Ameren Missouri 4 CSR 240-23.010 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 2012 as required by Missouri Public Service Commission Rule 4 CSR 240-23.010, 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).

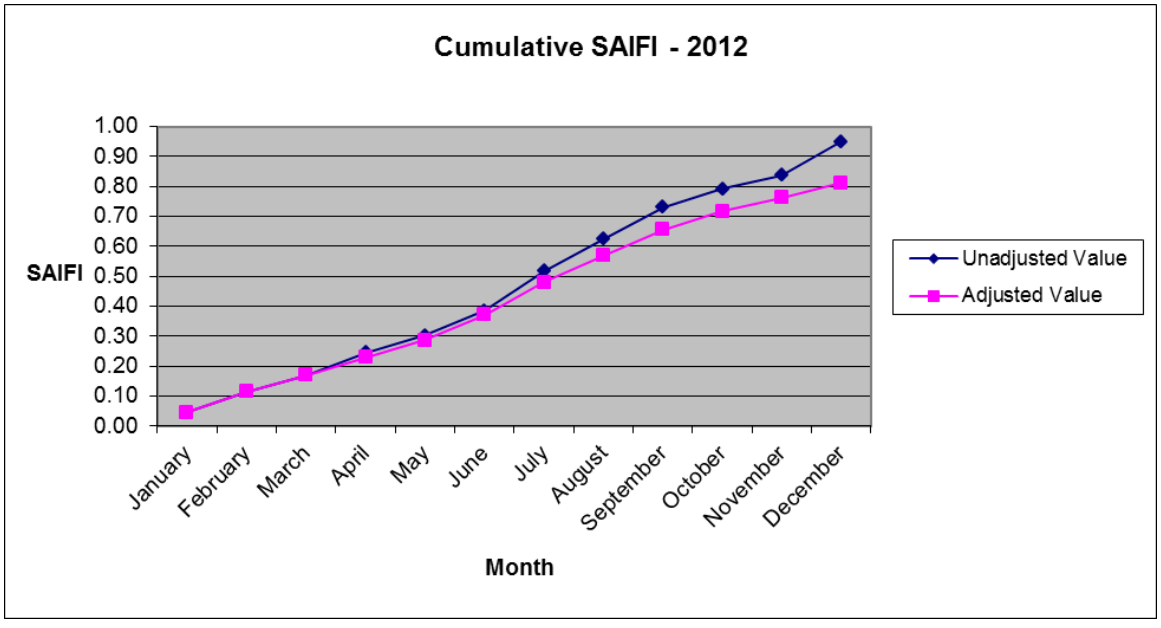
5. Worst Performing Circuit (WPC) – A distribution circuit whose SAIFI value, adjusted to exclude major storm events per IEEE Standard 1366-2003, when compared to the SAIFI values for the other circuits in the Ameren Missouri system places it among the 5% of circuits with the highest SAIFI values in 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

4 CSR 240-23.010, section 3 states "The information required by section (1) shall be filed both unadjusted and adjusted to exclude major storm events per IEEE Standard 1366-2003, Guide for Electric Power Distribution Reliability Indices." The following tables and graphs show Ameren Missouri's unadjusted and adjusted reliability metrics for calendar year 2012:

