OKLAHOMA CORPORATION COMMISSION
REGULATED ELECTRIC UTILITIES

2025 RELIABILITY SCORECARD

May 1, 2025

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1.0 Introduction

This Reliability Scorecard ("Scorecard") is presented in accordance with the Electric Utility Rules of the Oklahoma Corporation Commission ("OCC" or "Commission"), as specified in OAC 165:35-25, Part 3: Reliability of Service and Reliability Program. Evaluating the reliability of regulated electric requires a general understanding of the standards used to measure performance. The OCC primarily relies upon two basic gauges of electric service reliability: the System Average Interruption Frequency Index ("SAIFI") and the System Average Interruption Duration Index ("SAIDI").

- SAIFI reflects the average number of sustained interruptions (lasting five minutes or more) experienced by a customer annually. It is calculated as the total number of sustained interruptions divided by the total number of customers.
- SAIDI measures the average duration of interruptions per customer annually and is calculated by dividing the total duration of sustained interruptions by the total number of customers (total duration of sustained interruptions in a year / total number of customers). This report expresses SAIDI in customer-minutes.

2.0 Summary

This report includes reliability data from five electric utilities regulated by this Commission:[1]

- Arkansas Valley Electric Cooperative Corp. ("Arkansas Valley")
- Empire District Electric Co. ("Empire")
- Northeast Oklahoma Electric Cooperative, Inc. ("NOEC" or Northeast Oklahoma)
- Oklahoma Gas and Electric Co. ("OG&E")
- Public Service Company of Oklahoma ("PSO")

For calendar year 2024, the average Oklahoma customer experienced approximately 0.970 outages (SAIFI), with an average total outage duration of 99.78 minutes or 1.66 hours (SAIDI).

3.0 Purpose

Pursuant to OCC rule OAC 165:35-25-24, this Scorecard compiles and presents SAIFI and SAIDI data for the five Commission-rate regulated utilities, enabling comparisons year-over-and between utilities. The Scorecard facilitates trend analysis, identifies high-outage circuits, and supports continuous improvement in service reliability. The following table shows year-end customers counts for each utility from the years 2020 through 2024:

[1] Rich Mountain Electric Cooperative and Southwest Arkansas Electric Cooperative are regulated by the Commission. However, both companies have a small number of Oklahoma customers and Southwest Arkansas does not have reliability statistics separated for Oklahoma-only customers, so the data for both companies has been excluded. Additionally, Canadian Valley Electric Cooperative, Inc. opted out of regulation by the Commission since the previous year's report.

Oklahoma Customers at Year-End					
Company	**2020**	**2021**	**2022**	**2023**	**2024**
Arkansas Valley	4,619	4,624	4,671	4,687	4,729
Empire	6,810	6,629	6,641	6,655	6,655
NOEC	213	41,009	41,262	41,275	41,608
OGE	790,142	806,914	815,327	820,989	833,232
PSO	559,804	565,565	570,502	570,502	579,031

4.0 Definitions[2]

Distribution system: Infrastructure delivering electric energy from substations to the customers.[3]

Duration of interruption: Time from outage start to full restoration, measured in time units (seconds, minutes, hours, or days).

Major event: A high-impact occurrence such as severe weather or natural disasters causing widespread service disruption, defined per OAC 165:35-25-13.

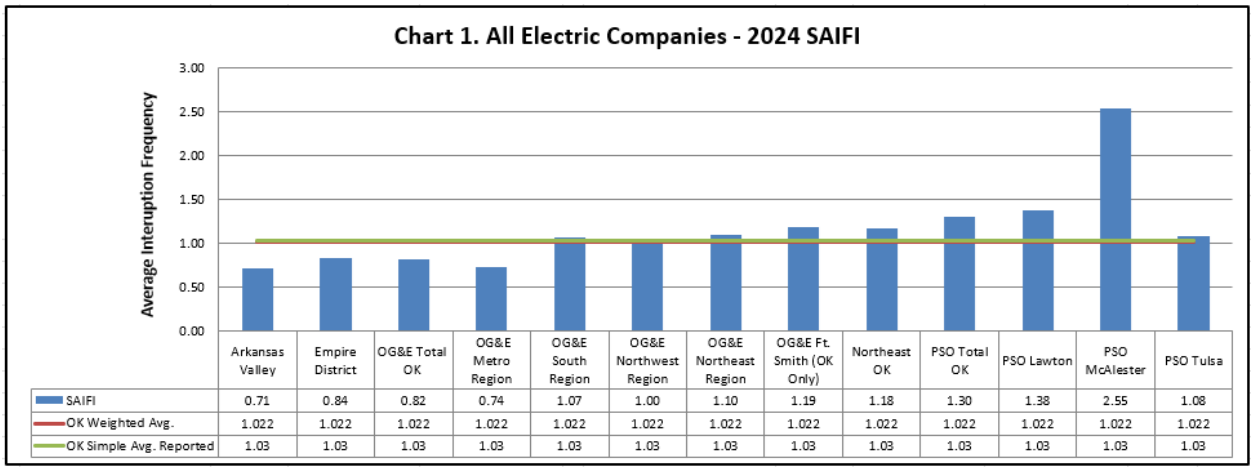
[2] Definitions are given to help readers better understand the information that goes into the calculations that are used in this document. The basis of many of these definitions is included in IEEE Standard 100-2000; however, PUD has presented the definitions in a more user-friendly format for explanation purposes.

