

*Exhibit No.:*  
*Issue(s):* *Distribution Reliability*  
*Witness:* *Claire M. Eubanks, PE*  
*Sponsoring Party:* *MoPSC Staff*  
*Type of Exhibit:* *Rebuttal Testimony*  
*Case Nos.:* *ER-2024-0189*  
*Date Testimony Prepared:* *August 6, 2024*

**MISSOURI PUBLIC SERVICE COMMISSION**

**INDUSTRY ANALYSIS DIVISION**

**ENGINEERING ANALYSIS DEPARTMENT**

**REBUTTAL TESTIMONY**

**OF**

**CLAIRE M. EUBANKS, PE**

**Evergy Missouri West, Inc. d/b/a Evergy Missouri West**  
**Case No. ER-2024-0189**

*Jefferson City, Missouri*  
*August 2024*



1 Q. How do utilities measure reliability performance?

2 A. Reliability metrics are used to assess the operational performance of the  
3 distribution system in terms of reliability. Commission Rule 20 CSR 4240-23.010 establishes  
4 distribution reliability monitoring and reporting requirements for the investor owned electric  
5 utilities, often referred to as reliability metrics. These indices are affected by customer density,  
6 tree density, geography, observed weather, and other factors that may be beyond the control of  
7 the utilities.<sup>1</sup>

8 Q. Which reliability metrics are the utilities<sup>2</sup> required to report, and what do the  
9 indices tell us about system reliability?

10 A. There are four metrics the electric utilities are required to report per Chapter 23  
11 of the Commission rules:

- 12 • System Average Interruption Frequency Index (“SAIFI”), which is a gauge  
13 for the frequency of interruptions.
- 14 • System Average Interruption Duration Index (“SAIDI”), which is a gauge  
15 for the duration of outages.
- 16 • Customer Average Interruption Frequency Index (“CAIFI”), which is a  
17 gauge for how frequently impacted customers are experiencing  
18 interruptions. CAIFI differs from SAIFI in that the index only includes  
19 customers who actually experience interruptions.
- 20 • Customer Average Interruption Duration Index (“CAIDI”), which describes  
21 the average time to restore service. This metric only includes customers who  
22 actually experience interruptions.

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<sup>1</sup> 20 CSR 4240-23.010(11).

<sup>2</sup> Evergy also reports Momentary Average Interruption Frequency Index (“MAIFI”) to Staff through a stipulation and agreement.

1 Q. How does Evergy represent its system is performing?

2 A. Company witness Mr. Mulvany asserts Evergy Metro West's ("EMW's")  
3 SAIDI and SAIFI performance benchmarks to Tier 2 and Tier 3 normalized industry  
4 performance, respectively.<sup>3</sup> However, Mr. Mulvany did not present all reliability metrics  
5 reported to the Commission.

6 Q. What is meant by Tier 2 and Tier 3 performance?

7 A. Institute of Electrical and Electronics Engineers ("IEEE") Power and Energy  
8 Society, Distribution Reliability Working Group, benchmarks utility reliability metrics and in  
9 the past has referenced the results of its benchmarking in quartiles<sup>4</sup> where the 1<sup>st</sup> quartile would  
10 represent more favorable reliability performance, and the 4<sup>th</sup> quartile would represent less  
11 favorable reliability performance. Mr. Mulvaney's reference to Tier 2 and Tier 3 appear to refer  
12 to these quartiles.

13 Q. In terms of all reliability metrics, how is EMW performing?

14 A. The graphs below present reliability metrics as reported to the Commission by  
15 EMW in its in annual reliability reports per Chapter 23. As shown in the graphs below, while  
16 SAIDI, SAIFI, and CAIDI have been relatively stable or slightly improving during the previous  
17 five years, CAIFI is trending toward poorer reliability performance.

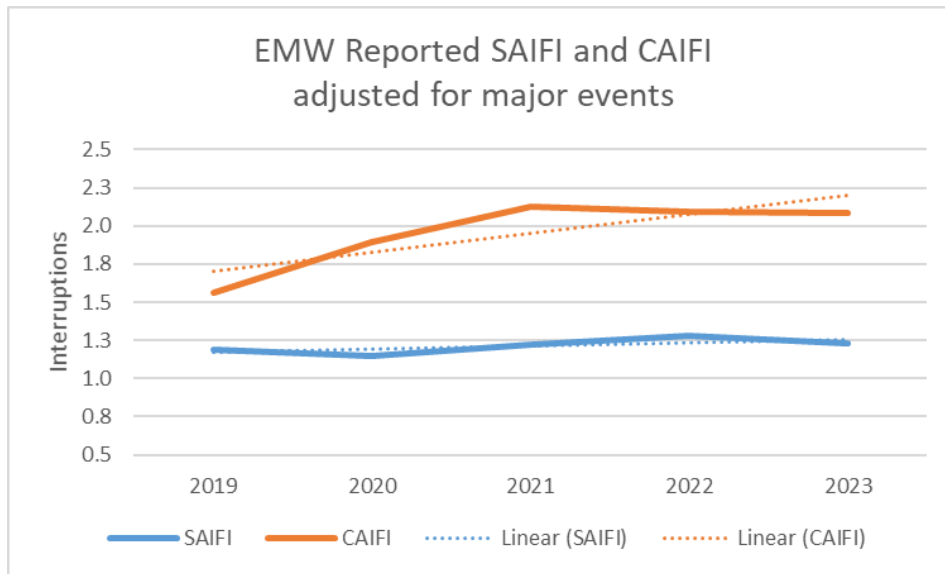
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<sup>3</sup> Direct Testimony of Ryan Mulvaney, page 7, line 2 and line 8.

