not include Major Storms in the percentages.

Cause Code 02 - Tree Contacts

In 2024, Tree Contacts accounted for 30% of interruptions, 40% of customers interrupted, and 48% of Customer-Hours Interrupted.

Interruptions due to Tree Contacts were up 3% from 2023, and up 8% over the 5-year average. Customers interrupted due to Tree Contacts were up 10% from 2023, and down 0% over the 5-year average. Customer-Hours interrupted were up 33% from 2023 and up 9% over the 5-year average.

Tree Contacts were the 2nd largest cause of interruptions in 2024.

Cause Code 03 - Overloads

In 2024, Overloads accounted for 1% of interruptions, 1% of customers interrupted, and 0% of Customer-Hours Interrupted.

Interruptions due to Overloads were up 283% from 2023, and up 10% over the 5-year average. Customers interrupted due to Overloads were up 2272% from 2023, and up 53% over the 5-year average. Customer-Hours interrupted were up 679% from 2023 and down 70% over the 5-year average.

Overloads were the 6th largest cause of interruptions in 2024.

Cause Code 04 - Operator Error

In 2024, Operator Error accounted for 0% of interruptions, 2% of customers interrupted, and 1% of Customer-Hours Interrupted.

Interruptions due to Operator Error were down 50% from 2023, and down 45% over the 5-year average. Customers interrupted due to Operator Error were up 273% from 2023, and up 88% over the 5-year average. Customer-Hours interrupted were up 135% from 2023 and up 3% over the 5-year average.

Operator Error was the 8th largest cause of interruptions in 2024.

Cause Code 05 - Equipment Failure

In 2024, Equipment Failures accounted for 32% of interruptions, 27% of customers interrupted, and 26% of Customer-Hours Interrupted.

Interruptions due to Equipment Failure were up 3% from 2023, and down 2% over the 5-year average. Customers interrupted due to Equipment Failure were down 16% from 2023, and down 31% over the 5-year average. Customer-Hours interrupted were down 23% from 2023 and down 35% over the 5-year average.

Equipment Failures were the largest cause of interruptions in 2024.

Cause Code 06 - Accidents

In 2024, Accidents accounted for 20% of interruptions, 17% of customers interrupted, and 16% of Customer-Hours Interrupted.

Interruptions due to Accidents were up 3% from 2023, and up 5% over the 5-year average. Customers interrupted due to Accidents were down 30% from 2023, and down 20% over the 5-year average. Customer-Hours interrupted were down 19% from 2023 and down 18% over the 5-year average.

Accidents were the 3rd largest cause of interruptions in 2024.

Cause Code 07 - Prearranged

In 2024, Prearranged accounted for 5% of interruptions, 9% of customers interrupted, and 4% of Customer-Hours Interrupted.

Interruptions due to Prearranged were up 17% from 2023, and up 12% over the 5-year average. Customers interrupted due to Prearranged were up 104% from 2023, and up 80% over the 5-year average. Customer-Hours interrupted were down 44% from 2023 and down 8% over the 5-year average.

Prearranged was the 5th largest cause of interruptions in 2024.

Cause Code 08 - Customer Equipment

In 2024, Customer Equipment accounted for 0% of interruptions, 0% of customers interrupted, and 0% of Customer-Hours Interrupted.

Interruptions due to Customer Equipment were - from 2023, and N/A over the 5-year average. Customers interrupted due to Customer Equipment were - from 2023, and down 60% over the 5-year average. Customer-Hours interrupted were - from 2023 and flat at 0% over the 5-year average.

Customer Equipment were the 9th largest cause of interruptions in 2024.

Cause Code 09 - Lightning

In 2024, Lightning accounted for 1% of interruptions, 1% of customers interrupted, and 1% of Customer-Hours Interrupted.

Interruptions due to Lightning were down 62% from 2023, and down 68% over the 5-year average. Customers interrupted due to Lightning were down 52% from 2023, and down 64% over the 5-year average. Customer-Hours interrupted were down 19% from 2023 and down 67% over the 5-year average.

Lightning was the 7th largest cause of interruptions in 2024.

Cause Code 10 - Unknown

In 2024, Unknown causes accounted for 10% of interruptions, 4% of customers interrupted, and 5% of Customer-Hours Interrupted.

Interruptions due to Unknown causes were down 21% from 2023, and down 13% over the 5-year average. Customers interrupted due to Unknown causes were down 35% from 2023, and down 58% over the 5-year average. Customer-Hours interrupted were down 21% from 2023 and down 34% over the 5-year average.

Unknown causes were the 4th largest cause of interruptions in 2024.

f. DISCUSSION OF REGIONAL CAPEX PROJECTS WITH 2024/25 SPENDS

The Company continues to work on capital projects in the Central Region in order to maintain customer satisfaction and future reliability. Some specific projects that were constructed in either CY24 or will be constructed in CY25 are listed below. Additional descriptions of other major infrastructure projects will follow.

There are several projects where lines are being rebuilt or reconductored. These projects are either the result of engineering reliability reviews (ERRs) conducted on the Worst Performing Circuits or are the responses to customer inquiries via the Quick Resolution System (QRS). There are several sub-transmission line rebuild projects and a number of distribution line rebuild projects in progress.

There are additional load relief projects scheduled to be completed throughout the region. Most of these load relief projects are ratio transformer replacements or voltage conversions. Line reconductoring is also included in the voltage conversions, where appropriate.

There are also a number of substation projects that were completed, are underway or slated to begin in 2025. All are load relief projects. These projects include constructing new feeders to retire old 5kV substations. These projects include a new Cicero Substation, Sorrell Hill expansion, Pine Grove Metalclad replacements and Milton Ave (to retire Hinsdale and Camillus).

Major Capital Projects for Central Region:

Region	Project Name	Project Type	Fin Sys Project No.	Finish	Total Spend
Central	TEALL-ONEDIA #5 RESILIENCY	Trans Line	C084541	5/10/24	\$4,573,000
Central	TEALL - ONEIDA #5 RESILIENCY SUB - C089388	Trans Sub	C089388	04-26-24	\$1,186,000
Central	STRC REPLACEMENT - TILDEN CORTLAND #18 POLE REPLACEMENTS - 119 & 130 - C082106	Trans Line	C082106	06-14-24	\$7,139,000
Central	PALOMA 55 CONVERT NYS 48	Dist Sub	C051832	11-27-24	\$1,148,892
Central	FLISR TEMPLE 46 - HARRIS 50	Dist Line	C080088	11-12-24	\$2,886,000
Central	OSWEGO 345KV ASSET SEP/REPL C076218	Trans Sub	C076218	11-15-24	\$7,026,000
Central	TEMPLE DISTRIBUTION REBUILD - C079534	Dist Line	C079534	12-20-24	\$42,488,000
Central	NINE MILE POINT #2 M9000 RTU - C069437	Trans Sub	C069437	05-30-24	\$1,870,000
Central	BELMONT STATION - DSCADA (REPLACE CPU & DUAL PORT) - C077972	Dist Sub	C077972	07-15-24	\$2,344,000
Central	CLAY - PROTECTION DTF: (CLAY STATION) C087504	Trans Sub	C087504	06-12-24	\$1,102,000
Central	MALLORY RD - TB1 D/F - C089594	Trans Sub	C089594	11-15-24	\$1,501,000
Central	SOLVAY - REPLACE TB1 D/F - C089947	Trans Sub	C089594	10-31-24	\$1,800,000
Central	LAFAYETTE RPLC TOP 5 SF6 LEAKERS (R915/R220) - C088905	Trans Sub	C088905	07-26-24	\$1,000,000
Central	CORTLAND STATION - ARP BREAKER REPLACEMENTS (R10/R20/R180/R8105) (FY23 ENG, FY25 CONST) - C032253	Trans Sub	C032253	05-17-24	\$1,200,000

g. DISCUSSION OF REGIONAL PERFORMANCE OF LVAC (LOW VOLTAGE AC) NETWORK DISTRIBUTION SYSTEM(S)

City of Syracuse - Ash Street LVAC Network

The Ash Street LVAC Network serves the northern downtown area and James Street of the City of Syracuse. This system is supplied by ten 11.5kV feeders that originate from the Ash Street substation. This system serves approximately 2090 customer accounts and experienced a peak load of approximately 22,833 MVA in 2024.

The table below lists the breaker operations in 2024 that were a result of a fault and/or failure.

Substation	Feeder Number	Breaker Number	Breaker Number	# Breaker Operations from Failures
Ash Street	22340	R400	R4505	0
Ash Street	22341	R410	R4175	0
Ash Street	22342	R420	R4265	0
Ash Street	22343	R430	R4315	0
Ash Street	22344	R440	R4485	0
Ash Street	22345	R450	R4505	0
Ash Street	22346	R460	R4265	1
Ash Street	22347	R470	R4175	0
Ash Street	22348	R480	R4485	0
Ash Street	22349	R490	R4295	0

As shown above, the Ash Street LVAC Network experienced one feeder outage in 2024. At no time was this network operated beyond its double contingency (N-2) design criteria.

There was one major event at the Ash Street station:

- 1) 08/08/2024 – A customers fire pump water service line ruptured, ultimately eroding away the concrete duct bank and failing two network primary cables. Feeder 22346 faulted and the beaker opened. At that time feeder 22342 was out for service. It was noticed that the 22342 feeder also faulted when the cable was tested before putting back into service; hence there is no breaker operation for the 22342 feeder. The network operated in N-2 until crews could repair the duct bank and pull new cable. No customers lost power.

Major equipment replacements in 2024 consisted of 5 network transformers and 8 network protectors. Annual maintenance consisted of manhole and vault inspections, network protector and transformer inspections, and network protector operation checks.

At this time, there are no major projects being designed and/or under construction.

City of Syracuse – Temple Street LVAC Network

The Temple Street LVAC Network serves the southern downtown area of the City of Syracuse with several spot network services in the northern area. This network is supplied by seven 13.2kV feeders that originate from the Temple Street substation. This system serves approximately 500 customer accounts and experienced a peak load of approximately 15.273 MVA in 2024.

The table below lists the breaker operations in 2024 that were a result of a fault and/or failure.

Substation	Feeder	Breaker	Breaker	# Breaker Operations from Failures
Temple Street	24349	R490	R4895	0
Temple Street	24350	R500	R5015	0
Temple Street	24353	R530	R5235	0
Temple Street	24354	R540	R5455	0
Temple Street	24356	R560	R5675	0
Temple Street	24357	R570	R5675	1
Temple Street	24358	R580	R5895	0

As shown above the Temple Street LVAC Network experienced one feeder outage in 2024. At no time was this network operated beyond its double contingency (N-2) design criteria.

There one major events at the Temple Street station:

- 1) 08/15/24 - A customer drove a stake through our duct bank & primary cable ultimately faulting the 24357 feeder. No customers lost power.

Major equipment replacements in 2024 consisted of 3 network transformers and 3 network protectors. Annual maintenance consisted of manhole and vault inspections, network protector and transformer inspections, and network protector operation checks.

There following major project being designed and/or under construction:

- 1) Replace the two metalclad switchgear where one of the two metalclad switchgear supplies the seven feeders of the LVAC Network system. The project started in FY2022 and cutover is expected to be cut over this year

National Grid has started the rebuild of 6 customer owned spot network vaults at Equitable Towers. This project is expected to be completed this year.

City of Cortland LVAC Network

The Cortland LVAC Network serves the downtown area of the City of Cortland along Main Street from Lincoln Avenue to Port Watson Street. This network is supplied by three 4.8kV feeders: two feeders from the Cortland Substation and one feeder from the Miller Street Substation. This system serves approximately 377 customer accounts and experienced a peak load of approximately 1.723 MVA in 2024.

The table below lists the breaker operations in 2024 that were a result of a fault and/or failure.

Substation	Feeder Number	Breaker Number	# Breaker Operations from Failures
Cortland	50201	R010	0
Cortland	50204	R040	0
Miller Street	11705	R050	1

As shown above the Cortland LVAC Network experienced 1 feeder outages in 2024. The breaker trip mentioned above was due to a storm and tripped due to an overhead fault on the same feeder. There were no customer interruptions on the network. At no time was this network operated beyond its single contingency (N-1) design criteria.

There were no major events associated with the network in 2024.

Major equipment replacements in 2024 consisted of 1 network transformers and 1 network protectors. Annual maintenance consisted of manhole and vault inspections, network protector and transformer inspections, and network protector operation checks.

At this time, the following major project is going to begin design this year and scheduled to begin construction in 2028.

The Company has decided to transform this LVAC Network system into a LVAC Radial system.

2. OPERATING CIRCUIT LISTS

The next three (3) tables will provide the following information for the Central Region.

- a. Worst Performing Circuit List
- b. Worst Performing Circuits with 3 Year History for CAIDI and SAIFI Indices
- c. Worst Performing Circuits by # of Momentary Interruptions

a. NATIONAL GRID WORST PERFORMING CIRCUIT LIST

CENTRAL REGION

FEEDER #	A CUST. SERVED	B TOTAL INTER.	C # CUST. INTER.	D CUST. HRS. INTER.	C/A SAIFI	D/A SAIDI	D/C CAIDI	NUMBER OF MOMENTARIES
TULLY CENTER 27853	1,257	40	4,931	13,008	3.92	10.35	2.64	2
LIGHTHOUSE HILL 6144	2,368	38	7,630	14,249	3.22	6.02	1.87	0
GRANBY CENTER 29351	1,863	25	5,290	13,102	2.84	7.03	2.48	3
JEWETT ROAD 29155	812	18	3,165	8,399	3.90	10.34	2.65	3
NEW HAVEN 25652	1,664	34	4,472	7,547	2.69	4.54	1.69	0
DELPHI 26253	1,145	28	3,105	6,175	2.71	5.39	1.99	0
SOUTHWOOD 24453	2,766	18	6,747	18,944	2.44	6.85	2.81	0
FAIRDALE 13564	783	12	2,680	9,404	3.42	12.01	3.51	3
TULLY CENTER 27851	2,377	57	5,311	7,814	2.23	3.29	1.47	2
RIDGE ROAD 21964	877	25	1,909	4,334	2.18	4.94	2.27	0
BRIDGEPORT 16853	1,399	13	4,195	7,335	3.00	5.24	1.75	1
PALOMA (FULTON) 25456	1,886	35	3,568	6,827	1.89	3.62	1.91	1
CLEVELAND 1166	980	25	2,107	4,025	2.15	4.11	1.91	3
LAKE RD#2 (FULTON) 29951	655	12	1,616	5,571	2.47	8.51	3.45	3
STARR ROAD 33452	983	18	1,833	5,834	1.86	5.94	3.18	1
BRIDGEPORT 16854	1,364	20	2,955	5,357	2.17	3.93	1.81	2
WEST CLEVELAND 32651	1,106	25	1,879	4,974	1.70	4.50	2.65	3
STARR ROAD 33454	2,977	17	6,289	9,768	2.11	3.28	1.55	2

Regional Goals:

CAIDI 1.899

SAIFI 1.226

b. NATIONAL GRID WORST PERFORMING CIRCUITS WITH 3 YEAR HISTORY FOR CAIDI AND SAIFI INDICES

CENTRAL REGION

FEEDER #	2024 CAIDI	2023 CAIDI	2022 CAIDI	2021 CAIDI	2024 SAIFI	2023 SAIFI	2022 SAIFI	2021 SAIFI
TULLY CENTER 27853	2.64	1.76	1.46	2.77	3.92	1.69	2.43	3.99
LIGHTHOUSE HILL 6144	1.87	2.48	4.38	1.33	3.22	2.10	1.80	3.77
GRANBY CENTER 29351	2.48	2.79	3.62	3.91	2.84	1.11	1.08	0.18
JEWETT ROAD 29155	2.65	1.63	2.73	1.53	3.90	0.67	1.38	2.08
NEW HAVEN 25652	1.69	2.53	2.28	2.06	2.69	1.00	2.51	1.71
DELPHI 26253	1.99	1.85	1.43	1.46	2.71	1.23	1.21	0.12
SOUTHWOOD 24453	2.81	2.80	1.09	1.86	2.44	0.40	0.37	1.28
FAIRDALE 13564	3.51	3.36	3.12	3.36	3.42	0.11	0.68	0.38
TULLY CENTER 27851	1.47	1.06	2.26	1.05	2.23	2.62	0.26	4.15
RIDGE ROAD 21964	2.27	1.66	1.65	1.31	2.18	0.75	0.96	3.37
BRIDGEPORT 16853	1.75	0.78	1.15	0.85	3.00	2.26	1.08	2.07
PALOMA (FULTON) 25456	1.91	2.14	1.78	4.89	1.89	0.26	1.95	1.76
CLEVELAND 1166	1.91	3.33	2.80	3.07	2.15	3.01	4.18	5.37
LAKE RD#2 (FULTON) 29951	3.45	1.47	2.85	2.76	2.47	2.96	1.37	1.61
STARR ROAD 33452	3.18	2.65	5.57	3.09	1.86	0.14	0.07	0.15
BRIDGEPORT 16854	1.81	1.37	3.48	1.47	2.17	1.87	0.14	1.23
WEST CLEVELAND 32651	2.65	3.02	1.71	2.70	1.70	3.95	6.84	11.52
STARR ROAD 33454	1.55	1.72	1.30	1.51	2.11	1.32	0.48	1.10

Regional Goals:

CAIDI 1.899

SAIFI 1.226

c. NATIONAL GRID WORST PERFORMING CIRCUITS BY # OF MOMENTARY INTERRUPTIONS

CENTRAL REGION

Feeders			Customer Momentaries				Ranks		
Volts (kV)	Station Name	Ckt/F No.	Substation	Transmission	Distribution	Total	Within Region	Within System	Reliability Ranking
No circuits experienced 10 or more momentary interruptions in 2024.									

d. WORST PERFORMING CIRCUIT ANALYSIS

This year, the Central Region is required to analyze and report on eighteen of the worst performing circuits. The list consists of Fourteen 13.2kV circuits, one 12kV and three 4.8kV circuits.

The reliability performance thresholds for the Central Region are 1.899 hours for CAIDI and 1.226 interruptions for SAIFI.

1. TULLY CENTER 27853 - 13.2kV

Profile: 1,255 Customers, 81.244 Circuit Miles
Indices: CAIDI = 2.64, SAIFI = 3.92

CAUSE CODE PERFORMANCE TABLE

Code	Category	Interruptions		Customers Interrupted		Customer Hours	
		Number	% Total	Number	% Total	Number	% Total
2	TREE	18	45.00%	2,380	48.27%	8,002	61.52%
3	OVERLOADS	0	0.00%	0	0.00%	0	0.00%
4	OPER. ERROR	2	5.00%	1,287	26.10%	2,116	16.27%
5	EQUIPMENT	7	17.50%	199	4.04%	671	5.16%
6	ACCIDENTS	5	12.50%	792	16.06%	1,495	11.50%
7	PREARRANGED	0	0.00%	0	0.00%	0	0.00%
8	CUST. EQUIP.	0	0.00%	0	0.00%	0	0.00%
9	LIGHTNING	0	0.00%	0	0.00%	0	0.00%
10	UNKNOWN	8	20.00%	273	5.54%	723	5.56%
Totals		40	100.00%	4,931	100.00%	13,008	100.00%

Problem Analysis:

- There were 40 interruptions on the Tully Center 27853 in 2024.
- There was 1 transmission interruption.
 - This Transmission interruption occurred on May 21, 2024, coded as a cause of construction by company (PSC cause code 04). This lockout accounted for 25% of the total customers interrupted (1,251 of 4,931), and 16% of the total customer-hours interrupted (2,085 of 13,008). This interruption was required to make repairs on the transmission line equipment.
- There were no substation interruptions.
- The remaining 39 events occurred at the distribution level.
- The distribution circuit breaker for the Tully Center 27853 experienced 2 momentary operations in 2024.
- The distribution circuit breaker for the Tully Center 27853 experienced 1 sustained operation (lockout) in 2024. This interruption accounted for 25% of the total amount of customers interrupted (1,255 out of 4,931) and 22% of the total amount of the customer-hours interrupted (2,921 out of 13,008).
 - This lockout occurred on November 22, 2024, coded as a cause of tree fell (PSC cause code 02). This lockout accounted for 25% of the total customers interrupted (1,255 of 4,931), and 22% of the total customer-hours interrupted (2,921 of 13,008). This was caused by multiple tree conditions along Long Rd and Lake Rd less than a circuit mile from the station.

- Trees were the leading cause of interruptions on the Tully Center 27853 in 2024, accounting for 45% of total interruptions (18 of 40). Unknown were the 2nd leading cause of interruptions, accounting for 20% of total interruptions (8 of 40). Equipment Failures were the 3rd leading cause of interruptions, accounting for 18% of total interruptions (7 of 40).
- Trees were the leading cause of customers interrupted (CI) on the Tully Center 27853 in 2024, accounting for 48% of total customers interrupted (2,380 of 4,931). Operators Errors were the 2nd leading cause of customers interrupted, accounting for 26% of total customers interrupted (1,287 of 4,931). Accidents were the 3rd leading cause of customers interrupted, accounting for 16% of total customers interrupted (792 of 4,931).
- Trees were the leading cause of customer-hours interrupted (CHI) on the Tully Center 27853 in 2024, accounting for 62% of total customer-hours interrupted (8,002 of 13,008). Operators Errors were the 2nd leading cause of customer-hours interrupted, accounting for 16% of total customer-hours interrupted (2,116 of 13,008). Accidents were the 3rd leading cause of customer-hours interrupted, accounting for 11% of total customer-hours interrupted (1,495 of 13,008).
- Of the 40 interruptions on this circuit, 19 affected 10 customers or less, with 5 being single customer outages.

Action Taken:

- Removed additional trees along Stevens Rd after weather event on November 22, 2024.

Action Plan:

- Distribution Forestry cycle pruned the feeder in FY2026.
- Complete all level 2 maintenance work that was identified by the I&M inspection (foot patrol) on the feeder by July 2026.

2. LIGHTHOUSE HILL 6144 - 12kV

Profile: 2,368 Customers, 151.8 Circuit Miles

Indices: CAIDI = 1.87, SAIFI = 3.22

CAUSE CODE PERFORMANCE TABLE

Code	Category	Interruptions		Customers Interrupted		Customer Hours	
		Number	% Total	Number	% Total	Number	% Total
2	TREE	17	44.74%	6,103	79.99%	11,694	82.07%
3	OVERLOADS	1	2.63%	1	0.01%	3	0.02%
4	OPER. ERROR	0	0.00%	0	0.00%	0	0.00%
5	EQUIPMENT	10	26.32%	622	8.15%	987	6.93%
6	ACCIDENTS	4	10.53%	676	8.86%	1,281	8.99%
7	PREARRANGED	1	2.63%	45	0.59%	52	0.37%
8	CUST. EQUIP.	0	0.00%	0	0.00%	0	0.00%
9	LIGHTNING	1	2.63%	4	0.05%	9	0.07%
10	UNKNOWN	4	10.53%	179	2.35%	222	1.56%
Totals		38	100.00%	7,630	100.00%	14,249	100.00%

Problem Analysis:

- There were 38 interruptions on the Lighthouse Hill 6144 in 2024.
- There were no transmission interruptions.
- There were no substation interruptions.
- All 38 events occurred at the distribution level.
- The distribution circuit breaker for the Lighthouse Hill 6144 experienced 0 momentary operations in 2024.
- The distribution circuit breaker for the Lighthouse Hill 6144 experienced 2 sustained operations (lockouts) in 2024. These interruptions accounted for 56% of the total amount of customers interrupted (4,249 out of 7,630) and 40% of the total amount of the customer-hours interrupted (5,650 out of 14,249).
 - The first lockout occurred on May 27, 2024, coded as a cause of tree fell (PSC cause code 02). This lockout accounted for 25% of the total customers interrupted (1,895 of 7,630), and 13% of the total customer-hours interrupted (1,822 of 14,249). This was due to a fallen tree that took wires down on Tubbs Rd.
 - The second lockout occurred on June 30, 2024, coded as a cause of tree fell (PSC cause code 02). This lockout accounted for 31% of the total customers interrupted (2,354 of 7,630), and 27% of the total customer-hours interrupted (3,828 of 14,249). This was due to a fallen tree that took wires down on CR 22.
- The recloser R22128 on Lighthouse Hill 6144 experienced 1 sustained operation (lockouts) in 2024. This interruption accounted for 15% of the total amount of customers interrupted (1,133 out of 7,630) and 25% of the total amount of the customer-hours interrupted (3,607 out of 14,249). This interruption was due to a fallen tree.

- Trees were the leading cause of interruptions on the Lighthouse Hill 6144 in 2024, accounting for 45% of total interruptions (17 of 38). Equipment Failures were the 2nd leading cause of interruptions, accounting for 26% of total interruptions (10 of 38). Accidents were the 3rd leading cause of interruptions, accounting for 11% of total interruptions (4 of 38).
- Trees were the leading cause of customers interrupted (CI) on the Lighthouse Hill 6144 in 2024, accounting for 80% of total customers interrupted (6,103 of 7,630). Accidents were the 2nd leading cause of customers interrupted, accounting for 9% of total customers interrupted (676 of 7,630). Equipment Failures were the 3rd leading cause of customers interrupted, accounting for 8% of total customers interrupted (622 of 7,630).
- Trees were the leading cause of customer-hours interrupted (CHI) on the Lighthouse Hill 6144 in 2024, accounting for 82% of total customer-hours interrupted (11,694 of 14,249). Accidents were the 2nd leading cause of customer-hours interrupted, accounting for 9% of total customer-hours interrupted (1,281 of 14,249). Equipment Failures were the 3rd leading cause of customer-hours interrupted, accounting for 7% of total customer-hours interrupted (987 of 14,249).
- Of the 38 interruptions on this circuit, 35 affected 10 customers or less, with 22 being single customer outages.

Action Taken:

- Completed all level 3 maintenance work that was identified by the I&M inspection (foot patrol) on the feeder in 2023.

Action Plan:

- The I&M inspection (foot patrol) of the feeder to be completed in 2025.
- Complete all level 2 maintenance work that was identified by the I&M inspection (foot patrol) on the feeder in 2026.
- Routine tree trimming/pruning to be completed in FY2026.

3. GRANBY CENTER 29351 – 13.2kV

Profile: 1,863 Customers, 63.4 Circuit Miles
Indices: CAIDI = 2.48, SAIFI = 2.84

CAUSE CODE PERFORMANCE TABLE

Code	Category	Interruptions		Customers Interrupted		Customer Hours	
		Number	% Total	Number	% Total	Number	% Total
2	TREE	13	52.00%	4,964	93.84%	12,261	93.58%
3	OVERLOADS	0	0.00%	0	0.00%	0	0.00%
4	OPER. ERROR	0	0.00%	0	0.00%	0	0.00%
5	EQUIPMENT	4	16.00%	42	0.79%	91	0.69%
6	ACCIDENTS	7	28.00%	283	5.35%	748	5.71%
7	PREARRANGED	0	0.00%	0	0.00%	0	0.00%
8	CUST. EQUIP.	0	0.00%	0	0.00%	0	0.00%
9	LIGHTNING	0	0.00%	0	0.00%	0	0.00%
10	UNKNOWN	1	4.00%	1	0.02%	2	0.01%
Totals		25	100.00%	5,290	100.00%	13,102	100.00%

Problem Analysis:

- There were 25 interruptions on the Granby Center 29351 in 2024.
- There were 2 transmission interruptions.
 - The first Transmission interruption occurred on May 23, 2024, coded as a cause of tree fell (PSC cause code 02). This lockout accounted for 35% of the total customers interrupted (1,865 of 5,290), and 34% of the total customer-hours interrupted (4,428 of 13,102). Tree fell rear lot between NYS 3 and CR 3.
 - The second Transmission interruption occurred on June 22, 2024, coded as a cause of tree fell (PSC cause code 02). This lockout accounted for 35% of the total customers interrupted (1,857 of 5,290), and 44% of the total customer-hours interrupted (5,775 of 13,102). Tree fell on the tap to Birdseye primary service.
- There were no substation interruptions.
- The remaining 23 events occurred at the distribution level.
- The distribution circuit breaker for the Granby Center 29351 experienced 3 momentary operations in 2024.
- The distribution circuit breaker for the Granby Center 29351 experienced 0 sustained operations (lockouts) in 2024.
- Trees were the leading cause of interruptions on the Granby Center 29351 in 2024, accounting for 52% of total interruptions (13 of 25). Accidents were the 2nd leading cause of interruptions, accounting for 28% of total interruptions (7 of 25). Equipment Failures were the 3rd leading cause of interruptions, accounting for 16% of total interruptions (4 of 25).

- Trees were the leading cause of customers interrupted (CI) on the Granby Center 29351 in 2024, accounting for 94% of total customers interrupted (4,964 of 5,290). Accidents were the 2nd leading cause of customers interrupted, accounting for 5% of total customers interrupted (283 of 5,290). Equipment Failures were the 3rd leading cause of customers interrupted, accounting for 1% of total customers interrupted (42 of 5,290).
- Trees were the leading cause of customer-hours interrupted (CHI) on the Granby Center 29351 in 2024, accounting for 94% of total customer-hours interrupted (12,261 of 13,102). Accidents were the 2nd leading cause of customer-hours interrupted, accounting for 6% of total customer-hours interrupted (748 of 13,102). Equipment Failures were the 3rd leading cause of customer-hours interrupted, accounting for 1% of total customer-hours interrupted (91 of 13,102).
- Of the 25 interruptions on this circuit, 12 affected 10 customers or less, with 6 being single customer outages.

Action Taken:

- Completed all level 3 maintenance work that was identified by the I&M inspection (foot patrol) on the feeder by 2022.
- Distribution Forestry cycle pruned the feeder in FY2024.
- The I&M inspection (foot patrol) of the feeder was completed in 2024.

Action Plan:

- Complete all level 2 maintenance work that was identified by the I&M inspection (foot patrol) on the feeder by 2025.
- Complete all level 3 maintenance work that was identified by the I&M inspection (foot patrol) on the feeder by 2027.

5. JEWETT ROAD 29155 – 13.2kV

Profile: 812 Customers, 26.9 Circuit Miles

Indices: CAIDI = 2.65, SAIFI = 3.90

CAUSE CODE PERFORMANCE TABLE

Code	Category	Interruptions		Customers Interrupted		Customer Hours	
		Number	% Total	Number	% Total	Number	% Total
2	TREE	4	22.22%	1,675	52.92%	6,289	74.88%
3	OVERLOADS	0	0.00%	0	0.00%	0	0.00%
4	OPER. ERROR	0	0.00%	0	0.00%	0	0.00%
5	EQUIPMENT	5	27.78%	933	29.48%	1,052	12.52%
6	ACCIDENTS	5	27.78%	345	10.90%	712	8.47%
7	PREARRANGED	0	0.00%	0	0.00%	0	0.00%
8	CUST. EQUIP.	0	0.00%	0	0.00%	0	0.00%
9	LIGHTNING	0	0.00%	0	0.00%	0	0.00%
10	UNKNOWN	4	22.22%	212	6.70%	346	4.12%
Totals		18	100.00%	3,165	100.00%	8,399	100.00%

Problem Analysis:

- There were 18 interruptions on the Jewett Road 29155 in 2024.
- There were no transmission interruptions.
- There were no substation interruptions.
- All 18 events occurred at the distribution level.
- The distribution circuit breaker for the Jewett Road 29155 experienced 3 momentary operations in 2024.
- The distribution circuit breaker for the Jewett Road 29155 experienced 2 sustained operations (lockouts) in 2024. These interruptions accounted for 51% of the total amount of customers interrupted (1,624 out of 3,165) and 43% of the total amount of the customer-hours interrupted (3,634 out of 8,399).
 - The first lockout occurred on January 28, 2024, coded as a cause of tree fell (PSC cause code 02). This lockout accounted for 26% of the total customers interrupted (812 of 3,165), and 33% of the total customer-hours interrupted (2,758 of 8,399). The tree was down off road along Lake Road.
 - The second lockout occurred on August 06, 2024, coded as a cause of device failed (PSC cause code 05). This lockout accounted for 26% of the total customers interrupted (812 of 3,165), and 10% of the total customer-hours interrupted (876 of 8,399). Pole fire on Coon Hill Rd due to failed transformer.
- Equipment Failures were the leading cause of interruptions on the Jewett Road 29155 in 2024, accounting for 28% of total interruptions (5 of 18). Accidents were the 2nd leading cause of interruptions, accounting for 28% of total interruptions (5 of 18). Trees were the 3rd leading cause of interruptions, accounting for 22% of total interruptions (4 of 18).

- Trees were the leading cause of customers interrupted (CI) on the Jewett Road 29155 in 2024, accounting for 53% of total customers interrupted (1,675 of 3,165). Equipment Failures were the 2nd leading cause of customers interrupted, accounting for 29% of total customers interrupted (933 of 3,165). Accidents were the 3rd leading cause of customers interrupted, accounting for 11% of total customers interrupted (345 of 3,165).
- Trees were the leading cause of customer-hours interrupted (CHI) on the Jewett Road 29155 in 2024, accounting for 75% of total customer-hours interrupted (6,289 of 8,399). Equipment Failures were the 2nd leading cause of customer-hours interrupted, accounting for 13% of total customer-hours interrupted (1,052 of 8,399). Accidents were the 3rd leading cause of customer-hours interrupted, accounting for 8% of total customer-hours interrupted (712 of 8,399).
- Of the 18 interruptions on this circuit, 15 affected 10 customers or less, with 10 being single customer outages.

Action Taken:

- Distribution Forestry cycle pruned the feeder in FY2024.
- The I&M inspection (foot patrol) of the feeder was in 2024.

Action Plan:

- Complete all level 2 maintenance work that was identified by the I&M inspection (foot patrol) on the feeder by 2025.
- Complete all level 3 maintenance work that was identified by the I&M inspection (foot patrol) on the feeder by 2027.

6. NEW HAVEN 25652 – 13.2 kV

Profile: 1,664 Customers, 85.3 Circuit Miles

Indices: CAIDI = 1.69, SAIFI = 2.69

CAUSE CODE PERFORMANCE TABLE

Code	Category	Interruptions		Customers Interrupted		Customer Hours	
		Number	% Total	Number	% Total	Number	% Total
2	TREE	18	52.94%	3,108	69.50%	6,594	87.37%
3	OVERLOADS	0	0.00%	0	0.00%	0	0.00%
4	OPER. ERROR	0	0.00%	0	0.00%	0	0.00%
5	EQUIPMENT	5	14.71%	22	0.49%	97	1.28%
6	ACCIDENTS	7	20.59%	1,241	27.75%	757	10.04%
7	PREARRANGED	3	8.82%	89	1.99%	89	1.18%
8	CUST. EQUIP.	0	0.00%	0	0.00%	0	0.00%
9	LIGHTNING	0	0.00%	0	0.00%	0	0.00%
10	UNKNOWN	1	2.94%	12	0.27%	10	0.13%
Totals		34	100.00%	4,472	100.00%	7,547	100.00%

Problem Analysis:

- There were 34 interruptions on the New Haven 25652 in 2024.
- There were no transmission interruptions.
- There were no substation interruptions.
- All 34 events occurred at the distribution level.
- The distribution circuit breaker for the New Haven 25652 experienced 0 momentary operations in 2024.
- The distribution circuit breaker for the New Haven 25652 experienced 1 sustained operation (lockout) in 2024. This interruption accounted for 37% of the total amount of customers interrupted (1,664 out of 4,472) and 57% of the total amount of the customer-hours interrupted (4,308 out of 7,547).
 - This lockout occurred on February 25, 2024, coded as a cause of tree fell (PSC cause code 02). This lockout accounted for 37% of the total customers interrupted (1,664 of 4,472), and 57% of the total customer-hours interrupted (4,308 of 7,547). This was due to a tree falling on the primary within the station breaker's zone of protection (along Stone Rd., between CR-6 Darrow Rd and CR-64.)
- Trees were the leading cause of interruptions on the New Haven 25652 in 2024, accounting for 53% of total interruptions (18 of 34). Accidents were the 2nd leading cause of interruptions, accounting for 21% of total interruptions (7 of 34). Equipment Failures were the 3rd leading cause of interruptions, accounting for 15% of total interruptions (5 of 34).

- Trees were the leading cause of customers interrupted (CI) on the New Haven 25652 in 2024, accounting for 69% of total customers interrupted (3,108 of 4,472). Accidents were the 2nd leading cause of customers interrupted, accounting for 28% of total customers interrupted (1,241 of 4,472). Prearranged were the 3rd leading cause of customers interrupted, accounting for 2% of total customers interrupted (89 of 4,472).
- Trees were the leading cause of customer-hours interrupted (CHI) on the New Haven 25652 in 2024, accounting for 87% of total customer-hours interrupted (6,594 of 7,547). Accidents were the 2nd leading cause of customer-hours interrupted, accounting for 10% of total customer-hours interrupted (757 of 7,547). Equipment Failures were the 3rd leading cause of customer-hours interrupted, accounting for 1% of total customer-hours interrupted (97 of 7,547).
- Of the 34 interruptions on this circuit, 16 affected 10 customers or less, with 9 being single customer outages.

Action Taken:

- The I&M inspection (foot patrol) of the feeder was in 2023.
- Completed all level 2 maintenance work that was identified by the I&M inspection (foot patrol) on the feeder by 2024.
- Distribution Forestry cycle pruned the feeder in FY2021.

Action Plan:

- Routine tree trimming/pruning is planned to be completed in FY2027.
- Complete all level 3 maintenance work that was identified by the I&M inspection (foot patrol) on the feeder by 2026.

7. DELPHI 26253 – 13.2kV

Profile: 1,140 Customers, 72.67 Circuit Miles
Indices: CAIDI = 1.99, SAIFI = 2.71

CAUSE CODE PERFORMANCE TABLE

Code	Category	Interruptions		Customers Interrupted		Customer Hours	
		Number	% Total	Number	% Total	Number	% Total
2	TREE	12	42.86%	2,134	68.73%	4,456	72.16%
3	OVERLOADS	0	0.00%	0	0.00%	0	0.00%
4	OPER. ERROR	0	0.00%	0	0.00%	0	0.00%
5	EQUIPMENT	3	10.71%	35	1.13%	55	0.89%
6	ACCIDENTS	8	28.57%	108	3.48%	212	3.43%
7	PREARRANGED	0	0.00%	0	0.00%	0	0.00%
8	CUST. EQUIP.	0	0.00%	0	0.00%	0	0.00%
9	LIGHTNING	0	0.00%	0	0.00%	0	0.00%
10	UNKNOWN	5	17.86%	828	26.67%	1,453	23.53%
Totals		28	100.00%	3,105	100.00%	6,175	100.00%

Problem Analysis:

- There were 28 interruptions on Delphi 26253 in 2024.
- There were no transmission interruptions.
- There were no substation interruptions.
- All 28 events occurred at the distribution level.
- The distribution circuit breaker for the Delphi 26253 experienced 0 momentary operations in 2024.
- The distribution circuit breaker for the Delphi 26253 experienced 1 sustained operation (lockout) in 2024. This interruption accounted for 37% of the total amount of customers interrupted (1,147 out of 3,105) and 21% of the total amount of the customer-hours interrupted (1,305 out of 6,175).
 - This lockout occurred on February 22, 2024, coded as a cause of tree - broken limb (PSC cause code 02). This lockout accounted for 37% of the total customers interrupted (1,147 of 3,105), and 21% of the total customer-hours interrupted (1,305 of 6,175). The tree fell on the primary phase at P8 State Route 80 operated tie switch 4712 to pick up 833 customers (downstream from R41869)
- Trees were the leading cause of interruptions on the Delphi 26253 in 2024, accounting for 43% of total interruptions (12 of 28). Accidents were the 2nd leading cause of interruptions, accounting for 29% of total interruptions (8 of 28). Unknown were the 3rd leading cause of interruptions, accounting for 18% of total interruptions (5 of 28).
- Trees were the leading cause of customers interrupted (CI) on the Delphi 26253 in 2024, accounting for 69% of total customers interrupted (2,134 of 3,105). Unknown were the 2nd leading cause of customers interrupted, accounting for 27% of total customers interrupted (828 of 3,105). Accidents were the 3rd leading cause of customers interrupted, accounting for 3% of total customers interrupted (108 of 3,105).

- Trees were the leading cause of customer-hours interrupted (CHI) on the Delphi 26253 in 2024, accounting for 72% of total customer-hours interrupted (4,456 of 6,175). Unknown were the 2nd leading cause of customer-hours interrupted, accounting for 24% of total customer-hours interrupted (1,453 of 6,175). Accidents were the 3rd leading cause of customer-hours interrupted, accounting for 3% of total customer-hours interrupted (212 of 6,175).
- Of the 28 interruptions on this circuit, 27 affected 10 customers or less, with 12 being single customer outages.

Action Taken:

- Perform mid-cycle hazard tree review out to first protective device.
- Distribution Forestry cycle pruned the feeder in FY2024.

Action Plan:

- Routine tree trimming/pruning is planned to be completed in FY2030.

8. SOUTHWOOD 24453 – 13.2kV

Profile: 2,766 Customers, 34.5 Circuit Miles
Indices: CAIDI = 2.81, SAIFI = 2.44

CAUSE CODE PERFORMANCE TABLE

Code	Category	Interruptions		Customers Interrupted		Customer Hours	
		Number	% Total	Number	% Total	Number	% Total
2	TREE	7	38.89%	4,940	73.22%	16,153	85.27%
3	OVERLOADS	0	0.00%	0	0.00%	0	0.00%
4	OPER. ERROR	0	0.00%	0	0.00%	0	0.00%
5	EQUIPMENT	4	22.22%	954	14.14%	1,442	7.61%
6	ACCIDENTS	5	27.78%	796	11.80%	1,225	6.47%
7	PREARRANGED	1	5.56%	6	0.09%	31	0.16%
8	CUST. EQUIP.	0	0.00%	0	0.00%	0	0.00%
9	LIGHTNING	0	0.00%	0	0.00%	0	0.00%
10	UNKNOWN	1	5.56%	51	0.76%	93	0.49%
Totals		18	100.00%	6,747	100.00%	18,944	100.00%

Problem Analysis:

- There were 18 interruptions on the Southwood 24453 in 2024.
- There were no transmission interruptions.
- There were no substation interruptions.
- All 18 events occurred at the distribution level.
- The distribution circuit breaker for the Southwood 24453 experienced 0 momentary operations in 2024.
- The distribution circuit breaker for the Southwood 24453 experienced 2 sustained operations (lockouts) in 2024. These interruptions accounted for 69% of the total amount of customers interrupted (4,680 out of 6,747) and 82% of the total amount of the customer-hours interrupted (15,618 out of 18,944).
 - The first lockout occurred on May 22, 2024, coded as a cause of tree fell (PSC cause code 02). This lockout accounted for 41% of the total customers interrupted (2,778 of 6,747), and 59% of the total customer-hours interrupted (11,214 of 18,944). Tree fell between P76 and P77 Seneca Tpke.
 - The second lockout occurred on December 29, 2024, coded as a cause of tree fell (PSC cause code 02). This lockout accounted for 28% of the total customers interrupted (1,902 of 6,747), and 23% of the total customer-hours interrupted (4,405 of 18,944). Tree fell between pole 43 and 46 Barker Hill Rd resulting in multiple broken poles.
- There were 2 sustained operations (lockouts) of reclosers in 2024. These interruptions accounted for 18% of the total amount of customers interrupted (1,240 out of 6,747) and 7% of the total amount of the customer-hours interrupted (1,295 out of 18,944).

- The R41174 lockout occurred on June 29, 2024, coded as a cause of device failed (PSC cause code 05). This lockout accounted for 11% of the total customers interrupted (765 of 6,747), and 5% of the total customer-hours interrupted (915 of 18,944). There was wire down between poles 54 and 56 on Sentinel Heights Rd.
- The R42231 lockout occurred on September 16, 2024, coded as a cause of animal (PSC cause code 06). This lockout accounted for 7% of the total customers interrupted (475 of 6,747), and 2% of the total customer-hours interrupted (380 of 18,944). This was due to squirrel contact.
- Trees were the leading cause of interruptions on the Southwood 24453 in 2024, accounting for 39% of total interruptions (7 of 18). Accidents were the 2nd leading cause of interruptions, accounting for 28% of total interruptions (5 of 18). Equipment Failures were the 3rd leading cause of interruptions, accounting for 22% of total interruptions (4 of 18).
- Trees were the leading cause of customers interrupted (CI) on the Southwood 24453 in 2024, accounting for 73% of total customers interrupted (4,940 of 6,747). Equipment Failures were the 2nd leading cause of customers interrupted, accounting for 14% of total customers interrupted (954 of 6,747). Accidents were the 3rd leading cause of customers interrupted, accounting for 12% of total customers interrupted (796 of 6,747).
- Trees were the leading cause of customer-hours interrupted (CHI) on the Southwood 24453 in 2024, accounting for 85% of total customer-hours interrupted (16,153 of 18,944). Equipment Failures were the 2nd leading cause of customer-hours interrupted, accounting for 8% of total customer-hours interrupted (1,442 of 18,944). Accidents were the 3rd leading cause of customer-hours interrupted, accounting for 6% of total customer-hours interrupted (1,225 of 18,944).
- Of the 18 interruptions on this circuit, 5 affected 10 customers or less, with 2 being single customer outages.

Action Taken:

- Distribution Forestry cycle pruned the feeder in FY2023.
- Complete all level 3 maintenance work that was identified by the I&M inspection (foot patrol) on the feeder by 2024.

Action Plan:

- Routine tree trimming/pruning to be completed in FY2028.
- Forestry to perform hazard tree review.
- The I&M inspection (foot patrol) of the feeder to completed in 2026.
- Install FLISR on feeder in FY26.

9. FAIRDALE 13564 – 4.8kV

Profile: 783 Customers, 31.9 Circuit Miles
Indices: CAIDI = 3.51, SAIFI = 3.42

CAUSE CODE PERFORMANCE TABLE

Code	Category	Interruptions		Customers Interrupted		Customer Hours	
		Number	% Total	Number	% Total	Number	% Total
2	TREE	6	50.00%	1,819	67.87%	6,964	74.05%
3	OVERLOADS	0	0.00%	0	0.00%	0	0.00%
4	OPER. ERROR	0	0.00%	0	0.00%	0	0.00%
5	EQUIPMENT	5	41.67%	813	30.34%	2,360	25.10%
6	ACCIDENTS	0	0.00%	0	0.00%	0	0.00%
7	PREARRANGED	0	0.00%	0	0.00%	0	0.00%
8	CUST. EQUIP.	0	0.00%	0	0.00%	0	0.00%
9	LIGHTNING	0	0.00%	0	0.00%	0	0.00%
10	UNKNOWN	1	8.33%	48	1.79%	80	0.85%
Totals		12	100.00%	2,680	100.00%	9,404	100.00%

Problem Analysis:

- There were 12 interruptions on the Fairdale 13564 in 2024.
- There were 3 transmission interruptions.
 - The first Transmission interruption occurred on May 23, 2024, coded as a cause of tree fell (PSC cause code 02). This lockout accounted for 29% of the total customers interrupted (783 of 2,680), and 45% of the total customer-hours interrupted (4,205 of 9,404). Tree fell rear lot between NYS 3 and CR 3.
 - The second Transmission interruption occurred on June 22, 2024, coded as a cause of tree fell (PSC cause code 02). This lockout accounted for 29% of the total customers interrupted (783 of 2,680), and 21% of the total customer-hours interrupted (1,971 of 9,404). This was due to a large tree on the Birdseye tap.
 - The third Transmission interruption occurred on August 28, 2024, coded as a cause of device failed (PSC cause code 05). This lockout accounted for 29% of the total customers interrupted (779 of 2,680), and 23% of the total customer-hours interrupted (2,194 of 9,404). Fairdale station was dropped to make repairs to a broken crossarm on P96 on Curtis-Bristol Hill #28 circuit.
- There were no substation interruptions.
- The remaining 9 events occurred at the distribution level.
- The distribution circuit breaker for the Fairdale 13564 experienced 3 momentary operations in 2024.
- The distribution circuit breaker for the Fairdale 13564 experienced 0 sustained operations (lockouts) in 2024.

- Trees were the leading cause of interruptions on the Fairdale 13564 in 2024, accounting for 50% of total interruptions (6 of 12). Equipment Failures were the 2nd leading cause of interruptions, accounting for 42% of total interruptions (5 of 12). Unknown were the 3rd leading cause of interruptions, accounting for 8% of total interruptions (1 of 12).
- Trees were the leading cause of customers interrupted (CI) on the Fairdale 13564 in 2024, accounting for 68% of total customers interrupted (1,819 of 2,680). Equipment Failures were the 2nd leading cause of customers interrupted, accounting for 30% of total customers interrupted (813 of 2,680). Unknown were the 3rd leading cause of customers interrupted, accounting for 2% of total customers interrupted (48 of 2,680).
- Trees were the leading cause of customer-hours interrupted (CHI) on the Fairdale 13564 in 2024, accounting for 74% of total customer-hours interrupted (6,964 of 9,404). Equipment Failures were the 2nd leading cause of customer-hours interrupted, accounting for 25% of total customer-hours interrupted (2,360 of 9,404). Unknown were the 3rd leading cause of customer-hours interrupted, accounting for 1% of total customer-hours interrupted (80 of 9,404).
- Of the 12 interruptions on this circuit, 3 affected 10 customers or less, with 3 being single customer outages.

Action Taken:

Action Plan:

- Routine tree trimming/pruning to be completed in FY2027.
- The I&M inspection (foot patrol) of the feeder to be completed in 2025.

10. TULLY CENTER 27851 – 13.2kV

Profile: 2,389 Customers, 124.79 Circuit Miles
Indices: CAIDI = 1.47, SAIFI = 2.23

CAUSE CODE PERFORMANCE TABLE

Code	Category	Interruptions		Customers Interrupted		Customer Hours	
		Number	% Total	Number	% Total	Number	% Total
2	TREE	33	57.89%	2,969	55.90%	6,349	81.25%
3	OVERLOADS	0	0.00%	0	0.00%	0	0.00%
4	OPER. ERROR	1	1.75%	1,911	35.98%	191	2.45%
5	EQUIPMENT	12	21.05%	184	3.46%	628	8.04%
6	ACCIDENTS	6	10.53%	30	0.56%	36	0.46%
7	PREARRANGED	1	1.75%	21	0.40%	18	0.23%
8	CUST. EQUIP.	0	0.00%	0	0.00%	0	0.00%
9	LIGHTNING	1	1.75%	11	0.21%	27	0.34%
10	UNKNOWN	3	5.26%	185	3.48%	565	7.23%
Totals		57	100.00%	5,311	100.00%	7,814	100.00%

Problem Analysis:

- There were 57 interruptions on the Tully Center 27851 in 2024.
- There was 1 transmission interruption.
 - This Transmission interruption occurred on May 21, 2024, coded as a cause of construction by company (PSC cause code 04). This lockout accounted for 36% of the total customers interrupted (1,911 of 5,311), and 2% of the total customer-hours interrupted (191 of 7,814). This interruption was required to make repairs on the transmission line equipment.
- There were no substation interruptions.
- The remaining 56 events occurred at the distribution level.
- The distribution circuit breaker for the Tully Center 27851 experienced 2 momentary operations in 2024.
- The distribution circuit breaker for the Tully Center 27851 experienced 0 sustained operations (lockouts) in 2024.
- Trees were the leading cause of interruptions on the Tully Center 27851 in 2024, accounting for 58% of total interruptions (33 of 57). Equipment Failures were the 2nd leading cause of interruptions, accounting for 21% of total interruptions (12 of 57). Accidents were the 3rd leading cause of interruptions, accounting for 11% of total interruptions (6 of 57).
- Trees were the leading cause of customers interrupted (CI) on the Tully Center 27851 in 2024, accounting for 56% of total customers interrupted (2,969 of 5,311). Operators Errors were the 2nd leading cause of customers interrupted, accounting for 36% of total customers interrupted (1,911 of 5,311). Unknown were the 3rd leading cause of customers interrupted, accounting for 3% of total customers interrupted (185 of 5,311).

- Trees were the leading cause of customer-hours interrupted (CHI) on the Tully Center 27851 in 2024, accounting for 81% of total customer-hours interrupted (6,349 of 7,814). Equipment Failures were the 2nd leading cause of customer-hours interrupted, accounting for 8% of total customer-hours interrupted (628 of 7,814). Unknown were the 3rd leading cause of customer-hours interrupted, accounting for 7% of total customer-hours interrupted (565 of 7,814).
- Of the 57 interruptions on this circuit, 31 affected 10 customers or less, with 12 being single customer outages.

Action Taken:

- Removed additional trees along Stevens Rd after weather event on November 22, 2024.

Action Plan:

- Complete all level 3 maintenance work that was identified by the I&M inspection (foot patrol) on the feeder by FY 2026.
- Routine tree trimming/pruning to be completed in FY2026.

11. RIDGE ROAD 21964 – 4.8kV

Profile: 875 Customers, 51.41 Circuit Miles
Indices: CAIDI = 2.27, SAIFI = 2.18

CAUSE CODE PERFORMANCE TABLE

Code	Category	Interruptions		Customers Interrupted		Customer Hours	
		Number	% Total	Number	% Total	Number	% Total
2	TREE	9	36.00%	1,659	86.90%	4,048	93.39%
3	OVERLOADS	0	0.00%	0	0.00%	0	0.00%
4	OPER. ERROR	0	0.00%	0	0.00%	0	0.00%
5	EQUIPMENT	9	36.00%	73	3.82%	118	2.73%
6	ACCIDENTS	4	16.00%	39	2.04%	78	1.79%
7	PREARRANGED	2	8.00%	97	5.08%	46	1.05%
8	CUST. EQUIP.	0	0.00%	0	0.00%	0	0.00%
9	LIGHTNING	0	0.00%	0	0.00%	0	0.00%
10	UNKNOWN	1	4.00%	41	2.15%	45	1.04%
Totals		25	100.00%	1,909	100.00%	4,334	100.00%

Problem Analysis:

- There were 25 interruptions on the Ridge Road 21964 in 2024.
- There were no transmission interruptions.
- There were no substation interruptions.
- All 25 events occurred at the distribution level.
- The distribution circuit breaker for the Ridge Road 21964 experienced 0 momentary operations in 2024.
- The distribution circuit breaker for the Ridge Road 21964 experienced 1 sustained operation (lockout) in 2024. This interruption accounted for 46% of the total amount of customers interrupted (874 out of 1,909) and 32% of the total amount of the customer-hours interrupted (1,377 out of 4,334).
 - This lockout occurred on November 22, 2024, coded as a cause of tree fell (PSC cause code 02). This lockout accounted for 46% of the total customers interrupted (874 of 1,909), and 32% of the total customer-hours interrupted (1,377 of 4,334). Tree fell on primary at P4 Oxbow Rd cause the station breaker R640 to lock out.
- Trees were the leading cause of interruptions on the Ridge Road 21964 in 2024, accounting for 36% of total interruptions (9 of 25). Equipment Failures were the 2nd leading cause of interruptions, accounting for 36% of total interruptions (9 of 25). Accidents were the 3rd leading cause of interruptions, accounting for 16% of total interruptions (4 of 25).
- Trees were the leading cause of customers interrupted (CI) on the Ridge Road 21964 in 2024, accounting for 87% of total customers interrupted (1,659 of 1,909). Prearranged were the 2nd leading cause of customers interrupted, accounting for 5% of total customers interrupted (97 of 1,909). Equipment Failures were the 3rd leading cause of customers interrupted, accounting for 4% of total customers interrupted (73 of 1,909).

- Trees were the leading cause of customer-hours interrupted (CHI) on the Ridge Road 21964 in 2024, accounting for 93% of total customer-hours interrupted (4,048 of 4,334). Equipment Failures were the 2nd leading cause of customer-hours interrupted, accounting for 3% of total customer-hours interrupted (118 of 4,334). Accidents were the 3rd leading cause of customer-hours interrupted, accounting for 2% of total customer-hours interrupted (78 of 4,334).
- Of the 25 interruptions on this circuit, 15 affected 10 customers or less, with 10 being single customer outages.

Action Taken:

Action Plan:

- Complete all level 3 maintenance work that was identified by the I&M inspection (foot patrol) on the feeder by FY 2026.
- Routine tree trimming/pruning to be completed in FY2026.
- The I&M inspection (foot patrol) of the feeder to completed in summer 2025.

12. BRIDGEPORT 16853 – 13.2kV

Profile: 1,399 Customers, 35.3 Circuit Miles
Indices: CAIDI = 1.75, SAIFI = 3.00

CAUSE CODE PERFORMANCE TABLE

Code	Category	Interruptions		Customers Interrupted		Customer Hours	
		Number	% Total	Number	% Total	Number	% Total
2	TREE	9	69.23%	2,954	70.42%	3,682	50.20%
3	OVERLOADS	0	0.00%	0	0.00%	0	0.00%
4	OPER. ERROR	0	0.00%	0	0.00%	0	0.00%
5	EQUIPMENT	2	15.38%	12	0.29%	15	0.20%
6	ACCIDENTS	2	15.38%	1,229	29.30%	3,638	49.60%
7	PREARRANGED	0	0.00%	0	0.00%	0	0.00%
8	CUST. EQUIP.	0	0.00%	0	0.00%	0	0.00%
9	LIGHTNING	0	0.00%	0	0.00%	0	0.00%
10	UNKNOWN	0	0.00%	0	0.00%	0	0.00%
Totals		13	100.00%	4,195	100.00%	7,335	100.00%

Problem Analysis:

- There were 13 interruptions on the Bridgeport 16853 in 2024.
- There were no transmission interruptions.
- There were no substation interruptions.
- All 13 events occurred at the distribution level.
- The distribution circuit breaker for the Bridgeport 16853 experienced 1 momentary operation in 2024.
- The distribution circuit breaker for the Bridgeport 16853 experienced 3 sustained operations (lockouts) in 2024. These interruptions accounted for 78% of the total amount of customers interrupted (3,253 out of 4,195) and 83% of the total amount of the customer-hours interrupted (6,059 out of 7,335).
 - The first lockout occurred on August 02, 2024, coded as a cause of tree - broken limb (PSC cause code 02). This lockout accounted for 15% of the total customers interrupted (634 of 4,195), and 13% of the total customer-hours interrupted (952 of 7,335). Tree fell at P18 Brownell Rd.
 - The second lockout occurred on September 11, 2024, coded as a cause of non-company activities (PSC cause code 06). This lockout accounted for 29% of the total customers interrupted (1,220 of 4,195), and 50% of the total customer-hours interrupted (3,632 of 7,335). Cable fault was discovered within CPP Turbines Primary Service. Their fuse was too large to coordinate (was re-sized after this) and the fault went thru the recloser R40981.
 - The third lockout occurred on October 09, 2024, coded as a cause of tree - broken limb (PSC cause code 02). This lockout accounted for 33% of the total customers interrupted (1,399 of 4,195), and 20% of the total customer-hours interrupted (1,475

of 7,335). There was a tree limb beyond R40981. Upon further investigation it was discovered that the AC trip on R530 had failed. This was fixed on 11/8/24.

- The recloser R40981 experienced 1 sustained operation (lockout) in 2024. These interruptions accounted for 18% of the total amount of customers interrupted (765 out of 4,195) and 13% of the total amount of the customer-hours interrupted (918 out of 7,335). This event was coded as a cause of tree-fell (P107 Chestnut Ridge Rd).
- Trees were the leading cause of interruptions on the Bridgeport 16853 in 2024, accounting for 69% of total interruptions (9 of 13). Equipment Failures were the 2nd leading cause of interruptions, accounting for 15% of total interruptions (2 of 13). Accidents were the 3rd leading cause of interruptions, accounting for 15% of total interruptions (2 of 13).
- Trees were the leading cause of customers interrupted (CI) on the Bridgeport 16853 in 2024, accounting for 70% of total customers interrupted (2,954 of 4,195). Accidents were the 2nd leading cause of customers interrupted, accounting for 29% of total customers interrupted (1,229 of 4,195). Equipment Failures were the 3rd leading cause of customers interrupted, accounting for 0% of total customers interrupted (12 of 4,195).
- Trees were the leading cause of customer-hours interrupted (CHI) on the Bridgeport 16853 in 2024, accounting for 50% of total customer-hours interrupted (3,682 of 7,335). Accidents were the 2nd leading cause of customer-hours interrupted, accounting for 50% of total customer-hours interrupted (3,638 of 7,335). Equipment Failures were the 3rd leading cause of customer-hours interrupted, accounting for 0% of total customer-hours interrupted (15 of 7,335).
- Of the 13 interruptions on this circuit, 6 affected 10 customers or less, with 1 being single customer outages.

Action Taken:

- Distribution Forestry cycle pruned the feeder in FY2024.
- Completed all level 3 maintenance work that was identified by the I&M inspection (foot patrol) on the feeder by 2024.
- FLISR was activated on the feeder in 2024.
- Relays for the station breaker were tested and repaired on 11/8/24.

Action Plan:

- Routine tree trimming/pruning to be completed in FY2029.
- The I&M inspection (foot patrol) of the feeder to be completed in 2026.
- Forestry to monitor the feeder.

PALOMA (FULTON) 25456 – 13.2kV

Profile: 1,886 Customers, 80.2 Circuit Miles

Indices: CAIDI = 1.91, SAIFI = 1.89

CAUSE CODE PERFORMANCE TABLE

Code	Category	Interruptions		Customers Interrupted		Customer Hours	
		Number	% Total	Number	% Total	Number	% Total
2	TREE	13	37.14%	1,326	37.16%	2,405	35.23%
3	OVERLOADS	1	2.86%	2	0.06%	11	0.16%
4	OPER. ERROR	0	0.00%	0	0.00%	0	0.00%
5	EQUIPMENT	11	31.43%	232	6.50%	708	10.37%
6	ACCIDENTS	4	11.43%	175	4.90%	368	5.39%
7	PREARRANGED	0	0.00%	0	0.00%	0	0.00%
8	CUST. EQUIP.	0	0.00%	0	0.00%	0	0.00%
9	LIGHTNING	1	2.86%	1,490	41.76%	2,772	40.61%
10	UNKNOWN	5	14.29%	343	9.61%	563	8.24%
Totals		35	100.00%	3,568	100.00%	6,827	100.00%

Problem Analysis:

- There were 35 interruptions on the Paloma (Fulton) 25456 in 2024.
- There were no transmission interruptions.
- There were no substation interruptions.
- All 35 events occurred at the distribution level.
- The distribution circuit breaker for the Paloma (Fulton) 25456 experienced 1 momentary operation in 2024.
- The distribution circuit breaker for the Paloma (Fulton) 25456 experienced 0 sustained operations (lockouts) in 2024.
- Trees were the leading cause of interruptions on the Paloma (Fulton) 25456 in 2024, accounting for 37% of total interruptions (13 of 35). Equipment Failures were the 2nd leading cause of interruptions, accounting for 31% of total interruptions (11 of 35). Unknown were the 3rd leading cause of interruptions, accounting for 14% of total interruptions (5 of 35).
- Lightning were the leading cause of customers interrupted (CI) on the Paloma (Fulton) 25456 in 2024, accounting for 42% of total customers interrupted (1,490 of 3,568). Trees were the 2nd leading cause of customers interrupted, accounting for 37% of total customers interrupted (1,326 of 3,568). Unknown were the 3rd leading cause of customers interrupted, accounting for 10% of total customers interrupted (343 of 3,568).
- Lightning were the leading cause of customer-hours interrupted (CHI) on the Paloma (Fulton) 25456 in 2024, accounting for 41% of total customer-hours interrupted (2,772 of 6,827). Trees were the 2nd leading cause of customer-hours interrupted, accounting for 35% of total customer-hours interrupted (2,405 of 6,827). Equipment Failures were the 3rd leading cause of customer-hours interrupted, accounting for 10% of total customer-hours interrupted (708 of 6,827).

- Of the 35 interruptions on this circuit, 18 affected 10 customers or less, with 8 being single customer outages.

Action Taken:

- The I&M inspection (foot patrol) of the feeder was completed in 2024.

Action Plan:

- Complete all level 2 maintenance work that was identified by the I&M inspection (foot patrol) on the feeder by 2025.
- Complete all level 3 maintenance work that was identified by the I&M inspection (foot patrol) on the feeder by 2027.
- Routine tree trimming/pruning to be completed in FY2026.

13. CLEVELAND 1166 – 4.8kV

Profile: 980 Customers, 37.1 Circuit Miles
Indices: CAIDI = 1.91, SAIFI = 2.15

CAUSE CODE PERFORMANCE TABLE

Code	Category	Interruptions		Customers Interrupted		Customer Hours	
		Number	% Total	Number	% Total	Number	% Total
2	TREE	16	64.00%	1,128	53.54%	2,158	53.62%
3	OVERLOADS	0	0.00%	0	0.00%	0	0.00%
4	OPER. ERROR	0	0.00%	0	0.00%	0	0.00%
5	EQUIPMENT	5	20.00%	176	8.35%	884	21.97%
6	ACCIDENTS	2	8.00%	655	31.09%	957	23.78%
7	PREARRANGED	2	8.00%	148	7.02%	25	0.63%
8	CUST. EQUIP.	0	0.00%	0	0.00%	0	0.00%
9	LIGHTNING	0	0.00%	0	0.00%	0	0.00%
10	UNKNOWN	0	0.00%	0	0.00%	0	0.00%
Totals		25	100.00%	2,107	100.00%	4,025	100.00%

Problem Analysis:

- There were 25 interruptions on the Cleveland 1166 in 2024.
- There were no transmission interruptions.
- There were no substation interruptions.
- All 25 events occurred at the distribution level.
- The distribution circuit breaker for the Cleveland 1166 experienced 0 momentary operations in 2024.
- The distribution circuit breaker for the Cleveland 1166 experienced 0 sustained operations (lockout) in 2024.
- Trees were the leading cause of interruptions on the Cleveland 1166 in 2024, accounting for 64% of total interruptions (16 of 25). Equipment Failures were the 2nd leading cause of interruptions, accounting for 20% of total interruptions (5 of 25). Accidents were the 3rd leading cause of interruptions, accounting for 8% of total interruptions (2 of 25).
- Trees were the leading cause of customers interrupted (CI) on the Cleveland 1166 in 2024, accounting for 54% of total customers interrupted (1,128 of 2,107). Accidents were the 2nd leading cause of customers interrupted, accounting for 31% of total customers interrupted (655 of 2,107). Equipment Failures were the 3rd leading cause of customers interrupted, accounting for 8% of total customers interrupted (176 of 2,107).
- Trees were the leading cause of customer-hours interrupted (CHI) on the Cleveland 1166 in 2024, accounting for 54% of total customer-hours interrupted (2,158 of 4,025). Accidents were the 2nd leading cause of customer-hours interrupted, accounting for 24% of total customer-hours interrupted (957 of 4,025). Equipment Failures were the 3rd leading cause of customer-hours interrupted, accounting for 22% of total customer-hours interrupted (884 of 4,025).

- Of the 35 interruptions on this circuit, 9 affected 10 customers or less, with 2 being single customer outages.

Action Taken:

- Distribution Forestry cycle pruned the feeder in FY2022.

Action Plan:

- Routine tree trimming/pruning to be completed in FY2028.

14. LAKE RD#2 (FULTON) 29951 – 13.2 kV

Profile: 655 Customers, 28.1 Circuit Miles
Indices: CAIDI = 3.45, SAIFI = 2.47

CAUSE CODE PERFORMANCE TABLE

Code	Category	Interruptions		Customers Interrupted		Customer Hours	
		Number	% Total	Number	% Total	Number	% Total
2	TREE	4	33.33%	138	8.54%	771	13.85%
3	OVERLOADS	0	0.00%	0	0.00%	0	0.00%
4	OPER. ERROR	0	0.00%	0	0.00%	0	0.00%
5	EQUIPMENT	2	16.67%	1,314	81.31%	4,567	81.99%
6	ACCIDENTS	3	25.00%	27	1.67%	89	1.60%
7	PREARRANGED	0	0.00%	0	0.00%	0	0.00%
8	CUST. EQUIP.	0	0.00%	0	0.00%	0	0.00%
9	LIGHTNING	0	0.00%	0	0.00%	0	0.00%
10	UNKNOWN	3	25.00%	137	8.48%	143	2.57%
Totals		12	100.00%	1,616	100.00%	5,571	100.00%

Problem Analysis:

- There were 12 interruptions on the Lake Rd#2 (Fulton) 29951 in 2024.
- There were no transmission interruptions.
- There were no substation interruptions.
- All 12 events occurred at the distribution level.
- The distribution circuit breaker for the Lake Rd#2 (Fulton) 29951 experienced 3 momentary operations in 2024.
- The distribution circuit breaker for the Lake Rd#2 (Fulton) 29951 experienced 1 sustained operation (lockout) in 2024. This interruption accounted for 81% of the total amount of customers interrupted (1,313 out of 1,616) and 82% of the total amount of the customer-hours interrupted (4,562 out of 5,571).
 - This lockout occurred on June 24, 2024, coded as a cause of device failed (PSC cause code 05). This lockout accounted for 81% of the total customers interrupted (1,313 of 1,616), and 82% of the total customer-hours interrupted (4,562 of 5,571). This was due to a broken insulator on P131 near CR-1.
- Trees were the leading cause of interruptions on the Lake Rd#2 (Fulton) 29951 in 2024, accounting for 33% of total interruptions (4 of 12). Accidents were the 2nd leading cause of interruptions, accounting for 25% of total interruptions (3 of 12). Unknown were the 3rd leading cause of interruptions, accounting for 25% of total interruptions (3 of 12).
- Equipment Failures were the leading cause of customers interrupted (CI) on the Lake Rd#2 (Fulton) 29951 in 2024, accounting for 81% of total customers interrupted (1,314 of 1,616). Trees were the 2nd leading cause of customers interrupted, accounting for 9% of total customers interrupted (138 of 1,616). Unknown were the 3rd leading cause of customers interrupted, accounting for 8% of total customers interrupted (137 of 1,616).

- Equipment Failures were the leading cause of customer-hours interrupted (CHI) on the Lake Rd#2 (Fulton) 29951 in 2024, accounting for 82% of total customer-hours interrupted (4,567 of 5,571). Trees were the 2nd leading cause of customer-hours interrupted, accounting for 14% of total customer-hours interrupted (771 of 5,571). Unknown were the 3rd leading cause of customer-hours interrupted, accounting for 3% of total customer-hours interrupted (143 of 5,571).
- Of the 12 interruptions on this circuit, 6 affected 10 customers or less, with 4 being single customer outages.

Action Taken:

- Distribution Forestry cycle pruned the feeder in FY2024.
- Completed all level 3 maintenance work that was identified by the I&M inspection (foot patrol) on the feeder in 2023.

Action Plan:

- The I&M inspection (foot patrol) of the feeder to be completed in 2026.

15. STARR ROAD 33452 – 13.2kV

Profile: 985 Customers, 40.55 Circuit Miles

Indices: CAIDI = 3.18, SAIFI = 1.86

CAUSE CODE PERFORMANCE TABLE

Code	Category	Interruptions		Customers Interrupted		Customer Hours	
		Number	% Total	Number	% Total	Number	% Total
2	TREE	8	44.44%	127	6.93%	563	9.66%
3	OVERLOADS	0	0.00%	0	0.00%	0	0.00%
4	OPER. ERROR	0	0.00%	0	0.00%	0	0.00%
5	EQUIPMENT	5	27.78%	1,574	85.87%	4,759	81.56%
6	ACCIDENTS	0	0.00%	0	0.00%	0	0.00%
7	PREARRANGED	1	5.56%	10	0.55%	23	0.40%
8	CUST. EQUIP.	0	0.00%	0	0.00%	0	0.00%
9	LIGHTNING	0	0.00%	0	0.00%	0	0.00%
10	UNKNOWN	4	22.22%	122	6.66%	489	8.38%
Totals		18	100.00%	1,833	100.00%	5,834	100.00%

Problem Analysis:

- There were 18 interruptions on the Starr Road 33452 in 2024.
- There were no transmission interruptions.
- There were no substation interruptions.
- All 18 events occurred at the distribution level.
- The distribution circuit breaker for the Starr Road 33452 experienced 1 momentary operation in 2024.
- The distribution circuit breaker for the Starr Road 33452 experienced 1 sustained operation (lockout) in 2024. This interruption accounted for 82% of the total amount of customers interrupted (1,511 out of 1,833) and 80% of the total amount of the customer-hours interrupted (4,680 out of 5,834).
 - This lockout occurred on August 03, 2024, coded as a cause of device failed (PSC cause code 05). This lockout accounted for 82% of the total customers interrupted (1,511 of 1,833), and 80% of the total customer-hours interrupted (4,680 of 5,834). This event has an unknown cause. Opened SW 41352 to pick up 439 customer. Nothing was found on the patrol.
- Trees were the leading cause of interruptions on the Starr Road 33452 in 2024, accounting for 44% of total interruptions (8 of 18). Equipment Failures were the 2nd leading cause of interruptions, accounting for 28% of total interruptions (5 of 18). Unknown were the 3rd leading cause of interruptions, accounting for 22% of total interruptions (4 of 18).

- Equipment Failures were the leading cause of customers interrupted (CI) on the Starr Road 33452 in 2024, accounting for 86% of total customers interrupted (1,574 of 1,833). Trees were the 2nd leading cause of customers interrupted, accounting for 7% of total customers interrupted (127 of 1,833). Unknown were the 3rd leading cause of customers interrupted, accounting for 7% of total customers interrupted (122 of 1,833).
- Equipment Failures were the leading cause of customer-hours interrupted (CHI) on the Starr Road 33452 in 2024, accounting for 82% of total customer-hours interrupted (4,759 of 5,834). Trees were the 2nd leading cause of customer-hours interrupted, accounting for 10% of total customer-hours interrupted (563 of 5,834). Unknown were the 3rd leading cause of customer-hours interrupted, accounting for 8% of total customer-hours interrupted (489 of 5,834).
- Of the 18 interruptions on this circuit, 9 affected 10 customers or less, with 5 being single customer outages.

Action Taken:

Action Plan:

- Complete all level 3 maintenance work that was identified by the I&M inspection (foot patrol) on the feeder by FY 2026.
- Routine tree trimming/pruning to be completed in FY2026.

16. BRIDGEPORT 16854 – 13.2kV

Profile: 1,364 Customers, 35.2 Circuit Miles
Indices: CAIDI = 1.81, SAIFI = 2.17

CAUSE CODE PERFORMANCE TABLE

Code	Category	Interruptions		Customers Interrupted		Customer Hours	
		Number	% Total	Number	% Total	Number	% Total
2	TREE	7	35.00%	858	29.04%	1,224	22.85%
3	OVERLOADS	0	0.00%	0	0.00%	0	0.00%
4	OPER. ERROR	0	0.00%	0	0.00%	0	0.00%
5	EQUIPMENT	6	30.00%	1,018	34.45%	1,997	37.28%
6	ACCIDENTS	4	20.00%	959	32.45%	1,948	36.37%
7	PREARRANGED	0	0.00%	0	0.00%	0	0.00%
8	CUST. EQUIP.	0	0.00%	0	0.00%	0	0.00%
9	LIGHTNING	0	0.00%	0	0.00%	0	0.00%
10	UNKNOWN	3	15.00%	120	4.06%	187	3.50%
Totals		20	100.00%	2,955	100.00%	5,357	100.00%

Problem Analysis:

- There were 20 interruptions on the Bridgeport 16854 in 2024.
- There were no transmission interruptions.
- There was 1 substation interruption.
 - This Substation interruption occurred on January 05, 2024, coded as a cause of deterioration (PSC cause code 05). This lockout accounted for 23% of the total customers interrupted (690 of 2,955), and 31% of the total customer-hours interrupted (1,644 of 5,357). This was due to the mobile transformer failing.
- The remaining 19 events occurred at the distribution level.
- The distribution circuit breaker for the Bridgeport 16854 experienced 2 momentary operations in 2024.
- The distribution circuit breaker for the Bridgeport 16854 experienced 1 sustained operation (lockout) in 2024. This interruption accounted for 23% of the total amount of customers interrupted (691 out of 2,955) and 15% of the total amount of the customer-hours interrupted (785 out of 5,357).
 - This lockout occurred on September 25, 2024, coded as a cause of tree fell (PSC cause code 02). This lockout accounted for 23% of the total customers interrupted (691 of 2,955), and 15% of the total customer-hours interrupted (785 of 5,357). The tree limb was on North Road. The FLISR scheme successfully operated on the feeder.
- Trees were the leading cause of interruptions on the Bridgeport 16854 in 2024, accounting for 35% of total interruptions (7 of 20). Equipment Failures were the 2nd leading cause of interruptions, accounting for 30% of total interruptions (6 of 20). Accidents were the 3rd leading cause of interruptions, accounting for 20% of total interruptions (4 of 20).

- Equipment Failures were the leading cause of customers interrupted (CI) on the Bridgeport 16854 in 2024, accounting for 34% of total customers interrupted (1,018 of 2,955). Accidents were the 2nd leading cause of customers interrupted, accounting for 32% of total customers interrupted (959 of 2,955). Trees were the 3rd leading cause of customers interrupted, accounting for 29% of total customers interrupted (858 of 2,955).
- Equipment Failures were the leading cause of customer-hours interrupted (CHI) on the Bridgeport 16854 in 2024, accounting for 37% of total customer-hours interrupted (1,997 of 5,357). Accidents were the 2nd leading cause of customer-hours interrupted, accounting for 36% of total customer-hours interrupted (1,948 of 5,357). Trees were the 3rd leading cause of customer-hours interrupted, accounting for 23% of total customer-hours interrupted (1,224 of 5,357).
- Of the 20 interruptions on this circuit, 11 affected 10 customers or less, with 5 being single customer outages.

Action Taken:

- The I&M inspection (foot patrol) of the feeder was completed in 2024.
- Distribution Forestry cycle pruned the feeder in FY2024.

Action Plan:

- Routine tree trimming/pruning to be completed in FY2029.
- Complete all level 2 maintenance work that was identified by the I&M inspection (foot patrol) on the feeder by 2025.
- Complete all level 3 maintenance work that was identified by the I&M inspection (foot patrol) on the feeder by 2027.

17. WEST CLEVELAND 32651 – 13.2kV

Profile: 1,106 Customers, 53.0 Circuit Miles
Indices: CAIDI = 2.65, SAIFI = 1.70

CAUSE CODE PERFORMANCE TABLE

Code	Category	Interruptions		Customers Interrupted		Customer Hours	
		Number	% Total	Number	% Total	Number	% Total
2	TREE	8	32.00%	400	21.29%	1,432	28.79%
3	OVERLOADS	2	8.00%	3	0.16%	26	0.51%
4	OPER. ERROR	1	4.00%	2	0.11%	15	0.31%
5	EQUIPMENT	5	20.00%	775	41.25%	2,429	48.83%
6	ACCIDENTS	2	8.00%	86	4.58%	176	3.53%
7	PREARRANGED	0	0.00%	0	0.00%	0	0.00%
8	CUST. EQUIP.	0	0.00%	0	0.00%	0	0.00%
9	LIGHTNING	0	0.00%	0	0.00%	0	0.00%
10	UNKNOWN	7	28.00%	613	32.62%	897	18.03%
Totals		25	100.00%	1,879	100.00%	4,974	100.00%

Problem Analysis:

- There were 25 interruptions on the West Cleveland 32651 in 2024.
- There were no transmission interruptions.
- There were no substation interruptions.
- All 25 events occurred at the distribution level.
- The distribution circuit breaker for the West Cleveland 32651 experienced 0 momentary operation in 2024.
- The distribution circuit breaker for the Cleveland 1166 experienced 0 sustained operations (lockout) in 2024.
- Trees were the leading cause of interruptions on the West Cleveland 32651 in 2024, accounting for 32% of total interruptions (8 of 25). Unknown were the 2nd leading cause of interruptions, accounting for 28% of total interruptions (7 of 25). Equipment failures were the 3rd leading cause of interruptions, accounting for 20% of total interruptions (5 of 25).
- Equipment Failures were the leading cause of customers interrupted (CI) on the West Cleveland 32651 in 2024, accounting for 41% of total customers interrupted (775 of 1,879). Unknown were the 2nd leading cause of customers interrupted, accounting for 33% of total customers interrupted (613 of 1,879). Trees were the 3rd leading cause of customers interrupted, accounting for 21% of total customers interrupted (400 of 1,879).
- Equipment failure was the leading cause of customer-hours interrupted (CHI) on the West Cleveland 32651 in 2024, accounting for 49% of total customer-hours interrupted (2,429 of 4,974). Trees were the 2nd leading cause of customer-hours interrupted, accounting for 29% of total customer-hours interrupted (1,432 of 4,974). Unknown were the 3rd leading cause of customer-hours interrupted, accounting for 18% of total customer-hours interrupted (897 of 4,974).

