



Ameren Missouri 20 CSR 4240-23.010 Electric Utility System Reliability Monitoring and Reporting Submission Requirements – Annual Reliability Report

Introduction

This report details Union Electric (dba Ameren Missouri) Company's annual reliability metrics and worst performing circuits for calendar year 2023 as required by Missouri Public Service Commission Rule 20 CSR 4240-23.010, Electric Utility System Reliability Monitoring and Reporting Submission Requirements (referred to in the remainder of this document as "the Rule"). This report is required by Sections (2), (7), and (8) of the Rule which state, *"The information required by section (1) shall be filed annually by the last business day of April of the calendar year following the calendar year for which the information was accumulated.... The information developed in accordance with section (6) shall be reported as part of the annual report required by section (2).... If on or after the time the annual report required by section (7) for calendar year 2011 is filled, a circuit has been on the worst performing circuit list for two (2) of the three (3) most recent consecutive calendar years the electrical corporation shall include detailed plans and schedules for improving the performance of that circuit in addition to the other information required by section (7)."* This report will provide the reliability measures requested by the Rule, the list of Worst Performing Circuits (WPCs), including Multi-Year Worst Performing Circuits (MWPCs), and the actions taken or planned to improve the performance of these circuits.

Definitions

For the purposes of this report, the following definitions shall apply:

1. System Average Interruption Frequency Index (SAIFI) – The average frequency of service interruptions in number of occurrences per customer (total number of customer interruptions divided by the total number of customers served).
2. Customer Average Interruption Frequency Index (CAIFI) – The average number of interruptions per customer interrupted (total number of customer interruptions divided by the total number of customers affected).
3. System Average Interruption Duration Index (SAIDI) – The average interruption in minutes per customer served (sum of all customer interruption durations divided by the total number of customers served).
4. Customer Average Interruption Duration Index (CAIDI) – The average interruption duration (sum of all customer interruption durations divided by the total number of customers interrupted).

5. Worst Performing Circuit (WPC) – A distribution circuit whose SAIFI value, adjusted to exclude major storm events per IEEE Standard 1366-2012, when compared to the SAIFI values for the other circuits in the Ameren Missouri system places it among the 5% of circuits with the highest SAIFI values in the Ameren Missouri system.
6. Multi-Year Worst Performing Circuit (MWPC) – A distribution circuit whose SAIFI value has ranked it as a Worst Performing Circuit for any two (2) of the three (3) most recent consecutive calendar years.

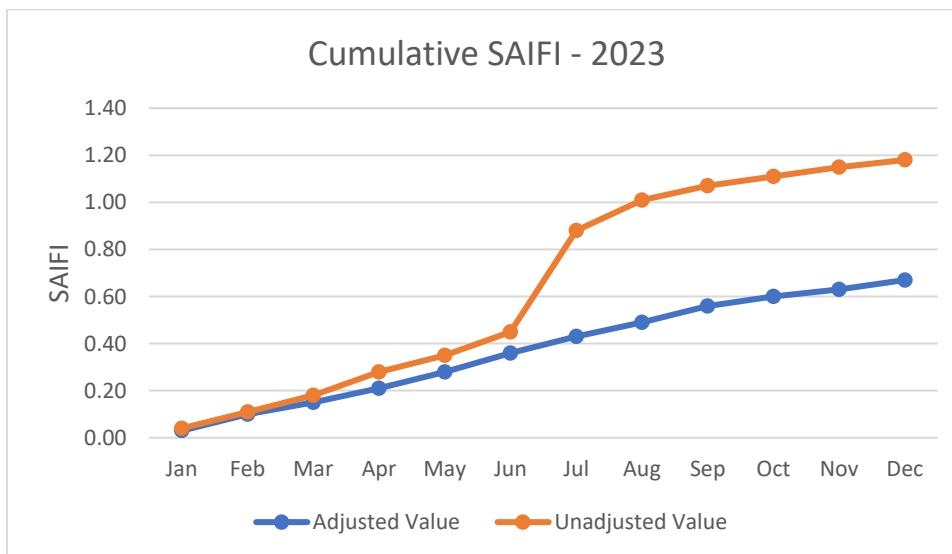


Reliability Metrics

20 CSR 4240-23.010, section 3 states “The information required by section (1) shall be filed both unadjusted and adjusted to exclude major storm events per IEEE Standard 1366-2012, Guide for Electric Power Distribution Reliability Indices.” The following tables and graphs show Ameren Missouri’s unadjusted and adjusted reliability metrics for calendar year 2023:

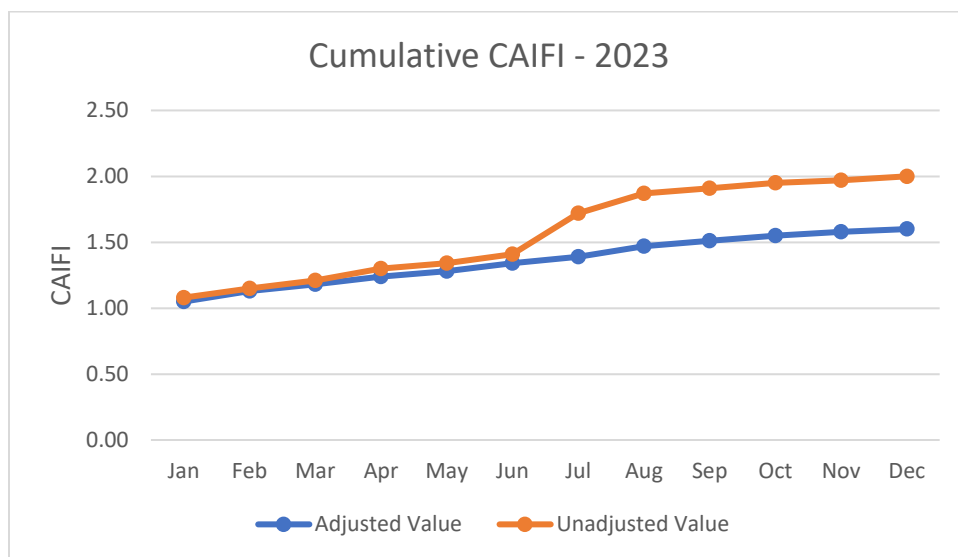
SAIFI:

MONTH	Adjusted Value	Unadjusted Value
Jan	0.03	0.04
Feb	0.10	0.11
Mar	0.15	0.18
Apr	0.21	0.28
May	0.28	0.35
Jun	0.36	0.45
Jul	0.43	0.88
Aug	0.49	1.01
Sep	0.56	1.07
Oct	0.60	1.11
Nov	0.63	1.15
Dec	0.67	1.18



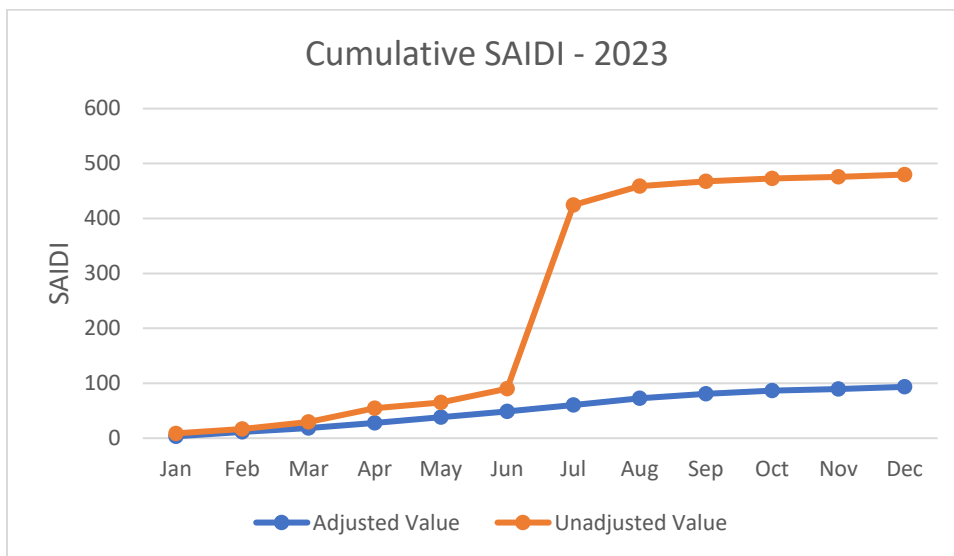
CAIFI:

MONTH	Adjusted Value	Unadjusted Value
Jan	1.05	1.08
Feb	1.13	1.15
Mar	1.18	1.21
Apr	1.24	1.30
May	1.28	1.34
Jun	1.34	1.41
Jul	1.39	1.72
Aug	1.47	1.87
Sep	1.51	1.91
Oct	1.55	1.95
Nov	1.58	1.97
Dec	1.60	2.00



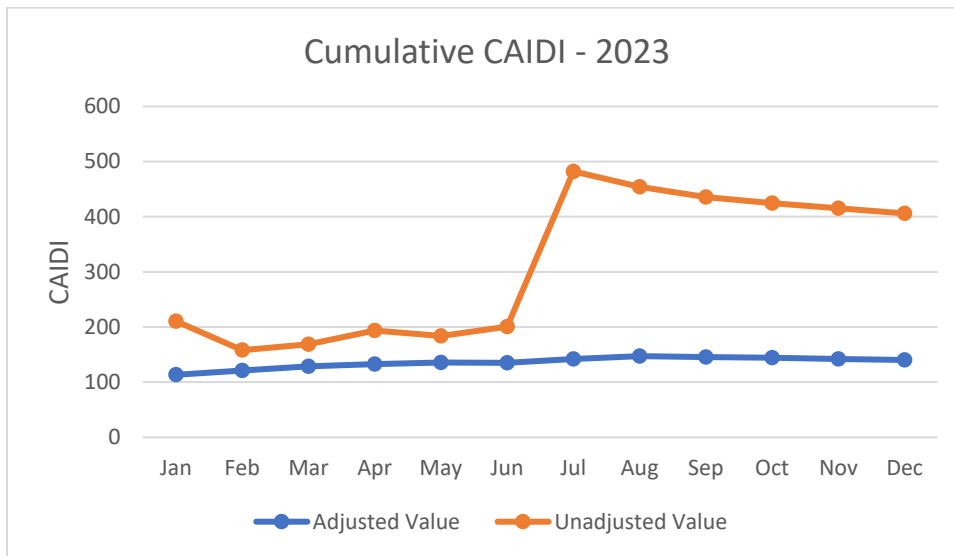
SAIDI:

MONTH	Adjusted Value	Unadjusted Value
Jan	3	9
Feb	12	17
Mar	19	30
Apr	28	55
May	38	65
Jun	49	90
Jul	60	425
Aug	73	459
Sep	81	467
Oct	86	473
Nov	89	476
Dec	93	480



CAIDI:

MONTH	Adjusted Value	Unadjusted Value
Jan	113	211
Feb	121	158
Mar	128	169
Apr	133	194
May	136	184
Jun	135	200
Jul	142	482
Aug	147	454
Sep	145	436
Oct	145	425
Nov	142	415
Dec	140	406





Ameren Missouri 2023 Worst Performing Circuits

Ameren Missouri has performed SAIFI calculations on all of its distribution circuits in accordance with section (6) of the Rule. The circuits have been ranked in order of descending SAIFI and the 5 percent of the circuits with the highest SAIFI values have been designated as Worst Performing Circuits (WPCs). Multi-Year Worst Performing Circuits (MWPCs) have also been identified. The 2023 WPCs, including those designated as MWPCs are listed in Appendix A.

Ameren Missouri has analyzed each of the WPCs for the reasons the circuit qualifies as a WPC and the actions planned or taken to improve the WPC's performance have been included in Appendix B. Each of the MWPCs in Appendix B is identified with the title "Single-Year or Multi-Year WPC Analysis and Remedial Action Report". The MWPC reports contain detailed information regarding work completed or planned to improve the performance of each of the MWPCs as required by the Rule.

Multi-Year Worst Performing Circuits not on the 2023 WPC list

The MWPCs circuits not identified as WPCs in 2023 but which were WPCs in 2021 and 2022 are listed in Appendix C. Appendix D details the actions taken and/or planned to improve the performance of these circuits.

Conclusion

This report satisfies the reporting requirements of 20 CSR 4240-23.010 for the calendar year 2023. The reported reliability metrics demonstrate continued improvement in the reliability of Ameren Missouri's electric distribution system. With an adjusted SAIFI value of 0.67, Ameren Missouri's customers experience, on average, less than one extended outage per year. The reported analyses and corrective actions for the Worst Performing Circuits also demonstrate Ameren Missouri's high level of focus on improving reliability and our full commitment to satisfying both the intent and the requirements of this rule.

APPENDIX A

Division	Operating Area	Circuit	Volt	Cust	CI	CMI	SAIDI	SAIFI	2021	2022	2023	Years WPC
ARCHVIEW	MACKENZIE	280051	12KV	31	153	58969	1902	4.94			WPC	1
ARCHVIEW	GERALDINE	160003	4KV	127	623	46403	365	4.91	WPC		WPC	2
NORTHEAST MO	WENTZVILLE	648051	12KV	721	2944	171863	238	4.08			WPC	1
ARCHVIEW	GERALDINE	029010	4KV	567	2199	151695	268	3.88		WPC	WPC	2
GATEWAY	BERKELEY	172008	4KV	558	2137	410820	736	3.83			WPC	1
NORTHEAST MO	LOUISIANA	629051	12KV	481	1763	283558	590	3.67			WPC	1
ARCHVIEW	GERALDINE	188008	4KV	3	10	3245	1082	3.33			WPC	1
ARCHVIEW	MACKENZIE	135001	4KV	716	2300	383569	536	3.21			WPC	1
SEMO	ST FRANCOIS	561052	12KV	27	86	55170	2043	3.19			WPC	1
GATEWAY	DORSETT	254054	12KV	1246	3968	601657	483	3.19			WPC	1
GATEWAY	BERKELEY	130005	4KV	371	1179	335330	904	3.18			WPC	1
NORTHEAST MO	LOUISIANA	795051	12KV	147	457	174235	1185	3.11			WPC	1
CENTRAL MO	JEFFERSON CITY	880052	12KV	534	1602	250031	468	3.00			WPC	1
SEMO	DEXTER	688007	4KV	204	610	84601	415	2.99			WPC	1
GATEWAY	DORSETT	235055	12KV	1125	3346	751647	668	2.97			WPC	1
CENTRAL MO	LAKESIDE	570051	12KV	1374	4033	1455949	1060	2.94		WPC	WPC	2
GATEWAY	BERKELEY	154006	4KV	556	1624	220274	396	2.92			WPC	1
GATEWAY	BERKELEY	119004	4KV	292	834	105873	363	2.86		WPC	WPC	2
MERAMEC VALLEY	JEFFERSON	536052	12KV	1117	3125	628332	563	2.80			WPC	1
CENTRAL MO	JEFFERSON CITY	856056	12KV	6	16	589	98	2.67			WPC	1
CENTRAL MO	JEFFERSON CITY	927051	12KV	29	77	28596	986	2.66			WPC	1
SEMO	ST FRANCOIS	563053	12KV	1690	4492	325217	192	2.66			WPC	1
ARCHVIEW	GERALDINE	294054	13.8KV	164	432	46904	286	2.63			WPC	1
GATEWAY	BERKELEY	260053	12KV	393	1023	144203	367	2.60		WPC	WPC	2
CENTRAL MO	LAKESIDE	199051	12KV	148	382	21703	147	2.58			WPC	1
ARCHVIEW	GERALDINE	108003	4KV	618	1564	372203	602	2.53			WPC	1
GATEWAY	BERKELEY	152001	4KV	792	1990	262260	331	2.51			WPC	1
ARCHVIEW	GERALDINE	160004	4KV	485	1216	337720	696	2.51			WPC	1
MERAMEC VALLEY	ELLISVILLE	169053	12KV	247	610	61705	250	2.47			WPC	1
SEMO	DEXTER	628053	12KV	996	2456	154395	155	2.47			WPC	1
CENTRAL MO	JEFFERSON CITY	957052	12KV	690	1691	272884	395	2.45			WPC	1
MERAMEC VALLEY	ELLISVILLE	115056	12KV	1044	2555	306526	294	2.45			WPC	1
SEMO	HAYTI	452053	12KV	305	746	102060	335	2.45			WPC	1
CENTRAL MO	LAKESIDE	216055	12KV	234	569	158123	676	2.43			WPC	1
GATEWAY	BERKELEY	131003	4KV	557	1344	607607	1091	2.41			WPC	1
GATEWAY	BERKELEY	156009	4KV	505	1193	151366	300	2.36			WPC	1
MERAMEC VALLEY	JEFFERSON	211056	12KV	1130	2648	232894	206	2.34			WPC	1
NORTHEAST MO	KIRKSVILLE	890051	13.8KV	1314	3028	106693	81	2.30			WPC	1

Division	Operating Area	Circuit	Volt	Cust	CI	CMI	SAIDI	SAIFI	2021	2022	2023	Years WPC
GATEWAY	DORSETT	267056	12KV	605	1388	230657	381	2.29			WPC	1
NORTHEAST MO	WENTZVILLE	641056	12KV	2021	4624	345610	171	2.29			WPC	1
SEMO	ST FRANCOIS	557052	12KV	2100	4743	400473	191	2.26			WPC	1
NORTHEAST MO	KIRKSVILLE	781001	4KV	186	418	240766	1294	2.25			WPC	1
CENTRAL MO	MOBERLY	939051	12KV	227	511	56540	249	2.25			WPC	1
NORTHEAST MO	BROOKFIELD	860053	12KV	237	531	89976	380	2.24			WPC	1
GATEWAY	DORSETT	139005	4KV	525	1177	623425	1187	2.24			WPC	1
CENTRAL MO	LAKESIDE	149051	12KV	352	780	49426	140	2.22			WPC	1
MERAMEC VALLEY	JEFFERSON	195057	12KV	1051	2327	478619	455	2.21			WPC	1
MERAMEC VALLEY	FRANKLIN	556053	12KV	723	1598	287538	398	2.21			WPC	1
MERAMEC VALLEY	ELLISVILLE	295056	12KV	597	1314	61386	103	2.20			WPC	1
ARCHVIEW	GERALDINE	208004	4KV	693	1491	238058	344	2.15			WPC	1
MERAMEC VALLEY	ELLISVILLE	282056	12KV	639	1375	107433	168	2.15			WPC	1
NORTHEAST MO	WENTZVILLE	665054	12KV	838	1797	134587	161	2.14			WPC	1
CENTRAL MO	ELDON	676051	12KV	1001	2128	309192	309	2.13			WPC	1
ARCHVIEW	GERALDINE	086011	4KV	392	827	252799	645	2.11			WPC	1
GATEWAY	BERKELEY	260056	12KV	221	464	76018	344	2.10			WPC	1
NORTHEAST MO	WENTZVILLE	636054	12KV	1422	2986	134014	94	2.10			WPC	1
GATEWAY	DORSETT	203056	12KV	649	1362	36829	57	2.10			WPC	1
SEMO	ST FRANCOIS	563052	12KV	1050	2199	327844	312	2.09			WPC	1
CENTRAL MO	LAKESIDE	569057	12KV	685	1423	210040	307	2.08			WPC	1
MERAMEC VALLEY	FRANKLIN	556052	12KV	93	192	16320	175	2.07			WPC	1
SEMO	DEXTER	817051	12KV	80	165	54285	679	2.06		WPC	WPC	2
CENTRAL MO	JEFFERSON CITY	989055	12KV	1378	2829	500190	363	2.05			WPC	1
GATEWAY	BERKELEY	163008	4KV	97	199	32597	336	2.05			WPC	1
SEMO	ST FRANCOIS	118054	12KV	641	1310	73718	115	2.04			WPC	1
SEMO	ST FRANCOIS	571051	12KV	345	704	51373	149	2.04			WPC	1
ARCHVIEW	GERALDINE	174018	4KV	1012	2066	268496	265	2.04			WPC	1
ARCHVIEW	GERALDINE	026008	4KV	745	1512	127164	171	2.03			WPC	1
GATEWAY	BERKELEY	227010	4KV	171	347	31564	185	2.03			WPC	1
NORTHEAST MO	WENTZVILLE	648054	12KV	1511	3074	224852	149	2.03			WPC	1
SEMO	CAPE GIRARDEAU	635002	4KV	58	118	7789	134	2.03			WPC	1
SEMO	CAPE GIRARDEAU	828051	12KV	519	1050	126547	244	2.02			WPC	1
SEMO	CAPE GIRARDEAU	828053	12KV	182	367	32566	179	2.02			WPC	1
CENTRAL MO	MEXICO	800001	2.4KV DELTA	90	181	19979	222	2.01	WPC		WPC	2
MERAMEC VALLEY	ELLISVILLE	169054	12KV	1122	2246	219569	196	2.00			WPC	1
ARCHVIEW	GERALDINE	121008	4KV	1	2	480	480	2.00			WPC	1
GATEWAY	BERKELEY	201002	4KV	8	16	4511	564	2.00		WPC	WPC	2
MERAMEC VALLEY	FRANKLIN	192001	4KV	1	2	447	447	2.00			WPC	1

Division	Operating Area	Circuit	Volt	Cust	CI	CMI	SAIDI	SAIFI	2021	2022	2023	Years WPC
GATEWAY	BERKELEY	210056	12KV	282	560	51646	183	1.99			WPC	1
SEMO	DEXTER	622054	12KV	371	739	106227	286	1.99			WPC	1
MERAMEC VALLEY	ELLISVILLE	115052	12KV	1720	3430	367130	213	1.99		WPC	WPC	2
ARCHVIEW	GERALDINE	164006	4KV	442	875	112583	255	1.98			WPC	1
NORTHEAST MO	KIRKSVILLE	852051	13.8KV	186	368	30885	166	1.98			WPC	1
ARCHVIEW	MACKENZIE	024006	4KV	366	724	107776	294	1.98			WPC	1
ARCHVIEW	GERALDINE	026005	4KV	58	114	9377	162	1.97			WPC	1
GATEWAY	BERKELEY	272052	12KV	749	1474	250848	335	1.97	WPC		WPC	2
SEMO	DEXTER	685053	12KV	485	946	150846	311	1.95			WPC	1
GATEWAY	DORSETT	258051	12KV	491	953	153473	313	1.94			WPC	1
GATEWAY	DORSETT	254059	12KV	2037	3935	144493	71	1.93			WPC	1
GATEWAY	ST CHARLES	542053	12KV	830	1591	155432	187	1.92			WPC	1
ARCHVIEW	GERALDINE	285054	13.8KV	342	657	55448	162	1.92			WPC	1
NORTHEAST MO	LOUISIANA	672053	12KV	296	566	67332	227	1.91		WPC	WPC	2
ARCHVIEW	GERALDINE	208001	4KV	712	1351	238667	335	1.90			WPC	1
MERAMEC VALLEY	JEFFERSON	207053	12KV	832	1577	173959	209	1.90			WPC	1
ARCHVIEW	MACKENZIE	212011	4KV	770	1454	143462	186	1.89			WPC	1
ARCHVIEW	MACKENZIE	194054	12KV	1544	2892	631223	409	1.87			WPC	1
CENTRAL MO	LAKESIDE	175051	12KV	436	816	76113	175	1.87			WPC	1
GATEWAY	DORSETT	256059	12KV	1306	2403	264210	202	1.84			WPC	1
MERAMEC VALLEY	ELLISVILLE	230055	12KV	83	153	27115	327	1.84			WPC	1
GATEWAY	BERKELEY	156006	4KV	702	1282	175597	250	1.83			WPC	1
ARCHVIEW	MACKENZIE	280055	12KV	1390	2540	275425	198	1.83		WPC	WPC	2
GATEWAY	DORSETT	284053	12KV	1399	2543	347471	248	1.82			WPC	1
GATEWAY	BERKELEY	215055	12KV	1935	3456	347026	179	1.79			WPC	1
CENTRAL MO	JEFFERSON CITY	831051	12KV	857	1523	136946	160	1.78			WPC	1
MERAMEC VALLEY	ELLISVILLE	169051	12KV	1782	3157	254602	143	1.77			WPC	1
ARCHVIEW	GERALDINE	108006	4KV	564	992	311239	552	1.76			WPC	1
MERAMEC VALLEY	FRANKLIN	512054	12KV	599	1050	158374	264	1.75			WPC	1
MERAMEC VALLEY	FRANKLIN	503055	12KV	1258	2185	176809	141	1.74			WPC	1
ARCHVIEW	GERALDINE	238003	4KV	848	1465	305154	360	1.73			WPC	1
GATEWAY	BERKELEY	140004	4KV	255	441	33181	130	1.73			WPC	1
ARCHVIEW	MACKENZIE	228053	12KV	164	278	77312	471	1.70		WPC	WPC	2
CENTRAL MO	MEXICO	953052	12KV	264	445	82164	311	1.69			WPC	1
CENTRAL MO	JEFFERSON CITY	856055	12KV	576	973	88956	154	1.69			WPC	1
ARCHVIEW	GERALDINE	188001	4KV	350	590	87158	249	1.69			WPC	1
MERAMEC VALLEY	ELLISVILLE	165055	12KV	1164	1954	286412	246	1.68			WPC	1
MERAMEC VALLEY	JEFFERSON	536051	12KV	2935	4943	379741	129	1.68			WPC	1
ARCHVIEW	MACKENZIE	271054	12KV	1460	2437	249259	171	1.67			WPC	1



Division	Operating Area	Circuit	Volt	Cust	CI	CMI	SAIDI	SAIFI	2021	2022	2023	Years WPC
SEMO	ST FRANCOIS	118051	12KV	1270	2116	337876	266	1.67			WPC	1

APPENDIX B

Single Year WPC Analysis and Remedial Action Report

Circuit Number: 024006
Division: ARCHVIEW
ZIP Codes(s) Served: 63111
Customers Served: 366
Customer Interruptions (CI): 724
SAIFI Value: 1.98
SAIDI Value: 294

Outage Analysis

Causes	2023 Total CI	2023 % of Total CI	2023 # Incidents
EQUIPMENT/OH	353	48.76%	1
PUBLIC	352	48.62%	1
UNKNOWN	19	2.62%	2

Corrective actions taken or planned are noted below. These actions were developed through any combination of engineering reviews, circuit patrols, circuit inspections, and trimming. Circuit inspections and trimming are conducted on an appropriate cycle per rules 20 CSR 4240-23.020 and 20 CSR 4240.23-030 respectively.

Corrective Actions

Two outages are responsible for 97% of the customer interruptions on 024006 in 2023. One issue was caused by a garage fire resulting in primary coming down, which was repaired on work order KA40691. The second issue was due to a public vehicle hitting a pole which was repaired on work order KA47429. An underground detailed inspection and an overhead visual inspection is planned for 2024. Any repair work identified as a result of these inspections will be completed in accordance with Ameren Missouri's infrastructure inspection policy. A mid-cycle tree trim patrol is planned for 2024. There are no recurring problems identified on the circuit and no further work is required at this time.

APPENDIX B

Single Year WPC Analysis and Remedial Action Report

Circuit Number: 026005
Division: ARCHVIEW
ZIP Codes(s) Served: 63102
Customers Served: 58
Customer Interruptions (CI): 114
SAIFI Value: 1.97
SAIDI Value: 162

Outage Analysis

Causes	2023 Total CI	2023 % of Total CI	2023 # Incidents
EQUIPMENT/UG	114	100.00%	2

Corrective actions taken or planned are noted below. These actions were developed through any combination of engineering reviews, circuit patrols, circuit inspections, and trimming. Circuit inspections and trimming are conducted on an appropriate cycle per rules 20 CSR 4240-23.020 and 20 CSR 4240.23-030 respectively.

Corrective Actions

Two incidents caused 100% of the customer interruptions on this circuit in 2023. First incident was due to a fault on underground feeder exit cable causing outage to all customers served from this circuit. Underground cable was replaced on OAS #: 230312419 with standard cable. The second incident was due to equipment (transformer) tripping. The secondary breaker tripped causing outage to customers. The breaker was repaired on OAS #: 212071898. A full-cycle tree trim was completed in 2022. A mid-cycle patrol is planned for 2025, and the next full-cycle tree trim is planned for 2028. No further action is needed at this time.

APPENDIX B

Single Year WPC Analysis and Remedial Action Report

Circuit Number: 026008
Division: ARCHVIEW
ZIP Codes(s) Served: 63106, 63107, 63102
Customers Served: 745
Customer Interruptions (CI): 1,512
SAIFI Value: 2.03
SAIDI Value: 171

Outage Analysis

Causes	2023 Total CI	2023 % of Total CI	2023 # Incidents
EQUIPMENT/OH	1,450	95.90%	15
PUBLIC	35	2.31%	3
TREE	24	1.59%	4
OTHER	1	0.07%	1
UNKNOWN	2	0.13%	2

Corrective actions taken or planned are noted below. These actions were developed through any combination of engineering reviews, circuit patrols, circuit inspections, and trimming. Circuit inspections and trimming are conducted on an appropriate cycle per rules 20 CSR 4240-23.020 and 20 CSR 4240.23-030 respectively.