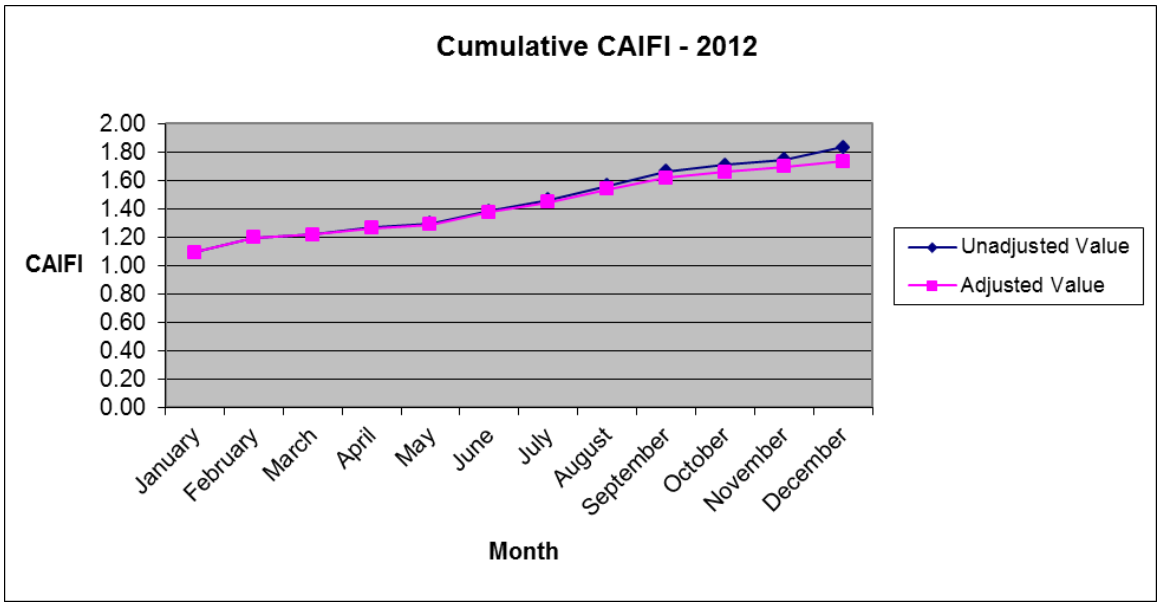
SAIFI:

Month	Unadjusted Value	Adjusted Value
January	0.05	0.05
February	0.11	0.11
March	0.17	0.17
April	0.24	0.23
May	0.30	0.29
June	0.39	0.37
July	0.52	0.48
August	0.62	0.57
September	0.73	0.66
October	0.79	0.72
November	0.84	0.76
December	0.95	0.81



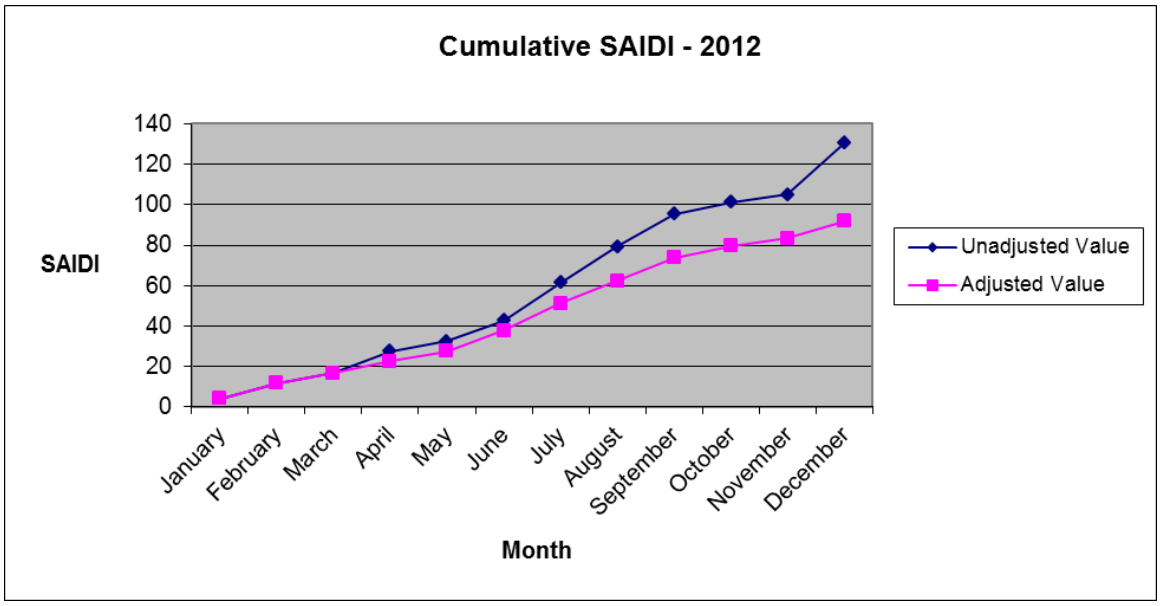
CAIFI:

Month	Unadjusted Value	Adjusted Value
January	1.09	1.09
February	1.20	1.20
March	1.22	1.22
April	1.27	1.26
May	1.30	1.29
June	1.38	1.38
July	1.46	1.45
August	1.57	1.54
September	1.66	1.62
October	1.71	1.66
November	1.75	1.70
December	1.84	1.74



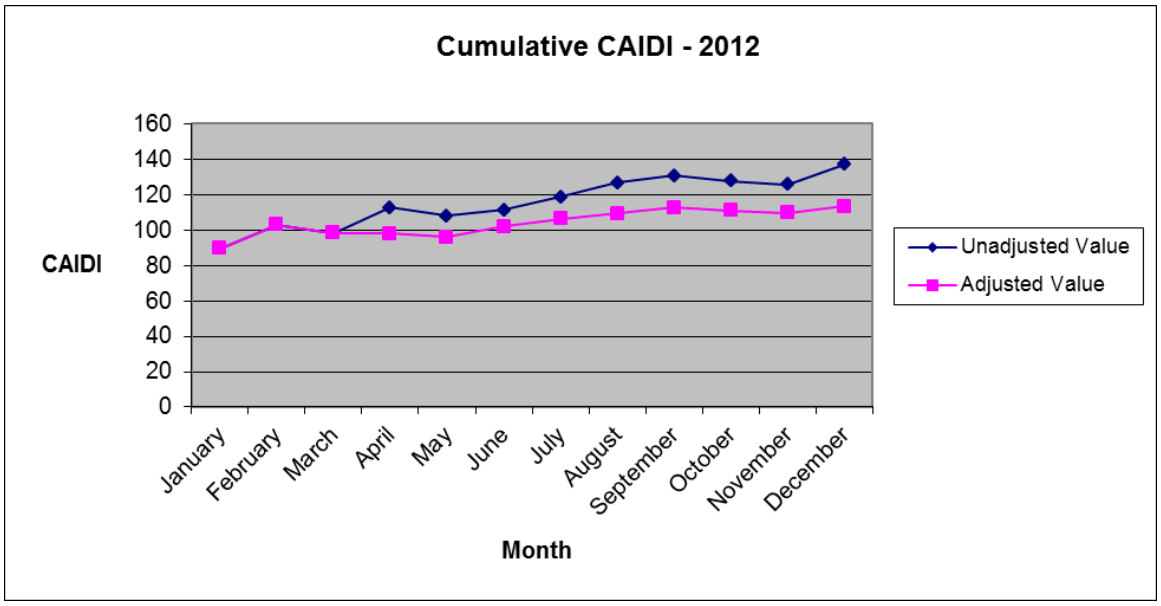
SAIDI:

Month	Unadjusted Value	Adjusted Value
January	4	4
February	12	12
March	17	17
April	28	23
May	33	28
June	43	38
July	61	51
August	79	62
September	95	74
October	101	79
November	105	83
December	130	92



CAIDI:

Month	Unadjusted Value	Adjusted Value
January	89	89
February	103	103
March	98	98
April	113	98
May	108	96
June	111	102
July	119	106
August	127	109
September	131	113
October	128	111
November	126	110
December	137	113



Ameren Missouri 2012 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 2012 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 2012 WPCs, including those designated as MWPCs are listed in Appendix A. The circuit numbers for the MWPCs have been highlighted in red.

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 "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 2012 WPC list

The MWPCs circuits not identified as WPCs in 2012 but which were WPCs in 2010 and 2011 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 4 CSR 240-23.010 for the calendar year 2012. The reported reliability metrics demonstrate continued improvement in the reliability of Ameren Missouri's electric distribution system. With an adjusted SAIFI value of .81, Ameren Missouri's customers now 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.