- Of the 25 interruptions on this circuit, 10 affected 10 customers or less, with 5 being single customer outages.

Action Taken:

- N/A

Action Plan:

- Distribution Forestry to cycle prune the feeder in FY2028.
- The I&M inspection (foot patrol) of the feeder to be completed in 2025.
- Complete all level 2 maintenance work that was identified by the I&M inspection (foot patrol) on the feeder by 2026.
- Complete all level 3 maintenance work that was identified by the I&M inspection (foot patrol) on the feeder by 2028.
- Rebuild about 2 miles of Johnson Road in 2025

18. STARR ROAD 33454 – 13.2kV

Profile: 2,992 Customers, 29.58 Circuit Miles
Indices: CAIDI = 1.55, SAIFI = 2.11

CAUSE CODE PERFORMANCE TABLE

Code	Category	Interruptions		Customers Interrupted		Customer Hours	
		Number	% Total	Number	% Total	Number	% Total
2	TREE	2	11.76%	2,991	47.56%	6,847	70.10%
3	OVERLOADS	0	0.00%	0	0.00%	0	0.00%
4	OPER. ERROR	1	5.88%	1	0.02%	2	0.02%
5	EQUIPMENT	7	41.18%	2,935	46.67%	2,188	22.40%
6	ACCIDENTS	4	23.53%	287	4.56%	498	5.10%
7	PREARRANGED	1	5.88%	21	0.33%	9	0.09%
8	CUST. EQUIP.	0	0.00%	0	0.00%	0	0.00%
9	LIGHTNING	0	0.00%	0	0.00%	0	0.00%
10	UNKNOWN	2	11.76%	54	0.86%	224	2.29%
Totals		17	100.00%	6,289	100.00%	9,768	100.00%

Problem Analysis:

- There were 17 interruptions on the Starr Road 33454 in 2024.
- There were no transmission interruptions.
- There were no substation interruptions.
- All 17 events occurred at the distribution level.
- The distribution circuit breaker for the Starr Road 33454 experienced 2 momentary operations in 2024.
- The distribution circuit breaker for the Starr Road 33454 experienced 1 sustained operation (lockout) in 2024. This interruption accounted for 48% of the total amount of customers interrupted (2,990 out of 6,289) and 70% of the total amount of the customer-hours interrupted (6,846 out of 9,768).
 - This lockout occurred on June 24, 2024, coded as a cause of tree fell (PSC cause code 02). This lockout accounted for 48% of the total customers interrupted (2,990 of 6,289), and 70% of the total customer-hours interrupted (6,846 of 9,768). Multiple tree fell across the main line at multiple locations, opened R41328 and closed SW 5155 picking up 1213 customers before clearing trees.
- Equipment Failures were the leading cause of interruptions on the Starr Road 33454 in 2024, accounting for 41% of total interruptions (7 of 17). Accidents were the 2nd leading cause of interruptions, accounting for 24% of total interruptions (4 of 17). Trees were the 3rd leading cause of interruptions, accounting for 12% of total interruptions (2 of 17).
- Trees were the leading cause of customers interrupted (CI) on the Starr Road 33454 in 2024, accounting for 48% of total customers interrupted (2,991 of 6,289). Equipment Failures were the 2nd leading cause of customers interrupted, accounting for 47% of total customers interrupted (2,935 of 6,289). Accidents were the 3rd leading cause of customers interrupted, accounting for 5% of total customers interrupted (287 of 6,289).

- Trees were the leading cause of customer-hours interrupted (CHI) on the Starr Road 33454 in 2024, accounting for 70% of total customer-hours interrupted (6,847 of 9,768). Equipment Failures were the 2nd leading cause of customer-hours interrupted, accounting for 22% of total customer-hours interrupted (2,188 of 9,768). Accidents were the 3rd leading cause of customer-hours interrupted, accounting for 5% of total customer-hours interrupted (498 of 9,768).
- Of the 17 interruptions on this circuit, 10 affected 10 customers or less, with 6 being single customer outages.

Action Taken:

Action Plan:

- Complete all level 3 maintenance work that was identified by the I&M inspection (foot patrol) on the feeder by FY 2026.
- Routine tree trimming/pruning to be completed in FY2026.

3. ACTION PLAN SUMMARIES

a. SUMMARY OF ACTION PLANS FOR 2024 WORST PERFORMING CIRCUITS

Station	Feeder	Report Year	Action Plan	Estimated Completion Date	Comments
Tully Center	27853	2024	Routine tree trimming/pruning	03/2027	
Tully Center	27853	2024	Level 2 maintenance	2026	
Lighthouse Hill	6144	2024	Level 2 maintenance	2026	
Lighthouse Hill	6144	2024	The I&M inspection (foot patrol)	2025	
Lighthouse Hill	6144	2024	Routine tree trimming/pruning	03/2027	
Granby Center	29351	2024	Level 2 maintenance	2025	
Granby Center	29351	2024	Level 3 maintenance	2027	
Jewett Road	29155	2024	Level 2 maintenance	2025	
Jewett Road	29155	2024	Level 3 maintenance	2027	
New Haven	25652	2024	Routine tree trimming/pruning	03/2026	
New Haven	25652	2024	Level 3 maintenance	2026	
Delphi	26253	2024	Routine tree trimming/pruning	03/2029	
Southwood	24453	2024	The I&M inspection (foot patrol)	2026	
Southwood	24453	2024	Routine tree trimming/pruning	03/2028	
Southwood	24453	2024	Hazard tree review	2025	
Southwood	24453	2024	Install FLISR on feeder	03/2026	
Fairdale	13564	2024	The I&M inspection (foot patrol)	2025	
Fairdale	13564	2024	Routine trimming	03/2026	
Tully Center	27851	2024	Routine tree trimming/pruning	03/2026	
Tully Center	27851	2024	Level 3 maintenance	2026	
Ridge Road	21964	2024	Routine trimming	12/2026	
Ridge Road	21964	2024	Level 2 maintenance	2026	
Ridge Road	21964	2024	The I&M inspection (foot patrol)	2025	
Bridgeport	16853	2024	The I&M inspection (foot patrol)	2026	
Bridgeport	16853	2024	Forestry to monitor feeder	2025	
Bridgeport	16853	2024	Routine trimming	03/2029	
Paloma	25456	2024	Level 2 maintenance	2025	
Paloma	25456	2024	Level 3 maintenance	2027	
Paloma	25456	2024	Routine tree trimming/pruning	03/2026	
Cleveland	1166	2024	Routine tree trimming/pruning	03/2028	
Lake Road #2	29951	2024	The I&M inspection (foot patrol)	2026	
Starr Road	33452	2024	Level 3 maintenance	2026	
Starr Road	33452	2024	Routine trimming	03/2026	
Bridgeport	16854	2024	Level 2 maintenance	2025	
Bridgeport	16854	2024	Level 3 maintenance	2027	
Bridgeport	16854	2024	Routine trimming	03/2029	
West Cleveland	32651	2024	Level 2 maintenance	2026	
West Cleveland	32651	2024	Routine trimming	03/2028	
West Cleveland	32651	2024	Level 3 maintenance	2028	
West Cleveland	32651	2024	Rebuild Johnson Road	03/2026	
West Cleveland	32651	2024	The I&M inspection (foot patrol)	2025	
Starr Road	33454	2024	Routine trimming	03/2026	
Starr Road	33454	2024	Level 3 maintenance	2026	

b. STATUS OF ACTION PLANS FOR 2023 WORST PERFORMING CIRCUITS

Station	Feeder	Report Year	Action Plan	Actual Completion Date	Comments
West Monroe	27451	2023	Install sectionalizing breakers on the transmission line side of Mallory Substation	03/2026	
West Monroe	27451	2023	Hazard tree removal	12/2024	
West Monroe	27451	2023	Level 2 maintenance	07/2024	
West Monroe	27451	2023	Level 3 maintenance	07/2026	
West Cleveland	32651	2023	Install sectionalizing breakers on the transmission line side of Mallory Substation	03/2026	
West Cleveland	32651	2023	The I&M inspection (foot patrol)	12/2025	
West Cleveland	32651	2023	Routine tree trimming/pruning to be completed in FY2028.	03/2028	
Whitaker	29652	2023	The I&M inspection (foot patrol)	12/2024	
Whitaker	29652	2023	Routine tree trimming/pruning to be completed in FY2024.	03/2024	
Phoenix	5165	2023	Level 2 maintenance	11/2024	
Phoenix	5165	2023	Level 3 maintenance	11/2026	
Niles	29451	2023	Hazard tree removal	12/2024	
Niles	29451	2023	The I&M inspection (foot patrol)	12/2024	
Niles	29451	2023	Routine tree trimming/pruning to be completed in FY2028.	03/2028	
Lighthouse Hill	6144	2023	Routine trimming	03/2025	
Lighthouse Hill	6144	2023	The I&M inspection (foot patrol)	12/2025	
Colosse	32151	2023	Hazard tree removal	12/2024	
Colosse	32151	2023	Routine trimming	03/2028	
Colosse	32151	2023	Level 3 maintenance	08/2024	
Colosse	32151	2023	Install sectionalizing breakers on the transmission line side of Mallory Substation	03/2026	
Cleveland	1166	2023	Routine trimming	12/2028	
Cleveland	1166	2023	Level 3 maintenance	12/2024	
Cleveland	1166	2023	Install sectionalizing breakers on the transmission line side of Mallory Substation	03/2026	
New Haven	25653	2023	Level 2 maintenance	05/2024	
New Haven	25653	2023	Level 3 maintenance	05/2026	
New Haven	25653	2023	Routine trimming	03/2028	
Wine Creek	28354	2023	Routine trimming	03/2027	
Wine Creek	28354	2023	Forestry to monitor feeder	12/2024	
Wine Creek	28354	2023	The I&M inspection (foot patrol)	12/2025	
Gilbert Mills	24751	2023	Hazard tree review	12/2024	
Gilbert Mills	24751	2023	Level 3 maintenance	05/2025	
Gilbert Mills	24751	2023	Routine trimming	03/2027	
Gilbert Mills	24751	2023	Active FLISR	12/2024	
Wetzel Road	690055	2023	Level 3 maintenance	11/2024	
Tully Center	27851	2023	Routine trimming	03/2026	
Tully Center	27851	2023	Level 2 maintenance	09/2024	
Lords Hill	15067	2023	Routine trimming	03/2028	
Lords Hill	15067	2023	Level 3 maintenance	05/2024	
Bartell Road	32554	2023	Routine trimming	03/2025	

Station	Feeder	Report Year	Action Plan	Actual Completion Date	Comments
Bartell Road	32554	2023	The I&M inspection (foot patrol)	12/2025	
Third Street	21672	2023	Routine trimming	03/2026	
Third Street	21672	2023	The I&M inspection (foot patrol)	12/2025	
Collamer Crossing	151156	2023	Routine trimming	03/2026	
Sorrell Hill	26954	2023	Routine tree trimming/pruning to be completed in FY2024.	03/2024	
Sorrell Hill	26954	2023	Level 3 maintenance	09/2024	
Lords Hill	15066	2023	Routine trimming	03/2028	
Lords Hill	15066	2023	Level 3 maintenance	05/2024	
Belmont	26052	2023	Routine tree trimming/pruning to be completed in FY2024.	03/2024	
Belmont	26052	2023	Level 3 maintenance	05/2024	

E. FRONTIER REGION

1. OPERATING REGIONAL PERFORMANCE

a. HISTORIC CAIDI AND SAIFI INDICES

IDS Info:

	2024	2023	2022	2021	2020	2019
CAIDI (Threshold 1.869)	1.82	2.14	1.97	1.63	2.58	1.63
SAIFI (Threshold 0.480)	0.50	0.40	0.33	0.43	0.52	0.46
SAIDI	0.90	0.86	0.66	0.70	1.34	0.76
Interruptions	1,532	1,333	1,355	1,325	1,650	1,468
Customers Interrupted	165,913	133,872	111,047	144,137	171,231	151,806
Customer-Hours Interrupted	301,740	286,529	218,658	234,433	441,958	248,160
Customers Served	334,001	331,867	332,562	332,602	330,590	328,331
Customers Per Interruption	108.30	100.43	81.95	108.78	103.78	103.41
Availability Index	99.9897	99.9901	99.9925	99.9920	99.9848	99.9914
Interruptions/1000 customers	4.59	4.02	4.07	3.98	4.99	4.47

b. DISCUSSION OF REGIONAL PERFORMANCE

In 2024, the Frontier Region met its CAIDI reliability target and did not meet its SAIFI reliability target as set forth by the New York Public Service Commission (PSC). The final System Average Interruption Frequency Index (SAIFI) result was 0.5 interruptions, 4% above the PSC goal of 0.480 interruptions. As shown in the table above, the Customer Average Interruption Duration index (CAIDI) was 1.82 in 2024, 3% below the PSC's regional target of 1.869 hours.

The 2024 CAIDI result was 15% below the 2023 result of 2.14 hours, and 9% below the previous 5-year average of 2.01 hours. The 2024 SAIFI was 25% above the 2023 result of 0.4 interruptions, and 16% above the previous 5-year average of 0.43 interruptions.

In 2024, excluding major storms, the Frontier Region experienced 7 transmission interruptions. These interruptions accounted for 0.5% of the region's total interruptions (7 of 1,532), 22% of the region's total customers interrupted (CI), (36,151 of 165,913), and 22% (66,443 of 301,739) of the region's total customer-hours interrupted (CHI). Overall, transmission interruptions had a CAIDI of 1.84 hours, and a SAIFI of 0.11 interruptions.

The number of transmission-related interruptions decreased from 12 in 2023 to 7 in 2024 (a decrease of 42%). The number of customers interrupted increased from 33,677 in 2023, to 36,151 in 2024 (an increase of 7%), while the customer-hours interrupted decreased from 115,284 in 2023, to 66,443 in 2024 (a decrease of 42%).

In 2024, excluding major storms, the Frontier Region experienced 8 substation interruptions. These interruptions accounted for 1% of the region's total interruptions (8 of 1,532), 8% of the region's total customers interrupted, (13,221 of 165,913), and 7% (19,769 of 301,739) of the region's total customer-hours interrupted. Overall, substation interruptions had a CAIDI of 1.5 hours, and a SAIFI of 0.04 interruptions.

The number of substation-related interruptions increased from 7 to 8 from 2023 to 2024 (an increase of 14%). The number of customers interrupted decreased from 14,334 in 2023, to 13,221 in 2024 (a decrease of 8%), while the customer-hours interrupted increased from 14,519 in 2023, to 19,769 in 2024 (an increase of 36%).

In 2024, excluding major storms, the Frontier Region experienced 1,517 distribution interruptions. These interruptions accounted for 99% of the region's total interruptions (1,517 of 1,532), 70% of the region's total customers interrupted, (116,541 of 165,913), and 71% (215,527 of 301,739) of the region's total customer-hours interrupted. Overall, distribution interruptions had a CAIDI of 1.85 hours, and a SAIFI of 0.35 interruptions.

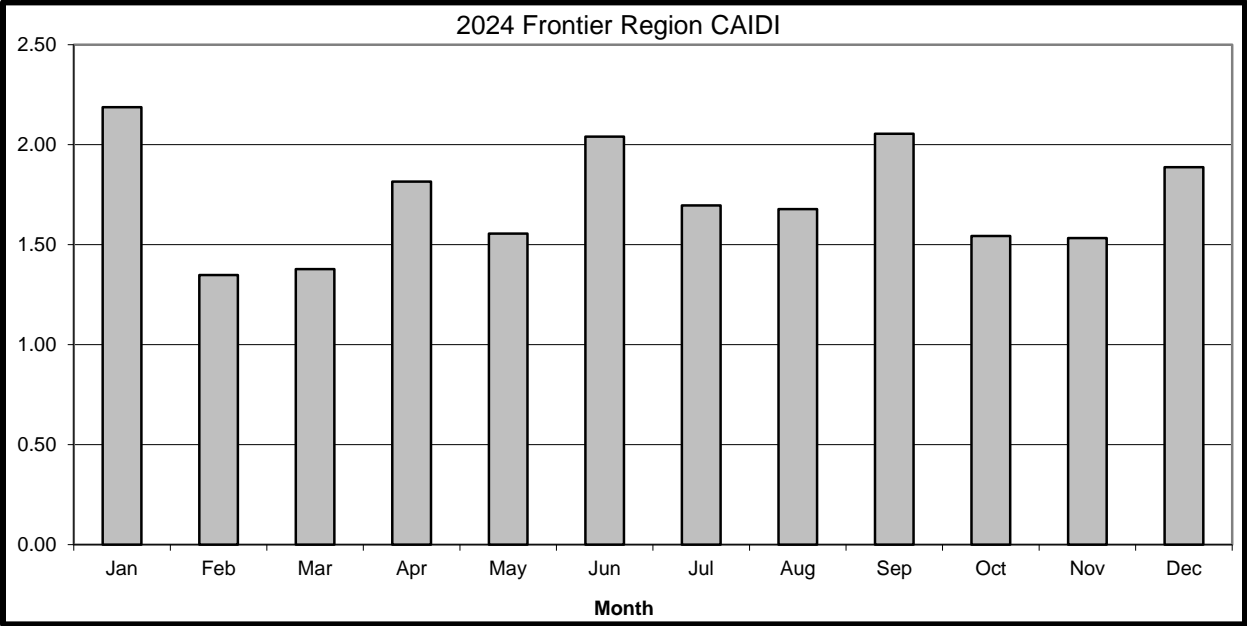
c. MONTHLY CAIDI AND SAIFI GRAPHS

The following graphs show the monthly CAIDI and SAIFI for the Frontier Region for 2024 (Excluding Major Storms).

The months of July (0.13), June (0.09), December (0.06), and September (0.05) were the highest contributors to SAIFI for 2024, with 50% of the Frontier Region's SAIFI occurring during these four months. The best six months for SAIFI were March (0.01), November (0.01), May (0.02), October (0.02), February (0.02) and January (0.04). The interruptions that occurred during these six months contributed to 26% of the Frontier Region's SAIFI.

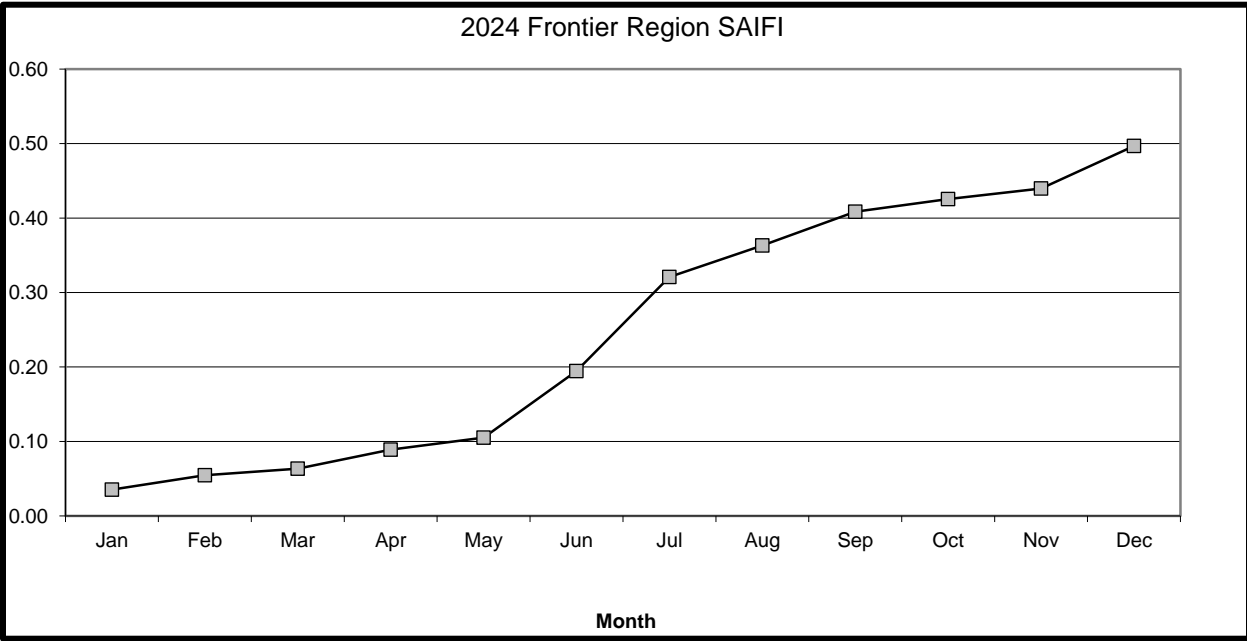
Monthly CAIDI was at or below the 2024 PSC threshold of 1.869, a total of nine months, with the best four months being February (1.35), March (1.38), November (1.53), and October (1.54). The three months that exceeded the threshold were January (2.19), September (2.06), and June (2.04).

GRAPH OF MONTHLY CAIDI AND SAIFI FOR FRONTIER REGION



PSC CAIDI Goal:	
Threshold	1.869
2024 Actual	1.82

PSC SAIFI Goal:	
Threshold	0.48
2024 Actual	0.50



d. PSC CAUSE CODES

1) Number of Events by Cause – Historical

Cause Code	2024	2023	2022	2021	2020	2019
01 Major Storms	60	-	1,004	546	413	1,352
02 Tree Contacts	485	340	323	321	369	392
03 Overloads	27	20	23	33	117	10
04 Operator Error	10	23	8	19	9	8
05 Equipment	602	560	558	502	650	647
06 Accidents	220	186	239	208	222	182
07 Prearranged	68	76	80	123	88	83
08 Customer Equip.	-	-	-	-	-	-
09 Lightning	23	18	33	29	35	21
10 Unknown	97	110	91	90	160	125
Total	1,592	1,333	2,359	1,871	2,063	2,820

2) Customers Interrupted by Cause – Historical

Cause Code	2024	2023	2022	2021	2020	2019
01 Major Storms	1,993	-	66,967	52,775	25,654	92,360
02 Tree Contacts	36,962	26,284	32,577	37,791	32,063	37,954
03 Overloads	18,998	3,234	857	1,824	3,934	1,757
04 Operator Error	4,687	1,858	1,292	3,231	3,033	8,464
05 Equipment	73,618	60,776	47,510	60,217	58,370	53,766
06 Accidents	14,206	22,437	16,599	19,799	18,857	22,445
07 Prearranged	7,266	6,417	5,865	8,850	6,181	3,489
08 Customer Equip.	-	-	-	-	-	-
09 Lightning	3,992	4,125	1,456	5,602	7,685	1,448
10 Unknown	6,184	8,741	4,891	6,823	41,108	22,483
Total	167,906	133,872	178,014	196,912	196,885	244,166

3) Customer-Hours Interrupted by Cause – Historical

Cause Code	2024	2023	2022	2021	2020	2019
01 Major Storms	8,004	-	1,731,846	426,393	146,111	941,315
02 Tree Contacts	73,170	47,078	51,618	62,174	90,952	70,766
03 Overloads	29,036	4,687	1,260	3,235	27,504	2,703
04 Operator Error	8,604	3,270	366	3,424	941	9,300
05 Equipment	139,816	99,683	116,205	104,948	197,045	85,445
06 Accidents	25,383	104,309	32,090	30,826	27,380	40,505
07 Prearranged	8,789	8,552	9,484	13,614	9,613	4,418
08 Customer Equip.	-	-	-	-	-	-
09 Lightning	6,477	3,509	2,118	8,201	10,414	3,850
10 Unknown	10,465	15,441	5,517	8,010	78,110	31,173
Total	309,743	286,528	1,950,504	660,825	588,069	1,189,476

4) Interruptions, Customers Interrupted, and Customer-Hours Interrupted – 2024

Cause Code	Interruptions		Customers Interrupted		Customer-Hours Interrupted	
	Number	% Total	Number	% Total	Number	% Total
01 Major Storms	60	3.8%	1,993	1.2%	8,004	2.6%
02 Tree Contacts	485	30.5%	36,962	22.0%	73,170	23.6%
03 Overloads	27	1.7%	18,998	11.3%	29,036	9.4%
04 Operator Error	10	0.6%	4,687	2.8%	8,604	2.8%
05 Equipment	602	37.8%	73,618	43.8%	139,816	45.1%
06 Accidents	220	13.8%	14,206	8.5%	25,383	8.2%
07 Prearranged	68	4.3%	7,266	4.3%	8,789	2.8%
08 Customer Equip.	0	0.0%	0	0.0%	0	0.0%
09 Lightning	23	1.4%	3,992	2.4%	6,477	2.1%
10 Unknown	97	6.1%	6,184	3.7%	10,465	3.4%
Total	1,592	100.0%	167,906	100.0%	309,743	100.0%

e. INTERRUPTION REVIEW BY PSC CAUSE CODES

Cause Code 01 - Major Storms

In 2024, Major Storms accounted for 4% of interruptions, 1% of customers interrupted, and 3% of Customer-Hours Interrupted.

Interruptions due to Major Storm were - from 2023, and down 91% over the 5-year average. Customers interrupted due to Major Storms were - from 2023, and down 96% over the 5-year average. Customer-Hours interrupted were - from 2023 and down 99% over the 5-year average.

The remaining PSC code descriptions do not include Major Storms in the percentages.

Cause Code 02 - Tree Contacts

In 2024, Tree Contacts accounted for 32% of interruptions, 22% of customers interrupted, and 24% of Customer-Hours Interrupted.

Interruptions due to Tree Contacts were up 43% from 2023, and up 41% over the 5-year average. Customers interrupted due to Tree Contacts were up 41% from 2023, and up 14% over the 5-year average. Customer-Hours interrupted were up 55% from 2023 and up 18% over the 5-year average.

Tree Contacts were the 2nd largest cause of interruptions in 2024.

Cause Code 03 - Overloads

In 2024, Overloads accounted for 2% of interruptions, 11% of customers interrupted, and 10% of Customer-Hours Interrupted.

Interruptions due to Overloads were up 35% from 2023, and down 34% over the 5-year average. Customers interrupted due to Overloads were up 487% from 2023, and up 719% over the 5-year average. Customer-Hours interrupted were up 519% from 2023 and up 269% over the 5-year average.

Overloads were the 6th largest cause of interruptions in 2024.

Cause Code 04 - Operator Error

In 2024, Operator Error accounted for 1% of interruptions, 3% of customers interrupted, and 3% of Customer-Hours Interrupted.

Interruptions due to Operator Error were down 57% from 2023, and down 23% over the 5-year average. Customers interrupted due to Operator Error were up 152% from 2023, and up 31% over the 5-year average. Customer-Hours interrupted were up 163% from 2023 and up 149% over the 5-year average.

Operator Error was the 8th largest cause of interruptions in 2024.

Cause Code 05 - Equipment Failure

In 2024, Equipment Failures accounted for 39% of interruptions, 44% of customers interrupted, and 46% of Customer-Hours Interrupted.

Interruptions due to Equipment Failure were up 8% from 2023, and up 3% over the 5-year average. Customers interrupted due to Equipment Failure were up 21% from 2023, and up 31% over the 5-year average. Customer-Hours interrupted were up 40% from 2023 and up 16% over the 5-year average.

Equipment Failures were the largest cause of interruptions in 2024.

Cause Code 06 - Accidents

In 2024, Accidents accounted for 14% of interruptions, 9% of customers interrupted, and 8% of Customer-Hours Interrupted.

Interruptions due to Accidents were up 18% from 2023, and up 6% over the 5-year average. Customers interrupted due to Accidents were down 37% from 2023, and down 29% over the 5-year average. Customer-Hours interrupted were down 76% from 2023 and down 46% over the 5-year average.

Accidents were the 3rd largest cause of interruptions in 2024.

Cause Code 07 - Prearranged

In 2024, Prearranged accounted for 4% of interruptions, 4% of customers interrupted, and 3% of Customer-Hours Interrupted.

Interruptions due to Prearranged were down 11% from 2023, and down 24% over the 5-year average. Customers interrupted due to Prearranged were up 13% from 2023, and up 18% over the 5-year average. Customer-Hours interrupted were up 3% from 2023 and down 4% over the 5-year average.

Prearranged was the 5th largest cause of interruptions in 2024.

Cause Code 08 - Customer Equipment

There were no Customer Equipment interruptions in 2024.

Cause Code 09 - Lightning

In 2024, Lightning accounted for 2% of interruptions, 2% of customers interrupted, and 2% of Customer-Hours Interrupted.

Interruptions due to Lightning were up 28% from 2023, and down 15% over the 5-year average. Customers interrupted due to Lightning were down 3% from 2023, and down 2% over the 5-year average. Customer-Hours interrupted were up 85% from 2023 and up 15% over the 5-year average.

Lightning was the 7th largest cause of interruptions in 2024.

Cause Code 10 - Unknown

In 2024, Unknown causes accounted for 6% of interruptions, 4% of customers interrupted, and 3% of Customer-Hours Interrupted.

Interruptions due to Unknown causes were down 12% from 2023, and down 19% over the 5-year average. Customers interrupted due to Unknown causes were down 29% from 2023, and down 65% over the 5-year average. Customer-Hours interrupted were down 32% from 2023 and down 65% over the 5-year average.

Unknown causes were the 4th largest cause of interruptions in 2024.

f. DISCUSSION OF REGIONAL CAPEX PROJECTS WITH 2024/25 SPENDS :

The Company continues to work on capital-related projects in the Frontier Region to maintain customer satisfaction and future reliability. Some specific projects that were constructed in 2024 or will be constructed in 2025 are discussed below. An additional table of major infrastructure projects completed in 2024 follows. This includes distribution, sub-transmission, and transmission-related projects.

A number of ongoing projects are related to the program for reconstructing indoor Buffalo substations. This work is being done to upgrade the aging infrastructure within the Buffalo system, much of which is made up of 1920-30's vintage equipment that is at or beyond the end of its expected lifecycle. This effort is in place to maintain reliability and maintain the ability to serve our customers in the City of Buffalo. Reconstruction of Substation 53 is now complete, while design efforts continue for rebuild of substations 32, 38 and 31. These efforts represent projects completed in recent years, those now in progress, and those planned to start in the upcoming year or are in design phase.

There are also numerous distribution projects to rebuild or reconductor lines. These projects are the result of reliability reviews, responses to QRS inquiries, the result of implementing an asset strategy, or load-related issues.

Some specific reliability-related projects in the Frontier Region follow below:

Welch Substation

The installation of a new 13.2kV/4.16kV substation with 8 feeders located in Niagara Falls, New York is currently in progress. This substation will replace the current 5kV station 83. The Welch Ave. Station Project is expected to be completed in the 4th quarter of FY25.

Station 122 Substation

The installation of a new 23kV/4.16kV substation with 8 feeders located in North Tonawanda, New York is currently in progress. This substation will replace the current 5kV station 122. This Station Project is expected to be completed in the 2nd quarter of FY26.

Major Capital Projects for Frontier Region:

Region	Project Name	Project Type	Fin Sys Proj. No.	Finish	Total Spend
Frontier	Dupont-Packard 183/184 Reinsulating	Trans	C091302	03/08/24	\$3,240,000
Frontier	Gardenville - Dunkirk #141 & 142 ACR	Trans	C003389	12/20/24	\$173,323,000
Frontier	Metallico 115kV Service - Related to 141/142	Trans	C080973	03/27/24	\$1,383,000
Frontier	103 and 104 Mountain Lockport*	Trans	C082394	07/18/24	\$2,308,000
Frontier	Gardenville-Dunkirk 73&74 Strc Replacements	Trans	C087217	02/23/24	\$7,650,000
Frontier	Huntley Gardenville 79/80 FAA Lighting	Trans	C091994	05/17/24	\$4,500,000
Frontier	Gard-Dun 141-142 SubT Line Relocate	Trans	C078197	10/25/24	\$13,621,000
Frontier	Cables 14 and 15K (2929 Main St) Linked with C091654	Sub Trans	C092111	05/17/24	\$2,200,000
Frontier	Canalside Network Extension (Marine Drive)	Dist	C089735	11/22/24	\$1,447,291
Frontier	PORTABLE SUB 3,4 - OLD BUFFALO STYLE REBUILD TRF / SG - (FY21 Eng.; FY22 Purchase)	Dist Sub	C086912	10/03/24	\$2,000,000
Frontier	M9000 - DUPONT SWITCH STRUCTURE - TONAWANDA- M9000 - TRANSMISSION	Tran Sub	C069437	08/14/24	\$1,870,000
Frontier	STATION 58 HARLEM RD EMS/RTU INSTALLS - WEST	Dist Sub	C076125	03/27/24	\$2,052,000
Frontier	BUFFALO INDOOR SPARE TRF	Dist Sub	C090853	08/28/24	\$2,020,581
Frontier	EV - BrendanProperties - BuffaloNY (1176 S Park Ave - EV Make Ready)	Dist	C093439	05/02/24	\$1,247,975

g. DISCUSSION OF REGIONAL PERFORMANCE OF LVAC NETWORK DISTRIBUTION SYSTEM(S)

Buffalo LVAC Network

Background

The Elm Street Terminal Station supplies the Downtown Buffalo LVAC Network, which consists of four (4) existing transformer banks with a new bank install currently in construction to increase capacity. Three (3) banks have a rating of 60 MVA and one (1) bank has a rating of 50 MVA. The station operates with a primary voltage of 230 kV (fed from two (2) transmission lines) and a secondary voltage of 23 kV. Elm Street Terminal Station's design follows a Breaker and a Half configuration, which includes eight (8) bus sections, twenty-two (22) bus-tie breakers, and twenty (20) feeder breakers. Each feeder breaker supplies a 23 kV cable, resulting in a total of twenty (20) feeder cables (E Cables) that supply 288 network vaults, including 141 spot network transformers and 147 general network transformers.

Sixteen (16) of the Elm (E) cables supply only General and/or Spot Network loads (Network Feeders), while four (4) cables (11E, 12E, 14E, and 15E) are allocated exclusively to the hospital corridor in Downtown Buffalo. Additionally, out of the sixteen (16) network feeders, eight (8) cables serve six (6) 23 kV primary customers, twelve (12) of the sixteen (16) cables supply seven (7) National Grid distribution substations, and only five (5) serve both 23 kV primary customers and National Grid distribution substations. The hospital cable group supplies four (4) 23kV primary customers and has cables ties at one National Grid substation (Station 34, Best Street) as back up supply.

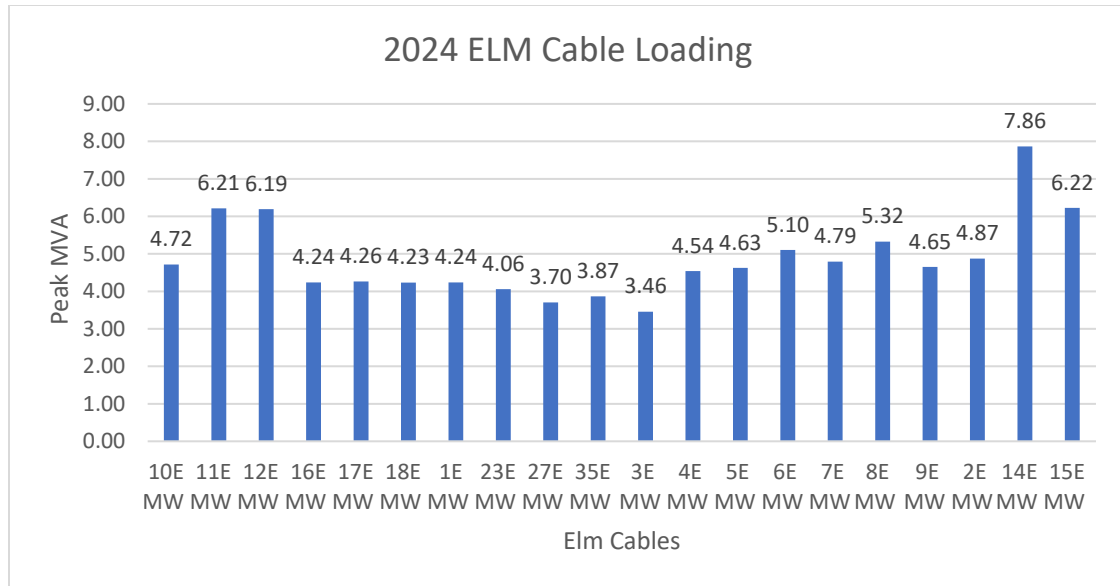
General Network transformers serve >1,170 National Grid customers. Spot network vaults serve ~375 commercial customers.

Elm Street 23kV LVAC Network - Buffalo, NY						
Ckt Count	Ckt Number	Count of Connected				
		General Network Tx's	Spot Network Tx's	Network Tx's	23kV Distribution Stations	23kV Customer's
1	1E	12	9	21	0	1
2	2E	10	11	21	0	3
3	3E	2	11	13	0	0
4	4E	10	6	16	2	2
5	5E	12	9	21	3	2
6	6E	15	11	26	2	0
7	7E	12	9	21	3	0
8	8E	12	11	23	2	1
9	9E	7	12	19	3	1
10	10E	10	11	21	0	1
11	16E	5	5	10	2	0
12	17E	6	4	10	2	0
13	18E	10	4	14	2	0
14	23E	11	11	22	1	0
15	27E	4	4	8	1	0
16	35E	9	13	22	1	1
Total		147	141	288	24	12
				7 Stations Total		6 Customers Total
				Add 1 from Hospital		Add 4 from Hospital

Network Feeder and Vault information.

Performance

Elm Street Terminal Station peaked at 104.89 MVA on July 30th, 2024. The peak on the sixteen (16) Network Feeders in 2024 was 72.89 MVA with an average load of 4.56 MVA per cable. The chart below depicts the peak load recorded for each Elm Cable in 2024.



Elm Cable Peak loads 2024

The table below lists the breaker operations at Elm Street in 2024. The operations are separated by switching for maintenance vs switching that was a result of a primary cable fault, Elm Street Station damage failure, or network equipment failure:

2024 ELM ST 23KV NETWORK PERFORMANCE						
STATION	CABLE	BKR	BKR	# OF OPERATIONS	# OF OPERATIONS	CUSTOMERS
				DUE TO FAILURES	DUE TO Maintenance	AFFECTED
ELM	1E	R122	R125	0	4	0
ELM	2E	R222	R225	0	2	0
ELM	3E	R335	R338	0	1	0
ELM	4E	R435	R438	0	2	0
ELM	5E	R145	R148	1	2	0
ELM	6E	R332	R335	0	1	0
ELM	7E	R125	R128	0	3	0
ELM	8E	R225	R228	0	1	0
ELM	9E	R325	R238	1	1	0
ELM	10E	R432	R435	0	1	0
ELM	11E	R322	R325	0	0	0
ELM	12E	R325	R328	0	0	0
ELM	14E	R422	R425	0	0	0
ELM	15E	R425	R428	0	0	0
ELM	16E	R142	R145	0	4	0
ELM	17E	R242	R245	0	3	0
ELM	18E	R232	R235	1	0	0
ELM	23E	R248	R245	0	2	0
ELM	27E	R132	R135	0	1	0
ELM	35E	R138	R135	0	3	0

Improvements

In 2024 New York West replaced or repaired the high voltage switches, network

transformers and network protectors in the following vaults:

- V6-91 (Proactive Replacement)
- V17-46 (Proactive Replacement)
- V35-70 (Proactive Replacement)
- V35-115 (Protector trouble resolved without equipment changeout)
- V1-147 (Damage Failure Equipment changeout)
- V1-71 (Damage Failure equipment changeout)
- V17-121 (Damage Failure equipment changeout)
- V8-151 (Proactive Replacement)

National Grid's operation & maintenance group identified this equipment as in need of replacement via the I&M process, or it failed in service. Currently the I&M process has identified seven (7) additional vaults requiring equipment change-outs planned for the following year. National Grid's Cable operations group replaced approximately 8,000 feet of LVAC Network cable in 2024. The National Grid program to replace approximately 8,000 feet of LVAC secondary cable per year will continue in 2025.

2. OPERATING CIRCUIT LISTS

The next three tables will provide the following information for the Frontier Region.

- a. Worst Performing Circuit List
- b. Worst Performing Circuits with 3 Year History for CAIDI and SAIFI Indices
- c. Worst Performing Circuits by # of Momentary Interruptions

a. NATIONAL GRID WORST PERFORMING CIRCUIT LIST

FRONTIER REGION

FEEDER #	A CUST. SERVED	B TOTAL INTER.	C # CUST. INTER.	D CUST. HRS. INTER.	C/A SAIFI	D/A SAIDI	D/C CAIDI	NUMBER OF MOMENTARIES
LOCKPORT 21652	2,061	16	4,374	8,538	2.12	4.14	1.95	0
LOCKPORT 21651	1,349	13	3,342	6,269	2.48	4.65	1.88	0

Regional Goals:
CAIDI 1.869
SAIFI 0.48

NATIONAL GRID WORST PERFORMING CIRCUITS WITH 3 YEAR HISTORY FOR CAIDI AND SAIFI INDICES

FRONTIER REGION

FEEDER #	2024 CAIDI	2023 CAIDI	2022 CAIDI	2021 CAIDI	2024 SAIFI	2023 SAIFI	2022 SAIFI	2021 SAIFI
LOCKPORT 21652	1.95	4.18	1.51	1.74	2.12	0.44	0.04	0.35
LOCKPORT 21651	1.88	0.00	0.71	1.17	2.48	0.00	0.07	0.06

Regional Goals:

CAIDI 1.869

SAIFI 0.48

NATIONAL GRID WORST PERFORMING CIRCUITS BY # OF MOMENTARY INTERRUPTIONS

FRONTIER REGION

Feeders			Customer Momentaries				Ranks		
Volts (kV)	Station Name	Ckt/F No.	Substation	Transmission	Distribution	Total	Within Region	Within System	Reliability Ranking
No circuits experienced 10 or more momentary interruptions in 2024.									

b. WORST PERFORMING CIRCUIT ANALYSIS

This year, the Frontier Region's list of Worst Feeders consists of two 13.2 kV feeders.

For the Frontier Region, the CAIDI performance threshold is 1.869 and SAIFI performance threshold is 0.48.

1. LOCKPORT 21652 – 13.2 kV

Profile: 2,061 Customers, 18.03 Circuit Miles
Indices: CAIDI = 1.95, SAIFI = 2.12

CAUSE CODE PERFORMANCE TABLE

Code	Category	Interruptions		Customers Interrupted		Customer Hours	
		Number	% Total	Number	% Total	Number	% Total
2	TREE	1	6.25%	5	0.11%	25	0.29%
3	OVERLOADS	0	0.00%	0	0.00%	0	0.00%
4	OPER. ERROR	1	6.25%	2,074	47.42%	4,701	55.06%
5	EQUIPMENT	8	50.00%	2,081	47.58%	3,491	40.88%
6	ACCIDENTS	3	18.75%	143	3.27%	129	1.52%
7	PREARRANGED	0	0.00%	0	0.00%	0	0.00%
8	CUST. EQUIP.	0	0.00%	0	0.00%	0	0.00%
9	LIGHTNING	0	0.00%	0	0.00%	0	0.00%
10	UNKNOWN	3	18.75%	71	1.62%	192	2.25%
Totals		16	100.00%	4,374	100.00%	8,538	100.00%

Problem Analysis:

- There were 16 interruptions on the Lockport 21652 in 2024.
- There were no transmission interruptions.
- There was 1 substation interruption.
 - This Substation interruption occurred on September 07, 2024, coded as a cause of device failed (PSC cause code 05). This lockout accounted for 47% of the total customers interrupted (2,064 of 4,374), and 39% of the total customer-hours interrupted (3,371 of 8,538). The substation outage was a result of a critical failure in the transformer LTC. The resulting outage necessitated a mobile transformer interconnection for months while the LTC was repaired.
- The remaining 15 events occurred at the distribution level.
- The distribution circuit breaker for the Lockport 21652 experienced 0 momentary operations in 2024.
- The distribution circuit breaker for the Lockport 21652 experienced 0 sustained operations (lockouts) in 2024.
- Equipment Failures were the leading cause of interruptions on the Lockport 21652 in 2024, accounting for 50% of total interruptions (8 of 16). Accidents were the 2nd leading cause of interruptions, accounting for 19% of total interruptions (3 of 16). Unknown were the 3rd leading cause of interruptions, accounting for 19% of total interruptions (3 of 16).
- Equipment Failures were the leading cause of customers interrupted (CI) on the Lockport 21652 in 2024, accounting for 48% of total customers interrupted (2,081 of 4,374). Operators Errors were the 2nd leading cause of customers interrupted, accounting for 47%

- of total customers interrupted (2,074 of 4,374). Accidents were the 3rd leading cause of customers interrupted, accounting for 3% of total customers interrupted (143 of 4,374).
- Operators Errors were the leading cause of customer-hours interrupted (CHI) on the Lockport 21652 in 2024, accounting for 55% of total customer-hours interrupted (4,701 of 8,538). Equipment Failures were the 2nd leading cause of customer-hours interrupted, accounting for 41% of total customer-hours interrupted (3,491 of 8,538). Unknown were the 3rd leading cause of customer-hours interrupted, accounting for 2% of total customer-hours interrupted (192 of 8,538).
 - Of the 16 interruptions on this circuit, 9 affected 10 customers or less, with 7 being single customer outages.

Actions Taken:

- Tree trimming and a hazard tree review was completed on the Lockport Rd 21652 in 2020.
- A maintenance foot patrol was completed on the Lockport Rd 21652 in 2022 and all identified level 1 and level 2 maintenance has been completed.

Action Plan:

- Tree trimming and a hazard tree review is scheduled to be completed on the Lockport Rd 21652 in 2025.
- Complete all identified level 3 maintenance on the Lockport Rd 21652.

2. LOCKPORT 21651 – 13.2 kV

Profile: 1,349 Customers, 20.431 Circuit Miles
Indices: CAIDI = 1.88, SAIFI = 2.48

CAUSE CODE PERFORMANCE TABLE

Code	Category	Interruptions		Customers Interrupted		Customer Hours	
		Number	% Total	Number	% Total	Number	% Total
2	TREE	1	7.69%	32	0.96%	28	0.44%
3	OVERLOADS	0	0.00%	0	0.00%	0	0.00%
4	OPER. ERROR	1	7.69%	1,377	41.20%	3,328	53.08%
5	EQUIPMENT	6	46.15%	1,394	41.71%	2,152	34.32%
6	ACCIDENTS	4	30.77%	508	15.20%	712	11.36%
7	PREARRANGED	0	0.00%	0	0.00%	0	0.00%
8	CUST. EQUIP.	0	0.00%	0	0.00%	0	0.00%
9	LIGHTNING	1	7.69%	31	0.93%	50	0.80%
10	UNKNOWN	0	0.00%	0	0.00%	0	0.00%
Totals		13	100.00%	3,342	100.00%	6,269	100.00%

Problem Analysis:

- There were 13 interruptions on the Lockport 21651 in 2024.
- There were no transmission interruptions.
- There was 1 substation interruption.
 - This Substation interruption occurred on September 07, 2024, coded as a cause of device failed (PSC cause code 05). This lockout accounted for 41% of the total customers interrupted (1,371 of 3,342), and 34% of the total customer-hours interrupted (2,125 of 6,269). The substation outage was a result of a critical failure in the transformer LTC. The resulting outage necessitated a mobile transformer interconnection for months while the LTC was repaired.
- The remaining 12 events occurred at the distribution level.
- The distribution circuit breaker for the Lockport 21651 experienced 0 momentary operations in 2024.
- The distribution circuit breaker for the Lockport 21651 experienced 0 sustained operations (lockouts) in 2024.
- Equipment Failures were the leading cause of interruptions on the Lockport 21651 in 2024, accounting for 46% of total interruptions (6 of 13). Accidents were the 2nd leading cause of interruptions, accounting for 31% of total interruptions (4 of 13). Trees were the 3rd leading cause of interruptions, accounting for 8% of total interruptions (1 of 13).
- Equipment Failures were the leading cause of customers interrupted (CI) on the Lockport 21651 in 2024, accounting for 42% of total customers interrupted (1,394 of 3,342). Operators Errors were the 2nd leading cause of customers interrupted, accounting for 41%

- of total customers interrupted (1,377 of 3,342). Accidents were the 3rd leading cause of customers interrupted, accounting for 15% of total customers interrupted (508 of 3,342).
- Operators Errors were the leading cause of customer-hours interrupted (CHI) on the Lockport 21651 in 2024, accounting for 53% of total customer-hours interrupted (3,328 of 6,269). Equipment Failures were the 2nd leading cause of customer-hours interrupted, accounting for 34% of total customer-hours interrupted (2,152 of 6,269). Accidents were the 3rd leading cause of customer-hours interrupted, accounting for 11% of total customer-hours interrupted (712 of 6,269).
 - Of the 13 interruptions on this circuit, 7 affected 10 customers or less, with 2 being single customer outages.

Actions Taken:

- Tree trimming and a hazard tree review was completed on the Lockport Rd 21651 in 2020.
- A maintenance foot patrol was completed on the Lockport Rd 21651 in 2022 and all identified level 1 and level 2 maintenance has been completed.

Action Plan:

- Tree trimming and a hazard tree review is scheduled to be completed on the Lockport Rd 21651 in 2025.
- As part of a capital improvement project, a FLISR scheme is currently in construction between the Lockport Rd 21651 and Walmore 21751 feeders which will enhance reliability between the two circuits. The scheme is scheduled to be completed in 2026.
- Complete all identified level 3 maintenance on the Lockport Rd 21651.

3. ACTION PLAN SUMMARIES

a. SUMMARY OF ACTION ITEM PLANS FOR 2024 WORST PERFORMING CIRCUITS

Station	Feeder	Report Year	Action Plan	Estimated Completion Date	Comments
Lockport Rd	21652	2024	Tree trimming and hazard tree review.	3/2026	
Lockport Rd	21652	2024	Complete level 3 maintenance.	3/2026	
Lockport Rd	21651	2024	Tree trimming and hazard tree review.	3/2026	
Lockport Rd	21651	2024	Complete level 3 maintenance.	3/2026	
Lockport Rd	21651	2024	Build FLISR scheme between Lockport Rd 21651 and Walmore 21751.	3/2027	

b. STATUS OF ACTION PLANS FOR 2023 WORST PERFORMING CIRCUITS

Station	Feeder	Report Year	Action Plan	Estimated Completion Date	Comments
Buffalo Station 40	4075	2023	Cycle Tree Trimming	12/2027	On schedule.

4. OPERATING REGION PERFORMANCE BELOW MINIMUM

a. MAINTENANCE HISTORY AND ANALYSIS OF FACTORS THAT CAUSED THE BELOW MINIMUM PERFORMANCE.

In 2024 the Frontier Region met the annual CAIDI goal of 1.869 with a CAIDI of 1.82. However, the Frontier region failed to meet the PSC minimum SAIFI requirement of 0.48 with a 2024 score of 0.50. The Frontier Region has been below the target of 0.48 two of the previous five years.

In 2024, the Frontier Region experienced 1,592 interruptions. Most of these interruptions (99%) occurred on the distribution system. However, 7 of these interruptions (0.5%) occurred on the transmission or sub-transmission systems, interrupting 36,151 customers (22%) and accounting for 66,443 customer-hours interrupted (22%). The SAIFI and CAIDI of the transmission and sub-transmission systems in 2024 were 0.11 interruptions and 1.84 hours respectively.

There were also 8 substation-related interruptions in the Frontier Region in 2024, interrupting 13,221 customers (8%) and accounting for 19,769 customer-hours interrupted (7%). The SAIFI and CAIDI of substation-related interruptions in 2024 was 0.04 interruptions per year and 1.50 hours.

The distribution system accounted for 99% of the interruptions in the Frontier Region in 2024, interrupting 116,541 customers (70%) and accounting for 215,527 customer-hours interrupted (71%). The CAIDI of the distribution system in 2024 met the CAIDI goal for the Frontier Region, with a distribution CAIDI of 1.85 hours. The SAIFI of the distribution system in 2024 was 0.35 interruptions.

b. **PLANNED PROGRAMS OR PLANNED CORRECTIVE ACTIONS AND PROPOSED IMPROVEMENTS TO THE PERFORMANCE INDICES.**

The Company is continuing its efforts in the Frontier Region to maintain reliability. These efforts include distribution patrols, maintenance programs, single phase and three phase line recloser installations, protection coordination studies, lightning protection installations, and tree trimming programs. All these programs and corrective actions not only will reduce the number of interruptions and/or customers interrupted but also the restoration times. The Company will continue to stay on schedule for tree trimming and believes that this maintained schedule for tree trimming and miles trimmed will reduce both the incidence and duration of tree-related interruptions.

The contribution of transmission outages is significant to the regional performance indices, as can be seen in the data provided in the previous section. It is very difficult to predict transmission equipment failures in advance, and in a continued attempt to minimize these interruptions, Transmission Planning and Asset Management (TPAM) has several projects in the works to improve the performance of some of the worst performing transmission lines.

Tree trimming around the distribution system will remain a priority in 2025, to address what is typically the single largest contributor to customer interruptions within the Frontier Region. In addition, there is a list of distribution improvement capital projects to be designed and/or constructed in FY2026, which can be viewed in the 1.f section of this report.

Substation Improvements

- 1) When substation equipment is being installed or repaired, animal guards are being installed.
- 2) When opportunities arise, feeder-ties will be constructed to temporarily transfer load onto adjacent substations. This will improve reliability for the affected station.
- 3) The Company's ongoing maintenance program for substations should help reduce the potential for substation problems in 2025. This program includes:
 - Circuit breaker diagnostic tests
 - Circuit breaker mechanism checks
 - Load tap changer internal inspections
 - Dissolved gas analysis on load tap changers and transformers.
 - Calibration/inspections on relay positions and communication packages
 - Functional testing of relays
 - Battery maintenance
- 4) Network – The annual practice for Buffalo area networks is to review and change out transformers and protectors due to deterioration as needed. The

Buffalo area has approximately 288 vaults containing network transformers and protectors. The goal of this effort is to replace the equipment before failure occurs.

In addition to the capital improvement work outlined in the Frontier Region Worst Performing Feeder's Action Plan, below are additional efforts to improve reliability and performance indices in the Frontier Region.:

- On a monthly basis, the Western Reliability Team will continue to investigate and analyze outages impacting greater than 2,500 customers or more than 50,000 customer-minutes-interrupted (CMI). This effort will look at the interruptions impacting the greatest number of customers to see what could have been done better to reduce the length of the interruption or to have eliminated it altogether.
- Review of suitable locations for the installation of additional 3-phase reclosers. These continue to assist in minimizing customers interrupted and customer-hours interrupted in the event of a sustained outage as well as prevent sustained outages that, otherwise, would have been momentary in nature.
- Review of suitable locations for the installation of additional cutout-mounted reclosers. These continue to assist in minimizing customers interrupted and customer-hours interrupted in the event of a sustained outage as well as prevent sustained outages that, otherwise, would have been momentary in nature.
- Review of suitable locations for the installation of switches which will offer significant operational flexibility, allowing additional opportunity to isolate faults, thereby significantly decreasing customer-hours interrupted in the event of a sustained outage.
- Review of protective device coordination to assist in minimizing customers interrupted and customer-hours interrupted in the event of a sustained outage.

F. GENESEE REGION

1. OPERATING REGIONAL PERFORMANCE

a. HISTORIC CAIDI AND SAIFI INDICES

IDS Info:

	2024	2023	2022	2021	2020	2019
CAIDI (Threshold 2.049)	2.16	1.77	1.53	1.75	1.53	1.75
SAIFI (Threshold 1.037)	1.14	0.99	1.00	0.98	1.20	1.41
SAIDI	2.46	1.76	1.52	1.72	1.84	2.45
Interruptions	1,153	1,066	1,019	933	928	980
Customers Interrupted	115,997	100,427	100,413	98,675	120,597	140,279
Customer-Hours Interrupted	250,003	177,910	153,606	172,991	184,711	244,951
Customers Served	101,562	101,030	100,877	100,536	100,210	99,786
Customers Per Interruption	100.60	94.21	98.54	105.76	129.95	143.14
Availability Index	99.9720	99.9799	99.9826	99.9804	99.9790	99.9720
Interruptions/1000Customers	11.35	10.55	10.10	9.28	9.26	9.82

b. DISCUSSION OF REGIONAL PERFORMANCE

In 2024, the Genesee Region did not meet its CAIDI reliability target and did not meet its SAIFI reliability target as set forth by the New York Public Service Commission (PSC). The final System Average Interruption Frequency Index (SAIFI) result was 1.14 interruptions, 10% above the PSC goal of 1.037 interruptions. As shown in the table above, the Customer Average Interruption Duration index (CAIDI) was 2.16 in 2024, 5% above the PSC's regional target of 2.049 hours.

The 2024 CAIDI result was 22% above the 2023 result of 1.77 hours, and 29% above the previous 5-year average of 1.67 hours. The 2024 SAIFI was 15% above the 2023 result of 0.99 interruptions, and 2% above the previous 5-year average of 1.12 interruptions.

In 2024, excluding major storms, the Genesee Region experienced 9 transmission interruptions. These interruptions accounted for 1% of the region's total interruptions (9 of 1,153), 19% of the region's total customers interrupted (CI), (22,543 of 115,997), and 31% (78,416 of 250,001) of the region's total customer-hours interrupted (CHI). Overall, transmission interruptions had a CAIDI of 3.48 hours, and a SAIFI of 0.22 interruptions.

The number of transmission-related interruptions increased from 4 in 2023 to 9 in 2024 (an increase of 125%). The number of customers interrupted increased from 4,798 in 2023, to 22,543 in 2024 (an increase of 370%), while the customer-hours interrupted increased from 13,488 in 2023, to 78,416 in 2024 (an increase of 481%).

In 2024, excluding major storms, the Genesee Region experienced 10 substation interruptions. These interruptions accounted for 1% of the region's total interruptions (10 of 1,153), 14% of the region's total customers interrupted, (16,664 of 115,997), and 11% (28,153 of 250,001) of the region's total customer-hours interrupted. Overall, substation interruptions had a CAIDI of 1.69 hours, and a SAIFI of 0.16 interruptions.

The number of substation-related interruptions increased from 3 to 10 from 2023 to 2024 (an increase of 233%). The number of customers interrupted increased from 3,370 in 2023, to 16,664 in 2024 (an increase of 394%), while the customer-hours interrupted increased from 2,730 in 2023, to 28,153 in 2024 (an increase of 931%).

In 2024, excluding major storms, the Genesee Region experienced 1,134 distribution interruptions. These interruptions accounted for 98% of the region's total interruptions (1,134 of 1,153), 66% of the region's total customers interrupted, (76,790 of 115,997), and 57% (143,432 of 250,001) of the region's total customer-hours interrupted. Overall, distribution interruptions had a CAIDI of 1.87 hours, and a SAIFI of 0.76 interruptions.

The number of distribution-related interruptions increased from 1,059 to 1,134 from 2023 to 2024 (an increase of 7%). The number of customers interrupted decreased from 92,259 in 2023, to 76,790 in 2024 (a decrease of 17%), while the customer-hours interrupted decreased from 161,692 in 2023, to 143,432 in 2024 (a decrease of 11%).

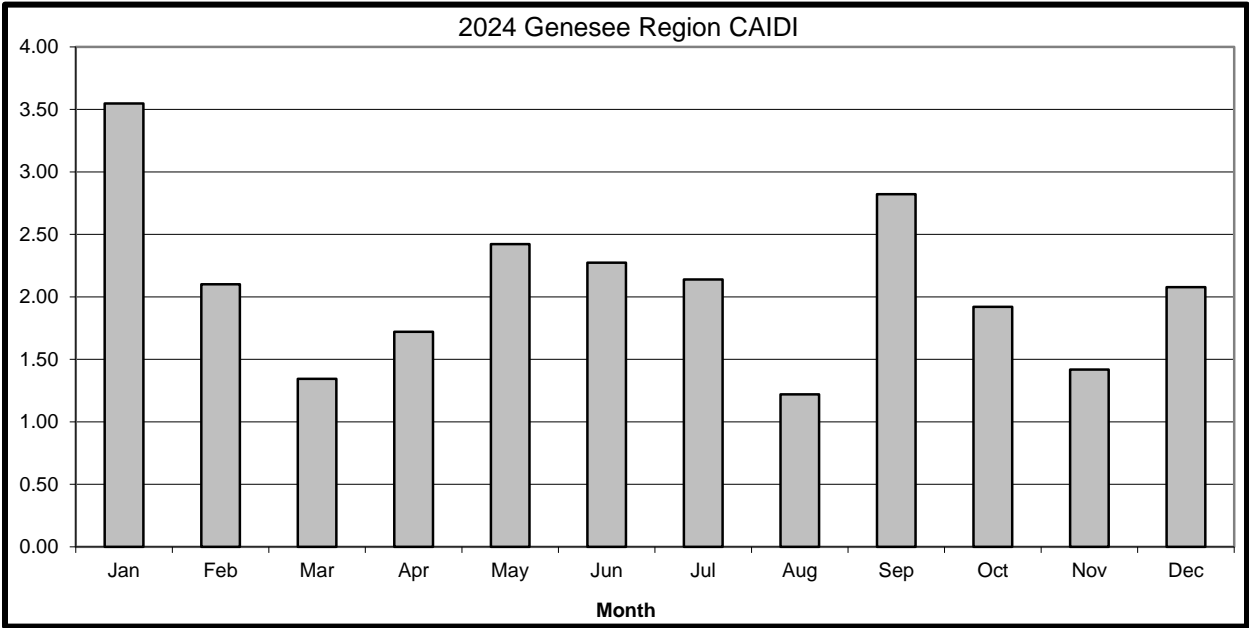
c. MONTHLY CAIDI AND SAIFI GRAPHS

The following graphs show the monthly CAIDI and SAIFI for the Genesee Region for 2024 (Excluding Major Storms).

CAIDI was above the PSC threshold of 2.049, a total of four months in 2024. The four months that exceeded the threshold were in January (2.75), May (2.23), June (2.39) and July (2.25).

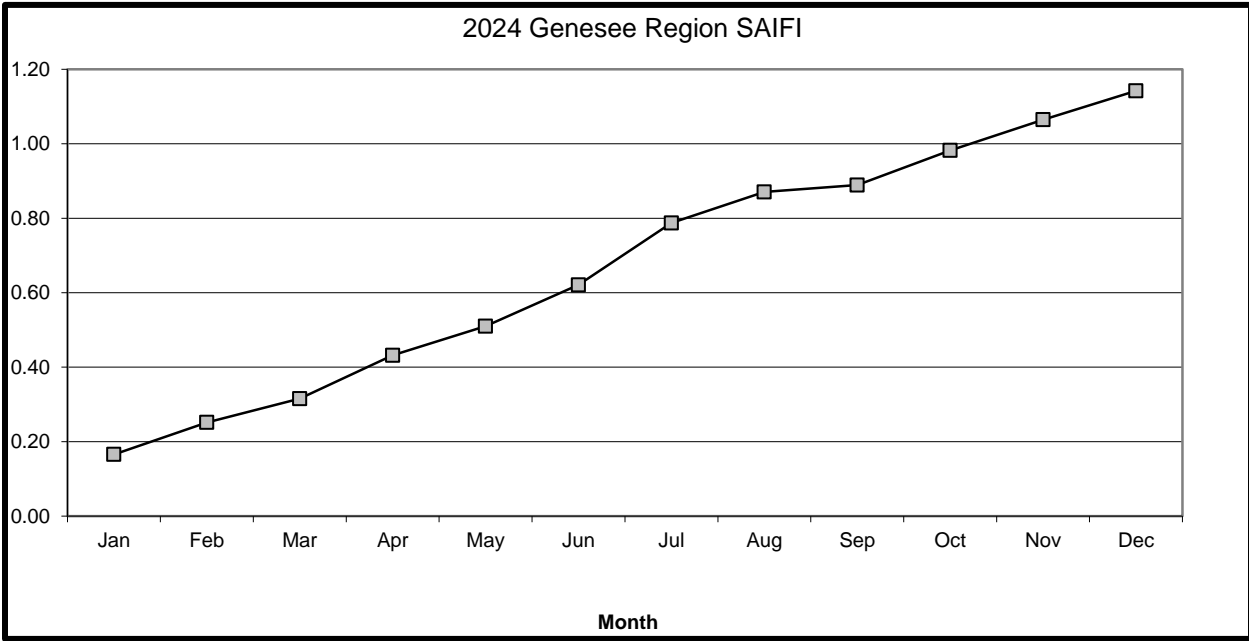
SAIFI was above the PSC threshold of 1.037 in 2024 and showed the greatest increase during the months of May (0.09), June (0.14), July (0.11) and August (0.09). These four months accounted for 38% of Genesee Region's annual SAIFI metric. In contrast, the months of February (0.05) and March (0.01) were the best two months and contributed only 5% to the Region's SAIFI.

GRAPH OF MONTHLY CAIDI AND SAIFI FOR THE GENESEE REGION



PSC CAIDI Goal:	
Threshold	2.049
2024 Actual	2.16

PSC SAIFI Goal:	
Threshold	1.037
2024 Actual	1.14



d. PSC CAUSE CODES

1) Number of Events by Cause – Historical

Cause Code	2024	2023	2022	2021	2020	2019
01 Major Storms	392	99	550	523	206	532
02 Tree Contacts	448	348	272	242	220	258
03 Overloads	10	2	7	7	12	3
04 Operator Error	7	5	3	5	4	4
05 Equipment	266	282	262	258	288	326
06 Accidents	244	211	275	216	212	178
07 Prearranged	24	17	15	33	30	21
08 Customer Equip.	-	-	-	-	-	-
09 Lightning	20	41	40	35	30	30
10 Unknown	134	160	145	137	132	160
Total	1,545	1,165	1,569	1,456	1,134	1,512

2) Customers Interrupted by Cause – Historical

Cause Code	2024	2023	2022	2021	2020	2019
01 Major Storms	55,006	8,580	45,384	43,905	18,068	38,360
02 Tree Contacts	43,281	35,942	28,848	18,768	26,188	34,115
03 Overloads	1,136	7	62	1,794	7,751	68
04 Operator Error	8,986	87	3,195	95	184	6,092
05 Equipment	28,150	32,935	29,675	33,304	48,964	54,305
06 Accidents	25,545	18,727	20,400	20,143	14,946	26,593
07 Prearranged	5,005	1,645	2,211	6,378	7,373	2,973
08 Customer Equip.	-	-	-	-	-	-
09 Lightning	255	3,974	5,740	5,931	2,085	1,385
10 Unknown	3,639	7,110	10,282	12,262	13,106	14,748
Total	171,003	109,007	145,797	142,580	138,665	178,639

3) Customer-Hours Interrupted by Cause – Historical

Cause Code	2024	2023	2022	2021	2020	2019
01 Major Storms	198,383	64,313	436,544	727,571	76,176	247,052
02 Tree Contacts	97,082	72,644	43,395	42,526	40,476	74,452
03 Overloads	843	18	109	1,821	2,790	74
04 Operator Error	46,597	68	435	127	77	1,443
05 Equipment	43,737	61,845	47,442	46,209	85,436	84,094
06 Accidents	49,651	22,999	31,586	38,028	28,769	46,360
07 Prearranged	4,309	890	1,878	11,271	4,654	1,961
08 Customer Equip.	-	-	-	-	-	-
09 Lightning	1,219	3,925	15,120	15,004	2,394	3,174
10 Unknown	6,562	15,522	13,643	18,004	20,115	33,392
Total	448,384	242,223	590,151	900,562	260,886	492,002

4) Interruptions, Customers Interrupted and Customer-Hours Interrupted – 2024

Cause Code	Interruptions		Customers Interrupted		Customer Hours Interrupted	
	Number	% Total	Number	% Total	Number	% Total
01 Major Storms	392	25.4%	55,006	32.2%	198,383	44.2%
02 Tree Contacts	448	29.0%	43,281	25.3%	97,082	21.7%
03 Overloads	10	0.6%	1,136	0.7%	843	0.2%
04 Operator Error	7	0.5%	8,986	5.3%	46,597	10.4%
05 Equipment	266	17.2%	28,150	16.5%	43,737	9.8%
06 Accidents	244	15.8%	25,545	14.9%	49,651	11.1%
07 Prearranged	24	1.6%	5,005	2.9%	4,309	1.0%
08 Customer Equip.	0	0.0%	0	0.0%	0	0.0%
09 Lightning	20	1.3%	255	0.1%	1,219	0.3%
10 Unknown	134	8.7%	3,639	2.1%	6,562	1.5%
Total	1,545	100.0%	171,003	100.0%	448,384	100.0%

e. **INTERRUPTION REVIEW BY PSC CAUSE CODES**

Cause Code 01 - Major Storms

In 2024, Major Storms accounted for 25% of interruptions, 32% of customers interrupted, and 44% of Customer-Hours Interrupted.

Interruptions due to Major Storm were up 296% from 2023, and up 3% over the 5-year average. Customers interrupted due to Major Storms were up 541% from 2023, and up 78% over the 5-year average. Customer-Hours interrupted were up 208% from 2023 and down 36% over the 5-year average.

The remaining PSC code descriptions do not include Major Storms in the percentages.

Cause Code 02 - Tree Contacts

In 2024, Tree Contacts accounted for 39% of interruptions, 37% of customers interrupted, and 39% of Customer-Hours Interrupted.

Interruptions due to Tree Contacts were up 29% from 2023, and up 69% over the 5-year average. Customers interrupted due to Tree Contacts were up 20% from 2023, and up 51% over the 5-year average. Customer-Hours interrupted were up 34% from 2023 and up 79% over the 5-year average.

Tree Contacts were the largest cause of interruptions in 2024.

Cause Code 03 - Overloads

In 2024, Overloads accounted for 1% of interruptions, 1% of customers interrupted, and 0% of Customer-Hours Interrupted.

Interruptions due to Overloads were up 400% from 2023, and up 67% over the 5-year average. Customers interrupted due to Overloads were up 16,129% from 2023, and down 41% over the 5-year average. Customer-Hours interrupted were up 4,533% from 2023 and down 12% over the 5-year average.

Overloads were the 7th largest cause of interruptions in 2024.

Cause Code 04 - Operator Error

In 2024, Operator Error accounted for 1% of interruptions, 8% of customers interrupted, and 19% of Customer-Hours Interrupted.

Interruptions due to Operator Error were up 40% from 2023, and up 75% over the 5-year average. Customers interrupted due to Operator Error were up 10,229% from 2023, and up 365% over the 5-year average. Customer-Hours interrupted were up 68,933% from 2023 and up 10737% over the 5-year average.

Operator Error was the 8th largest cause of interruptions in 2024.

Cause Code 05 - Equipment Failure

In 2024, Equipment Failures accounted for 23% of interruptions, 24% of customers interrupted, and 17% of Customer-Hours Interrupted.

Interruptions due to Equipment Failure were down 6% from 2023, and down 6% over the 5-year average. Customers interrupted due to Equipment Failure were down 15% from 2023, and down 29% over the 5-year average. Customer-Hours interrupted were down 29% from 2023 and down 33% over the 5-year average.

Equipment Failures were the 2nd largest cause of interruptions in 2024.

Cause Code 06 - Accidents

In 2024, Accidents accounted for 21% of interruptions, 22% of customers interrupted, and 20% of Customer-Hours Interrupted.

Interruptions due to Accidents were up 16% from 2023, and up 11% over the 5-year average. Customers interrupted due to Accidents were up 36% from 2023, and up 27% over the 5-year average. Customer-Hours interrupted were up 116% from 2023 and up 48% over the 5-year average.

Accidents were the 3rd largest cause of interruptions in 2024.

Cause Code 07 - Prearranged

In 2024, Prearranged accounted for 2% of interruptions, 4% of customers interrupted, and 2% of Customer-Hours Interrupted.

Interruptions due to Prearranged were up 41% from 2023, and up 4% over the 5-year average. Customers interrupted due to Prearranged were up 204% from 2023, and up 22% over the 5-year average. Customer-Hours interrupted were up 384% from 2023 and up 4% over the 5-year average.

Prearranged was the 5th largest cause of interruptions in 2024.

Cause Code 08 - Customer Equipment

There were no Customer Equipment interruptions in 2024.

Cause Code 09 - Lightning

In 2024, Lightning accounted for 2% of interruptions, 0% of customers interrupted, and 0% of Customer-Hours Interrupted.

Interruptions due to Lightning were down 51% from 2023, and down 43% over the 5-year average. Customers interrupted due to Lightning were down 94% from 2023, and down 93% over the 5-year average. Customer-Hours interrupted were down 69% from 2023 and down 85% over the 5-year average.

Lightning was the 6th largest cause of interruptions in 2024.

Cause Code 10 - Unknown

In 2024, Unknown causes accounted for 12% of interruptions, 3% of customers interrupted, and 3% of Customer-Hours Interrupted.

Interruptions due to Unknown causes were down 16% from 2023, and down 11% over the 5-year average. Customers interrupted due to Unknown causes were down 49% from 2023, and down 69% over the 5-year average. Customer-Hours interrupted were down 58% from 2023 and down 68% over the 5-year average.

Unknown causes were the 4th largest cause of interruptions in 2024.

f. DISCUSSION OF REGIONAL CAPEX PROJECTS WITH 2023/24 SPENDS :

The Company continues to work on capital projects in the Genesee Region to maintain customer satisfaction and maintain future reliability. Some specific projects that were either constructed in 2024 or planned for construction in 2025 are discussed below. An additional table of major infrastructure projects completed in 2024 follows. This includes distribution, transmission, and substation-related projects.

Some projects on the list or discussed below are substation-related projects located throughout the Region to address loading concerns or equipment condition issues, including Sonora Way 4381.

There are numerous distribution projects to rebuild or re-conductor lines. These projects are the result of reliability reviews, response to a QRS inquiry, the result of implementing an asset strategy, or load-related issues.

Some specific reliability-related projects in the Genesee Region follow below:

Sonora Way Substation 4381

Sonora Way Substation is a 115kV/13.2kV substation installed in 2015 with two new feeders to allow for the removal of Mobile 7W and to provide load relief for Lakeville Substation 40 and Geneseo Substation 55. Overall, the plan is to install new switchgear and three new feeders from Sonora Way substation to retire Lakeville Substation 40 and provide relief for Livonia Substation 37. The new feeders will also improve reliability and service by providing load relief, future feeder ties, operational flexibility and allow for additional hosting capacity. The three new feeders are expected to be completed by May 2025.

Sub-Transmission Infrastructure Projects

The 34.5kV system in the Genesee Region consists of several very long loops which traverse rural territory in the Western Division. There were several projects completed in 2024 or are planned for 2025/2026, that will maintain and upgrade the system, including projects to replace insulators, install Reclosers, and implement FLISR schemes on sub-transmission lines 216, 301, 304, 308 and 312 in the Genesee Region in FY2025/2026. The Reclosers and FLISR scheme will improve reliability by automatically sectionalizing portions of the lines during interruptions. Additionally, insulator replacements will prevent unplanned outages.

Major Capital Projects for Genesee Region:

Region	Project Name	Project Type	Fin Sys Proj No.	Finish	Total Spend
	No project > \$1M were completed in 2024 in the Genesee Region				

2. OPERATING CIRCUIT LISTS

The next three tables will provide the following information for the Genesee Region.

- a. Worst Performing Circuit List
- b. Worst Performing Circuits with 3 Year History for CAIDI and SAIFI Indices
- c. Worst Performing Circuits by # of Momentary Interruptions

a. NATIONAL GRID WORST PERFORMING CIRCUIT LIST

GENESEE REGION

FEEDER #	A CUST. SERVED	B TOTAL INTER.	C # CUST. INTER.	D CUST. HRS. INTER.	C/A SAIFI	D/A SAIDI	D/C CAIDI	NUMBER OF MOMENTARIES
GENESEO STA 55 5552	796	21	5,190	14,591	6.52	18.33	2.81	12
SOUTHLAND STA 84 8462	763	22	3,420	7,723	4.48	10.12	2.26	0
W HAMLIN 8254	2,145	48	4,960	10,430	2.31	4.86	2.10	0
W HAMLIN 8253	2,350	35	4,820	12,824	2.05	5.46	2.66	0
ROYALTON 9863	748	17	3,588	6,246	4.80	8.35	1.74	0
BARKER STA 78 7861	821	17	4,826	5,803	5.88	7.07	1.20	0
LYNDONVILLE STA 95 9561	835	17	2,448	5,712	2.93	6.84	2.33	1
E GOLAH 5156	2,016	23	3,203	12,306	1.59	6.10	3.84	2
SHEPPARD RD STA 29 2952	909	19	1,942	4,864	2.14	5.35	2.50	5
E GOLAH 5153	1,573	14	3,134	10,623	1.99	6.75	3.39	0

Regional Goals:
CAIDI 2.049
SAIFI 1.037

b. NATIONAL GRID WORST PERFORMING CIRCUITS WITH A 3 YEAR HISTORY FOR CAIDI AND SAIFI INDICES

GENESEE REGION

FEEDER #	2024 CAIDI	2023 CAIDI	2022 CAIDI	2021 CAIDI	2024 SAIFI	2023 SAIFI	2022 SAIFI	2021 SAIFI
W HAMLIN 8254	2.81	1.08	1.28	1.95	6.52	1.39	0.06	0.50
W HAMLIN 8255	2.26	0.57	1.14	1.55	4.48	1.36	3.63	1.63
WETHERSFIELD STA 23 2361	2.10	1.54	2.07	2.05	2.31	4.77	1.41	1.77
BYRON STA 18 1863	2.66	2.20	1.81	1.90	2.05	0.66	0.91	0.57
LINDEN STA 21 2161	1.74	1.61	3.60	1.60	4.80	0.30	1.73	1.50
WETHERSFIELD STA 23 2362	1.20	3.81	1.48	1.02	5.88	0.39	4.47	4.03
E GOLAH 5155	2.33	3.99	2.89	2.03	2.93	0.83	2.42	1.96
YORK CTR 5352	3.84	1.13	0.77	1.21	1.59	2.42	1.73	3.50
E GOLAH 5156	2.50	2.29	2.36	1.09	2.14	0.65	0.92	1.10

Regional Goals:

CAIDI 2.049

SAIFI 1.037

c. NATIONAL GRID WORST PERFORMING CIRCUITS BY # OF MOMENTARY INTERRUPTIONS

GENESEE REGION

Feeders			Customer Momentaries				Ranks		
Volts (kV)	Station Name	Ckt/F No.	Substation	Transmission	Distribution	Total	Within Region	Within System	Reliability Ranking
13.2	Geneseo Sta 55	05-5552	0	11	1	12	1	3	23

d. WORST PERFORMING CIRCUIT ANALYSIS

For 2024, the Company is reporting on the ten worst performing feeders in the Genesee Region. The list consists of six 13.2kV feeders and four 4.8kV feeders.

For the Genesee Region, the CAIDI threshold is 2.049 and the SAIFI threshold is 1.037.

1. GENESEO STA 55 5552 - 13.2kV

Profile: 796 Customers, 46.8 Circuit Miles
Indices: CAIDI = 2.81, SAIFI = 6.52

CAUSE CODE PERFORMANCE TABLE

Code	Category	Interruptions		Customers Interrupted		Customer Hours	
		Number	% Total	Number	% Total	Number	% Total
2	TREE	11	52.38%	3,443	66.34%	11,218	76.88%
3	OVERLOADS	0	0.00%	0	0.00%	0	0.00%
4	OPER. ERROR	0	0.00%	0	0.00%	0	0.00%
5	EQUIPMENT	6	28.57%	896	17.26%	2,851	19.54%
6	ACCIDENTS	4	19.05%	851	16.40%	522	3.58%
7	PREARRANGED	0	0.00%	0	0.00%	0	0.00%
8	CUST. EQUIP.	0	0.00%	0	0.00%	0	0.00%
9	LIGHTNING	0	0.00%	0	0.00%	0	0.00%
10	UNKNOWN	0	0.00%	0	0.00%	0	0.00%
Totals		21	100.00%	5,190	100.00%	14,591	100.00%

Problem Analysis:

- There were 21 interruptions on the Geneseo Sta 55 5552 in 2024.
- There were 3 transmission interruptions.
 - The first Transmission interruption occurred on January 24, 2024, coded as a cause of vehicle (PSC cause code 06). This lockout accounted for 15% of the total customers interrupted (790 of 5,190), and 3% of the total customer-hours interrupted (429 of 14,591). A motor vehicle hit a Sub-Transmission pole on L218 on Lakeville Rd, resulting in a 2.12-hour interruption.
 - The second Transmission interruption occurred on April 14, 2024, coded as a cause of device failed (PSC cause code 05). This lockout accounted for 15% of the total customers interrupted (794 of 5,190), and 19% of the total customer-hours interrupted (2,779 of 14,591). Insulator failed on Sub-Transmission L218 resulting in a 3.5-hour interruption.
 - The third Transmission interruption occurred on July 10, 2024, coded as a cause of tree fell (PSC cause code 02). This lockout accounted for 15% of the total customers interrupted (800 of 5,190), and 29% of the total customer-hours interrupted (4,173 of 14,591). A tree made contact with Line 218 at P65 resulting in a 5.22-hour interruption.
- There was 1 substation interruption.