Corrective Actions

Two events account for 94% of the customer interruptions on this circuit in 2023. The first event was due to a span of primary (#6CU) broken between pole 11101 & 11102. Primary was repaired on OAS #: 230150389 to restore power to customers. No further action is needed at this time. The second incident was due to a broken crossarm on pole 2515293 which caused two phase (B & C) to lay on A phase and resulted in an outage to customers. Equipment was repaired on OAS #: 233602217. No further action is needed at this time. Full cycle tree trim was completed in 2022. Mid-cycle patrol is planned for 2024, and the next full-cycle tree trim is planned for 2026.

APPENDIX B

Single Year WPC Analysis and Remedial Action Report

Circuit Number: 086011
Division: ARCHVIEW
ZIP Codes(s) Served: 63101, 63106
Customers Served: 392
Customer Interruptions (CI): 827
SAIFI Value: 2.11
SAIDI Value: 645

Outage Analysis

Causes	2023 Total CI	2023 % of Total CI	2023 # Incidents
EQUIPMENT/UG	796	96.25%	3
UNKNOWN	31	3.75%	1

Corrective actions taken or planned are noted below. These actions were developed through any combination of engineering reviews, circuit patrols, circuit inspections, and trimming. Circuit inspections and trimming are conducted on an appropriate cycle per rules 20 CSR 4240-23.020 and 20 CSR 4240.23-030 respectively.

Corrective Actions

One event contributed to 47.3% of customer interruption on this circuit in 2023 due to underground equipment malfunction during a storm. Equipment was repaired under KA38296. The second event contributed to 47.4% of customer interruption due to a circuit overload which caused a substation breaker to trip. Switching happened to take load off the circuit on OAS #: 232171319. No further action is needed at this time. Full cycle tree trim was completed in 2022. Mid-cycle patrol is planned for 2024 and next full cycle tree trim is planned for 2026.



APPENDIX B

Single Year WPC Analysis and Remedial Action Report

Circuit Number: 108003
Division: ARCHVIEW
ZIP Codes(s) Served: 63137, 63133
Customers Served: 618
Customer Interruptions (CI): 1,564
SAIFI Value: 2.53
SAIDI Value: 602

Outage Analysis

Causes	2023 Total CI	2023 % of Total CI	2023 # Incidents
EQUIPMENT/OH	278	17.77%	8
TREE	1,285	82.16%	15
UNKNOWN	1	0.06%	1

Corrective actions taken or planned are noted below. These actions were developed through any combination of engineering reviews, circuit patrols, circuit inspections, and trimming. Circuit inspections and trimming are conducted on an appropriate cycle per rules 20 CSR 4240-23.020 and 20 CSR 4240.23-030 respectively.

Corrective Actions

Four of the top five incidents in terms of customer interruptions were due to trees on 108003 in 2023. These incidents accounted for over 82% of the total customer interruptions. These tree-related incidents were during storms that took down several spans of primary. An overhead visual inspection was completed in 2023. Any repair work identified as a result of the inspection will be completed in accordance with Ameren Missouri's infrastructure inspection policy. A mid-cycle tree patrol was complete in 2022, and the next full cycle tree trim is planned for 2024. No further action required at this time.

APPENDIX B

Single Year WPC Analysis and Remedial Action Report

Circuit Number: 108006
Division: ARCHVIEW
ZIP Codes(s) Served: 63137, 63135
Customers Served: 564
Customer Interruptions (CI): 992
SAIFI Value: 1.76
SAIDI Value: 552

Outage Analysis

Causes	2023 Total CI	2023 % of Total CI	2023 # Incidents
EQUIPMENT/OH	603	60.79%	10
LIGHTNING	30	3.02%	2
EQUIPMENT/UG	1	0.10%	1
TREE	339	34.17%	16
UNKNOWN	19	1.92%	4

Corrective actions taken or planned are noted below. These actions were developed through any combination of engineering reviews, circuit patrols, circuit inspections, and trimming. Circuit inspections and trimming are conducted on an appropriate cycle per rules 20 CSR 4240-23.020 and 20 CSR 4240.23-030 respectively.

Corrective Actions

Multiple incidents caused 78% of the customer interruptions on this circuit in 2023. The first incident was caused by a broken alley that was repaired on OAS #: 231690858. The second incident was caused by damaged primary (2 phases) down on pole #: 154982. Repairs were completed on OAS #: 230911294. The third incident was caused by a tree falling onto the primary which caused fuse U19771 to blow. Tree was removed from primary, and all repairs were completed on OAS #: 232470761. No further action is needed at this time. Full cycle tree trim was completed in 2019. Mid-cycle patrol was completed in 2020, and the next full cycle tree trim is planned for 2024.

APPENDIX B

Single Year WPC Analysis and Remedial Action Report

Circuit Number: 115056
Division: MERAMEC VALLEY
ZIP Codes(s) Served: 63017, 63131, 63011, 63141, 63104
Customers Served: 1,044
Customer Interruptions (CI): 2,555
SAIFI Value: 2.45
SAIDI Value: 294

Outage Analysis

Causes	2023 Total CI	2023 % of Total CI	2023 # Incidents
EQUIPMENT/OH	44	1.72%	3
LIGHTNING	261	10.22%	2
PUBLIC	1,073	42.00%	2
EQUIPMENT/UG	1,081	42.31%	7
TREE	84	3.29%	6
ANIMAL	11	0.43%	5
UNKNOWN	1	0.04%	1

Corrective actions taken or planned are noted below. These actions were developed through any combination of engineering reviews, circuit patrols, circuit inspections, and trimming. Circuit inspections and trimming are conducted on an appropriate cycle per rules 20 CSR 4240-23.020 and 20 CSR 4240.23-030 respectively.

Corrective Actions

Two incidents account for 80% of customer interruptions in 2023. One incident was due to an underground equipment malfunction located near Baxter Road and Wildwood Parkway. The second incident was due to a public vehicle accident that damaged a utility pole located along Clayton Road near Old Woods Mill Road. Repairs to the pole and overhead facilities were completed under Maximo work order KA79584. The remaining customer interruptions on the circuit in 2023 were due to device outages and transformer outages caused by equipment malfunctions, lighting, and tree contacts. Division Engineering plans to install three 12kV intellirupter switches located along Clayton Rd to better sectionalize the circuit and enhance reliability. An overhead groundline inspection and an underground detail inspection were completed in 2022. Any repair work identified as a result of these circuit inspections will be completed in accordance with Ameren Missouri's infrastructure inspection policy. A full-cycle tree trimming was completed in 2021. A mid-cycle patrol is planned for 2024.

APPENDIX B

Single Year WPC Analysis and Remedial Action Report

Circuit Number: 118051
Division: SEMO
ZIP Codes(s) Served: 63601, 63628, 63640
Customers Served: 1,270
Customer Interruptions (CI): 2,116
SAIFI Value: 1.67
SAIDI Value: 266

Outage Analysis

Causes	2023 Total CI	2023 % of Total CI	2023 # Incidents
EQUIPMENT/OH	666	31.47%	19
LIGHTNING	3	0.14%	3
PUBLIC	1,271	60.07%	5
TREE	163	7.70%	9
EMPLOYEES	1	0.05%	1
ANIMAL	1	0.05%	1
OTHER	4	0.19%	4
UNKNOWN	7	0.33%	3

Corrective actions taken or planned are noted below. These actions were developed through any combination of engineering reviews, circuit patrols, circuit inspections, and trimming. Circuit inspections and trimming are conducted on an appropriate cycle per rules 20 CSR 4240-23.020 and 20 CSR 4240.23-030 respectively.

Corrective Actions

Around 59% of the customer interruptions in 2023 were due to multiple public vehicle incidents. After each occurrence, repairs and improvements were made at each location to both repair the problem and to also mitigate a future event in that location. Three new intellirupters will be installed throughout the circuit in 2024 including two at circuit midpoint locations and one at a location that ties with another circuit that will provide automated switching and sectionalizing capabilities to eliminate or reduce the number of customers out during an outage event in the future. An underground detail CDIS inspection is also planned for 2024 and any identified repairs will be completed in accordance with Ameren Missouri's infrastructure inspection policy. A full-cycle tree trim is planned for 2025.

APPENDIX B

Single Year WPC Analysis and Remedial Action Report

Circuit Number: 118054
Division: SEMO
ZIP Codes(s) Served: 63601
Customers Served: 641
Customer Interruptions (CI): 1,310
SAIFI Value: 2.04
SAIDI Value: 115

Outage Analysis

Causes	2023 Total CI	2023 % of Total CI	2023 # Incidents
EQUIPMENT/OH	659	50.31%	6
LIGHTNING	633	48.32%	1
TREE	9	0.69%	2
ANIMAL	6	0.46%	1
OTHER	2	0.15%	2
UNKNOWN	1	0.08%	1

Corrective actions taken or planned are noted below. These actions were developed through any combination of engineering reviews, circuit patrols, circuit inspections, and trimming. Circuit inspections and trimming are conducted on an appropriate cycle per rules 20 CSR 4240-23.020 and 20 CSR 4240.23-030 respectively.

Corrective Actions

It is likely that 96% of the customer interruptions in 2023 were due to a single event caused by storms; a lightning struck and damaged a transformer. Repairs and additional lightning protection improvements were completed after the event to minimize the chance of a repeat issue. Two new intellirupters will be installed on the circuit in 2024 including one at the circuit midpoint and one at a location that ties with another circuit that will provide automated switching and sectionalizing capabilities to eliminate or reduce the number of customers out during an outage event in the future. An underground visual CDIS inspection was completed in 2023 and all identified repairs will be completed in 2024 in accordance with Ameren Missouri's infrastructure inspection policy. A mid cycle tree patrol and trimming is planned to be completed in 2024.

APPENDIX B

Single Year WPC Analysis and Remedial Action Report

Circuit Number: 121008
Division: ARCHVIEW
ZIP Codes(s) Served: 63117
Customers Served: 1
Customer Interruptions (CI): 2
SAIFI Value: 2.00
SAIDI Value: 480

Outage Analysis

Causes	2023 Total CI	2023 % of Total CI	2023 # Incidents
EQUIPMENT/UG	1	50.00%	1
OTHER	1	50.00%	1

Corrective actions taken or planned are noted below. These actions were developed through any combination of engineering reviews, circuit patrols, circuit inspections, and trimming. Circuit inspections and trimming are conducted on an appropriate cycle per rules 20 CSR 4240-23.020 and 20 CSR 4240.23-030 respectively.

Corrective Actions

One event accounts for 100% of the customer interruptions on this circuit in 2023. The outage was caused from a failed switch in a padmounted switchgear. A planned transformer replacement was being done on a rusted padmount transformer when the tie switch in the padmount switchgear serving the rusted padmount transformer failed. The tie switch was opened and the customer was restored from the preferred circuit. Work order KA89253 was created to replace the failed switchgear with a new automated switchgear and replace the rusted transformer as intended. That work is planned to be completed by the end of Q2 2024. No further action is recommend beyond the work being done on KA89253.

APPENDIX B

Single Year WPC Analysis and Remedial Action Report

Circuit Number: 130005
Division: GATEWAY
ZIP Codes(s) Served: 63121, 63112, 63114
Customers Served: 371
Customer Interruptions (CI): 1,179
SAIFI Value: 3.18
SAIDI Value: 904

Outage Analysis

Causes	2023 Total CI	2023 % of Total CI	2023 # Incidents
EQUIPMENT/OH	727	61.66%	5
TREE	452	38.34%	11

Corrective actions taken or planned are noted below. These actions were developed through any combination of engineering reviews, circuit patrols, circuit inspections, and trimming. Circuit inspections and trimming are conducted on an appropriate cycle per rules 20 CSR 4240-23.020 and 20 CSR 4240.23-030 respectively.

Corrective Actions

In 2023, 30.3% of customer interruptions occurred as a result of a pole being damaged on 04/01/2023. The pole was replaced on OAS #230911224. The other 31.3% of customer interruptions due to equipment were not actually due to equipment. Upon further investigation on 08/02/2023 a tree branch on primary caused the other 31.3% of interruptions. The branch was removed on OAS #232142894. 38% of customer interruption were caused by tree related issues. A mid-cycle patrol took place in 2022. A full-cycle tree trim is planned for 2024. Overhead visual and underground detailed inspections were completed in 2021. Any repair work identified as a result of these inspections will be completed in accordance with Ameren Missouri's infrastructure inspection policy. There are no additional recurring problems identified on the circuit and no further work is required at this time.

APPENDIX B

Single Year WPC Analysis and Remedial Action Report

Circuit Number: 131003
Division: GATEWAY
ZIP Codes(s) Served: 63111, 63135
Customers Served: 557
Customer Interruptions (CI): 1,344
SAIFI Value: 2.41
SAIDI Value: 1091

Outage Analysis

Causes	2023 Total CI	2023 % of Total CI	2023 # Incidents
EQUIPMENT/OH	57	4.24%	6
LIGHTNING	95	7.07%	3
PUBLIC	15	1.12%	2
EQUIPMENT/UG	552	41.07%	1
TREE	625	46.50%	8

Corrective actions taken or planned are noted below. These actions were developed through any combination of engineering reviews, circuit patrols, circuit inspections, and trimming. Circuit inspections and trimming are conducted on an appropriate cycle per rules 20 CSR 4240-23.020 and 20 CSR 4240.23-030 respectively.

Corrective Actions

In 2023, 41% of customer interruptions occurred as a result of an underground cable malfunction at the substation on 8/05/2023. Repairs were made to the underground cable on OAS #232170954. 47% of customer interruption were caused by tree related issues. A mid-cycle patrol took place in 2022. A full-cycle tree trim is planned for 2024. An overhead visual inspection was completed in 2021. Any repair work identified as a result of the inspection will be completed in accordance with Ameren Missouri's infrastructure inspection policy. There are no additional recurring problems identified on the circuit and no further work is required at this time.

APPENDIX B

Single Year WPC Analysis and Remedial Action Report

Circuit Number: 135001
Division: ARCHVIEW
ZIP Codes(s) Served: 63109, 63111
Customers Served: 716
Customer Interruptions (CI): 2,300
SAIFI Value: 3.21
SAIDI Value: 536

Outage Analysis

Causes	2023 Total CI	2023 % of Total CI	2023 # Incidents
EQUIPMENT/OH	16	0.70%	1
TREE	854	37.13%	2
ANIMAL	714	31.04%	1
OTHER	716	31.13%	1

Corrective actions taken or planned are noted below. These actions were developed through any combination of engineering reviews, circuit patrols, circuit inspections, and trimming. Circuit inspections and trimming are conducted on an appropriate cycle per rules 20 CSR 4240-23.020 and 20 CSR 4240.23-030 respectively.

Corrective Actions

Three incidents account for 93% of the customer interruptions on 135001 in 2023. A tree took down primary in the alley south of Neosho and east of Hampton causing a circuit outage. Repairs were made on KA47862. Another incident occurred when there was a primary cable fault on DIP-HAMPTON-2 caused a circuit outage. Repairs were made on KA56629. The third incident was due to a squirrel that chewed through DIP-HAMPTON-4's cable at the terminal on the north end of the dip (D3779) and caused a circuit outage. Repairs were made on KA79607. Because there have been recurring feeder exit cable and dip failures on 135001 and the other Hampton (135) circuits, the Hampton substation was recommended to be added to the Smart Energy Program that replaces old feeder exit cable. The last underground and overhead CDIS inspections were completed in 2021. The next inspections are planned for 2025. Any repair work identified as a result of these inspections will be completed in accordance with Ameren Missouri's infrastructure inspection policy. A full-cycle tree trim was completed in 2023 and a mid-cycle patrol is planned for 2025.

APPENDIX B

Single Year WPC Analysis and Remedial Action Report

Circuit Number: 139005
Division: GATEWAY
ZIP Codes(s) Served: 63144, 63124
Customers Served: 525
Customer Interruptions (CI): 1,177
SAIFI Value: 2.24
SAIDI Value: 1187

Outage Analysis

Causes	2023 Total CI	2023 % of Total CI	2023 # Incidents
EQUIPMENT/OH	102	8.67%	2
LIGHTNING	24	2.04%	1
TREE	1,047	88.95%	3
OTHER	1	0.08%	1
UNKNOWN	3	0.25%	1

Corrective actions taken or planned are noted below. These actions were developed through any combination of engineering reviews, circuit patrols, circuit inspections, and trimming. Circuit inspections and trimming are conducted on an appropriate cycle per rules 20 CSR 4240-23.020 and 20 CSR 4240.23-030 respectively.

Corrective Actions

Two incidents account for 84.1% of the total customer interruptions. Incident from OA#231690916 was from a tree branch falling on primary overhead wire causing 514 or 43.7% of customer interruptions on the circuit. Repairs were made to the overhead wire to restore power on the circuit. Incident from OA#231821106 was from a tree falling on primary overhead wire causing 476 or 40.4% of customer interruptions on the circuit. Repairs were made to the overhead wire and power was restored. Part of the circuit is planned to be switched over to a connecting circuit that is going to be upgraded from 4KV to 12KV. Also, two intelliruptors are being added to the circuit in 2024. The KA job numbers have not been made yet. In 2020, an underground visual CDIS inspection was completed. In 2023 a groundline CDIS inspection was completed and underground detail CDIS inspection is planned for 2024. Any repair work identified as a result of these inspections will be completed in accordance with Ameren Missouri's infrastructure inspection policy. A mid-cycle tree trim patrol was completed in 2021. A fully-cycle tree trim was completed in 2023. The next mid-cycle patrol is planned for 2025, and a full-cycle tree trim is planned for 2027. There are no reoccurring problems identified on the circuit and no further work is required at this time.



APPENDIX B

Single Year WPC Analysis and Remedial Action Report

Circuit Number: 140004
Division: GATEWAY
ZIP Codes(s) Served: 63132, 63124, 63141
Customers Served: 255
Customer Interruptions (CI): 441
SAIFI Value: 1.73
SAIDI Value: 130

Outage Analysis

Causes	2023 Total CI	2023 % of Total CI	2023 # Incidents
EQUIPMENT/OH	48	10.88%	6
TREE	393	89.12%	4

Corrective actions taken or planned are noted below. These actions were developed through any combination of engineering reviews, circuit patrols, circuit inspections, and trimming. Circuit inspections and trimming are conducted on an appropriate cycle per rules 20 CSR 4240-23.020 and 20 CSR 4240.23-030 respectively.

Corrective Actions

In 2023, 89.1% of customer interruptions were caused by tree related issues. 87.7% of interruptions occurred on 2/27/2023 as a result of a broken tree. Repairs were made on OAS #230583358. A full-cycle tree trim is planned for 2024. There are no additional recurring problems identified on the circuit and no further work is required at this time.



APPENDIX B

Single Year WPC Analysis and Remedial Action Report

Circuit Number: 149051
Division: CENTRAL MO
ZIP Codes(s) Served: 65049
Customers Served: 352
Customer Interruptions (CI): 780
SAIFI Value: 2.22
SAIDI Value: 140

Outage Analysis

Causes	2023 Total CI	2023 % of Total CI	2023 # Incidents
EQUIPMENT/OH	353	45.26%	2
TREE	351	45.00%	1
ANIMAL	75	9.62%	1
OTHER	1	0.13%	1

Corrective actions taken or planned are noted below. These actions were developed through any combination of engineering reviews, circuit patrols, circuit inspections, and trimming. Circuit inspections and trimming are conducted on an appropriate cycle per rules 20 CSR 4240-23.020 and 20 CSR 4240.23-030 respectively.

Corrective Actions

One incident accounted for 45% of customer interruptions on 149051 when there was a loss of sub transmission supply due to a broken tree during July storms. The other incident that accounted for 45% of customer interruptions was due to an overhead malfunction. No additional work is planned as this circuits substation was only necessary until the new Four Seasons substation replaced it in Winter 2023. This substation will be decommissioned in 2024.



APPENDIX B

Single Year WPC Analysis and Remedial Action Report

Circuit Number: 152001
Division: GATEWAY
ZIP Codes(s) Served: 63114, 65052
Customers Served: 792
Customer Interruptions (CI): 1,990
SAIFI Value: 2.51
SAIDI Value: 331

Outage Analysis

Causes	2023 Total CI	2023 % of Total CI	2023 # Incidents
EQUIPMENT/OH	384	19.30%	9
LIGHTNING	1	0.05%	1
PUBLIC	1,585	79.65%	3
TREE	20	1.01%	9

Corrective actions taken or planned are noted below. These actions were developed through any combination of engineering reviews, circuit patrols, circuit inspections, and trimming. Circuit inspections and trimming are conducted on an appropriate cycle per rules 20 CSR 4240-23.020 and 20 CSR 4240.23-030 respectively.

Corrective Actions

In 2023, 79.6% of customer interruptions were caused by public incidents. 39.7% of all interruptions occurred on 8/13/2023 when a public vehicle hit and broke a pole. Two poles were replaced at the time of the incident on OAS# 232250029. An overhead visual inspection was completed in 2023. Any repair work identified as a result of the inspection will be completed in accordance with Ameren Missouri's infrastructure inspection policy. A mid-cycle tree patrol is planned for 2024. There are no additional recurring problems identified on the circuit and no further work is required at this time.

APPENDIX B

Single Year WPC Analysis and Remedial Action Report

Circuit Number: 154006
Division: GATEWAY
ZIP Codes(s) Served: 63135, 63031, 63131
Customers Served: 556
Customer Interruptions (CI): 1,624
SAIFI Value: 2.92
SAIDI Value: 396

Outage Analysis

Causes	2023 Total CI	2023 % of Total CI	2023 # Incidents
EQUIPMENT/OH	235	14.47%	5
PUBLIC	556	34.24%	1
EQUIPMENT/UG	548	33.74%	1
TREE	282	17.36%	9
ANIMAL	3	0.18%	1

Corrective actions taken or planned are noted below. These actions were developed through any combination of engineering reviews, circuit patrols, circuit inspections, and trimming. Circuit inspections and trimming are conducted on an appropriate cycle per rules 20 CSR 4240-23.020 and 20 CSR 4240.23-030 respectively.

Corrective Actions

In 2023, 34.2% of customer interruptions were caused by a public vehicle hitting a pole on 9/8/2023. The crossarm was repaired on OAS #232512263. Another 33.7% of interruptions were a result of one underground equipment malfunction in which a switch burned. The switch was repaired on OAS #233030907. 17.3% of customer interruptions were caused by tree related issues. A full-cycle tree trim is planned for 2024. Overhead visual and underground detailed inspections were completed in 2021. Any repair work identified as a result of these inspections will be completed in accordance with Ameren Missouri's infrastructure inspection policy. There are no additional recurring problems identified on the circuit and no further work is required at this time.

APPENDIX B

Single Year WPC Analysis and Remedial Action Report

Circuit Number: 156006
Division: GATEWAY
ZIP Codes(s) Served: 63134, 63121
Customers Served: 702
Customer Interruptions (CI): 1,282
SAIFI Value: 1.83
SAIDI Value: 250

Outage Analysis

Causes	2023 Total CI	2023 % of Total CI	2023 # Incidents
EQUIPMENT/OH	338	26.37%	9
LIGHTNING	7	0.55%	1
PUBLIC	660	51.48%	3
TREE	224	17.47%	13
EMPLOYEES	27	2.11%	1
OTHER	1	0.08%	1
UNKNOWN	25	1.95%	1

Corrective actions taken or planned are noted below. These actions were developed through any combination of engineering reviews, circuit patrols, circuit inspections, and trimming. Circuit inspections and trimming are conducted on an appropriate cycle per rules 20 CSR 4240-23.020 and 20 CSR 4240.23-030 respectively.

Corrective Actions

In 2023, 34% of customer interruptions were a result of a public vehicle hitting a pole on two separate dates. Repairs to the hit pole on 1/20/2023 were made on OAS#230200102. Repairs to the hit pole on 8/23/2023 were made on OAS#232353901. 17% of customer interruptions were caused by tree-related issues. A full-cycle tree trim is planned for 2025. Overhead visual inspection was done in 2021. Underground visual inspections were completed in 2020. An underground detailed inspection is due for 2024. Any repair work identified as a result of these inspections will be completed in accordance with Ameren Missouri's infrastructure inspection policy. There are no additional recurring problems identified on the circuit and no further work is required at this time.



APPENDIX B

Single Year WPC Analysis and Remedial Action Report

Circuit Number: 156009
Division: GATEWAY
ZIP Codes(s) Served: 63134
Customers Served: 505
Customer Interruptions (CI): 1,193
SAIFI Value: 2.36
SAIDI Value: 300

Outage Analysis

Causes	2023 Total CI	2023 % of Total CI	2023 # Incidents
EQUIPMENT/OH	767	64.29%	8
PUBLIC	11	0.92%	1
TREE	414	34.70%	6
OTHER	1	0.08%	1

Corrective actions taken or planned are noted below. These actions were developed through any combination of engineering reviews, circuit patrols, circuit inspections, and trimming. Circuit inspections and trimming are conducted on an appropriate cycle per rules 20 CSR 4240-23.020 and 20 CSR 4240.23-030 respectively.

Corrective Actions

In 2023, 64% of customer interruptions occurred as a result of a bad connection to switch D8645 which burned up primary on 4/05/2023. Repairs were made to the switch on OAS#230951684. Around 35% of customer interruption were caused by tree related issues. A mid-cycle patrol took place in 2022. A full-cycle tree trim is planned for 2024. An underground detailed and a groundline inspection were completed in 2022. Any repair work identified as a result of these inspections will be completed in accordance with Ameren Missouri's infrastructure inspection policy. There are no additional recurring problems identified on the circuit and no further work is required at this time.



APPENDIX B

Single Year WPC Analysis and Remedial Action Report

Circuit Number: 160004
Division: ARCHVIEW
ZIP Codes(s) Served: 63101, 63106, 63102, 63104
Customers Served: 485
Customer Interruptions (CI): 1,216
SAIFI Value: 2.51
SAIDI Value: 696

Outage Analysis

Causes	2023 Total CI	2023 % of Total CI	2023 # Incidents
EQUIPMENT/OH	1,170	96.22%	7
PUBLIC	1	0.08%	1
EQUIPMENT/UG	27	2.22%	1
EMPLOYEES	18	1.48%	1

Corrective actions taken or planned are noted below. These actions were developed through any combination of engineering reviews, circuit patrols, circuit inspections, and trimming. Circuit inspections and trimming are conducted on an appropriate cycle per rules 20 CSR 4240-23.020 and 20 CSR 4240.23-030 respectively.

Corrective Actions

One event caused 83% of the customer interruptions on 160004 in 2023. Several spans of primary (#6CU) was broken due to overhead equipment malfunction in early March. Primary was repaired on OAS #230651686 to restore power to customers. A groundline CDIS inspection is planned for 2024. Any repair work identified as a result of the inspection will be completed in accordance with Ameren Missouri's infrastructure inspection policy. Engineering is evaluating to re-conductor the circuit to improve reliability.



APPENDIX B

Single Year WPC Analysis and Remedial Action Report

Circuit Number: 163008
Division: GATEWAY
ZIP Codes(s) Served: 63135, 63136
Customers Served: 97
Customer Interruptions (CI): 199
SAIFI Value: 2.05
SAIDI Value: 336

Outage Analysis

Causes	2023 Total CI	2023 % of Total CI	2023 # Incidents
EQUIPMENT/OH	190	95.48%	2
PUBLIC	8	4.02%	1
ANIMAL	1	0.50%	1

Corrective actions taken or planned are noted below. These actions were developed through any combination of engineering reviews, circuit patrols, circuit inspections, and trimming. Circuit inspections and trimming are conducted on an appropriate cycle per rules 20 CSR 4240-23.020 and 20 CSR 4240.23-030 respectively.

Corrective Actions

In 2023, 95% of customer interruptions occurred as a result of an overhead equipment malfunction on 2/27/2023 and a switching outage on the Maline-74 SEP project. Repairs to the loose primary and the fuse were made on OAS#230583862. Overhead visual inspection was completed in 2020. Underground detailed inspections were completed in 2022. A groundline inspection is planned for 2024. Any repair work identified as a result of these inspections will be completed in accordance with Ameren Missouri's infrastructure inspection policy. There are no additional recurring problems identified on the circuit and no further work is required at this time.

APPENDIX B

Single Year WPC Analysis and Remedial Action Report

Circuit Number: 164006
Division: ARCHVIEW
ZIP Codes(s) Served: 63113, 63106, 63108, 63110
Customers Served: 442
Customer Interruptions (CI): 875
SAIFI Value: 1.98
SAIDI Value: 255

Outage Analysis

Causes	2023 Total CI	2023 % of Total CI	2023 # Incidents
EQUIPMENT/OH	14	1.60%	4
LIGHTNING	6	0.69%	2
TREE	467	53.37%	10
OTHER	388	44.34%	6

Corrective actions taken or planned are noted below. These actions were developed through any combination of engineering reviews, circuit patrols, circuit inspections, and trimming. Circuit inspections and trimming are conducted on an appropriate cycle per rules 20 CSR 4240-23.020 and 20 CSR 4240.23-030 respectively.