<sup>4</sup> [Microsoft PowerPoint - benchmark 2022 v2.pptx \(ieee.org\)](#)

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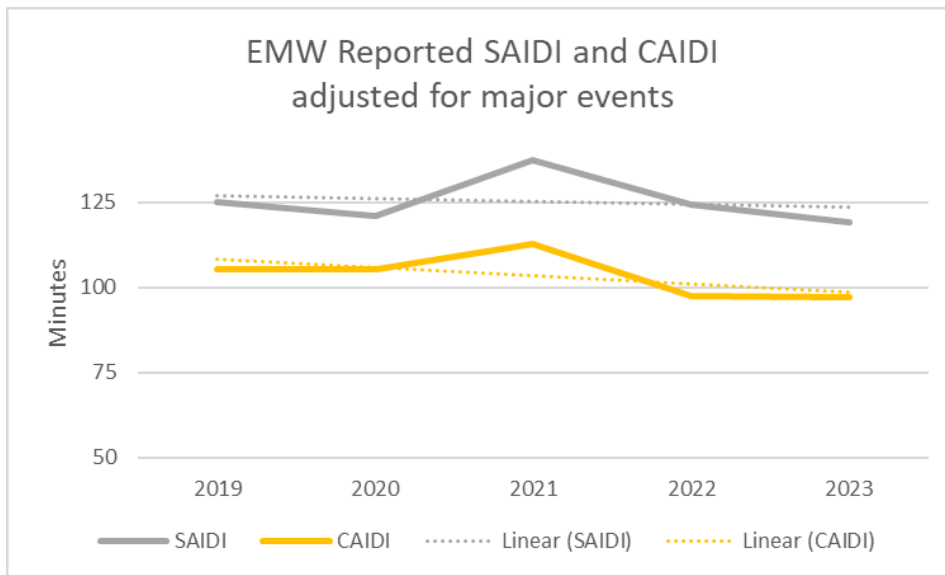
**Figure 2:**



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**Figure 3:**



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Q. Are there other reliability metrics Evergy monitors?

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A. Yes. Evergy has developed a program to improve a metric called Customers

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Experiencing Multiple Interruptions (“CEMI”). CEMI is a metric relating to customers who

1 experience six or more sustained interruptions over a 12-month period.<sup>5</sup> Additionally, Evergy  
 2 monitors a metric called Momentary Average Interruption Frequency Index (“MAIFI”).  
 3 Evergy began reporting CEMI and MAIFI to the Commission as result of the Stipulation and  
 4 Agreement entered into in its last rate case.<sup>6</sup>

5 Q. What are the causes of customer outages?

6 A. Mr. Mulvany presents the causes of customer outages on page 8 of his Direct  
 7 testimony. Causes include unknown causes (25.8%), wildlife (21.5%), equipment (16.8%),  
 8 vegetation (16.7%), weather (11%), planned outages (2.9%), and outages caused by the  
 9 public (5.3%). Note that the reliability metrics presented above are adjusted to exclude major  
 10 storm event days to focus attention to potential issues that are within the control of the utility.

11 Q. Does EMW plan to increase its distribution capital spending?

12 A. Yes. EMW’s 2024 Capital Investment Plan includes investment in its  
 13 distribution facilities totaling \$1.056 billion from 2024-2028, as further detailed below.