[3] The distribution system is considered anything from the distribution substation fence to the customer meter. Often the initial over-current protection and voltage regulator are within the substation fence.

5.0 Reliability Analysis

5.1 SAIFI Trends

In 2024, the average number of outages per customer by utility is shown below:[4]



	Arkansas Valley	Empire District	OG&E Total OK	OG&E Metro Region	OG&E South Region	OG&E Northwest Region	OG&E Northeast Region	OG&E Ft. Smith (OK Only)	Northeast OK	PSO Total OK	PSO Lawton	PSO McAlester	PSO Tulsa
SAIFI	0.71	0.84	0.82	0.74	1.07	1.00	1.10	1.19	1.18	1.30	1.38	2.55	1.08
OK Weighted Avg.	1.022	1.022	1.022	1.022	1.022	1.022	1.022	1.022	1.022	1.022	1.022	1.022	1.022
OK Simple Avg. Reported	1.03	1.03	1.03	1.03	1.03	1.03	1.03	1.03	1.03	1.03	1.03	1.03	1.03

The chart suggests that Empire customers experienced an average of 0.84 power outages or interruptions in 2024. Northeast Oklahoma customers were without power on average 1.18 times last year. The customers of OG&E and PSO, the state's largest electric companies, were without power in 2024 for an average of 0.82 and 1.30 times, respectively. Overall, during 2024, Oklahoma electric customers served by a regulated utility were without power on average, approximately 1.03 times.[5]

The five-year average SAIFI across all regulated utilities was 1.312, with OG&E customers experiencing the fewest outages (0.949 average) and NOEC customers the most (1.59 average) as shown in the chart below:

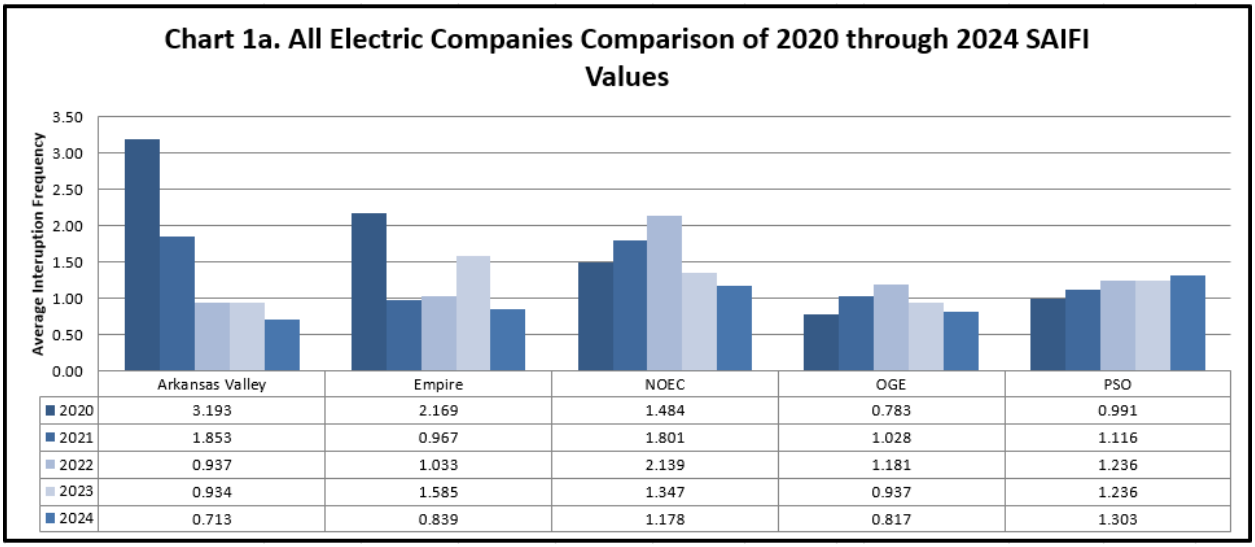
SAIFI VALUES						
Company	**2020**	**2021**	**2022**	**2023**	**2024**	**Mean**
Arkansas Valley	3.193	1.853	0.937	0.934	0.713	1.526
Empire	2.169	0.967	1.033	1.585	0.839	1.319
NOEC	1.484	1.801	2.139	1.347	1.178	1.590
OGE	0.783	1.028	1.181	0.937	0.817	0.949
PSO	0.991	1.116	1.236	1.236	1.303	1.176
Average	**1.724**	**1.353**	**1.305**	**1.208**	**0.970**	**1.312**