Corrective Actions

One event accounts for 44% of customer interruptions on this circuit in 2023. It was caused because a tree fell on primary (several spans) & secondary wires causing several customers to lose power. Primary and secondary were repaired on OAS #: 233150485. The second event accounts for 44% of customer interruptions due substation circuit breaker operated due to sensing a fault on the nearby circuit causing a brief outage that lasted for 5 minutes and 31 seconds. This occurred during a storm when a tree fell breaking the primary (B phase was down) and caused fuses: U17685 & U24839 to blow (all three phases were open) causing all customers downstream of both fuses to be out of power. Tree was removed from primary, and all repairs were completed on OAS #: 231550934 & 231550924. The circuit breaker 164006 was automatically restored under OAS# 231550899 without any damage to the circuit. Full cycle tree trim was completed in 2022. Mid-cycle patrol is planned for 2024 and next full cycle tree trim is planned for 2026.

APPENDIX B

Single Year WPC Analysis and Remedial Action Report

Circuit Number: 165055
Division: MERAMEC VALLEY
ZIP Codes(s) Served: 63025
Customers Served: 1,164
Customer Interruptions (CI): 1,954
SAIFI Value: 1.68
SAIDI Value: 246

Outage Analysis

Causes	2023 Total CI	2023 % of Total CI	2023 # Incidents
EQUIPMENT/OH	25	1.28%	5
LIGHTNING	842	43.09%	3
PUBLIC	6	0.31%	2
EQUIPMENT/UG	33	1.69%	2
TREE	184	9.42%	9
ANIMAL	16	0.82%	3
OTHER	847	43.35%	2
UNKNOWN	1	0.05%	1

Corrective actions taken or planned are noted below. These actions were developed through any combination of engineering reviews, circuit patrols, circuit inspections, and trimming. Circuit inspections and trimming are conducted on an appropriate cycle per rules 20 CSR 4240-23.020 and 20 CSR 4240.23-030 respectively.

Corrective Actions

In 2023, 43% of the customer interruptions were caused by a lightning strike to a capacitor bank that resulted in a recloser failure. Another 41% of the interruptions, on OAS# 231340759, were inadvertently coded for the "other" cause rather than the lightning strike to the capacitor bank. Overhead visual inspections are planned for 2024. Any repair work identified as a result of the inspection will be completed in accordance with Ameren Missouri's infrastructure inspection policy. A full-cycle tree trim of the circuit is planned for 2024. A mid-cycle tree patrol is planned in 2026.



APPENDIX B

Single Year WPC Analysis and Remedial Action Report

Circuit Number: 169051
Division: MERAMEC VALLEY
ZIP Codes(s) Served: 63011, 63038, 63040
Customers Served: 1,782
Customer Interruptions (CI): 3,157
SAIFI Value: 1.77
SAIDI Value: 143

Outage Analysis

Causes	2023 Total CI	2023 % of Total CI	2023 # Incidents
EQUIPMENT/OH	1,779	56.35%	2
EQUIPMENT/UG	1	0.03%	1
EMPLOYEES	1,377	43.62%	1

Corrective actions taken or planned are noted below. These actions were developed through any combination of engineering reviews, circuit patrols, circuit inspections, and trimming. Circuit inspections and trimming are conducted on an appropriate cycle per rules 20 CSR 4240-23.020 and 20 CSR 4240.23-030 respectively.

Corrective Actions

During 34kV upgrade work the static broke and fell into the 169051 and 169054 underbuild circuit, causing a circuit outage to 169051. This event resulted in 99% of the customer interruptions for 2023. A mid-cycle tree patrol is planned in 2025. There are no reoccurring problems identified on the circuit and no further work is required at this time.

APPENDIX B

Single Year WPC Analysis and Remedial Action Report

Circuit Number: 169053
Division: MERAMEC VALLEY
ZIP Codes(s) Served: 63038, 63040, 63005
Customers Served: 247
Customer Interruptions (CI): 610
SAIFI Value: 2.47
SAIDI Value: 250

Outage Analysis

Causes	2023 Total CI	2023 % of Total CI	2023 # Incidents
EQUIPMENT/OH	9	1.48%	2
LIGHTNING	78	12.79%	1
PUBLIC	259	42.46%	4
EQUIPMENT/UG	1	0.16%	1
TREE	12	1.97%	3
ANIMAL	28	4.59%	4
OTHER	223	36.56%	1

Corrective actions taken or planned are noted below. These actions were developed through any combination of engineering reviews, circuit patrols, circuit inspections, and trimming. Circuit inspections and trimming are conducted on an appropriate cycle per rules 20 CSR 4240-23.020 and 20 CSR 4240.23-030 respectively.

Corrective Actions

In 2023, 43% of the interruptions were due to public hitting a pole several feet off a straight road. So, the poles are not in a bad location; this incident was the result of distracted driving by the public. Underground visual inspections were completed in 2023. Overhead visual inspections are planned in 2024. Any repair work identified as a result of these inspections will be completed in accordance with Ameren Missouri's infrastructure inspection policy. A full-cycle tree trim was completed in 2022, and the next full-cycle tree trim is planned for 2028. A mid-cycle tree patrol is planned in 2025. There are no reoccurring problems identified on the circuit and no further work is required at this time.

APPENDIX B

Single Year WPC Analysis and Remedial Action Report

Circuit Number: 169054
Division: MERAMEC VALLEY
ZIP Codes(s) Served: 63040, 63038, 63104
Customers Served: 1,122
Customer Interruptions (CI): 2,246
SAIFI Value: 2.00
SAIDI Value: 196

Outage Analysis

Causes	2023 Total CI	2023 % of Total CI	2023 # Incidents
EQUIPMENT/OH	2,243	99.87%	3
EQUIPMENT/UG	3	0.13%	3

Corrective actions taken or planned are noted below. These actions were developed through any combination of engineering reviews, circuit patrols, circuit inspections, and trimming. Circuit inspections and trimming are conducted on an appropriate cycle per rules 20 CSR 4240-23.020 and 20 CSR 4240.23-030 respectively.

Corrective Actions

During 34kV upgrade work, the static broke and fell into the 169051 and 169054 underbuild circuit causing a 169054 circuit outage that resulted in 99.8% of the 2023 customer interruptions. Additional distribution automation reclosers for this circuit are being installed in 2024 on work order KA98369 and KA98374. Groundline inspection of poles was completed in 2023. Any repair work identified as a result of the inspection will be completed in accordance with Ameren Missouri's infrastructure inspection policy. A full-cycle tree trim is planned in 2024. A mid-cycle tree patrol is planned in 2026. There are no reoccurring problems identified on the circuit and no further work is required at this time.



APPENDIX B

Single Year WPC Analysis and Remedial Action Report

Circuit Number: 172008
Division: GATEWAY
ZIP Codes(s) Served: 63130
Customers Served: 558
Customer Interruptions (CI): 2,137
SAIFI Value: 3.83
SAIDI Value: 736

Outage Analysis

Causes	2023 Total CI	2023 % of Total CI	2023 # Incidents
EQUIPMENT/OH	1,653	77.35%	10
LIGHTNING	17	0.80%	2
TREE	467	21.85%	5

Corrective actions taken or planned are noted below. These actions were developed through any combination of engineering reviews, circuit patrols, circuit inspections, and trimming. Circuit inspections and trimming are conducted on an appropriate cycle per rules 20 CSR 4240-23.020 and 20 CSR 4240.23-030 respectively.

Corrective Actions

In 2023, 67.5% of customer interruptions occurred as a result of an overhead equipment malfunction on 7/20/2023. Repairs were made at the time of the interruption on OAS# 232013513 and 232013405. Another 21.8% of customer interruptions were caused by tree related issues. A groundline inspection was completed in 2023. Any repair work identified as a result of the inspection will be completed in accordance with Ameren Missouri's infrastructure inspection policy. A mid-cycle patrol took place in 2023. A full-cycle tree trim is planned for 2025. There are no additional recurring problems identified on the circuit and no further work is required at this time.



APPENDIX B

Single Year WPC Analysis and Remedial Action Report

Circuit Number: 174018
Division: ARCHVIEW
ZIP Codes(s) Served: 63105
Customers Served: 1,012
Customer Interruptions (CI): 2,066
SAIFI Value: 2.04
SAIDI Value: 265

Outage Analysis

Causes	2023 Total CI	2023 % of Total CI	2023 # Incidents
EQUIPMENT/OH	2,058	99.61%	8
TREE	8	0.39%	1

Corrective actions taken or planned are noted below. These actions were developed through any combination of engineering reviews, circuit patrols, circuit inspections, and trimming. Circuit inspections and trimming are conducted on an appropriate cycle per rules 20 CSR 4240-23.020 and 20 CSR 4240.23-030 respectively.

Corrective Actions

One event accounts for 99% of the customer interruptions on this circuit in 2023. The incident was caused by a single 336ACSR wire breaking on a three phase circuit. The downed wire was not cleared by the upstream protective device. Additional customers were affected when the circuit was de-energized to safely replace the broken wire. The cause of the wire breaking is unknown. Load study was conducted to verify the broken wire was not due to overloading. Load study indicated the wire is at 65% of rated capacity during peak conditions. Wire was replaced. A groundline CDIS inspection is planned for 2024. Any repair work identified as a result of the inspection will be completed in accordance with Ameren Missouri's infrastructure inspection policy. A full-cycle tree trim is planned for 2024, and a mid-cycle patrol is planned for 2026. There are no reoccurring problems identified on the circuit and no further work is required at this time.



APPENDIX B

Single Year WPC Analysis and Remedial Action Report

Circuit Number: 175051
Division: CENTRAL MO
ZIP Codes(s) Served: 65049, 65065
Customers Served: 436
Customer Interruptions (CI): 816
SAIFI Value: 1.87
SAIDI Value: 175

Outage Analysis

Causes	2023 Total CI	2023 % of Total CI	2023 # Incidents
EQUIPMENT/OH	799	97.92%	3
LIGHTNING	1	0.12%	1
ANIMAL	16	1.96%	1

Corrective actions taken or planned are noted below. These actions were developed through any combination of engineering reviews, circuit patrols, circuit inspections, and trimming. Circuit inspections and trimming are conducted on an appropriate cycle per rules 20 CSR 4240-23.020 and 20 CSR 4240.23-030 respectively.

Corrective Actions

Over 95% of the customer interruptions on this circuit were due to overhead malfunctions while almost 2% were due to animal issues. A sub transmission supply outage accounts for 44% of the customer interruptions. No additional work is planned as this circuits substation was only necessary until the new Four Seasons substation replaced it in Winter 2023. This substation will be decommissioned in 2024.

APPENDIX B

Single Year WPC Analysis and Remedial Action Report

Circuit Number: 188001
Division: ARCHVIEW
ZIP Codes(s) Served: 63130
Customers Served: 350
Customer Interruptions (CI): 590
SAIFI Value: 1.69
SAIDI Value: 249

Outage Analysis

Causes	2023 Total CI	2023 % of Total CI	2023 # Incidents
EQUIPMENT/OH	167	28.31%	8
EQUIPMENT/UG	350	59.32%	1
TREE	63	10.68%	9
UNKNOWN	10	1.69%	1

Corrective actions taken or planned are noted below. These actions were developed through any combination of engineering reviews, circuit patrols, circuit inspections, and trimming. Circuit inspections and trimming are conducted on an appropriate cycle per rules 20 CSR 4240-23.020 and 20 CSR 4240.23-030 respectively.

Corrective Actions

The first incident accounts for 13% of customer interruptions and it was due the blown fuse. The fuse was replaced with the same size. The fuse replace was done on OAS# 232082242 and 232082222. The second interruption was due to the failed underground primary cable on the circuit 188001. The cable will be replaced on work order KA83532. This incident contributed to 22% of the customer interruptions. The OH visual was complete in 2020 and UG detailed inspection was completed in 2022. Any repair work identified as a result of these inspections will be completed in accordance with Ameren Missouri's infrastructure inspection policy. The full-cycle tree trim was complete in 2022. The next mid-cycle patrol is planned for 2024, and a full-cycle tree trim will be done in 2026. There are no reoccurring problems identified on the circuit and no further work is required at this time.

APPENDIX B

Single Year WPC Analysis and Remedial Action Report

Circuit Number: 188008
Division: ARCHVIEW
ZIP Codes(s) Served: 63130
Customers Served: 3
Customer Interruptions (CI): 10
SAIFI Value: 3.33
SAIDI Value: 1082

Outage Analysis

Causes	2023 Total CI	2023 % of Total CI	2023 # Incidents
EQUIPMENT/OH	1	10.00%	1
TREE	9	90.00%	3

Corrective actions taken or planned are noted below. These actions were developed through any combination of engineering reviews, circuit patrols, circuit inspections, and trimming. Circuit inspections and trimming are conducted on an appropriate cycle per rules 20 CSR 4240-23.020 and 20 CSR 4240.23-030 respectively.

Corrective Actions

A single event accounts for 90% of the interruptions in 2023 on 188008. This event was due to the burned #6 CU A Phase primary. The primary was replaced on work order KA43935. An UG detail visual is planned to be completed in 2024. Any repair work identified as a result of the inspection will be completed in accordance with Ameren Missouri's infrastructure inspection policy. The full-cycle tree trim was done in 2022. The mid cycle patrol will be done in 2024, and the next full-cycle is planned to be complete in 2026. There are no reoccurring problems identified on the circuit and no further work is required at this time.



APPENDIX B

Single Year WPC Analysis and Remedial Action Report

Circuit Number: 192001
Division: MERAMEC VALLEY
ZIP Codes(s) Served: 63055
Customers Served: 1
Customer Interruptions (CI): 2
SAIFI Value: 2.00
SAIDI Value: 447

Outage Analysis

Causes	2023 Total CI	2023 % of Total CI	2023 # Incidents
EQUIPMENT/OH	1	50.00%	1
TREE	1	50.00%	1

Corrective actions taken or planned are noted below. These actions were developed through any combination of engineering reviews, circuit patrols, circuit inspections, and trimming. Circuit inspections and trimming are conducted on an appropriate cycle per rules 20 CSR 4240-23.020 and 20 CSR 4240.23-030 respectively.

Corrective Actions

No action is necessary as this is a customer owned and operated substation and not an Ameren asset.

APPENDIX B

Single Year WPC Analysis and Remedial Action Report

Circuit Number: 194054
Division: ARCHVIEW
ZIP Codes(s) Served: 63125, 63102
Customers Served: 1,544
Customer Interruptions (CI): 2,892
SAIFI Value: 1.87
SAIDI Value: 409

Outage Analysis

Causes	2023 Total CI	2023 % of Total CI	2023 # Incidents
EQUIPMENT/OH	1,894	65.49%	19
LIGHTNING	66	2.28%	3
EQUIPMENT/UG	8	0.28%	1
TREE	296	10.24%	9
EMPLOYEES	9	0.31%	1
ANIMAL	39	1.35%	3
UNKNOWN	580	20.06%	6

Corrective actions taken or planned are noted below. These actions were developed through any combination of engineering reviews, circuit patrols, circuit inspections, and trimming. Circuit inspections and trimming are conducted on an appropriate cycle per rules 20 CSR 4240-23.020 and 20 CSR 4240.23-030 respectively.

Corrective Actions

Four incidents account for 81% of the customer interruptions on 194054 in 2023. One was due to primary coming down in a storm and was repaired on work order KA26529. The second incident was due to a lightning strike. The third incident was due to a tree breaking and was repaired on work request KA56649. The fourth incident was due to a switch burning up and was repaired on OAS work order 232121662. An underground visual inspection and an overhead visual inspection were completed in 2023. Any repair work identified as a result of these inspections will be completed in accordance with Ameren Missouri's infrastructure inspection policy. A mid-cycle tree trim patrol is planned for 2024. There are no recurring problems identified on this circuit and no further work is required at this time.

APPENDIX B

Single Year WPC Analysis and Remedial Action Report

Circuit Number: 195057
Division: MERAMEC VALLEY
ZIP Codes(s) Served: 63050, 63070, 63028, 63065
Customers Served: 1,051
Customer Interruptions (CI): 2,327
SAIFI Value: 2.21
SAIDI Value: 455

Outage Analysis

Causes	2023 Total CI	2023 % of Total CI	2023 # Incidents
EQUIPMENT/OH	1,070	45.98%	10
LIGHTNING	36	1.55%	4
PUBLIC	123	5.29%	1
TREE	24	1.03%	2
EMPLOYEES	1	0.04%	1
ANIMAL	23	0.99%	9
OTHER	1	0.04%	1
UNKNOWN	1,049	45.08%	3

Corrective actions taken or planned are noted below. These actions were developed through any combination of engineering reviews, circuit patrols, circuit inspections, and trimming. Circuit inspections and trimming are conducted on an appropriate cycle per rules 20 CSR 4240-23.020 and 20 CSR 4240.23-030 respectively.

Corrective Actions

Two incidents account for 82% of the customer interruptions in 2023. One issue was caused by an incident involving a public vehicle hitting and breaking a 3 phase backbone pole and was repaired on OAS# 230621442. The second issue was due to a non-clearing feeder fault at the substation that caused the substation transformer to fail. A mobile sub was installed and the substation was later rebuilt to mitigate this kind of outage to a momentary instead of an extended outage. A mid-cycle tree trim patrol is planned for 2024. There are no recurring problems identified on the circuit and no further work is required at this time.

APPENDIX B

Single Year WPC Analysis and Remedial Action Report

Circuit Number: 199051
Division: CENTRAL MO
ZIP Codes(s) Served: 65049
Customers Served: 148
Customer Interruptions (CI): 382
SAIFI Value: 2.58
SAIDI Value: 147

Outage Analysis

Causes	2023 Total CI	2023 % of Total CI	2023 # Incidents
EQUIPMENT/OH	192	50.26%	2
TREE	44	11.52%	1
ANIMAL	145	37.96%	4
OTHER	1	0.26%	1

Corrective actions taken or planned are noted below. These actions were developed through any combination of engineering reviews, circuit patrols, circuit inspections, and trimming. Circuit inspections and trimming are conducted on an appropriate cycle per rules 20 CSR 4240-23.020 and 20 CSR 4240.23-030 respectively.

Corrective Actions

Over 50% of the customer interruptions on this circuit were due to overhead malfunctions while almost 38% were due to animal issues. A sub transmission supply outage accounts for 39% of the customer interruptions. No additional work is planned as this circuits substation was only necessary until the new Four Seasons substation replaced it in Winter 2023. This substation will be decommissioned in 2024.

APPENDIX B

Single Year WPC Analysis and Remedial Action Report

Circuit Number: 203056
Division: GATEWAY
ZIP Codes(s) Served: 63044, 63074, 63043
Customers Served: 649
Customer Interruptions (CI): 1,362
SAIFI Value: 2.10
SAIDI Value: 57

Outage Analysis

Causes	2023 Total CI	2023 % of Total CI	2023 # Incidents
EQUIPMENT/OH	1,304	95.74%	5
TREE	24	1.76%	2
ANIMAL	25	1.84%	4
OTHER	9	0.66%	1

Corrective actions taken or planned are noted below. These actions were developed through any combination of engineering reviews, circuit patrols, circuit inspections, and trimming. Circuit inspections and trimming are conducted on an appropriate cycle per rules 20 CSR 4240-23.020 and 20 CSR 4240.23-030 respectively.

Corrective Actions

In 2023, six overhead equipment instances resulted in 96% of customer interruptions. On October 5th, 2023, a broken crossarm resulted in an outage that affected 99% of the customers on the circuit. Repairs were made at the time of the outage (OAS# 232782265). An overhead visual and a detailed underground inspections were completed in 2022. These inspections were completed in accordance with Ameren Missouri's infrastructure inspection policy. A full-cycle trim is planned for 2024, and a mid-cycle patrol is planned for 2026. There are no recurring problems on this circuit and no other work is required at this time.



APPENDIX B

Single Year WPC Analysis and Remedial Action Report

Circuit Number: 207053
Division: MERAMEC VALLEY
ZIP Codes(s) Served: 63012, 63050, 63052, 63051, 63048
Customers Served: 832
Customer Interruptions (CI): 1,577
SAIFI Value: 1.90
SAIDI Value: 209

Outage Analysis

Causes	2023 Total CI	2023 % of Total CI	2023 # Incidents
EQUIPMENT/OH	844	53.52%	5
TREE	611	38.74%	12
ANIMAL	57	3.61%	11
OTHER	14	0.89%	2
UNKNOWN	51	3.23%	5

Corrective actions taken or planned are noted below. These actions were developed through any combination of engineering reviews, circuit patrols, circuit inspections, and trimming. Circuit inspections and trimming are conducted on an appropriate cycle per rules 20 CSR 4240-23.020 and 20 CSR 4240.23-030 respectively.

Corrective Actions

Three incidents account for 70% of the total customer interruptions. The first was due to a thunderstorm, and the poles were replaced on KA39639. The second outage was due to a transformer that faulted and have a work order to install fuses on transformers (KB01201). The third incident was due to a tree that fell outside of the ROW into the line and resulted in the transformer needing to be replaced on job KA70185. An overhead visual inspection was completed in 2022 and any repair work identified as a result of the inspection will be completed in accordance with Ameren Missouri's infrastructure inspection policy. A mid-cycle tree patrol is planned for 2024, and a full-cycle tree trim is planned for 2027.

APPENDIX B

Single Year WPC Analysis and Remedial Action Report

Circuit Number: 208001
Division: ARCHVIEW
ZIP Codes(s) Served: 63137, 63136, 63135
Customers Served: 712
Customer Interruptions (CI): 1,351
SAIFI Value: 1.90
SAIDI Value: 335

Outage Analysis

Causes	2023 Total CI	2023 % of Total CI	2023 # Incidents
EQUIPMENT/OH	356	26.35%	13
LIGHTNING	6	0.44%	2
PUBLIC	696	51.52%	1
TREE	274	20.28%	19
EMPLOYEES	12	0.89%	1
OTHER	5	0.37%	1
UNKNOWN	2	0.15%	2

Corrective actions taken or planned are noted below. These actions were developed through any combination of engineering reviews, circuit patrols, circuit inspections, and trimming. Circuit inspections and trimming are conducted on an appropriate cycle per rules 20 CSR 4240-23.020 and 20 CSR 4240.23-030 respectively.

Corrective Actions

One incident on 208001 accounts for 51.5% of the customer interruptions in 2023. Broken pole #208955 at the north east corner of Chambers and Lance causing the primary to break as well. Broken pole and primary were repaired on OAS #231433014. Circuit was inspected and no further damage was found. The second interruption caused 8% of the customer interruptions in 2023. Jumper on A phase broke causing the primary wire and connector to burn. All repairs were completed on OAS #231433141. Mid-cycle patrol was completed in 2021, and the next full-cycle tree trim is planned for 2024. There are no reoccurring problems identified on the circuit and no further work is required at this time.

APPENDIX B

Single Year WPC Analysis and Remedial Action Report

Circuit Number: 208004
Division: ARCHVIEW
ZIP Codes(s) Served: 63136, 63137
Customers Served: 693
Customer Interruptions (CI): 1,491
SAIFI Value: 2.15
SAIDI Value: 344

Outage Analysis

Causes	2023 Total CI	2023 % of Total CI	2023 # Incidents
EQUIPMENT/OH	731	49.03%	14
LIGHTNING	37	2.48%	6
TREE	720	48.29%	11
EMPLOYEES	1	0.07%	1
UNKNOWN	2	0.13%	2

Corrective actions taken or planned are noted below. These actions were developed through any combination of engineering reviews, circuit patrols, circuit inspections, and trimming. Circuit inspections and trimming are conducted on an appropriate cycle per rules 20 CSR 4240-23.020 and 20 CSR 4240.23-030 respectively.

Corrective Actions

One incident caused 20% of the customer interruptions on 208004 in 2023. Primary neutral burned on pole #: 158190 and was held up by the transformer. The primary neutral was repaired on OAS # 232380562. The second incident that accounted for 48% of customer interruptions was due to tree coming in contact with Primary conductor during a storm. Overhead line was patrolled under OAS# 231984097 and no damage identified. The last underground and overhead visual CDIS inspections were completed in 2021. Any repair work identified as a result of the inspection will be completed in accordance with Ameren Missouri's infrastructure inspection policy. A mid-cycle patrol was completed in 2021, and next full-cycle tree trim is planned for 2024. No further action is needed at this time.

APPENDIX B

Single Year WPC Analysis and Remedial Action Report

Circuit Number: 210056
Division: GATEWAY
ZIP Codes(s) Served: 63042, 63031
Customers Served: 282
Customer Interruptions (CI): 560
SAIFI Value: 1.99
SAIDI Value: 183

Outage Analysis

Causes	2023 Total CI	2023 % of Total CI	2023 # Incidents
EQUIPMENT/OH	287	51.25%	5
LIGHTNING	4	0.71%	1
PUBLIC	134	23.93%	2
TREE	113	20.18%	2
ANIMAL	19	3.39%	2
OTHER	2	0.36%	1
UNKNOWN	1	0.18%	1

Corrective actions taken or planned are noted below. These actions were developed through any combination of engineering reviews, circuit patrols, circuit inspections, and trimming. Circuit inspections and trimming are conducted on an appropriate cycle per rules 20 CSR 4240-23.020 and 20 CSR 4240.23-030 respectively.

Corrective Actions

In 2023, 49.1% of customer interruptions were a result of an open circuit breaker on 9/13/2023, the breaker was reset on OAS #232565734. 23.9% of interruptions were a result of a public vehicle colliding with and breaking a pole on 9/13/2023. The pole was replaced on OAS#232572602. 20.1% of customer interruptions were caused by tree related issues. A full-cycle tree trim is planned for 2024. There are no additional recurring problems identified on the circuit and no further work is required at this time.

APPENDIX B

Single Year WPC Analysis and Remedial Action Report

Circuit Number: 211056
Division: MERAMEC VALLEY
ZIP Codes(s) Served: 63010, 63052
Customers Served: 1,130
Customer Interruptions (CI): 2,648
SAIFI Value: 2.34
SAIDI Value: 206

Outage Analysis

Causes	2023 Total CI	2023 % of Total CI	2023 # Incidents
EQUIPMENT/OH	2,310	87.24%	11
LIGHTNING	18	0.68%	2
EQUIPMENT/UG	2	0.08%	2
TREE	103	3.89%	7
ANIMAL	197	7.44%	16
OTHER	4	0.15%	1
UNKNOWN	14	0.53%	4

Corrective actions taken or planned are noted below. These actions were developed through any combination of engineering reviews, circuit patrols, circuit inspections, and trimming. Circuit inspections and trimming are conducted on an appropriate cycle per rules 20 CSR 4240-23.020 and 20 CSR 4240.23-030 respectively.

Corrective Actions

Two incidents account for 77% of the total customer interruptions in 2023. The first was due to downed primary and repairs were made on work order KA48556. The second outage was due to an OH malfunction and repaired crossarms on KA54518. A full-cycle tree trim is planned for 2024, and mid-cycle patrol is planned for 2026. No further actions were taken.



APPENDIX B

Single Year WPC Analysis and Remedial Action Report

Circuit Number: 212011
Division: ARCHVIEW
ZIP Codes(s) Served: 63116
Customers Served: 770
Customer Interruptions (CI): 1,454
SAIFI Value: 1.89
SAIDI Value: 186

Outage Analysis

Causes	2023 Total CI	2023 % of Total CI	2023 # Incidents
EQUIPMENT/OH	29	1.99%	4
EQUIPMENT/UG	1,383	95.12%	2
TREE	23	1.58%	2
EMPLOYEES	1	0.07%	1
ANIMAL	1	0.07%	1
UNKNOWN	17	1.17%	1

Corrective actions taken or planned are noted below. These actions were developed through any combination of engineering reviews, circuit patrols, circuit inspections, and trimming. Circuit inspections and trimming are conducted on an appropriate cycle per rules 20 CSR 4240-23.020 and 20 CSR 4240.23-030 respectively.

Corrective Actions

Two incidents account for 95% of the customer interruptions on 212011 in 2023. One was due to a manhole fire causing underground cable damage that was repaired on OAS 232520381. The second issue was due to an underground cable splice failure which was repaired on work order KA75004. A full cycle tree trim was completed in 2023, and mid-cycle patrol is planned for 2025. There are no recurring problems identified on the circuit and no further work is required at this time.