- This Substation interruption occurred on January 26, 2024, coded as a cause of tree - broken limb (PSC cause code 02). This lockout accounted for 15% of the total customers interrupted (790 of 5,190), and 13% of the total customer-hours interrupted (1,939 of 14,591). A tree made contact with L128 at P4458 on Reservoir Rd resulting in a 2.45-hour interruption.
- The remaining 17 events occurred at the distribution level.
- The distribution circuit breaker for the Geneseo Sta 55 5552 experienced 12 momentary operations in 2024.
- The distribution circuit breaker for the Geneseo Sta 55 5552 experienced 0 sustained operations (lockouts) in 2024.
- Trees were the leading cause of interruptions on the Geneseo Sta 55 5552 in 2024, accounting for 52% of total interruptions (11 of 21). Equipment Failures were the 2nd leading cause of interruptions, accounting for 29% of total interruptions (6 of 21). Accidents were the 3rd leading cause of interruptions, accounting for 19% of total interruptions (4 of 21).
- Trees were the leading cause of customers interrupted (CI) on the Geneseo Sta 55 5552 in 2024, accounting for 66% of total customers interrupted (3,443 of 5,190). Equipment Failures were the 2nd leading cause of customers interrupted, accounting for 17% of total customers interrupted (896 of 5,190). Accidents were the 3rd leading cause of customers interrupted, accounting for 16% of total customers interrupted (851 of 5,190).
- Trees were the leading cause of customer-hours interrupted (CHI) on the Geneseo Sta 55 5552 in 2024, accounting for 77% of total customer-hours interrupted (11,218 of 14,591). Equipment Failures were the 2nd leading cause of customer-hours interrupted, accounting for 20% of total customer-hours interrupted (2,851 of 14,591). Accidents were the 3rd leading cause of customer-hours interrupted, accounting for 4% of total customer-hours interrupted (522 of 14,591).
- Of the 21 interruptions on this circuit, 12 affected 10 customers or less, with 10 being single customer outages.

Action Taken:

- Distribution cycle tree trimming was completed in FY2022.
- Distribution line inspection was completed in July 2022. All Level 1 & Level 2 maintenance has been completed.

Action Plan:

- Distribution cycle tree trimming is scheduled for FY2027.
- Complete Level 3 Distribution Line Inspection work due in 2025.
- Sub-T hazard tree removal on Line 218 is scheduled for FY2026
- Sub-T cycle tree trimming on Line 218 is scheduled for FY2027.

2. SOUTHLAND STA 84 8462 – 4.8kV

Profile: 763 Customers, 37.1 Circuit Miles
Indices: CAIDI = 2.26, SAIFI = 4.48

CAUSE CODE PERFORMANCE TABLE

Code	Category	Interruptions		Customers Interrupted		Customer Hours	
		Number	% Total	Number	% Total	Number	% Total
2	TREE	17	77.27%	3,127	91.43%	7,310	94.65%
3	OVERLOADS	0	0.00%	0	0.00%	0	0.00%
4	OPER. ERROR	1	4.55%	41	1.20%	9	0.12%
5	EQUIPMENT	1	4.55%	2	0.06%	8	0.10%
6	ACCIDENTS	2	9.09%	249	7.28%	392	5.08%
7	PREARRANGED	0	0.00%	0	0.00%	0	0.00%
8	CUST. EQUIP.	0	0.00%	0	0.00%	0	0.00%
9	LIGHTNING	0	0.00%	0	0.00%	0	0.00%
10	UNKNOWN	1	4.55%	1	0.03%	4	0.05%
Totals		22	100.00%	3,420	100.00%	7,723	100.00%

Problem Analysis:

- There were 22 interruptions on the Southland Sta 84 8462 in 2024.
- There was 1 transmission interruption.
 - This Transmission interruption occurred on March 16, 2024, coded as a cause of tree fell (PSC cause code 02). This lockout accounted for 22% of the total customers interrupted (763 of 3,420), and 11% of the total customer-hours interrupted (814 of 7,723). A tree made contact with L301 at P326 resulting in an interruption of 1.07-hours.
- There were no substation interruptions.
- The remaining 21 events occurred at the distribution level.
- The distribution circuit breaker for the Southland Sta 84 8462 experienced 0 momentary operations in 2024.
- The distribution circuit breaker for the Southland Sta 84 8462 experienced 1 sustained operation (lockout) in 2024. This interruption accounted for 22% of the total amount of customers interrupted (761 out of 3,420) and 29% of the total amount of the customer-hours interrupted (2,206 out of 7,723).
 - This lockout occurred on September 21, 2024, coded as a cause of tree fell - emerald ash borer (PSC cause code 02). This lockout accounted for 22% of the total customers interrupted (761 of 3,420), and 29% of the total customer-hours interrupted (2,206 of 7,723). A tree made contact with F8462 at P50 on Quaker Rd, resulting in an interruption of 3.73-hours.
- Trees were the leading cause of interruptions on the Southland Sta 84 8462 in 2024, accounting for 77% of total interruptions (17 of 22). Accidents were the 2nd leading cause of interruptions, accounting for 9% of total interruptions (2 of 22). Operators Errors were the 3rd leading cause of interruptions, accounting for 5% of total interruptions (1 of 22).

- Trees were the leading cause of customers interrupted (CI) on the Southland Sta 84 8462 in 2024, accounting for 91% of total customers interrupted (3,127 of 3,420). Accidents were the 2nd leading cause of customers interrupted, accounting for 7% of total customers interrupted (249 of 3,420). Operators Errors were the 3rd leading cause of customers interrupted, accounting for 1% of total customers interrupted (41 of 3,420).
- Trees were the leading cause of customer-hours interrupted (CHI) on the Southland Sta 84 8462 in 2024, accounting for 95% of total customer-hours interrupted (7,310 of 7,723). Accidents were the 2nd leading cause of customer-hours interrupted, accounting for 5% of total customer-hours interrupted (392 of 7,723). Operators Errors were the 3rd leading cause of customer-hours interrupted, accounting for 0% of total customer-hours interrupted (9 of 7,723).
- Of the 22 interruptions on this circuit, 5 affected 10 customers or less, with 3 being single customer outages.

Action Taken:

- Distribution cycle tree trimming was completed in FY2022.
- Distribution line inspection was completed in October 2024. All Level 1 maintenance has been completed.

Action Plan:

- Distribution cycle tree trimming is scheduled for FY2028.
- Complete Level 2 Distribution Line Inspection work due in 2025.
- Complete Level 3 Distribution Line Inspection work due in 2027.

3. W HAMLIN 8254 – 13.2kV

Profile: 2,145 Customers, 114.5 Circuit Miles
Indices: CAIDI = 2.10, SAIFI = 2.31

CAUSE CODE PERFORMANCE TABLE

Code	Category	Interruptions		Customers Interrupted		Customer Hours	
		Number	% Total	Number	% Total	Number	% Total
2	TREE	26	54.17%	2,651	53.45%	5,618	53.87%
3	OVERLOADS	0	0.00%	0	0.00%	0	0.00%
4	OPER. ERROR	0	0.00%	0	0.00%	0	0.00%
5	EQUIPMENT	10	20.83%	23	0.46%	77	0.74%
6	ACCIDENTS	8	16.67%	2,167	43.69%	4,449	42.66%
7	PREARRANGED	0	0.00%	0	0.00%	0	0.00%
8	CUST. EQUIP.	0	0.00%	0	0.00%	0	0.00%
9	LIGHTNING	0	0.00%	0	0.00%	0	0.00%
10	UNKNOWN	4	8.33%	119	2.40%	285	2.74%
Totals		48	100.00%	4,960	100.00%	10,430	100.00%

Problem Analysis:

- There were 48 interruptions on the W Hamlin 8254 in 2024.
- There were no transmission interruptions.
- There was 1 substation interruption.
 - This Substation interruption occurred on February 23, 2024, coded as a cause of flying debris (PSC cause code 06). This lockout accounted for 43% of the total customers interrupted (2,130 of 4,960), and 42% of the total customer-hours interrupted (4,367 of 10,430). A balloon made contact with F8253 at P507 on Brick Schoolhouse Rd resulting in an interruption of 2.05-hours.
- The remaining 47 events occurred at the distribution level.
- The distribution circuit breaker for the W Hamlin 8254 experienced 0 momentary operations in 2024.
- The distribution circuit breaker for the W Hamlin 8254 experienced 0 sustained operations (lockouts) in 2024.
- Trees were the leading cause of interruptions on the W Hamlin 8254 in 2024, accounting for 54% of total interruptions (26 of 48). Equipment Failures were the 2nd leading cause of interruptions, accounting for 21% of total interruptions (10 of 48). Accidents were the 3rd leading cause of interruptions, accounting for 17% of total interruptions (8 of 48).
- Trees were the leading cause of customers interrupted (CI) on the W Hamlin 8254 in 2024, accounting for 53% of total customers interrupted (2,651 of 4,960). Accidents were the 2nd leading cause of customers interrupted, accounting for 44% of total customers interrupted (2,167 of 4,960). Unknown were the 3rd leading cause of customers interrupted, accounting for 2% of total customers interrupted (119 of 4,960).

- Trees were the leading cause of customer-hours interrupted (CHI) on the W Hamlin 8254 in 2024, accounting for 54% of total customer-hours interrupted (5,618 of 10,430). Accidents were the 2nd leading cause of customer-hours interrupted, accounting for 43% of total customer-hours interrupted (4,449 of 10,430). Unknown were the 3rd leading cause of customer-hours interrupted, accounting for 3% of total customer-hours interrupted (285 of 10,430).
- Of the 48 interruptions on this circuit, 21 affected 10 customers or less, with 8 being single customer outages.

Action Taken:

- Distribution cycle tree trimming was completed in FY2022.
- Distribution line inspection was completed in October 2023. All Level 1 maintenance has been completed.

Action Plan:

- Distribution cycle tree trimming is scheduled for FY2027.
- Complete Level 2 Distribution Line Inspection work due in 2025.
- Complete Level 3 Distribution Line Inspection work due in 2027.

4. W HAMLIN 8253 – 13.2kV

Profile: 2,350 Customers, 93.4 Circuit Miles
Indices: CAIDI = 2.66, SAIFI = 2.05

CAUSE CODE PERFORMANCE TABLE

Code	Category	Interruptions		Customers Interrupted		Customer Hours	
		Number	% Total	Number	% Total	Number	% Total
2	TREE	11	31.43%	2,222	46.10%	6,489	50.60%
3	OVERLOADS	0	0.00%	0	0.00%	0	0.00%
4	OPER. ERROR	0	0.00%	0	0.00%	0	0.00%
5	EQUIPMENT	7	20.00%	29	0.60%	155	1.21%
6	ACCIDENTS	7	20.00%	2,380	49.38%	5,490	42.81%
7	PREARRANGED	2	5.71%	26	0.54%	95	0.74%
8	CUST. EQUIP.	0	0.00%	0	0.00%	0	0.00%
9	LIGHTNING	3	8.57%	8	0.17%	21	0.16%
10	UNKNOWN	5	14.29%	155	3.22%	574	4.48%
Totals		35	100.00%	4,820	100.00%	12,824	100.00%

Problem Analysis:

- There were 35 interruptions on the W Hamlin 8253 in 2024.
- There were no transmission interruptions.
- There was 1 substation interruption.
 - This Substation interruption occurred on February 23, 2024, coded as a cause of flying debris (PSC cause code 06). This lockout accounted for 49% of the total customers interrupted (2,343 of 4,820), and 42% of the total customer-hours interrupted (5,428 of 12,824). A balloon made contact with F8253 at P507 on Brick Schoolhouse Rd resulting in an interruption of 2.05-hours.
- The remaining 34 events occurred at the distribution level.
- The distribution circuit breaker for the W Hamlin 8253 experienced 0 momentary operations in 2024.
- The distribution circuit breaker for the W Hamlin 8253 experienced 0 sustained operations (lockouts) in 2024.
- Trees were the leading cause of interruptions on the W Hamlin 8253 in 2024, accounting for 31% of total interruptions (11 of 35). Equipment Failures were the 2nd leading cause of interruptions, accounting for 20% of total interruptions (7 of 35). Accidents were the 3rd leading cause of interruptions, accounting for 20% of total interruptions (7 of 35).
- Accidents were the leading cause of customers interrupted (CI) on the W Hamlin 8253 in 2024, accounting for 49% of total customers interrupted (2,380 of 4,820). Trees were the 2nd leading cause of customers interrupted, accounting for 46% of total customers interrupted (2,222 of 4,820). Unknown were the 3rd leading cause of customers interrupted, accounting for 3% of total customers interrupted (155 of 4,820).

- Trees were the leading cause of customer-hours interrupted (CHI) on the W Hamlin 8253 in 2024, accounting for 51% of total customer-hours interrupted (6,489 of 12,824). Accidents were the 2nd leading cause of customer-hours interrupted, accounting for 43% of total customer-hours interrupted (5,490 of 12,824). Unknown were the 3rd leading cause of customer-hours interrupted, accounting for 4% of total customer-hours interrupted (574 of 12,824).
- Of the 35 interruptions on this circuit, 22 affected 10 customers or less, with 8 being single customer outages.

Action Taken:

- Distribution cycle tree trimming was completed in FY2022.
- Distribution line inspection was completed in May 2021. All Level 1, Level 2 & Level 3 maintenance has been completed.

Action Plan:

- Distribution cycle tree trimming is scheduled for FY2027.
- Distribution line inspection due in 2026.
- Monitor feeder for cycle trim completed in FY2022.

5. ROYALTON 9863 – 4.8kV

Profile: 748 Customers, 45.7 Circuit Miles
Indices: CAIDI = 1.74, SAIFI = 4.80

CAUSE CODE PERFORMANCE TABLE

Code	Category	Interruptions		Customers Interrupted		Customer Hours	
		Number	% Total	Number	% Total	Number	% Total
2	TREE	5	29.41%	242	6.74%	628	10.05%
3	OVERLOADS	0	0.00%	0	0.00%	0	0.00%
4	OPER. ERROR	0	0.00%	0	0.00%	0	0.00%
5	EQUIPMENT	6	35.29%	1,878	52.34%	3,227	51.66%
6	ACCIDENTS	3	17.65%	1,176	32.78%	1,909	30.56%
7	PREARRANGED	0	0.00%	0	0.00%	0	0.00%
8	CUST. EQUIP.	0	0.00%	0	0.00%	0	0.00%
9	LIGHTNING	0	0.00%	0	0.00%	0	0.00%
10	UNKNOWN	3	17.65%	292	8.14%	483	7.73%
Totals		17	100.00%	3,588	100.00%	6,246	100.00%

Problem Analysis:

- There were 17 interruptions on the Royalton 9863 in 2024.
- There was 1 transmission interruption.
 - This Transmission interruption occurred on April 11, 2024, coded as a cause of deterioration (PSC cause code 05). This lockout accounted for 21% of the total customers interrupted (749 of 3,588), and 15% of the total customer-hours interrupted (961 of 6,246). Deterioration of TP21 L216 on Royalton Center Rd resulted in an interruption of 1.28-hours.
- There was 1 substation interruption.
 - This Substation interruption occurred on October 04, 2024, coded as a cause of device failed (PSC cause code 05). This lockout accounted for 21% of the total customers interrupted (747 of 3,588), and 6% of the total customer-hours interrupted (374 of 6,246). An emergency repair to a lightning arrester resulted in an interruption of 0.50-hours.
- The remaining 15 events occurred at the distribution level.
- The distribution circuit breaker for the Royalton 9863 experienced 0 momentary operations in 2024.
- The distribution circuit breaker for the Royalton 9863 experienced 1 sustained operation (lockout) in 2024. This interruption accounted for 21% of the total amount of customers interrupted (748 out of 3,588) and 21% of the total amount of the customer-hours interrupted (1,286 out of 6,246).
 - This lockout occurred on January 29, 2024, coded as a cause of vehicle (PSC cause code 06). This lockout accounted for 21% of the total customers interrupted (748 of 3,588), and 21% of the total customer-hours interrupted (1,286 of 6,246). A vehicle made contact with P7842 resulting in an interruption of 5.03-hours.

- Equipment Failures were the leading cause of interruptions on the Royalton 9863 in 2024, accounting for 35% of total interruptions (6 of 17). Trees were the 2nd leading cause of interruptions, accounting for 29% of total interruptions (5 of 17). Accidents were the 3rd leading cause of interruptions, accounting for 18% of total interruptions (3 of 17).
- Equipment Failures were the leading cause of customers interrupted (CI) on the Royalton 9863 in 2024, accounting for 52% of total customers interrupted (1,878 of 3,588). Accidents were the 2nd leading cause of customers interrupted, accounting for 33% of total customers interrupted (1,176 of 3,588). Unknown were the 3rd leading cause of customers interrupted, accounting for 8% of total customers interrupted (292 of 3,588).
- Equipment Failures were the leading cause of customer-hours interrupted (CHI) on the Royalton 9863 in 2024, accounting for 52% of total customer-hours interrupted (3,227 of 6,246). Accidents were the 2nd leading cause of customer-hours interrupted, accounting for 31% of total customer-hours interrupted (1,909 of 6,246). Trees were the 3rd leading cause of customer-hours interrupted, accounting for 10% of total customer-hours interrupted (628 of 6,246).
- Of the 17 interruptions on this circuit, 5 affected 10 customers or less, with 2 being single customer outages.

Action Taken:

- Distribution cycle tree trimming was completed in FY2022.
- Distribution line inspection was completed in April 2021. All Level 1, Level 2 & Level 3 maintenance has been completed.

Action Plan:

- Distribution cycle tree trimming is scheduled for FY2027.
- Distribution line inspection due in 2026.

6. BARKER STA 78 7861 – 4.8kV

Profile: 821 Customers, 38.6 Circuit Miles
Indices: CAIDI = 1.20, SAIFI = 5.88

CAUSE CODE PERFORMANCE TABLE

Code	Category	Interruptions		Customers Interrupted		Customer Hours	
		Number	% Total	Number	% Total	Number	% Total
2	TREE	6	35.29%	1,447	29.98%	2,984	51.42%
3	OVERLOADS	0	0.00%	0	0.00%	0	0.00%
4	OPER. ERROR	1	5.88%	1	0.02%	1	0.02%
5	EQUIPMENT	4	23.53%	1,637	33.92%	1,383	23.84%
6	ACCIDENTS	0	0.00%	0	0.00%	0	0.00%
7	PREARRANGED	2	11.76%	1,630	33.78%	1,236	21.30%
8	CUST. EQUIP.	0	0.00%	0	0.00%	0	0.00%
9	LIGHTNING	0	0.00%	0	0.00%	0	0.00%
10	UNKNOWN	4	23.53%	111	2.30%	199	3.43%
Totals		17	100.00%	4,826	100.00%	5,803	100.00%

Problem Analysis:

- There were 17 interruptions on the Barker Sta 78 7861 in 2024.
- There was 1 transmission interruption.
 - This Transmission interruption occurred on March 16, 2024, coded as a cause of tree fell (PSC cause code 02). This lockout accounted for 17% of the total customers interrupted (816 of 4,826), and 15% of the total customer-hours interrupted (870 of 5,803). A tree made contact with L301 at P326 resulting in a 1.07-hour interruption.
- There were 4 substation interruptions.
 - The first Substation interruption occurred on January 05, 2024, coded as a cause of device failed (PSC cause code 05). This lockout accounted for 17% of the total customers interrupted (815 of 4,826), and 14% of the total customer-hours interrupted (829 of 5,803). A failed lightning arrestor required an emergency repair, resulting in a 1.02-hour interruption.
 - The second Substation interruption occurred on January 19, 2024, coded as a cause of pre-arranged (PSC cause code 07). This lockout accounted for 17% of the total customers interrupted (814 of 4,826), and 10% of the total customer-hours interrupted (583 of 5,803). A lightning arrestor was replaced through routine maintenance resulting in a 0.72-hour interruption.
 - The third Substation interruption occurred on March 21, 2024, coded as a cause of prearranged (PSC cause code 07). This lockout accounted for 17% of the total customers interrupted (816 of 4,826), and 11% of the total customer-hours interrupted (653 of 5,803). A lightning arrestor was replaced through routine maintenance resulting in a 0.80-hour interruption.

- The fourth Substation interruption occurred on December 16, 2024, coded as a cause of device failed (PSC cause code 05). This lockout accounted for 17% of the total customers interrupted (820 of 4,826), and 9% of the total customer-hours interrupted (547 of 5,803). A failed lightning arrestor required an emergency repair, resulting in a 0.67-hour interruption.
- The remaining 12 events occurred at the distribution level.
- The distribution circuit breaker for the Barker Sta 78 7861 experienced 0 momentary operations in 2024.
- The distribution circuit breaker for the Barker Sta 78 7861 experienced 0 sustained operations (lockouts) in 2024.
- Trees were the leading cause of interruptions on the Barker Sta 78 7861 in 2024, accounting for 35% of total interruptions (6 of 17). Equipment Failures were the 2nd leading cause of interruptions, accounting for 24% of total interruptions (4 of 17). Unknown were the 3rd leading cause of interruptions, accounting for 24% of total interruptions (4 of 17).
- Equipment Failures were the leading cause of customers interrupted (CI) on the Barker Sta 78 7861 in 2024, accounting for 34% of total customers interrupted (1,637 of 4,826). Prearranged were the 2nd leading cause of customers interrupted, accounting for 34% of total customers interrupted (1,630 of 4,826). Trees were the 3rd leading cause of customers interrupted, accounting for 30% of total customers interrupted (1,447 of 4,826).
- Trees were the leading cause of customer-hours interrupted (CHI) on the Barker Sta 78 7861 in 2024, accounting for 51% of total customer-hours interrupted (2,984 of 5,803). Equipment Failures were the 2nd leading cause of customer-hours interrupted, accounting for 24% of total customer-hours interrupted (1,383 of 5,803). Prearranged were the 3rd leading cause of customer-hours interrupted, accounting for 21% of total customer-hours interrupted (1,236 of 5,803).
- Of the 17 interruptions on this circuit, 12 affected 10 customers or less, with 8 being single customer outages.

Action Taken:

- Distribution cycle tree trimming was completed in FY2023.
- Distribution line inspection was completed in September 2024. All Level 1 maintenance has been completed.
- Sub-T cycle tree trimming & hazard tree removal on Line 301 completed in FY2022.

Action Plan:

- Distribution cycle tree trimming is scheduled for FY2028.
- Complete Level 2 Distribution Line Inspection work due in 2025.
- Complete Level 3 Distribution Line Inspection work due in 2027.
- Sub-T hazard tree removal on Line 301 is scheduled for FY2027
- Sub-T cycle tree trimming on Line 301 is scheduled for FY2027.

7. LYNDONVILLE STA 95 9561 – 4.8kV

Profile: 835 Customers, 46.7 Circuit Miles

Indices: CAIDI = 2.33, SAIFI = 2.93

CAUSE CODE PERFORMANCE TABLE

Code	Category	Interruptions		Customers Interrupted		Customer Hours	
		Number	% Total	Number	% Total	Number	% Total
2	TREE	8	47.06%	441	18.01%	1,237	21.66%
3	OVERLOADS	0	0.00%	0	0.00%	0	0.00%
4	OPER. ERROR	0	0.00%	0	0.00%	0	0.00%
5	EQUIPMENT	6	35.29%	320	13.07%	1,117	19.56%
6	ACCIDENTS	1	5.88%	837	34.19%	2,609	45.67%
7	PREARRANGED	1	5.88%	836	34.15%	697	12.20%
8	CUST. EQUIP.	0	0.00%	0	0.00%	0	0.00%
9	LIGHTNING	0	0.00%	0	0.00%	0	0.00%
10	UNKNOWN	1	5.88%	14	0.57%	52	0.91%
Totals		17	100.00%	2,448	100.00%	5,712	100.00%

Problem Analysis:

- There were 17 interruptions on the Lyndonville Sta 95 9561 in 2024.
- There were no transmission interruptions.
- There were 2 substation interruptions.
 - The first Substation interruption occurred on May 22, 2024, coded as a cause of flying debris (PSC cause code 06). This lockout accounted for 34% of the total customers interrupted (837 of 2,448), and 46% of the total customer-hours interrupted (2,609 of 5,712). This was a result of a limb making contact with the station breaker resulting in a 3.12-hour interruption.
 - The second Substation interruption occurred on July 17, 2024, coded as a cause of (PSC cause code 07). This lockout accounted for 34% of the total customers interrupted (836 of 2,448), and 12% of the total customer-hours interrupted (697 of 5,712). This was for scheduled maintenance on the sub-station breakers.
- The remaining 15 events occurred at the distribution level.
- The distribution circuit breaker for the Lyndonville Sta 95 9561 experienced 1 momentary operation in 2024.
- The distribution circuit breaker for the Lyndonville Sta 95 9561 experienced 0 sustained operations (lockouts) in 2024.
- Trees were the leading cause of interruptions on the Lyndonville Sta 95 9561 in 2024, accounting for 47% of total interruptions (8 of 17). Equipment Failures were the 2nd leading cause of interruptions, accounting for 35% of total interruptions (6 of 17). Accidents were the 3rd leading cause of interruptions, accounting for 6% of total interruptions (1 of 17).

- Accidents were the leading cause of customers interrupted (CI) on the Lyndonville Sta 95 9561 in 2024, accounting for 34% of total customers interrupted (837 of 2,448). Prearranged were the 2nd leading cause of customers interrupted, accounting for 34% of total customers interrupted (836 of 2,448). Trees were the 3rd leading cause of customers interrupted, accounting for 18% of total customers interrupted (441 of 2,448).
- Accidents were the leading cause of customer-hours interrupted (CHI) on the Lyndonville Sta 95 9561 in 2024, accounting for 46% of total customer-hours interrupted (2,609 of 5,712). Trees were the 2nd leading cause of customer-hours interrupted, accounting for 22% of total customer-hours interrupted (1,237 of 5,712). Equipment Failures were the 3rd leading cause of customer-hours interrupted, accounting for 20% of total customer-hours interrupted (1,117 of 5,712).
- Of the 17 interruptions on this circuit, 8 affected 10 customers or less, with 5 being single customer outages.

Action Taken:

- Distribution cycle tree trimming was completed in FY2022.
- Distribution line inspection was completed in August 2022. All Level 1 & Level 2 maintenance has been completed.

Action Plan:

- Distribution cycle tree trimming is scheduled for FY2028.
- Complete Level 3 Distribution Line Inspection work due in 2025.

8. E GOLAH 5156 – 13.2kV

Profile: 2,016 Customers, 80.8 Circuit Miles
Indices: CAIDI = 3.84, SAIFI = 1.59

CAUSE CODE PERFORMANCE TABLE

Code	Category	Interruptions		Customers Interrupted		Customer Hours	
		Number	% Total	Number	% Total	Number	% Total
2	TREE	7	30.43%	763	23.82%	1,162	9.44%
3	OVERLOADS	0	0.00%	0	0.00%	0	0.00%
4	OPER. ERROR	1	4.35%	2,008	62.69%	10,676	86.75%
5	EQUIPMENT	6	26.09%	53	1.65%	93	0.75%
6	ACCIDENTS	5	21.74%	246	7.68%	178	1.45%
7	PREARRANGED	0	0.00%	0	0.00%	0	0.00%
8	CUST. EQUIP.	0	0.00%	0	0.00%	0	0.00%
9	LIGHTNING	0	0.00%	0	0.00%	0	0.00%
10	UNKNOWN	4	17.39%	133	4.15%	198	1.61%
Totals		23	100.00%	3,203	100.00%	12,306	100.00%

Problem Analysis:

- There were 23 interruptions on the E Golah 5156 in 2024.
- There was 1 transmission interruption.
 - This Transmission interruption occurred on January 06, 2024, coded as a cause of construction by company (PSC cause code 04). This lockout accounted for 63% of the total customers interrupted (2,008 of 3,203), and 87% of the total customer-hours interrupted (10,676 of 12,306). Emergency repair to Transmission structure 3 required de-energizing L116 resulting in a 5.32-hour interruption.
- There were no substation interruptions.
- The remaining 22 events occurred at the distribution level.
- The distribution circuit breaker for the E Golah 5156 experienced 2 momentary operations in 2024.
- The distribution circuit breaker for the E Golah 5156 experienced 0 sustained operations (lockouts) in 2024.
- Trees were the leading cause of interruptions on the E Golah 5156 in 2024, accounting for 30% of total interruptions (7 of 23). Equipment Failures were the 2nd leading cause of interruptions, accounting for 26% of total interruptions (6 of 23). Accidents were the 3rd leading cause of interruptions, accounting for 22% of total interruptions (5 of 23).
- Operators Errors were the leading cause of customers interrupted (CI) on the E Golah 5156 in 2024, accounting for 63% of total customers interrupted (2,008 of 3,203). Trees were the 2nd leading cause of customers interrupted, accounting for 24% of total customers interrupted (763 of 3,203). Accidents were the 3rd leading cause of customers interrupted, accounting for 8% of total customers interrupted (246 of 3,203).

- Operators Errors were the leading cause of customer-hours interrupted (CHI) on the E Golah 5156 in 2024, accounting for 87% of total customer-hours interrupted (10,676 of 12,306). Trees were the 2nd leading cause of customer-hours interrupted, accounting for 9% of total customer-hours interrupted (1,162 of 12,306). Unknown were the 3rd leading cause of customer-hours interrupted, accounting for 2% of total customer-hours interrupted (198 of 12,306).
- Of the 23 interruptions on this circuit, 15 affected 10 customers or less, with 8 being single customer outages.

Action Taken:

- Distribution cycle tree trimming was completed in FY2024.
- Distribution line inspection was completed in April 2020. All Level 1 & Level 2 maintenance has been completed.

Action Plan:

- Distribution cycle tree trimming is scheduled for FY2029.
- Distribution line inspection due in 2025.

9. SHEPPARD RD STA 29 2952 – 13.2kV

Profile: 909 Customers, 68.2 Circuit Miles
Indices: CAIDI = 2.50, SAIFI = 2.14

CAUSE CODE PERFORMANCE TABLE

Code	Category	Interruptions		Customers Interrupted		Customer Hours	
		Number	% Total	Number	% Total	Number	% Total
2	TREE	7	36.84%	830	42.74%	2,141	44.02%
3	OVERLOADS	0	0.00%	0	0.00%	0	0.00%
4	OPER. ERROR	0	0.00%	0	0.00%	0	0.00%
5	EQUIPMENT	3	15.79%	3	0.15%	9	0.18%
6	ACCIDENTS	5	26.32%	1,082	55.72%	2,675	54.99%
7	PREARRANGED	1	5.26%	12	0.62%	2	0.05%
8	CUST. EQUIP.	0	0.00%	0	0.00%	0	0.00%
9	LIGHTNING	0	0.00%	0	0.00%	0	0.00%
10	UNKNOWN	3	15.79%	15	0.77%	37	0.77%
Totals		19	100.00%	1,942	100.00%	4,864	100.00%

Problem Analysis:

- There were 19 interruptions on the Sheppard Rd Sta 29 2952 in 2024.
- There were no transmission interruptions.
- There were no substation interruptions.
- All 19 events occurred at the distribution level.
- The distribution circuit breaker for the Sheppard Rd Sta 29 2952 experienced 5 momentary operations in 2024.
- The distribution circuit breaker for the Sheppard Rd Sta 29 2952 experienced 1 sustained operation (lockout) in 2024. This interruption accounted for 46% of the total amount of customers interrupted (903 out of 1,942) and 50% of the total amount of the customer-hours interrupted (2,409 out of 4,864).
 - This lockout occurred on January 30, 2024, coded as a cause of vehicle (PSC cause code 06). This lockout accounted for 46% of the total customers interrupted (903 of 1,942), and 50% of the total customer-hours interrupted (2,409 of 4,864). A Sub-transmission pole was struck by a vehicle resulting in varying interruption times as a result of switching to recover customer's prior to repairs.
- Trees were the leading cause of interruptions on the Sheppard Rd Sta 29 2952 in 2024, accounting for 37% of total interruptions (7 of 19). Accidents were the 2nd leading cause of interruptions, accounting for 26% of total interruptions (5 of 19). Equipment Failures were the 3rd leading cause of interruptions, accounting for 16% of total interruptions (3 of 19).

- Accidents were the leading cause of customers interrupted (CI) on the Sheppard Rd Sta 29 2952 in 2024, accounting for 56% of total customers interrupted (1,082 of 1,942). Trees were the 2nd leading cause of customers interrupted, accounting for 43% of total customers interrupted (830 of 1,942). Unknown were the 3rd leading cause of customers interrupted, accounting for 1% of total customers interrupted (15 of 1,942).
- Accidents were the leading cause of customer-hours interrupted (CHI) on the Sheppard Rd Sta 29 2952 in 2024, accounting for 55% of total customer-hours interrupted (2,675 of 4,864). Trees were the 2nd leading cause of customer-hours interrupted, accounting for 44% of total customer-hours interrupted (2,141 of 4,864). Unknown were the 3rd leading cause of customer-hours interrupted, accounting for 1% of total customer-hours interrupted (37 of 4,864).
- Of the 19 interruptions on this circuit, 10 affected 10 customers or less, with 4 being single customer outages.

Action Taken:

- Distribution cycle tree trimming was completed in FY2024.
- Distribution line inspection was completed in September 2020. All Level 1, Level 2 & Level 3 maintenance has been completed.

Action Plan:

- Distribution cycle tree trimming is scheduled for FY2028.
- Distribution Line Inspection due in 2025.

10. E GOLAH 5153 – 13.2kV

Profile: 1,573 Customers, 60.4 Circuit Miles
Indices: CAIDI = 3.39, SAIFI = 1.99

CAUSE CODE PERFORMANCE TABLE

Code	Category	Interruptions		Customers Interrupted		Customer Hours	
		Number	% Total	Number	% Total	Number	% Total
2	TREE	2	14.29%	6	0.19%	8	0.08%
3	OVERLOADS	0	0.00%	0	0.00%	0	0.00%
4	OPER. ERROR	1	7.14%	1,568	50.03%	8,363	78.72%
5	EQUIPMENT	1	7.14%	23	0.73%	69	0.65%
6	ACCIDENTS	7	50.00%	1,500	47.86%	2,081	19.59%
7	PREARRANGED	0	0.00%	0	0.00%	0	0.00%
8	CUST. EQUIP.	0	0.00%	0	0.00%	0	0.00%
9	LIGHTNING	0	0.00%	0	0.00%	0	0.00%
10	UNKNOWN	3	21.43%	37	1.18%	102	0.96%
Totals		14	100.00%	3,134	100.00%	10,623	100.00%

Problem Analysis:

- There were 14 interruptions on the E Golah 5153 in 2024.
- There was 1 transmission interruption.
 - This Transmission interruption occurred on January 06, 2024, coded as a cause of construction by company (PSC cause code 04). This lockout accounted for 50% of the total customers interrupted (1,568 of 3,134), and 79% of the total customer-hours interrupted (8,363 of 10,623). Emergency repair to Transmission structure 3 required de-energizing L116 resulting in a 5.33-hour interruption.
- There were no substation interruptions.
- The remaining 13 events occurred at the distribution level.
- The distribution circuit breaker for the E Golah 5153 experienced 0 momentary operations in 2024.
- The distribution circuit breaker for the E Golah 5153 experienced 0 sustained operations (lockouts) in 2024.
- Accidents were the leading cause of interruptions on the E Golah 5153 in 2024, accounting for 50% of total interruptions (7 of 14). Unknown were the 2nd leading cause of interruptions, accounting for 21% of total interruptions (3 of 14). Trees were the 3rd leading cause of interruptions, accounting for 14% of total interruptions (2 of 14).
- Operators Errors were the leading cause of customers interrupted (CI) on the E Golah 5153 in 2024, accounting for 50% of total customers interrupted (1,568 of 3,134). Accidents were the 2nd leading cause of customers interrupted, accounting for 48% of total customers interrupted (1,500 of 3,134). Unknown were the 3rd leading cause of customers interrupted, accounting for 1% of total customers interrupted (37 of 3,134).

- Operators Errors were the leading cause of customer-hours interrupted (CHI) on the E Golah 5153 in 2024, accounting for 79% of total customer-hours interrupted (8,363 of 10,623). Accidents were the 2nd leading cause of customer-hours interrupted, accounting for 20% of total customer-hours interrupted (2,081 of 10,623). Unknown were the 3rd leading cause of customer-hours interrupted, accounting for 1% of total customer-hours interrupted (102 of 10,623).
- Of the 14 interruptions on this circuit, 13 affected 10 customers or less, with 5 being single customer outages.

Action Taken:

- Distribution cycle tree trimming was completed in FY2024.
- Distribution line inspection was completed in September 2021. All Level 1, Level 2 & Level 3 maintenance has been completed.

Action Plan:

- Distribution cycle tree trimming is scheduled for FY2029.
- Distribution Line Inspection due in 2026.

3. ACTION PLAN SUMMARIES

a. SUMMARY OF ACTION PLANS FOR 2024 WORST PERFORMING CIRCUITS

Station	Feeder	Report Year	Action Plan	Estimated Completion Date	Comments
Geneseo	5552	2024	Distribution Cycle Tree Trimming	FY2027	
Geneseo	5552	2024	Complete Level 3 maintenance work	2025	
Geneseo	5552	2024	Sub-T Line 218 Hazard Tree Removal	2026	
Geneseo	5552	2024	Sub-T Line 218 Inspection	2027	
Southland	8462	2024	Distribution Cycle Tree Trimming	FY2028	
Southland	8462	2024	Complete Level 2 maintenance work	2025	
Southland	8462	2024	Complete Level 3 maintenance work	2027	
W. Hamlin	8254	2024	Distribution Cycle Tree Trimming	FY2027	
W. Hamlin	8254	2024	Complete Level 2 maintenance work	2025	
W. Hamlin	8254	2024	Complete Level 3 maintenance work	2027	
W. Hamlin	8253	2024	Distribution Cycle Tree Trimming	2027	
W. Hamlin	8253	2024	Distribution Line Inspection	2026	
W. Hamlin	8253	2024	Complete Level 3 maintenance work	2027	
Royalton	9863	2024	Distribution Cycle Tree Trimming	FY2027	
Royalton	9863	2024	Distribution Line Inspection	2026	
Barker	7861	2024	Distribution Cycle Tree Trimming	FY2028	
Barker	7861	2024	Complete Level 2 maintenance work	2025	
Barker	7861	2024	Complete Level 3 maintenance work	2027	
Barker	7861	2024	Sub-T Line 301 Hazard Tree Removal	2027	
Barker	7861	2024	Sub-T Line 301 Inspection	2027	
Lyndonville	9561	2024	Distribution Cycle Tree Trimming	FY2027	
Lyndonville	9561	2024	Complete Level 3 maintenance work	2025	
E. Golah	5156	2024	Distribution Cycle Tree Trimming	FY2029	
E. Golah	5156	2024	Distribution Line Inspection	2025	
Sheppard	2952	2024	Distribution Cycle Tree Trimming	FY2028	
Sheppard	2952	2024	Distribution Line Inspection	2025	
E. Golah	5153	2024	Distribution Cycle Tree Trimming	FY2029	
E. Golah	5153	2024	Distribution Line Inspection	2025	

b. STATUS OF ACTION PLANS FOR 2023 WORST PERFORMING CIRCUITS

Station	Feeder	Report Year	Action Plan	Estimated Completion Date	Comments
W. Hamlin	8254	2023	Complete Level 2 maintenance work	2024	91.7% Complete
W. Hamlin	8254	2023	Complete Level 3 maintenance work	2025	
W. Hamlin	8255	2023	Complete Level 2 maintenance work	2024	Complete
W. Hamlin	8255	2023	Complete Level 3 maintenance work	2025	
Wethersfield	2361	2023	Sub-T Line 209 Inspection	2024	Complete
Wethersfield	2361	2023	Distribution Line Inspection	2026	
Wethersfield	2361	2023	Distribution Cycle Tree Trimming	FY2026	
Byron	1863	2023	Distribution Line Inspection	2025	
Byron	1863	2023	Distribution Cycle Tree Trimming	FY2026	
Linden	2161	2023	Distribution Line Inspection	2025	
Linden	2161	2023	Distribution Cycle Tree Trimming	FY2026	
Wethersfield	2362	2023	Sub-T Line 209 Inspection	2024	Complete
Wethersfield	2362	2023	Distribution Line Inspection	2026	
Wethersfield	2362	2023	Distribution Cycle Tree Trimming	FY2026	
E. Golah	5155	2023	Complete Level 2 maintenance work	2024	Complete
E. Golah	5155	2023	Complete Level 3 maintenance work	2025	
York Center	5352	2023	Complete Level 3 maintenance work	2024	Complete
E. Golah	5156	2023	Distribution Line Inspection	2025	Complete

4. OPERATING REGION PERFORMANCE BELOW MINIMUM

a. MAINTENANCE HISTORY AND ANALYSIS OF FACTORS THAT CAUSED THE BELOW MINIMUM PERFORMANCE.

In 2024, the Genesee Region failed to meet the PSC minimum goal for CAIDI of 2.049 hours, ending the year with a total CAIDI of 2.16 hours. This was the first time in six (6) years since 2018 that the region exceeded the PSC minimum CAIDI goal. This was an increase over the PSC's regional CAIDI target of 2.049 hours by 5%. This indicates the average length of time to restore the region's customers increased in 2024.

Also, the Genesee Region did not meet the PSC minimum goal for SAIFI of 1.037 interruptions, ending the year with a total SAIFI of 1.14 interruptions. This also was the first time in six (6) years since 2018 that the region exceeded the PSC minimum SAIFI goal. This was an increase over the PSC's regional SAIFI target of 1.037 interruptions per customer by 10%. This indicates that the frequency or number of times the region's customers experienced an interruption increased by in 2024.

The 2024 CAIDI result was 22% above the 2023 result of 1.77 hours, and 29% above the previous 5-year average of 1.67 hours. The 2024 SAIFI was 15% above the 2023 result of 0.99 interruptions, and 2% above the previous 5-year average of 1.12 interruptions.

In 2024, excluding major storms, the Genesee Region experienced 1,153 interruptions. By nature of the system, most of these interruptions (98%) occurred at the distribution level, however, nine (9) occurred at the transmission level and ten (10) occurred at the substation level.

The nine (9) transmission interruptions accounted for 1% of the region's total interruptions (9 of 1,153), 19% of the region's total customers interrupted (CI), (22,543 of 115,997), and 31% (78,416 of 250,001) of the region's total customer-hours interrupted (CHI). Overall, transmission interruptions had a CAIDI of 3.48 hours, and a SAIFI of 0.22 interruptions.

The ten (10) substation interruptions accounted for 1% of the region's total interruptions (10 of 1,153), 14% of the region's total customers interrupted, (16,664 of 115,997), and 11% (28,153 of 250,001) of the region's total customer-hours interrupted. Overall, substation interruptions had a CAIDI of 1.69 hours, and a SAIFI of 0.16 interruptions.

The 1,134 distribution interruptions accounted for 98% of the region's total interruptions (1,134 of 1,153), 66% of the region's total customers interrupted, (76,790 of 115,997), and 57% (143,432 of 250,001) of the region's total customer-hours interrupted. Overall, distribution interruptions had a CAIDI of 1.87 hours,

and a SAIFI of 0.76 interruptions.

Combined, despite accounting for only 0.2% of the region's total interruptions (19 of 1,153), the transmission and substation interruptions accounted for 34% of the region's total customers interrupted (39,207 of 115,997) and 43% of the region's total customer-hours interrupted (106,569 of 250,001).

Comparing 2023 to 2024, the number of transmission interruptions increased from 4 to 9, the number of customers interrupted increased from 100,427 to 115,997 (an increase of 16%) and the customer-hours interrupted increased from 117,910 to 250,001 (an increase of 212%).

Comparatively, distribution interruptions increased from 1,059 to 1,153 (an increase of 9%), customers interrupted decreased from 92,259 to 76,790 (a decrease of 17%), and customer-hours interrupted decreased from 161,692 in 2023, to 143,432 in 2024 (a decrease of 11%).

b. **PLANNED PROGRAMS OR PLANNED CORRECTIVE ACTIONS AND PROPOSED IMPROVEMENTS TO THE PERFORMANCE INDICES.**

The contribution of transmission and substation interruptions played a significant factor to the Genesee Region's performance indices, having contributed to 34% of the region's total customers interrupted and 43% of the region's total customer-hours interrupted, despite accounting for only 0.2% of the region's total interruptions.

In addition to the capital improvement work outlined in of each the Genesee Region Worst Performing Feeder's Action Plan, below are additional efforts to improve reliability and performance indices in the Genesee Region.

- On a monthly basis, the Eastern Division Reliability Team will continue to investigate and analyze outages impacting greater than 2,500 customers or more than 50,000 customer-minutes interrupted (CMI). This effort continues to bring light to interruptions with the greatest impact to CAIDI and SAIFI in an effort implement mitigation methods to reduce the length of the interruption or to have prevented it from occurring at all.
- Review of suitable locations for the installation of additional 3-phase reclosers. These continue to assist in minimizing customers interrupted and customer-hours interrupted in the event of a sustained outage as well as prevent sustained outages that, otherwise, would have been momentary in nature.
- Review of suitable locations for the installation of additional cutout-mounted reclosers. These continue to assist in minimizing customers interrupted and customer-hours interrupted in the event of a sustained outage as well as prevent sustained outages that, otherwise, would have been momentary in nature.
- Review of suitable locations for the installation of switches which will offer significant operational flexibility, allowing additional opportunity to isolate faults, thereby significantly decreasing customer-hours interrupted in the event of a sustained outage.
- Review of protective device coordination to assist in minimizing customers interrupted and customer-hours interrupted in the event of a sustained outage.

G. MOHAWK VALLEY REGION

1. OPERATING REGIONAL PERFORMANCE

a. HISTORIC CAIDI AND SAIFI INDICES

IDS info:

	2024	2023	2022	2021	2020	2019
CAIDI (Threshold 2.150)	1.90	2.07	2.20	1.94	2.35	1.93
SAIFI (Threshold 1.483)	1.03	1.06	1.49	1.34	1.34	1.42
SAIDI	1.95	2.20	3.27	2.60	3.15	2.75
Interruptions	1,265	1,307	1,459	1,381	1,349	1,283
Customers Interrupted	145,363	149,214	209,062	187,636	186,722	197,595
Customer-Hours Interrupted	276,030	308,940	459,360	363,296	438,515	381,537
Customers Served	141,252	140,605	140,458	139,837	139,367	138,719
Customers Per Interruption	114.91	114.17	143.29	135.87	138.42	154.01
Availability Index	99.9778	99.9749	99.9627	99.9703	99.9642	99.9686
Interruptions/1000 Customers	8.96	9.30	10.39	9.88	9.68	9.25

b. DISCUSSION OF REGIONAL PERFORMANCE

In 2024, the Mohawk Valley Region met its CAIDI reliability target and met its SAIFI reliability target as set forth by the New York Public Service Commission (PSC). The final System Average Interruption Frequency Index (SAIFI) result was 1.03 interruptions, 31% below the PSC goal of 1.483 interruptions. As shown in the table above, the Customer Average Interruption Duration index (CAIDI) was 1.90 in 2024, 12% below the PSC's regional target of 2.150 hours.

The 2024 CAIDI result was 8% below the 2023 result of 2.07 hours, and 10% below the previous 5-year average of 2.10 hours. The 2024 SAIFI was 3% below the 2023 result of 1.06 interruptions, and 23% below the previous 5-year average of 1.33 interruptions.

In 2024, excluding major storms, the Mohawk Valley Region experienced 9 transmission interruptions. These interruptions accounted for 1% of the region's total interruptions (9 of 1,265), 16% of the region's total customers interrupted (CI), (23,577 of 145,363), and 19% (53,307 of 276,029) of the region's total customer-hours interrupted (CHI). Overall, transmission interruptions had a CAIDI of 2.26 hours, and a SAIFI of 0.17 interruptions.

The number of transmission-related interruptions decreased from 10 in 2023 to 9 in 2024 (a decrease of 10%). The number of customers interrupted decreased from 45,885 in 2023, to 23,577 in 2024 (a decrease of 49%), while the customer-hours interrupted decreased from 85,308 in 2023, to 53,307 in 2024 (a decrease of 38%).

In 2024, excluding major storms, the Mohawk Valley Region experienced 6 substation interruptions. These interruptions accounted for 0.5% of the region's total interruptions (6 of 1,265), 10% of the region's total customers interrupted, (14,603 of 145,363), and 7% (19,003 of 276,029) of the region's total customer-hours interrupted. Overall, substation interruptions had a CAIDI of 1.3 hours, and a SAIFI of 0.1 interruptions.

The number of substation-related interruptions increased from 2 to 6 from 2023 to 2024 (an increase of 200%). The number of customers interrupted increased from 4,804 in 2023, to 14,603 in 2024 (an increase of 204%), while the customer-hours interrupted increased from 5,271 in 2023, to 19,003 in 2024 (an increase of 261%).

In 2024, excluding major storms, the Mohawk Valley Region experienced 1,250 distribution interruptions. These interruptions accounted for 99% of the region's total interruptions (1,250 of 1,265), 74% of the region's total customers interrupted, (107,183 of 145,363), and 74% (203,719 of 276,029) of the region's total customer-hours interrupted. Overall, distribution interruptions had a CAIDI of 1.9 hours, and a SAIFI of 0.76 interruptions.

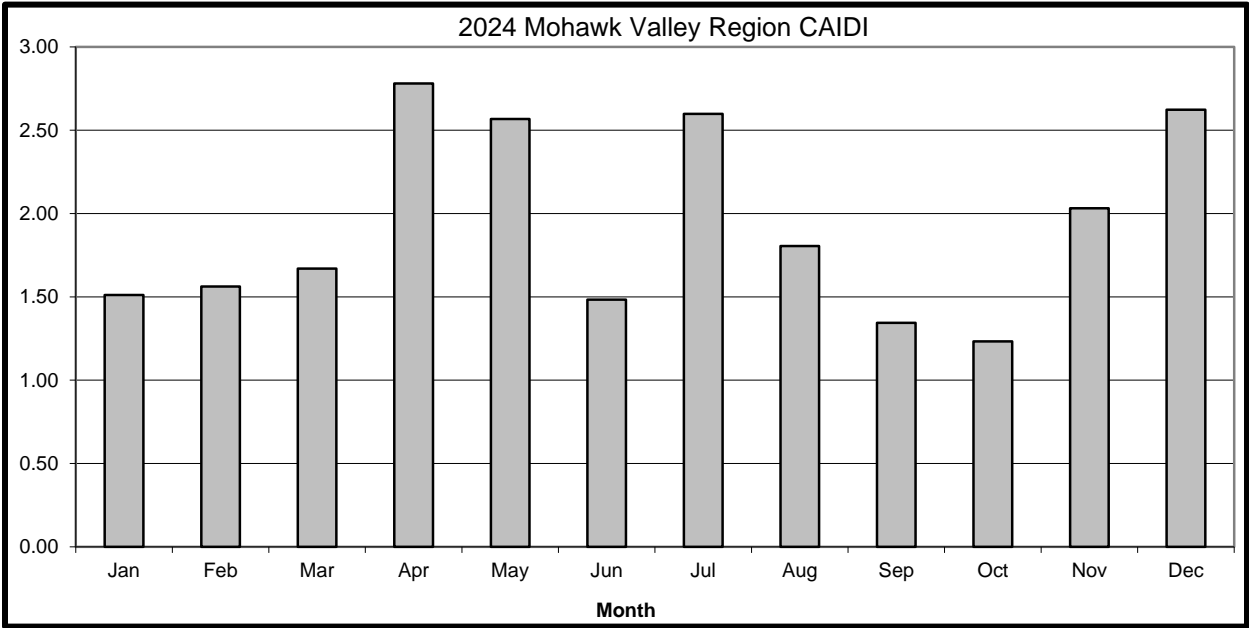
The number of distribution-related interruptions decreased from 1,295 to 1,250 from 2023 to 2024 (a decrease of 3%). The number of customers interrupted increased from 98,525 in 2023, to 107,183 in 2024 (an increase of 9%), while the customer-hours interrupted decreased from 218,361 in 2023, to 203,719 in 2024 (a decrease of 7%).

c. MONTHLY CAIDI AND SAIFI GRAPHS

The graphs on the following page show the monthly CAIDI and SAIFI for the Mohawk Valley Region for 2024 (Excluding Major Storms).

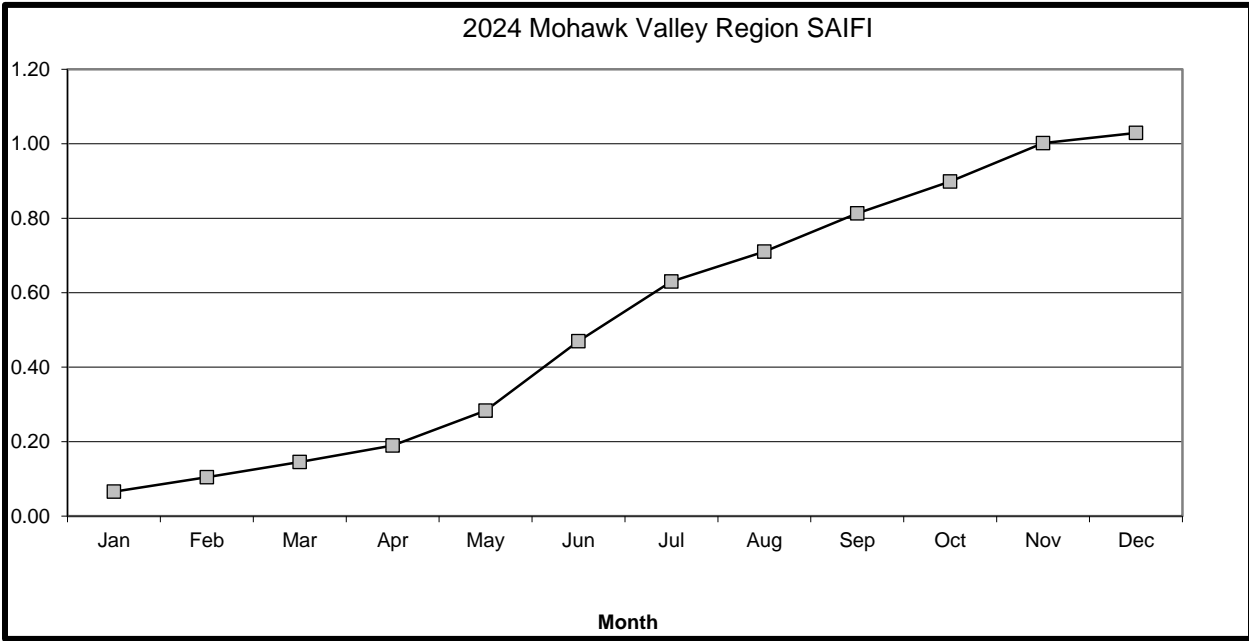
- The CAIDI graph shows the individual CAIDI by month for 2024. The Mohawk Valley Region was below the CAIDI threshold of 2.150 hours. April (2.78), May (2.57), July (2.60), December (2.62). April was impacted by a Sub-Transmission event. May was impacted by volume of events between May 21st through May 24th. July was impacted by a heat wave. December was impacted very few events, however, most events had longer durations.
- The SAIFI graph shows the cumulative SAIFI by month for 2024. The Mohawk Valley Region was under the SAIFI threshold of 1.483. June (0.19) and July (0.16). June's SAIFI was impacted by a 115kV breaker lockout. July was impacted by a heat wave.

GRAPH OF MONTHLY CAIDI AND SAIFI FOR MOHAWK VALLEY REGION



PSC CAIDI Goal:	
Threshold	2.150
2024 Actual	1.90

PSC SAIFI Goal:	
Threshold	1.483
2024 Actual	1.03



d. PSC CAUSE CODES

1) Number of Events by Cause – Historical

IDS info:

Cause Code	2024	2023	2022	2021	2020	2019
01 Major Storms	1,024	33	418	378	529	965
02 Tree Contacts	415	453	490	507	430	458
03 Overloads	27	4	16	16	6	26
04 Operator Error	5	3	8	9	5	4
05 Equipment	371	375	443	370	405	365
06 Accidents	189	206	247	202	158	201
07 Prearranged	54	57	53	48	62	37
08 Customer Equip.	-	-	-	-	-	-
09 Lightning	41	73	36	42	31	51
10 Unknown	163	136	166	187	186	189
Total	2,289	1,307	1,877	1,759	1,527	1,812

2) Customers Interrupted by Cause – Historical

IDS info:

Cause Code	2024	2023	2022	2021	2020	2019
01 Major Storms	150,553	4,247	54,610	54,789	52,904	136,049
02 Tree Contacts	40,380	43,804	49,992	61,727	79,647	45,181
03 Overloads	2,396	635	939	403	144	895
04 Operator Error	1,859	61	7,557	3,157	526	46
05 Equipment	49,868	58,919	104,771	58,880	62,802	77,836
06 Accidents	19,454	34,875	28,327	22,044	22,121	36,339
07 Prearranged	7,670	3,714	3,770	21,845	14,220	5,393
08 Customer Equip.	-	-	-	-	-	-
09 Lightning	6,304	1,550	2,719	5,269	1,691	3,573
10 Unknown	17,432	5,656	10,987	14,311	16,444	8,566
Total	295,916	149,214	263,672	242,425	212,827	250,499

3) Customer-Hours Interrupted by Cause – Historical

IDS info:

Cause Code	2024	2023	2022	2021	2020	2019
01 Major Storms	1,488,581	13,294	698,288	229,494	337,565	838,451
02 Tree Contacts	96,856	121,400	140,280	163,328	177,014	117,146
03 Overloads	10,778	466	1,600	1,534	471	2,021
04 Operator Error	430	47	968	3,820	702	31
05 Equipment	92,519	123,960	219,448	115,089	111,307	183,190
06 Accidents	34,074	39,159	51,266	33,260	48,395	73,199
07 Prearranged	8,409	8,294	7,449	13,783	11,821	4,133
08 Customer Equip.	-	-	-	-	-	-
09 Lightning	11,526	3,370	14,405	10,706	5,112	8,550
10 Unknown	21,438	12,246	23,943	21,775	26,717	18,255
Total	1,764,609	322,235	1,157,647	592,790	648,907	719,103

4) Interruptions, Customers Interrupted, and Customer-Hours Interrupted – 2024

Cause Code	Interruptions		Customers Interrupted		Customer-Hours Interrupted	
	Number	% Total	Number	% Total	Number	% Total
01 Major Storms	1,024	44.7%	150,553	50.9%	1,488,581	84.4%
02 Tree Contacts	415	18.1%	40,380	13.6%	96,856	5.5%
03 Overloads	27	1.2%	2,396	0.8%	10,778	0.6%
04 Operator Error	5	0.2%	1,859	0.6%	430	0.0%
05 Equipment	371	16.2%	49,868	16.9%	92,519	5.2%
06 Accidents	189	8.3%	19,454	6.6%	34,074	1.9%
07 Prearranged	54	2.4%	7,670	2.6%	8,409	0.5%
08 Customer Equip.	0	0.0%	0	0.0%	0	0.0%
09 Lightning	41	1.8%	6,304	2.1%	11,526	0.7%
10 Unknown	163	7.1%	17,432	5.9%	21,438	1.2%
Total	2,289	100.0%	295,916	100.0%	1,764,609	100.0%

e. INTERRUPTION REVIEW BY PSC CAUSE CODES

Cause Code 01 - Major Storms

In 2024, Major Storms accounted for 45% of interruptions, 51% of customers interrupted, and 84% of Customer-Hours Interrupted.

Interruptions due to Major Storm were up 3003% from 2023, and up 234% over the 5-year average. Customers interrupted due to Major Storms were up 3445% from 2023, and up 291% over the 5-year average. Customer-Hours interrupted were up 11097% from 2023 and up 400% over the 5-year average.

The remaining PSC code descriptions do not include Major Storms in the percentages.

Cause Code 02 - Tree Contacts

In 2024, Tree Contacts accounted for 33% of interruptions, 28% of customers interrupted, and 35% of Customer-Hours Interrupted.

Interruptions due to Tree Contacts were down 8% from 2023, and down 11% over the 5-year average. Customers interrupted due to Tree Contacts were down 8% from 2023, and down 33% over the 5-year average. Customer-Hours interrupted were down 20% from 2023 and down 39% over the 5-year average.

Tree Contacts were the largest cause of interruptions in 2024.

Cause Code 03 - Overloads

In 2024, Overloads accounted for 2% of interruptions, 2% of customers interrupted, and 4% of Customer-Hours Interrupted.

Interruptions due to Overloads were up 575% from 2023, and up 125% over the 5-year average. Customers interrupted due to Overloads were up 277% from 2023, and up 423% over the 5-year average. Customer-Hours interrupted were up 2214% from 2023 and up 1091% over the 5-year average.

Overloads were the 7th largest cause of interruptions in 2024.

Cause Code 04 - Operator Error

In 2024, Operator Error accounted for 0% of interruptions, 1% of customers interrupted, and 0% of Customer-Hours Interrupted.

Interruptions due to Operator Error were up 67% from 2023, and down 17% over the 5-year average. Customers interrupted due to Operator Error were up 2948% from 2023, and down 29% over the 5-year average. Customer-Hours interrupted were up 819% from 2023 and down 68% over the 5-year average.

Operator Error was the 8th largest cause of interruptions in 2024.

Cause Code 05 - Equipment Failure

In 2024, Equipment Failures accounted for 29% of interruptions, 34% of customers interrupted, and 34% of Customer-Hours Interrupted.

Interruptions due to Equipment Failure were down 1% from 2023, and down 6% over the 5-year average. Customers interrupted due to Equipment Failure were down 15% from 2023, and down 29% over the 5-year average. Customer-Hours interrupted were down 25% from 2023 and down 38% over the 5-year average.

Equipment Failures were the 2nd largest cause of interruptions in 2024.

Cause Code 06 - Accidents

In 2024, Accidents accounted for 15% of interruptions, 13% of customers interrupted, and 12% of Customer-Hours Interrupted.

Interruptions due to Accidents were down 8% from 2023, and down 10% over the 5-year average. Customers interrupted due to Accidents were down 44% from 2023, and down 29% over the 5-year average. Customer-Hours interrupted were down 13% from 2023 and down 20% over the 5-year average.

Accidents were the 3rd largest cause of interruptions in 2024.

Cause Code 07 - Prearranged

In 2024, Prearranged accounted for 4% of interruptions, 5% of customers interrupted, and 3% of Customer-Hours Interrupted.

Interruptions due to Prearranged were down 5% from 2023, and down 2% over the 5-year average. Customers interrupted due to Prearranged were up 107% from 2023, and down 21% over the 5-year average. Customer-Hours interrupted were up 1% from 2023 and down 8% over the 5-year average.

Prearranged was the 5th largest cause of interruptions in 2024.

Cause Code 08 - Customer Equipment

There were no Customer Equipment interruptions in 2024.

Cause Code 09 - Lightning

In 2024, Lightning accounted for 3% of interruptions, 4% of customers interrupted, and 4% of Customer-Hours Interrupted.

Interruptions due to Lightning were down 44% from 2023, and up 5% over the 5-year average. Customers interrupted due to Lightning were up 307% from 2023, and up 149% over the 5-year average. Customer-Hours interrupted were up 242% from 2023 and up 64% over the 5-year average.

Lightning was the 6th largest cause of interruptions in 2024.

Cause Code 10 - Unknown

In 2024, Unknown causes accounted for 13% of interruptions, 12% of customers interrupted, and 8% of Customer-Hours Interrupted.

Interruptions due to Unknown causes were up 20% from 2023, and down 6% over the 5-year average. Customers interrupted due to Unknown causes were up 208% from 2023, and up 35% over the 5-year average. Customer-Hours interrupted were up 75% from 2023 and down 0% over the 5-year average.

Unknown causes were the 4th largest cause of interruptions in 2024.

f. DISCUSSION OF REGIONAL CAPEX PROJECTS WITH 2023/24 SPENDS:

The Mohawk Valley Region continues to work on capital projects in order to maintain customer satisfaction and future reliability. Some specific projects that were constructed in either CY24 or will be constructed in CY25 are listed below. Additional descriptions of other major infrastructure projects will follow.

There are several projects where lines are being rebuilt or reconductored. These projects are either the result of engineering reliability reviews (ERRs) conducted on the Worst Performing Circuits or are the responses to customer inquiries via the Quick Resolution System (QRS). There are several sub-transmission line rebuild projects and a number of distribution line rebuild projects in progress.

There are additional load relief projects scheduled to be completed throughout the region. Most of these load relief projects are ratio transformer replacements or voltage conversions. Line reconductoring is also included in the voltage conversions, where appropriate.

There are also a number of substation projects that were completed, are underway or slated to begin in 2025. These projects are a combination of asset condition and load relief. These projects include Marshville, Rock City, Raquette Lake, Terminal, Deerfield and Yahnundasis substations. The Rock City rebuild includes a conversion from 5kV to 13.2kV.

Major Capital Projects for Mohawk Valley Region:

Region	Project Name	Project Type	Fin Sys Proj No.	Finish	Total Spend
Mohawk Valley	Teall - Oneida #5 Resiliency* - T-Line - C084541	Transmission Line	C084541	5/10/2024	\$4,573,000
Mohawk Valley	EH1 SEGMENT A SUBSTATIONS - PORTER RETIRE LN 30/LN31 - C084709	Transmission Sub	C084709	2/16/2024	\$32,464,000
Mohawk Valley	TEALL - ONEIDA #5 RESILIENCY SUB - C089388	Distribution Line	C089388	4/26/2024	\$1,186,000
Mohawk Valley	Eagle Bay 7th Lake Rd Cable Replace	Distribution Line	C082145	2/22/2024	\$2,750,000
Mohawk Valley	CUST-Singing Waters, AC-OF#23 Poles	Distribution Line	C094283	5/13/2024	\$1,080,052
Mohawk Valley	Failed duct bank_Genesee st. Utica	Sub-Transmission	C094275	7/15/2024	\$1,080,000

g. DISCUSSION OF REGIONAL PERFORMANCE OF LVAC (LOW VOLTAGE AC) NETWORK DISTRIBUTION SYSTEM(S):

City Of Utica – Terminal Street LVAC Network

The Utica LVAC Network serves the downtown area, mainly Genesee Street and Lafayette Street. This network is supplied by four 13.2kV feeders that originate from the Terminal Substation. This system serves approximately 662 customer accounts and experienced a peak load of approximately 6.298 MVA in 2023.

The table below lists the breaker operations in 2023 that were a result of a fault and/or failure.

Substation	Feeder Number	Breaker Number	Breaker Number	# Breaker Operations from Failures
Terminal	65144	R440	R815	0
Terminal	65145	R450	R825	0
Terminal	65146	R460	R825	0
Terminal	65147	R470	R845	0

As shown above the Utica LVAC Network experienced no feeder outages in 2023. There were no customer interruptions. At no time was this network operated beyond its single contingency (N-1) design criteria.

There were no major events associated with the network in 2023.

Annual maintenance consisted of manhole and vault inspections, network protector and transformer inspections and network protector operation checks.

Equipment maintenance consisted of manhole and vault rebuilds, network protector and transformer replacements.

There are two major projects being worked / planned:

- 1) Rebuild of general network vault N0329 - N0329 is a below-grade company-owned network transformer vault installed in the City of Utica in a public side walk on east-side of Genesee Street between Hopper Street & Bank Place. This vault is subject to pedestrian traffic as well as vehicular traffic and is presently in-service with an operating 750 KVA network transformer.

This project is scheduled to start in FY2025

- 1) Relocation of the Terminal station which four of the eleven feeders supply to LVAC network.

This project is currently being planned Estimate start is FY2026

2. OPERATING CIRCUIT LIST

The next three tables will provide the following information for the Mohawk Valley Region.

- a. Worst Performing Circuit List
- b. Worst Performing Circuits with 3 Year History for CAIDI and SAIFI Indices
- c. Worst Performing Circuits by number of Momentary Interruptions

a. NATIONAL GRID WORST PERFORMING CIRCUIT LIST

MOHAWK VALLEY REGION

FEEDER #	A CUST. SERVED	B TOTAL INTER.	C # CUST. INTER.	D CUST. HRS. INTER.	C/A SAIFI	D/A SAIDI	D/C CAIDI	NUMBER OF MOMENTARIES
POLAND - UTICA 62258	1,631	49	5,567	20,070	3.41	12.31	3.61	4
SHERMAN 33352	1,521	36	4,512	17,221	2.97	11.32	3.82	4
ALDER CREEK 70161	978	25	4,611	15,303	4.71	15.65	3.32	0
RAQUETTE LAKE 39861	521	19	2,155	13,456	4.14	25.83	6.24	7
EAGLE BAY 38272	1,082	28	2,774	10,415	2.56	9.63	3.75	5
POLAND - UTICA 62257	1,634	28	4,186	13,313	2.56	8.15	3.18	3
ROME 76254	1,023	20	3,400	4,792	3.32	4.68	1.41	1
WEST HERKIMER 67651	1,455	19	3,275	6,769	2.25	4.65	2.07	0
ONEIDA 50151	1,874	21	5,159	5,785	2.75	3.09	1.12	2
SCHUYLER 66354	2,367	16	6,506	8,283	2.75	3.50	1.27	3
ALDER CREEK 70152	1,152	27	1,993	5,081	1.73	4.41	2.55	1
CHADWICKS 66851	1,884	28	4,319	5,078	2.29	2.70	1.18	0

Regional Goals:
CAIDI 2.15
SAIFI 1.483

b. NATIONAL GRID WORST PERFORMING CIRCUITS WITH 3 YEAR HISTORY FOR CAIDI & SAIFI INDICES

MOHAWK VALLEY REGION

FEEDER #	2024 CAIDI	2023 CAIDI	2022 CAIDI	2021 CAIDI	2024 SAIFI	2023 SAIFI	2022 SAIFI	2021 SAIFI
POLAND - UTICA 62258	3.61	3.82	4.36	1.48	3.41	1.30	3.55	7.23
SHERMAN 33352	3.82	2.29	3.52	1.94	2.97	2.66	0.76	2.02
ALDER CREEK 70161	3.32	2.78	3.58	3.51	4.71	2.76	3.37	0.95
RAQUETTE LAKE 39861	6.24	3.64	5.86	3.73	4.14	9.99	10.61	6.05
EAGLE BAY 38272	3.75	2.53	4.51	4.24	2.56	6.34	6.68	3.43
POLAND - UTICA 62257	3.18	2.07	1.68	0.78	2.56	1.90	5.39	4.22
ROME 76254	1.41	0.97	0.99	0.70	3.32	1.76	1.85	1.35
WEST HERKIMER 67651	2.07	2.61	1.95	1.27	2.25	0.36	0.47	1.26
ONEIDA 50151	1.12	2.28	2.96	2.38	2.75	2.36	2.40	3.68
SCHUYLER 66354	1.27	3.08	1.70	1.87	2.75	0.13	1.01	1.05
ALDER CREEK 70152	2.55	2.31	3.23	2.06	1.73	3.01	3.48	2.38
CHADWICKS 66851	1.18	1.65	2.11	2.66	2.29	1.59	2.22	1.06

Regional Goals:

CAIDI 2.15

SAIFI 1.483

c. NATIONAL GRID WORST PERFORMING CIRCUITS BY # OF MOMENTARY INTERRUPTIONS

MOHAWK VALLEY REGION

Feeders			Customer Momentaries				Ranks		
Volts (kV)	Station Name	Ckt/F No.	Substation	Transmission	Distribution	Total	Within Region	Within System	Reliability Ranking
No circuits experienced 10 or more momentary interruptions in 2024.									

d. WORST PERFORMING CIRCUIT ANALYSIS

For 2024, the Mohawk Valley Region is required to analyze and report on 12 of the worst performing circuits. The list consists of nine 13.2kV and three 4.8kV circuits.

The reliability performance thresholds for the Mohawk Valley Region are 2.15 for CAIDI and 1.483 for SAIFI.

1. POLAND - UTICA 62258 – 13.2kV

Profile: 1,631 Customers, 136.0 Circuit Miles

Indices: CAIDI = 3.61, SAIFI = 3.41

CAUSE CODE PERFORMANCE TABLE

Code	Category	Interruptions		Customers Interrupted		Customer Hours	
		Number	% Total	Number	% Total	Number	% Total
2	TREE	27	55.10%	1,258	22.60%	4,479	22.32%
3	OVERLOADS	1	2.04%	229	4.11%	1,603	7.99%
4	OPER. ERROR	0	0.00%	0	0.00%	0	0.00%
5	EQUIPMENT	11	22.45%	3,761	67.56%	13,369	66.61%
6	ACCIDENTS	3	6.12%	118	2.12%	234	1.17%
7	PREARRANGED	1	2.04%	52	0.93%	56	0.28%
8	CUST. EQUIP.	0	0.00%	0	0.00%	0	0.00%
9	LIGHTNING	1	2.04%	6	0.11%	34	0.17%
10	UNKNOWN	5	10.20%	143	2.57%	295	1.47%
Totals		49	100.00%	5,567	100.00%	20,070	100.00%

Problem Analysis:

- There were 49 interruptions on the Poland - Utica 62258 in 2024.
- There was 1 transmission interruption.
 - This Transmission interruption occurred on July 22, 2024, coded as a cause of fire on company equipment (PSC cause code 05). This lockout accounted for 29% of the total customers interrupted (1,635 of 5,567), and 43% of the total customer-hours interrupted (8,584 of 20,071). Pole fire on pole 99, Trenton-Middleville 24 line.
- There were no substation interruptions.
- The remaining 48 events occurred at the distribution level.
- The distribution circuit breaker for the Poland - Utica 62258 experienced 4 momentary operations in 2024.
- The distribution circuit breaker for the Poland - Utica 62258 experienced 1 sustained operation (lockout) in 2024. This interruption accounted for 29% of the total amount of customers interrupted (1,634 out of 5,567) and 11% of the total amount of the customer-hours interrupted (2,206 out of 20,070).
 - This lockout occurred on July 23, 2024, coded as a cause of fire on company equipment (PSC cause code 05). This lockout accounted for 29% of the total customers interrupted (1,634 of 5,567), and 11% of the total customer-hours interrupted (2,206 of 20,071). Trenton-Middleville line 24, drop and pick due repair pole 99 fired from July 22, 2024.
- Trees were the leading cause of interruptions on the Poland - Utica 62258 in 2024, accounting for 55% of total interruptions (27 of 49). Equipment Failures were the 2nd leading cause of interruptions, accounting for 22% of total interruptions (11 of 49). Unknown were the 3rd leading cause of interruptions, accounting for 10% of total interruptions (5 of 49).

- Equipment Failures were the leading cause of customers interrupted (CI) on the Poland - Utica 62258 in 2024, accounting for 68% of total customers interrupted (3,761 of 5,567). Trees were the 2nd leading cause of customers interrupted, accounting for 23% of total customers interrupted (1,258 of 5,567). Overloads were the 3rd leading cause of customers interrupted, accounting for 4% of total customers interrupted (229 of 5,567).
- Equipment Failures were the leading cause of customer-hours interrupted (CHI) on the Poland - Utica 62258 in 2024, accounting for 67% of total customer-hours interrupted (13,369 of 20,070). Trees were the 2nd leading cause of customer-hours interrupted, accounting for 22% of total customer-hours interrupted (4,479 of 20,070). Overloads were the 3rd leading cause of customer-hours interrupted, accounting for 8% of total customer-hours interrupted (1,603 of 20,070).
- Of the 49 interruptions on this circuit, 34 affected 10 customers or less, with 15 being single customer outages.

Action Taken:

- Completed Level 3 I&M in 2023.
- Completed cycle tree pruning in 2023.

Action Plan:

- Complete Level 2 I&M in 2026.
- Complete cycle tree pruning in 2029.
- Complete I&M foot patrol scheduled in 2025.
- Forestry performed mid cycle hazard tree review out to first protective device in 2025.

2. SHERMAN 33352 – 13.2kV

Profile: 1,521 Customers, 88.0 Circuit Miles

Indices: CAIDI = 3.82, SAIFI = 2.97

CAUSE CODE PERFORMANCE TABLE

Code	Category	Interruptions		Customers Interrupted		Customer Hours	
		Number	% Total	Number	% Total	Number	% Total
2	TREE	22	61.11%	3,166	70.17%	14,792	85.90%
3	OVERLOADS	0	0.00%	0	0.00%	0	0.00%
4	OPER. ERROR	0	0.00%	0	0.00%	0	0.00%
5	EQUIPMENT	10	27.78%	1,320	29.26%	2,205	12.81%
6	ACCIDENTS	1	2.78%	1	0.02%	7	0.04%
7	PREARRANGED	0	0.00%	0	0.00%	0	0.00%
8	CUST. EQUIP.	0	0.00%	0	0.00%	0	0.00%
9	LIGHTNING	1	2.78%	2	0.04%	11	0.07%
10	UNKNOWN	2	5.56%	23	0.51%	205	1.19%
Totals		36	100.00%	4,512	100.00%	17,221	100.00%

Problem Analysis:

- There were 36 interruptions on the Sherman 33352 in 2024.
- There were no transmission interruptions.
- There were no substation interruptions.
- All 36 events occurred at the distribution level.
- The distribution circuit breaker for the Sherman 33352 experienced 4 momentary operations in 2024.
- The distribution circuit breaker for the Sherman 33352 experienced 1 sustained operation (lockout) in 2024. This interruption accounted for 34% of the total amount of customers interrupted (1,526 out of 4,512) and 35% of the total amount of the customer-hours interrupted (6,034 out of 17,221).
 - This lockout occurred on June 23, 2024, coded as a cause of tree fell (PSC cause code 02). This lockout accounted for 34% of the total customers interrupted (1,526 of 4,512), and 35% of the total customer-hours interrupted (6,034 of 17,221). Opened switch 7290 on Trento Falls Prospe Rd. to isolate section of feeder where a tree had fallen.
- Trees were the leading cause of interruptions on the Sherman 33352 in 2024, accounting for 61% of total interruptions (22 of 36). Equipment Failures were the 2nd leading cause of interruptions, accounting for 28% of total interruptions (10 of 36). Unknown were the 3rd leading cause of interruptions, accounting for 6% of total interruptions (2 of 36).
- Trees were the leading cause of customers interrupted (CI) on the Sherman 33352 in 2024, accounting for 70% of total customers interrupted (3,166 of 4,512). Equipment Failures were the 2nd leading cause of customers interrupted, accounting for 29% of total customers interrupted (1,320 of 4,512). Unknown were the 3rd leading cause of customers interrupted, accounting for 1% of total customers interrupted (23 of 4,512).

- Trees were the leading cause of customer-hours interrupted (CHI) on the Sherman 33352 in 2024, accounting for 86% of total customer-hours interrupted (14,792 of 17,221). Equipment Failures were the 2nd leading cause of customer-hours interrupted, accounting for 13% of total customer-hours interrupted (2,205 of 17,221). Unknown were the 3rd leading cause of customer-hours interrupted, accounting for 1% of total customer-hours interrupted (205 of 17,221).
- Of the 36 interruptions on this circuit, 31 affected 10 customers or less, with 14 being single customer outages.

Action Taken:

- Completed Level 3 I&M in 2023.

Action Plan:

- Complete cycle tree pruning in 2026.
- Complete I&M foot patrol scheduled in 2025.
- Complete Level 2 I&M in 2026.