[4] The SAIFI and SAIDI reliability indices are based upon 12 months of system performance data ending December 31, 2024, and exclude "Major Events" as defined by OAC 165:35-25-13. The Oklahoma Average SAIFI and SAIDI were estimated by first computing a weighted average of the combined data for each statistic and then computing a simple (unweighted) average in a similar manner.

[5] The simple SAIFI average for all of Oklahoma's regulated utilities is 1.03 and the metric's weighted average is 1.022.

Electrical outages can be caused by severe weather, engineering problems, or other company-specific causes, as well as by external actions, such as a vehicle striking a power pole and causing it and potentially other poles to fall and disconnect power lines. The OCC monitors customer outage data required to be reported by all Commission-regulated Oklahoma electric utilities and investigates any unusual occurrences.

The bar charts and table below show SAIFI outage data for each of Oklahoma's regulated electric utilities for the years 2020 through 2024:[6]

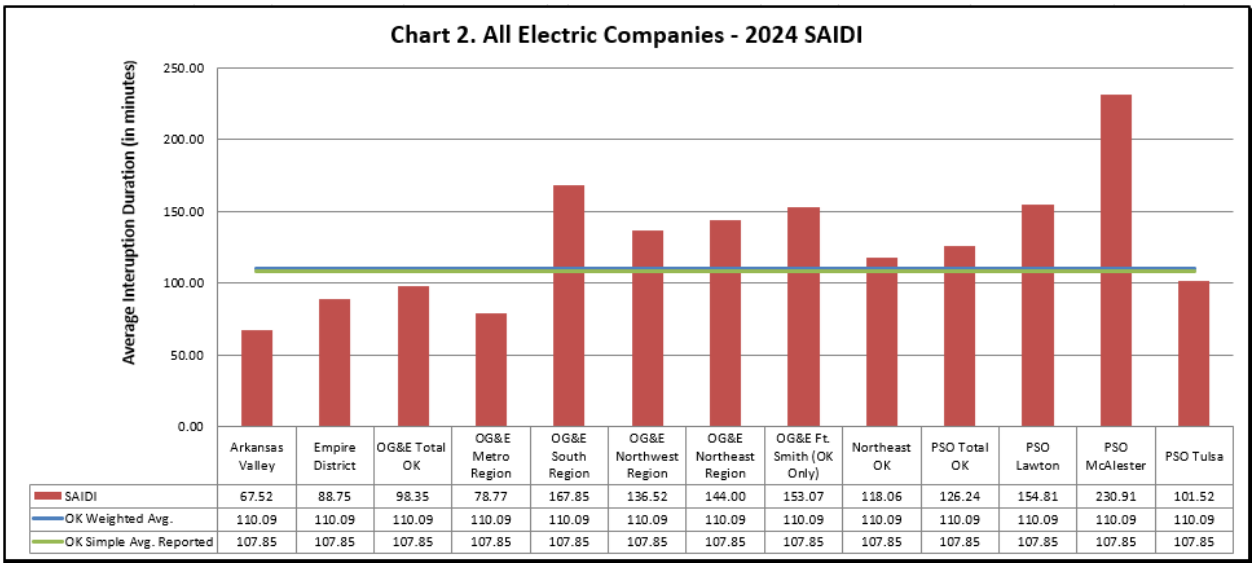


	Arkansas Valley	Empire	NOEC	OGE	PSO
2020	3.193	2.169	1.484	0.783	0.991
2021	1.853	0.967	1.801	1.028	1.116
2022	0.937	1.033	2.139	1.181	1.236
2023	0.934	1.585	1.347	0.937	1.236
2024	0.713	0.839	1.178	0.817	1.303

[6] Data points for each regulated Oklahoma electric utility that provided SAIFI indices for year 2024 and the four prior years were plotted to present a visual comparison among the utilities. SAIFI averages were calculated using data provided by each of the five Commission-regulated utilities.