APPENDIX B

Single Year WPC Analysis and Remedial Action Report

Circuit Number: 215055
Division: GATEWAY
ZIP Codes(s) Served: 63033
Customers Served: 1,935
Customer Interruptions (CI): 3,456
SAIFI Value: 1.79
SAIDI Value: 179

Outage Analysis

Causes	2023 Total CI	2023 % of Total CI	2023 # Incidents
EQUIPMENT/OH	868	25.12%	9
LIGHTNING	1	0.03%	1
PUBLIC	38	1.10%	2
EQUIPMENT/UG	117	3.39%	7
TREE	2,414	69.85%	9
ANIMAL	1	0.03%	1
OTHER	8	0.23%	1
UNKNOWN	9	0.26%	2

Corrective actions taken or planned are noted below. These actions were developed through any combination of engineering reviews, circuit patrols, circuit inspections, and trimming. Circuit inspections and trimming are conducted on an appropriate cycle per rules 20 CSR 4240-23.020 and 20 CSR 4240.23-030 respectively.

Corrective Actions

In 2023, nearly 70% of customer interruptions were due to tree related issues. An underground visual and an overhead visual inspection were completed in 2023. Any repair work identified as a result of these inspections will be completed in accordance with Ameren Missouri's infrastructure inspection policy. A mid-cycle trim will be done in 2024. A full-cycle tree trim is planned for 2026. There are no additional recurring problems identified on the circuit and no further work is required at this time.

APPENDIX B

Single Year WPC Analysis and Remedial Action Report

Circuit Number: 216055
Division: CENTRAL MO
ZIP Codes(s) Served: 65049, 65026, 65065
Customers Served: 234
Customer Interruptions (CI): 569
SAIFI Value: 2.43
SAIDI Value: 676

Outage Analysis

Causes	2023 Total CI	2023 % of Total CI	2023 # Incidents
EQUIPMENT/OH	234	41.12%	1
LIGHTNING	1	0.18%	1
EQUIPMENT/UG	15	2.64%	1
TREE	254	44.64%	3
ANIMAL	58	10.19%	5
UNKNOWN	7	1.23%	1

Corrective actions taken or planned are noted below. These actions were developed through any combination of engineering reviews, circuit patrols, circuit inspections, and trimming. Circuit inspections and trimming are conducted on an appropriate cycle per rules 20 CSR 4240-23.020 and 20 CSR 4240.23-030 respectively.

Corrective Actions

A single event on 216055 occurred during a thunderstorm and accounts for 69% of customer interruptions in 2023. This event occurred when a tree limb broke primary and a caused a second incident when a jumper burnt that dropped next to the primary. An overhead visual inspection completed as part of the WPC review identified a need for additional animal guarding, and transformer fusing that will all be addressed under work order KA94295. The next underground inspection is planned for 2024. Any repair work identified as a result of the inspections will be completed in accordance with Ameren Missouri's infrastructure inspection policy. A mid-cycle patrol was completed in 2022. The next full-cycle tree trim is planned for 2024.



APPENDIX B

Single Year WPC Analysis and Remedial Action Report

Circuit Number: 227010
Division: GATEWAY
ZIP Codes(s) Served: 63132, 63114
Customers Served: 171
Customer Interruptions (CI): 347
SAIFI Value: 2.03
SAIDI Value: 185

Outage Analysis

Causes	2023 Total CI	2023 % of Total CI	2023 # Incidents
EQUIPMENT/OH	346	99.71%	4
EMPLOYEES	1	0.29%	1

Corrective actions taken or planned are noted below. These actions were developed through any combination of engineering reviews, circuit patrols, circuit inspections, and trimming. Circuit inspections and trimming are conducted on an appropriate cycle per rules 20 CSR 4240-23.020 and 20 CSR 4240.23-030 respectively.

Corrective Actions

In 2023, 93.6% of customer interruptions were a result of two air circuit breaker trips. One scenario occurred on 4/20/2023 when an air circuit breaker tripped, no issue was found and the breaker was reset on OAS #231105091. On 2/23/2023, two trips were detected on all phases to trigger a lockout. No issues were found and the lockout was restored on OAS #230543392. An overhead visual inspection is planned for 2024. Any repair work identified as a result of the inspection will be completed in accordance with Ameren Missouri's infrastructure inspection policy. A mid-cycle tree patrol is planned for 2024.



APPENDIX B

Single Year WPC Analysis and Remedial Action Report

Circuit Number: 230055
Division: MERAMEC VALLEY
ZIP Codes(s) Served: 63017
Customers Served: 83
Customer Interruptions (CI): 153
SAIFI Value: 1.84
SAIDI Value: 327

Outage Analysis

Causes	2023 Total CI	2023 % of Total CI	2023 # Incidents
EQUIPMENT/UG	153	100.00%	3

Corrective actions taken or planned are noted below. These actions were developed through any combination of engineering reviews, circuit patrols, circuit inspections, and trimming. Circuit inspections and trimming are conducted on an appropriate cycle per rules 20 CSR 4240-23.020 and 20 CSR 4240.23-030 respectively.

Corrective Actions

One incident accounted for 53% of customer interruptions in 2023. The incident was caused by an underground cable failure located at Chesterfield Mall. Repairs to the underground cable were completed under Maximo work order KA64317. The remaining customer interruptions in 2023 were caused by underground equipment malfunctions. An underground detail inspection was completed in 2021. Any repair work identified as a result of the inspection will be completed in accordance with Ameren Missouri's infrastructure inspection policy. A mid-cycle tree patrol was completed in 2020. Full-cycle tree trim is planned for 2025. There are no reoccurring problems identified on the circuit and no further work is required at this time.

APPENDIX B

Single Year WPC Analysis and Remedial Action Report

Circuit Number: 235055
Division: GATEWAY
ZIP Codes(s) Served: 63026, 63049, 63088, 63011, 63017
Customers Served: 1,125
Customer Interruptions (CI): 3,346
SAIFI Value: 2.97
SAIDI Value: 668

Outage Analysis

Causes	2023 Total CI	2023 % of Total CI	2023 # Incidents
EQUIPMENT/OH	1,560	46.62%	18
LIGHTNING	39	1.17%	4
PUBLIC	398	11.89%	2
EQUIPMENT/UG	24	0.72%	5
TREE	1,221	36.49%	11
ANIMAL	99	2.96%	6
OTHER	1	0.03%	1
UNKNOWN	4	0.12%	2

Corrective actions taken or planned are noted below. These actions were developed through any combination of engineering reviews, circuit patrols, circuit inspections, and trimming. Circuit inspections and trimming are conducted on an appropriate cycle per rules 20 CSR 4240-23.020 and 20 CSR 4240.23-030 respectively.

Corrective Actions

Three incidents account for 78.8% of the customer interruptions on 235055 in 2023. 1,125 or 33.6% of the customer interruptions on OA#230582029 were caused by a tree falling on the primary wire. Repairs were made to the overhead wire and power was restored. 1,125 or 33.6% customer interruptions were on OAS #231792792 when a switch malfunctioned. The switch was replaced with new switching equipment. 387 or 11.56% of the customer interruptions were due to a public vehicle accident to a pole. Repairs were made to the pole that was struck by the public vehicle. Five intelliruptors are being added to this circuit in 2024. The job #'s for these intelliruptors are KA54583, KA54602, KA54615, KA54619, and KA55474. In 2021, a full-cycle tree trim was completed. In 2023, a mid-cycle tree trim patrol was completed. A full-cycle tree trim is planned for 2025, and a mid-cycle tree trim patrol is planned for 2027. An underground detail and overhead visual CDIS inspection were completed in 2020. An underground visual CDIS inspection is planned for 2024. Any repair work identified as a result



of these inspections will be completed in accordance with Ameren Missouri's infrastructure inspection policy. There are no reoccurring problems identified on the circuit and no further work is required at this time.

APPENDIX B

Single Year WPC Analysis and Remedial Action Report

Circuit Number: 238003
Division: ARCHVIEW
ZIP Codes(s) Served: 63112, 63133, 63129, 63136
Customers Served: 848
Customer Interruptions (CI): 1,465
SAIFI Value: 1.73
SAIDI Value: 360

Outage Analysis

Causes	2023 Total CI	2023 % of Total CI	2023 # Incidents
EQUIPMENT/OH	586	40.00%	11
PUBLIC	28	1.91%	2
TREE	847	57.82%	15
EMPLOYEES	2	0.14%	1
UNKNOWN	2	0.14%	2

Corrective actions taken or planned are noted below. These actions were developed through any combination of engineering reviews, circuit patrols, circuit inspections, and trimming. Circuit inspections and trimming are conducted on an appropriate cycle per rules 20 CSR 4240-23.020 and 20 CSR 4240.23-030 respectively.

Corrective Actions

One incident caused 52% of the customer interruptions on this circuit in 2023. Wire was down off insulators at multiple poles between switch D7848 and switch D14296. Customer cut tree and tore wire down and this caused the damage at multiple poles between these two switches. Circuit was repaired on OAS #233160396. The second incident that accounted for 35% of the customer interruptions on this circuit was due to an overhead equipment malfunction which was a result of the first incident. This was corrected by switching load off the circuit under OAS #233171393. Full cycle tree trim was completed in 2023. Mid-cycle patrol is planned for 2025, and the next full cycle tree trim is planned for 2027. Engineering is evaluating to re-conductor the circuit to improve reliability.



APPENDIX B

Single Year WPC Analysis and Remedial Action Report

Circuit Number: 254054
Division: GATEWAY
ZIP Codes(s) Served: 63021, 63011, 63123
Customers Served: 1,246
Customer Interruptions (CI): 3,968
SAIFI Value: 3.19
SAIDI Value: 483

Outage Analysis

Causes	2023 Total CI	2023 % of Total CI	2023 # Incidents
EQUIPMENT/OH	2,469	62.22%	8
LIGHTNING	2	0.05%	2
PUBLIC	86	2.17%	2
EQUIPMENT/UG	1,246	31.40%	1
TREE	163	4.11%	7
OTHER	2	0.05%	1

Corrective actions taken or planned are noted below. These actions were developed through any combination of engineering reviews, circuit patrols, circuit inspections, and trimming. Circuit inspections and trimming are conducted on an appropriate cycle per rules 20 CSR 4240-23.020 and 20 CSR 4240.23-030 respectively.

Corrective Actions

In 2023, three incidents account for 93.04% of the customer interruptions. The first incident was 1,200 or 30.02% of the interruptions were on OAS# 230832854 which was caused by a transformer malfunction. Repairs were made on OAS# 230832854 and malfunctioned equipment was replaced with new equipment. The second incident had 1,246 or 31.4% of the customer interruptions on OAS# 231654090 which was caused by a faulted underground cable at DIP-28136. Repairs were made on job # KA50046 and power was restored. Cable was replaced with new underground cable. The third incident had 1,246 or 31.4% of the customer interruptions. The customer interruptions on OAS# 232320225 were caused by an overhead malfunction due to heat. Substation breaker was reset, and power was restored on the circuit. A CDIS underground visual and groundline inspections were completed in 2022. Any repair work identified as a result of these inspections will be completed in accordance with Ameren Missouri's infrastructure inspection policy. A full-cycle tree trim was completed in 2022. A mid-cycle tree trim patrol is planned for this year 2024. Another full-cycle tree trim is planned



for 2026. There are no reoccurring problems identified on the circuit and no further work is required at this time.

APPENDIX B

Single Year WPC Analysis and Remedial Action Report

Circuit Number: 254059
Division: GATEWAY
ZIP Codes(s) Served: 63021, 63088, 63011, 63026, 63042
Customers Served: 2,037
Customer Interruptions (CI): 3,935
SAIFI Value: 1.93
SAIDI Value: 71

Outage Analysis

Causes	2023 Total CI	2023 % of Total CI	2023 # Incidents
EQUIPMENT/OH	2,745	69.76%	8
PUBLIC	995	25.29%	2
EQUIPMENT/UG	101	2.57%	5
ANIMAL	10	0.25%	1
OTHER	78	1.98%	2
UNKNOWN	6	0.15%	2

Corrective actions taken or planned are noted below. These actions were developed through any combination of engineering reviews, circuit patrols, circuit inspections, and trimming. Circuit inspections and trimming are conducted on an appropriate cycle per rules 20 CSR 4240-23.020 and 20 CSR 4240.23-030 respectively.

Corrective Actions

Three incidents account for 93.8% of the total customer interruptions in 2023. Two of the incidences happened to the circuit when it was in an abnormally switched state on OAS# 231781301 and OAS# 231781342. The customer interruptions from the abnormally switched state contributed to 62.2% of the customer interruption on the circuit. In a normal state, these outages would have been on a separate feeder and this circuit would not have been a worst performing circuit. 31.7% of the customer interruptions were from another incident on OAS# 232723804. This incident was caused by an overhead malfunction on R1017. The device was reenergized and power was restored to the customers in less than an hour. A CDIS underground visual and groundline inspection was completed in 2022. Any repair work identified as a result of these inspections will be completed in accordance with Ameren Missouri's infrastructure inspection policy. A full-cycle tree trim was completed in 2022. A mid-cycle tree trim patrol is planned for 2024, and a full-cycle tree trim is planned for 2026. There are no recurring problems identified on the circuit and no further work is required at this time.



APPENDIX B

Single Year WPC Analysis and Remedial Action Report

Circuit Number: 256059
Division: GATEWAY
ZIP Codes(s) Served: 63043, 63146, 63141
Customers Served: 1,306
Customer Interruptions (CI): 2,403
SAIFI Value: 1.84
SAIDI Value: 202

Outage Analysis

Causes	2023 Total CI	2023 % of Total CI	2023 # Incidents
EQUIPMENT/OH	9	0.37%	3
LIGHTNING	1	0.04%	1
TREE	2,388	99.38%	3
ANIMAL	3	0.12%	3
OTHER	2	0.08%	2

Corrective actions taken or planned are noted below. These actions were developed through any combination of engineering reviews, circuit patrols, circuit inspections, and trimming. Circuit inspections and trimming are conducted on an appropriate cycle per rules 20 CSR 4240-23.020 and 20 CSR 4240.23-030 respectively.

Corrective Actions

In 2023, four tree related instances resulted in 99% of customer interruptions. On August 25th, 2023, a broken tree fell on the circuit resulted in an outage that affected 99% of the customers on the circuit. Repairs were made at the time of the outage (OAS# 232371822). A mid-cycle patrol is planned for 2024, and a full-cycle tree trim is planned for 2026. An overhead visual inspection was completed in 2021 and an underground visual inspection is planned for 2024. These inspections were completed in accordance with Ameren Missouri's infrastructure inspection policy. There are no recurring problems on this circuit and no other work is required at this time.

APPENDIX B

Single Year WPC Analysis and Remedial Action Report

Circuit Number: 258051
Division: GATEWAY
ZIP Codes(s) Served: 63026
Customers Served: 491
Customer Interruptions (CI): 953
SAIFI Value: 1.94
SAIDI Value: 313

Outage Analysis

Causes	2023 Total CI	2023 % of Total CI	2023 # Incidents
EQUIPMENT/OH	909	95.38%	10
LIGHTNING	20	2.10%	5
TREE	1	0.10%	1
ANIMAL	22	2.31%	2
UNKNOWN	1	0.10%	1

Corrective actions taken or planned are noted below. These actions were developed through any combination of engineering reviews, circuit patrols, circuit inspections, and trimming. Circuit inspections and trimming are conducted on an appropriate cycle per rules 20 CSR 4240-23.020 and 20 CSR 4240.23-030 respectively.

Corrective Actions

Two incidents account for 84.36% of the customer interruptions in 2023. 420 or 44% of the customer interruptions were on OAS# 232062911 which was caused by a faulty switch. The switch was replaced with a new switch. This problem was fixed with the replacement of the new device. 384 or 40.3% of the customer interruptions were on OAS# 231371546 which was caused by an overhead malfunction during abnormal switching. It is not a reoccurring issue. An underground CDIS visual inspection was completed in 2022, and a groundline CDIS inspection was also completed in 2022. Any repair work identified as a result of these inspections will be completed in accordance with Ameren Missouri's infrastructure inspection policy. A full-cycle tree trim was completed in 2020 and a mid-cycle tree trimming patrol was completed in 2022. Another full-cycle tree trim is planned for this year 2024. Then another mid-cycle tree trimming patrol is planned for 2026. There are no reoccurring problems identified on the circuit and no further work is required at this time.



APPENDIX B

Single Year WPC Analysis and Remedial Action Report

Circuit Number: 260056
Division: GATEWAY
ZIP Codes(s) Served: 63033, 63034
Customers Served: 221
Customer Interruptions (CI): 464
SAIFI Value: 2.10
SAIDI Value: 344

Outage Analysis

Causes	2023 Total CI	2023 % of Total CI	2023 # Incidents
EQUIPMENT/OH	290	62.50%	6
TREE	31	6.68%	3
UNKNOWN	143	30.82%	1

Corrective actions taken or planned are noted below. These actions were developed through any combination of engineering reviews, circuit patrols, circuit inspections, and trimming. Circuit inspections and trimming are conducted on an appropriate cycle per rules 20 CSR 4240-23.020 and 20 CSR 4240.23-030 respectively.

Corrective Actions

In 2023, 63% of customer interruptions occurred as a result of overhead equipment malfunction on 6/7/2023 and 7/17/23. Repairs were made and fuses were replaced on OAS#'s 231984024 and 231581304. A project will be initiated to replace the fuse with a trip saver. 6.7% of customer interruption were caused by tree related issues. A full-cycle tree trim is planned for 2024. Overhead visual inspection was completed in 2021 and underground visual inspection was completed in 2022. Any repair work identified as a result of these inspections will be completed in accordance with Ameren Missouri's infrastructure inspection policy. There are no additional recurring problems identified on the circuit and no further work is required at this time.

APPENDIX B

Single Year WPC Analysis and Remedial Action Report

Circuit Number: 267056
Division: GATEWAY
ZIP Codes(s) Served: 63146, 63017, 63043
Customers Served: 605
Customer Interruptions (CI): 1,388
SAIFI Value: 2.29
SAIDI Value: 381

Outage Analysis

Causes	2023 Total CI	2023 % of Total CI	2023 # Incidents
EQUIPMENT/OH	475	34.22%	6
EQUIPMENT/UG	64	4.61%	2
TREE	517	37.25%	6
ANIMAL	151	10.88%	9
OTHER	181	13.04%	4

Corrective actions taken or planned are noted below. These actions were developed through any combination of engineering reviews, circuit patrols, circuit inspections, and trimming. Circuit inspections and trimming are conducted on an appropriate cycle per rules 20 CSR 4240-23.020 and 20 CSR 4240.23-030 respectively.

Corrective Actions

In 2023, there were six tree instances that resulted in 37% of the total customer interruptions. On July 4th, 2023, 50% of the circuit lost power due to a fallen tree. Repairs were made at the time of the outages (OAS# 21MT231825324). 34% of customer interruptions were due to overhead equipment malfunctions. On 8/14/23, 47% of the circuit loss power due to an overhead equipment malfunction. An overhead and underground visual inspection was completed in 2021. These inspections were completed in accordance with Ameren Missouri's infrastructure inspection policy. No further work was required (OAS# 21MT232265702). A full-cycle tree trim is planned for 2025, and a mid-cycle patrol is planned for 2028. There are no recurring problems on this circuit and no other work is required at this time.

APPENDIX B

Single Year WPC Analysis and Remedial Action Report

Circuit Number: 271054
Division: ARCHVIEW
ZIP Codes(s) Served: 63026, 63128
Customers Served: 1,460
Customer Interruptions (CI): 2,437
SAIFI Value: 1.67
SAIDI Value: 171

Outage Analysis

Causes	2023 Total CI	2023 % of Total CI	2023 # Incidents
EQUIPMENT/OH	152	6.24%	8
PUBLIC	53	2.17%	1
EQUIPMENT/UG	57	2.34%	4
TREE	601	24.66%	8
ANIMAL	116	4.76%	10
OTHER	1,456	59.75%	1
UNKNOWN	2	0.08%	2

Corrective actions taken or planned are noted below. These actions were developed through any combination of engineering reviews, circuit patrols, circuit inspections, and trimming. Circuit inspections and trimming are conducted on an appropriate cycle per rules 20 CSR 4240-23.020 and 20 CSR 4240.23-030 respectively.

Corrective Actions

There was one incident that accounted for 60% of the customer interruptions on 271054 in 2023 when a neutral wire wrapped into all three phases of 556AA going across MO Hwy 141 just north of MO Hwy 30 (possibly caused by the public) and caused a circuit outage. Repairs were made on OAS work order 230092121. Another incident occurred when a tree broke and took down two poles and two spans of primary at 503 Hawkins and caused a device outage on 4/30/23. Repairs were made on KA43452. This outage caused 23% of the circuit's customer interruptions. There was overhead CDIS inspection as well as an underground completed in 2023. Any repair work identified as a result of these inspections will be completed in accordance with Ameren Missouri's infrastructure inspection policy. A full-cycle tree trim was completed in 2022, and a mid-cycle patrol is planned for 2024. There are no recurring problems identified on the circuit and no further work is required at this time.

APPENDIX B

Single Year WPC Analysis and Remedial Action Report

Circuit Number: 280051
Division: ARCHVIEW
ZIP Codes(s) Served: 63129
Customers Served: 31
Customer Interruptions (CI): 153
SAIFI Value: 4.94
SAIDI Value: 1902

Outage Analysis

Causes	2023 Total CI	2023 % of Total CI	2023 # Incidents
EQUIPMENT/OH	32	20.92%	2
LIGHTNING	31	20.26%	1
EQUIPMENT/UG	31	20.26%	1
TREE	50	32.68%	2
OVERLOAD	8	5.23%	1
UNKNOWN	1	0.65%	1

Corrective actions taken or planned are noted below. These actions were developed through any combination of engineering reviews, circuit patrols, circuit inspections, and trimming. Circuit inspections and trimming are conducted on an appropriate cycle per rules 20 CSR 4240-23.020 and 20 CSR 4240.23-030 respectively.

Corrective Actions

Five incidents account for 92% of the customer interruptions on 280051 in 2023. At the time of four of the outages, this circuit was switched abnormally to tie this circuit to a neighboring circuit where the four issues were located. The issues on the neighboring circuit were due to a switch failing, an UG cable failure, and tree breakage during storms. Had the feeder been switched normally, the 280051 circuit would have only seen one customer interruption in 2023 and would not have been a worst performing circuit. That one incident on 280051 was due to a limb breaking off in a storm. A repair was made on OAS# 231980761. The last overhead visual and underground detailed CDIS inspections were performed in 2022. Any repair work identified as a result of these inspections will be completed in accordance with Ameren Missouri's infrastructure inspection policy. A mid-cycle tree trim patrol was completed in 2023 with a full-cycle tree trim planned for 2024. There are no recurring problems identified on the circuit and no further work is required at this time.

APPENDIX B

Single Year WPC Analysis and Remedial Action Report

Circuit Number: 282056
Division: MERAMEC VALLEY
ZIP Codes(s) Served: 63017, 63005
Customers Served: 639
Customer Interruptions (CI): 1,375
SAIFI Value: 2.15
SAIDI Value: 168

Outage Analysis

Causes	2023 Total CI	2023 % of Total CI	2023 # Incidents
EQUIPMENT/OH	653	47.49%	7
PUBLIC	1	0.07%	1
EQUIPMENT/UG	58	4.22%	6
TREE	639	46.47%	2
EMPLOYEES	1	0.07%	1
ANIMAL	23	1.67%	5

Corrective actions taken or planned are noted below. These actions were developed through any combination of engineering reviews, circuit patrols, circuit inspections, and trimming. Circuit inspections and trimming are conducted on an appropriate cycle per rules 20 CSR 4240-23.020 and 20 CSR 4240.23-030 respectively.

Corrective Actions

Two incidents accounted for 92% of customer interruptions in 2023. One incident was due to an underground equipment malfunction located near Clarkson Road and Clarkson Wilson Center. Repairs to the underground cable were completed under OAS 231433587. The second incident was due to a tree branch that contacted the overhead primary conductors located along Old Clarkson Road behind Chesterfield Ridge Circle. The tree limb was removed and repairs were completed under OAS 232381528. The remaining customer interruptions on the circuit in 2023 were due to device outages caused by equipment malfunctions, tree contacts, and animals. Division Engineering plans to install two 12kV intellirupter switches located along Old Baxter Rd and South Outer 40 Road to better sectionalize the circuit and enhance reliability. An underground visual inspection was completed in 2021, and overhead visual inspection was completed in 2022. Any repair work identified as a result of these circuit inspections will be completed in accordance with Ameren Missouri's infrastructure inspection policy. A mid-cycle tree patrol was completed in 2022. A full-cycle tree trim is planned for 2024.

APPENDIX B

Single Year WPC Analysis and Remedial Action Report

Circuit Number: 284053
Division: GATEWAY
ZIP Codes(s) Served: 63074, 63043, 63044, 63114, 63132
Customers Served: 1,399
Customer Interruptions (CI): 2,543
SAIFI Value: 1.82
SAIDI Value: 248

Outage Analysis

Causes	2023 Total CI	2023 % of Total CI	2023 # Incidents
EQUIPMENT/OH	1,420	55.84%	7
LIGHTNING	9	0.35%	2
EQUIPMENT/UG	16	0.63%	1
TREE	929	36.53%	22
ANIMAL	149	5.86%	5
OTHER	11	0.43%	3
UNKNOWN	9	0.35%	1

Corrective actions taken or planned are noted below. These actions were developed through any combination of engineering reviews, circuit patrols, circuit inspections, and trimming. Circuit inspections and trimming are conducted on an appropriate cycle per rules 20 CSR 4240-23.020 and 20 CSR 4240.23-030 respectively.

Corrective Actions

In 2023, eight overhead equipment instances resulted in 56% of customer interruptions. On August 19th, 2023, 92% of the customers on the circuit lost power due to a down wire (OAS# 232310043). Twenty-two tree instances resulted in 37% of the customer interruptions. A full-cycle tree trim is planned for 2024, and a mid-cycle patrol is planned for 2026. A detailed underground inspection was completed in 2022, and an overhead visual inspection was completed in 2023. These inspections were completed in accordance with Ameren Missouri's infrastructure inspection policy. There are no recurring problems on this circuit and no other work is required at this time.



APPENDIX B

Single Year WPC Analysis and Remedial Action Report

Circuit Number: 285054
Division: ARCHVIEW
ZIP Codes(s) Served: 63103, 63102, 63101
Customers Served: 342
Customer Interruptions (CI): 657
SAIFI Value: 1.92
SAIDI Value: 162

Outage Analysis

Causes	2023 Total CI	2023 % of Total CI	2023 # Incidents
ANIMAL	1	0.15%	1
OTHER	656	99.85%	3

Corrective actions taken or planned are noted below. These actions were developed through any combination of engineering reviews, circuit patrols, circuit inspections, and trimming. Circuit inspections and trimming are conducted on an appropriate cycle per rules 20 CSR 4240-23.020 and 20 CSR 4240.23-030 respectively.

Corrective Actions

Remainder of feeder was upgraded to EPR cable in 2023 in addition to new automated sectionalizing in 2022. An underground detail CDIS inspection was completed in 2022. An overhead visual inspection is planned for 2024. Any repair work identified as a result of these inspections will be completed in accordance with Ameren Missouri's infrastructure inspection policy. A mid-cycle tree patrol is planned for 2024, and a full-cycle tree trim is planned for 2026.

APPENDIX B

Single Year WPC Analysis and Remedial Action Report

Circuit Number: 294054
Division: ARCHVIEW
ZIP Codes(s) Served: 63102, 63101, 63103
Customers Served: 164
Customer Interruptions (CI): 432
SAIFI Value: 2.63
SAIDI Value: 286

Outage Analysis

Causes	2023 Total CI	2023 % of Total CI	2023 # Incidents
EQUIPMENT/UG	432	100.00%	5

Corrective actions taken or planned are noted below. These actions were developed through any combination of engineering reviews, circuit patrols, circuit inspections, and trimming. Circuit inspections and trimming are conducted on an appropriate cycle per rules 20 CSR 4240-23.020 and 20 CSR 4240.23-030 respectively.

Corrective Actions

All the outage events on 294054 in 2023 were due to underground malfunctions. This circuit was completely replaced with EPR cable in 2023, with the addition of automated sectionalizing and feeder ties between substations. A mid-cycle tree patrol is planned for 2024, and a full-cycle tree trim is planned for 2026. There are no reoccurring problems identified on the circuit and no further work is required at this time.

APPENDIX B

Single Year WPC Analysis and Remedial Action Report

Circuit Number: 295056
Division: MERAMEC VALLEY
ZIP Codes(s) Served: 63005, 63038, 63017
Customers Served: 597
Customer Interruptions (CI): 1,314
SAIFI Value: 2.20
SAIDI Value: 103

Outage Analysis

Causes	2023 Total CI	2023 % of Total CI	2023 # Incidents
EQUIPMENT/OH	617	46.96%	9
LIGHTNING	2	0.15%	2
PUBLIC	464	35.31%	7
EQUIPMENT/UG	20	1.52%	2
TREE	200	15.22%	12
ANIMAL	5	0.38%	5
UNKNOWN	6	0.46%	1

Corrective actions taken or planned are noted below. These actions were developed through any combination of engineering reviews, circuit patrols, circuit inspections, and trimming. Circuit inspections and trimming are conducted on an appropriate cycle per rules 20 CSR 4240-23.020 and 20 CSR 4240.23-030 respectively.