3. ALDER CREEK 70161 – 4.8kV

Profile: 978 Customers, 53.0 Circuit Miles

Indices: CAIDI = 3.32, SAIFI = 4.71

CAUSE CODE PERFORMANCE TABLE

Code	Category	Interruptions		Customers Interrupted		Customer Hours	
		Number	% Total	Number	% Total	Number	% Total
2	TREE	12	48.00%	787	17.07%	2,964	19.37%
3	OVERLOADS	6	24.00%	1,842	39.95%	8,348	54.55%
4	OPER. ERROR	0	0.00%	0	0.00%	0	0.00%
5	EQUIPMENT	3	12.00%	957	20.75%	1,894	12.38%
6	ACCIDENTS	0	0.00%	0	0.00%	0	0.00%
7	PREARRANGED	0	0.00%	0	0.00%	0	0.00%
8	CUST. EQUIP.	0	0.00%	0	0.00%	0	0.00%
9	LIGHTNING	1	4.00%	1,018	22.08%	2,067	13.50%
10	UNKNOWN	3	12.00%	7	0.15%	31	0.20%
Totals		25	100.00%	4,611	100.00%	15,303	100.00%

Problem Analysis:

- There were 25 interruptions on the Alder Creek 70161 in 2024.
- There was 1 transmission interruption.
 - This Transmission interruption occurred on July 10, 2024, coded as a cause of lightning (PSC cause code 09). This lockout accounted for 22% of the total customers interrupted (1,018 of 4,611), and 14% of the total customer-hours interrupted (2,067 of 15,303). Lightning strike resulted in a trip reclose on the high side station breaker.
- There was 1 substation interruption.
 - This Substation interruption occurred on July 05, 2024, coded as a cause of feeder overload (PSC cause code 03). This lockout accounted for 22% of the total customers interrupted (1,019 of 4,611), and 36% of the total customer-hours interrupted (5,573 of 15,303). TB1 overload to due heat wave with high temperatures.
- The remaining 23 events occurred at the distribution level.
- The distribution circuit breaker for the Alder Creek 70161 experienced 0 momentary operations in 2024.
- The distribution circuit breaker for the Alder Creek 70161 experienced 0 sustained operations (lockouts) in 2024.
- Trees were the leading cause of interruptions on the Alder Creek 70161 in 2024, accounting for 48% of total interruptions (12 of 25). Overloads were the 2nd leading cause of interruptions, accounting for 24% of total interruptions (6 of 25). Equipment Failures were the 3rd leading cause of interruptions, accounting for 12% of total interruptions (3 of 25).

- Overloads were the leading cause of customers interrupted (CI) on the Alder Creek 70161 in 2024, accounting for 40% of total customers interrupted (1,842 of 4,611). Lightning were the 2nd leading cause of customers interrupted, accounting for 22% of total customers interrupted (1,018 of 4,611). Equipment Failures were the 3rd leading cause of customers interrupted, accounting for 21% of total customers interrupted (957 of 4,611).
- Overloads were the leading cause of customer-hours interrupted (CHI) on the Alder Creek 70161 in 2024, accounting for 55% of total customer-hours interrupted (8,348 of 15,303). Trees were the 2nd leading cause of customer-hours interrupted, accounting for 19% of total customer-hours interrupted (2,964 of 15,303). Lightning were the 3rd leading cause of customer-hours interrupted, accounting for 14% of total customer-hours interrupted (2,067 of 15,303).
- Of the 25 interruptions on this circuit, 12 affected 10 customers or less, with 9 being single customer outages.

Action Taken:

- Completed Level 3 I&M in 2022.
- Completed I&M foot patrol in 2024.

Action Plan:

- Complete I&M foot patrol scheduled in 2029.
- Complete cycle tree pruning in 2025.
- Completed Level 2 I&M in 2026.

4. RAQUETTE LAKE 39861 – 4.8kV

Profile: 521 Customers, 13.0 Circuit Miles

Indices: CAIDI = 6.24, SAIFI = 4.14

CAUSE CODE PERFORMANCE TABLE

Code	Category	Interruptions		Customers Interrupted		Customer Hours	
		Number	% Total	Number	% Total	Number	% Total
2	TREE	4	21.05%	1,168	54.20%	7,898	58.70%
3	OVERLOADS	0	0.00%	0	0.00%	0	0.00%
4	OPER. ERROR	0	0.00%	0	0.00%	0	0.00%
5	EQUIPMENT	13	68.42%	805	37.36%	4,048	30.08%
6	ACCIDENTS	0	0.00%	0	0.00%	0	0.00%
7	PREARRANGED	1	5.26%	181	8.40%	1,499	11.14%
8	CUST. EQUIP.	0	0.00%	0	0.00%	0	0.00%
9	LIGHTNING	0	0.00%	0	0.00%	0	0.00%
10	UNKNOWN	1	5.26%	1	0.05%	11	0.08%
Totals		19	100.00%	2,155	100.00%	13,456	100.00%

Problem Analysis:

- There were 19 interruptions on the Raquette Lake 39861 in 2024.
- There were 3 transmission interruptions.
 - The first Transmission interruption occurred on April 17, 2024, coded as a cause of device failed (PSC cause code 05). This lockout accounted for 23% of the total customers interrupted (504 of 2,155), and 14% of the total customer-hours interrupted (1,873 of 13,456). Broken insulator on structure TxP65, Old Forge-Raquette 22
 - The second Transmission interruption occurred on May 24, 2024, coded as a cause of tree fell (PSC cause code 02). This lockout accounted for 24% of the total customers interrupted (521 of 2,155), and 28% of the total customer-hours interrupted (3,719 of 13,456). Tree fell on structure 510, Old Forge Raquette Lake 22 Line resulted in a phase falling onto arm of structure.
 - The third Transmission interruption occurred on November 30, 2024, coded as a cause of tree fell (PSC cause code 02). This lockout accounted for 24% of the total customers interrupted (521 of 2,155), and 30% of the total customer-hours interrupted (4,046 of 13,456). Tree fell on wire downstream of Eagle Bay Recloser at TxP462, 22 line fault went back to breaker, Breaker trip and locked out due to Low SF6 gas, R225.
- There were no substation interruptions.
- The remaining 16 events occurred at the distribution level.
- The distribution circuit breaker for the Raquette Lake 39861 experienced 7 momentary operations in 2024.
- The distribution circuit breaker for the Raquette Lake 39861 experienced 0 sustained operations (lockouts) in 2024.

- Equipment Failures were the leading cause of interruptions on the Raquette Lake 39861 in 2024, accounting for 68% of total interruptions (13 of 19). Trees were the 2nd leading cause of interruptions, accounting for 21% of total interruptions (4 of 19). Prearranged were the 3rd leading cause of interruptions, accounting for 5% of total interruptions (1 of 19).
- Trees were the leading cause of customers interrupted (CI) on the Raquette Lake 39861 in 2024, accounting for 54% of total customers interrupted (1,168 of 2,155). Equipment Failures were the 2nd leading cause of customers interrupted, accounting for 37% of total customers interrupted (805 of 2,155). Prearranged were the 3rd leading cause of customers interrupted, accounting for 8% of total customers interrupted (181 of 2,155).
- Trees were the leading cause of customer-hours interrupted (CHI) on the Raquette Lake 39861 in 2024, accounting for 59% of total customer-hours interrupted (7,898 of 13,456). Equipment Failures were the 2nd leading cause of customer-hours interrupted, accounting for 30% of total customer-hours interrupted (4,048 of 13,456). Prearranged were the 3rd leading cause of customer-hours interrupted, accounting for 11% of total customer-hours interrupted (1,499 of 13,456).
- Of the 19 interruptions on this circuit, 16 affected 10 customers or less, with 9 being single customer outages.

Action Taken:

- Completed Level 3 I&M in 2023.
- Completed cycle tree pruning in 2024.

Action Plan:

- Complete I&M foot patrol scheduled in 2026.
- Complete I&M foot patrol scheduled in 2025.
- Complete Level 2 I&M in 2026.

5. EAGLE BAY 38272 – 4.8kV

Profile: 1,082 Customers, 48.1 Circuit Miles

Indices: CAIDI = 3.75, SAIFI = 2.56

CAUSE CODE PERFORMANCE TABLE

Code	Category	Interruptions		Customers Interrupted		Customer Hours	
		Number	% Total	Number	% Total	Number	% Total
2	TREE	20	71.43%	1,550	55.88%	5,276	50.66%
3	OVERLOADS	0	0.00%	0	0.00%	0	0.00%
4	OPER. ERROR	0	0.00%	0	0.00%	0	0.00%
5	EQUIPMENT	6	21.43%	1,203	43.37%	5,067	48.66%
6	ACCIDENTS	0	0.00%	0	0.00%	0	0.00%
7	PREARRANGED	0	0.00%	0	0.00%	0	0.00%
8	CUST. EQUIP.	0	0.00%	0	0.00%	0	0.00%
9	LIGHTNING	0	0.00%	0	0.00%	0	0.00%
10	UNKNOWN	2	7.14%	21	0.76%	71	0.68%
Totals		28	100.00%	2,774	100.00%	10,415	100.00%

Problem Analysis:

- There were 28 interruptions on the Eagle Bay 38272 in 2024.
- There were 2 transmission interruptions.
 - The first Transmission interruption occurred on April 17, 2024, coded as a cause of device failed (PSC cause code 05). This lockout accounted for 39% of the total customers interrupted (1,075 of 2,774), and 38% of the total customer-hours interrupted (3,995 of 10,415). Broken insulator on the system, breaker opened and locked out.
 - The second Transmission interruption occurred on November 30, 2024, coded as a cause of tree fell (PSC cause code 02). This lockout accounted for 39% of the total customers interrupted (1,081 of 2,774), and 28% of the total customer-hours interrupted (2,955 of 10,415). Tree fell on wire downstream of Eagle Bay Recloser at TxP462, 22 line fault went back to breaker, Breaker trip and locked out due to Low SF6 gas, R225.
- There were no substation interruptions.
- The remaining 26 events occurred at the distribution level.
- The distribution circuit breaker for the Eagle Bay 38272 experienced 5 momentary operations in 2024.
- The distribution circuit breaker for the Eagle Bay 38272 experienced 0 sustained operations (lockouts) in 2024.
- Trees were the leading cause of interruptions on the Eagle Bay 38272 in 2024, accounting for 71% of total interruptions (20 of 28). Equipment Failures were the 2nd leading cause of interruptions, accounting for 21% of total interruptions (6 of 28). Unknown were the 3rd leading cause of interruptions, accounting for 7% of total interruptions (2 of 28).

- Trees were the leading cause of customers interrupted (CI) on the Eagle Bay 38272 in 2024, accounting for 56% of total customers interrupted (1,550 of 2,774). Equipment Failures were the 2nd leading cause of customers interrupted, accounting for 43% of total customers interrupted (1,203 of 2,774). Unknown were the 3rd leading cause of customers interrupted, accounting for 1% of total customers interrupted (21 of 2,774).
- Trees were the leading cause of customer-hours interrupted (CHI) on the Eagle Bay 38272 in 2024, accounting for 51% of total customer-hours interrupted (5,276 of 10,415). Equipment Failures were the 2nd leading cause of customer-hours interrupted, accounting for 49% of total customer-hours interrupted (5,067 of 10,415). Unknown were the 3rd leading cause of customer-hours interrupted, accounting for 1% of total customer-hours interrupted (71 of 10,415).
- Of the 28 interruptions on this circuit, 17 affected 10 customers or less, with 10 being single customer outages.

Action Taken:

- Completed Level 2 I&M in 2023.

Action Plan:

- Complete Level 3 I&M in 2025.
- Complete cycle tree pruning in 2025.
- Complete I&M foot patrol scheduled in 2026.

6. POLAND - UTICA 62257 – 13.2kV

Profile: 1,634 Customers, 109 Circuit Miles

Indices: CAIDI = 3.18, SAIFI = 2.56

CAUSE CODE PERFORMANCE TABLE

Code	Category	Interruptions		Customers Interrupted		Customer Hours	
		Number	% Total	Number	% Total	Number	% Total
2	TREE	7	25.00%	234	5.59%	552	4.14%
3	OVERLOADS	0	0.00%	0	0.00%	0	0.00%
4	OPER. ERROR	0	0.00%	0	0.00%	0	0.00%
5	EQUIPMENT	7	25.00%	3,321	79.34%	11,297	84.85%
6	ACCIDENTS	5	17.86%	177	4.23%	621	4.66%
7	PREARRANGED	3	10.71%	372	8.89%	662	4.97%
8	CUST. EQUIP.	0	0.00%	0	0.00%	0	0.00%
9	LIGHTNING	0	0.00%	0	0.00%	0	0.00%
10	UNKNOWN	6	21.43%	82	1.96%	182	1.37%
Totals		28	100.00%	4,186	100.00%	13,313	100.00%

Problem Analysis:

- There were 28 interruptions on the Poland - Utica 62257 in 2024.
- There was 1 transmission interruption.
 - This Transmission interruption occurred on July 22, 2024, coded as a cause of fire on company equipment (PSC cause code 05). This lockout accounted for 39% of the total customers interrupted (1,637 of 4,186), and 66% of the total customer-hours interrupted (8,758 of 13,313). Pole fire on pole 99, Trenton-Middleville 24 line.
- There were no substation interruptions.
- The remaining 27 events occurred at the distribution level.
- The distribution circuit breaker for the Poland - Utica 62257 experienced 3 momentary operations in 2024.
- The distribution circuit breaker for the Poland - Utica 62257 experienced 1 sustained operation (lockout) in 2024. This interruption accounted for 32% of the total amount of customers interrupted (1,355 out of 4,186) and 14% of the total amount of the customer-hours interrupted (1,829 out of 13,313).
 - This lockout occurred on July 23, 2024, coded as a cause of fire on company equipment (PSC cause code 05). This lockout accounted for 32% of the total customers interrupted (1,355 of 4,186), and 14% of the total customer-hours interrupted (1,829 of 13,313). Trenton-Middleville line 24, drop and pick due repair pole 99 fired from July 22, 2024.
- Trees were the leading cause of interruptions on the Poland - Utica 62257 in 2024, accounting for 25% of total interruptions (7 of 28). Equipment Failures were the 2nd leading cause of interruptions, accounting for 25% of total interruptions (7 of 28). Unknown were the 3rd leading cause of interruptions, accounting for 21% of total interruptions (6 of 28).

- Equipment Failures were the leading cause of customers interrupted (CI) on the Poland - Utica 62257 in 2024, accounting for 79% of total customers interrupted (3,321 of 4,186). Prearranged were the 2nd leading cause of customers interrupted, accounting for 9% of total customers interrupted (372 of 4,186). Trees were the 3rd leading cause of customers interrupted, accounting for 6% of total customers interrupted (234 of 4,186).
- Equipment Failures were the leading cause of customer-hours interrupted (CHI) on the Poland - Utica 62257 in 2024, accounting for 85% of total customer-hours interrupted (11,297 of 13,313). Prearranged were the 2nd leading cause of customer-hours interrupted, accounting for 5% of total customer-hours interrupted (662 of 13,313). Accidents were the 3rd leading cause of customer-hours interrupted, accounting for 5% of total customer-hours interrupted (621 of 13,313).
- Of the 28 interruptions on this circuit, 43 affected 10 customers or less, with 25 being single customer outages.

Action Taken:

- Completed Level 3 I&M in 2024
- Completed I&M foot patrol in 2019.
- Completed cycle tree pruning in 2023.

Action Plan:

- Complete I&M foot patrol scheduled in 2025.
- Completed Level 2 I&M in 2026

7. ROME 76254 – 13.2 kV

Profile: 1,023 Customers, 26.0 Circuit Miles

Indices: CAIDI = 1.41, SAIFI = 3.32

CAUSE CODE PERFORMANCE TABLE

Code	Category	Interruptions		Customers Interrupted		Customer Hours	
		Number	% Total	Number	% Total	Number	% Total
2	TREE	6	30.00%	500	14.71%	703	14.68%
3	OVERLOADS	0	0.00%	0	0.00%	0	0.00%
4	OPER. ERROR	0	0.00%	0	0.00%	0	0.00%
5	EQUIPMENT	5	25.00%	1,141	33.56%	2,107	43.98%
6	ACCIDENTS	2	10.00%	16	0.47%	53	1.11%
7	PREARRANGED	5	25.00%	484	14.24%	148	3.08%
8	CUST. EQUIP.	0	0.00%	0	0.00%	0	0.00%
9	LIGHTNING	0	0.00%	0	0.00%	0	0.00%
10	UNKNOWN	2	10.00%	1,259	37.03%	1,780	37.15%
Totals		20	100.00%	3,400	100.00%	4,792	100.00%

Problem Analysis:

- There were 20 interruptions on the Rome 76254 in 2024.
- There were no transmission interruptions.
- There were 2 substation interruptions.
 - The first Substation interruption occurred on September 01, 2024, coded as a cause of unknown (PSC cause code 10). This lockout accounted for 30% of the total customers interrupted (1,022 of 3,400), and 29% of the total customer-hours interrupted (1,379 of 4,792). Recloser R66671 & Recloser R66672 did not operate, bus opened and locked out. No cause found for bus lock out.
 - The second Substation interruption occurred on October 09, 2024, coded as a cause of device failed (PSC cause code 05). This lockout accounted for 30% of the total customers interrupted (1,026 of 3,400), and 40% of the total customer-hours interrupted (1,917 of 4,792). South bus lockout at Rome, opened switch on P268 for a partial restore.
- The remaining 18 events occurred at the distribution level.
- The distribution circuit breaker for the Rome 76254 experienced 1 momentary operation in 2024.
- The distribution circuit breaker for the Rome 76254 experienced 0 sustained operations (lockouts) in 2024.
- Trees were the leading cause of interruptions on the Rome 76254 in 2024, accounting for 30% of total interruptions (6 of 20). Equipment Failures were the 2nd leading cause of interruptions, accounting for 25% of total interruptions (5 of 20). Prearranged were the 3rd leading cause of interruptions, accounting for 25% of total interruptions (5 of 20).

- Unknown were the leading cause of customers interrupted (CI) on the Rome 76254 in 2024, accounting for 37% of total customers interrupted (1,259 of 3,400). Equipment Failures were the 2nd leading cause of customers interrupted, accounting for 34% of total customers interrupted (1,141 of 3,400). Trees were the 3rd leading cause of customers interrupted, accounting for 15% of total customers interrupted (500 of 3,400).
- Equipment Failures were the leading cause of customer-hours interrupted (CHI) on the Rome 76254 in 2024, accounting for 44% of total customer-hours interrupted (2,107 of 4,792). Unknown were the 2nd leading cause of customer-hours interrupted, accounting for 37% of total customer-hours interrupted (1,780 of 4,792). Trees were the 3rd leading cause of customer-hours interrupted, accounting for 15% of total customer-hours interrupted (703 of 4,792).
- Of the 20 interruptions on this circuit, 9 affected 10 customers or less, with 2 being single customer outages.

Action Taken:

- Completed Level 3 I&M in 2023.

Action Plan:

- Complete cycle tree pruning in 2027.
- Complete I&M foot patrol scheduled in 2025.
- Completed Level 2 I&M in 2026.

8. WEST HERKIMER 67651 – 13.2 kV

Profile: 1,455 Customers, 64.0 Circuit Miles

Indices: CAIDI = 2.07, SAIFI = 2.25

CAUSE CODE PERFORMANCE TABLE

Code	Category	Interruptions		Customers Interrupted		Customer Hours	
		Number	% Total	Number	% Total	Number	% Total
2	TREE	7	36.84%	2,087	63.73%	4,332	64.00%
3	OVERLOADS	0	0.00%	0	0.00%	0	0.00%
4	OPER. ERROR	0	0.00%	0	0.00%	0	0.00%
5	EQUIPMENT	3	15.79%	4	0.12%	11	0.17%
6	ACCIDENTS	4	21.05%	326	9.95%	998	14.74%
7	PREARRANGED	0	0.00%	0	0.00%	0	0.00%
8	CUST. EQUIP.	0	0.00%	0	0.00%	0	0.00%
9	LIGHTNING	0	0.00%	0	0.00%	0	0.00%
10	UNKNOWN	5	26.32%	858	26.20%	1,427	21.09%
Totals		19	100.00%	3,275	100.00%	6,769	100.00%

Problem Analysis:

- There were 19 interruptions on the West Herkimer 67651 in 2024.
- There was 1 transmission interruption.
 - This Transmission interruption occurred on June 23, 2024, coded as a cause of tree fell (PSC cause code 02). This lockout accounted for 44% of the total customers interrupted (1,455 of 3,275), and 40% of the total customer-hours interrupted (2,692 of 6,769). A tree fell and broke P251 on Southside Rd.
- There were no substation interruptions.
- The remaining 18 events occurred at the distribution level.
- The distribution circuit breaker for the West Herkimer 67651 experienced 0 momentary operations in 2024.
- The distribution circuit breaker for the West Herkimer 67651 experienced 0 sustained operations (lockouts) in 2024.
- Trees were the leading cause of interruptions on the West Herkimer 67651 in 2024, accounting for 37% of total interruptions (7 of 19). Unknown were the 2nd leading cause of interruptions, accounting for 26% of total interruptions (5 of 19). Accidents were the 3rd leading cause of interruptions, accounting for 21% of total interruptions (4 of 19).
- Trees were the leading cause of customers interrupted (CI) on the West Herkimer 67651 in 2024, accounting for 64% of total customers interrupted (2,087 of 3,275). Unknown were the 2nd leading cause of customers interrupted, accounting for 26% of total customers interrupted (858 of 3,275). Accidents were the 3rd leading cause of customers interrupted, accounting for 10% of total customers interrupted (326 of 3,275).

- Trees were the leading cause of customer-hours interrupted (CHI) on the West Herkimer 67651 in 2024, accounting for 64% of total customer-hours interrupted (4,332 of 6,769). Unknown were the 2nd leading cause of customer-hours interrupted, accounting for 21% of total customer-hours interrupted (1,427 of 6,769). Accidents were the 3rd leading cause of customer-hours interrupted, accounting for 15% of total customer-hours interrupted (998 of 6,769).
- Of the 19 interruptions on this circuit, 12 affected 10 customers or less, with 6 being single customer outages.

Action Taken:

- Completed Level 3 I&M in 2024.
- Completed cycle tree pruning in 2023.

Action Plan:

- Complete cycle tree pruning in 2029.
- Complete I&M foot patrol scheduled in 2026.
- Completed Level 2 I&M in 2027.

9. ONEIDA 50151 – 13.2kV

Profile: 1,874 Customers, 99.0 Circuit Miles

Indices: CAIDI = 1.12, SAIFI = 2.75

CAUSE CODE PERFORMANCE TABLE

Code	Category	Interruptions		Customers Interrupted		Customer Hours	
		Number	% Total	Number	% Total	Number	% Total
2	TREE	5	23.81%	3,932	76.22%	3,309	57.20%
3	OVERLOADS	0	0.00%	0	0.00%	0	0.00%
4	OPER. ERROR	0	0.00%	0	0.00%	0	0.00%
5	EQUIPMENT	8	38.10%	127	2.46%	665	11.50%
6	ACCIDENTS	3	14.29%	189	3.66%	1,153	19.94%
7	PREARRANGED	0	0.00%	0	0.00%	0	0.00%
8	CUST. EQUIP.	0	0.00%	0	0.00%	0	0.00%
9	LIGHTNING	3	14.29%	899	17.43%	634	10.96%
10	UNKNOWN	2	9.52%	12	0.23%	24	0.41%
Totals		21	100.00%	5,159	100.00%	5,785	100.00%

Problem Analysis:

- There were 21 interruptions on the Oneida 50151 in 2024.
- There were no transmission interruptions.
- There were no substation interruptions.
- All 21 events occurred at the distribution level.
- The distribution circuit breaker for the Oneida 50151 experienced 2 momentary operations in 2024.
- The distribution circuit breaker for the Oneida 50151 experienced 2 sustained operations (lockouts) in 2024. These interruptions accounted for 73% of the total amount of customers interrupted (3,743 out of 5,159) and 46% of the total amount of the customer-hours interrupted (2,680 out of 5,785).
 - The first lockout occurred on January 26, 2024, coded as a cause of tree - broken limb (PSC cause code 02). This lockout accounted for 36% of the total customers interrupted (1,869 of 5,159), and 29% of the total customer-hours interrupted (1,660 of 5,785). A tree limb fell across all three phases at P13 Glenwood.
 - The second lockout occurred on October 14, 2024, coded as a cause of tree - broken limb (PSC cause code 02). This lockout accounted for 36% of the total customers interrupted (1,874 of 5,159), and 18% of the total customer-hours interrupted (1,020 of 5,785). Station breaker R510 opened and locked out. A limb fell across primary between P4 and P5 on Second St.

- Equipment Failures were the leading cause of interruptions on the Oneida 50151 in 2024, accounting for 38% of total interruptions (8 of 21). Trees were the 2nd leading cause of interruptions, accounting for 24% of total interruptions (5 of 21). Accidents were the 3rd leading cause of interruptions, accounting for 14% of total interruptions (3 of 21).
- Trees were the leading cause of customers interrupted (CI) on the Oneida 50151 in 2024, accounting for 76% of total customers interrupted (3,932 of 5,159). Lightning were the 2nd leading cause of customers interrupted, accounting for 17% of total customers interrupted (899 of 5,159). Accidents were the 3rd leading cause of customers interrupted, accounting for 4% of total customers interrupted (189 of 5,159).
- Trees were the leading cause of customer-hours interrupted (CHI) on the Oneida 50151 in 2024, accounting for 57% of total customer-hours interrupted (3,309 of 5,785). Accidents were the 2nd leading cause of customer-hours interrupted, accounting for 20% of total customer-hours interrupted (1,153 of 5,785). Equipment Failures were the 3rd leading cause of customer-hours interrupted, accounting for 11% of total customer-hours interrupted (665 of 5,785).
- Of the 21 interruptions on this circuit, 10 affected 10 customers or less, with 3 being single customer outages.

Action Taken:

- Completed Level 2 I&M in 2024.
- Completed I&M foot patrol in 2023.

Action Plan:

- Complete cycle tree pruning in 2028.
- Complete I&M foot patrol scheduled in 2028.

10. SCHUYLER 66354 – 13.2kV

Profile: 2,367 Customers, 38.0 Circuit Miles

Indices: CAIDI = 1.27, SAIFI = 2.75

CAUSE CODE PERFORMANCE TABLE

Code	Category	Interruptions		Customers Interrupted		Customer Hours	
		Number	% Total	Number	% Total	Number	% Total
2	TREE	3	18.75%	10	0.15%	21	0.25%
3	OVERLOADS	0	0.00%	0	0.00%	0	0.00%
4	OPER. ERROR	0	0.00%	0	0.00%	0	0.00%
5	EQUIPMENT	6	37.50%	6,171	94.85%	7,648	92.33%
6	ACCIDENTS	5	31.25%	204	3.14%	401	4.84%
7	PREARRANGED	0	0.00%	0	0.00%	0	0.00%
8	CUST. EQUIP.	0	0.00%	0	0.00%	0	0.00%
9	LIGHTNING	0	0.00%	0	0.00%	0	0.00%
10	UNKNOWN	2	12.50%	121	1.86%	213	2.58%
Totals		16	100.00%	6,506	100.00%	8,283	100.00%

Problem Analysis:

- There were 16 interruptions on the Schuyler 66354 in 2024.
- There were no transmission interruptions.
- There were no substation interruptions.
- All 16 events occurred at the distribution level.
- The distribution circuit breaker for the Schuyler 66354 experienced 3 momentary operations in 2024.
- The distribution circuit breaker for the Schuyler 66354 experienced 1 sustained operation (lockout) in 2024. This interruption accounted for 36% of the total amount of customers interrupted (2,370 out of 6,506) and 16% of the total amount of the customer-hours interrupted (1,340 out of 8,283).
 - This lockout occurred on November 07, 2024, coded as a cause of device failed (PSC cause code 05). This lockout accounted for 36% of the total customers interrupted (2,370 of 6,506), and 16% of the total customer-hours interrupted (1,340 of 8,283). OH primary conductor came down at P120 on Welsh Bush Rd due to a Device failure, causing breaker R540 to open and lock out, on over current.
- Equipment Failures were the leading cause of interruptions on the Schuyler 66354 in 2024, accounting for 38% of total interruptions (6 of 16). Accidents were the 2nd leading cause of interruptions, accounting for 31% of total interruptions (5 of 16). Trees were the 3rd leading cause of interruptions, accounting for 19% of total interruptions (3 of 16).
- Equipment Failures were the leading cause of customers interrupted (CI) on the Schuyler 66354 in 2024, accounting for 95% of total customers interrupted (6,171 of 6,506). Accidents were the 2nd leading cause of customers interrupted, accounting for 3% of total customers interrupted (204 of 6,506). Unknown were the 3rd leading cause of customers interrupted, accounting for 2% of total customers interrupted (121 of 6,506).

- Equipment Failures were the leading cause of customer-hours interrupted (CHI) on the Schuyler 66354 in 2024, accounting for 92% of total customer-hours interrupted (7,648 of 8,283). Accidents were the 2nd leading cause of customer-hours interrupted, accounting for 5% of total customer-hours interrupted (401 of 8,283). Unknown were the 3rd leading cause of customer-hours interrupted, accounting for 3% of total customer-hours interrupted (213 of 8,283).
- Of the 16 interruptions on this circuit, 9 affected 10 customers or less, with 4 being single customer outages.

Action Taken:

- Completed Level 2 I&M in 2024.
- Completed I&M foot patrol in 2023.

Action Plan:

- Complete Level 3 I&M in 2026.
- Complete cycle tree pruning in 2027.
- Complete I&M foot patrol scheduled in 2028.

11. ALDER CREEK 70152 – 13.2kV

Profile: 1,152 Customers, 88 Circuit Miles

Indices: CAIDI = 2.55, SAIFI = 1.73

CAUSE CODE PERFORMANCE TABLE

Code	Category	Interruptions		Customers Interrupted		Customer Hours	
		Number	% Total	Number	% Total	Number	% Total
2	TREE	20	74.07%	1,594	79.98%	3,924	77.22%
3	OVERLOADS	0	0.00%	0	0.00%	0	0.00%
4	OPER. ERROR	0	0.00%	0	0.00%	0	0.00%
5	EQUIPMENT	3	11.11%	148	7.43%	945	18.60%
6	ACCIDENTS	0	0.00%	0	0.00%	0	0.00%
7	PREARRANGED	2	7.41%	217	10.89%	120	2.35%
8	CUST. EQUIP.	0	0.00%	0	0.00%	0	0.00%
9	LIGHTNING	2	7.41%	34	1.71%	93	1.83%
10	UNKNOWN	0	0.00%	0	0.00%	0	0.00%
Totals		27	100.00%	1,993	100.00%	5,081	100.00%

Problem Analysis:

- There were 27 interruptions on the Alder Creek 70152 in 2024.
- There were no transmission interruptions.
- There were no substation interruptions.
- All 27 events occurred at the distribution level.
- The distribution circuit breaker for the Alder Creek 70152 experienced 1 momentary operation in 2024.
- The distribution circuit breaker for the Alder Creek 70152 experienced 0 sustained operations (lockouts) in 2024.
- Trees were the leading cause of interruptions on the Alder Creek 70152 in 2024, accounting for 74% of total interruptions (20 of 27). Equipment Failures were the 2nd leading cause of interruptions, accounting for 11% of total interruptions (3 of 27). Prearranged were the 3rd leading cause of interruptions, accounting for 7% of total interruptions (2 of 27).
- Trees were the leading cause of customers interrupted (CI) on the Alder Creek 70152 in 2024, accounting for 80% of total customers interrupted (1,594 of 1,993). Prearranged were the 2nd leading cause of customers interrupted, accounting for 11% of total customers interrupted (217 of 1,993). Equipment Failures were the 3rd leading cause of customers interrupted, accounting for 7% of total customers interrupted (148 of 1,993).
- Trees were the leading cause of customer-hours interrupted (CHI) on the Alder Creek 70152 in 2024, accounting for 77% of total customer-hours interrupted (3,924 of 5,081). Equipment Failures were the 2nd leading cause of customer-hours interrupted, accounting for 19% of total customer-hours interrupted (945 of 5,081). Prearranged were the 3rd leading cause of customer-hours interrupted, accounting for 2% of total customer-hours interrupted (120 of 5,081).

- Of the 27 interruptions on this circuit, 18 affected 10 customers or less, with 15 being single customer outages.

Action Taken:

- Completed I&M foot patrol in 2024.

Action Plan:

- Complete cycle tree pruning in 2025.
- Completed Level 2 I&M in 2025.
- Complete I&M foot patrol scheduled in 2029.

12. CHADWICKS 66851 – 13.2kV

Profile: 1,884 Customers, 91.0 Circuit Miles

Indices: CAIDI = 1.18, SAIFI = 2.29

CAUSE CODE PERFORMANCE TABLE

Code	Category	Interruptions		Customers Interrupted		Customer Hours	
		Number	% Total	Number	% Total	Number	% Total
2	TREE	6	21.43%	113	2.62%	519	10.22%
3	OVERLOADS	0	0.00%	0	0.00%	0	0.00%
4	OPER. ERROR	0	0.00%	0	0.00%	0	0.00%
5	EQUIPMENT	6	21.43%	334	7.73%	1,054	20.76%
6	ACCIDENTS	8	28.57%	1,827	42.30%	2,001	39.40%
7	PREARRANGED	0	0.00%	0	0.00%	0	0.00%
8	CUST. EQUIP.	0	0.00%	0	0.00%	0	0.00%
9	LIGHTNING	3	10.71%	61	1.41%	139	2.74%
10	UNKNOWN	5	17.86%	1,984	45.94%	1,365	26.89%
Totals		28	100.00%	4,319	100.00%	5,078	100.00%

Problem Analysis:

- There were 28 interruptions on the Chadwicks 66851 in 2024.
- There was 1 transmission interruption.
 - This Transmission interruption occurred on June 13, 2024, coded as a cause of unknown (PSC cause code 10). This lockout accounted for 44% of the total customers interrupted (1,882 of 4,319), and 24% of the total customer-hours interrupted (1,223 of 5,078). Transmission Event #442429, Yahnundasis R10 opened.
- There were no substation interruptions.
- The remaining 27 events occurred at the distribution level.
- The distribution circuit breaker for the Chadwicks 66851 experienced 0 momentary operations in 2024.
- The distribution circuit breaker for the Chadwicks 66851 experienced 0 sustained operations (lockouts) in 2024.
- Accidents were the leading cause of interruptions on the Chadwicks 66851 in 2024, accounting for 29% of total interruptions (8 of 28). Trees were the 2nd leading cause of interruptions, accounting for 21% of total interruptions (6 of 28). Equipment Failures were the 3rd leading cause of interruptions, accounting for 21% of total interruptions (6 of 28).
- Unknown were the leading cause of customers interrupted (CI) on the Chadwicks 66851 in 2024, accounting for 46% of total customers interrupted (1,984 of 4,319). Accidents were the 2nd leading cause of customers interrupted, accounting for 42% of total customers interrupted (1,827 of 4,319). Equipment Failures were the 3rd leading cause of customers interrupted, accounting for 8% of total customers interrupted (334 of 4,319).

- Accidents were the leading cause of customer-hours interrupted (CHI) on the Chadwicks 66851 in 2024, accounting for 39% of total customer-hours interrupted (2,001 of 5,078). Unknown were the 2nd leading cause of customer-hours interrupted, accounting for 27% of total customer-hours interrupted (1,365 of 5,078). Equipment Failures were the 3rd leading cause of customer-hours interrupted, accounting for 21% of total customer-hours interrupted (1,054 of 5,078).
- Of the 28 interruptions on this circuit, 13 affected 10 customers or less, with 8 being single customer outages.

Action Taken:

- Completed Level 3 I&M in 2023.

Action Plan:

- Complete I&M foot patrol scheduled in 2025.
- Complete cycle tree pruning in 2025.

3. ACTION PLAN SUMMARIES

a. SUMMARY OF ACTION PLANS FOR 2024 WORST PERFORMING CIRCUITS

Station	Feeder	Report Year	Action Plan	Estimated	Comments
				Completion Date	
POLAND	62258	2024	Complete Level 2 I&M in 2026	2026	
			Complete cycle tree pruning in 2029.	2029	
			Complete I&M foot patrol scheduled in 2025.	2025	
			Forestry performed mid cycle hazard tree review out to first protective device.	2025	
SHERMAN	33352	2024	Complete cycle tree pruning in 2026.	2026	
			Complete I&M foot patrol scheduled in 2025.	2025	
			Complete Level 2 I&M in 2026	2026	
ALDER CREEK	70161	2024	Complete I&M foot patrol scheduled in 2029.	2029	
			Complete cycle tree pruning in 2025.	2025	
			Completed Level 2 I&M in 2026.	2026	
RAQUETTE LAKE	39861	2024	Complete I&M foot patrol scheduled in 2026.	2026	
			Complete I&M foot patrol scheduled in 2025.	2025	
			Complete Level 2 I&M in 2026.	2026	
EAGLE BAY	38272	2024	Complete Level 3 I&M in 2025.	2025	
			Complete cycle tree pruning in 2025.	2025	
			Complete I&M foot patrol scheduled in 2026.	2026	
POLAND	62257	2024	Complete I&M foot patrol scheduled in 2025.	2025	
			Completed Level 2 I&M in 2026	2026	
ROME	76254	2024	Complete cycle tree pruning in 2027.	2027	
			Complete I&M foot patrol scheduled in 2025.	2025	
			Completed Level 2 I&M in 2026.	2026	
WEST HERKIMER	67651	2024	Complete cycle tree pruning in 2029.	2029	
			Complete I&M foot patrol scheduled in 2026.	2026	
			Completed Level 2 I&M in 2027.	2027	
ONEIDA	50151	2024	Complete cycle tree pruning in 2028.	2028	

			Complete I&M foot patrol scheduled in 2028.	2025	
SCHUYLER	63354	2024	Complete Level 3 I&M in 2026.	2026	
			Complete cycle tree pruning in 2027.	2027	
			Complete I&M foot patrol scheduled in 2028.	2028	
ALDER CREEK	70152	2024	Complete cycle tree pruning in 2025.	2025	
			Completed Level 2 I&M in 2025.	2025	
			Complete I&M foot patrol scheduled in 2029.	2029	
CHADWICKS	68851	2024	Complete I&M foot patrol scheduled in 2025.	2025	
			Complete cycle tree pruning in 2025.	2025	

b. STATUS OF ACTION PLANS FOR 2023 WORST PERFORMING CIRCUITS

Station	Feeder	Report Year	Action Plan	Estimated Completion Date	Comments
Eagle Bay	38272	2023	Complete Level 3 I&M in 2025.	2025	
			Complete cycle tree pruning in 2026.	2026	
			Complete I&M foot patrol scheduled in 2027.	2027	
Raquette Lake	39861	2023	Complete cycle tree pruning in 2029.	2029	
			Complete I&M foot patrol scheduled in 2025.	2025	
Salisbury	67857	2023	Complete I&M foot patrol scheduled in 2025.	2025	
			Complete cycle tree pruning in 2026.	2026	
Old Forge	38362	2023	Complete I&M foot patrol scheduled in 2026.	2026	
Eagle Bay	38271	2023	Complete Level 3 I&M in 2025.	2025	
			Complete cycle tree pruning in 2025.	2025	
			Complete I&M foot patrol scheduled in 2027.	2027	
Alder Creek	70152	2023	Complete I&M foot patrol scheduled in 2024.	2024	
			Complete cycle tree pruning in 2025.	2025	
Lehigh	66953	2023	Complete cycle tree pruning in 2029.	2029	
			Complete I&M foot patrol scheduled in 2024.	2024	
Sherman	33352	2023	Complete cycle tree pruning in 2026.	2026	
			Complete I&M foot patrol scheduled in 2025.	2025	
Alder Creek	70161	2023	Complete cycle tree pruning in 2028.	2028	
			Complete I&M foot patrol scheduled in 2025.	2025	
Oneida	50151	2023	Complete Level 3 I&M in 2026.	2026	
			Complete cycle tree pruning in 2025.	2025	
			Complete I&M foot patrol scheduled in 2028.	2028	
Old Forge	38361	2023	Complete cycle tree pruning in 2028.	2028	
			Complete I&M foot patrol scheduled in 2026.	2026	
Lehigh	66954	2023	Complete I&M foot patrol scheduled in 2024.	2024	
			Complete cycle tree pruning in 2026.	2026	
Old Forge	38364	2023	Complete cycle tree pruning in 2027.	2027	
			Complete I&M foot patrol scheduled in 2025.	2025	
Lehigh	66951	2023	Complete Level 3 I&M in 2025.	2025	

			Complete cycle tree pruning in 2027.	2027	
			Complete I&M foot patrol scheduled in 2027.	2027	
Rome	76258	2023	Complete I&M foot patrol scheduled in 2024.	2024	
			Complete cycle tree pruning in 2025.	2025	
White Lake	39963	2023	Complete Level 3 I&M in 2025.	2025	
			Complete cycle tree pruning in 2025.	2025	
			Complete I&M foot patrol scheduled in 2027.	2027	
Poland	62257	2023	Complete I&M foot patrol scheduled in 2026.	2026	
			Complete cycle tree pruning in 2025.	2025	
Poland	62258	2023	Complete I&M foot patrol scheduled in 2025.	2025	
			Complete cycle tree pruning in 2025.	2025	
Deerfield	60658	2023	Complete I&M foot patrol scheduled in 2026.	2026	
			Complete cycle tree pruning in 2025.	2025	
Stittville	67052	2023	Complete Level 3 I&M in 2025.	2025	
			Complete cycle tree pruning in 2025.	2025	

H. NORTHEAST REGION

1. OPERATING REGIONAL PERFORMANCE

a. HISTORIC CAIDI AND SAIFI INDICES

IDS info:

	2024	2023	2022	2021	2020	2019
CAIDI (Threshold 2.578)	2.61	2.57	2.43	2.40	2.29	2.72
SAIFI (Threshold 1.372)	1.21	1.36	1.31	1.34	1.39	1.26
SAIDI	3.16	3.49	3.17	3.21	3.19	3.43
Interruptions	2,739	2,622	2,607	2,842	2,872	2,329
Customers Interrupted	281,934	314,511	301,690	307,303	317,036	284,974
Customer-Hours Interrupted	737,063	806,843	733,541	737,313	727,392	776,275
Customers Served	232,973	231,363	231,070	229,747	228,239	226,518
Customers Per Interruption	102.93	119.95	115.72	108.13	110.39	122.36
Availability Index	99.9640	99.9602	99.9638	99.9634	99.9637	99.9609
Interruptions/1000 Customers	11.76	11.33	11.28	12.37	12.58	10.28

b. DISCUSSION OF REGIONAL PERFORMANCE

In 2024, the Northeast Region did not meet its CAIDI reliability target and met its SAIFI reliability target as set forth by the New York Public Service Commission (PSC). The final System Average Interruption Frequency Index (SAIFI) result was 1.21 interruptions, 12% below the PSC goal of 1.372 interruptions. As shown in the table above, the Customer Average Interruption Duration index (CAIDI) was 2.61 in 2024, 1% above the PSC's regional target of 2.578 hours.

The 2024 CAIDI result was 2% above the 2023 result of 2.57 hours, and 5% above the previous 5-year average of 2.48 hours. The 2024 SAIFI was 11% below the 2023 result of 1.36 interruptions, and 9% below the previous 5-year average of 1.33 interruptions.

In 2024, excluding major storms, the Northeast Region experienced 9 transmission interruptions. These interruptions accounted for 0.3% of the region's total interruptions (9 of 2,739), 7% of the region's total customers interrupted (CI), (20,573 of 281,934), and 8% (56,902 of 737,061) of the region's total customer-hours interrupted (CHI). Overall, transmission interruptions had a CAIDI of 2.77 hours, and a SAIFI of 0.09 interruptions.

The number of transmission-related interruptions decreased from 12 in 2023 to 9 in 2024 (a decrease of 25%). The number of customers interrupted decreased from 69,707 in 2023, to 20,573 in 2024 (a decrease of 70%), while the customer-hours interrupted decreased from 167,650 in 2023, to 56,902 in 2024 (a decrease of 66%).

In 2024, excluding major storms, the Northeast Region experienced 6 substation interruptions. These interruptions accounted for 0.2% of the region's total interruptions (6 of 2,739), 6% of the region's total customers interrupted, (17,087 of 281,934), and 4% (27,199 of 737,061) of the region's total customer-hours interrupted. Overall, substation interruptions had a CAIDI of 1.59 hours, and a SAIFI of 0.07 interruptions.

The number of substation-related interruptions increased from 2 to 6 from 2023 to 2024 (an increase of 200%). The number of customers interrupted increased from 5,912 in 2023, to 17,087 in 2024 (an increase of 189%), while the customer-hours interrupted increased from 10,851 in 2023, to 27,199 in 2024 (an increase of 151%).

In 2024, excluding major storms, the Northeast Region experienced 2,724 distribution interruptions. These interruptions accounted for 99% of the region's total interruptions (2,724 of 2,739), 87% of the region's total customers interrupted, (244,274 of 281,934), and 89% (652,960 of 737,061) of the region's total customer-hours interrupted. Overall, distribution interruptions had a CAIDI of 2.67 hours, and a SAIFI of 1.05 interruptions.

The number of distribution-related interruptions increased from 2,608 to 2,724 from 2023 to 2024 (an increase of 4%). The number of customers interrupted increased from 238,892 in 2023, to 244,274 in 2024 (an increase of 2%), while the customer-hours interrupted increased from 628,342 in 2023, to 652,960 in 2024 (an increase of 4%).

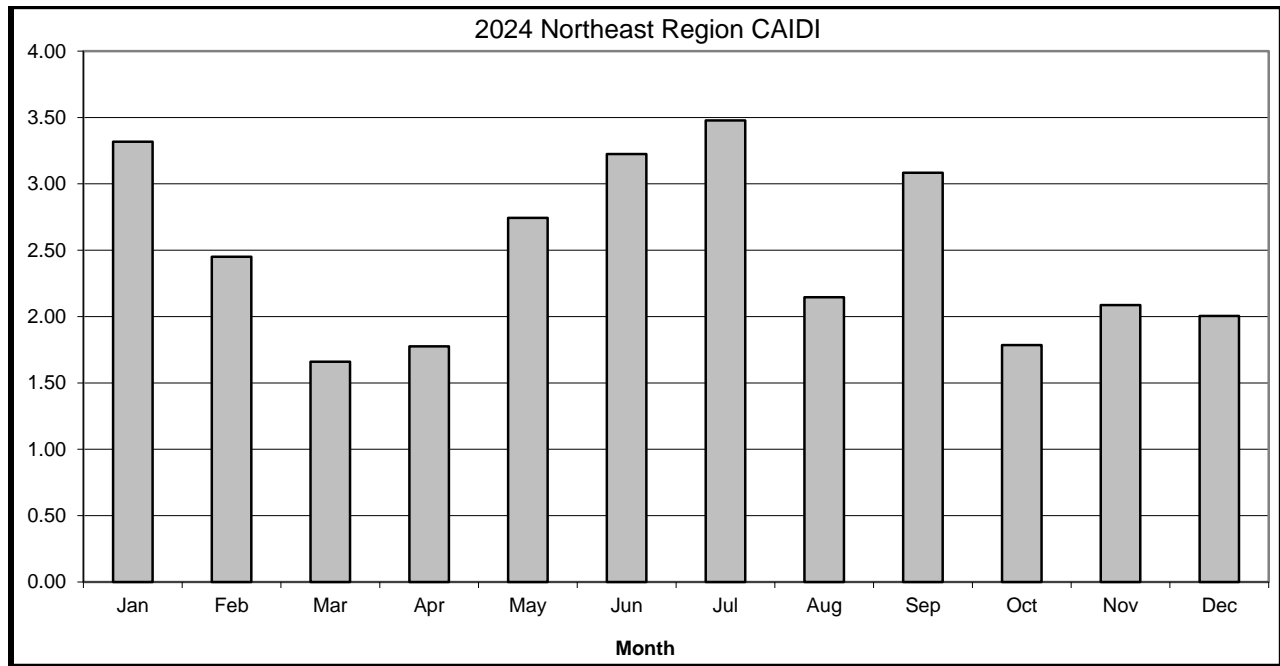
c. MONTHLY CAIDI AND SAIFI GRAPHS

The graphs on the following page show the monthly CAIDI and SAIFI for the Northeast Region for 2024 (Excluding Major Storms).

The CAIDI graph shows the individual CAIDI, by month, for the Northeast Region for 2024. The year-end CAIDI was above the CAIDI threshold of 2.578 hours, and the Northeast Region ended 2024 with a CAIDI of 2.61. The three best performing months were March (1.66), April (1.78), and October (1.78). CAIDI was above the threshold for five months in 2024; January (3.32), May (2.74), June (3.22), July (3.48), and September (3.08). The CAIDI for the Northeast was at 101% of the threshold for 2024.

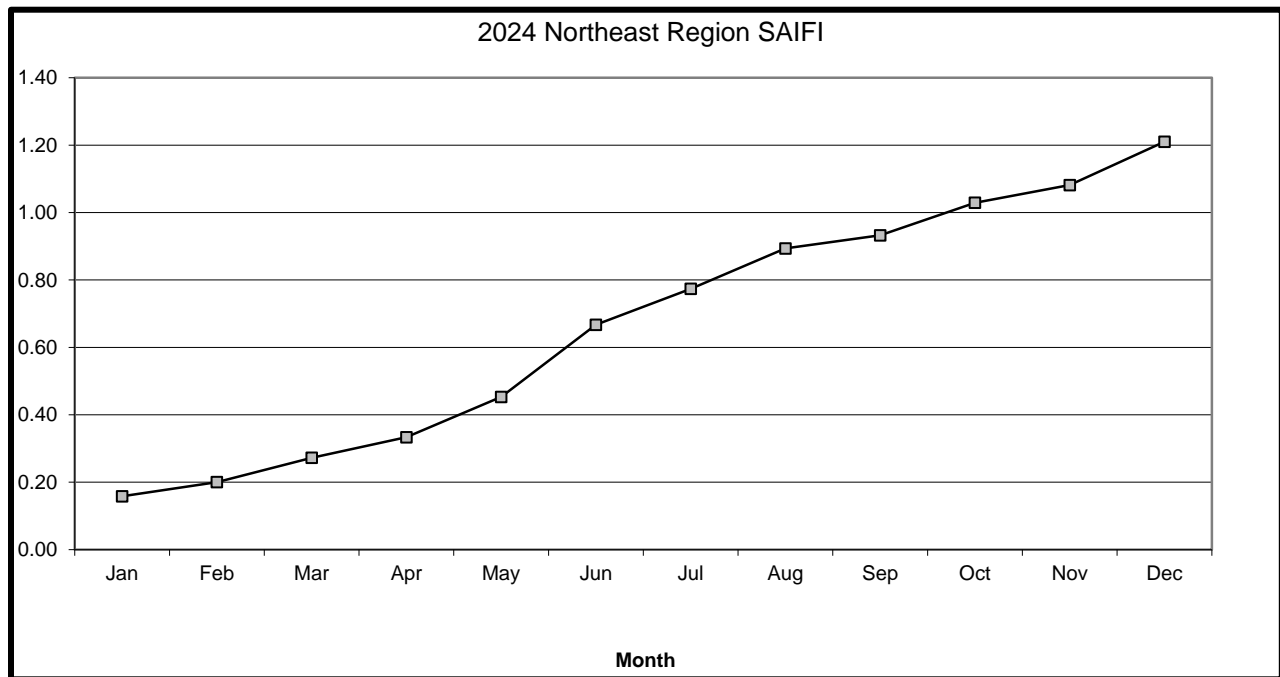
The SAIFI graph shows the cumulative SAIFI, by month, for the Northeast Region for 2024. The year-end SAIFI was below the SAIFI threshold of 1.372 for the year. The Northeast Region ended 2024 with a SAIFI of 1.210, approximately 12% below the threshold. The four greatest increases in 2024 occurred during the months of January (0.16), May (0.12), June (0.22), and August (0.12). These months accounted for 51% of the total SAIFI accrued. The lowest four months for SAIFI were February (0.04), April (0.06), September (0.04), and November (0.05). These months contributed to only 16% of the total SAIFI.

GRAPH OF MONTHLY CAIDI AND SAIFI FOR THE NORTHEAST REGION



PSC CAIDI Goal:	
Threshold	2.578
2024 Actual	2.61

PSC SAIFI Goal:	
Threshold	1.372
2024 Actual	1.21



d. PSC CAUSE CODES

1) Number of Events by Cause – Historical

IDS info:

Cause Code	2024	2023	2022	2021	2020	2019
01 Major Storms	2,737	963	1,879	515	1,810	1,650
02 Tree Contacts	1,160	1,049	960	1,246	1,028	927
03 Overloads	15	2	13	7	22	14
04 Oper. Error	5	3	10	5	6	7
05 Equipment	467	505	531	501	547	477
06 Accidents	432	359	428	372	437	303
07 Prearranged	79	57	81	76	60	68
08 Cust. Equip.	-	-	-	-	-	-
09 Lightning	77	63	42	73	44	55
10 Unknown	504	584	542	562	728	478
Total	5,476	3,585	4,486	3,357	4,682	3,979

2) Customers Interrupted by Cause – Historical

Cause Code	2024	2023	2022	2021	2020	2019
01 Major Storms	333,274	107,268	295,331	64,474	267,534	216,504
02 Tree Contacts	147,701	135,972	123,905	154,159	111,947	126,288
03 Overloads	1,248	6	3,327	1,363	3,463	413
04 Oper. Error	248	22,441	7,131	1,305	259	4,608
05 Equipment	49,445	62,375	79,771	68,122	98,147	69,852
06 Accidents	42,236	44,190	36,065	42,557	46,889	37,753
07 Prearranged	14,874	16,578	8,143	9,870	13,683	10,799
08 Cust. Equip.	-	-	-	-	-	-
09 Lightning	4,024	2,732	928	1,651	3,752	3,723
10 Unknown	22,158	30,217	42,420	28,276	38,886	31,538
Total	615,208	421,779	597,021	371,777	584,570	501,478

3) Customer-Hours Interrupted by Cause – Historical

Cause Code	2024	2023	2022	2021	2020	2019
01 Major Storms	3,643,504	776,831	2,460,171	328,427	3,238,855	2,002,382
02 Tree Contacts	468,997	418,852	346,208	434,652	334,255	405,495
03 Overloads	662	9	10,252	668	10,271	1,302
04 Oper. Error	233	7,746	10,110	2,150	210	7,357
05 Equipment	106,740	167,991	229,374	160,875	198,551	213,150
06 Accidents	102,878	90,451	79,527	77,779	94,607	72,733
07 Prearranged	9,199	68,050	9,371	9,748	11,108	11,589
08 Cust. Equip.	-	-	-	-	-	-
09 Lightning	10,813	5,313	2,922	3,873	8,901	6,563
10 Unknown	37,540	48,431	45,779	47,568	69,487	58,088
Total	4,380,565	1,583,673	3,193,713	1,065,740	3,966,246	2,778,657

4) Interruptions, Customers Interrupted and Customer-Hours Interrupted – 2024

Cause Code	Interruptions		Customers Interrupted		Customer Hours Interrupted	
	Number	% Total	Number	% Total	Number	% Total
01 Major Storms	2,737	50.0%	333,274	54.2%	3,643,504	83.2%
02 Tree Contacts	1,160	21.2%	147,701	24.0%	468,997	10.7%
03 Overloads	15	0.3%	1,248	0.2%	662	0.0%
04 Oper. Error	5	0.1%	248	0.0%	233	0.0%
05 Equipment	467	8.5%	49,445	8.0%	106,740	2.4%
06 Accidents	432	7.9%	42,236	6.9%	102,878	2.3%
07 Prearranged	79	1.4%	14,874	2.4%	9,199	0.2%
08 Cust. Equip.	0	0.0%	0	0.0%	0	0.0%
09 Lightning	77	1.4%	4,024	0.7%	10,813	0.2%
10 Unknown	504	9.2%	22,158	3.6%	37,540	0.9%
Total	5,476	100.0%	615,208	100.0%	4,380,565	100.0%

e. INTERRUPTION REVIEW BY PSC CAUSE CODES

Cause Code 01 - Major Storms

In 2024, Major Storms accounted for 50% of interruptions, 54% of customers interrupted, and 83% of Customer-Hours Interrupted.

Interruptions due to Major Storm were up 184% from 2023, and up 101% over the 5-year average. Customers interrupted due to Major Storms were up 211% from 2023, and up 75% over the 5-year average. Customer-Hours interrupted were up 369% from 2023 and up 107% over the 5-year average.

The remaining PSC code descriptions do not include Major Storms in the percentages.

Cause Code 02 - Tree Contacts

In 2024, Tree Contacts accounted for 42% of interruptions, 52% of customers interrupted, and 64% of Customer-Hours Interrupted.

Interruptions due to Tree Contacts were up 11% from 2023, and up 11% over the 5-year average. Customers interrupted due to Tree Contacts were up 9% from 2023, and up 13% over the 5-year average. Customer-Hours interrupted were up 12% from 2023 and up 21% over the 5-year average.

Tree Contacts were the largest cause of interruptions in 2024.

Cause Code 03 - Overloads

In 2024, Overloads accounted for 1% of interruptions, 0% of customers interrupted, and 0% of Customer-Hours Interrupted.

Interruptions due to Overloads were up 650% from 2023, and up 25% over the 5-year average. Customers interrupted due to Overloads were up 20700% from 2023, and down 27% over the 5-year average. Customer-Hours interrupted were up 7171% from 2023 and down 85% over the 5-year average.

Overloads were the 7th largest cause of interruptions in 2024.

Cause Code 04 - Operator Error

In 2024, Operator Error accounted for 0% of interruptions, 0% of customers interrupted, and 0% of Customer-Hours Interrupted.

Interruptions due to Operator Error were up 67% from 2023, and down 17% over the 5-year average. Customers interrupted due to Operator Error were down 99% from 2023, and down 97% over the 5-year average. Customer-Hours interrupted were down 97% from 2023 and down 96% over the 5-year average.

Operator Error was the 8th largest cause of interruptions in 2024.

Cause Code 05 - Equipment Failure

In 2024, Equipment Failures accounted for 17% of interruptions, 18% of customers interrupted, and 14% of Customer-Hours Interrupted.

Interruptions due to Equipment Failure were down 8% from 2023, and down 9% over the 5-year average. Customers interrupted due to Equipment Failure were down 21% from 2023, and down 35% over the 5-year average. Customer-Hours interrupted were down 36% from 2023 and down 45% over the 5-year average.

Equipment Failures were the 3rd largest cause of interruptions in 2024.

Cause Code 06 - Accidents

In 2024, Accidents accounted for 16% of interruptions, 15% of customers interrupted, and 14% of Customer-Hours Interrupted.

Interruptions due to Accidents were up 20% from 2023, and up 14% over the 5-year average. Customers interrupted due to Accidents were down 4% from 2023, and up 2% over the 5-year average. Customer-Hours interrupted were up 14% from 2023 and up 24% over the 5-year average.

Accidents were the 4th largest cause of interruptions in 2024.

Cause Code 07 - Prearranged

In 2024, Prearranged accounted for 3% of interruptions, 5% of customers interrupted, and 1% of Customer-Hours Interrupted.

Interruptions due to Prearranged were up 39% from 2023, and up 16% over the 5-year average. Customers interrupted due to Prearranged were down 10% from 2023, and up 26% over the 5-year average. Customer-Hours interrupted were down 86% from 2023 and down 58% over the 5-year average.

Prearranged was the 5th largest cause of interruptions in 2024.

Cause Code 08 - Customer Equipment

There were no Customer Equipment interruptions in 2024.

Cause Code 09 - Lightning

In 2024, Lightning accounted for 3% of interruptions, 1% of customers interrupted, and 1% of Customer-Hours Interrupted.

Interruptions due to Lightning were up 22% from 2023, and up 40% over the 5-year average. Customers interrupted due to Lightning were up 47% from 2023, and up 57% over the 5-year average. Customer-Hours interrupted were up 104% from 2023 and up 96% over the 5-year average.

Lightning was the 6th largest cause of interruptions in 2024.

Cause Code 10 - Unknown

In 2024, Unknown causes accounted for 18% of interruptions, 8% of customers interrupted, and 5% of Customer-Hours Interrupted.

Interruptions due to Unknown causes were down 14% from 2023, and down 13% over the 5-year average. Customers interrupted due to Unknown causes were down 27% from 2023, and down 35% over the 5-year average. Customer-Hours interrupted were down 22% from 2023 and down 30% over the 5-year average.

Unknown causes were the 2nd largest cause of interruptions in 2024.

f. **DISCUSSION OF REGIONAL CAPEX PROJECTS WITH 2024/25 SPENDS**

The Company continues to work on capital projects in the Northeast Region to maintain customer satisfaction and future reliability. Engineering works with Operations to address localized concerns raised through PSC complaints and other customer inquiries in the Northeast Region. These solutions were varied and included fusing, adding tree wire, small rebuilds, adding animal guards and tree trimming.

Some of the specific projects that were either constructed in CY2024 or are scheduled to be designed and/or constructed in CY2025 are listed below.

Construct New Mohican Distribution Substation

A multi-year project to rebuild the existing Mohican substation, which is currently a transmission only substation in the Town of Moreau in the northeast corner of Saratoga County, began in 2021 and the substation once completed in 2026 will also serve distribution load in South Glens Falls, Glens Falls and Fort Edward. The Mohican substation will have a 40 MVA, 115/13.2 kV transformer with four new distribution feeders. The new distribution work associated with the Mohican substation, which includes adding a new distribution feeder in the Ogden Brook substation, will allow for the retirement of the Farnan Road, Henry Street, Hudson Falls and McCrea Street substations.

The addition of a new feeder in the Ogden Brook substation was completed in 2022, after which work began on the rebuild and conversion of the 4.16 kV Henry Street feeders and their transfer to Ogden Brook. To date three of the six Henry Street feeders have been retired and transferred to Ogden Brook. In addition, work has already begun on the construction of the new Mohican distribution feeders in an attempt to have the majority of the distribution construction completed prior to the energization of the substation so that the substations being retired can be retired soon after the Mohican substation is complete.

St. Johnsville Feeder Tie Construction

The St. Johnsville substation has two 13.2 kV distribution feeders and currently has only one very limited feeder tie to the nearby Clinton substation which does not allow for the transfer of much load between the two substations. Design work began in 2022 to construct new feeder ties for each of the two St. Johnsville distribution feeders which will allow the feeders to be backed-up in their entirety from the adjacent Inghams and Salisbury substations. Each of these new feeder ties will be at least 5 miles in length and are scheduled to be in service by the end of 2025.

Cobleskill 4.8 to 13.2 kV Conversion

A multi-year project to convert the distribution in Cobleskill from 4.8 kV to 13.2 kV was begun in 2019 when one of the two 4.8 kV distribution transformers in the Cobleskill substation failed. A new 13.2 kV distribution transformer was installed to replace the failed 4.8 kV bank; however, a high side circuit switcher must be procured to allow the bank to become energized. The distribution in Cobleskill will be systematically converted to 13.2 kV to allow for the load to be tied off during conversion. The conversion of the Cobleskill feeder 21413 is in design, and will be followed by the 21412, and finally the 21411. The order of these feeders being converted allows for the reuse of some existing feeder breakers, minimizing the requirement for new 15 kV breakers. This project will also create 13.2 kV feeder ties between the Grand Street 43351 and Cobleskill feeders which could be automated in the future.

Hague Road – Construct Fourth Feeder

A capital improvement project is planned to utilize the existing R540 breaker position at Hague Road substation to install a fourth 13.2 kV feeder out of the station, the 41854. The new feeder will be double circuit with the Hague Road 41853 for 1,600 feet along State Highway 9N and then proceed down Alexandria Avenue, supplying much of downtown Ticonderoga. The Hague Road 41854 will absorb parts of the 41852 and 41853 circuits – approximately 12% of the Hague Road 41852 (25% of load & 42% of customers) and 26% of the Hague Road 41853 (36% of load & 41% of customers). This will increase reliability by transferring a large number of customers off of the 41853 and 41852, the first and twelfth worst performing feeders in 2023. The project is planned for design in FY2026, with construction in FY2027.

Port Henry 4.8 kV to 13.2 kV Conversion

A multi-year set of distribution projects are proposed which will convert the remaining 4.16 kV distribution in the Village of Port Henry to 13.2 kV. The first project will convert most of the Village of Port Henry fed from the Port Henry 38551, removing the ratio transformer on Tunnel Avenue and rebuilding the 3-phase mainline to 336.4 MCM AL conductor, installing another ratio just south of Elizabeth Street along Main Street. A second project will convert a section of Plank Road/Broad Street on the Port Henry 38552 from the intersection with Forge Hollow Road bringing 13.2 kV to more of the village and restore use of the primary 3-phase tie between the two circuits, located near the intersection of Broad Street and Spring Street.

Schroon Lake Miller Road Mainline Relocation

A capital improvement project is planned to relocate approximately 6,000 feet of the existing 3-phase, 13.2 kV mainline of the Schroon Lake 42951 from Miller Road onto US Highway 9 in Schroon Lake. The existing mainline along Miller Road is located between the road and the Schroon River, and there have been issues with the road flooding and damaging the pole line, most recently in 2023. By

relocating the mainline, flooding on Miller Road no longer causes a major outage of the feeder, and restoration times for any mainline outages in this section will be reduced, as there will no longer be a need to wait for the flooding to subside before making repairs. This project is designed, and is currently scheduled for construction in FY2026.

Northeast Region Capital Projects in Excess of \$1M Completed in 2024:

Region	Project Name	Project Type	Fin Sys Proj No.	Finish Date	Total Spend
Northeast	(Glover & Sodeman) First Light Telecom D East Dark Fiber - Sodeman	D Line	C091326	8/1/2024	1,800,000
Northeast	(Glover & Sodeman) First Light Telecom D East Dark Fiber - Gloversville Svc Ctr	D Line	C091326	8/9/2024	1,800,000
Northeast	Amsterdam-Rotterdam 69kV	T Line	C081471	2/20/2024	14,173,000
Northeast	Vail Mills 53 - Union Mills Road	D Line	C019352	5/10/2024	1,030,000
Northeast	Riparius - Rebuild State Hwy 8	D Line	C081449	1/5/2024	1,090,618
Northeast	Birch Ave 52 - Big Hollow Road Refurb	D Line	C086986	7/17/2024	3,483,000
Northeast	Weibel 55 Hwy 32 Rebuild - Part 2	D Line	C087169	1/26/2024	1,159,181
Northeast	Saratoga City Hall Line Relocation	D Line	C088182	5/10/2024	1,746,154
Northeast	Whitehall 52 - Riverside Drive Ratio	D Line	C089635	9/27/2024	2,366,594
Northeast	FLISR Church St 53 - Maple Ave 54	D Line	C080089	5/20/2024	4,806,000

g. DISCUSSION OF REGIONAL PERFORMANCE OF LVAC NETWORK DISTRIBUTION SYSTEM(S)

Glens Falls LVAC Network

The Glens Falls Secondary Network serves the area of Glen Street between Mohican and Glen Streets. This network is supplied by 4 – 4.160 KV feeders from the Glens Falls and Henry Street Substations. This system serves approximately 290 customer accounts and experienced an estimated / simulated peak load of approximately 2.0 MVA in 2024.

The table below lists each distribution circuit serving the Glens Falls Secondary Network with the number of events that caused an operation of the Substation Breaker.

Substation	Feeder	# Breaker Operations from Faults / Failures
Glens Falls	07505	0
Glens Falls	07507	0
Henry Street	31638	0
Henry Street	31639	0

As shown above the Glens Falls Secondary Network experienced no unplanned distribution circuit outages in 2024.

Annual maintenance consisted of manhole and vault inspections, network protector and transformer inspections, and network protector operation checks.

2. OPERATING CIRCUIT LISTS

This section includes the following three tables and worst performing feeder analysis for the Northeast Region.

- a. Worst Performing Circuit List
- b. Worst Performing Circuits with 3 Year History for CAIDI & SAIFI Indices
- c. Worst Performing Circuits by # of Momentary Interruptions

a. NATIONAL GRID WORST PERFORMING CIRCUIT LIST

NORTHEAST REGION

FEEDER #	A CUST. SERVED	B TOTAL INTER.	C # CUST. INTER.	D CUST. HRS. INTER.	C/A SAIFI	D/A SAIDI	D/C CAIDI	NUMBER OF MOMENTARIES
BATTENKILL 34257	1,641	61	8,058	25,157	4.91	15.33	3.12	3
BURGOYNE 33751	1,848	55	8,803	29,103	4.76	15.75	3.31	0
INGHAMS 02051	1,187	40	6,085	29,028	5.13	24.45	4.77	0
UNION STREET 37653	1,448	35	7,068	16,494	4.88	11.39	2.33	2
BOLTON 28451	1,541	31	5,788	28,069	3.76	18.22	4.85	3
SCHOHARIE 23452	1,673	33	5,273	23,628	3.15	14.12	4.48	0
UNION STREET 37654	581	23	3,450	24,303	5.94	41.83	7.04	0
HAGUE ROAD 41853	2,243	32	9,097	21,474	4.06	9.57	2.36	0
NORTH CREEK 12251	1,988	72	4,879	10,439	2.45	5.25	2.14	0
UNION STREET 37652	950	19	3,776	9,187	3.97	9.67	2.43	0
CLINTON 36653	2,144	25	4,840	16,852	2.26	7.86	3.48	0
MIDDLEBURG 39051	1,300	42	2,854	7,987	2.20	6.14	2.80	0
GRAND STREET 43351	1,905	21	4,337	17,053	2.28	8.95	3.93	1
SCHROON LAKE 42951	2,426	56	7,082	9,592	2.92	3.95	1.35	0
EAST SPRINGFIELD 47751	1,027	18	3,682	8,286	3.59	8.07	2.25	1
VAIL MILLS 39252	2,817	38	4,587	21,638	1.63	7.68	4.72	1
BURGOYNE 33752	2,173	42	5,085	8,628	2.34	3.97	1.70	0
BURGOYNE 33754	1,949	24	4,919	9,264	2.52	4.75	1.88	0
BOLTON 28452	1,068	22	1,851	17,765	1.73	16.63	9.60	3
CEDAR 45351	1,713	24	4,260	8,483	2.49	4.95	1.99	1

Regional Goals:

CAIDI 2.578

SAIFI 1.372

b. NATIONAL GRID WORST PERFORMING CIRCUITS WITH 3 YEAR HISTORY FOR CAIDI AND SAIFI INDICES

NORTHEAST REGION

FEEDER #	2024 CAIDI	2023 CAIDI	2022 CAIDI	2021 CAIDI	2024 SAIFI	2023 SAIFI	2022 SAIFI	2021 SAIFI
BATTENKILL 34257	3.12	2.44	2.55	2.79	4.91	0.76	3.39	2.53
BURGOYNE 33751	3.31	2.08	1.81	2.73	4.76	2.52	2.81	0.62
INGHAMS 02051	4.77	4.33	2.12	3.88	5.13	1.31	1.07	2.34
UNION STREET 37653	2.33	3.56	2.23	3.70	4.88	2.35	2.80	0.47
BOLTON 28451	4.85	5.08	1.17	2.52	3.76	2.13	1.15	1.32
SCHOHARIE 23452	4.48	1.91	1.89	2.24	3.15	2.31	0.95	1.77
UNION STREET 37654	7.04	3.57	3.72	2.88	5.94	4.87	0.76	2.93
HAGUE ROAD 41853	2.36	2.23	1.73	3.72	4.06	8.42	4.92	4.91
NORTH CREEK 12251	2.14	3.42	3.82	4.13	2.45	1.73	0.73	2.14
UNION STREET 37652	2.43	4.67	1.08	4.07	3.97	1.33	2.03	1.44
CLINTON 36653	3.48	2.74	2.20	1.98	2.26	0.78	1.44	1.95
MIDDLEBURG 39051	2.80	1.25	2.71	3.50	2.20	3.52	0.41	2.29
GRAND STREET 43351	3.93	1.14	3.06	6.10	2.28	1.42	0.11	2.55
SCHROON LAKE 42951	1.35	3.27	2.73	1.82	2.92	3.89	3.86	2.21
EAST SPRINGFIELD 47751	2.25	3.77	6.68	1.62	3.59	2.99	2.84	3.17
VAIL MILLS 39252	4.72	2.44	1.00	1.47	1.63	0.36	1.18	1.20
BURGOYNE 33752	1.70	1.44	2.33	3.13	2.34	1.00	1.79	0.34
BURGOYNE 33754	1.88	3.91	1.33	3.59	2.52	0.38	1.20	0.81
BOLTON 28452	9.60	2.22	2.18	1.76	1.73	0.67	0.53	0.45
CEDAR 45351	1.99	3.40	2.07	1.74	2.49	2.42	2.05	4.00

Regional Goals:
CAIDI 2.578
SAIFI 1.372

c. NATIONAL GRID WORST PERFORMING CIRCUITS BY # OF MOMENTARY INTERRUPTIONS

NORTHEAST REGION

Feeders			Customer Momentaries				Ranks		
Volts (kV)	Station Name	Ckt/F No.	Substation	Transmission	Distribution	Total	Within Region	Within System	Reliability Ranking
No circuits experienced 10 or more momentary interruptions in 2024.									

a. **WORST PERFORMING CIRCUIT ANALYSIS**

For 2024, the Company is reporting on the 20 Worst Performing Feeders in the Northeast Region. This year, the Northeast Region's list of Worst Performing Feeders consists of twenty 13.2 kV feeders.

For the Northeast Region, the CAIDI threshold is 2.578 hours and the SAIFI threshold is 1.372 interruptions.

1. BATTENKILL 34257 – 13.2 kV

Profile: 1,641 Customers, 109.2 Circuit Miles

Indices: CAIDI = 3.12, SAIFI = 4.91

CAUSE CODE PERFORMANCE TABLE

Code	Category	Interruptions		Customers Interrupted		Customer Hours	
		Number	% Total	Number	% Total	Number	% Total
2	TREE	32	52.46%	2,828	35.10%	11,831	47.03%
3	OVERLOADS	0	0.00%	0	0.00%	0	0.00%
4	OPER. ERROR	0	0.00%	0	0.00%	0	0.00%
5	EQUIPMENT	5	8.20%	1,112	13.80%	3,788	15.06%
6	ACCIDENTS	13	21.31%	3,503	43.47%	9,234	36.71%
7	PREARRANGED	4	6.56%	547	6.79%	155	0.62%
8	CUST. EQUIP.	0	0.00%	0	0.00%	0	0.00%
9	LIGHTNING	2	3.28%	2	0.02%	5	0.02%
10	UNKNOWN	5	8.20%	66	0.82%	143	0.57%
Totals		61	100.00%	8,058	100.00%	25,157	100.00%

Problem Analysis:

- There were 61 interruptions on the Battenkill 34257 in 2024.
- There were no transmission interruptions.
- There was 1 substation interruption on the Battenkill 34257 in 2024. This Substation interruption occurred on May 6, 2024, due to animals (PSC cause code 06) chewing on the control wiring within the substation. This caused the 115 kV bus to trip through the R15 breaker backup scheme. Fortunately, the damaged wiring was contained to the metal clad. This lockout accounted for 20% of the total customers interrupted (1,643 of 8,058), and 34% of the total customer-hours interrupted (8,489 of 25,157)
- The remaining 60 events occurred at the distribution level.
- The distribution circuit breaker for the Battenkill 34257 experienced 3 momentary operations in 2024.
- The distribution circuit breaker for the Battenkill 34257 experienced 0 sustained operations (lockouts) in 2024.
- There were four 3-phase distribution recloser lockouts on the Battenkill 34257 in 2024 three of which were caused by trees and the fourth was the result of an equipment failure. These interruptions accounted for 2,290 customers interrupted (28%) and 8,543 customer-hours of interruption (34%).
 - The first 3-phase distribution recloser lockout occurred on January 29th, 2024 when recloser R88717 on pole 59 North Road locked open due to a tree on the primary at an unspecified location. This event accounted for 7% of the total customers interrupted (541 of 8,058), and 15% of the customer-hours interrupted (3,649 of 25,157).
 - The second 3-phase distribution recloser lockout occurred on March 2nd, 2024 when recloser R88717 on pole 59 North Road locked open due to a tree limb across the primary at pole 51½ County Highway 49. This event accounted for 2% of the total

- customers interrupted (541 of 8,058), and 19% of the customer-hours interrupted (549 of 25,157).
- The third 3-phase distribution recloser lockout occurred on June 13th, 2024 when recloser R88715 on pole 38 State Highway 40 locked open when the recloser failed. This event accounted for 14% of the total customers interrupted (1,095 of 8,058), and 15% of the customer-hours interrupted (3,671 of 25,157).
- The fourth 3-phase distribution recloser lockout occurred on June 23rd, 2024 when recloser R88720 on pole 3 Spraguetown Road locked open due to a tree limb at pole 7 Spraguetown Road. This event accounted for 1% of the total customers interrupted (113 of 8,058), and 3% of the customer-hours interrupted (675 of 25,157)
- The substation interruption when combined with the four feeder recloser lockouts accounted for five of the total interruptions on the Battenkill 34257 in 2024 (8%), but affected 3,933 customers (49%) and accounted for 17,032 customer-hours of interruption (68%).
- Trees were the leading cause of interruptions on the Battenkill 34257 in 2024, accounting for 52% of total interruptions (32 of 61). Accidents were the 2nd leading cause of interruptions, accounting for 21% of total interruptions (13 of 61). Equipment Failures and Unknown were the 3rd leading cause of interruptions, accounting for 8% of total interruptions each (5 of 61).
- Accidents were the leading cause of customers interrupted (CI) on the Battenkill 34257 in 2024, accounting for 43% of total customers interrupted (3,503 of 8,058). Trees were the 2nd leading cause of customers interrupted, accounting for 35% of total customers interrupted (2,825 of 8,058). Equipment Failures were the 3rd leading cause of customers interrupted, accounting for 14% of total customers interrupted (1,112 of 8,058).
- Tree were the leading cause of customer-hours interrupted (CHI) on the Battenkill 34257 in 2024, accounting for 47% of total customer-hours interrupted (11,831 of 25,157). Accidents were the 2nd leading cause of customer-hours interrupted, accounting for 37% of total customer-hours interrupted (9,234 of 25,157). Equipment Failures were the 3rd leading cause of customer-hours interrupted, accounting for 15% of total customer-hours interrupted (3,788 of 25,157).
- Of the 61 interruptions on this circuit, 31 affected 10 customers or less, with 21 being single customer outages.

Actions Taken:

- There are four 3-phase reclosers on the Battenkill 34257. These reclosers have assisted with minimizing customers interrupted and customer-hours interrupted since they were installed.
- A capital improvement project was completed in 2019 at a cost of \$118,615 to construct 1,300 feet of new single-phase 7.62 kV distribution on North Road and Prospect Street and install a new step-down ratio transformer on North Road to allow the former Richards Road tap to be split in two, thereby reducing the load on the overloaded Richards Road step-down ratio transformer.
- A capital improvement project was completed in 2020 at a cost of \$373,462 to rebuild and convert approximately 1.7 miles of distribution on North Road from 3-phase, 4.8 kV to 3-phase, 13.2 kV to address the overloaded North Road step-down ratio transformer.
- A capital improvement project was completed in 2021 at a cost of \$75, 013 to remove approximately 0.75 miles of heavily treed, rear lot distribution between Coon Road and Sullivan Road.
- TripSaver cutout-mounted reclosers were installed on Derby Road in 2019 and on State

Highway 40 in 2020 which will prevent sustained outages that, otherwise, would have been momentary in nature.

- A storm-hardening, capital improvement project was completed in 2024 at a cost of \$923,248 to build about 4,200 feet of new single-phase distribution on County Highway 52, McClay Road, and Hathorn Road to allow the removal of numerous sections of cross lot distribution while converting the area from 4.8 kV single phase delta to 7.62 kV.
- A capital improvement project was completed in early 2025 at a cost of \$239,847 to relocate 2,415 feet of heavily treed, rear lot single phase distribution near Irwin Road by constructing about 2,000 feet of new distribution roadside.
- A maintenance foot patrol was performed in 2023, and all identified level 1 and 2 maintenance has been completed.
- Tree trimming and a hazard tree review was completed on the Battenkill 34257 in 2020.