5.2 SAIDI Trends

In 2024, average outage durations (SAIDI) in minutes are shown below:[7]



	Arkansas Valley	Empire District	OG&E Total OK	OG&E Metro Region	OG&E South Region	OG&E Northwest Region	OG&E Northeast Region	OG&E Ft. Smith (OK Only)	Northeast OK	PSO Total OK	PSO Lawton	PSO McAlester	PSO Tulsa
SAIDI	67.52	88.75	98.35	78.77	167.85	136.52	144.00	153.07	118.06	126.24	154.81	230.91	101.52
OK Weighted Avg.	110.09	110.09	110.09	110.09	110.09	110.09	110.09	110.09	110.09	110.09	110.09	110.09	110.09
OK Simple Avg. Reported	107.85	107.85	107.85	107.85	107.85	107.85	107.85	107.85	107.85	107.85	107.85	107.85	107.85

Of Oklahoma's five electricity providers regulated by the Commission that are included in this report, PSO customers averaged the most time without power in 2024, that being 126.24 minutes, or 2.10 hours. NOEC had the second most time without power at 118.06 minutes, or 1.97 hours. Arkansas Valley customers were without power for the shortest time in 2024, an average of 67.52 minutes. Empire and OG&E customers were without power for an average of 88.75 and 98.35 minutes, respectively, during 2024. Altogether, customers of Oklahoma's regulated electric utilities were without power for an average of 107.85 minutes last year.

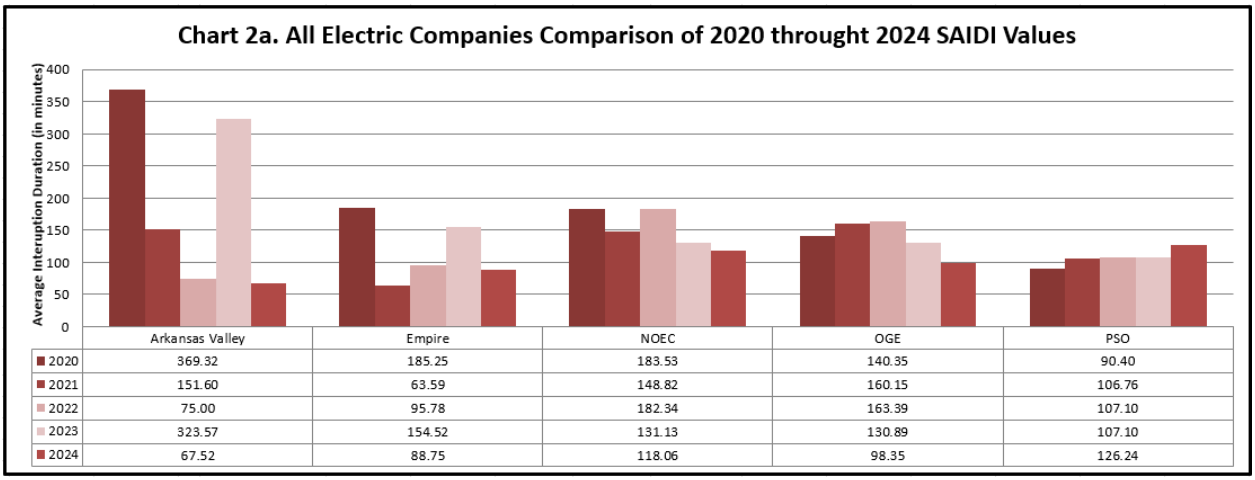
Over the past five years, NOEC and Arkansas Valley customers, on average, were without power the longest, while PSO customers averaged the least amount of power outage time during the period.

[7] The weighted SAIDI mean for 2024 was approximately 110.09 minutes, while the simple SAIDI average was 107.85 consumer minutes. In 2024, customers consuming power from Oklahoma's regulated electric utilities were probably without electricity for 1.79 hours to 1.83 hours during the year.

The five-year average SAIDI across all utilities was 142.78 minutes, with Arkansas Valley reporting the longest average duration (197.40 minutes) and PSO the shortest (107.52 minutes) as shown below:

SAIDI VALUES						
Company	**2020**	**2021**	**2022**	**2023**	**2024**	**Mean**
Arkansas Valley	369.32	151.60	75.00	323.57	67.52	197.40
Empire	185.25	63.59	95.78	154.52	88.75	117.58
NOEC	183.53	148.82	182.34	131.13	118.06	152.78
OGE	140.35	160.15	163.39	130.89	98.35	138.63
PSO	90.40	106.76	107.10	107.10	126.24	107.52
Average	**193.77**	**126.18**	**124.72**	**169.44**	**99.78**	**142.78**