Corrective Actions

In 2023, 47% of interruptions were due to failed overhead equipment, including a circuit outage for a single phase tap repair. Repairs were made after the failure. 35% of interruptions were due to the public, mostly by poles hit by distracted drivers. Overhead visual inspections were completed in 2022. Underground visual inspections were completed in 2021. Any repair work identified as a result of these inspections will be completed in accordance with Ameren Missouri's infrastructure inspection policy. A full-cycle tree trim was completed in 2021, and the next full-cycle tree trim is planned for 2027. A mid-cycle tree patrol is planned in 2024. There are no reoccurring problems identified on the circuit and no further work is required at this time.

APPENDIX B

Single Year WPC Analysis and Remedial Action Report

Circuit Number: 452053
Division: SEMO
ZIP Codes(s) Served: 63830, 63851, 63877
Customers Served: 305
Customer Interruptions (CI): 746
SAIFI Value: 2.45
SAIDI Value: 335

Outage Analysis

Causes	2023 Total CI	2023 % of Total CI	2023 # Incidents
EQUIPMENT/OH	338	45.31%	18
LIGHTNING	101	13.54%	11
PUBLIC	292	39.14%	2
TREE	10	1.34%	4
ANIMAL	3	0.40%	3
OTHER	1	0.13%	1
UNKNOWN	1	0.13%	1

Corrective actions taken or planned are noted below. These actions were developed through any combination of engineering reviews, circuit patrols, circuit inspections, and trimming. Circuit inspections and trimming are conducted on an appropriate cycle per rules 20 CSR 4240-23.020 and 20 CSR 4240.23-030 respectively.

Corrective Actions

There were two incidents that made up 73% of customer interruptions in 2023. The first was due to a public vehicle accident at night that accounted for 38% of customer interruptions. The other incident was an overhead malfunction due to storm activity on 07/15/23. There was work completed in 2023 to upgrade the Hayti 72 34kV line from Hayti to Caruthersville on SEP project #J0NRH which will provide lightning protection, T2 wire to prevent galloping, and storm poles to resist high winds. Other projects to repair primary were completed in 2023 on Maximo work orders KA54932 and KA60611. No further actions are planned in 2024. A full-cycle tree trim is planned for 2025, and a mid-cycle patrol is planned for 2028.



APPENDIX B

Single Year WPC Analysis and Remedial Action Report

Circuit Number: 503055
Division: MERAMEC VALLEY
ZIP Codes(s) Served: 63084
Customers Served: 1,258
Customer Interruptions (CI): 2,185
SAIFI Value: 1.74
SAIDI Value: 141

Outage Analysis

Causes	2023 Total CI	2023 % of Total CI	2023 # Incidents
EQUIPMENT/OH	88	4.03%	6
LIGHTNING	1	0.05%	1
PUBLIC	921	42.15%	1
TREE	1,160	53.09%	2
ANIMAL	6	0.27%	5
UNKNOWN	9	0.41%	2

Corrective actions taken or planned are noted below. These actions were developed through any combination of engineering reviews, circuit patrols, circuit inspections, and trimming. Circuit inspections and trimming are conducted on an appropriate cycle per rules 20 CSR 4240-23.020 and 20 CSR 4240.23-030 respectively.

Corrective Actions

There are two main incidents on this circuit, and they were associated with a public collision and tree contact with our facilities. These issues have been repaired/replaced on KA50895 and KA39369, respectively. An underground detail inspection was completed in 2020, and an underground visual inspection is planned for 2024. Any repair work identified as a result of these inspections will be completed in accordance with Ameren Missouri's infrastructure inspection policy. A full-cycle tree trim was completed in 2020, and a mid-cycle inspection is planned for 2024. No further work is necessary at this time.

APPENDIX B

Single Year WPC Analysis and Remedial Action Report

Circuit Number: 512054
Division: MERAMEC VALLEY
ZIP Codes(s) Served: 63090, 63068
Customers Served: 599
Customer Interruptions (CI): 1,050
SAIFI Value: 1.75
SAIDI Value: 264

Outage Analysis

Causes	2023 Total CI	2023 % of Total CI	2023 # Incidents
EQUIPMENT/OH	150	14.29%	16
LIGHTNING	4	0.38%	4
PUBLIC	1	0.10%	1
TREE	254	24.19%	11
ANIMAL	598	56.95%	8
UNKNOWN	43	4.10%	6

Corrective actions taken or planned are noted below. These actions were developed through any combination of engineering reviews, circuit patrols, circuit inspections, and trimming. Circuit inspections and trimming are conducted on an appropriate cycle per rules 20 CSR 4240-23.020 and 20 CSR 4240.23-030 respectively.

Corrective Actions

There are three main incidents on this circuit, and they were due to animal contact and tree contact with our facilities. These issues have been repaired/replaced on OAS# 231690059, KA32131, and OAS# 232194738, respectively. Overhead and underground visual inspections were completed in 2022. Any repair work identified as a result of these inspections will be completed in accordance with Ameren Missouri's infrastructure inspection policy. A full-cycle tree trim was completed in 2020 with the next full-cycle planned for 2026. No further work is necessary at this time.

APPENDIX B

Single Year WPC Analysis and Remedial Action Report

Circuit Number: 536051
Division: MERAMEC VALLEY
ZIP Codes(s) Served: 63036, 63087, 63020, 63628, 63028
Customers Served: 2,935
Customer Interruptions (CI): 4,943
SAIFI Value: 1.68
SAIDI Value: 129

Outage Analysis

Causes	2023 Total CI	2023 % of Total CI	2023 # Incidents
EQUIPMENT/OH	1,119	22.64%	26
LIGHTNING	54	1.09%	12
PUBLIC	2	0.04%	2
TREE	3,490	70.60%	28
ANIMAL	77	1.56%	27
OTHER	56	1.13%	9
UNKNOWN	145	2.93%	13

Corrective actions taken or planned are noted below. These actions were developed through any combination of engineering reviews, circuit patrols, circuit inspections, and trimming. Circuit inspections and trimming are conducted on an appropriate cycle per rules 20 CSR 4240-23.020 and 20 CSR 4240.23-030 respectively.

Corrective Actions

Six incidents account for 84% of the customer interruptions in 2023. One issue was caused by a broken tree limb that broke a crossarm and was repaired on OAS# 232011804. The second issue was caused by a faulty recloser following a storm and was repaired on OAS# 232264718. The other four issues were due to broken trees and tree contact on four different occasions that all caused the same recloser to fault open. These were repaired on the following jobs: KA28724, OAS# 232001491, OAS# 232002152, OAS# 232151309. A full-cycle tree trim patrol was completed in 2023, which should help solve some of the tree related issues. An underground detailed inspection is planned for 2024. Any repair work identified as a result of the inspection will be completed in accordance with Ameren Missouri's infrastructure inspection policy. There are no recurring problems identified on the circuit and no further work is required at this time.

APPENDIX B

Single Year WPC Analysis and Remedial Action Report

Circuit Number: 536052
Division: MERAMEC VALLEY
ZIP Codes(s) Served: 63020, 63628, 63087, 63630, 63626
Customers Served: 1,117
Customer Interruptions (CI): 3,125
SAIFI Value: 2.80
SAIDI Value: 563

Outage Analysis

Causes	2023 Total CI	2023 % of Total CI	2023 # Incidents
EQUIPMENT/OH	447	14.30%	32
LIGHTNING	12	0.38%	8
PUBLIC	1,091	34.91%	1
TREE	1,517	48.54%	15
ANIMAL	40	1.28%	15
OTHER	16	0.51%	8
UNKNOWN	2	0.06%	2

Corrective actions taken or planned are noted below. These actions were developed through any combination of engineering reviews, circuit patrols, circuit inspections, and trimming. Circuit inspections and trimming are conducted on an appropriate cycle per rules 20 CSR 4240-23.020 and 20 CSR 4240.23-030 respectively.

Corrective Actions

Four incidents were responsible for 84% of the customer interruptions in 2023. One issue was caused by a burning hot line clamp on the B phase that caused a recloser to fault open and was repaired on KA20933. The second issue was caused by an incident involving a public vehicle breaking a pole and was repaired on KA30917. The third issue was caused by a broken tree following high winds that knocked down a span of primary and was repaired on OAS# 230910871. The fourth issue was caused by broken primary due to a broken tree following a thunderstorm and was repaired on OAS# 232001509. An overhead visual inspection is planned for 2024. Any repair work identified as a result of these inspections will be completed in accordance with Ameren Missouri's infrastructure inspection policy. A full-cycle tree trim patrol was completed in 2023. There are no recurring problems identified on the circuit and no further work is required at this time.

APPENDIX B

Single Year WPC Analysis and Remedial Action Report

Circuit Number: 542053
Division: GATEWAY
ZIP Codes(s) Served: 63301
Customers Served: 830
Customer Interruptions (CI): 1,591
SAIFI Value: 1.92
SAIDI Value: 187

Outage Analysis

Causes	2023 Total CI	2023 % of Total CI	2023 # Incidents
EQUIPMENT/OH	15	0.94%	3
PUBLIC	810	50.91%	1
EQUIPMENT/UG	1	0.06%	1
TREE	295	18.54%	8
ANIMAL	357	22.44%	9
UNKNOWN	113	7.10%	2

Corrective actions taken or planned are noted below. These actions were developed through any combination of engineering reviews, circuit patrols, circuit inspections, and trimming. Circuit inspections and trimming are conducted on an appropriate cycle per rules 20 CSR 4240-23.020 and 20 CSR 4240.23-030 respectively.

Corrective Actions

One incident resulted in 51% (810/1591) of the customer interruptions in 2023. This incident was the result of a broken crossarm. The repairs were corrected at the time of the outage. An overhead visual inspection was completed in 2021. An underground visual inspection was completed in 2021, and a detailed inspection was completed in 2021 as well. Any repair work identified as a result of the inspections will be completed in accordance with Ameren Missouri's infrastructure inspection policy. A full-cycle trim was completed in 2023, and next trim is planned for 2027. There are no recurring problems on this circuit and no other work is required at this time.

APPENDIX B

Single Year WPC Analysis and Remedial Action Report

Circuit Number: 556052
Division: MERAMEC VALLEY
ZIP Codes(s) Served: 63069
Customers Served: 93
Customer Interruptions (CI): 192
SAIFI Value: 2.07
SAIDI Value: 175

Outage Analysis

Causes	2023 Total CI	2023 % of Total CI	2023 # Incidents
EQUIPMENT/OH	95	49.48%	3
PUBLIC	3	1.56%	1
TREE	1	0.52%	1
ANIMAL	93	48.44%	1

Corrective actions taken or planned are noted below. These actions were developed through any combination of engineering reviews, circuit patrols, circuit inspections, and trimming. Circuit inspections and trimming are conducted on an appropriate cycle per rules 20 CSR 4240-23.020 and 20 CSR 4240.23-030 respectively.

Corrective Actions

There have been three main outages on this circuit, and these outages have been associated with equipment malfunctions, animal contact, and a public collision with our facilities. These issues have been repaired/replaced on OAS# 232841399, KA65116, and KA42664, respectively. An overhead visual inspection was completed in 2022, and an underground visual inspection was completed in 2023. Any repair work identified as a result of these inspections will be completed in accordance with Ameren Missouri's infrastructure inspection policy. A full-cycle tree trim was completed in 2020 with the next full-cycle planned for 2026. No further work is necessary at this time.

APPENDIX B

Single Year WPC Analysis and Remedial Action Report

Circuit Number: 556053
Division: MERAMEC VALLEY
ZIP Codes(s) Served: 63069, 63115
Customers Served: 723
Customer Interruptions (CI): 1,598
SAIFI Value: 2.21
SAIDI Value: 398

Outage Analysis

Causes	2023 Total CI	2023 % of Total CI	2023 # Incidents
EQUIPMENT/OH	363	22.72%	11
LIGHTNING	19	1.19%	2
PUBLIC	5	0.31%	2
EQUIPMENT/UG	47	2.94%	4
TREE	949	59.39%	11
ANIMAL	38	2.38%	5
OTHER	40	2.50%	1
UNKNOWN	137	8.57%	4

Corrective actions taken or planned are noted below. These actions were developed through any combination of engineering reviews, circuit patrols, circuit inspections, and trimming. Circuit inspections and trimming are conducted on an appropriate cycle per rules 20 CSR 4240-23.020 and 20 CSR 4240.23-030 respectively.

Corrective Actions

Almost 60% of the customer interruptions on this circuit were due to broken trees or limb contact in a relatively isolated area. Vegetation will be notified to patrol this circuit and clear this specific area ahead of the full-cycle trim. An additional 5% of the customer interruptions on this circuit was due to an arranged outage on OAS# 231021671. A groundline inspection was completed in 2022 and underground visual inspection was completed in 2023. Any repair work identified as a result of these inspections will be completed in accordance with Ameren Missouri's infrastructure inspection policy. A full-cycle tree trim was completed in 2020 with the next full-cycle planned for 2026. No further work is necessary at this time.

APPENDIX B

Single Year WPC Analysis and Remedial Action Report

Circuit Number: 557052
Division: SEMO
ZIP Codes(s) Served: 63601, 63640, 63031, 63104, 63109
Customers Served: 2,100
Customer Interruptions (CI): 4,743
SAIFI Value: 2.26
SAIDI Value: 191

Outage Analysis

Causes	2023 Total CI	2023 % of Total CI	2023 # Incidents
EQUIPMENT/OH	389	8.20%	15
LIGHTNING	42	0.89%	6
PUBLIC	2,056	43.35%	5
TREE	85	1.79%	10
ANIMAL	84	1.77%	10
OTHER	2,053	43.28%	5
UNKNOWN	34	0.72%	3

Corrective actions taken or planned are noted below. These actions were developed through any combination of engineering reviews, circuit patrols, circuit inspections, and trimming. Circuit inspections and trimming are conducted on an appropriate cycle per rules 20 CSR 4240-23.020 and 20 CSR 4240.23-030 respectively.

Corrective Actions

Five separate public vehicle/equipment incidents accounted for over 43% of the customer interruptions in 2023. Repairs and improvements were made after each occurrence to both repair the problem and to also mitigate a future event in that location. Four new intellirupters will be installed throughout the circuit in 2024 including two at circuit midpoint locations and two at locations that tie with other circuits that will provide automated switching and sectionalizing capabilities to eliminate or reduce the number of customers our during an outage event in the future. A full-tree trim cycle was completed on the circuit in the second half of 2023 along with repairs that were identified in an underground detail CDIS inspection completed in 2022 in accordance with Ameren Missouri's infrastructure inspection policy. There is a mid-cycle patrol planned for 2025, and a full-cycle tree trim planned for 2027.



APPENDIX B

Single Year WPC Analysis and Remedial Action Report

Circuit Number: 561052
Division: SEMO
ZIP Codes(s) Served: 63628
Customers Served: 27
Customer Interruptions (CI): 86
SAIFI Value: 3.19
SAIDI Value: 2043

Outage Analysis

Causes	2023 Total CI	2023 % of Total CI	2023 # Incidents
EQUIPMENT/OH	27	31.40%	2
LIGHTNING	27	31.40%	1
TREE	27	31.40%	1
UNKNOWN	5	5.81%	2

Corrective actions taken or planned are noted below. These actions were developed through any combination of engineering reviews, circuit patrols, circuit inspections, and trimming. Circuit inspections and trimming are conducted on an appropriate cycle per rules 20 CSR 4240-23.020 and 20 CSR 4240.23-030 respectively.

Corrective Actions

Two large trees falling onto the circuit backbone and damaging equipment during a storm accounted for 31% of the customer interruptions in 2023. In Q4 of 2023, two major projects (J0GH9 & J0GDS) were completed and placed in service that added a second transformer at the Terre Du Lac Substation and included building a new nine mile second 34kV supply to the substation. Repairs identified during a 2022 overhead visual inspection were also completed throughout 2023 in accordance with Ameren Missouri's infrastructure inspection policy. A mid-cycle patrol is planned for 2025, and a full-cycle tree trim is planned for 2028.

APPENDIX B

Single Year WPC Analysis and Remedial Action Report

Circuit Number: 563052
Division: SEMO
ZIP Codes(s) Served: 63628, 63087, 63036, 63601, 63640
Customers Served: 1,050
Customer Interruptions (CI): 2,199
SAIFI Value: 2.09
SAIDI Value: 312

Outage Analysis

Causes	2023 Total CI	2023 % of Total CI	2023 # Incidents
EQUIPMENT/OH	319	14.51%	11
LIGHTNING	1,080	49.11%	15
PUBLIC	111	5.05%	1
TREE	579	26.33%	7
ANIMAL	108	4.91%	23
OTHER	1	0.05%	1
UNKNOWN	1	0.05%	1

Corrective actions taken or planned are noted below. These actions were developed through any combination of engineering reviews, circuit patrols, circuit inspections, and trimming. Circuit inspections and trimming are conducted on an appropriate cycle per rules 20 CSR 4240-23.020 and 20 CSR 4240.23-030 respectively.

Corrective Actions

Almost 79% of the customer interruptions in 2023 took place during storm events. Throughout a thorough review of the circuit, we have identified multiple locations that are being assessed for consideration to install additional protective devices in the form of trip savers or reclosers to help in clearing faults should they occur to help in potentially eliminating future outages at those locations. In 2023, both an overhead visual and an underground detail CDIS inspection were completed. All the identified repairs from these inspections are in the process of being repaired and will be completed in 2024 in accordance with Ameren Missouri's infrastructure inspection policy. Additionally, a full-cycle tree trim is planned for 2026.

APPENDIX B

Single Year WPC Analysis and Remedial Action Report

Circuit Number: 563053
Division: SEMO
ZIP Codes(s) Served: 63628, 63104, 63105, 63116, 63301
Customers Served: 1,690
Customer Interruptions (CI): 4,492
SAIFI Value: 2.66
SAIDI Value: 192

Outage Analysis

Causes	2023 Total CI	2023 % of Total CI	2023 # Incidents
EQUIPMENT/OH	1,751	38.98%	17
LIGHTNING	1,169	26.02%	7
PUBLIC	4	0.09%	2
TREE	261	5.81%	8
EMPLOYEES	1	0.02%	1
ANIMAL	43	0.96%	6
OTHER	1,187	26.42%	3
UNKNOWN	76	1.69%	2

Corrective actions taken or planned are noted below. These actions were developed through any combination of engineering reviews, circuit patrols, circuit inspections, and trimming. Circuit inspections and trimming are conducted on an appropriate cycle per rules 20 CSR 4240-23.020 and 20 CSR 4240.23-030 respectively.

Corrective Actions

In 2023, 88% of the customer interruptions were experienced during storm events that were widespread across the area. Throughout a thorough review of the circuit, we have identified multiple locations that are being assessed for consideration to install additional protective devices in the form of trip savers or reclosers to help in clearing faults should they occur to help in potentially eliminating future outages at those locations. Repairs were completed in accordance with Ameren Missouri's infrastructure inspection policy for issues identified during the overhead visual CDIS inspection completed in 2022. A full-cycle tree trimming is currently planned to be executed in 2025 for this circuit.

APPENDIX B

Single Year WPC Analysis and Remedial Action Report

Circuit Number: 569057
Division: CENTRAL MO
ZIP Codes(s) Served: 65047, 65065, 65052, 65486, 65017
Customers Served: 685
Customer Interruptions (CI): 1,423
SAIFI Value: 2.08
SAIDI Value: 307

Outage Analysis

Causes	2023 Total CI	2023 % of Total CI	2023 # Incidents
EQUIPMENT/OH	693	48.70%	5
EQUIPMENT/UG	661	46.45%	2
TREE	4	0.28%	4
ANIMAL	63	4.43%	4
UNKNOWN	2	0.14%	1

Corrective actions taken or planned are noted below. These actions were developed through any combination of engineering reviews, circuit patrols, circuit inspections, and trimming. Circuit inspections and trimming are conducted on an appropriate cycle per rules 20 CSR 4240-23.020 and 20 CSR 4240.23-030 respectively.

Corrective Actions

Over 95% of the customer interruptions on this circuit were due to equipment malfunctions. The most significant event in terms of customer interruptions was caused by the underground switch failure during calm conditions, and loads could not be transferred remotely. An overhead visual inspection completed as part of the WPC review identified a need for additional animal guarding, lightning arrester caps, and transformer fusing that will all be addressed under work order KA94310. An underground visual inspection was completed in 2022, and an overhead inspection was completed in 2023. Any repair work identified as a result of these inspections will be completed in accordance with Ameren Missouri's infrastructure inspection policy. The most recent full-cycle tree trim was completed in 2023. The next full-cycle tree trim is planned for 2029 with a mid-cycle patrol planned for 2026. No recurring problems beyond those identified by the groundline inspection were identified on the circuit as part of the review.

APPENDIX B

Single Year WPC Analysis and Remedial Action Report

Circuit Number: 571051
Division: SEMO
ZIP Codes(s) Served: 63640, 63651, 63645
Customers Served: 345
Customer Interruptions (CI): 704
SAIFI Value: 2.04
SAIDI Value: 149

Outage Analysis

Causes	2023 Total CI	2023 % of Total CI	2023 # Incidents
EQUIPMENT/OH	429	60.94%	5
LIGHTNING	4	0.57%	4
TREE	264	37.50%	3
ANIMAL	7	0.99%	5

Corrective actions taken or planned are noted below. These actions were developed through any combination of engineering reviews, circuit patrols, circuit inspections, and trimming. Circuit inspections and trimming are conducted on an appropriate cycle per rules 20 CSR 4240-23.020 and 20 CSR 4240.23-030 respectively.

Corrective Actions

Almost 38% of the customer interruptions in 2023 were due to tree related issues which will be addressed as the circuit is planned for a full-cycle tree trim in 2024. Repairs were completed throughout 2023 in accordance with Ameren Missouri's infrastructure inspection policy that were identified in a groundline CDIS inspection completed in 2022. An additional intellirupter was added to the circuit in late 2023 to work in conjunction with multiple existing intellirupters to provide additional automated switching and sectionalizing capabilities to eliminate or minimize the number of customers impacted by a future outage event. A project (UEC10686) has been designed and will be constructed in 2024 that will rebuild around 1.25 miles of existing single-phase line on the circuit with new poles and three phase wire to strengthen the circuit, provide better voltage stabilization and provide additional load balancing capabilities.

APPENDIX B

Single Year WPC Analysis and Remedial Action Report

Circuit Number: 622054
Division: SEMO
ZIP Codes(s) Served: 63834
Customers Served: 371
Customer Interruptions (CI): 739
SAIFI Value: 1.99
SAIDI Value: 286

Outage Analysis

Causes	2023 Total CI	2023 % of Total CI	2023 # Incidents
EQUIPMENT/OH	473	64.01%	7
PUBLIC	12	1.62%	2
TREE	1	0.14%	1
ANIMAL	2	0.27%	2
UNKNOWN	251	33.96%	1

Corrective actions taken or planned are noted below. These actions were developed through any combination of engineering reviews, circuit patrols, circuit inspections, and trimming. Circuit inspections and trimming are conducted on an appropriate cycle per rules 20 CSR 4240-23.020 and 20 CSR 4240.23-030 respectively.

Corrective Actions

97% of the customer interruptions in 2023 were likely due to high winds on 02/27/23. Work is planned to upgrade the Charleston 72 34kV line from Charleston to East Prairie which consists of installing an OPGW static wire, replacing poles, and rec-conductoring the 12kV from Charleston to Anniston on the SEP "CHAR-72 upgrade" on project #J1075. This will provide much needed lightning protection and offer reliable tie between Charleston and Anniston. A underground detail inspection was completed in 2022, and an overhead visual CDIS inspection is planned for 2024. Any repair work identified as a result of these inspections will be completed in accordance with Ameren Missouri's infrastructure inspection policy. A mid-cycle patrol is planned for 2024, and a full-cycle tree trim is planned for 2027.

APPENDIX B

Single Year WPC Analysis and Remedial Action Report

Circuit Number: 628053
Division: SEMO
ZIP Codes(s) Served: 63841, 63376
Customers Served: 996
Customer Interruptions (CI): 2,456
SAIFI Value: 2.47
SAIDI Value: 155

Outage Analysis

Causes	2023 Total CI	2023 % of Total CI	2023 # Incidents
EQUIPMENT/OH	1,287	52.40%	12
PUBLIC	310	12.62%	1
TREE	738	30.05%	1
ANIMAL	93	3.79%	10
OTHER	28	1.14%	4

Corrective actions taken or planned are noted below. These actions were developed through any combination of engineering reviews, circuit patrols, circuit inspections, and trimming. Circuit inspections and trimming are conducted on an appropriate cycle per rules 20 CSR 4240-23.020 and 20 CSR 4240.23-030 respectively.

Corrective Actions

Four incidents account for around 92% of customer interruptions. The first incident was due to a public vehicle accident that broke a pole which account for around 13% of customer interruptions. The next two were due to a storms on 03/03/23 that resulted in a down primary due to a broken tree and a overhead equipment malfunction that was repaired on DOJM workorder 2TSE136723 that combined contributed to almost 40% of customer interruptions. The last incident was due to a insulator that failed during a storm on 08/04/23 accounting for 39% percent of customer interruptions. An additional intellirupter is being planned to be installed by the DA group in 2024 to isolate outages and provide a tie and sectionalizing to the Dexter 3 Mile 655-55 circuit. A overhead visual inspection was completed in 2021, and a underground detail CDIS inspection is planned fo 2024. Any repair work identified as a result of these inspections will be completed in accordance with Ameren Missouri's infrastructure inspection policy. A mid-cycle patrol was compelted in 2022, and a full-cycle tree trim is planned for 2024. The next mid-cycle patrol is planned for 2026.

APPENDIX B

Single Year WPC Analysis and Remedial Action Report

Circuit Number: 629051
Division: NORTHEAST MO
ZIP Codes(s) Served: 63336, 63330, 63353
Customers Served: 481
Customer Interruptions (CI): 1,763
SAIFI Value: 3.67
SAIDI Value: 590

Outage Analysis

Causes	2023 Total CI	2023 % of Total CI	2023 # Incidents
EQUIPMENT/OH	686	38.91%	17
LIGHTNING	1	0.06%	1
TREE	572	32.44%	8
ANIMAL	19	1.08%	5
OTHER	1	0.06%	1
UNKNOWN	484	27.45%	11

Corrective actions taken or planned are noted below. These actions were developed through any combination of engineering reviews, circuit patrols, circuit inspections, and trimming. Circuit inspections and trimming are conducted on an appropriate cycle per rules 20 CSR 4240-23.020 and 20 CSR 4240.23-030 respectively.

Corrective Actions

Project has been proposed to install three new pad-mount 34.5-12.5kV stations along Hwy 79 (one just south of Annada, one between Clarksville and Annada, and one on the north side of Clarksville). This project would split the 629051 circuit and provide tie capacity to the split sections. In addition, the existing Annada Substation, which is in a flood plain, would be eliminated. An underground visual CDIS inspection was completed in 2023. Any repair work identified as a result of the inspection will be completed in accordance with Ameren Missouri's infrastructure inspection policy. A full-cycle tree trim is planned for 2025.

APPENDIX B

Single Year WPC Analysis and Remedial Action Report

Circuit Number: 635002
Division: SEMO
ZIP Codes(s) Served: 63701
Customers Served: 58
Customer Interruptions (CI): 118
SAIFI Value: 2.03
SAIDI Value: 134

Outage Analysis

Causes	2023 Total CI	2023 % of Total CI	2023 # Incidents
EQUIPMENT/OH	62	52.54%	3
TREE	56	47.46%	1

Corrective actions taken or planned are noted below. These actions were developed through any combination of engineering reviews, circuit patrols, circuit inspections, and trimming. Circuit inspections and trimming are conducted on an appropriate cycle per rules 20 CSR 4240-23.020 and 20 CSR 4240.23-030 respectively.

Corrective Actions

Two incidents accounted for 89% of customer interruptions in 2023. One was due to a broken tree that accounts for 47% of customer interruptions and the other was due to jumper that burned. There is planned work to re-coordinate fuse sizes and isolate unused sections on the circuit which will reduce exposure to lightning, tree and animal contact. This work will be done on Maximo workorder KB03489. An underground detailed CDIS inspection was completed in 2021. Any repair work identified as a result of the inspection will be completed in accordance with Ameren Missouri's infrastructure inspection policy. A full-cycle tree trim is planned for 2024, and a mid-cycle patrol is planned for 2027.