Action Plan:

- Complete all identified level 3 maintenance.
- Tree trimming and a hazard tree review are scheduled to be performed in fiscal year 2026.

2. BURGoyNE 33751 – 13.2 kV

Profile: 1,848 Customers, 138.0 Circuit Miles
Indices: CAIDI = 3.31, SAIFI = 4.76

CAUSE CODE PERFORMANCE TABLE

Code	Category	Interruptions		Customers Interrupted		Customer Hours	
		Number	% Total	Number	% Total	Number	% Total
2	TREE	23	41.82%	4,566	51.87%	23,019	79.10%
3	OVERLOADS	0	0.00%	0	0.00%	0	0.00%
4	OPER. ERROR	0	0.00%	0	0.00%	0	0.00%
5	EQUIPMENT	7	12.73%	1,967	22.34%	3,370	11.58%
6	ACCIDENTS	10	18.18%	2,050	23.29%	2,344	8.06%
7	PREARRANGED	0	0.00%	0	0.00%	0	0.00%
8	CUST. EQUIP.	0	0.00%	0	0.00%	0	0.00%
9	LIGHTNING	4	7.27%	6	0.07%	10	0.03%
10	UNKNOWN	11	20.00%	214	2.43%	359	1.23%
Totals		55	100.00%	8,803	100.00%	29,103	100.00%

Problem Analysis:

- There were 55 interruptions on the Burgoyne 33751 in 2024.
- There were no transmission interruptions.
- There were no substation interruptions.
- All 55 events occurred at the distribution level.
- The distribution circuit breaker for the Burgoyne 33751 experienced 0 momentary operations in 2024.
- The distribution circuit breaker for the Burgoyne 33751 experienced 3 sustained operations (lockouts) in 2024. While these three events only accounted for 5% of the total interruptions the feeder experienced in 2024 (3 of 55), these interruptions accounted for 71% of the total amount of customers interrupted (6,279 out of 4,611) and 44% of the total amount of the customer-hours interrupted (12,886 out of 9,586).
 - The first lockout occurred on August 15, 2024 when a tree fell between poles 51 and 52 on County Highway 42 breaking a crossarm (PSC cause code 02). At the time of this event, the Burgoyne 33751 was also serving some of the customers from the Burgoyne 33752, therefore, this lockout accounted for 29% of the total customers interrupted (2,571 of 8,803), and 27% of the total customer-hours interrupted (7,926 of 29,103).
 - The second lockout occurred on December 11, 2024 due to an Osprey nest on pole 25 Newton Lane (PSC cause code 06). This lockout accounted for 21% of the total customers interrupted (1,854 of 8,803), and 6% of the total customer-hours interrupted (1,890 of 29,103).
 - The third lockout also occurred on December 11, 2024 when a loop burned open during restoration from the Osprey related interruption noted above causing a single phase condition (PSC cause code 05). This lockout accounted for 21% of the total customers interrupted (1,854 of 8,803), and 11% of the total customer-hours

interrupted (3,070 of 29,103).

- There was one distribution 3-phase recloser lockout on the Burgoyne 33751 in 2024 which occurred on January 29th, 2024 when recloser R830057 on pole 32½ County Highway 42 locked open due to a tree across phases at pole 92 State Highway 197. This interruption accounted for 17% of the total customers interrupted (1,514 of 8,803) but because of the extent of the damage and the fact that it occurred at 2:12 AM it took 8 hours and 50 minutes to repair accounting for 45% of the total customer-hours interrupted (13,194 of 29,103).
- The three substation lockouts when combined with the one feeder recloser lockout accounted for four of the total interruptions on the Burgoyne 33751 in 2024 (7%), but affected 7,793 customers (89%) and accounted for 20,080 customer-hours of interruption (90%).
- Trees were the leading cause of interruptions on the Burgoyne 33751 in 2024, accounting for 42% of total interruptions (23 of 55). Unknown were the 2nd leading cause of interruptions, accounting for 20% of total interruptions (11 of 55). Accidents were the 3rd leading cause of interruptions, accounting for 10% of total interruptions (10 of 55).
- Trees were also the leading cause of customers interrupted (CI) on the Burgoyne 33751 in 2024, accounting for 52% of total customers interrupted (4,566 of 8,803). Accidents were the 2nd leading cause of customers interrupted, accounting for 23% of total customers interrupted (2,050 of 8,803). Equipment was the 3rd leading cause of customers interrupted, accounting for 22% of total customers interrupted (1,967 of 8,803).
- Trees were also the leading cause of customer-hours interrupted (CHI) on the Burgoyne 33751 in 2024, accounting for 79% of total customer-hours interrupted (23,019 of 29,103). Equipment was the 2nd leading cause of customer-hours interrupted, accounting for 12% of total customer-hours interrupted (3,370 of 29,103). Accidents were the 3rd leading cause of customer-hours interrupted, accounting for 8% of total customer-hours interrupted (2,344 of 29,103).
- Of the 55 interruptions on this circuit, 30 affected 10 customers or less, with 14 being single customer outages.

Actions Taken:

- There are six 3-phase reclosers on the Burgoyne 33751, two of which were originally installed in 1997, one of which was replaced in 2018. A third recloser was installed in 2020 on Brennan Road. The fourth recloser was installed in 2021 on Durkeetown Road as part of the Durkeetown Road rebuild project. A project was completed in 2023 to install a new 3-phase line recloser on County Highway 42 to split in half the zone of protection previously covered by the station breaker. The sixth 3-phase line recloser was placed in service in early 2024 on State Highway 40 south of Brennan Road as part of the State Highway 40 rebuild project.
- There are four TripSaver, cut-out mounted single-phase reclosers installed on the Burgoyne 33751, three of which were installed in 2019 with the fourth being installed in 2021.
- The 115/13.2 kV Burgoyne substation transformer, which was beginning to accumulate damaging gases, was replaced in 2017 at a cost in excess of \$1.7M and an animal fence was installed around the substation equipment in 2019.
- A project was completed in 2018 at a cost of \$163,954 to construct 4.8 kV distribution on County Highway 46 and North Ridge Road near West Road to allow removal of heavily treed, inaccessible, rear lot 4.8 kV distribution.
- A project was completed in 2018 at a cost of \$70,216 to construct about 2,600 feet of new 7.62 kV distribution on County Highway 41 east of Hartman Road to allow removal of about 4,910 feet of heavily treed, inaccessible, rear lot 7.62 kV distribution.

- A project was completed in 2018 at a cost of \$45,923 to close a 625 foot single-phase distribution gap on West Valley Road to allow the 9 mile long West Road single-phase tap to be split into 2 smaller single-phase taps and to reduce the load on the overloaded 7.62/4.8 kV ratio transformer serving the West Road tap.
- A project was completed in 2019 at a cost of \$202,068 to rebuild 7,400 feet of State Highway 197 between poles 100 and 137 as necessary to convert to 13.2 kV and create a three-phase feeder tie with the Butler 36253.
- A project was completed in 2020 at a cost of \$102,462 to construct 1,400 feet of single-phase distribution on Safford Road to allow the transfer of 1.7 miles of single-phase distribution with 64 customers from the Burgoyne 33751 to the Burgoyne 33752 feeder, to address the overloaded Coach Road ratio transformer.
- A small capital improvement project was completed in 2020 at a cost of \$121,615 to extend 3-phase on State Highway 40 approximately three sections beyond McEachron Hill Road to allow the balance of State Highway 40 and McEachron Hill Road to be served from separate 7.62/4.8 kV ratio transformers.
- A capital improvement project was completed in 2021 at a cost of \$361,398 to rebuild approximately 1 mile of Durkeetown Road between State Highway 197 and County Highway 46 to 3-phase, 13.2 kV in order to provide better load balance on the entire feeder and better voltage downstream of Durkeetown Road.
- A capital improvement project was completed in 2022 at a cost of \$247,171 to construct 1,500 feet of new 7.62 kV distribution on Summit Lake Road to allow the removal of 3,000 feet of cross lot distribution from Dutchtown Road while also reducing the load on the overloaded Dutchtown Road ratio transformer.
- A project was completed in early 2024 at a cost of \$693,801 to rebuild about 1.4 miles of 4.8 kV, 3-phase on State Highway 40 south of Brennan Road as necessary to convert to 13.2.
- A maintenance foot patrol was completed on the Burgoyne 33751 in 2021 and maintenance has been completed.

Action Plan:

- Tree trimming and a hazard tree review of the Burgoyne 33751 is in process and scheduled to be completed in FY2025.
- A maintenance foot patrol of the Burgoyne 33751 is scheduled for 2026.

3. INGHAMS 02051 – 13.2 kV

Profile: 1,187 Customers, 106.3 Circuit Miles
Indices: CAIDI = 4.77, SAIFI = 5.13

CAUSE CODE PERFORMANCE TABLE

Code	Category	Interruptions		Customers Interrupted		Customer Hours	
		Number	% Total	Number	% Total	Number	% Total
2	TREE	28	70.00%	5,571	91.55%	23,477	80.88%
3	OVERLOADS	0	0.00%	0	0.00%	0	0.00%
4	OPER. ERROR	0	0.00%	0	0.00%	0	0.00%
5	EQUIPMENT	4	10.00%	444	7.30%	5,301	18.26%
6	ACCIDENTS	1	2.50%	4	0.07%	37	0.13%
7	PREARRANGED	0	0.00%	0	0.00%	0	0.00%
8	CUST. EQUIP.	0	0.00%	0	0.00%	0	0.00%
9	LIGHTNING	1	2.50%	1	0.02%	7	0.03%
10	UNKNOWN	6	15.00%	65	1.07%	206	0.71%
Totals		40	100.00%	6,085	100.00%	29,028	100.00%

Problem Analysis:

- There were 40 interruptions on the Inghams 02051 in 2024.
- There were no transmission interruptions.
- There were no substation interruptions.
- All 40 events occurred at the distribution level.
- The distribution circuit breaker for the Inghams 02051 experienced 0 momentary operations in 2024.
- The distribution circuit breaker for the Inghams 02051 experienced 1 sustained operation (lockout) in 2024. This lockout occurred on August 14, 2024 when a tree took down the primary at pole 5 County Highway 108 (PSC cause code 02). This lockout accounted for 20% of the total customers interrupted (1,191 of 6,085), and 21% of the total customer-hours interrupted (6,027 of 29,028).
- There were six distribution recloser lockouts on the Inghams 02051 in 2024 all caused by trees. In total, these six interruptions accounted for 1,743 customers interrupted (29%) and 3,182 customer-hours of interruption (11%).
- The one feeder lockout when combined with the six 3-phase line recloser lockouts accounted for only seven of the 40 interruptions on the Inghams 02051 in 2024 (18%) but they affected 2,934 customers (48%) and accounted for 9,209 customer-hours of interruption (32%).
- Trees were the leading cause of interruptions on the Inghams 02051 in 2024, accounting for 70% of total interruptions (28 of 40). Interruptions of unknown origin were the 2nd leading cause of interruptions, accounting for 15% of total interruptions (6 of 40). Equipment failures were the 3rd leading cause of interruptions, accounting for 10% of total interruptions (4 of 40).
- Trees were the leading cause of customers interrupted (CI) on the Inghams 02051 in 2024,

accounting for 92% of total customers interrupted (5,571 of 6,085). Equipment related failures were the 2nd leading cause of customers interrupted, accounting for 7% of total customers interrupted (444 of 6,085). Interruptions of unknown origin were the 3rd leading cause of customers interrupted, accounting for 1% of total customers interrupted (65 of 6,085).

- Trees were the leading cause of customer-hours interrupted (CHI) on the Inghams 02051 in 2024, accounting for 81% of total customer-hours interrupted (23,477 of 29,028). Equipment related failures were the 2nd leading cause of customer-hours interrupted, accounting for 18% of total customer-hours interrupted (5,301 of 29,028). Interruptions of unknown origin were the 3rd leading cause of customer-hours interrupted, accounting for 1% of total customer-hours interrupted (206 of 29,028).
- Of the 40 interruptions on this circuit, 19 affected 10 customers or less, with 10 being single customer outages.

Actions Taken:

- There are three 3-phase electronic reclosers and four single-phase hydraulic reclosers on the Inghams 02051. The reclosers have proven to be beneficial to the reliability of the feeder as four of the largest single-phase interruptions were isolated by a recloser instead of affecting the entire feeder.
- Tree trimming and a hazard tree review was completed on the Inghams 02051 in FY2024.
- A maintenance foot patrol was completed on the Inghams 02051 in 2020 and all maintenance has been completed.

Action Plan:

- A maintenance foot patrol of the Inghams 02051 is scheduled for 2025.
- A mid-cycle hazard tree review up the first protective device is scheduled on the Inghams 02051 in FY2026.

4. UNION STREET 37653 – 13.2 kV

Profile: 1,448 Customers, 67.8 Circuit Miles
Indices: CAIDI = 2.33, SAIFI = 4.88

CAUSE CODE PERFORMANCE TABLE

Code	Category	Interruptions		Customers Interrupted		Customer Hours	
		Number	% Total	Number	% Total	Number	% Total
2	TREE	25	71.43%	4,128	58.40%	9,773	59.25%
3	OVERLOADS	0	0.00%	0	0.00%	0	0.00%
4	OPER. ERROR	0	0.00%	0	0.00%	0	0.00%
5	EQUIPMENT	0	0.00%	0	0.00%	0	0.00%
6	ACCIDENTS	3	8.57%	1,481	20.95%	4,765	28.89%
7	PREARRANGED	0	0.00%	0	0.00%	0	0.00%
8	CUST. EQUIP.	0	0.00%	0	0.00%	0	0.00%
9	LIGHTNING	2	5.71%	4	0.06%	15	0.09%
10	UNKNOWN	5	14.29%	1,455	20.59%	1,942	11.77%
Totals		35	100.00%	7,068	100.00%	16,494	100.00%

Problem Analysis:

- There were 35 interruptions on the Union Street 37653 in 2024.
- There were 2 transmission interruptions on the Union Street 37653 in 2024. These interruptions accounted for 41% of the total amount of customers interrupted (2,898 out of 7,068) and 29% of the total amount of the customer-hours interrupted (4,833 out of 16,494).
 - The first Transmission interruption which occurred on January 10, 2024 was caused by a tree on pole 32 of the Cambridge-Hoosick #3, 34.5 kV line but was erroneously listed as unknown (PSC cause code 10). This event accounted for 20% of the total customers interrupted (1,446 of 7,068), and 11% of the total customer-hours interrupted (1,905 of 16,494).
 - The second Transmission interruption occurred on June 23, 2024 when a tree broke a cross arm on the Cambridge-Hoosick #3, 34.5 kV line between the Union Street and Hoosick Substations (PSC cause code 02). This lockout accounted for 21% of the total customers interrupted (1,452 of 7,068), and 18% of the total customer-hours interrupted (2,928 of 16,494).
- There were no substation interruptions.
- The remaining 33 events occurred at the distribution level.
- The distribution circuit breaker for the Union Street 37653 experienced 2 momentary operations in 2024.
- The distribution circuit breaker for the Union Street 37653 experienced 2 sustained operations (lockouts) in 2024. These interruptions accounted for 41% of the total amount of customers interrupted (2,894 out of 7,068) and 39% of the total amount of the customer-hours interrupted (6,380 out of 16,494).
 - The first lockout occurred on January 13, 2024 due to a motor vehicle accident at 2106 State Highway 22 (PSC cause code 06) which affected all three feeders within

the Union Street substation. This lockout accounted for 20% of the total customers interrupted (1,446 of 7,068), and 29% of the total customer-hours interrupted (4,714 of 16,494).

- The second lockout occurred on August 28, 2024, due to a tree limb (PSC cause code 02) taking down primary at pole 43 State Highway 22. This lockout accounted for 20% of the total customers interrupted (1,448 of 7,068), and 10% of the total customer-hours interrupted (1,667 of 16,494).
- The two Transmission related interruptions when combined with the two feeder lockouts accounted for only four of the 35 interruptions on the Union Street 37653 in 2024 (11%) but they affected 5,792 customers (82%) and accounted for 11,213 customer-hours of interruption (68%).
- Trees were the leading cause of interruptions on the Union Street 37653 in 2024, accounting for 71% of total interruptions (25 of 35). Unknown were the 2nd leading cause of interruptions, accounting for 14% of total interruptions (5 of 35). Accidents were the 3rd leading cause of interruptions, accounting for 9% of total interruptions (3 of 35).
- Trees were the leading cause of customers interrupted (CI) on the Union Street 37653 in 2024, accounting for 58% of total customers interrupted (4,128 of 7,068). Accidents were the 2nd leading cause of customers interrupted, accounting for 21% of total customers interrupted (1,481 of 7,068). Unknown were the 3rd leading cause of customers interrupted, accounting for 20% of total customers interrupted (1,455 of 7,068).
- Trees were the leading cause of customer-hours interrupted (CHI) on the Union Street 37653 in 2024, accounting for 59% of total customer-hours interrupted (9,773 of 16,494). Accidents were the 2nd leading cause of customer-hours interrupted, accounting for 29% of total customer-hours interrupted (4,765 of 16,494). Unknown were the 3rd leading cause of customer-hours interrupted, accounting for 12% of total customer-hours interrupted (1,942 of 16,494).
- Of the 35 interruptions on this circuit, 14 affected 10 customers or less, with 7 being single customer outages.

Actions Taken:

- There are two 3-phase reclosers on the Union Street 37653. These reclosers have assisted with minimizing customers interrupted and customer-hours interrupted since they were installed.
- A capital improvement project was completed in 2020 at a cost of \$1,120,679 to rebuild approximately 3,000 feet of County Highway 67 from Main Street and convert Main Street and County Highway 67 to 13.2 kV.
- A capital improvement project was completed in 2021 at a cost of \$339,346 to create a 3-phase, 13.2 kV feeder tie with the Union Street 54 on State Highway 22.
- A capital improvement project was completed in 2022 at cost of \$175,443 to build 1,272 feet of single phase distribution on Kenyon Hill Road, west of State Highway 22, to allow for the removal of 2,195 feet of existing rear lot distribution.
- A maintenance foot patrol was performed in 2020 and all identified maintenance has been completed.
- Tree trimming and a hazard tree review was completed in fiscal year 2023.

Action Plan:

- A maintenance foot patrol of the Union Street 37653 is scheduled for 2025.
- Tree trimming and a hazard tree review are scheduled to be performed on the Union Street 37653 in fiscal year 2028.

5. BOLTON 28451 – 13.2 kV

Profile: 1,541 Customers, 41.4 Circuit Miles
Indices: CAIDI = 4.85, SAIFI = 3.76

CAUSE CODE PERFORMANCE TABLE

Code	Category	Interruptions		Customers Interrupted		Customer Hours	
		Number	% Total	Number	% Total	Number	% Total
2	TREE	15	48.39%	4,761	82.26%	26,465	94.29%
3	OVERLOADS	0	0.00%	0	0.00%	0	0.00%
4	OPER. ERROR	0	0.00%	0	0.00%	0	0.00%
5	EQUIPMENT	7	22.58%	971	16.78%	1,296	4.62%
6	ACCIDENTS	4	12.90%	32	0.55%	176	0.63%
7	PREARRANGED	0	0.00%	0	0.00%	0	0.00%
8	CUST. EQUIP.	0	0.00%	0	0.00%	0	0.00%
9	LIGHTNING	0	0.00%	0	0.00%	0	0.00%
10	UNKNOWN	5	16.13%	24	0.41%	131	0.47%
Totals		31	100.00%	5,788	100.00%	28,069	100.00%

Problem Analysis:

- There were 31 interruptions on the Bolton 28451 in 2024.
 - There was 1 transmission interruption impacting the Bolton 28451, which occurred on July 24th, 2024 when multiple fallen trees took down sections of the Warrensburg – Fort Gage #8, 34.5 kV sub-transmission line feeding the Bolton Substation. This event interrupted 1,435 customers (25%) and accounted for 11,551 customer-hours interrupted (40%).
 - There were no substation interruptions.
 - The distribution circuit breaker for the Bolton 28451 experienced 3 momentary operations in 2024.
 - The distribution circuit breaker for the Bolton 28451 experienced 1 sustained operation (lockout) on October 4th, 2024, when a tree fell on the mainline of the feeder, pulling down the primary onto the road. This interruption accounted for 27% of the total amount of customers interrupted (1,583 out of 5,788) and 25% of the total amount of the customer-hours interrupted (7,130 out of 28,069). A switch at pole 285 State Highway 9N was closed at 2:13 AM on October 5th, restoring service to 1,164 of 1,583 customers. Additional switching was completed at 2:52 AM, restoring service to an additional 83 customers. The final 336 customers weren't returned to service until 10:24 AM when all repairs were completed.
 - The remaining 30 events occurred at the distribution level and interrupted a total 4,353 customers (75%) and accounted for 16,518 customer-hours interrupted (59%), for a distribution SAIFI of 2.82 and CAIDI of 3.79.
 - This distribution feeder lockout when combined with the tree event on the Warrensburg – Fort Gage #8, 34.5 kV sub-transmission line accounted for only 2 of the 31 total interruptions experienced on the Bolton 28451 in 2024 (6%), but they accounted for 3,018 customers interrupted (51%) and 18,681 customer-hours of interruption (67%).
 - There were two events where 3-phase distribution reclosers had to be opened to make
- NE-30

repairs on the Bolton 28451 in 2024. These interruptions accounted for 16% of the total customers interrupted (901 of 5,788) and 1% of the total customer-hours of interruption (182 of 28,069).

- The first 3-phase distribution recloser event occurred on July 31st, 2024, when recloser R89582 on pole 1 Diamond Point – Bakers Road was opened to make emergency repairs due to a fallen tree limb between poles 14 and 15 Diamond Point – Bakers Road. This event accounted for 1% of the total customers interrupted (69 of 5,788) and less than 1% of the total customer-hours interrupted (40 of 28,069).
- The second 3-phase distribution recloser event occurred on November 14th, 2024, when recloser R87551 on pole 196 State Highway 9N was opened to make repairs to a failed lightning arrester on a regulator located at pole 190 State Highway 9N. This event accounted for 14% of the total customers interrupted (832 of 5,788) and less than 1% of the total customer-hours interrupted (142 of 28,069).
- Trees were the leading cause of interruptions on the Bolton 28451 in 2024, accounting for 48% of total interruptions (15 of 31). Equipment Failures were the 2nd leading cause of interruptions, accounting for 22% of total interruptions (7 of 31). Events where the cause was not identified were the 3rd leading category of interruptions, accounting for 16% of total interruptions (5 of 31).
- Trees were the leading cause of customers interrupted (CI) on the Bolton 28451 in 2024, accounting for 82% of total customers interrupted (4,761 of 5,788). Equipment Failures were the 2nd leading cause of customers interrupted, accounting for 17% of total customers interrupted (971 of 5,788). Accidents were the 3rd leading cause of customers interrupted, accounting for less than 1% of total customers interrupted (32 of 5,788).
- Trees were the leading cause of customer-hours interrupted (CHI) on the Bolton 28451 in 2024, accounting for 94% of total customer-hours interrupted (26,465 of 28,069). Equipment Failures were the 2nd leading cause of customer-hours interrupted, accounting for 5% of total customer-hours interrupted (1,296 of 28,069). Accidents were the 3rd leading cause of customer-hours interrupted, accounting for 1% of total customer-hours interrupted (176 of 28,069).
- Of the 31 interruptions on this circuit, 15 affected 10 customers or less, with 5 being single customer outages.

Actions Taken:

- There are two 3-phase distribution reclosers, and three single-phase TripSaver, cut-out mounted reclosers on the Bolton 28451. One 3-phase recloser was originally installed in 2000, but replaced in 2019, the second was installed in 2019 as part of a new feeder tie to the Warrensburg 32151. Two TripSaver, cut-out mounted single phase reclosers were installed in 2015, the third was installed in 2022.
- The Bolton 28451 was reconfigured in late 2016, transferring the 7.25 miles of distribution and 159 customers on Stone Schoolhouse and Flat Rock Roads from the Bolton 28451 to the Birch Avenue 32252.
- The Bolton 28451 was further reconfigured in the spring of 2019 to transfer about 165 customers and 3.18 MVA of connected load from the Bolton 28451 to the Birch Avenue 32252 to reduce the load on the Bolton substation.
- A capital project to construct a single-phase feeder tie between the Bolton 28451 and Bolton 28452 by converting Potter Hill Road to 13.2 kV was completed in 2015 at a cost of \$256,244.

- A capital project was completed in 2022 to rebuild Trout Lake and Coolidge Hill Roads to 3-phase and convert to 13.2 kV, which created a 3-phase feeder tie between the Bolton 28451 and Bolton 28452 feeders and transferred approximately 16 miles of distribution and 440 customers from the Bolton 28451 feeder to the much smaller Bolton 28452 feeder, for a total cost of \$834,943.
- A project was completed in 2020 to construct a 13.2 kV, 3-phase feeder tie between the Bolton 28451 and the Warrensburg 32151 on Diamond Point – Bakers Road, at a cost of \$1,674,864.
- A distribution automation project was placed in service in 2014 on the Fort Gage-Queensbury #2, Warrensburg-Fort Gage #8, and Warrensburg-Queensbury #9, 34.5 kV sub-transmission lines to automatically sectionalize the 34.5 kV system to isolate faults while maintaining service to as many of the substations served from this system as possible, including the Bolton substation which is served from a tap off the Warrensburg-Fort Gage #8 line.
- A maintenance foot patrol of the Bolton 28451 was completed in 2021, and all identified maintenance has been completed.
- Integrated Vegetation Management was completed on the Bolton 28451 in FY2023, fully pruning the feeder. Additional hazard tree removal was performed on the Bolton 28451 in FY2025.

Action Plan:

- A maintenance foot patrol of the Bolton 28451 is scheduled for 2026.
- The next full tree trimming and hazard tree review cycle for the Bolton 28451 will be conducted in FY2028.

6. SCHOHARIE 23452 – 13.2 kV

Profile: 1,673 Customers, 131.991 Circuit Miles

Indices: CAIDI = 4.48, SAIFI = 3.15

CAUSE CODE PERFORMANCE TABLE

Code	Category	Interruptions		Customers Interrupted		Customer Hours	
		Number	% Total	Number	% Total	Number	% Total
2	TREE	12	36.36%	3,387	64.23%	18,706	79.17%
3	OVERLOADS	0	0.00%	0	0.00%	0	0.00%
4	OPER. ERROR	0	0.00%	0	0.00%	0	0.00%
5	EQUIPMENT	5	15.15%	300	5.69%	345	1.46%
6	ACCIDENTS	10	30.30%	1,570	29.77%	4,468	18.91%
7	PREARRANGED	1	3.03%	2	0.04%	6	0.02%
8	CUST. EQUIP.	0	0.00%	0	0.00%	0	0.00%
9	LIGHTNING	1	3.03%	3	0.06%	58	0.25%
10	UNKNOWN	4	12.12%	11	0.21%	44	0.19%
Totals		33	100.00%	5,273	100.00%	23,628	100.00%

Problem Analysis:

- There were 33 interruptions on the Schoharie 23452 in 2024.
- There were no transmission interruptions.
- There were no substation interruptions.
- All 33 events occurred at the distribution level.
- The distribution circuit breaker for the Schoharie 23452 experienced 0 momentary operations in 2024.
- The distribution circuit breaker for the Schoharie 23452 experienced 1 sustained operation (lockout) in 2024. This lockout occurred on January 10, 2024 due to a downed tree at an unspecified location (PSC cause code 02) interrupting 32% of the total amount of customers interrupted (1,676 out of 5,273) and accounting for 59% of the total amount of the customer-hours interrupted (13,985 out of 23,628).
- Trees were the leading cause of interruptions on the Schoharie 23452 in 2024, accounting for 36% of total interruptions (12 of 33). Accidents were the second leading cause of interruptions, accounting for 30% of total interruptions (10 of 33). Equipment Failures were the third leading cause of interruptions, accounting for 15% of total interruptions (5 of 33).
- Trees were the leading cause of customers interrupted (CI) on the Schoharie 23452 in 2024, accounting for 64% of total customers interrupted (3,387 of 5,273). Accidents were the second leading cause of customers interrupted, accounting for 30% of total customers interrupted (1,570 of 5,273). Equipment Failures were the third leading cause of customers interrupted, accounting for 6% of total customers interrupted (300 of 5,273).
- Trees were the leading cause of customer-hours interrupted (CHI) on the Schoharie 23452 in 2024, accounting for 79% of total customer-hours interrupted (18,706 of 23,628). Accidents were the second leading cause of customer-hours interrupted, accounting for

19% of total customer-hours interrupted (4,468 of 23,628). Equipment Failures were the third leading cause of customer-hours interrupted, accounting for 1% of total customer-hours interrupted (345 of 23,628).

- Of the 33 interruptions on this circuit, 20 affected 10 customers or less, with 5 being single customer outages.

Actions Taken:

- There are three 3-phase reclosers on the Schoharie 23452. These reclosers have assisted with minimizing customers interrupted and customer hours interrupted since they were installed.
- A capital project was completed in 2022 at a cost of \$832,022 to construct about 5,400 feet of new 3-phase mainline along Cook Road and State Highway 443, allowing for the removal of an equivalent amount of rear-lot 3-phase mainline that ran through a heavily forested area.
- Tree trimming and a hazard tree review was completed on the Schoharie 23452 in FY2022.
- A maintenance foot patrol was performed on the Schoharie 23452 in 2023 and all identified level 1 and 2 maintenance has been completed.

Action Plan:

- Tree trimming and a hazard tree review is scheduled to be completed on the Schoharie 23452 in FY2028.
- Complete all identified level 3 maintenance on the Schoharie 23452.
- A maintenance foot patrol is scheduled to be completed on the Schoharie 23452 in 2028.

7. UNION STREET 37654 – 13.2 kV

Profile: 581 Customers, 49.6 Circuit Miles

Indices: CAIDI = 7.04, SAIFI = 5.94

CAUSE CODE PERFORMANCE TABLE

Code	Category	Interruptions		Customers Interrupted		Customer Hours	
		Number	% Total	Number	% Total	Number	% Total
2	TREE	11	47.83%	1,684	48.81%	20,436	84.09%
3	OVERLOADS	0	0.00%	0	0.00%	0	0.00%
4	OPER. ERROR	0	0.00%	0	0.00%	0	0.00%
5	EQUIPMENT	4	17.39%	330	9.57%	946	3.89%
6	ACCIDENTS	2	8.70%	589	17.07%	1,450	5.97%
7	PREARRANGED	0	0.00%	0	0.00%	0	0.00%
8	CUST. EQUIP.	0	0.00%	0	0.00%	0	0.00%
9	LIGHTNING	1	4.35%	2	0.06%	4	0.02%
10	UNKNOWN	5	21.74%	845	24.49%	1,467	6.04%
Totals		23	100.00%	3,450	100.00%	24,303	100.00%

Problem Analysis:

- There were 23 interruptions on the Union Street 37654 in 2024.
- There were 2 transmission interruptions on the Union Street 37654 in 2024. These interruptions accounted for 21% of the total amount of customers interrupted (736 out of 3,450) and 4% of the total amount of the customer-hours interrupted (1,081 out of 24,303).
 - The first Transmission interruption which occurred on January 10, 2024 was caused by a tree on pole 32 of the Cambridge-Hoosick #3, 34.5 kV line but was erroneously listed as unknown (PSC cause code 10). This event accounted for 17% of the total customers interrupted (577 of 3,450), and 3% of the total customer-hours interrupted (760 of 24,303).
 - The second Transmission interruption occurred on June 23, 2024 when a tree broke a cross arm on the Cambridge-Hoosick #3, 34.5 kV line between the Union Street and Hoosick Substation (PSC cause code 02). This lockout accounted for 5% of the total customers interrupted (159 of 3,450), and 1% of the total customer-hours interrupted (321 of 24,303).
- There were no substation interruptions.
- The remaining 21 events occurred at the distribution level.
- The distribution circuit breaker for the Union Street 37654 experienced 0 momentary operations in 2024.
- The distribution circuit breaker for the Union Street 37654 experienced 1 sustained operation (lockout) in 2024. This lockout occurred on January 13, 2024 due to a motor vehicle accident at 2106 State Highway 22 (PSC cause code 06) which affected all three feeders within the Union Street substation. This interruption accounted for 17% of the total amount of customers interrupted (579 out of 3,450) and 6% of the total amount of the customer-hours interrupted (1,422 out of 24,303).
- There were two 3-phase distribution recloser lockouts on the Union Street 37654 in 2024

both of which were caused by trees. These interruptions accounted for 988 customers interrupted (29%) and 9,666 customer-hours of interruption (40%).

- The first 3-phase distribution recloser lockout occurred on June 19th, 2024 when recloser R89072 on pole 88 Turnpike Road locked open when trees brought down the primary between poles 129 and 130 Turnpike Road. This event accounted for 14% of the total customers interrupted (494 of 3,450), and 8% of the customer-hours interrupted (1,853 of 24,303).
- The second 3-phase distribution recloser lockout occurred on June 24th, 2024 when recloser R89072 on pole 88 Turnpike Road locked open due to a tree limb burning through the center phase at pole 91 Turnpike Road. This event accounted for 14% of the total customers interrupted (494 of 3,450), and 32% of the customer-hours interrupted (7,813 of 24,303).
- The two Transmission related interruptions when combined with the feeder lockout and two 3-phase recloser lockouts accounted for only five of the 23 interruptions on the Union Street 37654 in 2024 (22%) but they affected 2,303 customers (67%) and accounted for 12,168 customer-hours of interruption (50%).
- Trees were the leading cause of interruptions on the Union Street 37654 in 2024, accounting for 48% of total interruptions (11 of 23). Unknown were the 2nd leading cause of interruptions, accounting for 22% of total interruptions (5 of 23). Equipment failures were the 3rd leading cause of interruptions, accounting for 17% of total interruptions (4 of 23).
- Trees were the leading cause of customers interrupted (CI) on the Union Street 37654 in 2024, accounting for 49% of total customers interrupted (1,684 of 3,450). Unknown were the 2nd leading cause of customers interrupted, accounting for 24% of total customers interrupted (845 of 3,450). Accidents were the 3rd leading cause of customers interrupted, accounting for 17% of total customers interrupted (589 of 3,450).
- Trees were the leading cause of customer-hours interrupted (CHI) on the Union Street 37654 in 2024, accounting for 84% of total customer-hours interrupted (20,436 of 24,303). Unknown were the 2nd leading cause of customer-hours interrupted, accounting for 6% of total customer-hours interrupted (1,467 of 24,303). Accidents were the 3rd leading cause of customer-hours interrupted, accounting for 6% of total customer-hours interrupted (1,450 of 24,303).
- Of the 23 interruptions on this circuit, 8 affected 10 customers or less, with 4 being single customer outages.

Actions Taken:

- There are two 3-phase reclosers on the Union Street 37654. These reclosers have assisted with minimizing customers interrupted and customer hours interrupted since they were installed.
- A capital improvement project was completed in 2021 at a cost of \$339,346 to create a 3-phase, 13.2 kV feeder tie with the Union Street 53 on State Highway 22.
- A project to rebuild the 3-phase mainline from Turnpike Road to Brownell Corners Road as necessary to convert to 13.2 kV, was completed in 2023 at a cost of \$845,065. In addition to converting one mile of overhead distribution this project installed two 3-phase reclosers on the Union Street 37654.
- Phase one of the Lincoln Hill Road rebuild project, which rebuilt about 2,400 feet of single-phase 4.8 kV overhead distribution, moving rear lot distribution to the road, was completed in 2023 at a total cost of \$153,608.
- A project to rebuild the 3-phase mainline on Brownell Corners Road and State Highway

- 22 as necessary to convert to 13.2 kV, was completed in early 2025 at a cost of \$461,142.
- A maintenance foot patrol was performed in 2020 and all identified level maintenance has been completed.
- Tree trimming and a hazard tree review was completed in fiscal year 2021.

Action Plan:

- A maintenance foot patrol of the Union Street 37654 is scheduled for 2025.
- Tree trimming and a hazard tree review are scheduled to be performed on the Union Street 37654 in fiscal year 2028.

8. HAGUE ROAD 41853 – 13.2 kV

Profile: 2,243 Customers, 71.6 Circuit Miles
Indices: CAIDI = 2.36, SAIFI = 4.06

CAUSE CODE PERFORMANCE TABLE

Code	Category	Interruptions		Customers Interrupted		Customer Hours	
		Number	% Total	Number	% Total	Number	% Total
2	TREE	19	59.38%	7,490	82.33%	19,621	91.37%
3	OVERLOADS	0	0.00%	0	0.00%	0	0.00%
4	OPER. ERROR	0	0.00%	0	0.00%	0	0.00%
5	EQUIPMENT	4	12.50%	1,352	14.86%	968	4.51%
6	ACCIDENTS	7	21.88%	211	2.32%	631	2.94%
7	PREARRANGED	0	0.00%	0	0.00%	0	0.00%
8	CUST. EQUIP.	0	0.00%	0	0.00%	0	0.00%
9	LIGHTNING	0	0.00%	0	0.00%	0	0.00%
10	UNKNOWN	2	6.25%	44	0.48%	254	1.18%
Totals		32	100.00%	9,097	100.00%	21,474	100.00%

Problem Analysis:

- There were 32 interruptions on the Hague Road 41853 in 2024.
- There were no transmission interruptions.
- There were no substation interruptions.
- All 32 events occurred at the distribution level, with the largest distribution event affecting 1,269 customers (14%) and accounting for 5,749 customer-hours of interruption (7%).
- The distribution circuit breaker for the Hague Road 41853 experienced 0 momentary operations in 2024.
- The distribution circuit breaker for the Hague Road 41853 experienced 0 sustained operations (lockouts) in 2024.
- There were five 3-phase distribution recloser lockouts on the Hague Road 41853 in 2024, all of which were caused by tree-related events. These interruptions accounted for 62% of the total customers interrupted (5,598 of 9,097) and 60% of the total customer-hours interrupted (12,873 of 21,474).
 - The first 3-phase distribution recloser lockout occurred on January 10th, 2024 when recloser R7534 on pole 170 State Highway 9N locked out due to a tree limb on the primary at pole 137 State Highway 9N. This event accounted for 14% of the total customers interrupted (1,248 of 9,097), and 7% of the total customer-hours of interruption (1,588 of 21,474).
 - The second 3-phase distribution recloser lockout occurred on June 10th, 2024 when recloser R7534 on pole 170 State Highway 9N locked out due to a tree taking down two sections of overhead primary conductor near pole 109 State Highway 9N. This event accounted for 14% of the total customers interrupted (1,269 of 9,097), and 26% of the total customer-hours interrupted (5,749 of 21,474). One hour and 44 minutes after the initial outage a switch was opened on pole 120 State Highway 9N to sectionalize the feeder, restoring 66 customers while repairs were being made to the

- remainder of the damage.
- The third 3-phase distribution recloser lockout occurred on July 24th, 2024 when recloser R8760 on pole 33 State Highway 9N locked out due to a fallen tree taking down the primary conductor and damaging a transformer near pole 556 State Highway 9N. This event accounted for 11% of the total customers interrupted (1,037 of 9,097), and 14.6% of the total customer-hours interrupted (3,133 of 21,474). The feeder was initially sectionalized two hours and six minutes after the initial outage, restoring 371 customers while repairs continued. The feeder was further sectionalized three hours and 32 minutes after the initial outage, restoring 663 customers, with the remaining three customers were restored when all repairs were completed.
- The fourth 3-phase distribution recloser lockout occurred on November 26th, 2024 when recloser R8760 on pole 33 State Highway 9N locked out due to a fallen tree taking down the primary at pole 557 State Highway 9N. This event accounted for 11% of the total customers interrupted (1,025 of 9,097), and 4% of the total customer-hours interrupted (905 of 21,474).
- The fifth 3-phase distribution recloser lockout occurred on December 17th, 2024 when recloser R8760 on pole 33 State Highway 9N locked out due to a fallen tree taking down the primary at pole 530 State Highway 9N. This event accounted for 11% of the total customers interrupted (1,019 of 9,097), and 11% of the total customer-hours interrupted (2,394 of 21,474). The outage was isolated using line switches one hour and 59 minutes after the initial outage, restoring 569 customers.
- Trees were the leading cause of interruptions on the Hague Road 41853 in 2024, accounting for 59% of total interruptions (19 of 32). Accidents were the 2nd leading cause of interruptions, accounting for 22% of total interruptions (7 of 32). Equipment failures were the 3rd leading cause of interruptions, accounting for 13% of total interruptions (4 of 32).
- Trees were the leading cause of customers interrupted (CI) on the Hague Road 41853 in 2024, accounting for 82% of total customers interrupted (7,490 of 9,097). Equipment failures were the 2nd leading cause of customers interrupted, accounting for 15% of total customers interrupted (1,352 of 9,097). Accidents were the 3rd leading cause of customers interrupted, accounting for 2% of total customers interrupted (211 of 9,097).
- Trees were the leading cause of customer-hours interrupted (CHI) on the Hague Road 41853 in 2024, accounting for 91% of total customer-hours interrupted (19,621 of 21,474). Equipment failures were the 2nd leading cause of customer-hours interrupted, accounting for 5% of total customer-hours interrupted (968 of 21,474). Accidents were the 3rd leading cause of customer-hours interrupted, accounting for 3% of total customer-hours interrupted (631 of 21,474).
- Of the 32 interruptions on this circuit, 14 affected 10 customers or less, with 6 being single customer outages.

Actions Taken:

- There are five 3-phase distribution reclosers and one single-phase recloser on the Hague Road 41853. These reclosers have proven to be beneficial to the reliability of the feeder since five of the mainline interruptions in 2024 were isolated by a three-phase recloser instead of affecting the entire feeder.
- Reclosers R7534 on pole 170 State Highway 9N and R8670 on pole 33 State Highway 9N, which were originally installed in the late 1990's, were replaced in 2021 with new state of the art 3-phase line reclosers with communications and remote operating capabilities.
- A Minor Storm Hardening project was completed in 2014, at a cost of \$959,928, to rebuild

and convert about 7,000 feet of Baldwin Road to 13.2 kV and install a new 3-phase recloser to protect the tap.

- A small capital improvement project was completed in 2019 to reconfigure the tap on Silver Bay Road to reduce exposure for customers in Silver Bay to tree related interruptions.
- A maintenance foot patrol of the Hague Road 41853 was completed in 2023, and all identified level 1 and 2 maintenance has been completed.
- A tree trimming and a hazard tree review, which removed 538 hazard trees and another 96 Ash trees infested with the Emerald Ash Borer, was completed on the Hague Road 41853 in FY2024.
- A maintenance foot patrol of the Ticonderoga-Whitehall #3, 115 kV transmission line was completed in 2020 and all identified maintenance was completed in 2023 during the line rebuild project identified below.
- A multi-year capital project was completed in 2023 which replaced about 200 115 kV transmission structures on the Ticonderoga-Whitehall #3 and Ticonderoga-Republic #2, 115 kV transmission lines and recondutored sections of each line to replace conductors which were in poor condition, or which had multiple splices due to past conductor failures.

Action Plan:

- Complete all level 3 maintenance identified on the Hague Road 41853 during the 2023 foot patrol.
- The next full tree trimming and hazard tree review cycle for the Hague Road 41853 will be conducted in FY2030, with planned mid-cycle hazard tree reviews.

9. NORTH CREEK 12251 – 13.2 kV

Profile: 1,988 Customers, 139.3 Circuit Miles

Indices: CAIDI = 2.14, SAIFI = 2.45

CAUSE CODE PERFORMANCE TABLE

Code	Category	Interruptions		Customers Interrupted		Customer Hours	
		Number	% Total	Number	% Total	Number	% Total
2	TREE	43	59.72%	2,193	44.95%	6,985	66.91%
3	OVERLOADS	0	0.00%	0	0.00%	0	0.00%
4	OPER. ERROR	0	0.00%	0	0.00%	0	0.00%
5	EQUIPMENT	8	11.11%	1,685	34.54%	1,732	16.59%
6	ACCIDENTS	1	1.39%	32	0.66%	35	0.33%
7	PREARRANGED	3	4.17%	707	14.49%	905	8.67%
8	CUST. EQUIP.	0	0.00%	0	0.00%	0	0.00%
9	LIGHTNING	2	2.78%	3	0.06%	22	0.21%
10	UNKNOWN	15	20.83%	259	5.31%	761	7.29%
Totals		72	100.00%	4,879	100.00%	10,439	100.00%

Problem Analysis:

- There were 72 interruptions on the North Creek 12251 in 2024.
- There were no transmission interruptions.
- There were no substation interruptions.
- All 72 events occurred at the distribution level, with the largest distribution event accounting for 24% of the total customers interrupted (1,174 of 4,879) and 14% of the total customer-hours interrupted (1,499 of 10,439).
- The distribution circuit breaker for the North Creek 12251 experienced 0 momentary operations in 2024.
- The distribution circuit breaker for the North Creek 12251 experienced 0 sustained operations (lockouts) in 2024.
- There were three 3-phase distribution recloser lockouts on the North Creek 12251 in 2024, two of which were caused by device failures, and one was caused by a tree event. These interruptions accounted for 42% of the total customers interrupted (2,068 of 4,879) and 18% of the total customer-hours interrupted (1,914 of 10,439).
 - The first 3-phase distribution recloser lockout occurred on February 11th, 2024 when recloser R810107 on pole 6-4 River Road locked out due the failure of another 3-phase recloser, R88982 on pole 154 County Route 29. This event accounted for 24% of the total customers interrupted (1,174 of 4,879), and 14% of the total customer-hours interrupted (1,499 of 10,439). R88982 was bypassed to restore all customers, and repairs were made to R88982.
 - The second 3-phase distribution recloser lockout occurred on April 19th, 2024 when recloser R89179 on pole 26 ½ County Route 77 locked out due a fallen tree taking down the overhead primary conductor between poles 40 and 43 County Route 77. This event accounted for 9% of the total customers interrupted (415 of 4,879), and 3% of the total customer-hours interrupted (336 of 10,439).

- The third 3-phase distribution recloser lockout occurred on June 9th, 2024 when recloser R88982 on pole 154 County Route 29 locked out due to an internal failure. This event accounted for 10% of the total customers interrupted (479 of 4,879), and 1% of the total customer-hours interrupted (79 of 10,439). R88982 was bypassed to restore all customers and was later replaced due to repeated failures.
- Trees were the leading cause of interruptions on the North Creek 12251 in 2024, accounting for 66% of total interruptions (43 of 72). Events with an unknown cause were the 2nd leading cause of interruptions, accounting for 21% of total interruptions (15 of 72). Equipment failures were the 3rd leading cause of interruptions, accounting for 11% of total interruptions (8 of 72).
- Trees were the leading cause of customers interrupted (CI) on the North Creek 12251 in 2024, accounting for 45% of total customers interrupted (2,193 of 4,879). Equipment Failures were the 2nd leading cause of customers interrupted, accounting for 35% of total customers interrupted (1,685 of 4,879). Prearranged outages for company work were the 3rd leading cause of customers interrupted, accounting for 14% of total customers interrupted (707 of 4,879).
- Trees were the leading cause of customer-hours interrupted (CHI) on the North Creek 12251 in 2024, accounting for 67% of total customer-hours interrupted (6,985 of 10,439). Equipment Failures were the 2nd leading cause of customer-hours interrupted, accounting for 17% of total customer-hours interrupted (1,732 of 10,439). Prearranged outages for company work were the 3rd leading cause of customer-hours interrupted, accounting for 9% of total customer-hours interrupted (905 of 10,439).
- Of the 72 interruptions on this circuit, 31 affected 10 customers or less, with 17 being single customer outages.

Actions Taken:

- There are four 3-phase reclosers on the North Creek 12251. Two reclosers were installed in 2009, the two other reclosers originally installed in the mid 1990's were replaced in 2018 and 2021 with new 3-phase reclosers with communications and remote operating capabilities. One recloser was additionally replaced in 2024 with a new 3-phase recloser unit with full communications and remote operation capabilities due to an equipment failure.
- Five TripSaver, cut-out mounted reclosers were added on various large single-phase taps on the North Creek 12251 in 2015. One additional TripSaver was installed in each of 2019 and 2020.
- A capital improvement project was completed in 2014 at a cost of about \$94,000 to rebuild the first 2,500 feet of rear-lot, single-phase distribution adjacent to Byrnes Road with new 7.62 kV single-phase distribution along the road.
- Tree trimming and a hazard tree review, which removed 472 hazard trees and another 67 Ash trees infested with the Emerald Ash Borer, was completed on the North Creek 12251 in FY2022, with additional mid cycle hazard tree removal was performed in FY2025.
- A maintenance foot patrol of the North Creek 12251 was completed in 2024, and all identified level 1 and 2 maintenance was completed.

Action Plan:

- Complete all identified level 3 maintenance on the North Creek 12251.
- The next full tree trimming and hazard tree review cycle for the North Creek 12251 will be conducted in FY2028.

10. UNION STREET 37652 – 13.2 kV

Profile: 950 Customers, 74.2 Circuit Miles

Indices: CAIDI = 2.43, SAIFI = 3.97

CAUSE CODE PERFORMANCE TABLE

Code	Category	Interruptions		Customers Interrupted		Customer Hours	
		Number	% Total	Number	% Total	Number	% Total
2	TREE	13	68.42%	1,670	44.23%	5,151	56.07%
3	OVERLOADS	0	0.00%	0	0.00%	0	0.00%
4	OPER. ERROR	0	0.00%	0	0.00%	0	0.00%
5	EQUIPMENT	2	10.53%	79	2.09%	297	3.23%
6	ACCIDENTS	1	5.26%	948	25.11%	2,328	25.34%
7	PREARRANGED	1	5.26%	128	3.39%	155	1.69%
8	CUST. EQUIP.	0	0.00%	0	0.00%	0	0.00%
9	LIGHTNING	1	5.26%	2	0.05%	5	0.06%
10	UNKNOWN	1	5.26%	949	25.13%	1,250	13.61%
Totals		19	100.00%	3,776	100.00%	9,187	100.00%

Problem Analysis:

- There were 19 interruptions on the Union Street 37652 in 2024.
- There were 2 transmission interruptions on the Union Street 37652 in 2024. These interruptions accounted for 50% of the total amount of customers interrupted (1,896 out of 3,776) and 34% of the total amount of the customer-hours interrupted (3,160 out of 9,187).
 - The first Transmission interruption which occurred on January 10, 2024 was caused by a tree on pole 32 of the Cambridge-Hoosick #3, 34.5 kV line but was erroneously listed as unknown (PSC cause code 10). This event accounted for 25% of the total customers interrupted (949 of 3,776), and 14% of the total customer-hours interrupted (1,250 of 9,187).
 - The second Transmission interruption occurred on June 23, 2024 when a tree broke a cross arm on the Cambridge-Hoosick #3, 34.5 kV line between the Union Street and Hoosick Substation (PSC cause code 02). This lockout accounted for 25% of the total customers interrupted (947 of 3,776), and 21% of the total customer-hours interrupted (1,910 of 9,187).
- There were no substation interruptions.
- The remaining 17 events occurred at the distribution level.
- The distribution circuit breaker for the Union Street 37652 experienced 0 momentary operations in 2024.
- The distribution circuit breaker for the Union Street 37652 experienced 1 sustained operation (lockout) in 2024. This lockout occurred on January 13, 2024 due to a motor vehicle accident at 2106 State Highway 22 (PSC cause code 06) which affected all three feeders within the Union Street substation. This interruption accounted for 25% of the total amount of customers interrupted (948 out of 3,776) and 25% of the total amount of the customer-hours interrupted (2,328 out of 9,187).
- There was one 3-phase distribution recloser lockout on the Union Street 37654 in 2024.

This blackout occurred on June 23rd, 2024 when recloser R89110 on pole 1½ County Highway 59 locked open due to multiple tree issues from a minor storm. This event accounted for 11% of the total customers interrupted (422 of 3,776), and 24% of the customer-hours interrupted (2,229 of 9,187).

- The two Transmission related interruptions when combined with the feeder blackout and 3-phase recloser blackouts accounted for only four of the 19 interruptions on the Union Street 37652 in 2024 (21%) but they affected 3,264 customers (86%) and accounted for 7,716 customer-hours of interruption (84%).
- Trees were the leading cause of interruptions on the Union Street 37652 in 2024, accounting for 68% of total interruptions (13 of 19). Equipment Failures were the 2nd leading cause of interruptions, accounting for 11% of total interruptions (2 of 19). Accidents, prearranged, lightning, and unknown were the 3rd leading cause of interruptions, accounting for 5% of total interruptions each (1 of 19).
- Trees were the leading cause of customers interrupted (CI) on the Union Street 37652 in 2024, accounting for 44% of total customers interrupted (1,670 of 3,776). Unknown were the 2nd leading cause of customers interrupted, accounting for 25% of total customers interrupted (949 of 3,776). Accidents were the 3rd leading cause of customers interrupted, accounting for 25% of total customers interrupted (948 of 3,776).
- Trees were the leading cause of customer-hours interrupted (CHI) on the Union Street 37652 in 2024, accounting for 56% of total customer-hours interrupted (5,151 of 9,187). Accidents were the 2nd leading cause of customer-hours interrupted, accounting for 25% of total customer-hours interrupted (2,328 of 9,187). Unknown were the 3rd leading cause of customer-hours interrupted, accounting for 14% of total customer-hours interrupted (1,250 of 9,187).
- Of the 19 interruptions on this circuit, 6 affected 10 customers or less, with 1 being single customer outages.

Actions Taken:

- There are two 3-phase reclosers on the Union Street 37652, both of which were installed in 2009.
- A capital improvement project was completed in 2015 at a cost of \$420,402 to rebuild and convert to approximately 1.3 miles of 3-phase, 13.2 kV mainline on State Highway 372, in order to relieve an overloaded 13.2/4.8 kV step down transformer.
- A capital improvement project was completed in 2022 at a cost of \$142,132 to construct 1,624 feet of new single phase distribution on Brownell and Cambridge Roads to allow the removal of 1,422 feet of heavily treed rear lot distribution.
- A capital improvement project was completed in 2022 at a cost of \$206,584 to construct approximately 2,600 feet of new 7.62 kV single-phase distribution on Content Farm and Wallace Roads to allow the removal of approximately 2,700 feet of rear lot distribution built during rural electrification.
- A maintenance foot patrol was performed in 2020 and all identified maintenance has been completed.
- Tree trimming and a hazard tree review was completed in fiscal year 2022.

Action Plan:

- A maintenance foot patrol of the Union Street 37652 is scheduled for 2025.
- Tree trimming and a hazard tree review are scheduled to be performed on the Union Street 37652 in fiscal year 2028.

11. CLINTON 36653 – 13.2 kV

Profile: 2,144 Customers, 84.7 Circuit Miles
Indices: CAIDI = 3.48, SAIFI = 2.26

CAUSE CODE PERFORMANCE TABLE

Code	Category	Interruptions		Customers Interrupted		Customer Hours	
		Number	% Total	Number	% Total	Number	% Total
2	TREE	8	32.00%	3,907	80.72%	13,454	79.83%
3	OVERLOADS	0	0.00%	0	0.00%	0	0.00%
4	OPER. ERROR	0	0.00%	0	0.00%	0	0.00%
5	EQUIPMENT	7	28.00%	176	3.64%	543	3.22%
6	ACCIDENTS	4	16.00%	540	11.16%	2,527	14.99%
7	PREARRANGED	0	0.00%	0	0.00%	0	0.00%
8	CUST. EQUIP.	0	0.00%	0	0.00%	0	0.00%
9	LIGHTNING	1	4.00%	1	0.02%	10	0.06%
10	UNKNOWN	5	20.00%	216	4.46%	318	1.89%
Totals		25	100.00%	4,840	100.00%	16,852	100.00%

Problem Analysis:

- There were 25 interruptions on the Clinton 36653 in 2024.
- There were no transmission interruptions.
- There were no substation interruptions.
- All 25 events occurred at the distribution level.
- The distribution circuit breaker for the Clinton 36653 experienced 0 momentary operations in 2024.
- The distribution circuit breaker for the Clinton 36653 experienced 0 sustained operations (lockouts) in 2024.
- There were four 3-phase distribution recloser lockouts on the Clinton 36653 in 2024 three of which were caused by trees and the fourth was the result of an animal. These interruptions accounted for 4,093 customers interrupted (85%) and 13,373 customer-hours of interruption (79%).
 - The first 3-phase distribution recloser lockout occurred on May 26th, 2024 when recloser R95401 on pole 6 Waddell Avenue locked open due to a raccoon at pole 9 Waddell Avenue. This event accounted for 7% of the total customers interrupted (329 of 4,840), and 5% of the customer-hours interrupted (861 of 16,852).
 - The second 3-phase distribution recloser lockout occurred on June 6th, 2024 when recloser R5549 on pole 48 Old Fort Plain Road locked open when a tree fell on the primary at pole 57 Old Fort Plain Road. This event accounted for 17% of the total customers interrupted (846 of 4,840), and 19% of the customer-hours interrupted (3,201 of 16,852).
 - The third 3-phase distribution recloser lockout occurred on June 9th, 2024 when

recloser R5549 on pole 48 Old Fort Plain Road locked open due to a tree limb across the primary at pole 60 Old Fort Plain Road. This event accounted for 30% of the total customers interrupted (1,461 of 4,840), and 27% of the customer-hours interrupted (4,553 of 16,852)

- The fourth 3-phase distribution recloser lockout occurred on August 3rd, 2024 when recloser R5549 on pole 48 Old Fort Plain Road locked open due to a tree on the primary between poles 59 and 60 Old Fort Plain Road. This event accounted for 30% of the total customers interrupted (1,457 of 4,840), and 28% of the customer-hours interrupted (4,758 of 16,852)
- Trees were the leading cause of interruptions on the Clinton 36653 in 2024, accounting for 32% of total interruptions (8 of 25). Equipment Failures were the 2nd leading cause of interruptions, accounting for 28% of total interruptions (7 of 25). Unknown was the 3rd leading cause of interruptions, accounting for 20% of total interruptions (5 of 25).
- Trees were the leading cause of customers interrupted (CI) on the Clinton 36653 in 2024, accounting for 81% of total customers interrupted (3,907 of 4,840). Accidents were the 2nd leading cause of customers interrupted, accounting for 11% of total customers interrupted (540 of 4,840). Unknown was the 3rd leading cause of customers interrupted, accounting for 4% of total customers interrupted (216 of 4,840).
- Trees were the leading cause of customer-hours interrupted (CHI) on the Clinton 36653 in 2024, accounting for 80% of total customer-hours interrupted (13,454 of 16,852). Accidents were the 2nd leading cause of customer-hours interrupted, accounting for 15% of total customer-hours interrupted (2,527 of 16,852). Equipment Failures were the 3rd leading cause of customer-hours interrupted, accounting for 3% of total customer-hours interrupted (543 of 16,852).
- Of the 25 interruptions on this circuit, 8 affected 10 customers or less, with 6 being single customer outages.

Actions Taken:

- There are four 3-phase reclosers and one single-phase recloser on the Clinton 36653. One of the 3-phase reclosers was originally installed in 2000 while two others and the single phase recloser were installed in 2008 as a part of feeder hardening. The fourth 3-phase recloser was installed in 2012 as part of a capital project to convert Fort Plain 13.2 kV which also reversed the direction of one of the reclosers installed in 2008.
- A maintenance foot patrol of the Clinton 36653 was completed in 2021 and all identified maintenance has been completed.

Action Plan:

- Tree trimming and a hazard tree review of the Clinton 36653 is in process and scheduled to be completed in FY2025.
- A maintenance foot patrol of the Clinton 36653 is scheduled for 2026.

12. MIDDLEBURG 39051 – 13.2 kV

Profile: 1,300 Customers, 111.04 Circuit Miles
Indices: CAIDI = 2.80, SAIFI = 2.20

CAUSE CODE PERFORMANCE TABLE

Code	Category	Interruptions		Customers Interrupted		Customer Hours	
		Number	% Total	Number	% Total	Number	% Total
2	TREE	22	52.38%	600	21.02%	1,660	20.79%
3	OVERLOADS	0	0.00%	0	0.00%	0	0.00%
4	OPER. ERROR	0	0.00%	0	0.00%	0	0.00%
5	EQUIPMENT	6	14.29%	2,018	70.71%	6,062	75.89%
6	ACCIDENTS	5	11.90%	10	0.35%	49	0.61%
7	PREARRANGED	1	2.38%	189	6.62%	29	0.37%
8	CUST. EQUIP.	0	0.00%	0	0.00%	0	0.00%
9	LIGHTNING	1	2.38%	1	0.04%	17	0.21%
10	UNKNOWN	7	16.67%	36	1.26%	171	2.14%
Totals		42	100.00%	2,854	100.00%	7,987	100.00%

Problem Analysis:

- There were 42 interruptions on the Middleburg 39051 in 2024.
- There were no transmission interruptions.
- There were no substation interruptions.
- All 42 events occurred at the distribution level.
- The distribution circuit breaker for the Middleburg 39051 experienced 0 momentary operations in 2024.
- The distribution circuit breaker for the Middleburg 39051 experienced 0 sustained operations (lockouts) in 2024.
- Trees were the leading cause of interruptions on the Middleburg 39051 in 2024, accounting for 52% of total interruptions (22 of 42). Unknown was the second leading cause of interruptions, accounting for 17% of total interruptions (7 of 42). Equipment Failures were the third leading cause of interruptions, accounting for 14% of total interruptions (6 of 42).
- Equipment Failures were the leading cause of customers interrupted (CI) on the Middleburg 39051 in 2024, accounting for 71% of total customers interrupted (2,018 of 2,854). Trees were the second leading cause of customers interrupted, accounting for 21% of total customers interrupted (600 of 2,854). Prearranged Outages was the third leading cause of customers interrupted, accounting for 7% of total customers interrupted (189 of 2,854).
- Equipment Failures were the leading cause of customer-hours interrupted (CHI) on the Middleburg 39051 in 2024, accounting for 76% of total customer-hours interrupted (6,062 of 7,987). Trees were the second leading cause of customer-hours interrupted, accounting for 21% of total customer-hours interrupted (1,660 of 7,987). Unknown Outages were the

third leading cause of customer-hours interrupted, accounting for 2% of total customer-hours interrupted (171 of 7,987).

- Of the 42 interruptions on this circuit, 26 affected 10 customers or less, with 12 being single customer outages.

Actions Taken:

- There are three 3-phase reclosers on the Middleburg 39051. These reclosers have assisted with minimizing customers interrupted and customer hours interrupted since they were installed.
- A capital project was completed in 2023 to create a loop scheme between the Middleburg 39051 and the Schoharie 23451 at a cost of \$360,273, which automatically transfers 349 customers from the Middleburg 39051 to the Schoharie 23451 in the event of a substation or transmission-level event, thereby decreasing the customer-hours interrupted.
- A maintenance foot patrol was performed on the Middleburg 39051 in 2020 and all identified level 1 and 2 maintenance has been completed.
- Tree trimming and a hazard tree review was completed on the Middleburg 39051 in FY2020.

Action Plan:

- Complete all identified level 3 maintenance on the Middleburg 39051.
- A maintenance foot patrol is scheduled to be completed on the Middleburg 39051 in 2025.
- Tree trimming and a hazard tree review is scheduled to be completed on the Middleburg 39051 in FY2026.

13. GRAND STREET 43351 – 13.2 kV

Profile: 1,905 Customers, 101.586 Circuit Miles
Indices: CAIDI = 3.93, SAIFI = 2.28

CAUSE CODE PERFORMANCE TABLE

Code	Category	Interruptions		Customers Interrupted		Customer Hours	
		Number	% Total	Number	% Total	Number	% Total
2	TREE	10	47.62%	4,158	95.87%	16,063	94.19%
3	OVERLOADS	1	4.76%	3	0.07%	6	0.03%
4	OPER. ERROR	0	0.00%	0	0.00%	0	0.00%
5	EQUIPMENT	2	9.52%	41	0.95%	78	0.46%
6	ACCIDENTS	3	14.29%	104	2.40%	848	4.97%
7	PREARRANGED	0	0.00%	0	0.00%	0	0.00%
8	CUST. EQUIP.	0	0.00%	0	0.00%	0	0.00%
9	LIGHTNING	0	0.00%	0	0.00%	0	0.00%
10	UNKNOWN	5	23.81%	31	0.71%	59	0.34%
Totals		21	100.00%	4,337	100.00%	17,053	100.00%

Problem Analysis:

- There were 21 interruptions on the Grand Street 43351 in 2024.
- There were no transmission interruptions.
- There were no substation interruptions.
- All 21 events occurred at the distribution level.
- The distribution circuit breaker for the Grand Street 43351 experienced 1 momentary operation in 2024.
- The distribution circuit breaker for the Grand Street 43351 experienced 2 sustained operations (lockouts) in 2024. These interruptions accounted for 88% of the total amount of customers interrupted (3,811 out of 4,337) and 73% of the total amount of the customer-hours interrupted (12,533 out of 17,053).
 - The first lockout occurred on January 29, 2024, due to a fallen tree that took down primary at pole 21 on Mineral Springs Road (PSC cause code 02). This lockout accounted for 44% of the total customers interrupted (1,911 of 4,337), and 62% of the total customer-hours interrupted (10,599 of 17,053). Switching was performed to isolate the fault and restore nearly half the customers interrupted within the first half of the total outage duration.
 - The second lockout occurred on June 19, 2024, due to a fallen tree that took down primary between poles 42 and 44 on Mineral Springs Road (PSC cause code 02). This lockout accounted for 44% of the total customers interrupted (1,900 of 4,337), and 11% of the total customer-hours interrupted (1,934 of 17,053). Switching was performed to isolate the fault and restore nearly half the customers interrupted within 30 minutes.

- Trees were the leading cause of interruptions on the Grand Street 43351 in 2024, accounting for 48% of total interruptions (10 of 21). Unknown were the second leading cause of interruptions, accounting for 24% of total interruptions (5 of 21). Accidents were the third leading cause of interruptions, accounting for 14% of total interruptions (3 of 21).
- Trees were the leading cause of customers interrupted (CI) on the Grand Street 43351 in 2024, accounting for 96% of total customers interrupted (4,158 of 4,337). Accidents were the second leading cause of customers interrupted, accounting for 2% of total customers interrupted (104 of 4,337). Equipment Failures were the third leading cause of customers interrupted, accounting for 1% of total customers interrupted (41 of 4,337).
- Trees were the leading cause of customer-hours interrupted (CHI) on the Grand Street 43351 in 2024, accounting for 94% of total customer-hours interrupted (16,063 of 17,053). Accidents were the second leading cause of customer-hours interrupted, accounting for 5% of total customer-hours interrupted (848 of 17,053). Equipment Failures were the third leading cause of customer-hours interrupted, accounting for 0.5% of total customer-hours interrupted (78 of 17,053).
- Of the 21 interruptions on this circuit, 13 affected 10 customers or less, with 7 being single customer outages.

Actions Taken:

- There are five 3-phase reclosers and two single-phase reclosers on the Grand Street 43351. One of the 3-phase reclosers was installed in 2008, while a second 3-phase recloser and both single-phase reclosers were installed in January of 2009. One of the remaining 3-phase reclosers had a new controller installed in 2009. The remaining two 3-phase reclosers have been in service since the mid 1990's, but recently were reprogrammed with new settings.
- A capital project was completed in 2023 at a cost of \$224,834 to construct about 1,500 feet of 3-phase, 13.2 kV distribution on State Highway 145 and 1,400 feet of single phase, 7.62 kV on Ecker Hollow Road to allow the removal of 2,050 feet of rear lot distribution.
- Tree trimming and a hazard tree review was completed on the Grand Street 43351 in FY2023
- A maintenance foot patrol was performed on the Grand Street 43351 in 2022 and all identified level 1 and 2 maintenance has been completed.

Action Plan:

- Tree trimming and a hazard tree review is scheduled to be completed on the Grand Street 43351 in FY2029.
- Complete all identified level 3 maintenance on the Grand Street 43351.
- A maintenance foot patrol is scheduled to be completed on the Grand Street 43351 in 2027.

14. SCHROON LAKE 42951 – 13.2 kV

Profile: 2,426 Customers, 127.5 Circuit Miles
Indices: CAIDI = 1.35, SAIFI = 2.92

CAUSE CODE PERFORMANCE TABLE

Code	Category	Interruptions		Customers Interrupted		Customer Hours	
		Number	% Total	Number	% Total	Number	% Total
2	TREE	36	64.29%	3,942	55.66%	7,204	75.11%
3	OVERLOADS	0	0.00%	0	0.00%	0	0.00%
4	OPER. ERROR	0	0.00%	0	0.00%	0	0.00%
5	EQUIPMENT	3	5.36%	267	3.77%	111	1.16%
6	ACCIDENTS	5	8.93%	345	4.87%	1,753	18.28%
7	PREARRANGED	1	1.79%	1	0.01%	2	0.02%
8	CUST. EQUIP.	0	0.00%	0	0.00%	0	0.00%
9	LIGHTNING	3	5.36%	22	0.31%	63	0.65%
10	UNKNOWN	8	14.29%	2,505	35.37%	458	4.78%
Totals		56	100.00%	7,082	100.00%	9,592	100.00%

Problem Analysis:

- There were 56 interruptions on the Schroon Lake 42951 in 2024.
- There was 1 transmission interruption which occurred on March 20, 2024, with an unknown cause (PSC cause code 10). This interruption was caused by a lockout of a 3-phase recloser R366 on structure 102 ½ on the Chestertown – Schroon #3, 34.5 kV sub-transmission line. This lockout accounted for 34% of the total customers interrupted (2,405 of 7,082), and 3% of the total customer-hours interrupted (243 of 9,592).
- There were no substation interruptions.
- The remaining 55 events occurred at the distribution level, with the largest distribution interruption affecting 1,076 customers (15%) and accounting for 1201 customer-hours of interruption (13%).
- The distribution circuit breaker for the Schroon Lake 42951 experienced 0 momentary operations in 2024.
- The distribution circuit breaker for the Schroon Lake 42951 experienced 0 sustained operations (lockouts) in 2024.
- There were six 3-phase distribution recloser lockouts on the Schroon Lake 42951 in 2024, five of which were caused by trees, and one of which was caused by a motor vehicle accident. These interruptions account for 3,332 customers interrupted (47%) and 4,279 customer-hours of interruption (45%).
 - The first 3-phase distribution recloser lockout occurred on January 13th, 2024 when recloser R87420 on pole 140 US Highway 9 locked out due to a tree on the primary near pole 196 US Highway 9. This event accounted for 5% of the total customers interrupted (325 of 7,082) and 5% of the customer-hours interrupted (434 of 9,592).

- The second 3-phase distribution recloser lockout occurred on January 14th, 2024 when recloser R87420 on pole 140 US Highway 9 locked out due to a tree on the primary near pole 162 US Highway 9. This event accounted for 5% of the total customers interrupted (325 of 7,082) and 8% of the customer-hours interrupted (796 of 9,592).
- The third 3-phase distribution recloser lockout occurred on March 18th, 2024 when recloser R87420 on pole 140 US Highway 9 locked out due to a motor vehicle accident breaking pole 142 US Highway 9. This event accounted for 4% of the total customers interrupted (328 of 7,082) and 18% of the customer-hours interrupted (1,693 of 9,592).
- The fourth 3-phase distribution recloser lockout occurred on April 20th, 2024 when recloser R87511 on pole 319 US Highway 9 locked out due to a tree limb causing a fault near pole 269 US Highway 9. This event accounted for 13% of the total customers interrupted (950 of 7,082) and 11% of the customer-hours interrupted (1,080 of 9,592).
- The fifth 3-phase distribution recloser lockout occurred on May 27th, 2024 when recloser R87420 on pole 140 US Highway 9 locked out due to a tree limb on the primary near pole 173 US Highway 9. This event accounted for 4% of the total customers interrupted (328 of 7,082) and 3% of the customer-hours interrupted (333 of 9,592).
- The sixth 3-phase distribution recloser lockout occurred on June 6th, 2024 when recloser R89128 on pole 26 US Highway 9 locked out due to a fallen tree near pole 53 ½ US Highway 9. This event accounted for 15% of the total customers interrupted (1,076 of 7,082) and 13% of the customer-hours interrupted (1,201 of 9,592).
- The one transmission interruption combined with the six 3-phase line recloser lockouts accounted for seven of the interruptions on the Schroon Lake 51 in 2024 (13%), but affected 5,737 customers (81%) and accounted for 5,779 customer-hours of interruption (60%).
- When considering distribution interruptions only the Schroon Lake 42951 had a SAIFI of 1.92 and a CAIDI of 1.99.
- Trees were the leading cause of interruptions on the Schroon Lake 42951 in 2024, accounting for 64% of total interruptions (36 of 56). Events with an unknown cause were the 2nd leading cause of interruptions, accounting for 14% of total interruptions (8 of 56). Accidents were the 3rd leading cause of interruptions, accounting for 9% of total interruptions (5 of 56).
- Trees were the leading cause of customers interrupted (CI) on the Schroon Lake 42951 in 2024, accounting for 56% of total customers interrupted (3,942 of 7,082). Events with an unknown cause were the 2nd leading cause of customers interrupted, accounting for 35% of total customers interrupted (2,505 of 7,082). Events with an unknown case were the 3rd leading cause of customers interrupted, accounting for less than 1% of total customers interrupted (345 of 7,082).
- Trees were the leading cause of customer-hours interrupted (CHI) on the Schroon Lake 42951 in 2024, accounting for 73% of total customer-hours interrupted (7,204 of 9,592). Accidents were the 2nd leading cause of customer-hours interrupted, accounting for 18% of total customer-hours interrupted (1,753 of 9,592). Events with an unknown cause were the 3rd leading cause of customer-hours interrupted, accounting for less than 1% of total

customer-hours interrupted (458 of 9,592).

- Of the 56 interruptions on this circuit, 30 affected 10 customers or less, with 13 being single customer outages.

Actions Taken:

- There are four 3-phase distribution reclosers, one single-phase recloser, and five single-phase, TripSaver reclosers on the Schroon Lake 42951. Two of the 3-phase reclosers are part of the Pottersville 51/Schroon Lake 51 loop scheme that was installed in 2010 which automatically restores service to 1,040 of the 2,426 customers on the Schroon Lake 42951 (42%) in the event of a transmission or substation outage. In addition, the loop scheme reclosers allow the remote transfer of additional load during an interruption depending upon the loading of the Pottersville and Schroon Lake feeders at the time of the interruption.
- A capital project was completed in 2018 to replace the submarine cable serving Clark's Island and the 17 additional customers on the east shore of Schroon Lake only accessible by water at a cost of \$305,193.
- A Minor Storm Hardening project was completed on the Schroon Lake 42951 in 2019 rebuilding approximately 2 miles of rear lot 4.8 kV single-phase distribution near Hoffman Road with new 7.62 kV single-phase distribution along the road at a cost of \$523,458.
- A Minor Storm Hardening project was completed on the Schroon Lake 42951 in early 2021, rebuilding approximately 1/2 mile of rear lot 4.8 kV, 3-phase distribution adjacent to Blue Ridge Road with new 13.2 kV, 3-phase distribution directly adjacent to the road.
- The bi-directional voltage regulator on pole 206 on U.S. Highway 9 which is an integral part of the Pottersville 51/Schroon Lake 51 loop scheme was replaced in 2021.
- A project to add external, expulsion fuses to 93 completely self-protected (CSP) transformers on the 3-phase mainline was completed in 2023.
- A project was constructed in 2023 to increase the size of existing voltage regulators and add additional voltage regulators on U.S. Highway 9 to increase the capacity of the feeder in North Hudson for a total cost of \$106,000.
- A maintenance foot patrol was performed on the Schroon Lake 42951 in 2024, and all level 1 maintenance has been completed.
- Tree trimming and a hazard tree review was completed on the Schroon Lake 42951 in FY2022.

Action Plan:

- Complete all level 2 and 3 maintenance identified on the Schroon Lake 42951 in the 2024 foot patrol.
- The next full tree trimming and hazard tree review cycle for the Schroon Lake 42951 will be conducted in FY2029, with mid-cycle hazard tree reviews.

15. EAST SPRINGFIELD 47751 – 13.2 kV

Profile: 1,027 Customers, 94.015 Circuit Miles
Indices: CAIDI = 2.25, SAIFI = 3.59

CAUSE CODE PERFORMANCE TABLE

Code	Category	Interruptions		Customers Interrupted		Customer Hours	
		Number	% Total	Number	% Total	Number	% Total
2	TREE	5	27.78%	788	21.40%	1,373	16.56%
3	OVERLOADS	0	0.00%	0	0.00%	0	0.00%
4	OPER. ERROR	0	0.00%	0	0.00%	0	0.00%
5	EQUIPMENT	7	38.89%	2,452	66.59%	6,176	74.53%
6	ACCIDENTS	2	11.11%	2	0.05%	36	0.43%
7	PREARRANGED	1	5.56%	1	0.03%	1	0.01%
8	CUST. EQUIP.	0	0.00%	0	0.00%	0	0.00%
9	LIGHTNING	0	0.00%	0	0.00%	0	0.00%
10	UNKNOWN	3	16.67%	439	11.92%	701	8.45%
Totals		18	100.00%	3,682	100.00%	8,286	100.00%

Problem Analysis:

- There were 24 interruptions on the East Springfield 47751 in 2023.
- There were 18 interruptions on the East Springfield 47751 in 2024.
- There were no transmission interruptions.
- There were 2 substation interruptions.
 - The first Substation interruption occurred on December 14, 2024, coded as a device failure (PSC cause code 05). This lockout accounted for 28% of the total customers interrupted (1,021 of 3,682), and 30% of the total customer-hours interrupted (2,498 of 8,286).
 - The second Substation interruption occurred on December 15, 2024, coded as a device failure (PSC cause code 05). This lockout accounted for 28% of the total customers interrupted (1,021 of 3,682), and 33% of the total customer-hours interrupted (2,760 of 8,286).
 - In both instances, the breaker locked open due to a faulty relay contact within the substation transformer. After initial testing was performed to determine the cause of the East Springfield 47751 breaker lockouts, the faulty relay has been disabled until further testing and mitigations, which require the substation transformer to be taken out of service, can be completed.
- The remaining 16 events occurred at the distribution level.
- The distribution circuit breaker for the East Springfield 47751 experienced 1 momentary operation in 2024.
- The distribution circuit breaker for the East Springfield 47751 experienced 0 sustained operations (lockouts) in 2024.

- Equipment Failures were the leading cause of interruptions on the East Springfield 47751 in 2024, accounting for 39% of total interruptions (7 of 18). Trees were the second leading cause of interruptions, accounting for 28% of total interruptions (5 of 18). Unknown was the third leading cause of interruptions, accounting for 17% of total interruptions (3 of 18).
- Equipment Failures were the leading cause of customers interrupted (CI) on the East Springfield 47751 in 2024, accounting for 67% of total customers interrupted (2,452 of 3,682). Trees were the second leading cause of customers interrupted, accounting for 21% of total customers interrupted (788 of 3,682). Unknown was the third leading cause of customers interrupted, accounting for 12% of total customers interrupted (439 of 3,682).
- Equipment Failures were the leading cause of customer-hours interrupted (CHI) on the East Springfield 47751 in 2024, accounting for 75% of total customer-hours interrupted (6,176 of 8,286). Trees were the second leading cause of customer-hours interrupted, accounting for 17% of total customer-hours interrupted (1,373 of 8,286). Unknown was the third leading cause of customer-hours interrupted, accounting for 8% of total customer-hours interrupted (701 of 8,286).
- Of the 18 interruptions on this circuit, 9 affected 10 customers or less, with 5 being single customer outages.

Actions Taken:

- There are three 3-phase line reclosers on the East Springfield 47751. Two were installed in 2005 and the third upgraded in 2013.
- A project was completed in 2023 to remove approximately 1,500 feet of rear lot and improve fusing coordination on the East Springfield 47751 near County Highway 34A.
- Tree trimming and a hazard tree review was completed on the East Springfield 47751 in FY2022.
- A maintenance foot patrol was performed on the East Springfield 47751 in 2020 and all identified level 1 and 2 maintenance has been completed.

Action Plan:

- Tree trimming and a hazard tree review is scheduled to be completed on the East Springfield 47751 in FY2028.
- Complete all identified level 3 maintenance on the East Springfield 47751.
- A maintenance foot patrol is scheduled to be completed on the East Springfield 47751 in 2025.