Chart 2a below displays the 2020-2024 SAIDI outage results for Oklahoma's five regulated electric utilities in a more visual form:



	Arkansas Valley	Empire	NOEC	OGE	PSO
2020	369.32	185.25	183.53	140.35	90.40
2021	151.60	63.59	148.82	160.15	106.76
2022	75.00	95.78	182.34	163.39	107.10
2023	323.57	154.52	131.13	130.89	107.10
2024	67.52	88.75	118.06	98.35	126.24

An inspection of the graph reveals that PSO and OG&E over the past five years experienced relatively slight changes in the duration of outages; suggesting service was more consistent during that period than the service of the other three regulated electric utilities in the State. Differences in the length of outages were principally due to irregular or locally variable weather, although company-specific factors, such as the availability of linemen to restore power more quickly, also affected the length of power losses.

The results cited above show that some of Oklahoma's regulated electric utilities have succeeded in improving their service reliability and reducing the number and duration of power outages. While some utilities have more work to do to achieve higher levels of reliability, all utilities must continue efforts to minimize the frequency and duration of power outages. The OCC is committed to working with each regulated utility to try to facilitate improvements in delivery of safe and reliable electricity in a way that minimizes costs to ratepayers while ensuring quality service.

6.0 Commission Rules Summary

OAC 165:35-25-14. Reliability Program

Each utility, to the maximum extent practicable, shall design and maintain a program to minimize the frequency and duration of electric service interruptions in Oklahoma. This reliability program should include inspection, maintenance, repair, and replacement standards that ensure the timeliest service restoration as well as preventive and emergency maintenance as needed to minimize outages and should prioritize efforts to give special emphasis first to the improvement of the worst performing circuits in each region. The program should include, at a minimum, efforts to address:

1) The age, distribution, and location of equipment on each circuit.
2) The number, density, and location of customers on each circuit.
3) The location and density of trees on the system.
4) An annual vegetation management plan.
5) The impacts of animals, wind, storms, ice, and auto accidents on electric distribution system reliability.

OAC 165:35-25-20. Annual Reliability Report

Each electric utility shall submit an annual reliability report to the Commission by March 1 of each year. The Commission may request additional data, but the report shall include the following:

1) Vegetation management summaries.
2) SAIDI and SAIFI calculations for the utility's entire service territory and region and displayed in tabular form.
3) A detailed report for each major event not included in calculation of the reliability indices. The major event report shall include the interruption cause or causes, date, regional location, percentages of customers without service in that region as a result of the event, the time at which service was lost to 10 percent or more of customers in that region, the time when the last customer's service was restored in that region, and any other details that the utility or the Commission believes will further justify the exclusion of the event from the calculation of reliability indices.
4) A description of the program the utility is using to analyze and improve its worst performing circuits and a summary of the results of that program for the reporting year.
5) A description and map identifying the utility's service regions or operating divisions, as well as documentation and illustration of any changes during the reporting year in region boundaries, as defined by the utility, and justification for such changes.
6) For each utility with less than 100,000 customers, the utility must show the data used to calculate service reliability as well as the rural adjusted minimum performance level.

7.0 System Average Interruption Indices

SAIFI: *System Average Interruption Frequency Index* (sustained interruptions). This is a measure of the average number of sustained interruptions (five minutes or more of zero voltage per incident) per customer during a year. It is the ratio of the annual number of interruptions to the number of customers (total number of sustained interruptions in a year / total number of customers).

SAIDI: *System Average Interruption Duration Index.* This is a measure of the average duration of interruptions per customer during the year. It is the ratio of the annual duration of interruptions (sustained) to the number of customers (total duration of sustained interruptions in a year / total number of customers). In other words, when power is lost, SAIDI is the average length of time customers were without power.

CAIDI: *Customer Average Interruption Duration Index.* This measure represents the average time required to restore service. CAIDI is calculated by dividing SAIDI by SAIFI (SAIDI / SAIFI).

8.0 Sample Calculations

SAIFI = (200 + 600 + 25 + 90 + 700 + 1,500 + 100) / 2,000 = **1.6075**

SAIDI = (8.17*200) + (71.3*600) + (30.3*25) + (267.2*90) + (120*700) + (10*1,500) + (40*100) / 2,000 = **86.11 min**

CAIDI = SAIDI / SAIFI = 86.110 / 1.6075 = **53.567 min**

These values help identify systemic weaknesses, such as inadequate vegetation management or aging poles, and support data-driven maintenance and investment decisions. By pinpointing outage causes, utilities can implement corrective measures to enhance service reliability and reduce outage frequency and duration.