APPENDIX B

Single Year WPC Analysis and Remedial Action Report

Circuit Number: 636054
Division: NORTHEAST MO
ZIP Codes(s) Served: 63366, 63376, 63110, 63116
Customers Served: 1,422
Customer Interruptions (CI): 2,986
SAIFI Value: 2.10
SAIDI Value: 94

Outage Analysis

Causes	2023 Total CI	2023 % of Total CI	2023 # Incidents
EQUIPMENT/UG	34	1.14%	2
TREE	2,868	96.05%	4
ANIMAL	84	2.81%	2

Corrective actions taken or planned are noted below. These actions were developed through any combination of engineering reviews, circuit patrols, circuit inspections, and trimming. Circuit inspections and trimming are conducted on an appropriate cycle per rules 20 CSR 4240-23.020 and 20 CSR 4240.23-030 respectively.

Corrective Actions

In 2023, 96% of the customer interruptions were due to tree related issues. A project has been identified to install two new 12.5kV intellirupters on the circuit, one at the mid-point and one at the normal open tie switch to Sondern 641-52 circuit, however a job number is not available yet. A full-cycle tree trim is planned for 2024.

APPENDIX B

Single Year WPC Analysis and Remedial Action Report

Circuit Number: 641056
Division: NORTHEAST MO
ZIP Codes(s) Served: 63366, 63376, 63368
Customers Served: 2,021
Customer Interruptions (CI): 4,624
SAIFI Value: 2.29
SAIDI Value: 171

Outage Analysis

Causes	2023 Total CI	2023 % of Total CI	2023 # Incidents
EQUIPMENT/OH	4,334	93.73%	11
EQUIPMENT/UG	28	0.61%	2
TREE	131	2.83%	4
ANIMAL	131	2.83%	1

Corrective actions taken or planned are noted below. These actions were developed through any combination of engineering reviews, circuit patrols, circuit inspections, and trimming. Circuit inspections and trimming are conducted on an appropriate cycle per rules 20 CSR 4240-23.020 and 20 CSR 4240.23-030 respectively.

Corrective Actions

In the fall of 2023, two new 12.5kV Intellirupters were added at mid-points on this circuit (Sondern 641-56). Two others were added to tie with Cool Springs 636-56 circuit and Sondern 641-57 circuit, respectively. An overhead visual inspection is planned for 2024. Any repair work identified as a result of the inspection will be completed in accordance with Ameren Missouri's infrastructure inspection policy. A full-cycle tree trim is planned for 2024, and mid-cycle patrol is planned for 2026.



APPENDIX B

Single Year WPC Analysis and Remedial Action Report

Circuit Number: 648051
Division: NORTHEAST MO
ZIP Codes(s) Served: 63385, 63111, 63301, 63102, 63376
Customers Served: 721
Customer Interruptions (CI): 2,944
SAIFI Value: 4.08
SAIDI Value: 238

Outage Analysis

Causes	2023 Total CI	2023 % of Total CI	2023 # Incidents
EQUIPMENT/OH	1,287	43.72%	11
PUBLIC	196	6.66%	2
ANIMAL	1,431	48.61%	2
OTHER	30	1.02%	2

Corrective actions taken or planned are noted below. These actions were developed through any combination of engineering reviews, circuit patrols, circuit inspections, and trimming. Circuit inspections and trimming are conducted on an appropriate cycle per rules 20 CSR 4240-23.020 and 20 CSR 4240.23-030 respectively.

Corrective Actions

Project has been identified to add two distribution automation devices (two 12.5kV Intellirupters) to this circuit, however a job number is not available yet. A full-cycle tree trim is planned for 2025.

APPENDIX B

Single Year WPC Analysis and Remedial Action Report

Circuit Number: 648054
Division: NORTHEAST MO
ZIP Codes(s) Served: 63385, 63348, 63031, 63109, 63127
Customers Served: 1,511
Customer Interruptions (CI): 3,074
SAIFI Value: 2.03
SAIDI Value: 149

Outage Analysis

Causes	2023 Total CI	2023 % of Total CI	2023 # Incidents
EQUIPMENT/OH	2,962	96.36%	8
LIGHTNING	4	0.13%	4
PUBLIC	2	0.07%	2
EQUIPMENT/UG	81	2.64%	7
ANIMAL	1	0.03%	1
OTHER	1	0.03%	1
UNKNOWN	23	0.75%	1

Corrective actions taken or planned are noted below. These actions were developed through any combination of engineering reviews, circuit patrols, circuit inspections, and trimming. Circuit inspections and trimming are conducted on an appropriate cycle per rules 20 CSR 4240-23.020 and 20 CSR 4240.23-030 respectively.

Corrective Actions

Although the incident was coded to be an overhead equipment malfunction, 48% of the customer interruptions in 2023 were related to faulted cable in an underground vault. New Foristell 34.5-12.5kV Substation is planned to be completed by 6/1/24. One of the new Foristell 12.5kV circuits will be supplying a portion of the existing May Rd 648-54 12.5kV circuit reducing the exposure on this circuit and creating a new tie. A full-cycle tree trim is planned for 2025.

APPENDIX B

Single Year WPC Analysis and Remedial Action Report

Circuit Number: 665054
Division: NORTHEAST MO
ZIP Codes(s) Served: 63379
Customers Served: 838
Customer Interruptions (CI): 1,797
SAIFI Value: 2.14
SAIDI Value: 161

Outage Analysis

Causes	2023 Total CI	2023 % of Total CI	2023 # Incidents
EQUIPMENT/OH	1,715	95.44%	13
LIGHTNING	6	0.33%	1
TREE	68	3.78%	2
EMPLOYEES	1	0.06%	1
OTHER	3	0.17%	1
UNKNOWN	4	0.22%	1

Corrective actions taken or planned are noted below. These actions were developed through any combination of engineering reviews, circuit patrols, circuit inspections, and trimming. Circuit inspections and trimming are conducted on an appropriate cycle per rules 20 CSR 4240-23.020 and 20 CSR 4240.23-030 respectively.

Corrective Actions

A project has been identified to add two distribution automation devices (two 12.5kV Intellirupters) to this circuit; however a job number is not available yet. Overhead visual inspection was completed in 2023, and underground detailed inspections is planned in 2024. Any repair work identified as a result of these inspections will be completed in accordance with Ameren Missouri's infrastructure inspection policy. A full-cycle tree trim is planned for 2024.

APPENDIX B

Single Year WPC Analysis and Remedial Action Report

Circuit Number: 676051
Division: CENTRAL MO
ZIP Codes(s) Served: 65026
Customers Served: 1,001
Customer Interruptions (CI): 2,128
SAIFI Value: 2.13
SAIDI Value: 309

Outage Analysis

Causes	2023 Total CI	2023 % of Total CI	2023 # Incidents
EQUIPMENT/OH	782	36.75%	9
PUBLIC	29	1.36%	1
EQUIPMENT/UG	39	1.83%	3
TREE	1,226	57.61%	12
ANIMAL	51	2.40%	7
OTHER	1	0.05%	1

Corrective actions taken or planned are noted below. These actions were developed through any combination of engineering reviews, circuit patrols, circuit inspections, and trimming. Circuit inspections and trimming are conducted on an appropriate cycle per rules 20 CSR 4240-23.020 and 20 CSR 4240.23-030 respectively.

Corrective Actions

On 676051 in 2023, 58% of the customer interruptions were tree-related while another 37% were due to overhead equipment issues. Approximately 50% of customer interruptions were due to two separate circuit outages both caused by broken tree limbs and downed primary during storms. Supplemental fault current indicators (FCI's) were added to the circuit in 2023. A phase balancing study and overhead visual inspection were completed as part of the WPC review. It was determined that there is some phase imbalance and a need for additional animal guarding, lightning arresters and transformer fusing that will all be addressed under work order KA95954 along with insulator and crossarm replacements. Groundline and underground detail inspections were completed in 2021. Underground and overhead inspections are planned for 2025. Any repair work identified as a result of the inspections will be completed in accordance with Ameren Missouri's infrastructure inspection policy. A mid-cycle patrol was completed in 2022, and a full-cycle tree trim is planned for 2025.

APPENDIX B

Single Year WPC Analysis and Remedial Action Report

Circuit Number: 685053
Division: SEMO
ZIP Codes(s) Served: 63867, 63801, 63114, 63868
Customers Served: 485
Customer Interruptions (CI): 946
SAIFI Value: 1.95
SAIDI Value: 311

Outage Analysis

Causes	2023 Total CI	2023 % of Total CI	2023 # Incidents
EQUIPMENT/OH	688	72.73%	18
LIGHTNING	4	0.42%	4
TREE	32	3.38%	2
ANIMAL	65	6.87%	5
OTHER	157	16.60%	1

Corrective actions taken or planned are noted below. These actions were developed through any combination of engineering reviews, circuit patrols, circuit inspections, and trimming. Circuit inspections and trimming are conducted on an appropriate cycle per rules 20 CSR 4240-23.020 and 20 CSR 4240.23-030 respectively.

Corrective Actions

There were two events that account for 82% of customer interruptions in 2023. The first one that accounted for 50% of customer interruptions was due to a broken pole during a thunderstorm on 02/22/23. The other event was related to a regulator that failed. Work was completed in 2023 to identify and replace two line regulators that were damaged from lightning strikes which were causing outages on DOJM workorder 2TSE136788. Underground detail and visual CDIS inspections were complete in 2021. Any repair work identified as a result of the inspection will be completed in accordance with Ameren Missouri's infrastructure inspection policy. A full-cycle tree trim is planned for 2024, and a mid-cycle patrol is planned for 2027. No further actions are planned in 2024.

APPENDIX B

Single Year WPC Analysis and Remedial Action Report

Circuit Number: 688007
Division: SEMO
ZIP Codes(s) Served: 63868, 63801, 63846, 63841
Customers Served: 204
Customer Interruptions (CI): 610
SAIFI Value: 2.99
SAIDI Value: 415

Outage Analysis

Causes	2023 Total CI	2023 % of Total CI	2023 # Incidents
EQUIPMENT/OH	356	58.36%	4
LIGHTNING	4	0.66%	2
EQUIPMENT/UG	49	8.03%	2
ANIMAL	4	0.66%	2
UNKNOWN	197	32.30%	1

Corrective actions taken or planned are noted below. These actions were developed through any combination of engineering reviews, circuit patrols, circuit inspections, and trimming. Circuit inspections and trimming are conducted on an appropriate cycle per rules 20 CSR 4240-23.020 and 20 CSR 4240.23-030 respectively.

Corrective Actions

Three incidents account for 90% percent of the customer interruptions in 2023. One was a feeder outage due to a broken pole during a thunderstorm on 02/22/23 accounting for 33% of customer interruptions. The second incident was related to an overhead equipment malfunction accounting for 25% of customer interruptions, and the third was a feeder outage that was likely caused by severe summer weather accounting for 32% of customer interruptions. There is work planned to storm harden the line and add spoilers to reduce galloping on the Smart Energy Plan "Miner 72 34kV storm hardening" on project #J107B in 2024. Additional SEP work include to "Re-establish 34kV tie to Richland" project #J0NSR which will eliminate Morehouse on a radial feed. There is also an IJJA project planned to rebuild the Morehouse Substation and convert the system from 4kV to 12kV which will greatly improve reliability. A underground visual inspection was completed in 2022, and a groundline CDIS inspection was complete in 2023. Any repair work identified as a result of these inspections will be completed in accordance with Ameren Missouri's infrastructure inspection policy. A mid-cycle patrol was completed in 2022, and a full-cycle tree trim is planned for 2025. The next mid-cycle patrol is planned for 2028.



APPENDIX B

Single Year WPC Analysis and Remedial Action Report

Circuit Number: 781001
Division: NORTHEAST MO
ZIP Codes(s) Served: 63531, 63537, 63543
Customers Served: 186
Customer Interruptions (CI): 418
SAIFI Value: 2.25
SAIDI Value: 1294

Outage Analysis

Causes	2023 Total CI	2023 % of Total CI	2023 # Incidents
EQUIPMENT/OH	394	94.26%	10
OTHER	24	5.74%	3

Corrective actions taken or planned are noted below. These actions were developed through any combination of engineering reviews, circuit patrols, circuit inspections, and trimming. Circuit inspections and trimming are conducted on an appropriate cycle per rules 20 CSR 4240-23.020 and 20 CSR 4240.23-030 respectively.

Corrective Actions

A tornado hit this circuit on 8/5/2023. The damage included 27 broken poles and 28 crossarms. This storm damage accounts for 332 customer interruptions which was 77% of the customer interruptions in 2023. The storm work replaced a significant portion of this circuit with new poles and crossarms making this circuit more reliable moving forward. No further projects are planned at this time. A groundline CDIS inspection was completed in 2023. Any repair work identified as a result of the inspection will be completed in accordance with Ameren Missouri's infrastructure inspection policy. The next full-cycle tree trim will be in 2025.

APPENDIX B

Single Year WPC Analysis and Remedial Action Report

Circuit Number: 795051
Division: NORTHEAST MO
ZIP Codes(s) Served: 63459, 63467, 63401, 63033
Customers Served: 147
Customer Interruptions (CI): 457
SAIFI Value: 3.11
SAIDI Value: 1185

Outage Analysis

Causes	2023 Total CI	2023 % of Total CI	2023 # Incidents
EQUIPMENT/OH	69	15.10%	3
TREE	361	78.99%	9
ANIMAL	18	3.94%	1
UNKNOWN	9	1.97%	2

Corrective actions taken or planned are noted below. These actions were developed through any combination of engineering reviews, circuit patrols, circuit inspections, and trimming. Circuit inspections and trimming are conducted on an appropriate cycle per rules 20 CSR 4240-23.020 and 20 CSR 4240.23-030 respectively.

Corrective Actions

In 2023, 79% of customer interruptions are related to three incidents with each being a tree related cause during windy weather conditions. Sections of the this circuit go cross-country through areas having a clear right-of-way (ROW) with trees at the edge of the ROW much taller than the circuit. As a result, trees/limbs that fall toward the circuit sometimes are larger enough to damage equipment of the circuit. No projects are planned at this time. A full-cycle tree trim is planned for 2028.

APPENDIX B

Single Year WPC Analysis and Remedial Action Report

Circuit Number: 828051
Division: SEMO
ZIP Codes(s) Served: 63767, 63771, 63736, 63801, 63376
Customers Served: 519
Customer Interruptions (CI): 1,050
SAIFI Value: 2.02
SAIDI Value: 244

Outage Analysis

Causes	2023 Total CI	2023 % of Total CI	2023 # Incidents
EQUIPMENT/OH	528	50.29%	14
LIGHTNING	4	0.38%	2
PUBLIC	494	47.05%	1
TREE	21	2.00%	2
ANIMAL	3	0.29%	3

Corrective actions taken or planned are noted below. These actions were developed through any combination of engineering reviews, circuit patrols, circuit inspections, and trimming. Circuit inspections and trimming are conducted on an appropriate cycle per rules 20 CSR 4240-23.020 and 20 CSR 4240.23-030 respectively.

Corrective Actions

Four incidents accounted for 78% percent of customer interruptions in 2023. Two of the incidents were related to public vehicle accidents accounted for 40% of customer interruptions, and the other two were related to overhead malfunctions. There is planned work to rebuild the 34kV & 12kV from the Miner Bulk Sub to the Morely Y on the Smart Energy Plan "Miner 72 34kV rebuild" project #J0NSF. This project will greatly reduce lightning interruptions, eliminate conductor failures and will be storm hardened to reduce galloping and mitigate damage from high winds. The existing Blodgett Sub will also be replaced in 2026 which will remedy overload issues and provide better SCADA control. A groundline inspection was completed in 2023, and a UG visual CDIS inspection is planned for 2024. Any repair work identified as a result of these inspections will be completed in accordance with Ameren Missouri's infrastructure inspection policy. A mid-cycle patrol is planned for 2024, and a full-cycle tree trim is planned for 2027.

APPENDIX B

Single Year WPC Analysis and Remedial Action Report

Circuit Number: 828053
Division: SEMO
ZIP Codes(s) Served: 63824, 63771, 63801, 63736
Customers Served: 182
Customer Interruptions (CI): 367
SAIFI Value: 2.02
SAIDI Value: 179

Outage Analysis

Causes	2023 Total CI	2023 % of Total CI	2023 # Incidents
EQUIPMENT/OH	187	50.95%	6
PUBLIC	1	0.27%	1
ANIMAL	1	0.27%	1
UNKNOWN	178	48.50%	2

Corrective actions taken or planned are noted below. These actions were developed through any combination of engineering reviews, circuit patrols, circuit inspections, and trimming. Circuit inspections and trimming are conducted on an appropriate cycle per rules 20 CSR 4240-23.020 and 20 CSR 4240.23-030 respectively.

Corrective Actions

There were two feeder outages that contributed to 97% of the customer interruptions in 2023. The first was on a blue-sky day with an unknown cause accounting for 48% of customer interruptions. The other was due to a lightning arrestor that failed. There is work planned to rebuild the 34kV & 12kV from the Miner Bulk Sub to the Morely Y on the Smart Energy Plan "Miner 72 34kV rebuild" project #J0NSF. This project will greatly reduce lightning interruptions, eliminate conductor failures and will be storm hardened to reduce galloping and mitigate damage from high winds. The existing Blodgett Sub will also be replaced in 2026 which will remedy overload issues and provide better SCADA control. A groundline CDIS inspection was completed in 2022. Any repair work identified as a result of the inspection will be completed in accordance with Ameren Missouri's infrastructure inspection policy. A mid-cycle patrol is planned for 2025, and a full-cycle tree trim is planned for 2028.

APPENDIX B

Single Year WPC Analysis and Remedial Action Report

Circuit Number: 831051
Division: CENTRAL MO
ZIP Codes(s) Served: 65051, 65062, 65014, 65024
Customers Served: 857
Customer Interruptions (CI): 1,523
SAIFI Value: 1.78
SAIDI Value: 160

Outage Analysis

Causes	2023 Total CI	2023 % of Total CI	2023 # Incidents
EQUIPMENT/OH	1,250	82.07%	11
LIGHTNING	14	0.92%	1
TREE	258	16.94%	3
ANIMAL	1	0.07%	1

Corrective actions taken or planned are noted below. These actions were developed through any combination of engineering reviews, circuit patrols, circuit inspections, and trimming. Circuit inspections and trimming are conducted on an appropriate cycle per rules 20 CSR 4240-23.020 and 20 CSR 4240.23-030 respectively.

Corrective Actions

On 831051 in 2023, 82% of the customer interruptions on this circuit were due to overhead equipment issues while around 17% were tree related. Approximately 50% of those interruptions were weather related with lightning and thunderstorms reported in the Mt. Sterling area. The more significant events in terms of customer interruptions on this circuit were caused by a broken tree limb during a storm, a broken primary and a failed transformer disconnect switch. Additional fault current indicators (FCI's) are planned for 2024. A phase balancing study and overhead visual inspection were completed as part of the WPC review that identified some phase imbalance and a need for additional animal guarding and transformer fusing that will all be addressed under work order KA98875. A groundline inspection was completed in 2020, and an underground detail inspection was completed in 2022. The next overhead and underground inspections are planned for 2026. Any repair work identified as a result of these inspections will be completed in accordance with Ameren Missouri's infrastructure inspection policy. A full-cycle tree trim was completed in 2022, and a mid-cycle patrol is planned for 2026.

APPENDIX B

Single Year WPC Analysis and Remedial Action Report

Circuit Number: 852051
Division: NORTHEAST MO
ZIP Codes(s) Served: 63544, 63545
Customers Served: 186
Customer Interruptions (CI): 368
SAIFI Value: 1.98
SAIDI Value: 166

Outage Analysis

Causes	2023 Total CI	2023 % of Total CI	2023 # Incidents
EQUIPMENT/OH	364	98.91%	2
ANIMAL	1	0.27%	1
UNKNOWN	3	0.82%	3

Corrective actions taken or planned are noted below. These actions were developed through any combination of engineering reviews, circuit patrols, circuit inspections, and trimming. Circuit inspections and trimming are conducted on an appropriate cycle per rules 20 CSR 4240-23.020 and 20 CSR 4240.23-030 respectively.

Corrective Actions

Two separate incidents account for 99% of the customer interruptions on this circuit. One was due to lightning damage in a thunderstorm, and the other outage was due to equipment damage. There is a project planned for 2025 to eliminate this substation, convert 14.5 miles of 34 kV to 13.8 kV and to supply this area from an upgraded Novinger Substation. This project will improve reliability with SCADA controlled substation breakers and distribution automation. This circuit had a groundline CDIS inspection in 2023. Any repair work identified as a result of the inspection will be completed in accordance with Ameren Missouri's infrastructure inspection policy. This circuit had a full-cycle tree trimming completed in 2023.

APPENDIX B

Single Year WPC Analysis and Remedial Action Report

Circuit Number: 856055
Division: CENTRAL MO
ZIP Codes(s) Served: 63068, 63034
Customers Served: 576
Customer Interruptions (CI): 973
SAIFI Value: 1.69
SAIDI Value: 154

Outage Analysis

Causes	2023 Total CI	2023 % of Total CI	2023 # Incidents
EQUIPMENT/OH	340	34.94%	8
TREE	623	64.03%	4
OTHER	4	0.41%	2
UNKNOWN	6	0.62%	2

Corrective actions taken or planned are noted below. These actions were developed through any combination of engineering reviews, circuit patrols, circuit inspections, and trimming. Circuit inspections and trimming are conducted on an appropriate cycle per rules 20 CSR 4240-23.020 and 20 CSR 4240.23-030 respectively.

Corrective Actions

On 856055 in 2023, 64% of the customer interruptions on this circuit were tree related while 35% were due to overhead equipment issues. Approximately 50% of those interruptions were weather related. The more significant events in terms of customer interruptions on this circuit were due to a downed primary and a circuit outage caused by a broken tree limb during storms. In addition, several outages on this circuit were planned for a new business project. An overhead visual inspection completed as part of the WPC review identified a need for additional animal guarding, lightning arresters, transformer fusing and spot tree trimming that will all be addressed under work order KA98235 along with insulator and crossarm replacements. Groundline and underground visual inspections were completed in 2021. The next underground and overhead inspections are planned for 2025 and 2027, respectively. Any repair work identified as a result of these inspections will be completed in accordance with Ameren Missouri's infrastructure inspection policy. A mid-cycle patrol was completed in 2022, and a full-cycle tree trim is planned for 2025.

APPENDIX B

Single Year WPC Analysis and Remedial Action Report

Circuit Number: 856056
Division: CENTRAL MO
ZIP Codes(s) Served: 63068
Customers Served: 6
Customer Interruptions (CI): 16
SAIFI Value: 2.67
SAIDI Value: 98

Outage Analysis

Causes	2023 Total CI	2023 % of Total CI	2023 # Incidents
EQUIPMENT/OH	9	56.25%	3
EMPLOYEES	7	43.75%	2

Corrective actions taken or planned are noted below. These actions were developed through any combination of engineering reviews, circuit patrols, circuit inspections, and trimming. Circuit inspections and trimming are conducted on an appropriate cycle per rules 20 CSR 4240-23.020 and 20 CSR 4240.23-030 respectively.

Corrective Actions

All customer interruptions on 856056 in 2023 with the exception of one were planned for a major reconductor and substation upgrade project. A switching error also occurred during one of the planned outages. Groundline and underground visual inspections were completed in 2021. The next underground and overhead inspections are planned for 2025 and 2027, respectively. Any repair work identified as a result of these inspections will be completed in accordance with Ameren Missouri's infrastructure inspection policy. A mid-cycle patrol was completed in 2022, and a full-cycle tree trim is planned for 2025. No recurring problems were identified on the circuit as part of the review and no further work is required at this time.

APPENDIX B

Single Year WPC Analysis and Remedial Action Report

Circuit Number: 860053
Division: NORTHEAST MO
ZIP Codes(s) Served: 64628, 64653
Customers Served: 237
Customer Interruptions (CI): 531
SAIFI Value: 2.24
SAIDI Value: 380

Outage Analysis

Causes	2023 Total CI	2023 % of Total CI	2023 # Incidents
EQUIPMENT/OH	263	49.53%	9
TREE	53	9.98%	4
ANIMAL	39	7.34%	4
OTHER	97	18.27%	2
UNKNOWN	79	14.88%	5

Corrective actions taken or planned are noted below. These actions were developed through any combination of engineering reviews, circuit patrols, circuit inspections, and trimming. Circuit inspections and trimming are conducted on an appropriate cycle per rules 20 CSR 4240-23.020 and 20 CSR 4240.23-030 respectively.

Corrective Actions

On 05/05/2023, a circuit outage was due to a destructive thunderstorm that resulted in 44 poles being broken in the area of Brookfield. Five of these 44 broken poles were on circuit 860053 accounting for 40% of the customer interruptions in 2023. KA96147 is a reliability work order planned for 2024 that will provide a circuit tie to an adjacent feeder. This project will improve operability. A groundline CDIS inspection was performed in 2023. Any repair work identified as a result of the inspection will be completed in accordance with Ameren Missouri's infrastructure inspection policy. A full-cycle tree trim was last completed in 2019. The next full-cycle tree trim is planned for 2025.

APPENDIX B

Single Year WPC Analysis and Remedial Action Report

Circuit Number: 880052
Division: CENTRAL MO
ZIP Codes(s) Served: 65063, 65251
Customers Served: 534
Customer Interruptions (CI): 1,602
SAIFI Value: 3.00
SAIDI Value: 468

Outage Analysis

Causes	2023 Total CI	2023 % of Total CI	2023 # Incidents
EQUIPMENT/OH	261	16.29%	7
LIGHTNING	470	29.34%	5
EQUIPMENT/UG	15	0.94%	4
TREE	835	52.12%	10
EMPLOYEES	4	0.25%	1
ANIMAL	6	0.37%	3
OTHER	11	0.69%	6

Corrective actions taken or planned are noted below. These actions were developed through any combination of engineering reviews, circuit patrols, circuit inspections, and trimming. Circuit inspections and trimming are conducted on an appropriate cycle per rules 20 CSR 4240-23.020 and 20 CSR 4240.23-030 respectively.

Corrective Actions

On circuit 880052 in 2023, 52% of the customer interruptions on this circuit were tree related while 29% were due to lightning and an additional 16% due to overhead equipment issues. Approximately 54% of customer interruptions were due to two separate circuit outages both caused by lightning and broken tree limbs during storms. A phase balancing study and overhead visual inspection that were completed as part of the WPC review identified some phase imbalance and a need for additional animal guarding, lightning arresters, transformer fusing and spot tree trimming. These items will all be addressed under work order KA99499 along with insulator replacements. An underground visual inspection was completed in 2020. Underground detail and overhead visual inspections are planned for 2024. Any repair work identified as a result of the inspections will be completed in accordance with Ameren Missouri's infrastructure inspection policy. A mid-cycle patrol was completed in 2022, and a full-cycle tree trim is planned for 2025.



APPENDIX B

Single Year WPC Analysis and Remedial Action Report

Circuit Number: 890051
Division: NORTHEAST MO
ZIP Codes(s) Served: 63501, 63301, 63087, 63116, 63119
Customers Served: 1,314
Customer Interruptions (CI): 3,028
SAIFI Value: 2.30
SAIDI Value: 81

Outage Analysis

Causes	2023 Total CI	2023 % of Total CI	2023 # Incidents
EQUIPMENT/OH	481	15.89%	6
PUBLIC	441	14.56%	2
TREE	697	23.02%	5
EMPLOYEES	1	0.03%	1
ANIMAL	92	3.04%	9
OTHER	1	0.03%	1
UNKNOWN	1,315	43.43%	2

Corrective actions taken or planned are noted below. These actions were developed through any combination of engineering reviews, circuit patrols, circuit inspections, and trimming. Circuit inspections and trimming are conducted on an appropriate cycle per rules 20 CSR 4240-23.020 and 20 CSR 4240.23-030 respectively.

Corrective Actions

An outage on 07/03/23 was during a thundestrom and it involved subtransmission outage, a substation outage and malfunctioning equipment accounting for 43% of the customer interruptions (1315) for the year on this circuit. No projects are planned at this time. An overhead visual CDIS inspection was performed in 2022. Any repair work identified as a result of the inspection will be completed in accordance with Ameren Missouri's infrastructure inspection policy. A full-cycle tree trim was performed in 2022 with a mid-cycle tree patrol planned for 2024.

APPENDIX B

Single Year WPC Analysis and Remedial Action Report

Circuit Number: 927051
Division: CENTRAL MO
ZIP Codes(s) Served: 65041
Customers Served: 29
Customer Interruptions (CI): 77
SAIFI Value: 2.66
SAIDI Value: 986

Outage Analysis

Causes	2023 Total CI	2023 % of Total CI	2023 # Incidents
EQUIPMENT/OH	29	37.66%	2
LIGHTNING	10	12.99%	1
TREE	37	48.05%	2
OVERLOAD	1	1.30%	1

Corrective actions taken or planned are noted below. These actions were developed through any combination of engineering reviews, circuit patrols, circuit inspections, and trimming. Circuit inspections and trimming are conducted on an appropriate cycle per rules 20 CSR 4240-23.020 and 20 CSR 4240.23-030 respectively.