16. VAIL MILLS 39252 – 13.2 kV

Profile: 2,817 Customers, 131.5 Circuit Miles

Indices: CAIDI = 4.72, SAIFI = 1.63

CAUSE CODE PERFORMANCE TABLE

Code	Category	Interruptions		Customers Interrupted		Customer Hours	
		Number	% Total	Number	% Total	Number	% Total
2	TREE	22	57.89%	4,072	88.77%	19,527	90.25%
3	OVERLOADS	0	0.00%	0	0.00%	0	0.00%
4	OPER. ERROR	1	2.63%	1	0.02%	2	0.01%
5	EQUIPMENT	1	2.63%	1	0.02%	12	0.06%
6	ACCIDENTS	5	13.16%	219	4.77%	1,300	6.01%
7	PREARRANGED	0	0.00%	0	0.00%	0	0.00%
8	CUST. EQUIP.	0	0.00%	0	0.00%	0	0.00%
9	LIGHTNING	1	2.63%	91	1.98%	213	0.98%
10	UNKNOWN	8	21.05%	203	4.43%	584	2.70%
Totals		38	100.00%	4,587	100.00%	21,638	100.00%

Problem Analysis:

- There were 38 interruptions on the Vail Mills 39252 in 2024.
- There were no transmission interruptions.
- There were no substation interruptions.
- All 38 events occurred at the distribution level.
- The distribution circuit breaker for the Vail Mills 39252 experienced 1 momentary operation in 2024.
- The distribution circuit breaker for the Vail Mills 39252 experienced 0 sustained operations (lockouts) in 2024.
- There was one distribution 3-phase recloser lockout on the Vail Mills 39252 in 2024 which occurred on June 28, 2024 when recloser R5237 on pole 5 State Highway 29 locked open when a tree fell and broke a crossarm bringing down the primary at pole 10 State Highway 29. This interruption accounted for 46% of the total customers interrupted (2,103 of 4,587) but because of the extent of the damage and the fact that it occurred at 1:20 AM it took 7 hours and 43 minutes to repair accounting for 70% of the total customer-hours interrupted (15,101 of 21,638).
- Trees were the leading cause of interruptions on the Vail Mills 39252 in 2024, accounting for 58% of total interruptions (22 of 38). Unknown was the 2nd leading cause of interruptions, accounting for 21% of total interruptions (8 of 38). Accidents were the 3rd leading cause of interruptions, accounting for 13% of total interruptions (5 of 38).
- Trees were the leading cause of customers interrupted (CI) on the Vail Mills 39252 in 2024, accounting for 89% of total customers interrupted (4,072 of 4,587). Accidents were the 2nd leading cause of customers interrupted, accounting for 5% of total customers

interrupted (219 of 4,587). Unknown was the 3rd leading cause of customers interrupted, accounting for 4% of total customers interrupted (203 of 4,587).

- Trees were the leading cause of customer-hours interrupted (CHI) on the Vail Mills 39252 in 2024, accounting for 90% of total customer-hours interrupted (19,527 of 21,638). Accidents were the 2nd leading cause of customer-hours interrupted, accounting for 6% of total customer-hours interrupted (1,300 of 21,638). Unknown was the 3rd leading cause of customer-hours interrupted, accounting for 3% of total customer-hours interrupted (584 of 21,638).
- Of the 38 interruptions on this circuit, 10 affected 10 customers or less, with 4 being single customer outages.

Actions Taken:

- The Vail Mills low side metal-clad was refurbished with new insulation and 2,000 Amp breakers in the fall of 2020 due to damage/failure conditions and should be good for another 10 to 15 years of continuous operation.
- A project was completed in 2024 to automate the 115/69 kV tie within the Vail Mills substation such that the 69 kV transmission system can back up the 115 kV transmission system automatically for a failure of the 115 kV transmission.
- There are three 3-phase reclosers on the Vail Mills 39252. These reclosers have helped to reduce the customer interruptions and customer-hours interrupted over the past year on the Vail Mills 39252.
- A project to rebuild and convert approximately 2.25 miles of Honeywell Corners Road to 2-phase, 13.2 kV was completed in 2020 at a cost of \$311,331.
- A maintenance foot patrol was completed on the Vail Mills 39252 in 2022 and all identified level 1 and 2 maintenance has been completed.
- Tree trimming and a hazard tree review was completed on the Vail Mills 39252 in FY2022.
- An off-cycle hazard tree review, which removed 31 hazard trees and another 32 Ash trees infested with the Emerald Ash Borer, was completed on the Vail Mills 39252 in FY2025.
-

Action Plan:

- A tree trimming, and a hazard review is scheduled on the Vail Mills 39252 for FY2027.
- Complete all identified level 3 maintenance on the Vail Mills 39252.
- A maintenance foot patrol is scheduled on the Vail Mills 39252 in 2027.

17. BURGOYNE 33752 – 13.2 kV

Profile: 2,173 Customers, 118.6 Circuit Miles
Indices: CAIDI = 1.70, SAIFI = 2.34

CAUSE CODE PERFORMANCE TABLE

Code	Category	Interruptions		Customers Interrupted		Customer Hours	
		Number	% Total	Number	% Total	Number	% Total
2	TREE	12	28.57%	3,833	75.38%	6,755	78.29%
3	OVERLOADS	1	2.38%	772	15.18%	300	3.48%
4	OPER. ERROR	1	2.38%	1	0.02%	12	0.14%
5	EQUIPMENT	6	14.29%	207	4.07%	904	10.48%
6	ACCIDENTS	6	14.29%	37	0.73%	79	0.92%
7	PREARRANGED	0	0.00%	0	0.00%	0	0.00%
8	CUST. EQUIP.	0	0.00%	0	0.00%	0	0.00%
9	LIGHTNING	2	4.76%	71	1.40%	100	1.16%
10	UNKNOWN	14	33.33%	164	3.23%	477	5.53%
Totals		42	100.00%	5,085	100.00%	8,628	100.00%

Problem Analysis:

- There were 42 interruptions on the Burgoyne 33752 in 2024.
- There were no transmission interruptions.
- There were no substation interruptions.
- All 42 events occurred at the distribution level.
- The distribution circuit breaker for the Burgoyne 33752 experienced 0 momentary operations in 2024.
- The distribution circuit breaker for the Burgoyne 33752 experienced 1 sustained operation (lockout) in 2024. This interruption occurred on August 15th, 2024 when a tree fell on pole 1 on Brawley Road. Switching was performed before the final fix was made to restore 842 customers in about 80 minutes while the remaining 1,319 customer were out for the full 179 minute duration of the interruption. In total, this event accounted for 42% of the total amount of customers interrupted (2,161 out of 2,168) and 58% of the total amount of the customer-hours interrupted (5,046 out of 3,131).
- There was one distribution 3-phase recloser lockout on the Burgoyne 33752 in 2024 which occurred on July 8, 2024 when recloser R62036 on pole 49 Lower Maple Street was opened remotely due to a perceived feeder overload in the area. The recloser was remotely closed back in 23 minutes later when it was determined that the control center had the wrong rating for the Burgoyne substation transformer and the transformer was not overloaded. This interruption accounted for 15% of the total customers interrupted (772 of 5,085) and accounted for 3% of the total customer-hours interrupted (300 of 8,628).
- The one substation lockout when combined with the one feeder recloser lockout accounted for two of the total interruptions on the Burgoyne 33752 in 2024 (5%), but affected 2,933

- customers (58%) and accounted for 5,346 customer-hours of interruption (62%).
- Unknown was the leading cause of interruptions on the Burgoyne 33752 in 2024, accounting for 33% of total interruptions (14 of 42). Trees were the 2nd leading cause of interruptions, accounting for 29% of total interruptions (12 of 42). Equipment Failures and accidents were tied for the 3rd leading cause of interruptions, accounting for 14% of total interruptions each (6 of 42).
- Trees were the leading cause of customers interrupted (CI) on the Burgoyne 33752 in 2024, accounting for 75% of total customers interrupted (3,833 of 5,085). Overloads were the 2nd leading cause of customers interrupted, accounting for 15% of total customers interrupted (772 of 5,085). Equipment Failures were the 3rd leading cause of customers interrupted, accounting for 4% of total customers interrupted (207 of 5,085).
- Trees were the leading cause of customer-hours interrupted (CHI) on the Burgoyne 33752 in 2024, accounting for 78% of total customer-hours interrupted (6,755 of 8,628). Equipment Failures were the 2nd leading cause of customer-hours interrupted, accounting for 10% of total customer-hours interrupted (904 of 8,628). Unknown was the 3rd leading cause of customer-hours interrupted, accounting for 6% of total customer-hours interrupted (477 of 8,628).
- Of the 42 interruptions on this circuit, 16 affected 10 customers or less, with 11 being single customer outages.

Actions Taken:

- There are four 3-phase reclosers on the Burgoyne 33752. One each was installed in 2017, 2018, 2019 and 2020.
- TripSaver, cut-out mounted single phase reclosers have been installed at six locations on the Burgoyne 33752. Four were installed in 2018 and the remaining two locations, one of which is 3-phase, were installed in 2021 and 2022.
- A project was completed in 2018 at a cost of \$111,153 which rebuilt and converted about ½ mile of single phase distribution on the Burgoyne 33752 allowing 44 customers and 275 kVA of connected load to be transferred from the Burgoyne 33752 to the Burgoyne 33754 to reduce the load on the overloaded Bly Avenue ratio transformer.
- A small capital project was completed on the Burgoyne 33752 in 2019 at a cost of \$37,698 to remove 992 feet of rear lot single phase distribution adjacent to Gilchrist Hill Road by constructing 582 feet of new single phase distribution along the road.
- A capital project was completed on the Burgoyne 33752 in 2023 at a cost of \$96,316 to remove an overloaded 167 kVA step down ratio transformer on School Street and convert the 0.57 miles of 2.4 kV distribution serving 112 customers to 7.62 kV.
- A capital project was completed on the Burgoyne 33752 in 2023 at a cost of \$101,096 to remove 1,327 feet of cross lot single phase distribution between Lundy and Scott Hill Roads by constructing 674 feet of new single phase distribution along Lundy Road. Five new fuses were added during this project to better isolate faults to provide better reliability.
- A maintenance foot patrol was completed on the Burgoyne 33752 in 2021 and all identified maintenance has been completed.

Action Plan:

- A tree trimming, and a hazard review is scheduled on the Burgoyne 33752 for FY2026.
- A maintenance foot patrol is scheduled on the Burgoyne 33752 in 2026.

18. BURGOYNE 33754 – 13.2 kV

Profile: 1,949 Customers, 23.1 Circuit Miles
Indices: CAIDI = 1.88, SAIFI = 2.52

CAUSE CODE PERFORMANCE TABLE

Code	Category	Interruptions		Customers Interrupted		Customer Hours	
		Number	% Total	Number	% Total	Number	% Total
2	TREE	6	25.00%	1,460	29.68%	3,645	39.35%
3	OVERLOADS	0	0.00%	0	0.00%	0	0.00%
4	OPER. ERROR	0	0.00%	0	0.00%	0	0.00%
5	EQUIPMENT	6	25.00%	2,156	43.83%	1,769	19.10%
6	ACCIDENTS	7	29.17%	243	4.94%	312	3.37%
7	PREARRANGED	0	0.00%	0	0.00%	0	0.00%
8	CUST. EQUIP.	0	0.00%	0	0.00%	0	0.00%
9	LIGHTNING	1	4.17%	8	0.16%	39	0.42%
10	UNKNOWN	4	16.67%	1,052	21.39%	3,499	37.77%
Totals		24	100.00%	4,919	100.00%	9,264	100.00%

Problem Analysis:

- There were 24 interruptions on the Burgoyne 33754 in 2024.
- There were no transmission interruptions.
- There were no substation interruptions.
- All 24 events occurred at the distribution level.
- The distribution circuit breaker for the Burgoyne 33754 experienced 0 momentary operations in 2024.
- The distribution circuit breaker for the Burgoyne 33754 experienced 1 sustained operation (lockout) in 2024. This interruption occurred on June 11th, 2024 due to a getaway cable failure accounting for 42% of the total amount of customers interrupted (2,065 out of 4,919) and 16% of the total amount of the customer-hours interrupted (1,456 out of 9,264).
- There were two 3-phase distribution recloser lockouts on the Burgoyne 33754 in 2024 one of which was caused by trees and the cause of the other remains unknown. These interruptions accounted for 2,045 customers interrupted (42%) and 6,451 customer-hours of interruption (70%).
 - The first 3-phase distribution recloser lockout occurred on April 30th, 2024 when recloser R88578 on pole 26 Notre Dame Street locked open due to a tree limb across phases at pole 45 River Street. This event accounted for 26% of the total customers interrupted (1,261 of 4,919), and 36% of the customer-hours interrupted (3,320 of 9,264).
 - The second 3-phase distribution recloser lockout occurred on August 15th, 2024 when recloser R88576 on pole 87 Burgoyne Avenue locked open for an as yet unknown reason. This event accounted for 16% of the total customers interrupted (784 of

4,919), and 34% of the customer-hours interrupted (3,132 of 9,264).

- The one substation lockout when combined with the two feeder recloser lockouts accounted for three of the total interruptions on the Burgoyne 33754 in 2024 (13%), but affected 4,110 customers (84%) and accounted for 7,907 customer-hours of interruption (85%).
- Accidents were the leading cause of interruptions on the Burgoyne 33754 in 2024, accounting for 29% of total interruptions (7 of 24). Trees and Equipment Failures were tied for the 2nd leading cause of interruptions, accounting for 25% of total interruptions each (6 of 24). Unknown were the 3rd leading cause of interruptions, accounting for 17% of total interruptions (4 of 24).
- Equipment Failures were the leading cause of customers interrupted (CI) on the Burgoyne 33754 in 2024, accounting for 44% of total customers interrupted (2,156 of 4,919). Trees were the 2nd leading cause of customers interrupted, accounting for 30% of total customers interrupted (1,460 of 4,919). Unknown were the 3rd leading cause of customers interrupted, accounting for 21% of total customers interrupted (1,052 of 4,919).
- Trees were the leading cause of customer-hours interrupted (CHI) on the Burgoyne 33754 in 2024, accounting for 39% of total customer-hours interrupted (3,645 of 9,264). Unknown were the 2nd leading cause of customer-hours interrupted, accounting for 38% of total customer-hours interrupted (3,499 of 9,264). Equipment Failures were the 3rd leading cause of customer-hours interrupted, accounting for 19% of total customer-hours interrupted (1,769 of 9,264).
- Of the 24 interruptions on this circuit, 11 affected 10 customers or less, with 4 being single customer outages.

Actions Taken:

- There are two 3-phase reclosers on the Burgoyne 33752. Both were installed in 2007, however, one was replaced with a new 6IVS recloser in 2023.
- TripSaver, cut-out mounted single phase reclosers, have been installed at three locations on the Burgoyne 33754.
- A project was completed in 2022 at a cost of \$391,023 to replace 1,531 feet of UG cable within the Martindale Road URD whose 42 customers had been experiencing repeated interruptions due to cable failures.
- A capital project was completed on the Burgoyne 33754 in 2021 at a cost of \$142,498 to remove an overloaded bank of 3-250 kVA step down ratio transformers on Main Street and convert the 3-phase mainline downstream to 13.2 kV.
- A maintenance foot patrol was completed on the Burgoyne 33754 in 2021 and all identified maintenance has been completed.

Action Plan:

- Tree trimming and a hazard tree review of the Burgoyne 33754 is in process and scheduled to be completed in FY2025.
- A maintenance foot patrol is scheduled on the Burgoyne 33754 in 2026.

19. BOLTON 28452 – 13.2 kV

Profile: 1,068 Customers, 48.9 Circuit Miles

Indices: CAIDI = 9.60, SAIFI = 1.73

CAUSE CODE PERFORMANCE TABLE

Code	Category	Interruptions		Customers Interrupted		Customer Hours	
		Number	% Total	Number	% Total	Number	% Total
2	TREE	14	63.64%	1,774	95.84%	17,254	97.12%
3	OVERLOADS	0	0.00%	0	0.00%	0	0.00%
4	OPER. ERROR	0	0.00%	0	0.00%	0	0.00%
5	EQUIPMENT	3	13.64%	51	2.76%	394	2.22%
6	ACCIDENTS	1	4.55%	12	0.65%	39	0.22%
7	PREARRANGED	0	0.00%	0	0.00%	0	0.00%
8	CUST. EQUIP.	0	0.00%	0	0.00%	0	0.00%
9	LIGHTNING	0	0.00%	0	0.00%	0	0.00%
10	UNKNOWN	4	18.18%	14	0.76%	78	0.44%
Totals		22	100.00%	1,851	100.00%	17,765	100.00%

Problem Analysis:

- There were 22 interruptions on the Bolton 28452 in 2024.
- There was 1 transmission interruption impacting the Bolton 28452, which occurred on July 24th, 2024 when multiple down trees impacted the Warrensburg – Fort Gage #8, 34.5 kV sub-transmission line feeding Bolton Substation. This event interrupted 1,090 customers (59%) and accounted for 14,224 hours of customer interruption (80%).
- There were no substation interruptions.
- The remaining 21 events occurred at the distribution level. The distribution level events in 2024 interrupted 791 customers (41%) and accounted for 3,541 customer-hours of interruption, for a distribution SAIFI of 0.71 and CAIDI of 4.47.
- The distribution circuit breaker for the Bolton 28452 experienced 3 momentary operations in 2024.
- The distribution circuit breaker for the Bolton 28452 experienced 0 sustained operations (lockouts) in 2024.
- There were two single phase distribution recloser lockouts on the Bolton 28452 in 2024, all of which were caused by tree related events. These interruptions accounted for 13% of the total customers interrupted (108 of 1,851) and 3% of the total customer-hours interrupted (476 of 17,765).
 - The first single phase distribution recloser lockout occurred on January 14th, 2024 when recloser R89188 on pole 1 Trout Lake Road locked out due to a fallen tree near pole 7 Trout Lake Road. This event accounted for 6% of the total customers interrupted (108 of 1,851) and 1% of the total customer-hours interrupted (228 of 17,765).

- The second single phase distribution recloser lockout occurred on March 6th, 2024 when recloser R89182 on pole 1 Valley Woods Road locked out due to a fallen tree near pole 50 Valley Woods Road. This event accounted for 6% of the total customers interrupted (113 of 1,851) and 1% of the total customer-hours interrupted (248 of 17,765).
- Trees were the leading cause of interruptions on the Bolton 28452 in 2024, accounting for 64% of total interruptions (14 of 22). Events with an unknown cause were the 2nd leading cause of interruptions, accounting for 18% of total interruptions (4 of 22). Equipment failures were the 3rd leading cause of interruptions, accounting for 14% of total interruptions (3 of 22).
- Trees were the leading cause of customers interrupted (CI) on the Bolton 28452 in 2024, accounting for 96% of total customers interrupted (1,774 of 1,851). Equipment failures were the 2nd leading cause of customers interrupted, accounting for 3% of total customers interrupted (51 of 1,851). Events with an unknown cause were the 3rd leading cause of customers interrupted, accounting for less than 1% of total customers interrupted (14 of 1,851).
- Trees were the leading cause of customer-hours interrupted (CHI) on the Bolton 28452 in 2024, accounting for 97% of total customer-hours interrupted (17,254 of 17,765). Equipment failures were the 2nd leading cause of customer-hours interrupted, accounting for 2% of total customer-hours interrupted (394 of 17,765). Events with an unknown cause were the 3rd leading cause of customer-hours interrupted, accounting for less than 1% of total customer-hours interrupted (78 of 17,765).
- Of the 22 interruptions on this circuit, 10 affected 10 customers or less, with 2 being single customer outages.

Actions Taken:

- There are two 3-phase reclosers on the Bolton 28452, one of which were installed in 2010 and the other in 2024. Additionally, there are two single phase reclosers, installed in 2010.
- A project was completed in 2010 to rebuild and convert to 7.62kV, the Valley Woods Road single-phase tap at a cost of about \$513,000, allowing the New Vermont Road single-phase tap to be split into two pieces providing more capacity for a proposed URD while providing better reliability.
- An additional project was completed in 2018 to build 1,500 feet of new single-phase distribution on New Vermont Road between poles 175 and 184 to allow the removal of 2,300 feet of rear lot distribution, for a total cost of \$83,264.
- A capital project to construct a single-phase feeder tie between the Bolton 28451 and Bolton 28452 by converting Potter Hill Road to 13.2 kV was completed in 2015 at a cost of \$256,244.
- A capital project was completed in 2024 in order to relocate approximately 2,300 feet of rear lot, 3-phase distribution to Federal Hill Road, at a cost of \$308,910.
- Tree trimming and a hazard tree review was completed on the Bolton 28451 in FY2023. Additional hazard tree identification occurred in FY2025, as a mid-cycle effort ahead of the next full pruning in FY2028.
- A maintenance foot patrol of the Bolton 28452 was completed in 2021, and all identified maintenance has been completed.

- A distribution automation project was placed in service in 2014 on the Fort Gage-Queensbury #2, Warrensburg-Fort Gage #8, and Warrensburg-Queensbury #9, 34.5 kV sub-transmission lines to automatically sectionalize the 34.5 kV system to isolate faults while maintaining service to as many of the substations served from this system as possible, including the Bolton substation which is served from a tap off the Warrensburg-Fort Gage #8 line.

Action Plan:

- The next full tree trimming and hazard tree review cycle for the Bolton 28452 will be conducted in FY2028.

20. CEDAR 45351 – 13.2 kV

Profile: 1,713 Customers, 71.7 Circuit Miles
Indices: CAIDI = 1.99, SAIFI = 2.49

CAUSE CODE PERFORMANCE TABLE

Code	Category	Interruptions		Customers Interrupted		Customer Hours	
		Number	% Total	Number	% Total	Number	% Total
2	TREE	11	45.83%	421	9.88%	1,660	19.57%
3	OVERLOADS	0	0.00%	0	0.00%	0	0.00%
4	OPER. ERROR	0	0.00%	0	0.00%	0	0.00%
5	EQUIPMENT	6	25.00%	2,071	48.62%	6,505	76.68%
6	ACCIDENTS	4	16.67%	51	1.20%	76	0.90%
7	PREARRANGED	1	4.17%	1,713	40.21%	226	2.66%
8	CUST. EQUIP.	0	0.00%	0	0.00%	0	0.00%
9	LIGHTNING	0	0.00%	0	0.00%	0	0.00%
10	UNKNOWN	2	8.33%	4	0.09%	16	0.19%
Totals		24	100.00%	4,260	100.00%	8,483	100.00%

Problem Analysis:

- There were 24 interruptions on the Cedar 45351 in 2024.
- There were no transmission interruptions.
- There was 1 substation interruption on the Cedar 45351 in 2024. This Substation interruption occurred on October 3, 2024 to perform scheduled maintenance on the feeder breaker (PSC cause code 07). This event accounted for 40% of the total customers interrupted (1,713 of 4,260), but the maintenance only took 8 minutes, therefore, accounting for only 3% of the total customer-hours interrupted (226 of 8,483).
- The remaining 23 events occurred at the distribution level.
- The distribution circuit breaker for the Cedar 45351 experienced 1 momentary operation in 2024.
- The distribution circuit breaker for the Cedar 45351 experienced 1 sustained operation (lockout) in 2024. This interruption occurred on March 20, 2024 when recloser R89100 on pole 7 Patten Mills Road failed (PSC cause code 05). This lockout accounted for 40% of the total customers interrupted (1,710 of 4,260), and 66% of the total customer-hours interrupted (5,612 of 8,483)
- There was one distribution 3-phase recloser lockout on the Cedar 45351 in 2024 which occurred on July 26th, 2024 when recloser R87331 on pole 177 State Highway 149 failed locking open. This interruption accounted for 7% of the total customers interrupted (319 of 4,260) and accounted for 6% of the total customer-hours interrupted (543 of 8,483).
- The substation interruption when combined with the feeder and recloser lockouts accounted for three of the total interruptions on the Cedar 45351 in 2024 (13%), but affected 3,742 customers (88%) and accounted for 6,381 customer-hours of interruption

(75%).

- Trees were the leading cause of interruptions on the Cedar 45351 in 2024, accounting for 46% of total interruptions (11 of 24). Equipment Failures were the 2nd leading cause of interruptions, accounting for 25% of total interruptions (6 of 24). Accidents were the 3rd leading cause of interruptions, accounting for 17% of total interruptions (4 of 24).
- Equipment Failures were the leading cause of customers interrupted (CI) on the Cedar 45351 in 2024, accounting for 49% of total customers interrupted (2,071 of 4,260). Prearranged Outages were the 2nd leading cause of customers interrupted, accounting for 40% of total customers interrupted (1,713 of 4,260). Trees were the 3rd leading cause of customers interrupted, accounting for 10% of total customers interrupted (421 of 4,260).
- Equipment Failures were the leading cause of customer-hours interrupted (CHI) on the Cedar 45351 in 2024, accounting for 77% of total customer-hours interrupted (6,505 of 8,483). Trees were the 2nd leading cause of customer-hours interrupted, accounting for 20% of total customer-hours interrupted (1,660 of 8,483). Prearranged Outages were the 3rd leading cause of customer-hours interrupted, accounting for 3% of total customer-hours interrupted (226 of 8,483).
- Of the 24 interruptions on this circuit, 13 affected 10 customers or less, with 7 being single customer outages.

Actions Taken:

- There are three 3-phase distribution reclosers on the Cedar 45351, two of which were replaced or upgraded in 2024.
- A project was completed in 2016 at a cost of \$254,284, to construct 4.8 kV, single-phase distribution in three 1,000-foot distribution gaps along Tripoli Road, to allow for the removal of 6,816 feet of rear lot distribution while creating a single-phase feeder tie.
- A project was completed in 2021 at a cost of \$290,264 to convert approximately 1 mile of Buttermilk Falls Road from single phase 4.8 kV to 13.2 kV two phase, to reduce the load on the existing ratio transformer and split the tap into two sections to increase reliability.
- A small capital project was completed in 2021 at a cost of \$60,224 to rebuild about 2,700 feet of single-phase, 4.8 kV distribution along Hopkin Road and convert it to 7.62 kV to relieve an overloaded step-down ratio transformer on Jenkinsville Road.
- Three TripSaver, cut-out mounted single phase reclosers were installed on the Cedar 45351 in 2021.
- A small capital project was completed in early 2025 at a cost of \$77,654 to construct about 550 feet of new distribution on the east end of Joe Green Road to split the load on the previous step-down ratio transformer on the west end of Joe Green Road which was loaded to an estimated 150% of nameplate.
- A maintenance foot patrol of the Cedar 45351 was completed in 2023 and all identified level 1 and 2 maintenance has been completed.
- Tree trimming and a hazard tree review, which removed 461 hazard trees and another 69 Ash trees infested with the Emerald Ash Borer, was completed on the Cedar 45351 in FY2021.

Action Plan:

- Complete all identified level 3 maintenance on the Cedar 45351.
- A tree trimming, and a hazard review is scheduled on the Cedar 45351 for FY2026.

3. ACTION PLAN SUMMARIES

a. SUMMARY OF ACTION PLANS FOR 2024 WORST PERFORMING CIRCUITS

Station	Feeder	Year	Action Plan	Est. Completion Date	Comments
Battenkill	34257	2024	Complete all identified level 3 maintenance.	3/2026	
Battenkill	34257	2024	Tree trimming and hazard tree review.	3/2026	
Burgoyne	33751	2024	Tree trimming and hazard tree review.	3/2025	
Burgoyne	33751	2024	Complete a maintenance foot patrol.	12/2026	
Inghams	02051	2024	Complete a maintenance foot patrol.	12/2025	
Inghams	02051	2024	Tree trimming and hazard tree review.	3/2026	
Union Street	37653	2024	Complete a maintenance foot patrol.	12/2025	
Union Street	37653	2024	Tree trimming and hazard tree review.	3/2028	
Bolton	28451	2024	Tree trimming and hazard tree review.	3/2028	
Schoharie	23452	2024	Complete all identified level 3 maintenance.	3/2026	
Schoharie	23452	2024	Complete a maintenance foot patrol.	12/2028	
Schoharie	23452	2024	Tree trimming and hazard tree review.	3/2028	
Union Street	37654	2024	Complete a maintenance foot patrol.	12/2025	
Union Street	37654	2024	Tree trimming and hazard tree review.	3/2028	
Hague Road	41853	2024	Complete all identified level 3 maintenance.	3/2026	
Hague Road	41853	2024	Tree trimming and hazard tree review.	3/2030	
North Creek	12251	2024	Complete all identified level 3 maintenance.	3/2026	
North Creek	12251	2024	Tree trimming and hazard tree review.	3/2028	
Union Street	37652	2024	Complete a maintenance foot patrol.	12/2025	
Union Street	37652	2024	Tree trimming and hazard tree review.	3/2028	
Clinton	36653	2024	Tree trimming and hazard tree review.	3/2025	
Clinton	36653	2024	Complete a maintenance foot patrol.	12/2026	
Middleburg	39051	2024	Complete all identified level 3 maintenance.	3/2026	
Middleburg	39051	2024	Complete a maintenance foot patrol.	12/2025	
Middleburg	39051	2024	Tree trimming and hazard tree review.	3/2026	
Grand Street	43351	2024	Tree trimming and hazard tree review.	3/2029	
Grand Street	43351	2024	Complete all identified level 3 maintenance.	3/2026	
Grand Street	43351	2024	Complete a maintenance foot patrol.	12/2027	
Schroon Lake	42951	2024	Complete all identified level 2 and 3 maintenance.	3/2026	
Schroon Lake	42951	2024	Tree trimming and hazard tree review.	3/2029	
East Springfield	47751	2024	Tree trimming and hazard tree review.	3/2028	
East Springfield	47751	2024	Complete all identified level 3 maintenance.	3/2026	
East Springfield	47751	2024	Complete a maintenance foot patrol.	12/2025	
Vail Mills	39252	2024	Tree trimming and hazard tree review.	3/2027	
Vail Mills	39252	2024	Complete all identified level 3 maintenance.	3/2026	
Vail Mills	39252	2024	Complete a maintenance foot patrol.	12/2027	
Burgoyne	33752	2024	Tree trimming and hazard tree review.	3/2026	
Burgoyne	33752	2024	Complete a maintenance foot patrol.	12/2026	
Burgoyne	33754	2024	Tree trimming and hazard tree review.	3/2025	
Burgoyne	33754	2024	Complete a maintenance foot patrol.	12/2026	
Bolton	28452	2024	Tree trimming and hazard tree review.	3/2028	
Cedar	45351	2024	Complete all identified level 3 maintenance.	3/2026	
Cedar	45351	2024	Tree trimming and hazard tree review.	3/2026	

b. STATUS OF ACTION PLANS FOR 2023 WORST PERFORMING CIRCUITS

Station	Feeder	Year	Action Plan	Est. Completion Date	Comments
Hague Road	41853	2023	Complete all level 2 maintenance.	8/2025	On schedule.
Hague Road	41853	2023	Complete all level 3 maintenance.	8/2026	On schedule.
Hague Road	41853	2023	Investigate R7534 lockouts.	3/2025	On schedule.
Hague Road	41853	2023	Rebuild and Convert Alexandria Avenue.	3/2026	Project C081836
Hague Road	41853	2023	Investigate tree trimming cycle.	3/2025	On schedule.
Hague Road	41853	2023	Construct fourth Hague Road feeder.	3/2027	On schedule.
Port Henry	38551	2023	Complete all level 3 maintenance.	4/2025	On schedule.
Port Henry	38551	2023	Convert Hamlet of Port Henry.	3/2026	Project C081529, WR 30601236; Status 40
Port Henry	38551	2022	Convert Broad Street to 13.2 kV.	3/2027	Project C081530
Chestertown	04252	2023	Complete all level 3 maintenance.	3/2025	On schedule.
Chestertown	04252	2023	Complete patrol of Warrensburg-Chestertown #6.	3/2025	On schedule.
Chestertown	04252	2023	County Highway 31 line extension.	9/2024	Completed
Chestertown	04252	2023	Hayesburg Road rebuild and conversion.	3/2027	Project C081460
Schroon Lake	42951	2023	Install fault indicators on Chestertown-Schroon #3.	3/2025	30538254
Schroon Lake	42951	2023	Relocate feeder mainline from Miller Road.	3/2026	Project C093776
St Johnsville	33551	2023	Complete all level 2 maintenance.	3/2024	30538254
St Johnsville	33551	2023	Complete all level 3 maintenance.	3/2025	30538254
St Johnsville	33551	2023	Tree trimming and hazard tree review.	3/2025	30538254
St Johnsville	33551	2023	Construct State Highway 5S feeder tie to Salisbury 67853.	3/2025	Projects C091830 & C093981
Pottersville	42451	2023	Complete hazard tree review.	3/2027	On schedule.
Pottersville	42451	2023	Construct single phase tie to Riparius.	3/2027	WR #13868440
Chestertown	04251	2023	Investigate tie to Warrensburg 32152.	3/2025	On schedule.
Chestertown	04251	2023	Rebuild County Highway 8.	3/2025	Project C081454, WR 30362261; Status 50
Chestertown	04251	2023	Rebuild and Convert U.S. Highway 9	3/2026	Project C081455, WR 30563168; Status 50
Queensbury	29554	2023	Maintenance foot patrol.	3/2025	On schedule.
Queensbury	29554	2023	Tree trimming and hazard tree review.	3/2025	On schedule.
Scofield	45053	2023	Maintenance foot patrol.	3/2024	On schedule.
Scofield	45053	2023	Tree trimming and hazard tree review.	3/2025	On schedule.
Scofield	45053	2023	Harrisburg Road rebuild at Glass Creek Road.	4/2025	WR 30757165; 20
Scofield	45053	2023	Harrisburg Road minor storm hardening.	4/2026	Project C057289, WR 26513744; Status 40
Gilmantown	15451	2023	Complete level 2 maintenance.	9/2025	On schedule.
Gilmantown	15451	2023	Complete level 3 maintenance.	9/2026	On schedule.
Gilmantown	15451	2023	Replace recloser R5902 on pole 256 State Hwy. 8.	3/2025	WR 30939545; Status 50
Gilmantown	15451	2023	Replace recloser R5903 on pole 2½ County Hwy. 24.	3/2025	WR 30940496; Status 40
Gilmantown	15451	2023	Replace County Highway 24 ratio transformer.	3/2025	WR 30940472; Status 40
Gilmantown	15451	2023	Rebuild & convert the north side of Lake Pleasant.	4/2026	Project C082694, WR 29795772; Status 50
Gilmantown	15451	2023	Gilmantown battery storage.	3/2028	Project C084937
Crown Point	24951	2023	Rebuild and convert Creek Road.	3/2025	Completed
Crown Point	24951	2023	Rebuild and convert State Highway 9N.	3/2026	Project C081834
Hague Road	41852	2023	Lake George submarine cable replacement.	3/2027	Project C050522
Hague Road	41852	2023	State Route 22 rebuild and conversion.	3/2029	Project C050717, WR 16263343; Status 50
Hague Road	41852	2023	Construct fourth Hague Road feeder.	3/2027	On schedule.
Butler	36251	2023	Maintenance foot patrol.	3/2025	On schedule.
Butler	36251	2023	Perform mid-cycle hazard tree review.	3/2025	On schedule.
Butler	36251	2023	Rebuild and convert Mountain Road.	3/2027	C092242

Station	Feeder	Year	Action Plan	Est. Completion Date	Comments
Port Henry	38552	2023	Rebuild and convert Broad Street.	3/2027	C081530
East Springfield	47751	2023	Extend 3-phase 13.2 kV ~29,500' to build feeder tie between East Springfield 47751 and Sharon 36351.	3/2029	On schedule.
East Springfield	47751	2023	Maintenance foot patrol	3/2026	On schedule.
East Springfield	47751	2023	Remove ~1,600' of rear-lot on Whiteman Road.	3/2025	WR 30659876; Status 60
Union Street	37654	2023	Brownell Corners Road conversion and rebuild	3/2026	On schedule.
Union Street	37654	2023	Lincoln Hill Road rebuild Phase 2.	3/2028	On schedule.
Union Street	37654	2023	Maintenance foot patrol	3/2025	On schedule.
Burgoyne	33751	2023	Complete level 3 maintenance.	11/2024	On schedule.
Burgoyne	33751	2023	Tree trimming and a hazard tree review.	3/2025	On schedule.
Burgoyne	33751	2023	Replace voltage regulator on County Hwy. 44.	9/2024	WR 30461628; Status 60
Burgoyne	33751	2023	Bean Hill Road rebuild/conversion.	3/2025	WR 30393188; Status 40
Burgoyne	33751	2023	Construct new single-phase 7.62 kV on Lick Springs Rd.	3/2026	WR 26387081; Status 20
Otten	41213	2023	Investigate 3-Phase extension on County Route 6.	3/2025	On schedule.
Otten	41213	2023	Investigate options to reduce tree events.	3/2025	On schedule.
EJ West	03851	2023	Complete level 2 maintenance.	8/2025	On schedule.
EJ West	03851	2023	Complete level 3 maintenance.	8/2026	On schedule.
EJ West	03851	2023	Replace switches and do tree trimming on Kathan Road.	3/2025	WR 30705437; Status
EJ West	03851	2023	Switch replacement & tree trimming on Stewarts Bridge Road.	3/2025	Completed
Wilton	32951	2023	Rebuild 0.3 miles of Ballard Road.	3/2025	Completed
Wilton	32951	2023	Rebuild & convert State Highway 32.	3/2026	Project C019570, WR 30483647; Status 40
Wilton	32951	2023	Rebuild & convert State Highway 50.	3/2026	Project C089187

4. OPERATING REGION PERFORMANCE BELOW MINIMUM

a. MAINTENANCE HISTORY AND ANALYSIS OF FACTORS THAT CAUSED THE BELOW MINIMUM PERFORMANCE.

In 2024 the Northeast Region failed to meet the PSC minimum CAIDI requirement of 2.578 after meeting the requirement in 2023. The Northeast Region passed in 2023 with a CAIDI of 2.570. However, the Northeast Region failed to meet the target in 2024 with an annual SAIFI of 2.610, only 1.24% above the threshold. Meanwhile, the Northeast Region did meet the annual SAIFI goal of 1.372 in 2024 with a SAIFI of 1.21.

In 2024, the Northeast Region experienced 2,739 interruptions. Most of these interruptions (99%) occurred on the distribution system. However, 9 of these interruptions occurred on the transmission or sub-transmission systems in 2024. These interruptions accounted for 0.33% of the region's total interruptions (11 of 2,739), 7.3% of the region's total customers interrupted, (20,573 of 281,934), and 7.7% of the region's total customer-hours interrupted (56,902 of 737,061). Overall, transmission interruptions had a CAIDI of 2.77 hours, and a SAIFI of 0.09 interruptions.

The number of substation-related interruptions in the Northeast increased from 2 to 6 from 2023 to 2024 (an increase of 200%). The number of customers interrupted increased from 5,912 in 2023, to 17,087 in 2024 (an increase of 189%), while the customer-hours interrupted increased from 10,851 in 2023, to 27,199 in 2024 (an increase of 151%).

The number of distribution-related interruptions increased from 2,608 to 2,724 from 2023 to 2024 (an increase of 4%). The number of customers interrupted increased from 238,892 in 2023, to 244,274 in 2024 (an increase of 2%), while the customer-hours interrupted increased from 628,342 in 2023, to 652,960 in 2024 (an increase of 4%).

b. **PLANNED PROGRAMS OR PLANNED CORRECTIVE ACTIONS AND PROPOSED IMPROVEMENTS TO THE PERFORMANCE INDICES.**

The Company is continuing its efforts in the Northeast Region to maintain reliability. These efforts include distribution patrols, maintenance programs, single phase and three phase line recloser installations, protection coordination studies, lightning protection installations, and tree trimming programs. All these programs and corrective actions not only will reduce the number of interruptions and/or customers interrupted but also the restoration times. The Company will continue to stay on schedule for tree trimming and believes that this maintained schedule for tree trimming and miles trimmed will reduce both the incidence and duration of tree-related interruptions.

Tree trimming around the distribution system will remain a priority in 2025, to address what is typically the single largest contributor to customer interruptions within the Northeast Region.

In addition to the capital improvement work outlined in the Northeast Region Worst Performing Feeder's Action Plan, below are additional efforts to improve reliability and performance indices in the Northeast Region.:

- On a monthly basis, the Eastern Reliability Team will continue to investigate and analyze outages impacting greater than 2,500 customers or more than 50,000 customer-minutes-interrupted (CMI). This effort will look at the interruptions impacting the greatest number of customers to see what could have been done better to reduce the length of the interruption or to have eliminated it altogether.
- Review of suitable locations for the installation of additional 3-phase reclosers. These continue to assist in minimizing customers interrupted and customer-hours interrupted in the event of a sustained outage as well as prevent sustained outages that, otherwise, would have been momentary in nature.
- Review of suitable locations for the installation of additional cutout-mounted reclosers. These continue to assist in minimizing customers interrupted and customer-hours interrupted in the event of a sustained outage as well as prevent sustained outages that, otherwise, would have been momentary in nature.
- Review of suitable locations for the installation of switches which will offer significant operational flexibility, allowing additional opportunity to isolate faults, thereby significantly decreasing customer-hours interrupted in the event of a sustained outage.
- Review of protective device coordination to assist in minimizing customers interrupted and customer-hours interrupted in the event of a sustained outage.

I. NORTHERN REGION

1. OPERATING REGIONAL PERFORMANCE

a. HISTORIC CAIDI AND SAIFI INDICES

IDS Info:

	2024	2023	2022	2021	2020	2019
CAIDI (Threshold 2.111)	2.04	1.92	1.49	1.81	2.07	2.00
SAIFI (Threshold 1.412)	1.13	1.08	1.61	1.29	1.28	1.15
SAIDI	2.30	2.06	2.41	2.34	2.65	2.29
Interruptions	1,666	1,544	1,644	1,717	1,797	1,673
Customers Interrupted	157,250	149,646	224,254	179,190	176,759	157,296
Customers Hours Interrupted	320,424	286,629	334,798	323,604	365,060	314,044
Customers Served	139,544	138,940	138,947	138,437	137,722	137,014
Customers Per Interruption	94.39	96.92	136.41	104.36	98.36	94.02
Availability Index	99.9739	99.9765	99.9725	99.9733	99.9698	99.9738
Interruptions/1000 Customers	11.94	11.11	11.83	12.40	13.05	12.21

b. DISCUSSION OF REGIONAL PERFORMANCE

In 2024, the Northern Region met its CAIDI reliability target and met its SAIFI reliability target as set forth by the New York Public Service Commission (PSC). The final System Average Interruption Frequency Index (SAIFI) result was 1.13 interruptions, 20% below the PSC goal of 1.412 interruptions. As shown in the table above, the Customer Average Interruption Duration index (CAIDI) was 2.04 in 2024, 3% below the PSC's regional target of 2.111 hours.

The 2024 CAIDI result was 6% above the 2023 result of 1.92 hours, and 11% above the previous 5-year average of 1.83 hours. The 2024 SAIFI was 5% above the 2023 result of 1.08 interruptions, and 12% below the previous 5-year average of 1.28 interruptions.

In 2024, excluding major storms, the Northern Region experienced 11 transmission interruptions. These interruptions accounted for 1% of the region's total interruptions (11 of 1,666), 8% of the region's total customers interrupted (CI), (13,162 of 157,250), and 7% (21,078 of 320,425) of the region's total customer-hours interrupted (CHI). Overall, transmission interruptions had a CAIDI of 1.6 hours, and a SAIFI of 0.09 interruptions.

The number of transmission-related interruptions decreased from 18 in 2023 to 11 in 2024 (a decrease of 39%). The number of customers interrupted decreased from 35,598 in 2023, to 13,162 in 2024 (a decrease of 63%), while the customer-hours interrupted decreased from 49,110 in 2023, to 21,078 in 2024 (a decrease of 57%).

In 2024, excluding major storms, the Northern Region experienced 9 substation interruptions. These interruptions accounted for 1% of the region's total interruptions (9 of 1,666), 13% of the region's total customers interrupted, (20,873 of 157,250), and 12% (38,883 of 320,425) of the region's total customer-hours interrupted. Overall, substation interruptions had a CAIDI of 1.86 hours, and a SAIFI of 0.15 interruptions.

The number of substation-related interruptions increased from 8 to 9 from 2023 to 2024 (an increase of 13%). The number of customers interrupted increased from 12,649 in 2023, to 20,873 in 2024 (an increase of 65%), while the customer-hours interrupted increased from 38,433 in 2023, to 38,883 in 2024 (an increase of 1%).

In 2024, excluding major storms, the Northern Region experienced 1,646 distribution interruptions. These interruptions accounted for 99% of the region's total interruptions (1,646 of 1,666), 78% of the region's total customers interrupted, (123,215 of 157,250), and 81% (260,464 of 320,425) of the region's total customer-hours interrupted. Overall, distribution interruptions had a CAIDI of 2.11 hours, and a SAIFI of 0.88 interruptions.

c. MONTHLY CAIDI AND SAIFI GRAPHS

The graphs on the following page show the monthly CAIDI and Year-to-Date SAIFI for the Northern Region for 2024 (Excluding Major Storms).

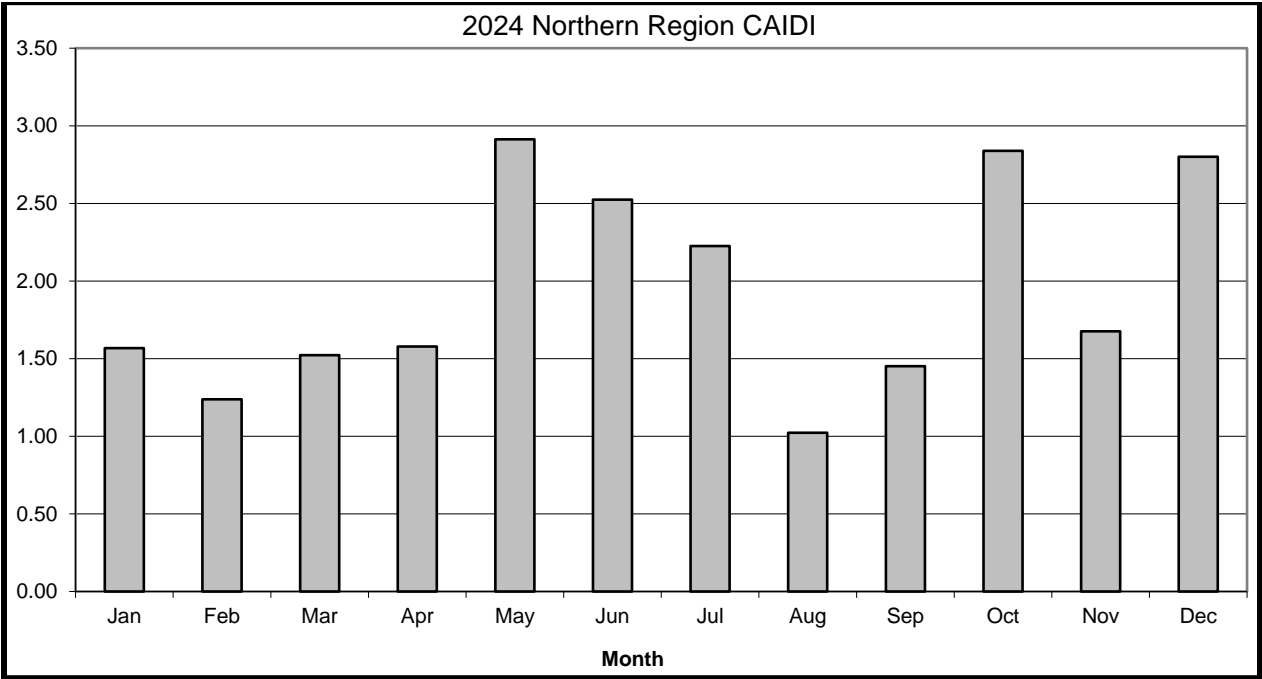
The CAIDI graph shows the individual CAIDI by month. The Northern Region was below the CAIDI threshold of 2.111 hours for 7 of the 12 months in 2024, with May, June, July, October, and December being the 5 months above threshold.

- May was the highest month with a CAIDI of 2.91hours, accounting for 11% of the customers interrupted (17,673 of 157,250) and 16% of the customer-hours interrupted (51,474 of 320,424). The Northern Region ended the year with an overall CAIDI of 2.04.

The SAIFI graph shows the cumulative SAIFI by month. The Northern Region ended the year at 1.13 interruptions, below the SAIFI threshold of 1.412 interruptions.

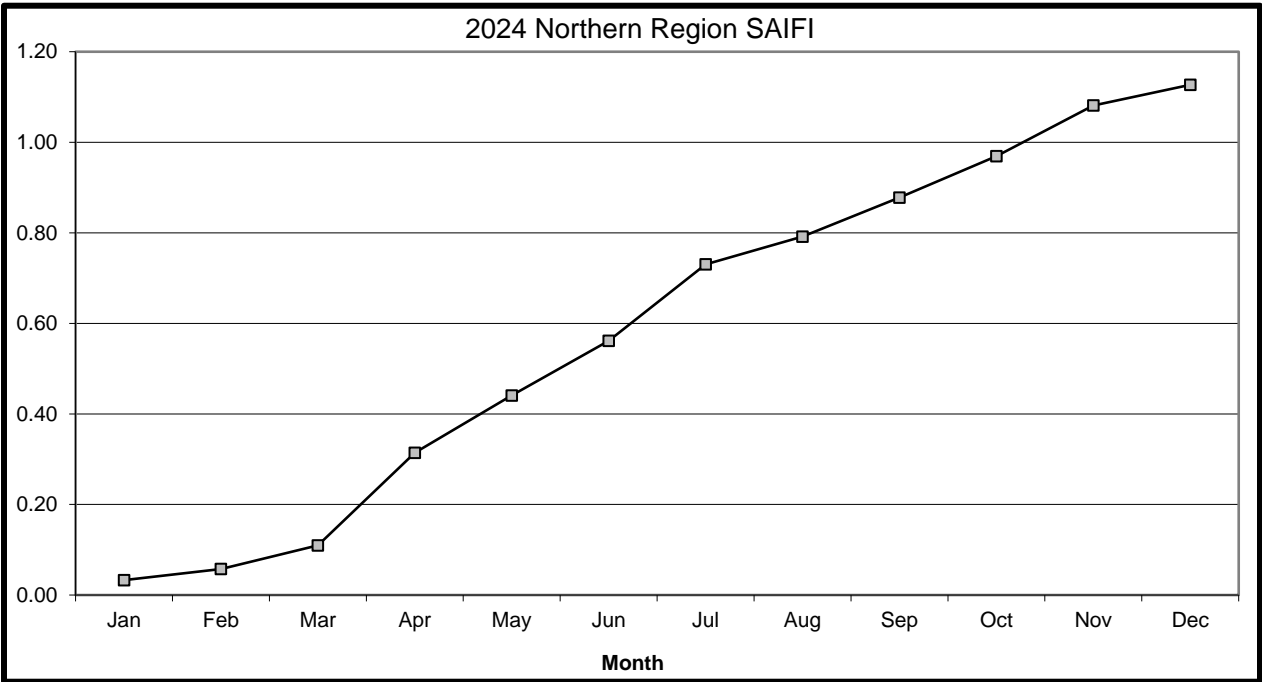
- Excluding Major Storms, there were 7,240 customers interrupted from March to April. Between March through April SAIFI increased by 0.2. This is mainly due to the 4,347 customer interruptions caused by device failures.

GRAPH OF MONTHLY CAIDI AND SAIFI FOR THE NORTHERN REGION



PSC CAIDI Goal:	
Threshold	2.111
2024 Actual	2.04

PSC SAIFI Goal:	
Threshold	1.412
2024 Actual	1.13



d. PSC CAUSE CODES

1) Number of Events by Cause – Historical

IDS Info:

Cause Code	2024	2023	2022	2021	2020	2019
01 Major Storms	1,243	74	1,286	670	945	1,144
02 Tree Contacts	565	471	433	536	480	504
03 Overloads	5	3	6	8	5	5
04 Oper. Error	1	6	2	8	3	6
05 Equipment	410	362	360	382	425	408
06 Accidents	296	266	350	284	248	262
07 Prearranged	74	49	52	62	48	35
08 Cust. Equip.	-	-	-	-	-	-
09 Lightning	56	126	127	124	115	63
10 Unknown	259	261	314	313	349	400
Total	2,909	1,618	2,930	2,387	1,898	2,618

2) Customers Interrupted by Cause – Historical

IDS Info:

Cause Code	2024	2023	2022	2021	2020	2019
01 Major Storms	130,994	7,643	102,811	65,782	67,523	84,763
02 Tree Contacts	54,489	34,863	50,158	50,011	51,796	37,260
03 Overloads	958	337	428	247	10	18
04 Oper. Error	1	1,960	14	9,352	216	199
05 Equipment	44,726	41,693	104,230	53,029	50,671	75,891
06 Accidents	26,064	29,628	43,175	28,386	23,453	21,395
07 Prearranged	15,744	7,433	9,326	11,909	4,693	11,819
08 Cust. Equip.	-	-	-	-	-	-
09 Lightning	2,130	15,081	3,782	4,583	3,459	3,710
10 Unknown	13,138	18,651	13,141	21,673	22,998	32,425
Total	288,244	157,289	327,065	244,972	186,042	224,819

3) Customer-Hours Interrupted by Cause – Historical

IDS Info:

Cause Code	2024	2023	2022	2021	2020	2019
01 Major Storms	1,332,586	24,049	543,011	585,445	598,233	694,029
02 Tree Contacts	134,156	72,815	95,121	111,124	105,293	94,622
03 Overloads	7,882	609	827	161	30	79
04 Oper. Error	3	531	17	7,022	121	331
05 Equipment	92,752	97,188	121,165	110,743	98,734	134,501
06 Accidents	33,824	56,156	73,153	35,798	59,150	38,125
07 Prearranged	20,380	13,604	16,618	11,707	4,463	19,859
08 Cust. Equip.	-	-	-	-	-	-
09 Lightning	5,958	25,623	6,184	9,314	7,427	5,054
10 Unknown	25,470	20,101	21,714	37,737	38,826	44,277
Total	1,653,011	310,676	877,810	909,050	393,578	912,278

4) Interruptions, Customers Interrupted and Customer-Hours Interrupted – 2024

Cause Code	Interruptions		Customers Interrupted		Customer-hours Interrupted	
	Number	% Total	Number	% Total	Number	% Total
01 Major Storms	1,243	42.7%	130,994	45.4%	1,332,586	80.6%
02 Tree Contacts	565	19.4%	54,489	18.9%	134,156	8.1%
03 Overloads	5	0.2%	958	0.3%	7,882	0.5%
04 Oper. Error	1	0.0%	1	0.0%	3	0.0%
05 Equipment	410	14.1%	44,726	15.5%	92,752	5.6%
06 Accidents	296	10.2%	26,064	9.0%	33,824	2.0%
07 Prearranged	74	2.5%	15,744	5.5%	20,380	1.2%
08 Cust. Equip.	0	0.0%	0	0.0%	0	0.0%
09 Lightning	56	1.9%	2,130	0.7%	5,958	0.4%
10 Unknown	259	8.9%	13,138	4.6%	25,470	1.5%
Total	2,909	100.0%	288,244	100.0%	1,653,011	100.0%

e. **INTERRUPTION REVIEW BY PSC CAUSE CODES**

Cause Code 01 - Major Storms

In 2024, Major Storms accounted for 43% of interruptions, 45% of customers interrupted, and 81% of Customer-Hours Interrupted.

Interruptions due to Major Storm were up 1580% from 2023, and up 102% over the 5-year average. Customers interrupted due to Major Storms were up 1614% from 2023, and up 159% over the 5-year average. Customer-Hours interrupted were up 5441% from 2023 and up 274% over the 5-year average.

The remaining PSC code descriptions do not include Major Storms in the percentages.

Cause Code 02 - Tree Contacts

In 2024, Tree Contacts accounted for 34% of interruptions, 35% of customers interrupted, and 42% of Customer-Hours Interrupted.

Interruptions due to Tree Contacts were up 20% from 2023, and up 14% over the 5-year average. Customers interrupted due to Tree Contacts were up 56% from 2023, and up 17% over the 5-year average. Customer-Hours interrupted were up 84% from 2023 and up 35% over the 5-year average.

Tree Contacts were the largest cause of interruptions in 2024.

Cause Code 03 - Overloads

In 2024, Overloads accounted for 0% of interruptions, 1% of customers interrupted, and 2% of Customer-Hours Interrupted.

Interruptions due to Overloads were up 67% from 2023, and down 17% over the 5-year average. Customers interrupted due to Overloads were up 184% from 2023, and up 350% over the 5-year average. Customer-Hours interrupted were up 1195% from 2023 and up 2133% over the 5-year average.

Overloads were the 7th largest cause of interruptions in 2024.

Cause Code 04 - Operator Error

In 2024, Operator Errors accounted for 0% of interruptions, 0% of customers interrupted, and 0% of Customer-Hours Interrupted.

Interruptions due to Operator Error were down 83% from 2023, and down 80% over the 5-year average. Customers interrupted due to Operator Error were down 100% from 2023, and down 100% over the 5-year average. Customer-Hours interrupted were down 99% from 2023 and down 100% over the 5-year average.

Operator Error was the 8th largest cause of interruptions in 2024.

Cause Code 05 - Equipment Failure

In 2024, Equipment Failure accounted for 25% of interruptions, 28% of customers interrupted, and 29% of Customer-Hours Interrupted.

Interruptions due to Equipment Failure were up 13% from 2023, and up 6% over the 5-year average. Customers interrupted due to Equipment Failure were up 7% from 2023, and down 26% over the 5-year average. Customer-Hours interrupted were down 5% from 2023 and down 16% over the 5-year average.

Equipment Failures were the 2nd largest cause of interruptions in 2024.

Cause Code 06 - Accidents

In 2024, Accidents accounted for 18% of interruptions, 17% of customers interrupted, and 11% of Customer-Hours Interrupted.

Interruptions due to Accidents were up 11% from 2023, and up 2% over the 5-year average. Customers interrupted due to Accidents were down 12% from 2023, and down 19% over the 5-year average. Customer-Hours interrupted were down 40% from 2023 and down 43% over the 5-year average.

Accidents were the 3rd largest cause of interruptions in 2024.

Cause Code 07 - Prearranged

In 2024, Prearranged accounted for 4% of interruptions, 10% of customers interrupted, and 6% of Customer-Hours Interrupted.

Interruptions due to Prearranged were up 51% from 2023, and up 35% over the 5-year average. Customers interrupted due to Prearranged were up 112% from 2023, and up 77% over the 5-year average. Customer-Hours interrupted were up 50% from 2023 and up 85% over the 5-year average.

Prearranged was the 5th largest cause of interruptions in 2024.

Cause Code 08 - Customer Equipment

There were no Customer Equipment interruptions in 2024.

Cause Code 09 - Lightning

In 2024, Lightning accounted for 3% of interruptions, 1% of customers interrupted, and 2% of Customer-Hours Interrupted.

Interruptions due to Lightning were down 56% from 2023, and down 51% over the 5-year average. Customers interrupted due to Lightning were down 86% from 2023, and down 64% over the 5-year average. Customer-Hours interrupted were down 77% from 2023 and down 44% over the 5-year average.

Lightning was the 6th largest cause of interruptions in 2024.

Cause Code 10 - Unknown

In 2024, Unknown causes accounted for 16% of interruptions, 8% of customers interrupted, and 8% of Customer-Hours Interrupted.

Interruptions due to Unknown causes were down 1% from 2023, and down 19% over the 5-year average. Customers interrupted due to Unknown causes were down 30% from 2023, and down 34% over the 5-year average. Customer-Hours interrupted were up 27% from 2023 and down 19% over the 5-year average.

Unknown causes were the 4th largest cause of interruptions in 2024.

f. DISCUSSION OF REGIONAL CAPEX PROJECTS WITH 2024/2025 SPENDS:

The Northern Region continues to work on capital projects in order to maintain customer satisfaction and future reliability. Some specific projects that were constructed in either CY24 or will be constructed in CY25 are listed below, in addition to a description of a major infrastructure project.

There are load relief projects scheduled to be completed throughout the Northern Region. Most of these load relief projects are ratio transformer replacements or voltage conversions. Line reconductoring is also included in the voltage conversions where appropriate.

There are projects where lines are being rebuilt or reconductored. These projects are either the result of the company's Storm Hardening program, engineering reliability reviews (ERRs) conducted on the Worst Performing Circuits, or are the responses to customer inquiries via the Quick Resolution System (QRS).

Major Capital Projects for Northern Region:

Region	Project Name	Project Type	Fin Sys Proj. No.	Finish	Total Spend

g. DISCUSSION OF REGIONAL PERFORMANCE OF LVAC NETWORK DISTRIBUTION SYSTEM(S):

City of Watertown – Mill Street LVAC Network

The Watertown LVAC Network serves the Public Square area of the City of Watertown as well as one or two blocks of the following streets: Court Street, Arsenal Street, Stone Street, Washington Street, Clinton Street, Franklin Street, and State Street. This network is supplied by 6 – 4.8kV feeders, all from the Mill Street Substation. This system serves approximately 667 customer accounts and experienced a peak load of approximately 3.425 MVA in 2024.

The table below lists the breaker operations in 2024 that were a result of a fault and/or failure.

Substation	Feeder Number	Breaker Number	# Breaker Operations from Failures
Mill Street	74860	R600	0
Mill Street	74871	R710	0
Mill Street	74872	R720	0
Mill Street	74873	R730	0
Mill Street	74874	R740	0
Mill Street	74875	R750	0

As shown above, the Watertown LVAC Network experienced zero feeder outages in 2024. At no time was the network operated beyond its single contingency (N-1) design criteria.

There were no major events associated with the network in 2024.

Major equipment replacements in 2024 consisted of 2 network vault roof replacements. Annual maintenance consisted of manhole and vault inspections, network protector and transformer inspections, and network protector operation checks.

There below major project was completed in 2024:

1. Moving two network feeders from their respective Bus (one on “C” and one on “B”) to Bus “E” to eliminate the potential loss of 3 network feeders for either a 4.8kV station Bus "C" or a Bus "D" failure. By swapping positions with these radial feeders there is an additional benefit of eliminating the potential loss of all four overhead feeders for a 4.8kV station Bus “E” failure.

There is one major project being planned:

1. Mill Street - N-2 Project

Two 500kVA network transformers are proposed to be installed to support the general network during a double contingency condition:

(1) One near the corner of Mill Street & Factory Avenue.

(2) One near the corner of Franklin Street & Public Square.

The project is scheduled to start in FY2026.

2. OPERATING CIRCUIT LISTS

This section includes the following three tables and Worst Performing Circuit analysis for the Northern Region.

- a. Worst Performing Circuit List
- b. Worst Performing Circuits with 3 Year History for CAIDI and SAIFI Indices
- c. Worst Performing Circuits by number of Momentary Interruptions

a. NATIONAL GRID WORST PERFORMING CIRCUIT LIST

NORTHERN REGION

FEEDER #	A CUST. SERVED	B TOTAL INTER.	C # CUST. INTER.	D CUST. HRS. INTER.	C/A SAIFI	D/A SAIDI	D/C CAIDI	NUMBER OF MOMENTARIES
LOWVILLE 77354	2,807	67	13,087	19,876	4.66	7.08	1.52	0
THOUSAND ISL 81452	2,201	54	6,488	23,231	2.95	10.55	3.58	1
N GOUVERNEUR 98352	1,613	18	3,596	24,551	2.23	15.22	6.83	0
W ADAMS 87554	2,563	55	6,603	8,898	2.58	3.47	1.35	0
NORTH CARTHAGE 81652	2,355	33	3,239	22,274	1.38	9.46	6.88	1
N GOUVERNEUR 98351	1,583	18	4,926	7,605	3.11	4.80	1.54	0
COLLINSVILLE 71661	767	25	2,748	3,658	3.58	4.77	1.33	1
W ADAMS 87552	2,271	23	5,620	8,168	2.47	3.60	1.45	3
HAMMOND 37061	984	14	3,066	6,760	3.12	6.87	2.20	5
CHASM FALLS 85251	1,137	38	1,852	5,732	1.63	5.04	3.09	1
SUNDAY CREEK 87651	267	19	519	5,054	1.94	18.93	9.74	13

Regional Goals:

CAIDI 2.111

SAIFI 1.412

b. NATIONAL GRID WORST PERFORMING CIRCUITS WITH 3 YEAR HISTORY FOR CAIDI AND SAIFI INDICES

NORTHERN REGION

FEEDER #	2024 CAIDI	2023 CAIDI	2022 CAIDI	2021 CAIDI	2024 SAIFI	2023 SAIFI	2022 SAIFI	2021 SAIFI
LOWVILLE 77354	1.52	2.41	1.03	1.50	4.66	3.51	2.12	3.58
THOUSAND ISL 81452	3.58	2.11	2.42	2.45	2.95	1.46	3.37	1.65
N GOUVERNEUR 98352	6.83	4.74	1.76	2.79	2.23	2.20	2.77	1.61
W ADAMS 87554	1.35	1.59	1.78	1.94	2.58	1.00	2.49	2.69
NORTH CARTHAGE 81652	6.88	1.25	1.58	2.25	1.38	1.36	2.16	2.04
N GOUVERNEUR 98351	1.54	4.35	1.86	1.08	3.11	1.34	0.08	1.09
COLLINSVILLE 71661	1.33	2.13	2.58	2.39	3.58	1.23	0.79	1.54
W ADAMS 87552	1.45	2.64	0.47	1.39	2.47	0.34	1.88	2.94
HAMMOND 37061	2.20	1.84	3.36	1.10	3.12	1.25	2.32	1.75
CHASM FALLS 85251	3.09	5.63	3.20	3.35	1.63	0.76	4.14	0.71
SUNDAY CREEK 87651	9.74	3.83	2.93	2.97	1.94	1.81	1.36	2.08

Regional Goals:

CAIDI 2.111

SAIFI 1.412

c. NATIONAL GRID WORST PERFORMING CIRCUITS BY # OF MOMENTARY INTERRUPTIONS

NORTHERN REGION

Feeders			Customer Momentaries				Ranks		
Volts (kV)	Station Name	Ckt/F No.	Substation	Transmission	Distribution	Total	Within Region	Within System	Reliability Ranking
13.2	SUNDAY CREEK	23-87651	0	13	0	13	1	2	85

d. WORST PERFORMING CIRCUIT ANALYSIS

For 2024, the Company identified eleven Worst Performing Circuits in the Northern Region. The list consists of nine 13.2kV circuits and two 4.8kV circuits.

For the Northern Region, the CAIDI threshold is 2.111 hours and the SAIFI threshold is 1.412 interruptions.

1. LOWVILLE 77354 - 13.2kV

Profile: 2,807 Customers, 177.6 Circuit Miles
Indices: CAIDI = 1.52, SAIFI = 4.66

CAUSE CODE PERFORMANCE TABLE

Code	Category	Interruptions		Customers Interrupted		Customer Hours	
		Number	% Total	Number	% Total	Number	% Total
2	TREE	27	40.30%	6,574	50.23%	11,488	57.80%
3	OVERLOADS	0	0.00%	0	0.00%	0	0.00%
4	OPER. ERROR	0	0.00%	0	0.00%	0	0.00%
5	EQUIPMENT	18	26.87%	2,220	16.96%	4,647	23.38%
6	ACCIDENTS	10	14.93%	4,027	30.77%	3,290	16.55%
7	PREARRANGED	3	4.48%	32	0.24%	32	0.16%
8	CUST. EQUIP.	0	0.00%	0	0.00%	0	0.00%
9	LIGHTNING	2	2.99%	20	0.15%	112	0.56%
10	UNKNOWN	7	10.45%	214	1.64%	308	1.55%
Totals		67	100.00%	13,087	100.00%	19,876	100.00%

Problem Analysis:

- There were 67 interruptions on the Lowville 77354 in 2024.
- There were no transmission interruptions.
- There was 1 substation interruption.
 - This Substation interruption occurred on September 24, 2024, coded as a cause of animal (PSC cause code 06). This lockout accounted for 22% of the total customers interrupted (2,814 of 13,087), and 14% of the total customer-hours interrupted (2,767 of 19,876). A bird was on the high side of the station breaker and locked out the substation.
- The remaining 66 events occurred at the distribution level.
- The distribution circuit breaker for the Lowville 77354 experienced 0 momentary operations in 2024.
- The distribution circuit breaker for the Lowville 77354 experienced 1 sustained operation (lockout) in 2024. This interruption accounted for 21% of the total amount of customers interrupted (2,791 out of 9,745) and 32% of the total amount of the customer-hours interrupted (6,277 out of 23,468).
 - This lockout occurred on July 10, 2024, coded as a cause of tree fell (PSC cause code 02). This lockout accounted for 21% of the total customers interrupted (2,791 of 13,087), and 32% of the total customer-hours interrupted (6,277 of 19,876). The circuit breaker locked out due to a tree falling.
- Trees were the leading cause of interruptions on the Lowville 77354 in 2024, accounting for 42% of total interruptions (29 of 69). Unknown were the 2nd leading cause of interruptions, accounting for 25% of total interruptions (17 of 69). Accidents were the 3rd leading cause of interruptions, accounting for 17% of total interruptions (12 of 69).

- Trees were the leading cause of customers interrupted (CI) on the Lowville 77354 in 2024, accounting for 39% of total customers interrupted (3,803 of 9,745). Lightning were the 2nd leading cause of customers interrupted, accounting for 29% of total customers interrupted (2,790 of 9,745). Accidents were the 3rd leading cause of customers interrupted, accounting for 14% of total customers interrupted (1,358 of 9,745).
- Trees were the leading cause of customer-hours interrupted (CHI) on the Lowville 77354 in 2024, accounting for 39% of total customer-hours interrupted (9,037 of 23,468). Accidents were the 2nd leading cause of customer-hours interrupted, accounting for 27% of total customer-hours interrupted (6,385 of 23,468). Lightning were the 3rd leading cause of customer-hours interrupted, accounting for 19% of total customer-hours interrupted (4,371 of 23,468).
- Of the 67 interruptions on this circuit, 40 affected 10 customers or less, with 21 being single customer outages.

Action Taken:

- In 2020, the Regional Forestry Department completed scheduled distribution cycle pruning.
- In October 2021, an I&M foot patrol was completed.
- All level 2 maintenance work identified from the feeder inspection was completed in 2022.
- All level 3 maintenance work identified from the feeder inspection was completed in 2024.

Action Plan:

- The next scheduled distribution cycle pruning will be completed in 2026.
- This feeder is scheduled to be inspected again in 2026.
- No further action is required.

2. THOUSAND ISL 81452 - 13.2kV

Profile: 2,201 Customers, 113.1 Circuit Miles
Indices: CAIDI = 3.58, SAIFI = 2.95

CAUSE CODE PERFORMANCE TABLE

Code	Category	Interruptions		Customers Interrupted		Customer Hours	
		Number	% Total	Number	% Total	Number	% Total
2	TREE	15	27.78%	1,606	24.75%	4,001	17.22%
3	OVERLOADS	0	0.00%	0	0.00%	0	0.00%
4	OPER. ERROR	0	0.00%	0	0.00%	0	0.00%
5	EQUIPMENT	21	38.89%	1,460	22.50%	8,748	37.66%
6	ACCIDENTS	8	14.81%	1,461	22.52%	3,013	12.97%
7	PREARRANGED	2	3.70%	130	2.00%	830	3.57%
8	CUST. EQUIP.	0	0.00%	0	0.00%	0	0.00%
9	LIGHTNING	1	1.85%	173	2.67%	1,128	4.86%
10	UNKNOWN	7	12.96%	1,658	25.55%	5,511	23.72%
Totals		54	100.00%	6,488	100.00%	23,231	100.00%

Problem Analysis:

- There were 54 interruptions on the Thousand Isl 81452 in 2024.
- There were no transmission interruptions.
- There were no substation interruptions.
- All 54 events occurred at the distribution level.
- The distribution circuit breaker for the Thousand Isl 81452 experienced 1 momentary operation in 2024.
- The distribution circuit breaker for the Thousand Isl 81452 experienced 1 sustained operation (lockout) in 2024. This interruption accounted for 12% of the total amount of customers interrupted (776 out of 3,204) and 5% of the total amount of the customer-hours interrupted (1,073 out of 6,768).
 - This lockout occurred on July 31, 2024, coded as a cause of animal (PSC cause code 06). This lockout accounted for 12% of the total customers interrupted (776 of 6,488), and 5% of the total customer-hours interrupted (1,073 of 23,231). This outage was due to an Osprey.
- Trees were the leading cause of interruptions on the Thousand Isl 81452 in 2024, accounting for 48% of total interruptions (12 of 25). Equipment Failures were the 2nd leading cause of interruptions, accounting for 44% of total interruptions (11 of 25). Unknown were the 3rd leading cause of interruptions, accounting for 8% of total interruptions (2 of 25).
- Trees were the leading cause of customers interrupted (CI) on the Thousand Isl 81452 in 2024, accounting for 73% of total customers interrupted (2,342 of 3,204). Equipment Failures were the 2nd leading cause of customers interrupted, accounting for 24% of total customers interrupted (778 of 3,204). Unknown were the 3rd leading cause of customers interrupted, accounting for 3% of total customers interrupted (84 of 3,204).

- Trees were the leading cause of customer-hours interrupted (CHI) on the Thousand Isl 81452 in 2024, accounting for 65% of total customer-hours interrupted (4,393 of 6,768). Equipment Failures were the 2nd leading cause of customer-hours interrupted, accounting for 33% of total customer-hours interrupted (2,228 of 6,768). Unknown were the 3rd leading cause of customer-hours interrupted, accounting for 2% of total customer-hours interrupted (146 of 6,768).
- Of the 54 interruptions on this circuit, 41 affected 10 customers or less, with 21 being single customer outages.

Action Taken:

- In 2022, the Regional Forestry Department completed the scheduled distribution cycle pruning.
- In 2022, an I&M foot patrol was completed.
- All level 2 maintenance work identified from the feeder inspection was completed in 2023.

Action Plan:

- The next distribution cycle pruning is scheduled for 2028.
- All level 3 maintenance work identified from the feeder inspection will be completed in 2025.
- The next I&M foot patrol is scheduled for 2027.
- There are no further actions required.

3. N GOUVERNEUR 98352 – 13.2kV

Profile: 1,613 Customers, 122.7 Circuit Miles

Indices: CAIDI = 6.83, SAIFI = 2.23

CAUSE CODE PERFORMANCE TABLE

Code	Category	Interruptions		Customers Interrupted		Customer Hours	
		Number	% Total	Number	% Total	Number	% Total
2	TREE	4	22.22%	271	7.54%	881	3.59%
3	OVERLOADS	0	0.00%	0	0.00%	0	0.00%
4	OPER. ERROR	0	0.00%	0	0.00%	0	0.00%
5	EQUIPMENT	6	33.33%	3,305	91.91%	23,613	96.18%
6	ACCIDENTS	1	5.56%	6	0.17%	18	0.07%
7	PREARRANGED	0	0.00%	0	0.00%	0	0.00%
8	CUST. EQUIP.	0	0.00%	0	0.00%	0	0.00%
9	LIGHTNING	2	11.11%	2	0.06%	5	0.02%
10	UNKNOWN	5	27.78%	12	0.33%	34	0.14%
Totals		18	100.00%	3,596	100.00%	24,551	100.00%

Problem Analysis:

- There were 18 interruptions on the N Gouverneur 98352 in 2024.
- There were no transmission interruptions.
- There were 2 substation interruptions.
 - The first Substation interruption occurred on October 12, 2024, coded as a cause of device failed (PSC cause code 05). This lockout accounted for 45% of the total customers interrupted (1,605 of 3,596), and 82% of the total customer-hours interrupted (20,163 of 24,551). This outage was due to an insulator failing.
 - The second Substation interruption occurred on November 08, 2024, coded as a cause of device failed (PSC cause code 05). This lockout accounted for 45% of the total customers interrupted (1,606 of 3,596), and 13% of the total customer-hours interrupted (3,309 of 24,551). This outage was due to the mobile substation tripping off due to overheating.
- The remaining 16 events occurred at the distribution level.
- The distribution circuit breaker for the N Gouverneur 98352 experienced 0 momentary operations in 2024.
- The distribution circuit breaker for the N Gouverneur 98352 experienced 0 sustained operations (lockouts) in 2024.
- Trees were the leading cause of interruptions on the N Gouverneur 98352 in 2024, accounting for 25% of total interruptions (6 of 24). Equipment Failures were the 2nd leading cause of interruptions, accounting for 25% of total interruptions (6 of 24). Unknown were the 3rd leading cause of interruptions, accounting for 17% of total interruptions (4 of 24).
- Equipment Failures were the leading cause of customers interrupted (CI) on the N Gouverneur 98352 in 2024, accounting for 47% of total customers interrupted (1,669 of

- 3,542). Accidents were the 2nd leading cause of customers interrupted, accounting for 26% of total customers interrupted (917 of 3,542). Prearranged were the 3rd leading cause of customers interrupted, accounting for 21% of total customers interrupted (734 of 3,542).
- Equipment Failures were the leading cause of customer-hours interrupted (CHI) on the N Gouverneur 98352 in 2024, accounting for 69% of total customer-hours interrupted (11,506 of 16,774). Prearranged were the 2nd leading cause of customer-hours interrupted, accounting for 15% of total customer-hours interrupted (2,511 of 16,774). Accidents were the 3rd leading cause of customer-hours interrupted, accounting for 12% of total customer-hours interrupted (2,079 of 16,774).
 - Of the 18 interruptions on this circuit, 18 affected 10 customers or less, with 11 being single customer outages.

Action Taken:

- In 2023, an I&M foot patrol was completed.
- All level 2 maintenance work identified from the feeder inspection was completed in 2024.
- In 2024, the Regional Forestry Department completed the scheduled distribution cycle pruning.

Action Plan:

- The next I&M foot patrol will be completed in 2028.
- All level 3 maintenance work identified from the feeder inspection will be completed in 2026.
- The next distribution cycle pruning is scheduled for 2030.
- There are no further actions required.

4. W ADAMS 87554 – 13.2kV

Profile: 2,563 Customers, 169.9 Circuit Miles

Indices: CAIDI = 1.35, SAIFI = 2.58

CAUSE CODE PERFORMANCE TABLE

Code	Category	Interruptions		Customers Interrupted		Customer Hours	
		Number	% Total	Number	% Total	Number	% Total
2	TREE	13	23.64%	457	6.92%	1,040	11.69%
3	OVERLOADS	0	0.00%	0	0.00%	0	0.00%
4	OPER. ERROR	0	0.00%	0	0.00%	0	0.00%
5	EQUIPMENT	11	20.00%	157	2.38%	199	2.24%
6	ACCIDENTS	17	30.91%	747	11.31%	1,249	14.04%
7	PREARRANGED	5	9.09%	5,150	77.99%	6,109	68.65%
8	CUST. EQUIP.	0	0.00%	0	0.00%	0	0.00%
9	LIGHTNING	0	0.00%	0	0.00%	0	0.00%
10	UNKNOWN	9	16.36%	92	1.39%	300	3.38%
Totals		55	100.00%	6,603	100.00%	8,898	100.00%

Problem Analysis:

- There were 55 interruptions on the W Adams 87554 in 2024.
- There was 1 transmission interruption.
 - This Transmission interruption occurred on November 23, 2024, coded as a cause of planned outage (PSC cause code 07). This lockout accounted for 39% of the total customers interrupted (2,558 of 6,603), and 54% of the total customer-hours interrupted (4,775 of 8,898). This outage was prearranged to repair a hotspot on a switch in the substation.
- There was 1 substation interruption.
 - This Substation interruption occurred on October 16, 2024, coded as a cause of planned outage (PSC cause code 07). This lockout accounted for 39% of the total customers interrupted (2,565 of 6,603), and 15% of the total customer-hours interrupted (1,325 of 8,898). This outage was prearranged to repair a hotspot on a switch in the substation.
- The remaining 53 events occurred at the distribution level.
- The distribution circuit breaker for the W Adams 87554 experienced 0 momentary operations in 2024.
- The distribution circuit breaker for the W Adams 87554 experienced 0 sustained operations (lockouts) in 2024.
- Trees were the leading cause of interruptions on the W Adams 87554 in 2024, accounting for 40% of total interruptions (14 of 35). Accidents were the 2nd leading cause of interruptions, accounting for 23% of total interruptions (8 of 35). Equipment Failures were the 3rd leading cause of interruptions, accounting for 20% of total interruptions (7 of 35).
- Trees were the leading cause of customers interrupted (CI) on the W Adams 87554 in 2024, accounting for 71% of total customers interrupted (1,815 of 2,557). Accidents were the

2nd leading cause of customers interrupted, accounting for 18% of total customers interrupted (461 of 2,557). Equipment Failures were the 3rd leading cause of customers interrupted, accounting for 4% of total customers interrupted (115 of 2,557).