Corrective Actions

Customer interruptions on 927051 in 2023 were mostly limited to four events, of which half were tree related and the other half were due to overhead equipment issues. The most significant event in terms of customer interruptions on this circuit was caused by a broken tree limb and downed primary during storms. A hydraulic recloser, which provides breaker protection for the substation, was upgraded as part of a new business project in early 2024 under work order KA45865. It was planned to be replaced in early 2023 but was delayed due to supply chain issues. An overhead visual inspection was completed in 2022. Underground and overhead inspections are planned for 2025 and 2028, respectively. Any repair work identified as a result of the inspections will be completed in accordance with Ameren Missouri's infrastructure inspection policy. A mid-cycle patrol was completed in 2021, and a full-cycle tree trim is planned for 2024. No recurring problems were identified on the circuit as part of the review and no further work is required at this time.

APPENDIX B

Single Year WPC Analysis and Remedial Action Report

Circuit Number: 939051
Division: CENTRAL MO
ZIP Codes(s) Served: 65259, 65244, 63303
Customers Served: 227
Customer Interruptions (CI): 511
SAIFI Value: 2.25
SAIDI Value: 249

Outage Analysis

Causes	2023 Total CI	2023 % of Total CI	2023 # Incidents
LIGHTNING	218	42.66%	2
TREE	10	1.96%	2
ANIMAL	20	3.91%	5
OTHER	2	0.39%	2
UNKNOWN	261	51.08%	3

Corrective actions taken or planned are noted below. These actions were developed through any combination of engineering reviews, circuit patrols, circuit inspections, and trimming. Circuit inspections and trimming are conducted on an appropriate cycle per rules 20 CSR 4240-23.020 and 20 CSR 4240.23-030 respectively.

Corrective Actions

The majority of customer interruptions on this circuit were caused by lightning events, which totaled 43% of all customer interruptions on this circuit. Resulting work found during the WPC field review will be performed on KA97392 and KA97370, which included installing animal guards and replacing old porcelain arrestors and cutouts and constructing a new single phase tap to increase voltage support at the end of the circuit. An underground visual and an overhead visual inspection were completed in 2021 and 2022, respectively. A mid-cycle tree patrol was completed in 2023, while next full-cycle tree trim is planned for 2026.

APPENDIX B

Single Year WPC Analysis and Remedial Action Report

Circuit Number: 953052
Division: CENTRAL MO
ZIP Codes(s) Served: 63359, 63361, 63384
Customers Served: 264
Customer Interruptions (CI): 445
SAIFI Value: 1.69
SAIDI Value: 311

Outage Analysis

Causes	2023 Total CI	2023 % of Total CI	2023 # Incidents
EQUIPMENT/OH	145	32.58%	8
LIGHTNING	1	0.22%	1
PUBLIC	42	9.44%	1
EQUIPMENT/UG	1	0.22%	1
ANIMAL	2	0.45%	2
OTHER	254	57.08%	2

Corrective actions taken or planned are noted below. These actions were developed through any combination of engineering reviews, circuit patrols, circuit inspections, and trimming. Circuit inspections and trimming are conducted on an appropriate cycle per rules 20 CSR 4240-23.020 and 20 CSR 4240.23-030 respectively.

Corrective Actions

On 953052 in 2023, 33% of the customer interruptions were due to overhead equipment malfunctions. Most recent underground detail and overhead visual CDIS inspections were completed in 2021 and 2020, respectively. There was a mid-cycle tree patrol completed in 2023. No additional work is planned in 2023.

APPENDIX B

Single Year WPC Analysis and Remedial Action Report

Circuit Number: 957052
Division: CENTRAL MO
ZIP Codes(s) Served: 65039, 65101, 65063, 63125, 65102
Customers Served: 690
Customer Interruptions (CI): 1,691
SAIFI Value: 2.45
SAIDI Value: 395

Outage Analysis

Causes	2023 Total CI	2023 % of Total CI	2023 # Incidents
EQUIPMENT/OH	752	44.47%	9
LIGHTNING	20	1.18%	3
EQUIPMENT/UG	3	0.18%	2
TREE	890	52.63%	14
ANIMAL	22	1.30%	4
OTHER	3	0.18%	3
UNKNOWN	1	0.06%	1

Corrective actions taken or planned are noted below. These actions were developed through any combination of engineering reviews, circuit patrols, circuit inspections, and trimming. Circuit inspections and trimming are conducted on an appropriate cycle per rules 20 CSR 4240-23.020 and 20 CSR 4240.23-030 respectively.

Corrective Actions

On 957052 in 2023, 53% of the customer interruptions on this circuit were tree-related while 44% were due to overhead equipment issues. Approximately 40% of those interruptions were due to two separate circuit outages during storms. One was caused by an aluminum bell insulator failure and the other by broken tree limbs. A phase balancing study and overhead visual inspection were completed as part of the WPC review. Phase imbalance, a need for additional animal guarding, lightning arresters, transformer fusing, and spot tree trimming that will all be addressed under work order KA98266 along with insulator, pole and crossarm replacements. Underground and overhead visual inspections were completed in 2020 and 2021, respectively. Underground detail and overhead inspections are planned for 2024 and 2027, respectively. Any repair work identified as a result of these inspections will be completed in accordance with Ameren Missouri's infrastructure inspection policy. A mid-cycle patrol was completed in 2022, and spot tree trimming was completed in August of 2023. The next full-cycle tree trim is planned for 2025.

APPENDIX B

Single Year WPC Analysis and Remedial Action Report

Circuit Number: 989055
Division: CENTRAL MO
ZIP Codes(s) Served: 65109, 65023, 65018, 65101, 63123
Customers Served: 1,378
Customer Interruptions (CI): 2,829
SAIFI Value: 2.05
SAIDI Value: 363

Outage Analysis

Causes	2023 Total CI	2023 % of Total CI	2023 # Incidents
EQUIPMENT/OH	1,511	53.41%	16
LIGHTNING	15	0.53%	6
EQUIPMENT/UG	50	1.77%	7
TREE	169	5.97%	7
ANIMAL	914	32.31%	18
OTHER	120	4.24%	11
UNKNOWN	50	1.77%	2

Corrective actions taken or planned are noted below. These actions were developed through any combination of engineering reviews, circuit patrols, circuit inspections, and trimming. Circuit inspections and trimming are conducted on an appropriate cycle per rules 20 CSR 4240-23.020 and 20 CSR 4240.23-030 respectively.

Corrective Actions

On 989055 in 2023, 53% of the customer interruptions were due to overhead equipment issues and 32% were animal related. Approximately 30% of those interruptions were weather-related with a number of storms in the Elston and Centertown areas. One of the storm-related incidents was a circuit outage caused by a downed primary. Supplemental animal guarding and transformer fusing were added as part of remediation efforts in April 2023. Supplemental fault current indicators (FCI's) were also added to the circuit last year. Several voltage regulators and capacitor banks on the circuit were repaired in 2023 as well. A phase balancing study and overhead visual inspection completed as part of the WPC review identified some phase imbalance and a need for additional animal guarding, lightning arresters and transformer fusing that will all be addressed under work order KA96673. Overhead visual and underground detail inspections were completed in 2021 and 2023, respectively. The next overhead inspection is planned for 2025. Any repair work identified as a result of the inspections will be completed in



accordance with Ameren Missouri's infrastructure inspection policy. A mid-cycle patrol and a full-cycle tree trim are planned for 2024 and 2027, respectively.

APPENDIX B

Multi Year WPC Analysis and Remedial Action Report

Circuit Number: 029010
Division: ARCHVIEW
ZIP Codes(s) Served: 63110
Customers Served: 567
Customer Interruptions (CI): 2,199
SAIFI Value: Y2021 - 0.08; Y2022 - 2.13; Y2023 - 3.88
SAIDI Value: 268

Outage Analysis

Causes	2021 Total CI	2022 Total CI	2023 Total CI	2023 % of Total CI	2023 # Incidents
EQUIPMENT/OH	47	1,075	223	10.14%	5
PUBLIC	0	0	299	13.60%	1
EQUIPMENT/UG	0	0	1,118	50.84%	2
TREE	0	127	559	25.42%	1
EMPLOYEES	0	1	0	0.00%	0
OTHER	0	3	0	0.00%	0

Corrective actions taken or planned are noted below. These actions were developed through any combination of engineering reviews, circuit patrols, circuit inspections, and trimming. Circuit inspections and trimming are conducted on an appropriate cycle per rules 20 CSR 4240-23.020 and 20 CSR 4240.23-030 respectively.

Corrective Actions

(2022) Four incidents account for 95% of customer interruptions. The first incident occurring on July 28th accounts for 44% of the customer interruptions. This occurred when a crew replaced a cross arm. The second incident caused 10% of customer interruptions in 2022. This was due to a downed primary conductor. It was repaired on DOJM work request 21MT805032. The third incident was due to a broken tree on a primary conductor. The tree was removed, and a switch was replaced with the proper size on OAS# 221513748. The last incident was due to a blown fuse. The fuse was replaced with the proper size on OAS# 221864184. There were no reoccurring problems identified on this circuit and no further work was required at the time. A full-cycle tree trim was complete in 2021, and a mid-cycle patrol was completed in 2023.

Corrective Actions Planned



Three events account for around 45% of customer interruptions in 2023. The first incident was due to the limb on the primary and this caused a feeder outage. The tree was removed in OAS #230322106. The second interruption was due to the failed underground primary. A switch reset was done. The other interruption was due to the broken overhead primary. The OH #6 Primary and span guy was repaired. This interruption was responsible for 5.6% of customers interruptions. The repair was done on OAS # 233140161. The last incident happened when the trash truck raise its dumpster into communication lines and shook the poles; this incident caused 13.6% of the customer interruptions. One span of #6 replaced and new size of fuse was installed in the KA82367. Overhead visual and underground visual CDIS inspections are planned for 2024. Any repair work identified as a result of these inspections will be completed in accordance with Ameren Missouri's infrastructure inspection policy. The next full-cycle tree trim is planned for 2025, and a mid cycle patrol is planned for 2027. There are no reoccurring problems identified on the circuit and no further work is required at this time.

APPENDIX B

Multi Year WPC Analysis and Remedial Action Report

Circuit Number: 115052
Division: MERAMEC VALLEY
ZIP Codes(s) Served: 63011, 63021, 63017
Customers Served: 1,720
Customer Interruptions (CI): 3,430
SAIFI Value: Y2021 - 0.22; Y2022 - 1.91; Y2023 - 1.99
SAIDI Value: 213

Outage Analysis

Causes	2021 Total CI	2022 Total CI	2023 Total CI	2023 % of Total CI	2023 # Incidents
EQUIPMENT/OH	34	22	1,632	47.58%	5
LIGHTNING	0	0	75	2.19%	1
PUBLIC	12	16	13	0.38%	5
EQUIPMENT/UG	87	3,017	1,477	43.06%	10
TREE	66	49	0	0.00%	0
ANIMAL	161	156	233	6.79%	9
UNKNOWN	20	3	0	0.00%	0

Corrective actions taken or planned are noted below. These actions were developed through any combination of engineering reviews, circuit patrols, circuit inspections, and trimming. Circuit inspections and trimming are conducted on an appropriate cycle per rules 20 CSR 4240-23.020 and 20 CSR 4240.23-030 respectively.

Corrective Actions

(2022) One incident accounts for 89% of customer interruptions . The incident was due to an underground equipment malfunction located near Baxter Rd and Holloway Rd. The remaining customer interruptions were due to device and transformer outages caused by equipment malfunctions, tree contacts, and animals. A 12kV intellirupter switch was installed in 2022 near Manchester Rd and Ballpark Dr under work request 21MT721254 to sectionalize the circuit. An overhead groundline inspection and an underground detail inspection were completed in 2022. Any repair work identified as a result of the circuit inspections will be completed in accordance with Ameren Missouri's infrastructure inspection policy. A mid-cycle patrol was completed in 2022 to identify and perform any necessary hot spot tree trimming.

Corrective Actions Planned



Two incidents account for 89% of customer interruptions in 2023. One incident was due to an underground equipment malfunction located near Baxter Road and Holloway Road. Repairs to the underground equipment were completed under Maximo work order KA49292. The second incident was due to an overhead equipment malfunction located near Ivywood Drive and Hill Trail Drive. Repairs to the overhead equipment were completed under Maximo work order KA63639. The remaining customer interruptions in 2023 were due device outages and transformer outages caused by equipment malfunctions, lighting, and animals. Maximo work order KB00132 was created to install fuse switches near Manchester Road and Ballpark Drive to better sectionalize the circuit. Maximo work order KB00350 was created to add fuse switches to single-phase transformers connected directly to the backbone of the circuit. A Full-cycle tree trim was completed in 2023. A mid cycle patrol is planned for 2025.

APPENDIX B

Multi Year WPC Analysis and Remedial Action Report

Circuit Number: 119004
Division: GATEWAY
ZIP Codes(s) Served: 63132, 63114
Customers Served: 292
Customer Interruptions (CI): 834
SAIFI Value: Y2021 - 0.12; Y2022 - 2.05; Y2023 - 2.86
SAIDI Value: 363

Outage Analysis

Causes	2021 Total CI	2022 Total CI	2023 Total CI	2023 % of Total CI	2023 # Incidents
EQUIPMENT/OH	15	23	795	95.32%	4
PUBLIC	0	298	0	0.00%	0
EQUIPMENT/UG	0	283	0	0.00%	0
TREE	22	1	37	4.44%	2
EMPLOYEES	0	1	1	0.12%	1
OTHER	7	0	0	0.00%	0
UNKNOWN	0	1	1	0.12%	1

Corrective actions taken or planned are noted below. These actions were developed through any combination of engineering reviews, circuit patrols, circuit inspections, and trimming. Circuit inspections and trimming are conducted on an appropriate cycle per rules 20 CSR 4240-23.020 and 20 CSR 4240.23-030 respectively.

Corrective Actions

(2022) Two incidents account for 95% of customer interruptions. The first incident was due to a car hitting a pole causing primary conductors to make contact. No damage was done to the pole. The second incident was due to an underground equipment malfunction. An underground detailed inspection was completed in 2022. Any repair work identified as a result of the inspection will be completed in accordance with Ameren Missouri's infrastructure inspection policy.

Corrective Actions Planned

In 2023, 33.8% of customer interruptions occurred on 2/27/2023 when a low-hanging primary wire was damaged. The slack span was tightened and wire raised on OAS #230583225. 30.5% of interruptions occurred on 10/30/2023 when a switch jumper burned. The jumper was replaced on OAS #233032550. Another 30.9% of customer interruptions were a result of a polymer vertical



solid blade switch burning on 3/3/2023, this switch was replaced at the time of the occurrence on OAS #230623774. An overhead visual inspection is planned for 2024. Any repair work identified as a result of the inspection will be completed in accordance with Ameren Missouri's infrastructure inspection policy. A mid-cycle tree patrol is planned for 2024. There are no additional recurring problems identified on the circuit and no further work is required at this time.

APPENDIX B

Multi Year WPC Analysis and Remedial Action Report

Circuit Number: 160003
Division: ARCHVIEW
ZIP Codes(s) Served: 63102, 63106, 63130
Customers Served: 127
Customer Interruptions (CI): 623
SAIFI Value: Y2021 - 4.38; Y2022 - 0.07; Y2023 - 4.91
SAIDI Value: 365

Outage Analysis

Causes	2021 Total CI	2022 Total CI	2023 Total CI	2023 % of Total CI	2023 # Incidents
EQUIPMENT/OH	134	6	2	0.32%	2
LIGHTNING	0	1	0	0.00%	0
EQUIPMENT/UG	484	0	247	39.65%	3
OTHER	0	3	247	39.65%	2
UNKNOWN	0	0	127	20.39%	1

Corrective actions taken or planned are noted below. These actions were developed through any combination of engineering reviews, circuit patrols, circuit inspections, and trimming. Circuit inspections and trimming are conducted on an appropriate cycle per rules 20 CSR 4240-23.020 and 20 CSR 4240.23-030 respectively.

Corrective Actions

(2021) The majority of customer interruptions were caused by four events. The first incident was a circuit outage (OAS# 210974691). This underground primary cable was repaired and no additional work was required. The second incident was a transformer outage (OAS# 210993762) interrupting one customer. The jumper conductor was replaced and no additional work was required. The third incident was a circuit outage (OAS# 211824091). Broken underground primary cable at the base of the terminal pole was repaired on work order 21MT772110. No additional work required. The fourth incident was a device outage (OAS# 211823087). A downed span of primary conductor was replaced on work order 21MT772120 and no additional work was required. There was an overhead visual and an underground visual completed in 2020 and 2021, respectively. Any repair work identified as a result of these inspections will be completed in accordance with Ameren Missouri's infrastructure inspection policy.

Corrective Actions Planned



One event accounted for 45% of customer interruptions in late January 2023 due to condensation inside the switchgear as a result of snow sitting on the top of switchgear for longer period of time causing water drip on insulator and tripping the circuit breaker. Load was switched to a different circuit and repairs were completed under OAS# 230263403. The second event accounted for 23% of customer interruptions due to substation circuit breaker experiencing a lockout due to fault on underground primary cable. This was caused due to an overload on the circuit. Load has been moved off this circuit to another substation to correct the problem and all the repairs were completed under OAS# 231423586. The engineering team is currently working on a permanent solution. There was a full-cycle tree trim completed in 2022 and mid-cycle patrol is planned for 2025. A ground line inspected is planned for 2024. Any repair work identified as a result of the inspection will be completed in accordance with Ameren Missouri's infrastructure inspection policy.

APPENDIX B

Multi Year WPC Analysis and Remedial Action Report

Circuit Number: 201002
Division: GATEWAY
ZIP Codes(s) Served: 63121
Customers Served: 8
Customer Interruptions (CI): 16
SAIFI Value: Y2021 - 0.00; Y2022 - 5.50; Y2023 - 2.00
SAIDI Value: 564

Outage Analysis

Causes	2021 Total CI	2022 Total CI	2023 Total CI	2023 % of Total CI	2023 # Incidents
EQUIPMENT/OH	0	3	3	18.75%	1
TREE	0	40	13	81.25%	2
OTHER	0	1	0	0.00%	0

Corrective actions taken or planned are noted below. These actions were developed through any combination of engineering reviews, circuit patrols, circuit inspections, and trimming. Circuit inspections and trimming are conducted on an appropriate cycle per rules 20 CSR 4240-23.020 and 20 CSR 4240.23-030 respectively.

Corrective Actions

(2022) Approx. 90% of the customer interruptions were the result of downed tree limbs on primary and neutral on four separate days. The individual tree limb incidents were taken care of by vegetation management. A mid-cycle inspection of this line by vegetation management was planned for 2025. No further work is required at this time.

Corrective Actions Planned

In 2023, 81% of customer interruption were caused by tree related issues. A mid-cycle patrol took place in 2022. A full-cycle tree trim is planned for 2026. The division engineer will review specific areas around the outage areas that could be trimmed in the meantime. Overhead visual and underground visual inspections were completed in 2020. Underground detailed inspection and groundline inspections are planned in 2024. Any repair work identified as a result of these inspections will be completed in accordance with Ameren Missouri's infrastructure inspection policy. There are no additional recurring problems identified on the circuit and no further work is required at this time.

APPENDIX B

Multi Year WPC Analysis and Remedial Action Report

Circuit Number: 228053
Division: ARCHVIEW
ZIP Codes(s) Served: 63126
Customers Served: 164
Customer Interruptions (CI): 278
SAIFI Value: Y2021 - 1.08; Y2022 - 2.09; Y2023 - 1.70
SAIDI Value: 471

Outage Analysis

Causes	2021 Total CI	2022 Total CI	2023 Total CI	2023 % of Total CI	2023 # Incidents
EQUIPMENT/OH	176	10	61	21.94%	1
PUBLIC	0	140	0	0.00%	0
TREE	1	189	28	10.07%	1
ANIMAL	0	2	189	67.99%	2
OTHER	0	1	0	0.00%	0
UNKNOWN	3	0	0	0.00%	0

Corrective actions taken or planned are noted below. These actions were developed through any combination of engineering reviews, circuit patrols, circuit inspections, and trimming. Circuit inspections and trimming are conducted on an appropriate cycle per rules 20 CSR 4240-23.020 and 20 CSR 4240.23-030 respectively.

Corrective Actions

(2022) Two incidents account for 84% of customer interruptions on 228053. The first one accounted for 43% while other was 41% of customer interruptions. For the first incident, a tree fell on all three phases of primary wire at the rear of 9608 Greenview Dr on a windy day (5/8/2022) that blew fuse U22133. Repairs were made on OAS work order 221280135. The other incident was due to public damage to a pole behind Crestwood Plaza blew fuse U22133. Repairs were made on work order 21MT802564.

Corrective Actions Planned

Two incidents account for 68% of the customer interruptions on 228053 in 2023. The first incident was caused by a bird that took out a span of primary at 9530 Watson Industrial Ct and led to a device outage. Repairs were made on work order KA74820. This outage caused 51% of the circuit's customer interruptions. The second incident was due to a bird that took out two spans of primary at 9539 Watson Industrial Ct and led to a device outage. Repairs were made on



work order KA737681. Distribution automation was also added to the circuit; intellirupter switches were installed in November of 2023. The next overhead inspection is planned for 2024. The last underground inspection was completed in 2021, and the next underground inspection is planned for 2025. Any repair work identified as a result of these inspections will be completed in accordance with Ameren Missouri's infrastructure inspection policy. A full-cycle tree trim was completed in 2021, and a mid-cycle patrol was completed in 2023. There are no recurring problems identified on the circuit and no further work is required at this time.

APPENDIX B

Multi Year WPC Analysis and Remedial Action Report

Circuit Number: 260053
Division: GATEWAY
ZIP Codes(s) Served: 63034
Customers Served: 393
Customer Interruptions (CI): 1,023
SAIFI Value: Y2021 - 1.04; Y2022 - 2.06; Y2023 - 2.60
SAIDI Value: 367

Outage Analysis

Causes	2021 Total CI	2022 Total CI	2023 Total CI	2023 % of Total CI	2023 # Incidents
EQUIPMENT/OH	35	75	132	12.90%	4
LIGHTNING	3	0	3	0.29%	1
PUBLIC	333	323	703	68.72%	3
EQUIPMENT/UG	0	0	8	0.78%	3
TREE	35	409	139	13.59%	9
EMPLOYEES	0	1	9	0.88%	1
ANIMAL	5	4	6	0.59%	4
OTHER	0	0	22	2.15%	1
UNKNOWN	3	5	1	0.10%	1

Corrective actions taken or planned are noted below. These actions were developed through any combination of engineering reviews, circuit patrols, circuit inspections, and trimming. Circuit inspections and trimming are conducted on an appropriate cycle per rules 20 CSR 4240-23.020 and 20 CSR 4240.23-030 respectively.

Corrective Actions

(2022) Two incidents accounted for 88% of customer interruptions. The first incident was due to a public vehicle hitting a pole. The pole and device were repaired. After review of the pole location, there was no evidence that this is a bad location and this was an isolated incident. The second incident was due to a tree falling on primary conductor. The tree was removed and a trimming cycle was planned for 2023 for this circuit at the time. No additional corrective action is necessary.

Corrective Actions Planned

In 2023, 68.7% of customer interruptions occurred as a result of a public vehicle hitting a pole on 3/17/2023. The pole and two spans of primary on both sides of the pole were replaced on



OAS#230763752. 13% of customer interruptions were caused by a span of Primary being down. The primary was repaired on OAS #232132678. 14% of customer interruption were caused by tree related issues. A mid-cycle patrol took place in 2022. A full-cycle tree trim is planned for 2024. Overhead visual and underground detailed inspections were completed in 2022. Any repair work identified as a result of these inspections will be completed in accordance with Ameren Missouri's infrastructure inspection policy. There are no additional recurring problems identified on the circuit and no further work is required at this time.

APPENDIX B

Multi Year WPC Analysis and Remedial Action Report

Circuit Number: 272052
Division: GATEWAY
ZIP Codes(s) Served: 63138
Customers Served: 749
Customer Interruptions (CI): 1,474
SAIFI Value: Y2021 - 2.26; Y2022 - 0.68; Y2023 - 1.97
SAIDI Value: 335

Outage Analysis

Causes	2021 Total CI	2022 Total CI	2023 Total CI	2023 % of Total CI	2023 # Incidents
EQUIPMENT/OH	1,324	253	1,163	78.90%	9
LIGHTNING	0	2	42	2.85%	2
PUBLIC	0	10	0	0.00%	0
TREE	90	75	250	16.96%	19
EMPLOYEES	0	1	1	0.07%	1
ANIMAL	99	5	5	0.34%	1
OTHER	0	1	1	0.07%	1
UNKNOWN	172	163	12	0.81%	2

Corrective actions taken or planned are noted below. These actions were developed through any combination of engineering reviews, circuit patrols, circuit inspections, and trimming. Circuit inspections and trimming are conducted on an appropriate cycle per rules 20 CSR 4240-23.020 and 20 CSR 4240.23-030 respectively.

Corrective Actions

(2021) 48% of the customer minutes out on this circuit were due a B-Phase jumper failing. The jumper was replaced and no further corrective action is needed. An additional 27% of the customer minutes out were due to blown fuses. Additional jobs will be created to replace the fuses in these locations with TripSavers. This circuit was last inspected in 2020. A full cycle trim was performed by the vegetation department in 2021.

Corrective Actions Planned

In 2023, around 80% of customer interruptions occurred as a result of multiple overhead equipment failures on 4 separate dates. Primary burned or primary down. Primary was repaired on OAS#231982226 on 7/17/23. Primary was repaired and circuit was refused at 65T on OAS#231620053 on 6/11/23. Primary was repaired on OAS#230010012 on 1/1/23. These



outages and equipment/fuse sizes are being reviewed by engineering. Overhead visual and underground visual inspections are planned in 2024. Any repair work identified as a result of these inspections will be completed in accordance with Ameren Missouri's infrastructure inspection policy. A mid-cycle patrol is planned for 2024, and a full-cycle tree trim is planned for 2026.

APPENDIX B

Multi Year WPC Analysis and Remedial Action Report

Circuit Number: 280055
Division: ARCHVIEW
ZIP Codes(s) Served: 63129
Customers Served: 1,390
Customer Interruptions (CI): 2,540
SAIFI Value: Y2021 - 0.50; Y2022 - 2.12; Y2023 - 1.83
SAIDI Value: 198

Outage Analysis

Causes	2021 Total CI	2022 Total CI	2023 Total CI	2023 % of Total CI	2023 # Incidents
EQUIPMENT/OH	0	12	957	37.68%	7
PUBLIC	129	0	1,322	52.05%	1
EQUIPMENT/UG	464	53	163	6.42%	10
TREE	7	2,651	1	0.04%	1
ANIMAL	53	58	97	3.82%	3
OTHER	8	0	0	0.00%	0
UNKNOWN	0	10	0	0.00%	0

Corrective actions taken or planned are noted below. These actions were developed through any combination of engineering reviews, circuit patrols, circuit inspections, and trimming. Circuit inspections and trimming are conducted on an appropriate cycle per rules 20 CSR 4240-23.020 and 20 CSR 4240.23-030 respectively.

Corrective Actions

(2022) Two incidents account for 95% of the customer interruptions on 280055. One was due to a tree falling into the primary, and the other incident was due to a tree breaking and damaging the primary conductor at a separate location during a rainstorm. Both an underground detailed and an overhead visual CDIS inspection were completed in 2022. Any repair work identified as a result of these inspections will be completed in accordance with Ameren Missouri's infrastructure inspection policy.

Corrective Actions Planned

Three incidents account for 83% of the customer interruptions on 280055 in 2023. One issue was due to a public vehicle hitting and breaking a pole which was repaired on work order 21MT807752. The other two issues were due to primary lines coming down in windy conditions on two separate days downstream of two different reclosers. These were repaired on work orders



KA76272 and KA83762. A full cycle tree trim is planned for 2024. There are no recurring problems identified on this circuit and no further work is required at this time.

APPENDIX B

Multi Year WPC Analysis and Remedial Action Report

Circuit Number: 570051
Division: CENTRAL MO
ZIP Codes(s) Served: 65072, 65026, 65049, 65065
Customers Served: 1,374
Customer Interruptions (CI): 4,033
SAIFI Value: Y2021 - 0.33; Y2022 - 1.78; Y2023 - 2.94
SAIDI Value: 1060

Outage Analysis

Causes	2021 Total CI	2022 Total CI	2023 Total CI	2023 % of Total CI	2023 # Incidents
EQUIPMENT/OH	215	2,065	2,194	54.40%	12
LIGHTNING	1	0	1	0.02%	1
PUBLIC	0	85	0	0.00%	0
EQUIPMENT/UG	8	1	3	0.07%	2
TREE	71	181	1,665	41.28%	16
ANIMAL	140	89	103	2.55%	9
OTHER	2	3	5	0.12%	3
UNKNOWN	18	32	62	1.54%	3

Corrective actions taken or planned are noted below. These actions were developed through any combination of engineering reviews, circuit patrols, circuit inspections, and trimming. Circuit inspections and trimming are conducted on an appropriate cycle per rules 20 CSR 4240-23.020 and 20 CSR 4240.23-030 respectively.