- Trees were the leading cause of customer-hours interrupted (CHI) on the W Adams 87554 in 2024, accounting for 63% of total customer-hours interrupted (2,558 of 4,058). Accidents were the 2nd leading cause of customer-hours interrupted, accounting for 19% of total customer-hours interrupted (781 of 4,058). Equipment Failures were the 3rd leading cause of customer-hours interrupted, accounting for 11% of total customer-hours interrupted (441 of 4,058).
- Of the 55 interruptions on this circuit, 36 affected 10 customers or less, with 24 being single customer outages.

Action Taken:

- An I&M foot patrol was completed in 2021.
- All level 2 maintenance work identified from the feeder inspection was completed in 2022.
- All level 3 maintenance work identified from the feeder inspection was completed in 2024.
- In 2024, the Regional Forestry Department completed the scheduled distribution cycle pruning.

Action Plan:

- The next I&M foot patrol will be completed in 2026.
- The next distribution cycle pruning is scheduled for 2030.
- No further actions are required.

5. NORTH CARTHAGE 81652 - 13.2kV

Profile: 2,355 Customers, 160.7 Circuit Miles

Indices: CAIDI = 6.88, SAIFI = 1.38

CAUSE CODE PERFORMANCE TABLE

Code	Category	Interruptions		Customers Interrupted		Customer Hours	
		Number	% Total	Number	% Total	Number	% Total
2	TREE	13	39.39%	2,662	82.19%	21,416	96.15%
3	OVERLOADS	0	0.00%	0	0.00%	0	0.00%
4	OPER. ERROR	0	0.00%	0	0.00%	0	0.00%
5	EQUIPMENT	6	18.18%	96	2.96%	137	0.62%
6	ACCIDENTS	2	6.06%	250	7.72%	169	0.76%
7	PREARRANGED	2	6.06%	2	0.06%	2	0.01%
8	CUST. EQUIP.	0	0.00%	0	0.00%	0	0.00%
9	LIGHTNING	4	12.12%	28	0.86%	103	0.46%
10	UNKNOWN	6	18.18%	201	6.21%	447	2.01%
Totals		33	100.00%	3,239	100.00%	22,274	100.00%

Problem Analysis:

- There were 33 interruptions on the North Carthage 81652 in 2024.
- There were no transmission interruptions.
- There were no substation interruptions.
- All 33 events occurred at the distribution level.
- The distribution circuit breaker for the North Carthage 81652 experienced 1 momentary operation in 2024.
- The distribution circuit breaker for the North Carthage 81652 experienced 0 sustained operations (lockouts) in 2024.
- Equipment Failures were the leading cause of interruptions on the North Carthage 81652 in 2024, accounting for 24% of total interruptions (11 of 45). Trees were the 2nd leading cause of interruptions, accounting for 22% of total interruptions (10 of 45). Lightning were the 3rd leading cause of interruptions, accounting for 20% of total interruptions (9 of 45).
- Lightning were the leading cause of customers interrupted (CI) on the North Carthage 81652 in 2024, accounting for 44% of total customers interrupted (1,391 of 3,179). Equipment Failures were the 2nd leading cause of customers interrupted, accounting for 41% of total customers interrupted (1,289 of 3,179). Trees were the 3rd leading cause of customers interrupted, accounting for 6% of total customers interrupted (181 of 3,179).
- Lightning were the leading cause of customer-hours interrupted (CHI) on the North Carthage 81652 in 2024, accounting for 61% of total customer-hours interrupted (2,421 of 3,977). Equipment Failures were the 2nd leading cause of customer-hours interrupted, accounting for 18% of total customer-hours interrupted (720 of 3,977). Trees were the 3rd leading cause of customer-hours interrupted, accounting for 10% of total customer-hours interrupted (406 of 3,977).

- Of the 33 interruptions on this circuit, 54 affected 10 customers or less, with 37 being single customer outages.

Action Taken:

- In 2022, the Regional Forestry Department completed the scheduled distribution cycle pruning.
- In 2024, an I&M foot patrol was completed.

Action Plan:

- The next I&M foot patrol is scheduled for 2029.
- The level 2 maintenance work identified from the feeder inspection will be completed in 2025.
- The level 3 maintenance work identified from the feeder inspection will be completed in 2027.
- The next distribution cycle pruning is scheduled for 2028.
- At this time, no further action is required.

6. N GOUVERNEUR 98351 – 13.2kV

Profile: 1,583 Customers, 57.5 Circuit Miles

Indices: CAIDI = 1.54, SAIFI = 3.11

CAUSE CODE PERFORMANCE TABLE

Code	Category	Interruptions		Customers Interrupted		Customer Hours	
		Number	% Total	Number	% Total	Number	% Total
2	TREE	6	33.33%	1,593	32.34%	1,745	22.95%
3	OVERLOADS	0	0.00%	0	0.00%	0	0.00%
4	OPER. ERROR	0	0.00%	0	0.00%	0	0.00%
5	EQUIPMENT	8	44.44%	3,188	64.72%	5,570	73.24%
6	ACCIDENTS	3	16.67%	34	0.69%	88	1.16%
7	PREARRANGED	0	0.00%	0	0.00%	0	0.00%
8	CUST. EQUIP.	0	0.00%	0	0.00%	0	0.00%
9	LIGHTNING	0	0.00%	0	0.00%	0	0.00%
10	UNKNOWN	1	5.56%	111	2.25%	201	2.65%
Totals		18	100.00%	4,926	100.00%	7,605	100.00%

Problem Analysis:

- There were 18 interruptions on the N Gouverneur 98351 in 2024.
- There were no transmission interruptions.
- There were 2 substation interruptions.
 - The first Substation interruption occurred on October 12, 2024, coded as a cause of device failed (PSC cause code 05). This lockout accounted for 32% of the total customers interrupted (1,568 of 4,926), and 60% of the total customer-hours interrupted (4,576 of 7,605). This outage was due to an insulator failure.
 - The second Substation interruption occurred on November 08, 2024, coded as a cause of device failed (PSC cause code 05). This lockout accounted for 32% of the total customers interrupted (1,570 of 4,926), and 12% of the total customer-hours interrupted (921 of 7,605). This outage was due to the mobile substation tripping off due to overheating.
- The remaining 16 events occurred at the distribution level.
- The distribution circuit breaker for the N Gouverneur 98351 experienced 0 momentary operations in 2024.
- The distribution circuit breaker for the N Gouverneur 98351 experienced 1 sustained operation (lockout) in 2024. This interruption accounted for 32% of the total amount of customers interrupted (1,577 out of 2,135) and 22% of the total amount of the customer-hours interrupted (1,637 out of 9,292).
 - This lockout occurred on June 24, 2024, coded as a cause of tree fell (PSC cause code 02). This lockout accounted for 32% of the total customers interrupted (1,577 of 4,926), and 22% of the total customer-hours interrupted (1,637 of 7,605). This outage was due to a tree falling and taking down the primary.

- Equipment Failures were the leading cause of interruptions on the N Gouverneur 98351 in 2024, accounting for 45% of total interruptions (5 of 11). Lightning were the 2nd leading cause of interruptions, accounting for 18% of total interruptions (2 of 11). Unknown were the 3rd leading cause of interruptions, accounting for 18% of total interruptions (2 of 11).
- Equipment Failures were the leading cause of customers interrupted (CI) on the N Gouverneur 98351 in 2024, accounting for 77% of total customers interrupted (1,634 of 2,135). Operators Errors were the 2nd leading cause of customers interrupted, accounting for 21% of total customers interrupted (446 of 2,135). Trees were the 3rd leading cause of customers interrupted, accounting for 1% of total customers interrupted (27 of 2,135).
- Equipment Failures were the leading cause of customer-hours interrupted (CHI) on the N Gouverneur 98351 in 2024, accounting for 97% of total customer-hours interrupted (9,006 of 9,292). Operators Errors were the 2nd leading cause of customer-hours interrupted, accounting for 3% of total customer-hours interrupted (235 of 9,292). Unknown were the 3rd leading cause of customer-hours interrupted, accounting for 0% of total customer-hours interrupted (28 of 9,292).
- Of the 18 interruptions on this circuit, 12 affected 10 customers or less, with 9 being single customer outages.

Action Taken:

- In 2021, the Regional Forestry Department completed the scheduled distribution cycle pruning.
- In 2023, an I&M foot patrol was completed.
- The level 2 maintenance work identified was completed in 2024.

Action Plan:

- The next distribution cycle pruning is scheduled for 2027.
- The level 3 maintenance work identified will be completed in 2026.
- The next I&M foot patrol is scheduled for 2028.
- No further actions are required.

7. COLLINSVILLE 71661 – 4.8kV

Profile: 767 Customers, 88.9 Circuit Miles

Indices: CAIDI = 1.33, SAIFI = 3.58

CAUSE CODE PERFORMANCE TABLE

Code	Category	Interruptions		Customers Interrupted		Customer Hours	
		Number	% Total	Number	% Total	Number	% Total
2	TREE	11	44.00%	1,070	38.94%	2,529	69.13%
3	OVERLOADS	0	0.00%	0	0.00%	0	0.00%
4	OPER. ERROR	0	0.00%	0	0.00%	0	0.00%
5	EQUIPMENT	6	24.00%	775	28.20%	728	19.89%
6	ACCIDENTS	1	4.00%	77	2.80%	211	5.78%
7	PREARRANGED	0	0.00%	0	0.00%	0	0.00%
8	CUST. EQUIP.	0	0.00%	0	0.00%	0	0.00%
9	LIGHTNING	1	4.00%	1	0.04%	3	0.09%
10	UNKNOWN	6	24.00%	825	30.02%	187	5.11%
Totals		25	100.00%	2,748	100.00%	3,658	100.00%

Problem Analysis:

- There were 25 interruptions on the Collinsville 71661 in 2024.
- There was 1 transmission interruption.
 - This Transmission interruption occurred on July 10, 2024, coded as a cause of unknown (PSC cause code 10). This lockout accounted for 28% of the total customers interrupted (768 of 2,748), and 2% of the total customer-hours interrupted (90 of 3,658).
- There were no substation interruptions.
- The remaining 24 events occurred at the distribution level.
- The distribution circuit breaker for the Collinsville 71661 experienced 1 momentary operation in 2024.
- The distribution circuit breaker for the Collinsville 71661 experienced 0 sustained operations (lockouts) in 2024.
- Unknown were the leading cause of interruptions on the Collinsville 71661 in 2024, accounting for 35% of total interruptions (8 of 23). Trees were the 2nd leading cause of interruptions, accounting for 26% of total interruptions (6 of 23). Equipment Failures were the 3rd leading cause of interruptions, accounting for 22% of total interruptions (5 of 23).
- Unknown were the leading cause of customers interrupted (CI) on the Collinsville 71661 in 2024, accounting for 36% of total customers interrupted (339 of 929). Equipment Failures were the 2nd leading cause of customers interrupted, accounting for 32% of total customers interrupted (301 of 929). Trees were the 3rd leading cause of customers interrupted, accounting for 20% of total customers interrupted (185 of 929).
- Unknown were the leading cause of customer-hours interrupted (CHI) on the Collinsville 71661 in 2024, accounting for 51% of total customer-hours interrupted (1,011 of 1,980). Trees were the 2nd leading cause of customer-hours interrupted, accounting for 19% of

total customer-hours interrupted (375 of 1,980). Equipment Failures were the 3rd leading cause of customer-hours interrupted, accounting for 19% of total customer-hours interrupted (375 of 1,980).

- Of the 25 interruptions on this circuit, 13 affected 10 customers or less, with 9 being single customer outages.

Action Taken:

- In 2022, the Regional Forestry Department completed the scheduled distribution cycle pruning.
- In 2022, an I&M foot patrol was completed.
- The level 2 maintenance work identified from the feeder inspection was completed in 2023.

Action Plan:

- The level 3 maintenance work identified from the feeder inspection will be completed in 2025.
- The next I&M foot patrol will be completed in 2027.
- The next distribution cycle pruning is scheduled for 2029.
- No further actions are required.

8. W ADAMS 87552 - 13.2kV

Profile: 2,271 Customers, 91.7 Circuit Miles
Indices: CAIDI = 1.45, SAIFI = 2.47

CAUSE CODE PERFORMANCE TABLE

Code	Category	Interruptions		Customers Interrupted		Customer Hours	
		Number	% Total	Number	% Total	Number	% Total
2	TREE	5	21.74%	5,200	92.53%	6,929	84.82%
3	OVERLOADS	0	0.00%	0	0.00%	0	0.00%
4	OPER. ERROR	0	0.00%	0	0.00%	0	0.00%
5	EQUIPMENT	11	47.83%	264	4.70%	1,009	12.36%
6	ACCIDENTS	6	26.09%	154	2.74%	227	2.78%
7	PREARRANGED	0	0.00%	0	0.00%	0	0.00%
8	CUST. EQUIP.	0	0.00%	0	0.00%	0	0.00%
9	LIGHTNING	0	0.00%	0	0.00%	0	0.00%
10	UNKNOWN	1	4.35%	2	0.04%	3	0.04%
Totals		23	100.00%	5,620	100.00%	8,168	100.00%

Problems Analysis:

- There were 23 interruptions on the W Adams 87552 in 2024.

- There were no transmission interruptions.
- There were no substation interruptions.
- All 23 events occurred at the distribution level.
- The distribution circuit breaker for the W Adams 87552 experienced 3 momentary operations in 2024.
- The distribution circuit breaker for the W Adams 87552 experienced 1 sustained operation (lockout) in 2024. This interruption accounted for 40% of the total amount of customers interrupted (2,276 out of 754) and 13% of the total amount of the customer-hours interrupted (1,024 out of 1,990).
 - This lockout occurred on April 23, 2024, coded as a cause of tree - broken limb (PSC cause code 02). This lockout accounted for 40% of the total customers interrupted (2,276 of 5,620), and 13% of the total customer-hours interrupted (1,024 of 8,168). This outage was due to a tree branch across all three phases.
- Equipment Failures were the leading cause of interruptions on the W Adams 87552 in 2024, accounting for 40% of total interruptions (8 of 20). Trees were the 2nd leading cause of interruptions, accounting for 30% of total interruptions (6 of 20). Accidents were the 3rd leading cause of interruptions, accounting for 15% of total interruptions (3 of 20).
- Equipment Failures were the leading cause of customers interrupted (CI) on the W Adams 87552 in 2024, accounting for 65% of total customers interrupted (493 of 754). Trees were the 2nd leading cause of customers interrupted, accounting for 18% of total customers interrupted (138 of 754). Unknown were the 3rd leading cause of customers interrupted, accounting for 15% of total customers interrupted (111 of 754).
- Equipment Failures were the leading cause of customer-hours interrupted (CHI) on the W Adams 87552 in 2024, accounting for 83% of total customer-hours interrupted (1,655 of 1,990). Trees were the 2nd leading cause of customer-hours interrupted, accounting for 8% of total customer-hours interrupted (161 of 1,990). Unknown were the 3rd leading cause of customer-hours interrupted, accounting for 7% of total customer-hours interrupted (139 of 1,990).
- Of the 23 interruptions on this circuit, 31 affected 10 customers or less, with 23 being single customer outages.

Action Taken:

- An I&M foot patrol was completed in 2023.
- The level 2 maintenance work identified from the feeder inspection was completed in 2024.
- In 2023, the Regional Forestry Department completed the scheduled distribution cycle pruning.

Action Plan:

- The level 3 maintenance work identified from the feeder inspection will be completed in 2026.
- The next I&M foot patrol is scheduled to be completed in 2028.
- The next distribution cycle pruning is scheduled for 2029.
- No further actions are required.

9. HAMMOND 37061 – 4.8kV

Profile: 984 Customers, 56.8 Circuit Miles

Indices: CAIDI = 2.20, SAIFI = 3.12

CAUSE CODE PERFORMANCE TABLE

Code	Category	Interruptions		Customers Interrupted		Customer Hours	
		Number	% Total	Number	% Total	Number	% Total
2	TREE	7	50.00%	2,255	73.55%	5,433	80.36%
3	OVERLOADS	0	0.00%	0	0.00%	0	0.00%
4	OPER. ERROR	0	0.00%	0	0.00%	0	0.00%
5	EQUIPMENT	1	7.14%	1	0.03%	3	0.04%
6	ACCIDENTS	2	14.29%	228	7.44%	487	7.20%
7	PREARRANGED	1	7.14%	17	0.55%	26	0.38%
8	CUST. EQUIP.	0	0.00%	0	0.00%	0	0.00%
9	LIGHTNING	0	0.00%	0	0.00%	0	0.00%
10	UNKNOWN	3	21.43%	565	18.43%	812	12.01%
Totals		14	100.00%	3,066	100.00%	6,760	100.00%

Problem Analysis:

- There were 14 interruptions on the Hammond 37061 in 2024.
- There were 2 transmission interruptions.
 - The first Transmission interruption occurred on April 22, 2024, coded as a cause of tree fell (PSC cause code 02). This lockout accounted for 32% of the total customers interrupted (983 of 3,066), and 20% of the total customer-hours interrupted (1,343 of 6,760). A tree fell on the McInyre-Hammond #24 line.
 - The second Transmission interruption occurred on April 14, 2024, coded as a cause of tree fell (PSC cause code 02). This lockout accounted for 31% of the total customers interrupted (955 of 3,066), and 48% of the total customer-hours interrupted (3,278 of 6,760). A tree fell on the McIntyre-Hammond #24 line.
- There were no substation interruptions.
- The remaining 12 events occurred at the distribution level.
- The distribution circuit breaker for the Hammond 37061 experienced 5 momentary operations in 2024.
- The distribution circuit breaker for the Hammond 37061 experienced 0 sustained operations (lockouts) in 2024.
- Equipment Failures were the leading cause of interruptions on the Hammond 37061 in 2024, accounting for 45% of total interruptions (5 of 11). Unknown were the 2nd leading cause of interruptions, accounting for 18% of total interruptions (2 of 11). Trees were the 3rd leading cause of interruptions, accounting for 9% of total interruptions (1 of 11).
- Equipment Failures were the leading cause of customers interrupted (CI) on the Hammond 37061 in 2024, accounting for 88% of total customers interrupted (1,077 of 1,224). Accidents were the 2nd leading cause of customers interrupted, accounting for 8% of total

customers interrupted (96 of 1,224). Trees were the 3rd leading cause of customers interrupted, accounting for 3% of total customers interrupted (41 of 1,224).

- Equipment Failures were the leading cause of customer-hours interrupted (CHI) on the Hammond 37061 in 2024, accounting for 67% of total customer-hours interrupted (1,497 of 2,248). Accidents were the 2nd leading cause of customer-hours interrupted, accounting for 29% of total customer-hours interrupted (655 of 2,248). Trees were the 3rd leading cause of customer-hours interrupted, accounting for 2% of total customer-hours interrupted (48 of 2,248).
- Of the 14 interruptions on this circuit, 6 affected 10 customers or less, with 6 being single customer outages.

Action Taken:

- In 2023, the Regional Forestry Department completed the scheduled distribution cycle pruning.
- An I&M foot patrol was completed in 2024.

Action Plan:

- The level 2 maintenance work identified from the feeder inspection will be completed in 2025.
- The level 3 maintenance work identified from the feeder inspection will be completed in 2027.
- The next I&M foot patrol is scheduled for 2029.
- The next distribution cycle pruning is scheduled for 2028.
- There are no further actions required.

10. CHASM FALLS 85251 – 13.2kV

Profile: 1,137 Customers, 83.1 Circuit Miles
Indices: CAIDI = 3.09, SAIFI = 1.63

CAUSE CODE PERFORMANCE TABLE

Code	Category	Interruptions		Customers Interrupted		Customer Hours	
		Number	% Total	Number	% Total	Number	% Total
2	TREE	28	73.68%	1,444	77.97%	4,783	83.44%
3	OVERLOADS	0	0.00%	0	0.00%	0	0.00%
4	OPER. ERROR	0	0.00%	0	0.00%	0	0.00%
5	EQUIPMENT	6	15.79%	337	18.20%	769	13.41%
6	ACCIDENTS	0	0.00%	0	0.00%	0	0.00%
7	PREARRANGED	1	2.63%	3	0.16%	9	0.15%
8	CUST. EQUIP.	0	0.00%	0	0.00%	0	0.00%
9	LIGHTNING	0	0.00%	0	0.00%	0	0.00%
10	UNKNOWN	3	7.89%	68	3.67%	172	3.00%
Totals		38	100.00%	1,852	100.00%	5,732	100.00%

Problem Analysis:

- There were 38 interruptions on the Chasm Falls 85251 in 2024.
- There were no transmission interruptions.
- There were no substation interruptions.
- All 38 events occurred at the distribution level.
- The distribution circuit breaker for the Chasm Falls 85251 experienced 1 momentary operation in 2024.
- The distribution circuit breaker for the Chasm Falls 85251 experienced 0 sustained operations (lockouts) in 2024.
- Trees were the leading cause of interruptions on the Chasm Falls 85251 in 2024, accounting for 67% of total interruptions (18 of 27). Lightning were the 2nd leading cause of interruptions, accounting for 11% of total interruptions (3 of 27). Unknown were the 3rd leading cause of interruptions, accounting for 11% of total interruptions (3 of 27).
- Trees were the leading cause of customers interrupted (CI) on the Chasm Falls 85251 in 2024, accounting for 85% of total customers interrupted (733 of 860). Unknown were the 2nd leading cause of customers interrupted, accounting for 9% of total customers interrupted (77 of 860). Lightning were the 3rd leading cause of customers interrupted, accounting for 3% of total customers interrupted (26 of 860).
- Trees were the leading cause of customer-hours interrupted (CHI) on the Chasm Falls 85251 in 2024, accounting for 95% of total customer-hours interrupted (4,589 of 4,839). Unknown were the 2nd leading cause of customer-hours interrupted, accounting for 3% of total customer-hours interrupted (169 of 4,839). Lightning were the 3rd leading cause of customer-hours interrupted, accounting for 1% of total customer-hours interrupted (47 of 4,839).

- Of the 38 interruptions on this circuit, 19 affected 10 customers or less, with 6 being single customer outages.

Action Taken:

- In 2021, the Regional Forestry Department completed the scheduled distribution cycle pruning.
- An I&M foot patrol was completed in 2021.
- All level 2 maintenance work identified during the inspection was completed in 2022.
- All level 3 maintenance work identified during the inspection was completed in 2024.

Action Plan:

- The next I&M foot patrol is scheduled for 2026.
- The next distribution cycle pruning is scheduled for 2027.
- No further actions are required.

11. SUNDAY CREEK 87651 – 13.2kV

Profile: 267 Customers, 27.2 Circuit Miles
Indices: CAIDI = 9.74, SAIFI = 1.94

CAUSE CODE PERFORMANCE TABLE

Code	Category	Interruptions		Customers Interrupted		Customer Hours	
		Number	% Total	Number	% Total	Number	% Total
2	TREE	13	68.42%	490	94.41%	4,924	97.43%
3	OVERLOADS	0	0.00%	0	0.00%	0	0.00%
4	OPER. ERROR	0	0.00%	0	0.00%	0	0.00%
5	EQUIPMENT	3	15.79%	8	1.54%	32	0.64%
6	ACCIDENTS	1	5.26%	8	1.54%	39	0.78%
7	PREARRANGED	0	0.00%	0	0.00%	0	0.00%
8	CUST. EQUIP.	0	0.00%	0	0.00%	0	0.00%
9	LIGHTNING	0	0.00%	0	0.00%	0	0.00%
10	UNKNOWN	2	10.53%	13	2.50%	58	1.15%
Totals		19	100.00%	519	100.00%	5,054	100.00%

Problem Analysis:

- There were 19 interruptions on the Sunday Creek 87651 in 2024.
- There were no transmission interruptions.
- There were no substation interruptions.
- All 19 events occurred at the distribution level.
- The distribution circuit breaker for the Sunday Creek 87651 experienced 13 momentary operations in 2024.
- The distribution circuit breaker for the Sunday Creek 87651 experienced 1 sustained operation (lockout) in 2024. This interruption accounted for 51% of the total amount of customers interrupted (267 out of 484) and 75% of the total amount of the customer-hours interrupted (3,776 out of 1,855).
 - This lockout occurred on July 10, 2024, coded as a cause of tree fell (PSC cause code 02). This lockout accounted for 51% of the total customers interrupted (267 of 519), and 75% of the total customer-hours interrupted (3,776 of 5,054). This outage was due to a tree falling which resulted in a breaker lockout.
- Trees were the leading cause of interruptions on the Sunday Creek 87651 in 2024, accounting for 46% of total interruptions (6 of 13). Unknown were the 2nd leading cause of interruptions, accounting for 38% of total interruptions (5 of 13). Equipment Failures were the 3rd leading cause of interruptions, accounting for 15% of total interruptions (2 of 13).
- Trees were the leading cause of customers interrupted (CI) on the Sunday Creek 87651 in 2024, accounting for 50% of total customers interrupted (244 of 484). Unknown were the 2nd leading cause of customers interrupted, accounting for 25% of total customers

- interrupted (122 of 484). Equipment Failures were the 3rd leading cause of customers interrupted, accounting for 24% of total customers interrupted (118 of 484).
- Trees were the leading cause of customer-hours interrupted (CHI) on the Sunday Creek 87651 in 2024, accounting for 48% of total customer-hours interrupted (890 of 1,855). Equipment Failures were the 2nd leading cause of customer-hours interrupted, accounting for 27% of total customer-hours interrupted (497 of 1,855). Unknown were the 3rd leading cause of customer-hours interrupted, accounting for 25% of total customer-hours interrupted (468 of 1,855).
 - Of the 19 interruptions on this circuit, 32 affected 10 customers or less, with 24 being single customer outages.

Action Taken:

- In 2024, the Regional Forestry Department completed the scheduled distribution cycle pruning.
- An I&M foot patrol was completed in 2024.

Action Plan:

- All level 2 maintenance work identified during the inspection will be completed in 2025.
- All level 3 maintenance work identified during the inspection will be completed in 2027.
- The next I&M foot patrol is scheduled for 2029.
- The next distribution cycle pruning is scheduled for 2030.
- No further actions are required.

3. ACTION PLAN SUMMARIES

a. SUMMARY OF ACTION PLANS FOR 2024 WORST PERFORMING CIRCUITS

Station	Circuit	Report Year	Action Plan	Estimated Completion Date	Comments
Lowville	77354	2024	The next scheduled distribution cycle pruning will be completed in 2026.	2026	
Lowville	77354	2024	This feeder is scheduled to be inspected again in 2026.	2026	
Thousand Isl	81452	2024	The next distribution cycle pruning is scheduled for 2028.	2028	
Thousand Isl	81452	2024	The level 3 maintenance work identified during the inspection will be completed in 2025.	2025	
Thousand Isl	81452	2024	The next I&M foot patrol is scheduled for 2027.	2027	
N Gouverneur	98352	2024	All level 3 maintenance work identified from the feeder inspection will be completed in 2026.	2026	
N Gouverneur	98352	2024	The next I&M foot patrol is scheduled for 2028.	2028	
N Gouverneur	98352	2024	The next distribution cycle pruning is scheduled for 2030.	2030	
West Adams	87554	2024	The next I&M foot patrol is scheduled for 2026.	2026	
West Adams	87554	2024	The next distribution cycle pruning is scheduled for 2030.	2030	
North Carthage	81652	2024	All level 3 maintenance work identified from the feeder inspection will be completed in 2027.	2027	
North Carthage	81652	2024	The next distribution cycle pruning is scheduled for 2028.	2028	
North Carthage	81652	2024	The next I&M foot patrol will be completed in 2029.	2029	
North Carthage	81652	2024	All level 2 maintenance work identified from the feeder inspection will be completed in 2025.	2025	
N Gouverneur	98351	2024	The next I&M foot patrol will be completed in 2028.	2028	
N Gouverneur	98351	2024	The next distribution cycle pruning is scheduled for 2027.	2027	
N Gouverneur	98351	2024	All level 3 maintenance work identified from the feeder inspection will be completed in 2026.	2026	
Collinsville	71661	2024	The next distribution cycle pruning is scheduled for 2029.	2029	
Collinsville	71661	2024	The next I&M foot patrol is scheduled for 2027.	2027	
Collinsville	71661	2024	All level 3 maintenance work identified from the feeder inspection will be completed in 2025.	2025	
West Adams	87552	2024	The next distribution cycle pruning is scheduled for 2029.	2029	
West Adams	87552	2024	The level 3 maintenance work identified from the feeder inspection will be completed by 2026.	2026	
West Adams	87552	2024	The next I&M foot patrol is scheduled to be completed in 2028.	2028	
Hammond	37061	2024	The next distribution cycle pruning is scheduled for 2028.	2028	
Hammond	37061	2024	The level 2 maintenance work identified from the feeder inspection will be completed in 2025.	2025	
Hammond	37061	2024	The level 3 maintenance work identified from the feeder inspection will be completed in 2027.	2027	
Hammond	37061	2024	The next I&M foot patrol is scheduled to be completed in 2029.	2029	
Chasm Falls	85251	2024	The next distribution cycle pruning is scheduled for 2027.	2027	
Chasm Falls	85251	2024	The next I&M foot patrol is scheduled for 2026.	2026	
Sunday Creek	87651	2024	The next I&M foot patrol is scheduled for 2029.	2029	
Sunday Creek	87651	2024	The next distribution cycle pruning is scheduled for 2030.	2030	
Sunday Creek	87651	2024	The level 2 maintenance work identified from the feeder inspection will be completed in 2025.	2025	

Station	Circuit	Report Year	Action Plan	Estimated Completion Date	Comments
Sunday Creek	87651	2024	The level 3 maintenance work identified from the feeder inspection will be completed in 2027.	2027	

b. STATUS OF ACTION PLANS FOR 2023 WORST PERFORMING CIRCUITS

Station	Circuit	Report Year	Action Plan	Actual Completion Date	Comments
Lowville	77354	2023	The next scheduled distribution cycle pruning will be completed in 2026.	2026	
Lowville	77354	2023	All level 3 maintenance work identified from the feeder inspection will be completed in 2024.	2024	Complete
Lowville	77354	2023	This feeder is scheduled to be inspected again in 2026.	2026	
N Gouverneur	98352	2023	This feeder is scheduled to be inspected again in 2026.	2026	
N Gouverneur	98352	2023	All level 2 maintenance work identified from the feeder inspection will be completed in 2024.	2024	Complete
N Gouverneur	98352	2023	All level 3 maintenance work identified from the feeder inspection will be completed in 2026.	2026	
N Gouverneur	98352	2023	The next I&M foot patrol is scheduled for 2028.	2028	
Star Lake	72761	2023	The next I&M foot patrol is scheduled for 2028.	2028	
Star Lake	72761	2023	All level 2 maintenance work identified from the feeder inspection will be completed in 2024.	2024	Complete
Star Lake	72761	2023	All level 3 maintenance work identified from the feeder inspection will be completed in 2026.	2026	
Star Lake	72761	2023	The next distribution cycle pruning is scheduled for 2028.	2028	
E Watertown	81757	2023	The next I&M foot patrol will be completed in 2025.	2025	
E Watertown	81757	2023	The next distribution cycle pruning is scheduled for 2026.	2026	
Brady	95756	2023	The next I&M foot patrol will be completed in 2024.	2024	Complete
Brady	95756	2023	The next distribution cycle pruning is scheduled for 2025.	2025	
Fort Covington	89642	2023	The next I&M foot patrol is scheduled for 2025.	2025	
Fort Covington	89642	2023	The next distribution cycle pruning is scheduled for 2024.	2024	Complete
Fine	97866	2023	The next I&M foot patrol is scheduled for 2025.	2025	
Fine	97866	2023	The next distribution cycle pruning is scheduled for 2027.	2027	
Brady	95757	2023	The level 2 maintenance work identified from the feeder inspection will be completed in 2024.	2024	Complete
Brady	95757	2023	The level 3 maintenance work identified from the feeder inspection will be completed by 2026.	2026	
Brady	95757	2023	The next I&M foot patrol is scheduled to be completed in 2028.	2028	
Brady	95757	2023	The next distribution cycle pruning is scheduled for 2027.	2027	
Lyme	73352	2023	The next I&M foot patrol is scheduled for 2025.	2025	
Lyme	73352	2023	The next distribution cycle pruning is scheduled for 2028.	2028	
Piercefield	82961	2023	The next I&M foot patrol is scheduled to be completed in 2025.	2025	
Piercefield	82961	2023	The next distribution cycle pruning is scheduled for 2024.	2024	Complete
Star Lake	72762	2023	All level 3 maintenance work identified during the inspection will be completed in 2025.	2025	
Star Lake	72762	2023	The next I&M foot patrol is scheduled for 2027.	2027	
Star Lake	72762	2023	The next distribution cycle pruning is scheduled for 2024.	2024	Complete
S Philadelphia	76462	2023	The next I&M foot patrol is scheduled for 2024.	2024	Complete
S Philadelphia	76462	2023	The next distribution cycle pruning is scheduled for 2026.	2026	
Antwerp	80161	2023	In 2027, the Regional Forestry Department will be completing the scheduled distribution cycle pruning.	2027	
Antwerp	80161	2023	The next I&M foot patrol is scheduled for 2025.	2025	

Station	Circuit	Report Year	Action Plan	Actual Completion Date	Comments
Malone	89552	2023	The next distribution cycle pruning is scheduled for 2025.	2025	
Malone	89552	2023	The level 3 maintenance work identified from the feeder inspection will be completed in 2025.	2025	
Malone	89552	2023	The next I&M foot patrol is scheduled for 2027.	2027	
Thousand Isl	81452	2023	The next distribution cycle pruning is scheduled for 2030.	2030	
Thousand Isl	81452	2023	The level 3 maintenance work identified during the inspection will be completed in 2025.	2025	
Thousand Isl	81452	2023	The next I&M foot patrol is scheduled for 2027.	2027	

J. SOUTHWEST REGION

1. OPERATING REGIONAL PERFORMANCE

a. HISTORIC CAIDI AND SAIFI INDICES

IDS Info:

	2024	2023	2022	2021	2020	2019
CAIDI (Threshold 1.950)	2.08	1.74	1.72	1.74	1.70	1.68
SAIFI (Threshold 1.181)	1.36	0.89	1.32	1.06	0.99	1.11
SAIDI	2.83	1.55	2.27	1.85	1.67	1.86
Interruptions	1,296	974	1,207	1,192	1,088	1,126
Customers Interrupted	144,610	94,412	139,448	112,268	103,991	116,388
Customer-Hours Interrupted	301,465	163,990	240,403	195,894	176,339	195,716
Customers Served	106,385	105,951	106,001	105,961	105,512	105,136
Customers Per Interruption	111.58	96.93	115.53	94.18	95.58	103.36
Availability Index	99.9677	99.9823	99.9741	99.9789	99.9810	99.9787
Interruptions/1000 Customers	12.18	9.19	11.39	11.25	10.31	10.71

b. DISCUSSION OF REGIONAL PERFORMANCE

In 2024, the Southwest Region did not meet its CAIDI reliability target and did not meet its SAIFI reliability target as set forth by the New York Public Service Commission (PSC). The final System Average Interruption Frequency Index (SAIFI) result was 1.36 interruptions, 15% above the PSC goal of 1.181 interruptions. As shown in the table above, the Customer Average Interruption Duration index (CAIDI) was 2.08 in 2024, 7% above the PSC's regional target of 1.950 hours.

The 2024 CAIDI result was 20% above the 2023 result of 1.74 hours, and 21% above the previous 5-year average of 1.72 hours. The 2024 SAIFI was 53% above the 2023 result of 0.89 interruptions, and 27% above the previous 5-year average of 1.07 interruptions.

In 2024, excluding major storms, the Southwest Region experienced 15 transmission interruptions. These interruptions accounted for 1% of the region's total interruptions (15 of 1,296), 31% of the region's total customers interrupted (CI), (44,849 of 144,610), and 26% (79,251 of 301,464) of the region's total customer-hours interrupted (CHI). Overall, transmission interruptions had a CAIDI of 1.77 hours, and a SAIFI of 0.42 interruptions.

The number of transmission-related interruptions increased from 8 in 2023 to 15 in 2024 (an increase of 88%). The number of customers interrupted increased from 25,029 in 2023, to 44,849 in 2024 (an increase of 79%), while the customer-hours interrupted increased from 29,026 in 2023, to 79,251 in 2024 (an increase of 173%).

In 2024, excluding major storms, the Southwest Region experienced 3 substation interruptions. These interruptions accounted for 0.2% of the region's total interruptions (3 of 1,296), 13% of the region's total customers interrupted, (19,460 of 144,610), and 21% (63,511 of 301,464) of the region's total customer-hours interrupted. Overall, substation interruptions had a CAIDI of 3.26 hours, and a SAIFI of 0.18 interruptions.

The number of substation-related interruptions decreased from 5 to 3 from 2023 to 2024 (a decrease of 40%). The number of customers interrupted increased from 4,309 in 2023, to 19,460 in 2024 (an increase of 352%), while the customer-hours interrupted increased from 5,590 in 2023, to 63,511 in 2024 (an increase of 1,036%).

In 2024, excluding major storms, the Southwest Region experienced 1,278 distribution interruptions. These interruptions accounted for 99% of the region's total interruptions (1,278 of 1,296), 56% of the region's total customers interrupted, (80,301 of 144,610), and 53% (158,702 of 301,464) of the region's total customer-hours interrupted. Overall, distribution interruptions had a CAIDI of 1.98 hours, and a SAIFI of 0.75 interruptions.

The number of distribution-related interruptions decreased from 1,176 to 961 from 2022 to 2023 (a decrease of 18%). The number of customers interrupted decreased from 82,442 in 2022, to 65,074 in 2023 (a decrease of 21%), while the customer-hours interrupted decreased from 155,343 in 2022, to 129,374 in 2023 (a decrease of 17%).

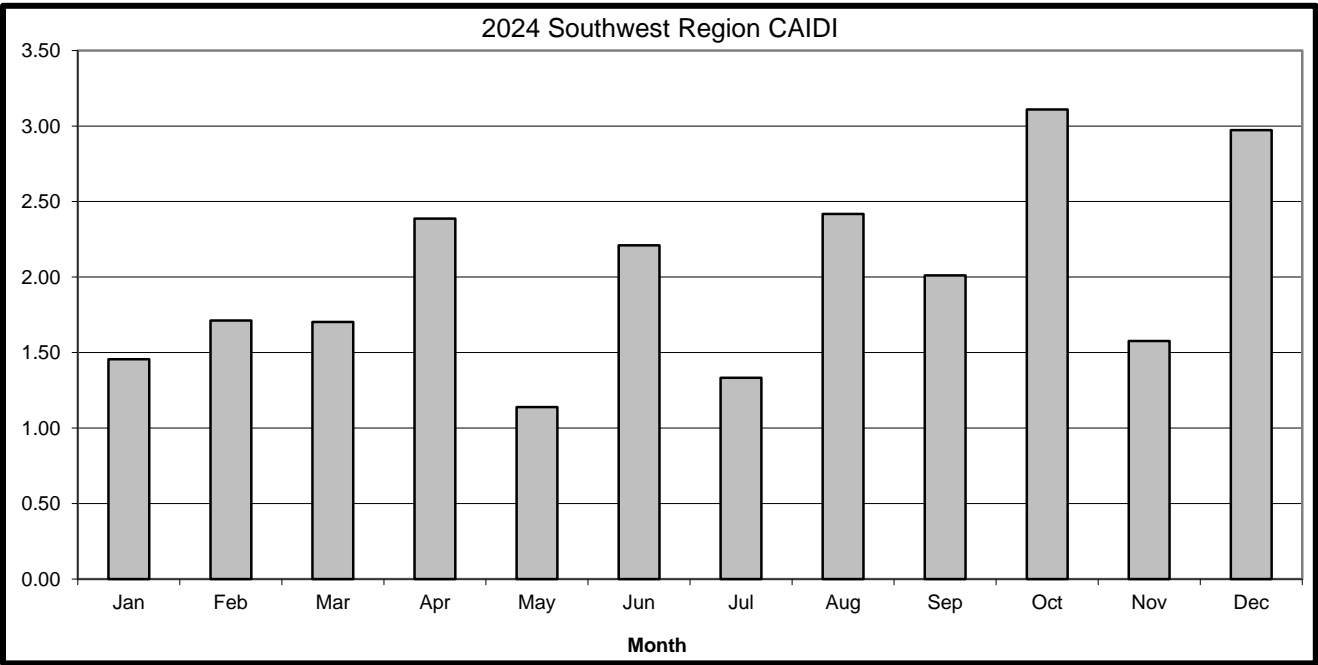
c. MONTHLY CAIDI AND SAIFI GRAPHS

The following graphs show the monthly CAIDI and SAIFI for the Southwest Region for 2024 (Excluding Major Storms).

The Southwest Region met the CAIDI goals during six months, with the lowest two months being May (1.14) and July (1.33). CAIDI was above the threshold for six months in 2024: April (2.39), June (2.21), August (2.42), September (2.01), October (3.11), December (2.97).

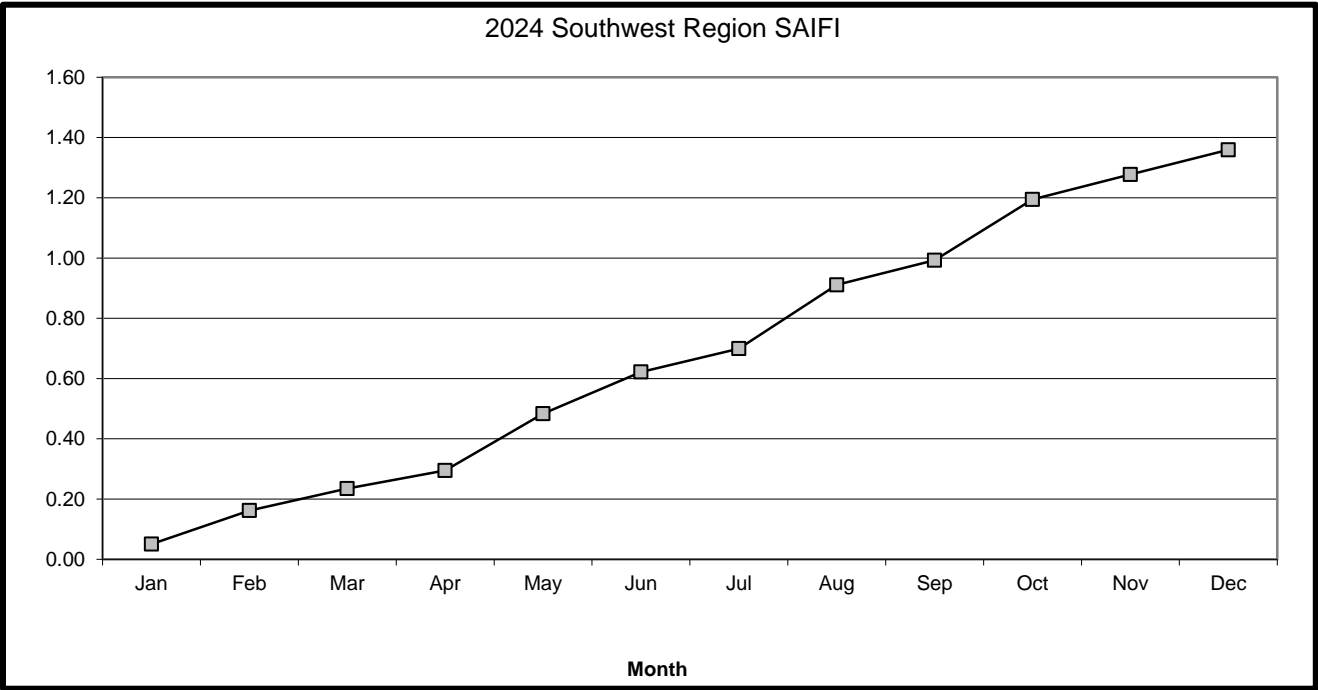
The year-end SAIFI for 2024 did not meet the target for the Southwest Region. It showed the greatest increase during the months of February (0.11), May (0.19), June (0.14), August (0.21) and October (0.20); 63% of the SAIFI was accrued during these five months. The lowest five months for SAIFI were March (0.07), April (0.06), July (0.08), September (0.08) and December (0.08); the interruptions which occurred during these five months contributed 27% of the total SAIFI.

GRAPH OF MONTHLY CAIDI AND SAIFI FOR THE SOUTHWEST REGION



PSC CAIDI Goal:	
Threshold	1.950
2024 Actual	2.08

PSC SAIFI Goal:	
Threshold	1.181
2024 Actual	1.36



d. PSC CAUSE CODES

1) Number of Events by Cause – Historical

IDS Info:

Cause Code	2024	2023	2022	2021	2020	2019
01 Major Storms	602	522	264	300	264	809
02 Tree Contacts	678	447	554	507	469	391
03 Overloads	14	6	5	7	3	11
04 Oper. Error	1	6	9	4	3	6
05 Equipment	225	178	255	191	248	235
06 Accidents	167	126	157	156	112	120
07 Prearranged	18	20	20	33	19	22
08 Cust. Equip.	-	-	-	-	-	-
09 Lightning	48	46	56	123	70	82
10 Unknown	145	145	151	171	202	183
Total	1,898	1,496	1,471	1,492	1,796	1,390

2) Customers Interrupted by Cause – Historical

Cause Code	2024	2023	2022	2021	2020	2019
01 Major Storms	64,548	61,611	24,060	21,813	50,280	58,846
02 Tree Contacts	47,446	26,430	59,477	46,680	36,522	32,021
03 Overloads	166	22	17	439	42	839
04 Oper. Error	12	1,443	7,070	277	1,005	84
05 Equipment	51,193	20,972	24,143	24,740	25,493	18,232
06 Accidents	14,227	8,178	14,734	12,525	16,737	11,418
07 Prearranged	9,813	5,375	9,476	3,654	1,375	1,778
08 Cust. Equip.	-	-	-	-	-	-
09 Lightning	3,735	7,079	2,918	10,144	1,591	3,614
10 Unknown	18,018	24,913	21,613	13,809	33,623	38,976
Total	209,158	156,023	163,508	134,081	174,666	166,668

3) Customer-Hours Interrupted by Cause – Historical

Cause Code	2024	2023	2022	2021	2020	2019
Major Storms	483,489	347,089	110,325	141,665	136,780	890,163
Tree Contacts	103,788	66,011	129,551	92,454	94,555	61,644
Overloads	479	63	47	641	80	1,073
Oper. Error	57	1,523	1,474	111	187	36
Equipment	125,728	43,126	52,288	43,633	47,833	67,679
Accidents	20,883	14,384	18,803	22,955	18,831	19,995
P rearranged	27,161	7,509	10,265	3,080	1,144	2,460
Cust. Equip.	-	-	-	-	-	-
Lightning	5,936	10,615	6,321	20,180	3,833	6,615
Unknown	17,432	20,758	21,653	12,841	29,254	39,385
Total	784,954	511,079	350,727	337,560	532,440	332,496

4) Interruptions, Customers Interrupted, and Customer-Hours Interrupted – 2024

Cause Code	Interruptions		Customers Interrupted		Customer Hours Interrupted	
	Number	% Total	Number	% Total	Number	% Total
01 Major Storms	602	31.7%	64,548	30.9%	483,489	61.6%
02 Tree Contacts	678	35.7%	47,446	22.7%	103,788	13.2%
03 Overloads	14	0.7%	166	0.1%	479	0.1%
04 Oper. Error	1	0.1%	12	0.0%	57	0.0%
05 Equipment	225	11.9%	51,193	24.5%	125,728	16.0%
06 Accidents	167	8.8%	14,227	6.8%	20,883	2.7%
07 P rearranged	18	0.9%	9,813	4.7%	27,161	3.5%
08 Cust. Equip.	0	0.0%	0	0.0%	0	0.0%
09 Lightning	48	2.5%	3,735	1.8%	5,936	0.8%
10 Unknown	145	7.6%	18,018	8.6%	17,432	2.2%
Total	1,898	100.0%	209,158	100.0%	784,954	100.0%

e. **INTERRUPTION REVIEW BY PSC CAUSE CODES**

Cause Code 01 - Major Storms

In 2024, Major Storms accounted for 32% of interruptions, 31% of customers interrupted, and 62% of Customer-Hours Interrupted.

Interruptions due to Major Storm were up 15% from 2023, and up 46% over the 5-year average. Customers interrupted due to Major Storms were up 5% from 2023, and up 41% over the 5-year average. Customer-Hours interrupted were up 39% from 2023 and up 121% over the 5-year average.

The remaining PSC code descriptions do not include Major Storms in the percentages.

Cause Code 02 - Tree Contacts

In 2024, Tree Contacts accounted for 52% of interruptions, 33% of customers interrupted, and 34% of Customer-Hours Interrupted.

Interruptions due to Tree Contacts were up 52% from 2023, and up 40% over the 5-year average. Customers interrupted due to Tree Contacts were up 80% from 2023, and up 12% over the 5-year average. Customer-Hours interrupted were up 57% from 2023 and up 11% over the 5-year average.

Tree Contacts were the largest cause of interruptions in 2024.

Cause Code 03 - Overloads

In 2024, Overloads accounted for 1% of interruptions, 0% of customers interrupted, and 0% of Customer-Hours Interrupted.

Interruptions due to Overloads were up 133% from 2023, and up 133% over the 5-year average. Customers interrupted due to Overloads were up 655% from 2023, and up 44% over the 5-year average. Customer-Hours interrupted were up 657% from 2023 and up 134% over the 5-year average.

Overloads were the 7th largest cause of interruptions in 2024.

Cause Code 04 - Operator Error

In 2024, Operator Error accounted for 0% of interruptions, 0% of customers interrupted, and 0% of Customer-Hours Interrupted.

Interruptions due to Operator Error were down 83% from 2023, and down 83% over the 5-year average. Customers interrupted due to Operator Error were down 99% from 2023, and down 99% over the 5-year average. Customer-Hours interrupted were down 96% from 2023 and down 93% over the 5-year average.

Operator Error was the 8th largest cause of interruptions in 2024.

Cause Code 05 - Equipment Failure

In 2024, Equipment Failures accounted for 17% of interruptions, 35% of customers interrupted, and 42% of Customer-Hours Interrupted.

Interruptions due to Equipment Failure were up 26% from 2023, and up 5% over the 5-year average. Customers interrupted due to Equipment Failure were up 144% from 2023, and up 138% over the 5-year average. Customer-Hours interrupted were up 192% from 2023 and up 202% over the 5-year average.

Equipment Failures were the 2nd largest cause of interruptions in 2024.

Cause Code 06 - Accidents

In 2024, Accidents accounted for 13% of interruptions, 10% of customers interrupted, and 7% of Customer-Hours Interrupted.

Interruptions due to Accidents were up 33% from 2023, and up 18% over the 5-year average. Customers interrupted due to Accidents were up 74% from 2023, and up 3% over the 5-year average. Customer-Hours interrupted were up 45% from 2023 and up 2% over the 5-year average.

Accidents were the 3rd largest cause of interruptions in 2024.

Cause Code 07 - Prearranged

In 2024, Prearranged accounted for 1% of interruptions, 7% of customers interrupted, and 9% of Customer-Hours Interrupted.

Interruptions due to Prearranged were down 10% from 2023, and down 22% over the 5-year average. Customers interrupted due to Prearranged were up 83% from 2023, and up 115% over the 5-year average. Customer-Hours interrupted were up 262% from 2023 and up 451% over the 5-year average.

Prearranged was the 6th largest cause of interruptions in 2024.

Cause Code 08 - Customer Equipment

There were no Customer Equipment interruptions in 2024.

Cause Code 09 - Lightning

In 2024, Lightning accounted for 4% of interruptions, 3% of customers interrupted, and 2% of Customer-Hours Interrupted.

Interruptions due to Lightning were up 4% from 2023, and down 38% over the 5-year average. Customers interrupted due to Lightning were down 47% from 2023, and down 37% over the 5-year average. Customer-Hours interrupted were down 44% from 2023 and down 40% over the 5-year average.

Lightning was the 5th largest cause of interruptions in 2024.

Cause Code 10 - Unknown

In 2024, Unknown causes accounted for 11% of interruptions, 12% of customers interrupted, and 6% of Customer-Hours Interrupted.

Interruptions due to Unknown causes were flat at 0% from 2023, and down 12% over the 5-year average. Customers interrupted due to Unknown causes were down 28% from 2023, and down 22% over the 5-year average. Customer-Hours interrupted were down 16% from 2023 and down 24% over the 5-year average.

Unknown causes were the 4th largest cause of interruptions in 2024.

f. **DISCUSSION OF REGIONAL CAPEX PROJECTS WITH 2024/25 SPENDS:**

The Southwest Region continues to work on capital-related projects in order to maintain customer satisfaction and future reliability. Some specific projects constructed either in 2024 or planned for construction in 2025 are discussed below. An additional table of major infrastructure projects follows and includes distribution, sub-transmission, and transmission-related projects.

Some projects on the list or discussed below are substation-related projects located throughout the Region intended to address reliability, loading concerns or equipment condition issues, including Delameter #93 and Eden Switch Structure.

There are numerous distribution projects where lines are being rebuilt or reconducted. These projects resulted from reliability reviews, responses to QRS inquiries, results of implementing asset strategies, and/or responses to load-related issues. Some specific reliability-related projects in the Southwest Region follow below:

Delameter Substation #93

Delameter substation is an 115kV/13.2kV substation with one transformer bank, which serves over 9,342 customers. A project is underway to add another for reliability and reconfigure two new feeders. Transformer bank #1 violates the 240MWHr criteria. The station has only one tie to an adjacent 13.2kV station (Lakeview). This project will improve asset condition and reliability. The project is expected to be completed by the end of 2029.

Eden Switch Structure Substation

Eden Switch Structure substation will be a 34.5kV/13.2kV substation with one transformer banks, which serves customers from North Eden, Delameter, Eden Center, and North Collins. A project is underway to purchase the land nearby the existing structures and create a standard 13.2 distribution station. This project will improve surround area system capacity and reliability. The project is expected to be completed by the end of 2027.

Sub-Transmission Infrastructure Projects:

The 34.5kV system in the Southwest Region consists of several very long loops, which traverse through some of the most rugged terrain in the Western Division. Additionally, there are numerous distribution circuits built below the sub-transmission circuits on shared poles. If either circuit fails, often both are affected.

The following transmission projects were completed in 2024: Gardenville - Dunkirk #141 & 142 ACR, Falconer - Homer Hill 153/154 Reinsulating. The following Sub-Transmission project was completed in 2024: Gard-Dun 141-142 Sub-T Line Relocate. These projects will improve asset condition and reliability

Major Capital Projects for Southwest Region:

Region	Project Name	Project Type	Fin Sys Proj No.	Finish	Total Spend
Southwest	Gardenville - Dunkirk #141 & 142 ACR - C003389	Trans	C003389	12-20-24	\$173,323,000
Southwest	Falconer - Homer Hill 153/154 Reinsulating - C088552 (Final 200 Structures)	Trans	C088522	09-27-24	\$18,449,000
Southwest	Gard-Dun 141-142 Sub-T Line Relocate - C078197	Sub Trans	C078197	10-25-24	\$13,621,000
Southwest	FLISR Berry Rd 51- Berry Rd 53	Dist	C080090	12-20-24	\$5,135,000

2. OPERATING CIRCUIT LISTS

This section includes the following three (3) tables and Worst Performing Circuit analysis for the Southwest Region.

- a. Worst Performing Circuit List
- b. Worst Performing Circuits with Three-Year History for CAIDI and SAIFI Indices
- c. Worst Performing Circuits by number of Momentary Interruptions

a. NATIONAL GRID WORST PERFORMING CIRCUIT LIST

SOUTHWEST REGION

FEEDER #	A CUST. SERVED	B TOTAL INTER.	C #CUST. INTER.	D CUST. HRS. INTER.	C/A SAIFI	D/A SAIDI	D/C CAIDI	NUMBER OF MOMENTARIES
DELAMETER 9354	3,122	36	16,459	42,066	5.27	13.47	2.56	2
DELAMETER 9352	1,306	27	8,652	17,920	6.62	13.72	2.07	0
DELAMETER 9353	2,955	21	14,923	37,688	5.05	12.75	2.53	1
ELLCOT STA 65 6561	722	23	3,527	8,534	4.89	11.82	2.42	2
FARMERSVILLE STA 27 2762	723	17	2,015	8,158	2.79	11.28	4.05	3
RESERVOIR STA 103 10361	199	16	1,465	4,590	7.36	23.06	3.13	5
DELAMETER 9351	1,586	12	6,379	11,118	4.02	7.01	1.74	0
MAPLEHURST STA 04 0461	998	23	2,540	4,946	2.55	4.96	1.95	4
BAKER ST 15055	1,911	17	7,483	7,692	3.92	4.02	1.03	4
FRANKLINVILLE STA 24 2462	655	25	2,072	3,248	3.16	4.96	1.57	1
CASSADAGA STA 61 6161	802	15	2,116	5,652	2.64	7.05	2.67	1
VALLEY 4458	1,665	20	3,732	6,673	2.24	4.01	1.79	0
FRANKLINVILLE STA 24 2461	1,440	20	3,681	5,498	2.56	3.82	1.49	1
BAKER ST 15056	2,262	29	4,856	6,633	2.15	2.93	1.37	1

Regional Goals:

CAIDI 1.95

SAIFI 1.181

b. NATIONAL GRID WORST PERFORMING CIRCUITS WITH A 3 YEAR HISTORY FOR CAIDI AND SAIFI INDICES.

SOUTHWEST REGION

FEEDER #	2024 CAIDI	2023 CAIDI	2022 CAIDI	2021 CAIDI	2024 SAIFI	2023 SAIFI	2022 SAIFI	2021 SAIFI
DELAMETER 9354	2.56	1.77	1.50	2.33	5.27	2.45	3.43	1.18
DELAMETER 9352	2.07	2.92	3.26	2.40	6.62	0.11	1.47	1.71
DELAMETER 9353	2.53	1.57	1.58	1.79	5.05	1.71	2.99	2.26
ELLCOT STA 65 6561	2.42	2.15	2.28	1.14	4.89	0.72	2.32	2.02
FARMERSVILLE STA 27 2762	4.05	5.43	0.39	1.90	2.79	1.63	1.31	0.79
RESERVOIR STA 103 10361	3.13	4.26	3.73	8.71	7.36	2.97	4.28	3.44
DELAMETER 9351	1.74	3.03	1.88	4.23	4.02	0.36	1.37	0.05
MAPLEHURST STA 04 0461	1.95	1.61	3.65	0.83	2.55	0.25	0.14	1.75
BAKER ST 15055	1.03	0.39	1.47	1.07	3.92	1.17	3.57	2.08
FRANKLINVILLE STA 24 2462	1.57	1.76	2.81	1.27	3.16	2.03	1.24	2.88
CASSADAGA STA 61 6161	2.67	1.01	2.12	2.70	2.64	0.08	0.46	0.63
VALLEY 4458	1.79	1.77	0.85	2.04	2.24	0.68	1.21	2.21
FRANKLINVILLE STA 24 2461	1.49	1.19	2.84	1.09	2.56	1.13	0.21	2.65
BAKER ST 15056	1.37	0.52	0.81	1.80	2.15	2.31	3.36	0.38

Regional Goals:

CAIDI 1.95

SAIFI 1.181

c. NATIONAL GRID WORST PERFORMING CIRCUITS BY # OF MOMENTARY INTERRUPTIONS

SOUTHWEST REGION

Feeders			Customer Momentaries				Ranks		
Volts (kV)	Station Name	Ckt/F No.	Substation	Transmission	Distribution	Total	Within Region	Within System	Reliability Ranking
No circuits experienced 10 or more momentary interruptions in 2024.									

d. WORST PERFORMING CIRCUIT ANALYSIS

For 2024, the Company is reporting on the fourteen worst performing feeders in the Southwest Region. The list consists of one 13.2kV feeders and four 4.8kV feeder.

For the Southwest Region, the CAIDI threshold is 1.95 hours, and the SAIFI threshold is 1.181 interruptions.

1. DELAMETER 9354 – 13.2kV

Profile: 3,122 Customers, 66.1 Circuit Miles

Indices: CAIDI = 2.56, SAIFI = 5.27

CAUSE CODE PERFORMANCE TABLE

Code	Category	Interruptions		Customers Interrupted		Customer Hours	
		Number	% Total	Number	% Total	Number	% Total
2	TREE	12	33.33%	325	1.97%	1,123	2.67%
3	OVERLOADS	0	0.00%	0	0.00%	0	0.00%
4	OPER. ERROR	0	0.00%	0	0.00%	0	0.00%
5	EQUIPMENT	9	25.00%	9,391	57.06%	29,417	69.93%
6	ACCIDENTS	7	19.44%	336	2.04%	487	1.16%
7	PREARRANGED	1	2.78%	3,130	19.02%	9,755	23.19%
8	CUST. EQUIP.	0	0.00%	0	0.00%	0	0.00%
9	LIGHTNING	0	0.00%	0	0.00%	0	0.00%
10	UNKNOWN	7	19.44%	3,277	19.91%	1,284	3.05%
Totals		36	100.00%	16,459	100.00%	42,066	100.00%

Problem Analysis:

- There were 36 interruptions on the Delameter 9354 in 2024.
- There were 3 transmission interruptions.
 - The first Transmission interruption occurred on May 04, 2024, coded as a cause of unknown (PSC cause code 10). This lockout accounted for 19% of the total customers interrupted (3,127 of 16,459), and 2% of the total customer-hours interrupted (990 of 42,066). The Lockout (L/O) was due to a trip and reclose on L142. Reenergized remotely from Western Regional Control Center.
 - The second Transmission interruption occurred on August 17, 2024, coded as a cause of device failed (PSC cause code 05). This lockout accounted for 19% of the total customers interrupted (3,130 of 16,459), and 16% of the total customer-hours interrupted (6,800 of 42,066). Lockout due to L142 outage. Extended outage due to damage circuit switcher on L142. Isolated and transferred the station to L141.
 - The third Transmission interruption occurred on October 25, 2024, coded as a cause of device failed (PSC cause code 05). This lockout accounted for 19% of the total customers interrupted (3,117 of 16,459), and 20% of the total customer-hours interrupted (8,241 of 42,066). Delameter Station TB1 high side Lightning Arrestor failed due to possible weakening from previous station fire - caused 115KV supply and TB1 to Lockout (L/O) and station to go flat - multiple switching steps preformed to restore customers.

- There were 2 substation interruptions.
 - The first Substation interruption occurred on August 13, 2024, coded as a cause of 0 (PSC cause code 07). This lockout accounted for 19% of the total customers interrupted (3,130 of 16,459), and 23% of the total customer-hours interrupted (9,755 of 42,066). Maintenance - planned outage to troubleshoot/repair breaker R515 at Delameter Station - wiring issues caused delay in outage time.
 - The second Substation interruption occurred on October 03, 2024, coded as a cause of device failed (PSC cause code 05). This lockout accounted for 19% of the total customers interrupted (3,115 of 16,459), and 34% of the total customer-hours interrupted (14,277 of 42,066). Planned switching was initiated to transfer Delameter station back to L142 through the recently re-built C/S 297. As parallel was broken between lines L141 and L142, transformer secondary breaker R515 opened immediately, dropping customers. After the Traveling Operator did an inspection, another attempt to close R515 tripped. An attempt to restore the station to line L141 caused a lockout of C/S 295 when low-side arresters failed. Customers were restored on field ties until Mobile 6W could be reconnected and re-energized. Station crews have tested the transformer and high-side CVTs. The transformer has tested well. 2 out of 3 CVTs tested well, the 3rd did not and will be replaced. Crews will also be testing C/S 297.
- The remaining 31 events occurred at the distribution level.
- The distribution circuit breaker for the Delameter 9354 experienced 2 momentary operations in 2024.
- The distribution circuit breaker for the Delameter 9354 experienced 0 sustained operations (lockouts) in 2024.
- Trees were the leading cause of interruptions on the Delameter 9354 in 2024, accounting for 53% of total interruptions (17 of 32). Accidents were the 2nd leading cause of interruptions, accounting for 16% of total interruptions (5 of 32). Equipment Failures were the 3rd leading cause of interruptions, accounting for 13% of total interruptions (4 of 32).
- Trees were the leading cause of customers interrupted (CI) on the Delameter 9354 in 2024, accounting for 69% of total customers interrupted (5,252 of 7,618). Lightning were the 2nd leading cause of customers interrupted, accounting for 30% of total customers interrupted (2,320 of 7,618). Accidents were the 3rd leading cause of customers interrupted, accounting for 0% of total customers interrupted (18 of 7,618).
- Trees were the leading cause of customer-hours interrupted (CHI) on the Delameter 9354 in 2024, accounting for 53% of total customer-hours interrupted (7,163 of 13,500). Lightning were the 2nd leading cause of customer-hours interrupted, accounting for 46% of total customer-hours interrupted (6,225 of 13,500). Equipment Failures were the 3rd leading cause of customer-hours interrupted, accounting for 0% of total customer-hours interrupted (44 of 13,500).
- Of the 36 interruptions on this circuit, 28 affected 10 customers or less, with 10 being single customer outages.

Action Taken:

- Distribution Line Inspection was completed in June 2021. All level 1 and Level 2 maintenance has been completed.
- Sub-T Line Inspection was completed in July 2023. All levels of maintenance have been completed.
- Hazard Tree Removal performed in FY2018. Last Pruning completed in 2021.
- Install new counterpoise at Delameter Station, Completed 11/27/24.
- Metalclad Partial Discharge - completed Nov 19, 2024 – No Issues found
- Metalclad Bushing testing - completed Nov 15, 2024 - when failed - bushing changed out.
- Full battery of Transformer tests - completed Oct 6, 2024
- Transformer DGA frequency - (set at 3 months vs normal 24 month)
- Gardenville-Dunkirk L141 & L142 Flyover Patrol complete on 11/4/2024 – no issues found. “No new defects identified on the 141 or 142 lines from today’s flight.” – Mission System Operator

Action Plan:

- Complete Level 2 Distribution Line Inspection work due in 2025.
- Complete Level 3 Distribution Line Inspection work due in 2026.
- Distribution cycle tree trimming scheduled for FY2025.

2. DELAMETER 9352 – 13.2kV

Profile: 1,306 Customers, 52.9 Circuit Miles
Indices: CAIDI = 2.07, SAIFI = 6.62

CAUSE CODE PERFORMANCE TABLE

Code	Category	Interruptions		Customers Interrupted		Customer Hours	
		Number	% Total	Number	% Total	Number	% Total
2	TREE	8	29.63%	331	3.83%	717	4.00%
3	OVERLOADS	0	0.00%	0	0.00%	0	0.00%
4	OPER. ERROR	0	0.00%	0	0.00%	0	0.00%
5	EQUIPMENT	7	25.93%	3,954	45.70%	10,162	56.71%
6	ACCIDENTS	4	14.81%	902	10.43%	892	4.98%
7	PREARRANGED	2	7.41%	1,310	15.14%	4,082	22.78%
8	CUST. EQUIP.	0	0.00%	0	0.00%	0	0.00%
9	LIGHTNING	3	11.11%	835	9.65%	1,768	9.86%
10	UNKNOWN	3	11.11%	1,320	15.26%	300	1.67%
Totals		27	100.00%	8,652	100.00%	17,920	100.00%

Problem Analysis:

- There were 27 interruptions on the Delameter 9352 in 2024.
- There were 3 transmission interruptions.
 - The first Transmission interruption occurred on May 04, 2024, coded as a cause of unknown (PSC cause code 10). This lockout accounted for 15% of the total customers interrupted (1,307 of 8,652), and 2% of the total customer-hours interrupted (283 of 17,920). The Lockout (L/O) was due to a trip and reclose on L142. Reenergized remotely from Western Regional Control Center.
 - The second Transmission interruption occurred on August 17, 2024, coded as a cause of device failed (PSC cause code 05). This lockout accounted for 15% of the total customers interrupted (1,308 of 8,652), and 16% of the total customer-hours interrupted (2,797 of 17,920). Lockout due to L142 outage. Extended outage due to damage circuit switcher on L142. Isolated and transferred the station to L141.
 - The third Transmission interruption occurred on October 25, 2024, coded as a cause of device failed (PSC cause code 05). This lockout accounted for 15% of the total customers interrupted (1,305 of 8,652), and 15% of the total customer-hours interrupted (2,675 of 17,920). Delameter Station TB1 high side Lightning Arrestor failed due to possible weakening from previous station fire - caused 115KV supply and TB1 to Lockout (L/O) and station to go flat - multiple switching steps preformed to restore customers.

- There were 2 substation interruptions.
 - The first Substation interruption occurred on August 13, 2024, coded as a cause of 0 (PSC cause code 07). This lockout accounted for 15% of the total customers interrupted (1,308 of 8,652), and 23% of the total customer-hours interrupted (4,077 of 17,920). Maintenance - planned outage to troubleshoot/repair breaker R515 at Delameter Station - wiring issues caused delay in outage time.
 - The second Substation interruption occurred on October 03, 2024, coded as a cause of device failed (PSC cause code 05). This lockout accounted for 15% of the total customers interrupted (1,311 of 8,652), and 26% of the total customer-hours interrupted (4,610 of 17,920). Planned switching was initiated to transfer Delameter station back to L142 through the recently re-built C/S 297. As parallel was broken between lines L141 and L142, transformer secondary breaker R515 opened immediately, dropping customers. After the Traveling Operator did an inspection, another attempt to close R515 tripped. An attempt to restore the station to line L141 caused a lockout of C/S 295 when low-side arresters failed. Customers were restored on field ties until Mobile 6W could be reconnected and re-energized. Station crews have tested the transformer and high-side CVTs. The transformer has tested well. 2 out of 3 CVTs tested well, the 3rd did not and will be replaced. Crews will also be testing C/S 297.
- The remaining 22 events occurred at the distribution level.
- The distribution circuit breaker for the Delameter 9352 experienced 0 momentary operations in 2024.
- The distribution circuit breaker for the Delameter 9352 experienced 0 sustained operations (lockouts) in 2024.
- Trees were the leading cause of interruptions on the Delameter 9352 in 2024, accounting for 55% of total interruptions (6 of 11). Equipment Failures were the 2nd leading cause of interruptions, accounting for 18% of total interruptions (2 of 11). Accidents were the 3rd leading cause of interruptions, accounting for 18% of total interruptions (2 of 11).
- Trees were the leading cause of customers interrupted (CI) on the Delameter 9352 in 2024, accounting for 51% of total customers interrupted (71 of 140). Equipment Failures were the 2nd leading cause of customers interrupted, accounting for 47% of total customers interrupted (66 of 140). Accidents were the 3rd leading cause of customers interrupted, accounting for 1% of total customers interrupted (2 of 140).
- Equipment Failures were the leading cause of customer-hours interrupted (CHI) on the Delameter 9352 in 2024, accounting for 55% of total customer-hours interrupted (226 of 409). Trees were the 2nd leading cause of customer-hours interrupted, accounting for 43% of total customer-hours interrupted (176 of 409). Unknown were the 3rd leading cause of customer-hours interrupted, accounting for 1% of total customer-hours interrupted (4 of 409).
- Of the 27 interruptions on this circuit, 17 affected 10 customers or less, with 5 being single customer outages.

Action Taken:

- Distribution line inspection was last completed in June 2022. All Level 1 and Level 2 work has been completed.
- Last Tree Pruning was completed in 2025, next scheduled for 2029.
- Ash Tree Mitigation was completed in 2019.
- Hazard Tree Mitigation was completed in 2016/2019.
- Install new counterpoise at Delameter Station, Completed 11/27/24.
- Metalclad Partial Discharge - completed Nov 19, 2024 – No Issues found.
- Metalclad Bushing testing - completed Nov 15, 2024 - when failed - bushing changed out.
- Full battery of Transformer tests - completed Oct 6, 2024
- Transformer DGA frequency - (set at 3 months vs normal 24 month)
- Gardenville-Dunkirk L141 & L142 Flyover Patrol complete on 11/4/2024 – no issues found. “No new defects identified on the 141 or 142 lines from today’s flight.” – Mission System Operator
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Action Plan:

- Complete Level 2 Distribution Line Inspection work due in 2025.
- Complete Level 3 Distribution Line Inspection work due in 2026.
- Perform mid-cycle hazard tree review out to first protective device by 2025.

3. DELAMETER 9353 – 13.2kV

Profile: 2,955 Customers, 75.6 Circuit Miles
Indices: CAIDI = 2.53, SAIFI = 5.05

CAUSE CODE PERFORMANCE TABLE

Code	Category	Interruptions		Customers Interrupted		Customer Hours	
		Number	% Total	Number	% Total	Number	% Total
2	TREE	4	19.05%	89	0.60%	150	0.40%
3	OVERLOADS	0	0.00%	0	0.00%	0	0.00%
4	OPER. ERROR	0	0.00%	0	0.00%	0	0.00%
5	EQUIPMENT	7	33.33%	8,869	59.43%	27,287	72.40%
6	ACCIDENTS	6	28.57%	25	0.17%	45	0.12%
7	PREARRANGED	1	4.76%	2,959	19.83%	9,222	24.47%
8	CUST. EQUIP.	0	0.00%	0	0.00%	0	0.00%
9	LIGHTNING	1	4.76%	12	0.08%	12	0.03%
10	UNKNOWN	2	9.52%	2,969	19.90%	972	2.58%
Totals		21	100.00%	14,923	100.00%	37,688	100.00%

Problem Analysis:

- There were 21 interruptions on the Delameter 9353 in 2024.
- There were 3 transmission interruptions.
 - The first Transmission interruption occurred on May 04, 2024, coded as a cause of unknown (PSC cause code 10). This lockout accounted for 20% of the total customers interrupted (2,957 of 14,923), and 2% of the total customer-hours interrupted (936 of 37,688). The Lockout (L/O) was due to a trip and reclose on L142. Reenergized remotely from Western Regional Control Center.
 - The second Transmission interruption occurred on August 17, 2024, coded as a cause of device failed (PSC cause code 05). This lockout accounted for 20% of the total customers interrupted (2,959 of 14,923), and 17% of the total customer-hours interrupted (6,380 of 37,688). Lockout due to L142 outage. Extended outage due to damage circuit switcher on L142. Isolate and transfer station to L141.
 - The third Transmission interruption occurred on October 25, 2024, coded as a cause of device failed (PSC cause code 05). This lockout accounted for 20% of the total customers interrupted (2,949 of 14,923), and 17% of the total customer-hours interrupted (6,552 of 37,688). Delameter Station TB1 high side Lightning Arrestor failed due to possible weakening from previous station fire - caused 115KV supply and TB1 to Lockout (L/O) and station to go flat - multiple switching steps preformed to restore customers.

- There were 2 substation interruptions.
 - The first Substation interruption occurred on August 13, 2024, coded as a cause of 0 (PSC cause code 07). This lockout accounted for 20% of the total customers interrupted (2,959 of 14,923), and 24% of the total customer-hours interrupted (9,222 of 37,688). Maintenance - planned outage to troubleshoot/repair breaker R515 at Delameter Station - wiring issues caused delay in outage time.
 - The second Substation interruption occurred on October 03, 2024, coded as a cause of device failed (PSC cause code 05). This lockout accounted for 20% of the total customers interrupted (2,955 of 14,923), and 38% of the total customer-hours interrupted (14,332 of 37,688). Planned switching was initiated to transfer Delameter station back to L142 through the recently re-built C/S 297. As parallel was broken between lines L141 and L142, transformer secondary breaker R515 opened immediately, dropping customers. After the Traveling Operator did an inspection, another attempt to close R515 tripped. An attempt to restore the station to line L141 caused a lockout of C/S 295 when low-side arresters failed. Customers were restored on field ties until Mobile 6W could be reconnected and re-energized. Station crews have tested the transformer and high-side CVTs. The transformer has tested well. 2 out of 3 CVTs tested well, the 3rd did not and will be replaced. Crews will also be testing C/S 297.
- The remaining 16 events occurred at the distribution level.
- The distribution circuit breaker for the Delameter 9353 experienced 1 momentary operation in 2024.
- The distribution circuit breaker for the Delameter 9353 experienced 0 sustained operations (lockouts) in 2024.
- Unknown were the leading cause of interruptions on the Delameter 9353 in 2024, accounting for 30% of total interruptions (6 of 20). Trees were the 2nd leading cause of interruptions, accounting for 25% of total interruptions (5 of 20). Equipment Failures were the 3rd leading cause of interruptions, accounting for 25% of total interruptions (5 of 20).
- Trees were the leading cause of customers interrupted (CI) on the Delameter 9353 in 2024, accounting for 35% of total customers interrupted (1,773 of 5,006). Unknown were the 2nd leading cause of customers interrupted, accounting for 32% of total customers interrupted (1,602 of 5,006). Lightning was the 3rd leading cause of customers interrupted, accounting for 27% of total customers interrupted (1,367 of 5,006).
- Trees were the leading cause of customer-hours interrupted (CHI) on the Delameter 9353 in 2024, accounting for 39% of total customer-hours interrupted (3,030 of 7,857). Unknown were the 2nd leading cause of customer-hours interrupted, accounting for 39% of total customer-hours interrupted (3,028 of 7,857). Lightning was the 3rd leading cause of customer-hours interrupted, accounting for 17% of total customer-hours interrupted (1,358 of 7,857).
- Of the 21 interruptions on this circuit, 18 affected 10 customers or less, with 11 being single customer outages.

Action Taken:

- Distribution Line Inspection was completed in September 2022.
- All level 1 distribution line inspection maintenance work has been completed.
- All level 2 distribution line inspection maintenance work has been completed.
- Last Tree Pruning was completed in 2021; next schedule for 2025.
- Hazard Tree Mitigation was completed in 2016.
- Install new counterpoise at Delameter Station, Completed 11/27/24.
- Metalclad Partial Discharge - completed Nov 19, 2024 – No Issues found.
- Metalclad Bushing testing - completed Nov 15, 2024 - when failed - bushing changed out.
- Full battery of Transformer tests - completed Oct 6, 2024
- Transformer DGA frequency - (set at 3 months vs normal 24 month)
- Gardenville-Dunkirk L141 & L142 Flyover Patrol complete on 11/4/2024 – no issues found. “No new defects identified on the 141 or 142 lines from today’s flight.” – Mission System Operator

Action Plan:

- Complete Level 2 Distribution Line Inspection work due in 2025.
- Complete Level 3 Distribution Line Inspection work due in 2026.
- Perform mid-cycle hazard tree review out to first protective device by 2025.