Corrective Actions

(2022) Six incidents (2 overall events) account for 84% of the customer interruptions in 2022. The first event involved a faulted voltage regulator. The second event occurred during extreme cold temperatures in December when the restoration of broken primary and jumper was delayed due to cold load pickup. A groundline inspection was completed in 2022, which identified a number of poles, risers, grounds, and guys needing replacement along with other miscellaneous equipment. An underground detailed inspection was last completed in 2020. Supplemental fault current indicators were added to the circuit in 2021 while smart switching were planned for 2023. The most recent cycle tree trim was completed in 2019 while a mid-cycle vegetation patrol was completed in 2022. No recurring problems beyond those identified by the groundline inspection were identified on the circuit as part of the review. Therefore, no further work was required at the time.

Corrective Actions Planned

On 570051 in 2023, 54.4% of the customer interruptions on this circuit were due to overhead malfunctions while 41.3% were due to tree issues. The most significant event in terms of customer interruptions occurred during a thunderstorm when a tree fell outside of Ameren easements and broke a 3-phase pole. An overhead visual inspection completed as part of the WPC review identified a need for 1.5 miles of reconductoring to assist in distribution automation that will all be addressed under work order KA94239. The next underground and overhead inspections are planned for 2024. Any repair work identified as a result of the inspections will be completed in accordance with Ameren Missouri's infrastructure inspection policy. The next full-cycle tree trim is planned for 2025. No recurring problems beyond those identified by the groundline inspection were identified on the circuit as part of the review.

APPENDIX B

Multi Year WPC Analysis and Remedial Action Report

Circuit Number: 672053
Division: NORTHEAST MO
ZIP Codes(s) Served: 63353, 63334, 63135
Customers Served: 296
Customer Interruptions (CI): 566
SAIFI Value: Y2021 - 0.40; Y2022 - 2.28; Y2023 - 1.91
SAIDI Value: 227

Outage Analysis

Causes	2021 Total CI	2022 Total CI	2023 Total CI	2023 % of Total CI	2023 # Incidents
EQUIPMENT/OH	31	417	403	71.20%	9
LIGHTNING	22	8	1	0.18%	1
PUBLIC	0	210	0	0.00%	0
EQUIPMENT/UG	0	1	1	0.18%	1
TREE	60	27	138	24.38%	7
ANIMAL	2	1	15	2.65%	12
OTHER	1	0	1	0.18%	1
UNKNOWN	3	19	7	1.24%	6

Corrective actions taken or planned are noted below. These actions were developed through any combination of engineering reviews, circuit patrols, circuit inspections, and trimming. Circuit inspections and trimming are conducted on an appropriate cycle per rules 20 CSR 4240-23.020 and 20 CSR 4240.23-030 respectively.

Corrective Actions

(2021) Overhead visual and underground visual inspections were completed 2021 and repair work identified as a result of the inspections was completed in accordance with Ameren Missouri's infrastructure inspection policy. (2022) A full-cycle tree trim was completed in 2022.

Corrective Actions Planned

Overhead malfunctions contributed 71% and tree issues accounted for 24% of the customer interruptions in 2023. While no actions are planned for next year as we are in the process of analyzing projects in the next four to five years to upgrade Buffalo substation and rebuild a portion of this circuit along Hwy 54. A mid-cycle vegetation patrol is planned for 2025.

APPENDIX B

Multi Year WPC Analysis and Remedial Action Report

Circuit Number: 800001
Division: CENTRAL MO
ZIP Codes(s) Served: 65202, 65232, 65265
Customers Served: 90
Customer Interruptions (CI): 181
SAIFI Value: Y2021 - 1.70; Y2022 - 0.04; Y2023 - 2.01
SAIDI Value: 222

Outage Analysis

Causes	2021 Total CI	2022 Total CI	2023 Total CI	2023 % of Total CI	2023 # Incidents
EQUIPMENT/OH	156	2	147	81.22%	50
LIGHTNING	1	0	1	0.55%	1
TREE	1	2	0	0.00%	0
ANIMAL	0	0	1	0.55%	1
OTHER	0	0	32	17.68%	9

Corrective actions taken or planned are noted below. These actions were developed through any combination of engineering reviews, circuit patrols, circuit inspections, and trimming. Circuit inspections and trimming are conducted on an appropriate cycle per rules 20 CSR 4240-23.020 and 20 CSR 4240.23-030 respectively.

Corrective Actions

(2021) This circuit was converted to 12.47kV in 2023 from 2.4kV Delta primary.

Corrective Actions Planned

The majority of customer interruptions on this circuit were caused by overhead equipment malfunctions, which totaled 82% of all customer interruptions on this circuit. A overhead visual CDIS inspection will take place in 2024. Any repair work identified as a result of the inspections will be completed in accordance with Ameren Missouri's infrastructure inspection policy. A full-cycle tree trimming was completed in 2023. There is a mid-cycle tree trim patrol planned for 2026. No additional work is planned in 2024 as this circuit had a large construction project in 2023. Substation replacement is to be completed in Q2 2024.

APPENDIX B

Multi Year WPC Analysis and Remedial Action Report

Circuit Number: 817051
Division: SEMO
ZIP Codes(s) Served: 63834, 63845, 63820
Customers Served: 80
Customer Interruptions (CI): 165
SAIFI Value: Y2021 - 0.06; Y2022 - 1.75; Y2023 - 2.06
SAIDI Value: 679

Outage Analysis

Causes	2021 Total CI	2022 Total CI	2023 Total CI	2023 % of Total CI	2023 # Incidents
EQUIPMENT/OH	5	140	84	50.91%	7
LIGHTNING	0	1	2	1.21%	2
PUBLIC	0	0	79	47.88%	1
ANIMAL	0	1	0	0.00%	0

Corrective actions taken or planned are noted below. These actions were developed through any combination of engineering reviews, circuit patrols, circuit inspections, and trimming. Circuit inspections and trimming are conducted on an appropriate cycle per rules 20 CSR 4240-23.020 and 20 CSR 4240.23-030 respectively.

Corrective Actions

(2022) One event accounted for 96% of the customer interruptions. The West Catron substation experienced a lightning strike on 8/30/2022 causing an overhead substation failure. SEMO Division created an Smart Energy Plan project (Berntie 71 34kV rebuild), which will rebuild the 34kV line with 336ACSR T2 wire and OPGW static from Lilboun to Catron to Parm to Townley in 2025. This project will also add lightning protection should prevent lightning strikes from causing outages along the length of this line and protect the overhead substation at Catron.

Corrective Actions Planned

Two events accounted for 95% of the customer interruptions in 2023. The first incident was due to three broken poles in a thunderstorm on 02/22/23 accounting for 47% of customer interruptions. The second event was due to a public vehicle accident that brought the entire feeder offline. Additional work was planned to upgrade the Charleston 72 34kV line from Charleston to East Prairie which consists of installing an OPGW static wire, replacing poles, and rec-conductoring the 12kV from Charleston to Anniston on the SEP "CHAR-72 upgrade" on



project #J1075. This will provide much needed lightning protection and offer reliable tie between Charleston and Anniston. A underground CDIS detail inspection was completed on 2022. Any repair work identified as a result of the inspection will be completed in accordance with Ameren Missouri's infrastructure inspection policy. A mid-cycle patrol is planned for 2025, and a full-cycle tree trim is planned for 2028.

APPENDIX C

Division	Operating Area	Circuit	Volt	Cust	CI	CMI	SAIDI	SAIFI	2021	2022	2023	Years WPC
ARCHVIEW	GERALDINE	148002	4KV	184	244	95894	521	1.33	WPC	WPC		2
NORTHEAST MO	KIRKSVILLE	858052	12KV	1	1	53	53	1.00	WPC	WPC		2
GATEWAY	ST CHARLES	577057	12KV	1	1	55	55	1.00	WPC	WPC		2
NORTHEAST MO	WENTZVILLE	691051	12KV	1256	1080	87693	70	0.86	WPC	WPC		2
MERAMEC VALLEY	JEFFERSON	553055	12KV	785	637	101749	130	0.81	WPC	WPC		2
MERAMEC VALLEY	ELLISVILLE	169055	12KV	730	549	167553	230	0.75	WPC	WPC		2
ARCHVIEW	GERALDINE	104008	4KV	774	552	193818	250	0.71	WPC	WPC		2
SEMO	POTOSI	451054	13.2KV	378	248	69411	184	0.66	WPC	WPC		2
GATEWAY	BERKELEY	167054	12KV	1592	1036	172075	108	0.65	WPC	WPC		2
ARCHVIEW	GERALDINE	293005	4KV	4	0	0	0	0.00	WPC	WPC		2

APPENDIX D

Multi Year WPC Analysis and Remedial Action Report

Circuit Number: 104008
Division: ARCHVIEW
ZIP Codes(s) Served: 63121, 63136
Customers Served: 774
Customer Interruptions (CI): 552
SAIFI Value: Y2021 - 2.08; Y2022 - 2.03; Y2023 - 0.71
SAIDI Value: 250

Outage Analysis

Causes	2021 Total CI	2022 Total CI	2023 Total CI	2023 % of Total CI	2023 # Incidents
EQUIPMENT/OH	729	776	310	56.16%	10
LIGHTNING	0	0	59	10.69%	4
PUBLIC	753	751	0	0.00%	0
TREE	123	38	183	33.15%	10
EMPLOYEES	0	1	0	0.00%	0
OTHER	1	8	0	0.00%	0
UNKNOWN	1	0	0	0.00%	0

Corrective actions taken or planned are noted below. These actions were developed through any combination of engineering reviews, circuit patrols, circuit inspections, and trimming. Circuit inspections and trimming are conducted on an appropriate cycle per rules 20 CSR 4240-23.020 and 20 CSR 4240.23-030 respectively.

Corrective Actions

(2021) Two incidents account for the majority of the customer interruptions in 2021. The first issue was due to a public vehicle. The second issue was due to a broken branch on the power line located in an alley. (2022) Two incidents caused 96% of the customer interruptions. The first incident, accounting for 48% of customer interruptions, was caused by a public vehicle on 05/02/22, which resulted in a double subtransmission lockout of PAGE-79 & PAGE-PAS-T2. The second incident caused 48% of customer interruptions and was a result of primary falling during heavy rains. For this year and the previous years, the main cause of outages on this circuit is attributed to public vehicles. The vehicles are not damaging facilities in the same location and this circuit does not have a unique construction compared to others. A full cycle tree trim was complete in 2022. An underground detail inspection was complete in 2021. Any repair work identified as a result of the inspection will be completed in accordance with Ameren Missouri's infrastructure inspection policy.

Corrective Actions Planned

One event contributed to 18% of customer interruptions due to high winds which resulted in broken primary. Primary was repaired to restore power to customers on OAS #: 231072118. Two separate events contributed to 20% of customer interruptions are both related to trees on the primary. Primary was patrolled and repaired under OAS# 232372862 and 232565843. Mid-cycle patrol is planned for 2024, and the next full-cycle tree trim is planned for 2026. Engineering is evaluating to re-conductor the circuit to improve reliability.

APPENDIX D

Multi Year WPC Analysis and Remedial Action Report

Circuit Number: 148002
Division: ARCHVIEW
ZIP Codes(s) Served: 63102, 63103, 63104
Customers Served: 184
Customer Interruptions (CI): 244
SAIFI Value: Y2021 - 1.93; Y2022 - 2.13; Y2023 - 1.33
SAIDI Value: 521

Outage Analysis

Causes	2021 Total CI	2022 Total CI	2023 Total CI	2023 % of Total CI	2023 # Incidents
EQUIPMENT/OH	6	217	44	18.03%	7
LIGHTNING	0	0	2	0.82%	2
PUBLIC	0	0	191	78.28%	2
EQUIPMENT/UG	366	1	6	2.46%	2
OTHER	1	1	1	0.41%	1
UNKNOWN	1	185	0	0.00%	0

Corrective actions taken or planned are noted below. These actions were developed through any combination of engineering reviews, circuit patrols, circuit inspections, and trimming. Circuit inspections and trimming are conducted on an appropriate cycle per rules 20 CSR 4240-23.020 and 20 CSR 4240.23-030 respectively.

Corrective Actions

(2021) Two incidents account for the 99% of the customer interruptions in 2021. The first issue was due to the faulted section of a cable (designated dip 6819) on 148002 and this was repaired under Work Request number 765909. The second issue was due to a failed underground primary circuit cable. This was repaired under Work Request number K767313. (2022) Two incidents account for 92% of the customer interruptions in 2022. One incident that contributes to 45% of customer interruptions was caused by a broken switch on a stormy day. The switch was reset under OAS work order 221893481. The second one was due to a broken switch, and it was patrolled and restored on OAS work order 220252192. The last cycle trim was complete in 2021, and a full-cycle trim was completed in 2023. Overhead visual was completed in 2022. Underground visual inspection was completed in 2023. Any repair work identified as a result of these inspections will be completed in accordance with Ameren Missouri's infrastructure inspection policy.



Corrective Actions Planned

One incident accounts for 58% of customer interruptions on 148002 in 2023 (141 customers). This happened when the Union Pacific train caught primary and broke 6 poles. This section of the overhead will be relocated to underground and work will be done under work order KA71353 in 2024. Mid-cycle patrol planned in 2024 and full-cycle tree trim planned in 2027. Underground detailed inspection was completed in 2023. No additional work is planned in 2024.

APPENDIX D

Multi Year WPC Analysis and Remedial Action Report

Circuit Number: 167054
Division: GATEWAY
ZIP Codes(s) Served: 63138, 63137, 63031
Customers Served: 1,592
Customer Interruptions (CI): 1,036
SAIFI Value: Y2021 - 3.29; Y2022 - 2.27; Y2023 - 0.65
SAIDI Value: 108

Outage Analysis

Causes	2021 Total CI	2022 Total CI	2023 Total CI	2023 % of Total CI	2023 # Incidents
EQUIPMENT/OH	2,255	272	146	14.09%	16
LIGHTNING	1	10	27	2.61%	1
PUBLIC	0	0	22	2.12%	2
EQUIPMENT/UG	54	32	1	0.10%	1
TREE	2,852	3,095	670	64.67%	24
EMPLOYEES	0	5	6	0.58%	1
ANIMAL	94	98	116	11.20%	8
OTHER	0	1	0	0.00%	0
UNKNOWN	0	120	48	4.63%	4

Corrective actions taken or planned are noted below. These actions were developed through any combination of engineering reviews, circuit patrols, circuit inspections, and trimming. Circuit inspections and trimming are conducted on an appropriate cycle per rules 20 CSR 4240-23.020 and 20 CSR 4240.23-030 respectively.

Corrective Actions

(2022) 85% of the customer interruptions are due to tree related device outages. A mid-cycle forestry patrol was done in 2023. Forestry was contacted to see if additional trimming on this circuit can be complete. In addition, multiple fuses were identified for possible trip saver locations which will improve the reliability on this circuit.

Corrective Actions Planned

In 2023, 70% of customer interruptions were caused by tree related issues. A full-cycle tree trim is planned for 2025. There are no additional recurring problems identified on the circuit and no further work is required at this time.

APPENDIX D

Multi Year WPC Analysis and Remedial Action Report

Circuit Number: 169055
Division: MERAMEC VALLEY
ZIP Codes(s) Served: 63069, 63038, 63040, 63017
Customers Served: 730
Customer Interruptions (CI): 549
SAIFI Value: Y2021 - 2.05; Y2022 - 2.17; Y2023 - 0.75
SAIDI Value: 230

Outage Analysis

Causes	2021 Total CI	2022 Total CI	2023 Total CI	2023 % of Total CI	2023 # Incidents
EQUIPMENT/OH	1,231	987	196	35.70%	14
LIGHTNING	6	2	1	0.18%	1
PUBLIC	106	0	104	18.94%	4
EQUIPMENT/UG	2	129	5	0.91%	3
TREE	115	469	210	38.25%	16
ANIMAL	30	54	28	5.10%	10
OVERLOAD	0	1	0	0.00%	0
OTHER	31	0	5	0.91%	2
UNKNOWN	4	0	0	0.00%	0

Corrective actions taken or planned are noted below. These actions were developed through any combination of engineering reviews, circuit patrols, circuit inspections, and trimming. Circuit inspections and trimming are conducted on an appropriate cycle per rules 20 CSR 4240-23.020 and 20 CSR 4240.23-030 respectively.

Corrective Actions

Automated circuit reclosers were installed in 2021 and 2022 to develop an automatic restoration scheme between Pond 169055 and adjacent Pond, Pacific, Olive and Eatherton circuits. Additional trip saver reclosers were installed in early 2023. A full-cycle tree trim was completed in 2022.

Corrective Actions Planned

In 2023, 38% of the customer interruptions were tree related. Another 35% of the customer interruptions were overhead related. The area past recloser SL29959404 was evaluated and deemed adequate for protective devices. An underground visual inspection was completed in



2023. An overhead visual inspection is planned for 2024. Any repair work identified as a result of these inspections will be completed in accordance with Ameren Missouri's infrastructure inspection policy. A mid-cycle tree patrol is planned for 2025.

APPENDIX D

Multi Year WPC Analysis and Remedial Action Report

Circuit Number: 293005
Division: ARCHVIEW
ZIP Codes(s) Served: 63144
Customers Served: 4
Customer Interruptions (CI): 0
SAIFI Value: Y2021 - 1.75; Y2022 - 2.00; Y2023 - 0.00
SAIDI Value: 0

Outage Analysis

Causes	2021 Total CI	2022 Total CI	2023 Total CI	2023 % of Total CI	2023 # Incidents
EQUIPMENT/OH	6	8	0	0.00%	0
ANIMAL	1	0	0	0.00%	0

Corrective actions taken or planned are noted below. These actions were developed through any combination of engineering reviews, circuit patrols, circuit inspections, and trimming. Circuit inspections and trimming are conducted on an appropriate cycle per rules 20 CSR 4240-23.020 and 20 CSR 4240.23-030 respectively.

Corrective Actions

(2021) All four outages on this circuit were on the same transformer. One of the outages were a result of animals, one was a lightning, and two outages were unknown. Animal guards will be installed on the transformer to curtail future animal related outages. (2022) There were two incidents in 2022. One of the incidents was caused by a limb falling on the primary and blowing a fuse. The second incident was unknown and resulted in a blown fuse. The section of line downstream of fuse U11324 will be patrolled to identify potential hazards.

Corrective Actions Planned

There were no outages on this circuit in 2023. An underground visual inspection was completed in 2023. Any repair work identified as a result of the inspection will be completed in accordance with Ameren Missouri's infrastructure inspection policy. A mid-cycle tree patrol is planned for 2024. There is no recommended action at this time.

APPENDIX D

Multi Year WPC Analysis and Remedial Action Report

Circuit Number: 451054
Division: SEMO
ZIP Codes(s) Served: 63664, 63623, 65566, 63625, 65439
Customers Served: 378
Customer Interruptions (CI): 248
SAIFI Value: Y2021 - 3.66; Y2022 - 1.99; Y2023 - 0.66
SAIDI Value: 184

Outage Analysis

Causes	2021 Total CI	2022 Total CI	2023 Total CI	2023 % of Total CI	2023 # Incidents
EQUIPMENT/OH	556	475	128	51.61%	19
LIGHTNING	8	25	8	3.23%	8
PUBLIC	0	5	0	0.00%	0
TREE	741	145	70	28.23%	5
ANIMAL	4	0	7	2.82%	7
OTHER	0	85	31	12.50%	1
UNKNOWN	75	28	4	1.61%	4

Corrective actions taken or planned are noted below. These actions were developed through any combination of engineering reviews, circuit patrols, circuit inspections, and trimming. Circuit inspections and trimming are conducted on an appropriate cycle per rules 20 CSR 4240-23.020 and 20 CSR 4240.23-030 respectively.

Corrective Actions

In 2022, there were ten locations identified along the circuit where three phase and single phase Trip Savers and Reclosers could benefit the circuit. At five locations, Trips Savers were installed, and, at the other five locations, reclosers were installed. Construction was completed at all locations in the second half of 2022. An underground visual inspection was also completed in 2022 and any issues identified which were addressed in the first half of 2023. A mid cycle tree patrol was completed in 2023 which helped address the tree related outages. Trip savers were installed in four additional locations in 2023 along the circuit under DOJM work request numbers 28IR-047464, 047465, 047468 and 047469.

Corrective Actions Planned



The circuit performed better in 2023 but is still a challenge with the very large amount of off-road line distance that makes up the circuit. A groundline CDIS inspection was completed in 2023 and the identified repairs from that inspection are currently in progress and will be completed in 2024 in accordance with Ameren Missouri's infrastructure inspection policy. A project is currently in the planning and design phase that will install two new padmount transformer substations along this circuit that will allow us to split the load up between three different sources to minimize the number of customers impacted by any future outage events that may occur. This project is currently planned to be completed and placed in service in the second half of 2025. A full-cycle tree trim is planned for 2026.

APPENDIX D

Multi Year WPC Analysis and Remedial Action Report

Circuit Number: 553055
Division: MERAMEC VALLEY
ZIP Codes(s) Served: 63023, 63016, 63066, 63050
Customers Served: 785
Customer Interruptions (CI): 637
SAIFI Value: Y2021 - 1.75; Y2022 - 2.79; Y2023 - 0.81
SAIDI Value: 130

Outage Analysis

Causes	2021 Total CI	2022 Total CI	2023 Total CI	2023 % of Total CI	2023 # Incidents
EQUIPMENT/OH	872	955	60	9.42%	15
LIGHTNING	13	0	0	0.00%	0
PUBLIC	166	770	129	20.25%	3
EQUIPMENT/UG	1	2	0	0.00%	0
TREE	248	394	117	18.37%	7
ANIMAL	0	58	211	33.12%	6
OTHER	55	0	0	0.00%	0
UNKNOWN	16	14	120	18.84%	4

Corrective actions taken or planned are noted below. These actions were developed through any combination of engineering reviews, circuit patrols, circuit inspections, and trimming. Circuit inspections and trimming are conducted on an appropriate cycle per rules 20 CSR 4240-23.020 and 20 CSR 4240.23-030 respectively.

Corrective Actions

(2021) Approximately 80% of the customer interruptions were due to storms. Additionally, failed equipment, which accounted for nearly 11% of the customer interruptions, were repaired/replaced on Work Request numbers 26JF157708, 26JF158176, 26JF158181, 26JF159178, 26JF159449, 26JF160151, and 26JF160256. There were no additional reoccurring problems identified on this circuit and no further work required at this time. As of 2022, there was a project planned to install an Intellirupter on this circuit. This circuit was patrolled by a drone to help identify any potential issues on the circuit.

Corrective Actions Planned



There is a multi-improvement project spanning a couple of years. The first phase of improvements were completed in early 2024 on work order KA#33454. New jobs were created for the four subsequent areas needing improvement and those jobs are KB#05663, KB05664, KB05667, and KB05670. We plan to have this work completed by the end of 2024 into early 2025. There is an underground detailed CDIS inspection planned for 2024. Any repair work identified as a result of the inspection will be completed in accordance with Ameren Missouri's infrastructure inspection policy. There is also a full-cycle tree trim planned for 2024, and then a mid-cycle patrol planned for 2027.

APPENDIX D

Multi Year WPC Analysis and Remedial Action Report

Circuit Number: 577057
Division: GATEWAY
ZIP Codes(s) Served: 63376
Customers Served: 1
Customer Interruptions (CI): 1
SAIFI Value: Y2021 - 2.00; Y2022 - 2.00; Y2023 - 1.00
SAIDI Value: 55

Outage Analysis

Causes	2021 Total CI	2022 Total CI	2023 Total CI	2023 % of Total CI	2023 # Incidents
EQUIPMENT/OH	2	1	1	100.00%	1
UNKNOWN	0	1	0	0.00%	0

Corrective actions taken or planned are noted below. These actions were developed through any combination of engineering reviews, circuit patrols, circuit inspections, and trimming. Circuit inspections and trimming are conducted on an appropriate cycle per rules 20 CSR 4240-23.020 and 20 CSR 4240.23-030 respectively.

Corrective Actions

(2021) Two outages caused 100% of the interruptions on this circuit. The first outage was due to the circuit tripping during windy conditions. This was repaired on OAS# 212980744. The second outage was due to switching at the substation. This was completed on OAS# 213450226. (2022) This circuit has one customer that experienced two interruptions in 2022. The first occurred on 01/05/2022 and was due to a failed splice. Repairs were made under OAS# 220053791. The second occurred on 12/23/2022 due to an unknown cause. The customer's service was restored under OAS# 223570530. There are no recurring problems identified on the circuit and no further work is required at this time.

Corrective Actions Planned

One event caused 100% of the interruptions on this circuit. One event was due to the 57 LOCK OUT. This was repaired on OAS# 230912463. A full-cycle trim was completed in 2021. A full-cycle trim is planned for 2025. There are no recurring problems identified on the circuit and no further work is required at this time.

APPENDIX D

Multi Year WPC Analysis and Remedial Action Report

Circuit Number: 691051
Division: NORTHEAST MO
ZIP Codes(s) Served: 63377, 63344, 63359, 63343, 63387
Customers Served: 1,256
Customer Interruptions (CI): 1,080
SAIFI Value: Y2021 - 3.36; Y2022 - 1.76; Y2023 - 0.86
SAIDI Value: 70

Outage Analysis

Causes	2021 Total CI	2022 Total CI	2023 Total CI	2023 % of Total CI	2023 # Incidents
EQUIPMENT/OH	1,750	647	215	19.91%	27
LIGHTNING	20	18	4	0.37%	4
PUBLIC	809	0	389	36.02%	2
EQUIPMENT/UG	0	1	1	0.09%	1
TREE	1,478	1,450	406	37.59%	11
ANIMAL	10	4	40	3.70%	12
OTHER	4	84	7	0.65%	1
UNKNOWN	4	24	18	1.67%	7

Corrective actions taken or planned are noted below. These actions were developed through any combination of engineering reviews, circuit patrols, circuit inspections, and trimming. Circuit inspections and trimming are conducted on an appropriate cycle per rules 20 CSR 4240-23.020 and 20 CSR 4240.23-030 respectively.

Corrective Actions

Part three of the multi-year project was completed to establish a 12.5kV tie circuit along Hwy B between Elsberry and Auburn Substations under work requests 2WWZ206894 & 95. Second & third phases of 12.5kV circuit were added along Hwy B from Hwy 61 to Hwy W. In addition, approx. 170 feet of 3-phase 12.5kV circuit was installed under the TROY-PIKE-1 161kV transmission line.

Corrective Actions Planned

The last part (four) will extend the 34.5kV circuit to Elsberry from Hwy W and reconductor the 12.5kV circuit along Hwy B between Elsberry substation and Hwy W, which is planned to be worked in 2024 and 2025 under Maximo work request number KA65062. The culmination of



this project will result estabbling a 2nd 34.5kV supply to Auburn and Elsberry Substations. A full-cycle tree trim is planned for 2024.

APPENDIX D

Multi Year WPC Analysis and Remedial Action Report

Circuit Number: 858052
Division: NORTHEAST MO
ZIP Codes(s) Served: 63435
Customers Served: 1
Customer Interruptions (CI): 1
SAIFI Value: Y2021 - 3.00; Y2022 - 3.00; Y2023 - 1.00
SAIDI Value: 53

Outage Analysis

Causes	2021 Total CI	2022 Total CI	2023 Total CI	2023 % of Total CI	2023 # Incidents
EQUIPMENT/OH	0	2	0	0.00%	0
LIGHTNING	1	0	1	100.00%	1
ANIMAL	2	1	0	0.00%	0

Corrective actions taken or planned are noted below. These actions were developed through any combination of engineering reviews, circuit patrols, circuit inspections, and trimming. Circuit inspections and trimming are conducted on an appropriate cycle per rules 20 CSR 4240-23.020 and 20 CSR 4240.23-030 respectively.

Corrective Actions

(2022) Full-cycle tree trim cycle was completed in 8/22/2022. (2021) The outages in 2021 were due to issues on the Culver Stockton College primary meter and the college's customer owned primary system downstream of their primary meter. The customer's fuses on their primary meter pole are labeled K2516 on Ameren mapping for communication purposes. Outages to these K2516 fuses are due to customer issues. No reliability work is needed on this 858-52 Ameren circuit. In 2021, a 10-year Smart Energy Plan project to harden the 69 KV Carbide-91 sub-transmission supplying the Canton-12 Substation was started. This Carbide91 hardening project will improve reliability to all customers on the Canton-12 Substation, including circuit 858-52.

Corrective Actions Planned

The only customer on this circuit is one primary meter serving the Culver Stockton College campus. There was only one incident in 2024. A mid-cycle tree patrol is planned for 2025.