4. ELLICOT STA 65 6561 – 4.8kV

Profile: 722 Customers, 48.9 Circuit Miles
Indices: CAIDI = 2.42, SAIFI = 4.89

CAUSE CODE PERFORMANCE TABLE

Code	Category	Interruptions		Customers Interrupted		Customer Hours	
		Number	% Total	Number	% Total	Number	% Total
2	TREE	19	82.61%	1,913	54.24%	5,806	68.03%
3	OVERLOADS	0	0.00%	0	0.00%	0	0.00%
4	OPER. ERROR	0	0.00%	0	0.00%	0	0.00%
5	EQUIPMENT	1	4.35%	719	20.39%	1,043	12.22%
6	ACCIDENTS	1	4.35%	721	20.44%	1,382	16.19%
7	PREARRANGED	0	0.00%	0	0.00%	0	0.00%
8	CUST. EQUIP.	0	0.00%	0	0.00%	0	0.00%
9	LIGHTNING	0	0.00%	0	0.00%	0	0.00%
10	UNKNOWN	2	8.70%	174	4.93%	304	3.57%
Totals		23	100.00%	3,527	100.00%	8,534	100.00%

Problem Analysis:

- There were 23 interruptions on the Ellicot Sta 65 6561 in 2024.
- There were 3 transmission interruptions.
 - The first Transmission interruption occurred on February 28, 2024, coded as a cause of deterioration (PSC cause code 05). This lockout accounted for 20% of the total customers interrupted (719 of 3,527), and 12% of the total customer-hours interrupted (1,043 of 8,534). South Dow L859 Line locked (L/O) out due to defective insulator near South Dow Street Station - switched to isolate fault and restored portion of line carrying these stations.
 - The second Transmission interruption occurred on May 05, 2024, coded as a cause of animal (PSC cause code 06). This lockout accounted for 20% of the total customers interrupted (721 of 3,527), and 16% of the total customer-hours interrupted (1,382 of 8,534). Hartfield - South Dow, Lockout of L859 due to Osprey nest at P263 - relocated nest on pole top extension and restored.
 - The third Transmission interruption occurred on September 29, 2024, coded as a cause of tree fell (PSC cause code 02). This lockout accounted for 21% of the total customers interrupted (724 of 3,527), and 27% of the total customer-hours interrupted (2,329 of 8,534). L859 Lockout (L/O); tree on Sub-T lines at P23 L859 ROW - switched to place clearance on L859 and picked up customers.
- There were no substation interruptions.
- The remaining 20 events occurred at the distribution level.
- The distribution circuit breaker for the Ellicot Sta 65 6561 experienced 2 momentary operations in 2024.
- The distribution circuit breaker for the Ellicot Sta 65 6561 experienced 0 sustained operations (lockouts) in 2024.

- Trees were the leading cause of interruptions on the Ellicot Sta 65 6561 in 2024, accounting for 86% of total interruptions (12 of 14). Equipment Failures were the 2nd leading cause of interruptions, accounting for 7% of total interruptions (1 of 14). Unknown were the 3rd leading cause of interruptions, accounting for 7% of total interruptions (1 of 14).
- Trees were the leading cause of customers interrupted (CI) on the Ellicot Sta 65 6561 in 2024, accounting for 96% of total customers interrupted (494 of 512). Equipment Failures were the 2nd leading cause of customers interrupted, accounting for 3% of total customers interrupted (14 of 512). Unknown were the 3rd leading cause of customers interrupted, accounting for 1% of total customers interrupted (4 of 512).
- Trees were the leading cause of customer-hours interrupted (CHI) on the Ellicot Sta 65 6561 in 2024, accounting for 93% of total customer-hours interrupted (1,027 of 1,102). Equipment Failures were the 2nd leading cause of customer-hours interrupted, accounting for 4% of total customer-hours interrupted (49 of 1,102). Unknown were the 3rd leading cause of customer-hours interrupted, accounting for 2% of total customer-hours interrupted (26 of 1,102).
- Of the 23 interruptions on this circuit, 5 affected 10 customers or less, with 2 being single customer outages.

Action Taken:

- In June 2023, distribution line inspection was completed. All level distribution line inspection maintenance was completed.
- Last Tree Pruning was completed in October 2018; next schedule for 2027.

Action Plan:

- Complete Level 2 Distribution Line Inspection work due in 2025.
- Complete Level 3 Distribution Line Inspection work due in 2026.
- Actively monitor 2025 hazard tree events and will escalate if necessary.
- Perform mid cycle hazard tree review out to first protective device.

5. FARMERSVILLE STA 27 2762 – 4.8kV

Profile: 723 Customers, 81.8 Circuit Miles

Indices: CAIDI = 4.05, SAIFI = 2.79

CAUSE CODE PERFORMANCE TABLE

Code	Category	Interruptions		Customers Interrupted		Customer Hours	
		Number	% Total	Number	% Total	Number	% Total
2	TREE	10	58.82%	1,030	51.12%	3,388	41.53%
3	OVERLOADS	0	0.00%	0	0.00%	0	0.00%
4	OPER. ERROR	0	0.00%	0	0.00%	0	0.00%
5	EQUIPMENT	1	5.88%	725	35.98%	4,096	50.21%
6	ACCIDENTS	1	5.88%	2	0.10%	3	0.03%
7	PREARRANGED	0	0.00%	0	0.00%	0	0.00%
8	CUST. EQUIP.	0	0.00%	0	0.00%	0	0.00%
9	LIGHTNING	2	11.76%	2	0.10%	6	0.07%
10	UNKNOWN	3	17.65%	256	12.70%	665	8.15%
Totals		17	100.00%	2,015	100.00%	8,158	100.00%

Problem Analysis:

- There were 17 interruptions on the Farmersville Sta 27 2762 in 2024.
- There was 1 transmission interruption.
 - This Transmission interruption occurred on December 09, 2024, coded as a cause of device failed (PSC cause code 05). This lockout accounted for 36% of the total customers interrupted (725 of 2,015), and 50% of the total customer-hours interrupted (4,096 of 8,158). Line 801 Machias – Delavan, P95 in ROW Insulator failed causing pole fire and pole needing to be replaced.
- There were no substation interruptions.
- The remaining 16 events occurred at the distribution level.
- The distribution circuit breaker for the Farmersville Sta 27 2762 experienced 3 momentary operations in 2024.
- The distribution circuit breaker for the Farmersville Sta 27 2762 experienced 0 sustained operations (lockouts) in 2024.
- Trees were the leading cause of interruptions on the Farmersville Sta 27 2762 in 2024, accounting for 46% of total interruptions (6 of 13). Unknown were the 2nd leading cause of interruptions, accounting for 38% of total interruptions (5 of 13). Equipment Failures were the 3rd leading cause of interruptions, accounting for 8% of total interruptions (1 of 13).
- Equipment Failures were the leading cause of customers interrupted (CI) on the Farmersville Sta 27 2762 in 2024, accounting for 61% of total customers interrupted (715 of 1,168). Unknown were the 2nd leading cause of customers interrupted, accounting for 29% of total customers interrupted (335 of 1,168). Trees were the 3rd leading cause of customers interrupted, accounting for 10% of total customers interrupted (117 of 1,168).
- Equipment Failures were the leading cause of customer-hours interrupted (CHI) on the Farmersville Sta 27 2762 in 2024, accounting for 84% of total customer-hours interrupted (5,327 of 6,342). Unknown were the 2nd leading cause of customer-hours interrupted,

accounting for 9% of total customer-hours interrupted (551 of 6,342). Trees were the 3rd leading cause of customer-hours interrupted, accounting for 7% of total customer-hours interrupted (462 of 6,342).

- Of the 17 interruptions on this circuit, 5 affected 10 customers or less, with 3 being single customer outages.

Action Taken:

- Distribution line inspection was last completed October 2022. All Level 1 and Level 2 work has been completed.
- Last Tree Pruning was completed in October 2020; next schedule for 2027.
- Ash Tree Mitigation was completed in 2021.

Action Plan:

- Complete Level 2 Distribution Line Inspection work due in 2025.
- Complete Level 3 Distribution Line Inspection work due in 2026.
- Actively monitor 2025 hazard tree events and will escalate if necessary.

6. RESERVOIR STA 103 10361 – 4.8kV

Profile: 199 Customers, 26.2 Circuit Miles
Indices: CAIDI = 3.13, SAIFI = 7.36

CAUSE CODE PERFORMANCE TABLE

Code	Category	Interruptions		Customers Interrupted		Customer Hours	
		Number	% Total	Number	% Total	Number	% Total
2	TREE	16	100.00%	1,465	100.00%	4,590	100.00%
3	OVERLOADS	0	0.00%	0	0.00%	0	0.00%
4	OPER. ERROR	0	0.00%	0	0.00%	0	0.00%
5	EQUIPMENT	0	0.00%	0	0.00%	0	0.00%
6	ACCIDENTS	0	0.00%	0	0.00%	0	0.00%
7	PREARRANGED	0	0.00%	0	0.00%	0	0.00%
8	CUST. EQUIP.	0	0.00%	0	0.00%	0	0.00%
9	LIGHTNING	0	0.00%	0	0.00%	0	0.00%
10	UNKNOWN	0	0.00%	0	0.00%	0	0.00%
Totals		16	100.00%	1,465	100.00%	4,590	100.00%

Problem Analysis:

- There were 16 interruptions on the Reservoir Sta 103 10361 in 2024.
- There was 1 transmission interruption.
 - This Transmission interruption occurred on June 29, 2024, coded as a cause of tree fell (PSC cause code 02). This lockout accounted for 14% of the total customers interrupted (201 of 1,465), and 10% of the total customer-hours interrupted (456 of 4,590). L-804 Cold Springs - W Salamanca Lockout (L/O), sectionalized line at P60 L804 ROW - picked up Price Corners Station from Cold Springs (NYSEG) - received 911 before able to attempt to restore Reservoir Station - tree fell/, broken crossarms primary down P182 L804 - restored F10361 from F1452 at P45-1 W Perimeter Rd.
- There were no substation interruptions.
- The remaining 15 events occurred at the distribution level.
- The distribution circuit breaker for the Reservoir Sta 103 10361 experienced 5 momentary operations in 2024.
- The distribution circuit breaker for the Reservoir Sta 103 10361 experienced 0 sustained operations (lockouts) in 2024.
- Trees were the leading cause of interruptions on the Reservoir Sta 103 10361 in 2024, accounting for 80% of total interruptions (4 of 5). Equipment Failures were the 2nd leading cause of interruptions, accounting for 20% of total interruptions (1 of 5). Overloads were the 3rd leading cause of interruptions, accounting for 0% of total interruptions (of 5).
- Trees were the leading cause of customers interrupted (CI) on the Reservoir Sta 103 10361 in 2024, accounting for 100% of total customers interrupted (592 of 594). Equipment Failures were the 2nd leading cause of customers interrupted, accounting for 0% of total customers interrupted (2 of 594). Overloads were the 3rd leading cause of customers interrupted, accounting for 0% of total customers interrupted (of 594).
- Trees were the leading cause of customer-hours interrupted (CHI) on the Reservoir Sta 103 10361 in 2024, accounting for 100% of total customer-hours interrupted (2,517 of 2,528).

Equipment Failures were the 2nd leading cause of customer-hours interrupted, accounting for 0% of total customer-hours interrupted (11 of 2,528). Overloads were the 3rd leading cause of customer-hours interrupted, accounting for 0% of total customer-hours interrupted (of 2,528).

- Of the 16 interruptions on this circuit, 9 affected 10 customers or less, with 7 being single customer outages.

Action Taken:

- Distribution line inspection was last completed August 2023. All Level 1 and Level 2 work has been completed.
- Last Tree Pruning was completed in October 2020; next schedule for 2027.
- Ash Tree Mitigation was completed in 2021.

Action Plan:

- Complete Level 2 Distribution Line Inspection work due in 2025.
- Complete Level 3 Distribution Line Inspection work due in 2026.
- Actively monitor 2025 hazard tree events and will escalate if necessary.

7. DELAMETER 9351 – 13.2kV

Profile: 1,586 Customers, 40 Circuit Miles
Indices: CAIDI = 1.74, SAIFI = 4.02

CAUSE CODE PERFORMANCE TABLE

Code	Category	Interruptions		Customers Interrupted		Customer Hours	
		Number	% Total	Number	% Total	Number	% Total
2	TREE	1	8.33%	13	0.20%	47	0.42%
3	OVERLOADS	0	0.00%	0	0.00%	0	0.00%
4	OPER. ERROR	0	0.00%	0	0.00%	0	0.00%
5	EQUIPMENT	6	50.00%	4,759	74.60%	10,681	96.07%
6	ACCIDENTS	2	16.67%	11	0.17%	18	0.16%
7	PREARRANGED	0	0.00%	0	0.00%	0	0.00%
8	CUST. EQUIP.	0	0.00%	0	0.00%	0	0.00%
9	LIGHTNING	0	0.00%	0	0.00%	0	0.00%
10	UNKNOWN	3	25.00%	1,596	25.02%	372	3.34%
Totals		12	100.00%	6,379	100.00%	11,118	100.00%

Problem Analysis:

- There were 12 interruptions on the Delameter 9351 in 2024.
- There were 3 transmission interruptions.
 - The first Transmission interruption occurred on May 04, 2024, coded as a cause of unknown (PSC cause code 10). This lockout accounted for 25% of the total customers interrupted (1,587 of 6,379), and 3% of the total customer-hours interrupted (344 of 11,118). Delameter Rd Lockout (L/O), due to trip and reclose L142 - reenergized remotely from Western Regional Control Center.
 - The second Transmission interruption occurred on August 17, 2024, coded as a cause of device failed (PSC cause code 05). This lockout accounted for 25% of the total customers interrupted (1,587 of 6,379), and 30% of the total customer-hours interrupted (3,367 of 11,118). Lockout due to L142 outage. Extended outage due to damage circuit switcher on L142. Isolate and transfer station to L14.
 - The third Transmission interruption occurred on October 25, 2024, coded as a cause of device failed (PSC cause code 05). This lockout accounted for 25% of the total customers interrupted (1,582 of 6,379), and 29% of the total customer-hours interrupted (3,190 of 11,118). Delameter Sta. TB1 high side Lightning Arrestor failed due to possible weakening from previous station fire - caused 115KV supply and TB1 to Lockout (L/O) and station to go flat - multiple switching steps preformed to restore customers.

- There was 1 substation interruption.
- This Substation interruption occurred on October 03, 2024, coded as a cause of device failed (PSC cause code 05). This lockout accounted for 25% of the total customers interrupted (1,583 of 6,379), and 37% of the total customer-hours interrupted (4,116 of 11,118). Planned switching was initiated to transfer Delameter station back to L142 through the recently re-built C/S 297. As parallel was broken between lines L141 and L142, transformer secondary breaker R515 opened immediately, dropping customers. After the Traveling Operator did an inspection, another attempt to close R515 tripped. An attempt to restore the station to line 141 caused a lockout of C/S 295 when low-side arresters failed. Customers were restored on field ties until Mobile 6W could be reconnected and re-energized. Station crews have tested the transformer and high-side CVTs. The transformer has tested well. 2 out of 3 CVTs tested well, the 3rd did not and will be replaced. Crews will also be testing C/S 297.
- The remaining 8 events occurred at the distribution level.
- The distribution circuit breaker for the Delameter 9351 experienced 0 momentary operations in 2024.
- The distribution circuit breaker for the Delameter 9351 experienced 0 sustained operations (lockouts) in 2024.
- Trees were the leading cause of interruptions on the Delameter 9351 in 2024, accounting for 29% of total interruptions (2 of 7). Equipment Failures were the 2nd leading cause of interruptions, accounting for 29% of total interruptions (2 of 7). Accidents were the 3rd leading cause of interruptions, accounting for 29% of total interruptions (2 of 7).
- Accidents were the leading cause of customers interrupted (CI) on the Delameter 9351 in 2024, accounting for 92% of total customers interrupted (530 of 573). Trees were the 2nd leading cause of customers interrupted, accounting for 4% of total customers interrupted (22 of 573). Unknown were the 3rd leading cause of customers interrupted, accounting for 3% of total customers interrupted (19 of 573).
- Accidents were the leading cause of customer-hours interrupted (CHI) on the Delameter 9351 in 2024, accounting for 86% of total customer-hours interrupted (1,488 of 1,733). Trees were the 2nd leading cause of customer-hours interrupted, accounting for 12% of total customer-hours interrupted (215 of 1,733). Unknown were the 3rd leading cause of customer-hours interrupted, accounting for 1% of total customer-hours interrupted (24 of 1,733).
- Of the 12 interruptions on this circuit, 10 affected 10 customers or less, with 5 being single customer outages.

Action Taken:

- Distribution line inspection was last completed October 2023. All Level 1 and Level 2 work has been completed.
- Last Tree Pruning was completed in October 2024; next schedule for 2029.
- Ash Tree Mitigation was completed in 2021.
- Install new counterpoise at Delameter Station, Completed 11/27/24.
- Metalclad Partial Discharge - completed Nov 19, 2024 – No Issues found.
- Metalclad Bushing testing - completed Nov 15, 2024 - when failed - bushing changed out.
- Full battery of Transformer tests - completed Oct 6, 2024
- Transformer DGA frequency - (set at 3 months vs normal 24 month)
- Gardenville-Dunkirk L141 & L142 Flyover Patrol complete on 11/4/2024 – no issues found. “No new defects identified on the 141 or 142 lines from today’s flight.” – Mission System Operator

Action Plan:

- Complete Level 2 Distribution Line Inspection work due in 2025.
- Complete Level 3 Distribution Line Inspection work due in 2026.
- Actively monitor 2025 hazard tree events and will escalate if necessary.

8. MAPLEHURST STA 04 0461 – 4.8kV

Profile: 998 Customers, 92.9 Circuit Miles
Indices: CAIDI = 1.95, SAIFI = 2.55

CAUSE CODE PERFORMANCE TABLE

Code	Category	Interruptions		Customers Interrupted		Customer Hours	
		Number	% Total	Number	% Total	Number	% Total
2	TREE	15	65.22%	2,482	97.72%	4,721	95.46%
3	OVERLOADS	0	0.00%	0	0.00%	0	0.00%
4	OPER. ERROR	0	0.00%	0	0.00%	0	0.00%
5	EQUIPMENT	4	17.39%	38	1.50%	182	3.68%
6	ACCIDENTS	1	4.35%	16	0.63%	34	0.68%
7	PREARRANGED	1	4.35%	2	0.08%	2	0.04%
8	CUST. EQUIP.	0	0.00%	0	0.00%	0	0.00%
9	LIGHTNING	1	4.35%	1	0.04%	3	0.06%
10	UNKNOWN	1	4.35%	1	0.04%	4	0.08%
Totals		23	100.00%	2,540	100.00%	4,946	100.00%

Problem Analysis:

- There were 23 interruptions on the Maplehurst Sta 04 0461 in 2024.
- There were no transmission interruptions.
- There was 1 substation interruption.
 - This Substation interruption occurred on March 11, 2024, coded as a cause of tree fell (PSC cause code 02). This lockout accounted for 39% of the total customers interrupted (999 of 2,540), and 48% of the total customer-hours interrupted (2,387 of 4,946). Tree on 802 Line; Switching to restore portion of F0461 due to tree down P42-P51 Rte. 16.
- The remaining 22 events occurred at the distribution level.
- The distribution circuit breaker for the Maplehurst Sta 04 0461 experienced 4 momentary operations in 2024.
- The distribution circuit breaker for the Maplehurst Sta 04 0461 experienced 1 sustained operation (lockout) in 2024. This interruption accounted for 39% of the total amount of customers interrupted (998 out of 247) and 8% of the total amount of the customer-hours interrupted (399 out of 399).
 - This lockout occurred on June 24, 2024, coded as a cause of tree fell (PSC cause code 02). This lockout accounted for 39% of the total customers interrupted (998 of 2,540), and 8% of the total customer-hours interrupted (399 of 4,946). Maplehurst Lockout (L/O), tree took primary down at P188A across State Hwy 16.
- Trees were the leading cause of interruptions on the Maplehurst Sta 04 0461 in 2024, accounting for 64% of total interruptions (7 of 11). Unknown were the 2nd leading cause of interruptions, accounting for 27% of total interruptions (3 of 11). Equipment Failures were the 3rd leading cause of interruptions, accounting for 9% of total interruptions (1 of 11).

- Trees were the leading cause of customers interrupted (CI) on the Maplehurst Sta 04 0461 in 2024, accounting for 81% of total customers interrupted (199 of 247). Unknown were the 2nd leading cause of customers interrupted, accounting for 19% of total customers interrupted (46 of 247). Equipment Failures were the 3rd leading cause of customers interrupted, accounting for 1% of total customers interrupted (2 of 247).
- Trees were the leading cause of customer-hours interrupted (CHI) on the Maplehurst Sta 04 0461 in 2024, accounting for 72% of total customer-hours interrupted (286 of 399). Unknown were the 2nd leading cause of customer-hours interrupted, accounting for 23% of total customer-hours interrupted (93 of 399). Equipment Failures were the 3rd leading cause of customer-hours interrupted, accounting for 5% of total customer-hours interrupted (19 of 399).
- Of the 23 interruptions on this circuit, 11 affected 10 customers or less, with 5 being single customer outages.

Action Taken:

- Distribution line inspection was last completed October 2022. All Level 1 and Level 2 work has been completed.
- Last Tree Pruning was completed in October 2020; next schedule for 2027.
- Ash Tree Mitigation was completed in 2021.

Action Plan:

- Complete Level 2 Distribution Line Inspection work due in 2025.
- Complete Level 3 Distribution Line Inspection work due in 2026.
- Actively monitor 2025 hazard tree events and will escalate if necessary.

9. BAKER ST 15055 – 13.2kV

Profile: 1,911 Customers, 32.4 Circuit Miles
Indices: CAIDI = 1.03, SAIFI = 3.92

CAUSE CODE PERFORMANCE TABLE

Code	Category	Interruptions		Customers Interrupted		Customer Hours	
		Number	% Total	Number	% Total	Number	% Total
2	TREE	4	23.53%	2,541	33.96%	4,391	57.09%
3	OVERLOADS	0	0.00%	0	0.00%	0	0.00%
4	OPER. ERROR	0	0.00%	0	0.00%	0	0.00%
5	EQUIPMENT	7	41.18%	4,524	60.46%	2,843	36.96%
6	ACCIDENTS	3	17.65%	182	2.43%	195	2.54%
7	PREARRANGED	0	0.00%	0	0.00%	0	0.00%
8	CUST. EQUIP.	0	0.00%	0	0.00%	0	0.00%
9	LIGHTNING	1	5.88%	65	0.87%	140	1.83%
10	UNKNOWN	2	11.76%	171	2.29%	121	1.57%
Totals		17	100.00%	7,483	100.00%	7,692	100.00%

- Problem Analysis:
- There were 17 interruptions on the Baker St 15055 in 2024.
- There were no transmission interruptions.
- There were no substation interruptions.
- All 17 events occurred at the distribution level.
- The distribution circuit breaker for the Baker St 15055 experienced 4 momentary operations in 2024.
- The distribution circuit breaker for the Baker St 15055 experienced 3 sustained operations (lockouts) in 2024. These interruptions accounted for 76% of the total amount of customers interrupted (5,681 out of 7,483) and 68% of the total amount of the customer-hours interrupted (5,264 out of 7,692).
 - The first lockout occurred on July 28, 2024, coded as a cause of deterioration (PSC cause code 05). This lockout accounted for 26% of the total customers interrupted (1,913 of 7,483), and 17% of the total customer-hours interrupted (1,338 of 7,692). Emergency Repair - Baker Street Station - station breaker 553 opened to make safe - repairs made to switch SW150260 at P26 ROW Near Southwestern Dr – deterioration.
 - The second lockout occurred on May 27, 2024, coded as a cause of tree fell (PSC cause code 02). This lockout accounted for 26% of the total customers interrupted (1,910 of 7,483), and 45% of the total customer-hours interrupted (3,462 of 7,692). Lockout (L/O), tree across 3 phases just outside of Baker St station at P8 Shady Ln - opened switch SW40227 at P2 ROW off Southwestern Dr/ closed switch SW150268 at P149 Baker St to p/u customers.

- The third lockout occurred on November 01, 2024, coded as a cause of deterioration (PSC cause code 05). This lockout accounted for 25% of the total customers interrupted (1,858 of 7,483), and 6% of the total customer-hours interrupted (465 of 7,692). Emergency Repair - P2 Shadyside Rd - switch 150262 opened to make repairs - opened Baker Street R550/ drop and pick for feeder restoration - repairs made to primary connection P121 Baker St – deterioration.
- Accidents were the leading cause of interruptions on the Baker St 15055 in 2024, accounting for 38% of total interruptions (5 of 13). Trees were the 2nd leading cause of interruptions, accounting for 31% of total interruptions (4 of 13). Equipment Failures were the 3rd leading cause of interruptions, accounting for 15% of total interruptions (2 of 13).
- Unknown were the leading cause of customers interrupted (CI) on the Baker St 15055 in 2024, accounting for 85% of total customers interrupted (1,897 of 2,220). Accidents were the 2nd leading cause of customers interrupted, accounting for 9% of total customers interrupted (193 of 2,220). Lightning was the 3rd leading cause of customers interrupted, accounting for 4% of total customers interrupted (81 of 2,220).
- Accidents were the leading cause of customer-hours interrupted (CHI) on the Baker St 15055 in 2024, accounting for 41% of total customer-hours interrupted (353 of 869). Unknown were the 2nd leading cause of customer-hours interrupted, accounting for 33% of total customer-hours interrupted (285 of 869). Trees were the 3rd leading cause of customer-hours interrupted, accounting for 14% of total customer-hours interrupted (118 of 869).
- Of the 17 interruptions on this circuit, 7 affected 10 customers or less, with 3 being single customer outages.

Action Taken:

- Distribution line inspection was last completed October 2022. All Level 1 and Level 2 work has been completed.
- Last Tree Pruning was completed in October 2021; next schedule for 2027.
- Ash Tree Mitigation was completed in 2021.

Action Plan:

- Complete Level 2 Distribution Line Inspection work due in 2025.
- Complete Level 3 Distribution Line Inspection work due in 2026.
- Actively monitor 2025 hazard tree events and will escalate if necessary.

10. FRANKLINVILLE STA 24 2462 – 4.8kV

Profile: 655 Customers, 72.7 Circuit Miles
Indices: CAIDI = 1.57, SAIFI = 3.16

CAUSE CODE PERFORMANCE TABLE

Code	Category	Interruptions		Customers Interrupted		Customer Hours	
		Number	% Total	Number	% Total	Number	% Total
2	TREE	17	68.00%	1,250	60.33%	1,932	59.47%
3	OVERLOADS	0	0.00%	0	0.00%	0	0.00%
4	OPER. ERROR	0	0.00%	0	0.00%	0	0.00%
5	EQUIPMENT	2	8.00%	657	31.71%	1,096	33.73%
6	ACCIDENTS	1	4.00%	16	0.77%	14	0.44%
7	PREARRANGED	0	0.00%	0	0.00%	0	0.00%
8	CUST. EQUIP.	0	0.00%	0	0.00%	0	0.00%
9	LIGHTNING	1	4.00%	1	0.05%	2	0.07%
10	UNKNOWN	4	16.00%	148	7.14%	205	6.30%
Totals		25	100.00%	2,072	100.00%	3,248	100.00%

- Problem Analysis:
- There were 25 interruptions on the Franklinville Sta 24 2462 in 2024.
- There was 1 transmission interruption.
 - This Transmission interruption occurred on March 02, 2024, coded as a cause of deterioration (PSC cause code 05). This lockout accounted for 32% of the total customers interrupted (656 of 2,072), and 34% of the total customer-hours interrupted (1,093 of 3,248). L802 Machias – Maplehurst, Lockout (L/O), Issue with P.10 crossarm.
- There was 1 substation interruption.
 - This Substation interruption occurred on March 11, 2024, coded as a cause of tree fell (PSC cause code 02). This lockout accounted for 32% of the total customers interrupted (655 of 2,072), and 7% of the total customer-hours interrupted (229 of 3,248). Tree on L802 Machias – Maplehurst, switching to restore portion of F0461 due to tree down P42-P51 Rte 16.
- The remaining 23 events occurred at the distribution level.
- The distribution circuit breaker for the Franklinville Sta 24 2462 experienced 1 momentary operation in 2024.
- The distribution circuit breaker for the Franklinville Sta 24 2462 experienced 0 sustained operations (lockouts) in 2024.
- Trees were the leading cause of interruptions on the Franklinville Sta 24 2462 in 2024, accounting for 55% of total interruptions (6 of 11). Equipment Failures were the 2nd leading cause of interruptions, accounting for 27% of total interruptions (3 of 11). Unknown were the 3rd leading cause of interruptions, accounting for 18% of total interruptions (2 of 11).

- Equipment Failures were the leading cause of customers interrupted (CI) on the Franklinville Sta 24 2462 in 2024, accounting for 55% of total customers interrupted (743 of 1,340). Trees were the 2nd leading cause of customers interrupted, accounting for 37% of total customers interrupted (490 of 1,340). Unknown were the 3rd leading cause of customers interrupted, accounting for 8% of total customers interrupted (107 of 1,340).
- Trees were the leading cause of customer-hours interrupted (CHI) on the Franklinville Sta 24 2462 in 2024, accounting for 53% of total customer-hours interrupted (1,257 of 2,364). Equipment Failures were the 2nd leading cause of customer-hours interrupted, accounting for 39% of total customer-hours interrupted (919 of 2,364). Unknown were the 3rd leading cause of customer-hours interrupted, accounting for 8% of total customer-hours interrupted (188 of 2,364).
- Of the 25 interruptions on this circuit, 7 affected 10 customers or less, with 5 being single customer outages.

Action Taken:

- Distribution line inspection was last completed October 2022. All Level 1 and Level 2 work has been completed.
- Last Tree Pruning was completed in October 2022; next schedule for 2029.
- Perform mid cycle hazard tree review out to first protective device.
- Ash Tree Mitigation was completed in 2021.

Action Plan:

- Complete Level 2 Distribution Line Inspection work due in 2025.
- Complete Level 3 Distribution Line Inspection work due in 2026.
- Actively monitor 2025 hazard tree events and will escalate if necessary.

11. CASSADAGA STA 61 6161 – 4.8kV

Profile: 802 Customers, 59.6 Circuit Miles
Indices: CAIDI = 2.67, SAIFI = 2.64

CAUSE CODE PERFORMANCE TABLE

Code	Category	Interruptions		Customers Interrupted		Customer Hours	
		Number	% Total	Number	% Total	Number	% Total
2	TREE	9	60.00%	467	22.07%	1,792	31.70%
3	OVERLOADS	1	6.67%	12	0.57%	50	0.89%
4	OPER. ERROR	0	0.00%	0	0.00%	0	0.00%
5	EQUIPMENT	2	13.33%	804	38.00%	2,728	48.28%
6	ACCIDENTS	2	13.33%	829	39.18%	1,019	18.03%
7	PREARRANGED	0	0.00%	0	0.00%	0	0.00%
8	CUST. EQUIP.	0	0.00%	0	0.00%	0	0.00%
9	LIGHTNING	0	0.00%	0	0.00%	0	0.00%
10	UNKNOWN	1	6.67%	4	0.19%	62	1.10%
Totals		15	100.00%	2,116	100.00%	5,652	100.00%

- Problem Analysis:
- There were 15 interruptions on the Cassadaga Sta 61 6161 in 2024.
- There was 1 transmission interruption.
 - This Transmission interruption occurred on September 11, 2024, coded as a cause of animal (PSC cause code 06). This lockout accounted for 38% of the total customers interrupted (800 of 2,116), and 17% of the total customer-hours interrupted (973 of 5,652). L852 Lockout, both sectionalizers s221 and s223 found open - animal found P418 Coe Rd with burned up arrestor - restored customers from Dunkirk Station.
- There were no substation interruptions.
- The remaining 14 events occurred at the distribution level.
- The distribution circuit breaker for the Cassadaga Sta 61 6161 experienced 1 momentary operation in 2024.
- The distribution circuit breaker for the Cassadaga Sta 61 6161 experienced 1 sustained operation (lockout) in 2024. This interruption accounted for 38% of the total amount of customers interrupted (800 out of 67) and 48% of the total amount of the customer-hours interrupted (2,720 out of 68).
 - This lockout occurred on November 29, 2024, coded as a cause of device failed (PSC cause code 05). This lockout accounted for 38% of the total customers interrupted (800 of 2,116), and 48% of the total customer-hours interrupted (2,720 of 5,652). Emergency Repair - de-energized at Cassadaga Station to make repairs - broken tap at regulator bank P104 Stockton Hill Rd - device failed/ tap.
- Trees were the leading cause of interruptions on the Cassadaga Sta 61 6161 in 2024, accounting for 50% of total interruptions (4 of 8). Equipment Failures were the 2nd leading cause of interruptions, accounting for 25% of total interruptions (2 of 8). Prearranged were the 3rd leading cause of interruptions, accounting for 13% of total interruptions (1 of 8).

- Trees were the leading cause of customers interrupted (CI) on the Cassadaga Sta 61 6161 in 2024, accounting for 72% of total customers interrupted (48 of 67). Equipment Failures were the 2nd leading cause of customers interrupted, accounting for 13% of total customers interrupted (9 of 67). Lightning was the 3rd leading cause of customers interrupted, accounting for 12% of total customers interrupted (8 of 67).
- Trees were the leading cause of customer-hours interrupted (CHI) on the Cassadaga Sta 61 6161 in 2024, accounting for 64% of total customer-hours interrupted (44 of 68). Equipment Failures were the 2nd leading cause of customer-hours interrupted, accounting for 23% of total customer-hours interrupted (15 of 68). Lightning was the 3rd leading cause of customer-hours interrupted, accounting for 9% of total customer-hours interrupted (6 of 68).
- Of the 15 interruptions on this circuit, 8 affected 10 customers or less, with 4 being single customer outages.

Action Taken:

- Distribution line inspection was last completed November 2024. All Level 1 and Level 2 work has been completed.
- Last Tree Pruning was completed in October 2023; next schedule for 2030.
- Ash Tree Mitigation was completed in 2021.

Action Plan:

- Complete Level 2 Distribution Line Inspection work due in 2025.
- Complete Level 3 Distribution Line Inspection work due in 2026.
- Actively monitor 2025 hazard tree events and will escalate if necessary.

12. VALLEY 4458 – 13.2kV

Profile: 1,665 Customers, 43.3 Circuit Miles
Indices: CAIDI = 1.79, SAIFI = 2.24

CAUSE CODE PERFORMANCE TABLE

Code	Category	Interruptions		Customers Interrupted		Customer Hours	
		Number	% Total	Number	% Total	Number	% Total
2	TREE	4	20.00%	279	7.48%	922	13.82%
3	OVERLOADS	0	0.00%	0	0.00%	0	0.00%
4	OPER. ERROR	0	0.00%	0	0.00%	0	0.00%
5	EQUIPMENT	8	40.00%	299	8.01%	724	10.85%
6	ACCIDENTS	3	15.00%	1,909	51.15%	2,884	43.21%
7	PREARRANGED	0	0.00%	0	0.00%	0	0.00%
8	CUST. EQUIP.	0	0.00%	0	0.00%	0	0.00%
9	LIGHTNING	0	0.00%	0	0.00%	0	0.00%
10	UNKNOWN	5	25.00%	1,245	33.36%	2,143	32.11%
Totals		20	100.00%	3,732	100.00%	6,673	100.00%

- Problem Analysis:
- There were 20 interruptions on the Valley 4458 in 2024.
- There were no transmission interruptions.
- There were no substation interruptions.
- All 20 events occurred at the distribution level.
- The distribution circuit breaker for the Valley 4458 experienced 0 momentary operations in 2024.
- The distribution circuit breaker for the Valley 4458 experienced 0 sustained operations (lockouts) in 2024.
- Equipment Failures were the leading cause of interruptions on the Valley 4458 in 2024, accounting for 40% of total interruptions (2 of 5). Trees were the 2nd leading cause of interruptions, accounting for 20% of total interruptions (1 of 5). Accidents were the 3rd leading cause of interruptions, accounting for 20% of total interruptions (1 of 5).
- Equipment Failures were the leading cause of customers interrupted (CI) on the Valley 4458 in 2024, accounting for 98% of total customers interrupted (1,101 of 1,122). Unknown were the 2nd leading cause of customers interrupted, accounting for 1% of total customers interrupted (13 of 1,122). Trees were the 3rd leading cause of customers interrupted, accounting for 1% of total customers interrupted (7 of 1,122).
- Equipment Failures were the leading cause of customer-hours interrupted (CHI) on the Valley 4458 in 2024, accounting for 94% of total customer-hours interrupted (1,873 of 1,990). Unknown were the 2nd leading cause of customer-hours interrupted, accounting for 4% of total customer-hours interrupted (81 of 1,990). Trees were the 3rd leading cause of customer-hours interrupted, accounting for 2% of total customer-hours interrupted (34 of 1,990).
- Of the 20 interruptions on this circuit, 13 affected 10 customers or less, with 7 being single customer outages.

Action Taken:

- Distribution line inspection was last completed October 2022. All Level 1 and Level 2 work has been completed.
- Last Tree Pruning was completed in October 2024; next schedule for 2029.
- Ash Tree Mitigation was completed in 2021.

Action Plan:

- Complete Level 2 Distribution Line Inspection work due in 2025.
- Complete Level 3 Distribution Line Inspection work due in 2026.
- Actively monitor 2025 hazard tree events and will escalate if necessary.

13. FRANKLINVILLE STA 24 2461 – 4.8kV

Profile: 1,440 Customers, 63.9 Circuit Miles
Indices: CAIDI = 1.49, SAIFI = 2.56

CAUSE CODE PERFORMANCE TABLE

Code	Category	Interruptions		Customers Interrupted		Customer Hours	
		Number	% Total	Number	% Total	Number	% Total
2	TREE	15	75.00%	2,083	56.59%	2,858	51.98%
3	OVERLOADS	0	0.00%	0	0.00%	0	0.00%
4	OPER. ERROR	0	0.00%	0	0.00%	0	0.00%
5	EQUIPMENT	2	10.00%	1,445	39.26%	2,408	43.80%
6	ACCIDENTS	2	10.00%	142	3.86%	190	3.45%
7	PREARRANGED	0	0.00%	0	0.00%	0	0.00%
8	CUST. EQUIP.	0	0.00%	0	0.00%	0	0.00%
9	LIGHTNING	1	5.00%	11	0.30%	42	0.77%
10	UNKNOWN	0	0.00%	0	0.00%	0	0.00%
Totals		20	100.00%	3,681	100.00%	5,498	100.00%

- Problem Analysis:
- There were 20 interruptions on the Franklinville Sta 24 2461 in 2024.
- There was 1 transmission interruption.
 - This Transmission interruption occurred on March 02, 2024, coded as a cause of deterioration (PSC cause code 05). This lockout accounted for 39% of the total customers interrupted (1,444 of 3,681), and 44% of the total customer-hours interrupted (2,407 of 5,498). L802 Machias – Maplehurst; Lockout (L/O), Issue with P.10 crossarm.
- There was 1 substation interruption.
 - This Substation interruption occurred on March 11, 2024, coded as a cause of tree fell (PSC cause code 02). This lockout accounted for 39% of the total customers interrupted (1,445 of 3,681), and 9% of the total customer-hours interrupted (506 of 5,498). Tree on L802 Machias – Maplehurst; Switching to restore portion of F0461 due to tree down P42-P51 Rte. 16.
- The remaining 18 events occurred at the distribution level.
- The distribution circuit breaker for the Franklinville Sta 24 2461 experienced 1 momentary operation in 2024.
- The distribution circuit breaker for the Franklinville Sta 24 2461 experienced 0 sustained operations (lockouts) in 2024.
- Equipment Failures were the leading cause of interruptions on the Franklinville Sta 24 2461 in 2024, accounting for 43% of total interruptions (3 of 7). Trees were the 2nd leading cause of interruptions, accounting for 29% of total interruptions (2 of 7). Overloads were the 3rd leading cause of interruptions, accounting for 14% of total interruptions (1 of 7).
- Equipment Failures were the leading cause of customers interrupted (CI) on the Franklinville Sta 24 2461 in 2024, accounting for 94% of total customers interrupted (1,528 of 1,618). Trees were the 2nd leading cause of customers interrupted, accounting for 5%

of total customers interrupted (88 of 1,618). Overloads were the 3rd leading cause of customers interrupted, accounting for 0% of total customers interrupted (1 of 1,618).

- Equipment Failures were the leading cause of customer-hours interrupted (CHI) on the Franklinville Sta 24 2461 in 2024, accounting for 81% of total customer-hours interrupted (1,570 of 1,931). Trees were the 2nd leading cause of customer-hours interrupted, accounting for 18% of total customer-hours interrupted (351 of 1,931). Unknown were the 3rd leading cause of customer-hours interrupted, accounting for 0% of total customer-hours interrupted (6 of 1,931).
- Of the 20 interruptions on this circuit, 5 affected 10 customers or less, with 4 being single customer outages.

Action Taken:

- Distribution line inspection was last completed September 2024. All Level 1 and Level 2 work has been completed.
- Last Tree Pruning was completed in October 2022; next schedule for 2029.
- Ash Tree Mitigation was completed in 2021.

Action Plan:

- Complete Level 2 Distribution Line Inspection work due in 2025.
- Complete Level 3 Distribution Line Inspection work due in 2026.
- Actively monitor 2025 hazard tree events and will escalate if necessary.

14. BAKER ST 15056 – 13.2kV

Profile: 2,262 Customers, 97 Circuit Miles
Indices: CAIDI = 1.37, SAIFI = 2.15

CAUSE CODE PERFORMANCE TABLE

Code	Category	Interruptions		Customers Interrupted		Customer Hours	
		Number	% Total	Number	% Total	Number	% Total
2	TREE	19	65.52%	4,306	88.67%	5,155	77.73%
3	OVERLOADS	0	0.00%	0	0.00%	0	0.00%
4	OPER. ERROR	0	0.00%	0	0.00%	0	0.00%
5	EQUIPMENT	5	17.24%	434	8.94%	954	14.38%
6	ACCIDENTS	3	10.34%	35	0.72%	60	0.90%
7	PREARRANGED	0	0.00%	0	0.00%	0	0.00%
8	CUST. EQUIP.	0	0.00%	0	0.00%	0	0.00%
9	LIGHTNING	0	0.00%	0	0.00%	0	0.00%
10	UNKNOWN	2	6.90%	81	1.67%	464	6.99%
Totals		29	100.00%	4,856	100.00%	6,633	100.00%

- Problem Analysis:
- There were 29 interruptions on the Baker St 15056 in 2024.
- There were no transmission interruptions.
- There were no substation interruptions.
- All 29 events occurred at the distribution level.
- The distribution circuit breaker for the Baker St 15056 experienced 1 momentary operation in 2024.
- The distribution circuit breaker for the Baker St 15056 experienced 1 sustained operation (lockout) in 2024. This interruption accounted for 46% of the total amount of customers interrupted (2,258 out of 5,175) and 32% of the total amount of the customer-hours interrupted (2,094 out of 2,683).
 - This lockout occurred on February 16, 2024, coded as a cause of tree - broken limb (PSC cause code 02). This lockout accounted for 46% of the total customers interrupted (2,258 of 4,856), and 32% of the total customer-hours interrupted (2,094 of 6,633). P83 Hunt Rd - recloser R40541 locked out - limb across 2 phases at P74 State Route 474 - opened station for failed hotline clamp near P43 Winch Rd - crew made both repairs and Western Regional Control Center reenergized feeder.
- Trees were the leading cause of interruptions on the Baker St 15056 in 2024, accounting for 26% of total interruptions (5 of 19). Equipment Failures were the 2nd leading cause of interruptions, accounting for 21% of total interruptions (4 of 19). Accidents were the 3rd leading cause of interruptions, accounting for 16% of total interruptions (3 of 19).
- Unknown were the leading cause of customers interrupted (CI) on the Baker St 15056 in 2024, accounting for 49% of total customers interrupted (2,530 of 5,175). Equipment Failures were the 2nd leading cause of customers interrupted, accounting for 40% of total customers interrupted (2,092 of 5,175). Prearranged were the 3rd leading cause of customers interrupted, accounting for 8% of total customers interrupted (415 of 5,175).

- Prearranged were the leading cause of customer-hours interrupted (CHI) on the Baker St 15056 in 2024, accounting for 35% of total customer-hours interrupted (932 of 2,683). Equipment Failures were the 2nd leading cause of customer-hours interrupted, accounting for 34% of total customer-hours interrupted (901 of 2,683). Unknown were the 3rd leading cause of customer-hours interrupted, accounting for 22% of total customer-hours interrupted (603 of 2,683).
- Of the 29 interruptions on this circuit, 23 affected 10 customers or less, with 14 being single customer outages.

Action Taken:

- Distribution line inspection was last completed October 2023. All Level 1 and Level 2 work has been completed.
- Last Tree Pruning was completed in October 2021; next schedule for 2027.
- Ash Tree Mitigation was completed in 2021.

Action Plan:

- Complete Level 2 Distribution Line Inspection work due in 2025.
- Complete Level 3 Distribution Line Inspection work due in 2026.
- Actively monitor 2025 hazard tree events and will escalate if necessary.

3. ACTION PLAN SUMMARIES

a. SUMMARY OF ACTION PLANS FOR 2024 WORST PERFORMING CIRCUIT

Station	Feeder	Report Year	Action Plan	Estimated Compl. Date	Comments
Delameter 93	07-9354	2024	Complete Level 2 Distribution Line Inspection work due in 2025.	2025	
Delameter 93	07-9354	2024	Complete Level 3 Distribution Line Inspection work due in 2026.	2026	
Delameter 93	07-9354	2024	Distribution cycle tree trimming scheduled for FY2025.	2025	
Delameter 93	07-9352	2024	Complete Level 2 Distribution Line Inspection work due in 2025.	2025	
Delameter 93	07-9352	2024	Complete Level 3 Distribution Line Inspection work due in 2026.	2026	
Delameter 93	07-9352	2024	Distribution cycle tree trimming scheduled for FY2025.	2025	
Delameter 93	07-9353	2024	Complete Level 2 Distribution Line Inspection work due in 2025.	2025	
Delameter 93	07-9353	2024	Complete Level 3 Distribution Line Inspection work due in 2026.	2026	
Delameter 93	07-9353	2024	Distribution cycle tree trimming scheduled for FY2025.	2025	
Ellicott 65	09-6561	2024	Complete Level 2 Distribution Line Inspection work due in 2025.	2025	
Ellicott 65	09-6561	2024	Complete Level 3 Distribution Line Inspection work due in 2026.	2026	
Ellicott 65	09-6561	2024	Distribution cycle tree trimming scheduled for FY2025.	2025	
Farmersville 27	10-2762	2024	Complete Level 2 Distribution Line Inspection work due in 2025.	2025	
Farmersville 27	10-2762	2024	Complete Level 3 Distribution Line Inspection work due in 2026.	2026	
Farmersville 27	10-2762	2024	Distribution cycle tree trimming scheduled for FY2025.	2025	
Reservoir 103	10-10361	2024	Complete Level 2 Distribution Line Inspection work due in 2025.	2025	
Reservoir 103	10-10361	2024	Complete Level 3 Distribution Line Inspection work due in 2026.	2026	
Reservoir 103	10-10361	2024	Distribution cycle tree trimming scheduled for FY2025.	2025	
Delameter 93	07-9351	2024	Complete Level 2 Distribution Line Inspection work due in 2025.	2025	
Delameter 93	07-9351	2024	Complete Level 3 Distribution Line Inspection work due in 2026.	2026	
Delameter 93	07-9351	2024	Distribution cycle tree trimming scheduled for FY2025.	2025	
Maplehurst 04	10-0461	2024	Complete Level 2 Distribution Line Inspection work due in 2025.	2025	
Maplehurst 04	10-0461	2024	Complete Level 3 Distribution Line Inspection work due in 2026.	2026	
Maplehurst 04	10-0461	2024	Distribution cycle tree trimming scheduled for FY2025.	2025	
Baker St. 150	09-15055	2024	Complete Level 2 Distribution Line Inspection work due in 2025.	2025	
Baker St. 150	09-15055	2024	Complete Level 3 Distribution Line Inspection work due in 2026.	2026	
Baker St. 150	09-15055	2024	Distribution cycle tree trimming scheduled for FY2025.	2025	
Franklinville 24	10-2462	2024	Complete Level 2 Distribution Line Inspection work due in 2025.	2025	
Franklinville 24	10-2462	2024	Complete Level 3 Distribution Line Inspection work due in 2026.	2026	
Franklinville 24	10-2462	2024	Distribution cycle tree trimming scheduled for FY2025.	2025	
Cassadaga 61	08-6161	2024	Complete Level 2 Distribution Line Inspection work due in 2025.	2025	
Cassadaga 61	08-6161	2024	Complete Level 3 Distribution Line Inspection work due in 2026.	2026	
Cassadaga 61	08-6161	2024	Distribution cycle tree trimming scheduled for FY2025.	2025	
Valley 44	10-4458	2024	Complete Level 2 Distribution Line Inspection work due in 2025.	2025	
Valley 44	10-4458	2024	Complete Level 3 Distribution Line Inspection work due in 2026.	2026	
Valley 44	10-4458	2024	Distribution cycle tree trimming scheduled for FY2025.	2025	
Franklinville 24	10-2461	2024	Complete Level 2 Distribution Line Inspection work due in 2025.	2025	
Franklinville 24	10-2461	2024	Complete Level 3 Distribution Line Inspection work due in 2026.	2026	
Franklinville 24	10-2461	2024	Distribution cycle tree trimming scheduled for FY2025.	2025	

Baker St. 150	09-15056	2024	Complete Level 2 Distribution Line Inspection work due in 2025.	2025	
Baker St. 150	09-15056	2024	Complete Level 3 Distribution Line Inspection work due in 2026.	2026	
Baker St. 150	09-15056	2024	Distribution cycle tree trimming scheduled for FY2025.	2025	

b. STATUS OF ACTION PLANS FOR 2023 WORST PERFORMING CIRCUITS

Station	Feeder	Report Year	Action Plan	Estimated Compl. Date	Comments
Delameter	07-9354	2023	Complete Level 2 Distribution Line Inspection work due in 2024.	2024	Complete
Delameter	07-9354	2023	Complete Level 3 Distribution Line Inspection work due in 2025.	2025	
Delameter	07-9354	2023	Distribution cycle tree trimming scheduled for FY2025.	2025	
Sinclairville	08-7261	2023	Complete Level 2 Distribution Line Inspection work due in 2024.	2024	Complete
Sinclairville	08-7261	2023	Complete Level 3 Distribution Line Inspection work due in 2025.	2025	
Sinclairville	08-7261	2023	Perform mid-cycle hazard tree review out to first protective device.	2025	
Cattaraugus	10-1562	2023	Complete Level 2 Distribution Line Inspection work due in 2024.	2024	Complete
Cattaraugus	10-1562	2023	Complete Level 3 Distribution Line Inspection work due in 2025.	2025	
Andover	10-0962	2023	Complete Level 2 Distribution Line Inspection work due in 2024.	2024	Complete
Andover	10-0962	2023	Complete Level 3 Distribution Line Inspection work due in 2025.	2025	
Andover	10-0962	2023	Actively monitor 2024 hazard tree events and will escalate if necessary.	2024	Complete
Farmersville	10-2762	2023	Complete Level 2 Distribution Line Inspection work due in 2024.	2024	Complete
Farmersville	10-2762	2023	Complete Level 3 Distribution Line Inspection work due in 2025.	2025	
Farmersville	10-2762	2023	Actively monitor 2024 hazard tree events and will escalate if necessary.	2024	Complete

4. OPERATING REGION PERFORMANCE BELOW MINIMUM

a. MAINTENANCE HISTORY AND ANALYSIS OF FACTORS THAT CAUSED THE BELOW MINIMUM PERFORMANCE.

In 2024 the Southwest Region did not meet the annual CAIDI goal of 1.950 with a CAIDI of 2.08. The 2024 CAIDI result was 20% above the 2023 result of 1.74 hours, and 21% above the previous 5-year average of 1.72 hours. The 2024 SAIFI was 53% above the 2023 result of 0.89 interruptions, and 27% above the previous 5-year average of 1.07 interruptions. The Southwest region also failed to meet the PSC minimum SAIFI requirement of 1.181 with a 2024 score of 1.36.

In 2024, excluding major storms, the Southwest Region experienced 15 transmission interruptions. These interruptions accounted for 1% of the region's total interruptions (15 of 1,296), 31% of the region's total customers interrupted (CI), (44,849 of 144,610), and 26% (79,251 of 301,464) of the region's total customer-hours interrupted (CHI). Overall, transmission interruptions had a CAIDI of 1.77 hours, and a SAIFI of 0.42 interruptions.

The number of transmission-related interruptions increased from 8 in 2023 to 15 in 2024 (an increase of 88%). The number of customers interrupted increased from 25,029 in 2023, to 44,849 in 2024 (an increase of 79%), while the customer-hours interrupted increased from 29,026 in 2023, to 79,251 in 2024 (an increase of 173%).

In 2024, excluding major storms, the Southwest Region experienced 3 substation interruptions. These interruptions accounted for 0.2% of the region's total interruptions (3 of 1,296), 13% of the region's total customers interrupted, (19,460 of 144,610), and 21% (63,511 of 301,464) of the region's total customer-hours interrupted. Overall, substation interruptions had a CAIDI of 3.26 hours, and a SAIFI of 0.18 interruptions.

The number of substation-related interruptions decreased from 5 to 3 from 2023 to 2024 (a decrease of 40%). The number of customers interrupted increased from 4,309 in 2023, to 19,460 in 2024 (an increase of 352%), while the customer-hours interrupted increased from 5,590 in 2023, to 63,511 in 2024 (an increase of 1,036%).

In 2024, excluding major storms, the Southwest Region experienced 1,278 distribution interruptions. These interruptions accounted for 99% of the region's total interruptions (1,278 of 1,296), 56% of the region's total customers interrupted, (80,301 of 144,610), and 53% (158,702 of 301,464) of the region's total customer-hours interrupted. Overall, distribution interruptions had a CAIDI of 1.98 hours, and a SAIFI of 0.75 interruptions.

The number of distribution-related interruptions decreased from 1,176 to 961 from 2022 to 2023 (a decrease of 18%). The number of customers interrupted decreased from 82,442 in 2022, to 65,074 in 2023 (a decrease of 21%), while the customer-

hours interrupted decreased from 155,343 in 2022, to 129,374 in 2023 (a decrease of 17%).

b. **PLANNED PROGRAMS OR PLANNED CORRECTIVE ACTIONS AND PROPOSED IMPROVEMENTS TO THE PERFORMANCE INDICES.**

The Company is continuing its efforts in the Southwest Region to maintain reliability. These efforts include distribution patrols, maintenance programs, single phase and three phase line recloser installations, protection coordination studies, lightning protection installations, and tree trimming programs. All these programs and corrective actions not only will reduce the number of interruptions and/or customers interrupted but also the restoration times. The Company will continue to stay on schedule for tree trimming and believes that this maintained schedule for tree trimming and miles trimmed will reduce both the incidence and duration of tree-related interruptions.

The contribution of transmission outages is significant to the regional performance indices, as can be seen in the data provided in the previous section. It is very difficult to predict transmission equipment failures in advance, and in a continued attempt to minimize these interruptions, Transmission Planning and Asset Management (TPAM) has several projects in the works to improve the performance of some of the worst performing transmission lines.

Tree trimming around the distribution system will remain a priority in 2025, to address what is typically the single largest contributor to customer interruptions within the Southwest Region. In addition, there is a list of distribution improvement capital projects that were designed and constructed in FY2025, which can be viewed in the 1.f section of this report.

Substation Improvements

- 1) When substation equipment is being installed or repaired, animal guards are being installed.
- 2) When opportunities arise, feeder-ties will be constructed to temporarily transfer load onto adjacent substations. This will improve reliability for the affected station.
- 3) The Company's ongoing maintenance program for substations should help reduce the potential for substation problems in 2025. This program includes:
 - Circuit breaker diagnostic tests
 - Circuit breaker mechanism checks
 - Load tap changer internal inspections
 - Dissolved gas analysis on load tap changers and transformers.
 - Calibration/inspections on relay positions and communication packages
 - Functional testing of relays
 - Battery maintenance

In addition to the capital improvement work outlined in the Southwest Region Worst Performing Feeder's Action Plan, below are additional efforts to improve

reliability and performance indices in the Southwest Region.:

- On a monthly basis, the Western Reliability Team will continue to investigate and analyze outages impacting greater than 2,500 customers or more than 50,000 customer-minutes-interrupted (CMI). This effort will look at the interruptions impacting the greatest number of customers to see what could have been done better to reduce the length of the interruption or to have eliminated it altogether.
- Review of suitable locations for the installation of additional 3-phase reclosers. These continue to assist in minimizing customers interrupted and customer-hours interrupted in the event of a sustained outage as well as prevent sustained outages that, otherwise, would have been momentary in nature.
- Review of suitable locations for the installation of additional cutout-mounted reclosers. These continue to assist in minimizing customers interrupted and customer-hours interrupted in the event of a sustained outage as well as prevent sustained outages that, otherwise, would have been momentary in nature.
- Review of suitable locations for the installation of switches which will offer significant operational flexibility, allowing additional opportunity to isolate faults, thereby significantly decreasing customer-hours interrupted in the event of a sustained outage.
- Review of protective device coordination to assist in minimizing customers interrupted and customer-hours interrupted in the event of a sustained outage.

K. GLOSSARY

CAIDI - Customer Average Interruption Duration Index is the average service restoration time for customers interrupted. It is determined by dividing the sum of all customer interruption durations by the total number of customers interrupted in a year.

Customer Hours of Interruption - The hours of interruption duration multiplied by the number of customers interrupted for a given interruption.

Distribution Circuit - An electric feeder line serving customers and operating at voltage levels below 23,000 volts - Typically, 4.16, 4.8 or 13.2kV.

Failed Region - Any region whose indices exceed the CAIDI or SAIFI performance level set for that region.

Fiscal Year – Beginning in 2002 the Company changed the cycle of its annual budgeting and reporting process from a calendar year beginning January 1st and ending December 31st to a fiscal year beginning April 1st and ending March 31st of the following year. Budget estimates for work to be performed on worst performing feeders will most likely reflect this shift in fiscal year budgeting while actual costs typically reflect work completed by the end of the calendar year.

Interruption - Loss of electric service for five minutes or more to one or more customers. This is a reliability issue rather than a power quality issue.

Major Storm - A storm that causes at least 10% of the metered customers in a region to be without service or a storm that results in metered customers to be without service for 24 hours or more.

Minimum Goal - As defined by the Company and the PSC, this is the level of service reliability below which a region fails and additional analysis is required.

Momentary Interruption - Loss of electric service for less than five minutes to one customer or more. This a power quality rather than a reliability issue.

Objective Goal - The target level of service reliability as defined by the Company and the PSC.

Power Quality - The performance of a circuit other than that defined by reliability. It is characterized by parameters such as the number of momentary (less than 5 minute) interruptions, steady state voltage sags, swells, surges, noise and harmonics.

Recloser - A loadbreak device that operates when a fault current of pre-determined level and duration flows through it.

Region - One of eight geographic areas within the Company's electric territory. For the purpose of this report, the eight regions are: Capital (Albany, Troy, Schenectady, Hudson); Central (Syracuse, Fulton, Oswego, Pulaski, Cortland); Frontier (Buffalo, Niagara Falls); Genesee (Batavia, Avon,

Albion, Medina); Mohawk Valley (Utica, Rome, Oneida, Herkimer); Northeast (Glens Falls, Saratoga, Ticonderoga); Northern (Watertown, Ogdensburg, Malone, Potsdam); And Southwest (Angola, Fredonia, Stow, Olean).

Reliability - The electric performance of a distribution circuit as experienced by its customers. It is based on interruptions of five (5) minutes or longer, their duration, frequency and number of customers affected.

SAI - System Availability Index is the percent of time that service was available during the year. The SAI is derived from the ratio of the total number of customer hours that service was available during the year (24/hour/day x 365 days/year - SAIDI) to the total customer hours available per year (8,760 = 24 hours/day x 365 days/year) multiplied by 100 percent.

SAIDI - System Average Interruption Duration Index is an average interruption duration per customers served per year. It is the ratio of the customer hours interrupted to the total number of customers served.

SAIFI - System Average Interruption Frequency Index is the average number of times that a customer is interrupted in a year. It is determined by dividing the number of customers interrupted in a year by the average number of customers connected during the year.

SECTIONALIZER - A non-loadbreak circuit device that works with substation breaker or a recloser to minimize the number of customers involved in an interruption.

Worst-Performing Circuits - Circuits in the system or a given region that are the worst performing based on the Company's combined rankings of:

- a. SAIFI
- b. SAIDI
- c. Number of Interruptions
- d. Number of Customer Hours Interrupted

NATIONAL GRID
ELECTRIC SERVICE INTERRUPTION - ACTIVE FEEDER RANKING
DURING TIME PERIOD JAN 01, 2024 TO DEC 31, 2024
FACILITY TYPE(S) INCLUDE: DISTRIBUTION, SUBSTATION, AND TRANSMISSION
EXCLUDING PSC CODE(S): 01
REPORT # 4
SYSTEM REPORT

Region	Station Name	Ckt/F No.	No. Cst. Served	No. Intr.	Intr. Rank	Tot. Dur. Hours	Avg. Dur.	Max. Dur.	Cust. Intr.	Max. Cust.	Tot. Cust. Hours	Tot. CH Rank	SAIFI	SAIFI Rank	SAIDI	SAIDI Rank	CAIDI	Fdr Rank	Mmty Intr.
Capital	Brunswick	31-26453	1808	47	2121	221.1	4.7	17.1	9929	1811	35301.56	2132	5.49	2128	19.53	2130	3.56	8511	2
Northeast	Battenkill	39-34257	1641	61	2132	282.3	4.6	21.3	8058	1643	25157.17	2128	4.91	2123	15.33	2123	3.12	8506	3
Northeast	Burgoyne	38-33751	1848	55	2129	235.4	4.3	16.7	8803	2571	29102.78	2131	4.76	2118	15.75	2125	3.31	8503	0
Northeast	Inghams	35-02051	1187	40	2115	251.5	6.3	22.7	6085	1191	29027.59	2130	5.13	2126	24.45	2132	4.77	8503	0
Southwest	Delameter	07-9354	3122	36	2099	103.1	2.9	7.6	16459	3130	42066.12	2134	5.27	2127	13.47	2115	2.56	8475	2
Mohawk	Poland - Utica	17-62258	1631	49	2125	223.4	4.6	12.2	5567	1635	20070.49	2119	3.41	2089	12.31	2112	3.61	8445	4
Northeast	Union St-Saratoga	39-37653	1448	35	2093	194.7	5.6	16.8	7068	1452	16494.33	2110	4.88	2121	11.39	2108	2.33	8432	2
Northeast	Bolton	40-28451	1541	31	2067	201.9	6.5	41.1	5788	1583	28069.41	2129	3.76	2099	18.22	2127	4.85	8422	3
Northern	Lowville	23-77354	2807	67	2133	194.8	2.9	19.4	13087	2814	19876.35	2118	4.66	2115	7.08	2055	1.52	8421	0
Central	Tully Center	12-27853	1257	40	2115	139.1	3.5	10.4	4931	1255	13007.93	2097	3.92	2105	10.35	2098	2.64	8415	2
Northern	Thousand Isl	26-81452	2201	54	2126	322.7	6	25.4	6488	1286	23230.95	2124	2.95	2059	10.55	2100	3.58	8409	1
Southwest	Delameter	07-9352	1306	27	2042	60.5	2.2	8.4	8652	1311	17919.55	2115	6.62	2133	13.72	2117	2.07	8407	0
Northeast	Schoharie	37-23452	1673	33	2084	142.2	4.3	19.4	5273	1676	23627.82	2125	3.15	2075	14.12	2120	4.48	8404	0
Northeast	Union St-Saratoga	39-37654	581	23	2005	126.1	5.5	23.5	3450	579	24302.69	2126	5.94	2131	41.83	2134	7.04	8396	0
Northeast	Hague Road	41-41853	2243	32	2075	100.8	3.2	7.4	9097	1272	21473.96	2121	4.06	2109	9.57	2089	2.36	8394	0
Capital	Brunswick	31-26452	2008	48	2124	277.8	5.8	21.5	5579	2008	20822.05	2120	2.78	2046	10.37	2099	3.73	8389	0
Mohawk	Sherman	17-33352	1521	36	2099	201.4	5.6	15.8	4512	1526	17220.74	2113	2.97	2062	11.32	2107	3.82	8381	4
Capital	Hoosick	31-31451	1773	33	2084	160.5	4.9	23.3	8069	1775	14666.25	2106	4.55	2114	8.27	2077	1.82	8381	0
Capital	Hemstreet	31-32851	1888	39	2111	225.1	5.8	18.6	7094	1890	14066.34	2103	3.76	2099	7.45	2067	1.98	8380	2
Mohawk	Alder Creek	17-70161	978	25	2030	105.8	4.2	12.8	4611	1019	15303.44	2109	4.71	2116	15.65	2124	3.32	8379	0
Capital	Voorheesville	30-17853	2048	33	2084	143.4	4.3	17.7	7326	2046	14759.99	2107	3.58	2093	7.21	2059	2.01	8343	6
Southwest	Delameter	07-9353	2955	21	1972	51.8	2.5	6	14923	2959	37687.81	2133	5.05	2125	12.75	2113	2.53	8343	1
Genesee	Geneseo Sta 55	05-5552	796	21	1972	62.6	3	11.5	5190	800	14591	2105	6.52	2132	18.33	2128	2.81	8337	12
Central	Lighthouse Hill	16-6144	2368	38	2108	173.5	4.6	19.9	7630	2354	14248.92	2104	3.22	2082	6.02	2020	1.87	8314	0
Capital	Elnora	32-44256	2491	29	2057	118.3	4.1	14	7634	1980	19420.11	2117	3.06	2068	7.8	2071	2.54	8313	1
Southwest	Ellicot Sta 65	09-6561	722	23	2005	58.3	2.5	5.4	3527	724	8534.41	2066	4.89	2122	11.82	2110	2.42	8303	2
Mohawk	Raquette Lake	17-39861	521	19	1927	227.1	12	38.3	2155	521	13455.57	2100	4.14	2110	25.83	2133	6.24	8270	7
Mohawk	Eagle Bay	17-38272	1082	28	2050	176.7	6.3	13	2774	1081	10414.89	2086	2.56	2027	9.63	2090	3.75	8253	5
Mohawk	Poland - Utica	17-62257	1634	28	2050	87.7	3.1	12.4	4186	1637	13313.42	2099	2.56	2027	8.15	2075	3.18	8251	3
Genesee	Southland Sta 84	06-8462	763	22	1990	78.4	3.6	12.1	3420	763	7723.44	2048	4.48	2113	10.12	2096	2.26	8247	0
Central	Granby Center	14-29351	1863	25	2030	136.5	5.5	22.2	5290	1865	13101.85	2098	2.84	2052	7.03	2051	2.48	8231	3
Northeast	North Creek	40-12251	1988	72	2134	308.7	4.3	14.9	4879	1174	10438.84	2088	2.45	2011	5.25	1985	2.14	8218	0
Northeast	Union St-Saratoga	39-37652	950	19	1927	93.7	4.9	16.5	3776	949	9186.84	2076	3.97	2106	9.67	2092	2.43	8201	0
Northeast	Clinton	35-36653	2144	25	2030	123.5	4.9	17.9	4840	1461	16852.22	2111	2.26	1986	7.86	2072	3.48	8199	0
Central	Jewett Road	11-29155	812	18	1911	72.9	4	16.7	3165	812	8398.85	2062	3.9	2103	10.34	2097	2.65	8173	3

Region	Station Name	Ckt/F No.	No. Cst. Served	No. Intr.	Intr. Rank	Tot. Dur. Hours	Avg. Dur.	Max. Dur.	Cust. Intr.	Max. Cust.	Tot. Cust. Hours	Tot. CH Rank	SAIFI	SAIFI Rank	SAIDI	SAIDI Rank	CAIDI	Fdr Rank	Mmtly Intr.
Genesee	W Hamlin	06-8254	2145	48	2124	133.7	2.8	11	4960	2130	10430	2087	2.31	1994	4.86	1967	2.1	8172	0
Northeast	Middleburg	37-39051	1300	42	2118	211.4	5	16.6	2854	899	7987.32	2055	2.2	1969	6.14	2025	2.8	8167	0
Northeast	Grand St	37-43351	1905	21	1972	109.4	5.2	24	4337	1911	17052.55	2112	2.28	1989	8.95	2086	3.93	8159	1
Northeast	Schroon Lake	41-42951	2426	56	2130	199.6	3.6	10.4	7082	2405	9591.5	2081	2.92	2056	3.95	1886	1.35	8153	0
Northeast	East Springfield	37-47751	1027	18	1911	112.2	6.2	33.4	3682	1021	8286.06	2060	3.59	2094	8.07	2074	2.25	8139	1
Northern	N Gouverneur	29-98352	1613	18	1911	75.5	4.2	15.2	3596	1606	24550.82	2127	2.23	1976	15.22	2122	6.83	8136	0
Northeast	Vail Mills	35-39252	2817	38	2108	154.6	4.1	14.2	4587	2130	21638.09	2122	1.63	1812	7.68	2070	4.72	8112	1
Genesee	W Hamlin	06-8253	2350	35	2093	113.4	3.2	11.3	4820	2343	12824.22	2096	2.05	1928	5.46	1995	2.66	8112	0
Central	New Haven	14-25652	1664	34	2087	114.5	3.4	9.4	4472	1664	7547.18	2043	2.69	2038	4.54	1942	1.69	8110	0
Capital	Grooms Road	32-34552	1698	22	1990	70.2	3.2	14.3	4851	1698	9011.25	2073	2.86	2053	5.31	1987	1.86	8103	1
Central	Delphi	11-26253	1145	28	2050	125.4	4.5	14	3105	1147	6174.92	2006	2.71	2039	5.39	1993	1.99	8088	0
Southwest	Farmersville Sta 27	10-2762	723	17	1876	57.7	3.4	5.8	2015	725	8157.84	2057	2.79	2048	11.28	2105	4.05	8086	3
Genesee	Royalton	06-9863	748	17	1876	53	3.1	8.2	3588	749	6246.38	2010	4.8	2120	8.35	2078	1.74	8084	0
Central	Southwood	11-24453	2766	18	1911	74.8	4.2	10.8	6747	2778	18944.19	2116	2.44	2009	6.85	2046	2.81	8082	0
Northeast	Burgoyne	38-33752	2173	42	2118	130.7	3.1	13.2	5085	2161	8628.33	2070	2.34	2001	3.97	1890	1.7	8079	0
Northeast	Burgoyne	38-33754	1949	24	2014	72.6	3	13	4919	2065	9263.69	2077	2.52	2020	4.75	1958	1.88	8069	0
Northeast	Bolton	40-28452	1068	22	1990	126.6	5.8	15.4	1851	1090	17765.32	2114	1.73	1835	16.63	2126	9.6	8065	3
Northeast	Cedar	38-45351	1713	24	2014	108.8	4.5	13.5	4260	1713	8483.01	2064	2.49	2017	4.95	1969	1.99	8064	1
Northern	W Adams	13-87554	2563	55	2129	124.1	2.3	5.4	6603	2565	8898.09	2071	2.58	2029	3.47	1832	1.35	8061	0
Genesee	Barker Sta 78	06-7861	821	17	1876	48.8	2.9	8.8	4826	820	5803.28	1995	5.88	2130	7.07	2054	1.2	8055	0
Capital	Boyntonville	31-33351	2150	55	2129	371.3	6.8	17.6	3189	601	14914.57	2108	1.48	1766	6.94	2049	4.68	8052	0
Southwest	Reservoir Sta 103	10-10361	199	16	1848	89.9	5.6	19.2	1465	201	4589.64	1935	7.36	2134	23.06	2131	3.13	8048	5
Northern	North Carthage	23-81652	2355	33	2084	115.2	3.5	12.2	3239	1963	22274.37	2123	1.38	1745	9.46	2087	6.88	8039	1
Central	Fairdale	14-13564	783	12	1713	62.2	5.2	19.8	2680	783	9404.19	2080	3.42	2090	12.01	2111	3.51	7994	3
Northern	N Gouverneur	29-98351	1583	18	1911	64.7	3.6	13.4	4926	1577	7604.57	2045	3.11	2071	4.8	1965	1.54	7992	0
Central	Tully Center	12-27851	2377	57	2131	212.9	3.7	14.5	5311	1911	7813.52	2052	2.23	1976	3.29	1811	1.47	7970	2
Genesee	Lyndonville Sta 95	06-9561	835	17	1876	78.1	4.6	12.5	2448	837	5711.88	1989	2.93	2057	6.84	2045	2.33	7967	1
Southwest	Delameter	07-9351	1586	12	1713	28.4	2.4	4.9	6379	1587	11117.82	2093	4.02	2108	7.01	2050	1.74	7964	0
Capital	Hoags Corners	30-22151	976	21	1972	110.6	5.3	13.7	1558	387	10757.05	2091	1.6	1796	11.02	2104	6.9	7963	0
Northern	Collinsville	23-71661	767	25	2030	67	2.7	6.5	2748	768	3658.29	1877	3.58	2093	4.77	1961	1.33	7961	1
Southwest	Maplehurst Sta 04	10-0461	998	23	2005	95	4.1	9	2540	999	4945.5	1947	2.55	2023	4.96	1971	1.95	7946	4
Capital	Hoosick	31-31452	1548	32	2075	132.7	4.1	14.1	5587	1549	5139.66	1961	3.61	2095	3.32	1812	0.92	7943	1
Capital	Inman Road	32-37056	1593	17	1876	62	3.6	8.6	5122	1601	7173.34	2036	3.22	2082	4.5	1938	1.4	7932	2
Mohawk	Rome	18-76254	1023	20	1947	39.3	2	4.2	3400	1026	4792.2	1941	3.32	2088	4.68	1953	1.41	7929	1
Northern	W Adams	13-87552	2271	23	2005	85.2	3.7	9.7	5620	2276	8168.27	2058	2.47	2015	3.6	1848	1.45	7926	3
Northern	Hammond	28-37061	984	14	1784	41.8	3	7.9	3066	983	6760.28	2020	3.12	2073	6.87	2048	2.2	7925	5
Southwest	Baker St	09-15055	1911	17	1876	32.4	1.9	4.7	7483	1913	7691.64	2046	3.92	2105	4.02	1896	1.03	7923	4
Southwest	Franklinville Sta 24	10-2462	655	25	2030	70.7	2.8	6.2	2072	656	3248.35	1841	3.16	2077	4.96	1971	1.57	7919	1
Genesee	E Golah	05-5156	2016	23	2005	48.2	2.1	5.3	3203	2008	12306.24	2095	1.59	1790	6.1	2024	3.84	7914	2
Capital	Blue Stores	33-30351	1571	36	2099	165	4.6	13.6	2798	1579	6946.63	2030	1.78	1847	4.42	1930	2.48	7906	6
Capital	Pinebush	30-37151	814	11	1659	54.1	4.9	15.9	3157	815	7772.73	2050	3.88	2102	9.55	2088	2.46	7899	3
Southwest	Cassadaga Sta 61	08-6161	802	15	1816	56.2	3.7	15.6	2116	800	5651.62	1985	2.64	2035	7.05	2052	2.67	7888	1
Northern	Chasm Falls	27-85251	1137	38	2108	135.7	3.6	9.2	1852	224	5731.87	1991	1.63	1812	5.04	1975	3.09	7886	1

Region	Station Name	Ckt/F No.	No. Cst. Served	No. Intr.	Intr. Rank	Tot. Dur. Hours	Avg. Dur.	Max. Dur.	Cust. Intr.	Max. Cust.	Tot. Cust. Hours	Tot. CH Rank	SAIFI	SAIFI Rank	SAIDI	SAIDI Rank	CAIDI	Fdr Rank	Mnty Intr.
Northern	Sunday Creek	23-87651	267	19	1927	96.6	5.1	17.5	519	267	5053.59	1956	1.94	1874	18.93	2129	9.74	7886	13
Central	Ridge Road	11-21964	877	25	2030	70.8	2.8	6.6	1909	874	4334.46	1919	2.18	1966	4.94	1968	2.27	7883	0
Mohawk	West Herkimer	19-67651	1455	19	1927	65	3.4	13.2	3275	1455	6768.74	2022	2.25	1981	4.65	1949	2.07	7879	0
Southwest	Valley	10-4458	1665	20	1947	65.8	3.3	8.2	3732	1098	6673.13	2019	2.24	1979	4.01	1894	1.79	7839	0
Central	Bridgeport	11-16853	1399	13	1750	34	2.6	11.1	4195	1399	7335.01	2039	3	2065	5.24	1984	1.75	7838	1
Capital	Valkin	33-42753	2322	37	2103	143.7	3.9	18.2	6582	2324	5635.32	1984	2.83	2051	2.43	1699	0.86	7837	0
Central	Paloma (Fulton)	14-25456	1886	35	2093	131.3	3.8	12.4	3568	1490	6826.96	2025	1.89	1866	3.62	1851	1.91	7835	1
Capital	Menands	30-10157	2300	12	1713	28.8	2.4	4.7	6999	2304	10813.65	2092	3.04	2067	4.7	1955	1.55	7827	1
Southwest	Franklinville Sta 24	10-2461	1440	20	1947	72.4	3.6	23.9	3681	1445	5497.61	1973	2.56	2027	3.82	1874	1.49	7821	1
Genesee	Sheppard Rd Sta 29	04-2952	909	19	1927	48.3	2.5	7.3	1942	903	4864.34	1944	2.14	1956	5.35	1990	2.5	7817	5
Southwest	Baker St	09-15056	2262	29	2057	92.4	3.2	9.7	4856	2258	6632.58	2018	2.15	1959	2.93	1769	1.37	7803	1
Genesee	E Golah	05-5153	1573	14	1784	26.6	1.9	5.3	3134	1568	10622.68	2089	1.99	1888	6.75	2041	3.39	7802	0
Capital	Chrisler Ave	32-25754	956	13	1750	31.6	2.4	6.2	2439	953	5977.51	2002	2.55	2023	6.25	2027	2.45	7802	0
Mohawk	Oneida	20-50151	1874	21	1972	96.1	4.6	15.2	5159	1874	5785.04	1994	2.75	2042	3.09	1788	1.12	7796	2
Central	Cleveland	11-1166	980	25	2030	77.7	3.1	8.7	2107	513	4024.59	1899	2.15	1959	4.11	1903	1.91	7791	3
Central	Lake Rd#2 (Fulton)	14-29951	655	12	1713	46.1	3.8	8.4	1616	1313	5570.81	1980	2.47	2015	8.51	2081	3.45	7789	3
Mohawk	Schuyler	17-66354	2367	16	1848	43.1	2.7	6	6506	2370	8283.35	2059	2.75	2042	3.5	1838	1.27	7787	3
Central	Starr Road	12-33452	983	18	1911	81.4	4.5	15	1833	1511	5834.36	1996	1.86	1861	5.94	2016	3.18	7784	1
Capital	Rotterdam	32-13853	1423	27	2042	105.3	3.9	10.1	2609	1425	5700.03	1987	1.83	1854	4.01	1894	2.18	7777	0
Capital	Firehouse	31-44952	2110	16	1848	45.6	2.8	5.1	4428	2274	8989.8	2072	2.1	1942	4.26	1914	2.03	7776	0
Frontier	Lockport	03-21652	2061	16	1848	38.6	2.4	10.1	4374	2074	8538.21	2067	2.12	1950	4.14	1907	1.95	7772	0
Mohawk	Alder Creek	17-70152	1152	27	2042	102.8	3.8	11.2	1993	467	5080.9	1958	1.73	1835	4.41	1929	2.55	7764	1
Central	Bridgeport	11-16854	1364	20	1947	65.3	3.3	7.6	2955	691	5356.63	1967	2.17	1965	3.93	1881	1.81	7760	2
Capital	Lynn St	32-32055	1257	10	1601	22.3	2.2	5.3	4096	1258	7603.48	2044	3.26	2085	6.05	2021	1.86	7751	0
Central	West Cleveland	11-32651	1106	25	2030	112	4.5	15	1879	430	4974.44	1949	1.7	1828	4.5	1938	2.65	7745	3
Capital	North Troy	31-12351	1363	27	2042	80.6	3	6.7	2794	1375	4747.6	1939	2.05	1928	3.48	1834	1.7	7743	1
Mohawk	Chadwicks	17-66851	1884	28	2050	88.6	3.2	7.9	4319	1882	5078.18	1957	2.29	1991	2.7	1742	1.18	7740	0
Frontier	Lockport	03-21651	1349	13	1750	24.1	1.9	3.4	3342	1377	6269.47	2011	2.48	2016	4.65	1949	1.88	7726	0
Central	Starr Road	12-33454	2977	17	1876	51.9	3.1	9.4	6289	2990	9767.82	2083	2.11	1945	3.28	1810	1.55	7714	2

2024 HIGHEST NUMBER OF MOMENTARIES CIRCUIT LIST
(Circuits with 10 or more Momentaries)

Region	Station Name	Ckt/F No.	Circuit kV	# of MI's	Rank Within Region	Rank Within System	Reliability Ranking
Genesee	Geneseo Sta 55	05-5552	13.2	12	1	3	23
Northern	Sunday Creek	23-87651	13.2	13	1	2	85