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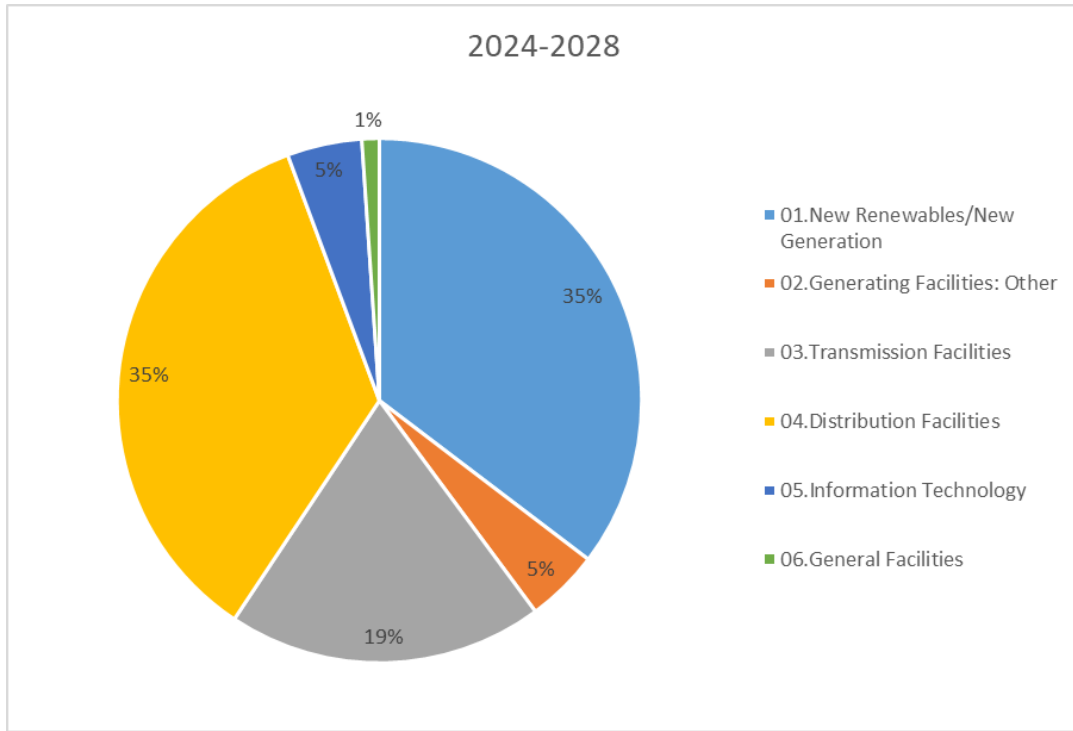
EMW 2024 Capital Investment Plan						
\$ In Millions	Projected	Projected	Projected	Projected	Projected	2024-2028
Category	2024	2025	2026	2027	2028	Total
01.New Renewables/New Generation	\$ 99	\$ 105	\$ 282	\$ 217	\$ 363	\$ 1,067
02.Generating Facilities: Other	\$ 20	\$ 34	\$ 23	\$ 35	\$ 25	\$ 136
03.Transmission Facilities	\$ 107	\$ 85	\$ 110	\$ 144	\$ 141	\$ 588
04.Distribution Facilities	\$ 209	\$ 206	\$ 215	\$ 219	\$ 206	\$ 1,056
05.Information Technology	\$ 37	\$ 20	\$ 20	\$ 31	\$ 31	\$ 139
06.General Facilities	\$ 4	\$ 10	\$ 4	\$ 9	\$ 7	\$ 32
<b>Total</b>	<b>\$ 476</b>	<b>\$ 460</b>	<b>\$ 654</b>	<b>\$ 654</b>	<b>\$ 774</b>	<b>\$ 3,018</b>

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<sup>5</sup> Direct Testimony of Mr. Ryan Mulvany, page 12, line 22-23.

<sup>6</sup> ER-2022-0130

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Q. Does EMW's distribution capital investment plan include reliability improvement programs?

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A. \*\*

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7 \*\* Further, Chapter 23 requires each electric utility to provide Staff a summary report detailing all programs scheduled for the upcoming calendar year designed to maintain or improve service reliability. The reports are required to include the status and funding of the programs.

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Q. Has EMW increased its planned spending on programmatic reliability programs?

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<sup>7</sup> \*\*

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A. \*\*

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Q. Vegetation and wildlife are two of the top contributors to outages. Does Staff have concerns with EMW's compliance with the Commission's vegetation management standards?

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A. Yes. Commission Rule 20 CSR 4240-23.030(9)(A)5. requires each electric utility to perform vegetation management on no less than 25% of its total urban distribution miles each year and 25% of its total rural distribution miles each 18 months. To comply with the rule, EMW uses the following cycle lengths:<sup>8</sup>

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<sup>8</sup> EO-2024-0377, Evergy Missouri West 2023 Annual Missouri Vegetation Management Report, page 2-3.



<b>Circuit Description</b>	<b>Primary Cycle Length (Years)</b>	<b>Mid-cycle Inspection/selective Tree Maintenance (Years)</b>
Urban Circuits	4	2
Rural Circuits	6	3

In EO-2024-0377, EMW submitted its annual vegetation management report which indicates that EMW has planned to perform vegetation management on only 15% of its urban circuit miles in 2024.<sup>9</sup> It is concerning for Staff that EMW is not planning to comply with Rule 20 CSR 4240-23.030(9)(A)5 for calendar year 2024. To highlight this concern, Evergy Missouri Metro (“EMM”) had planned to complete over 25% of its urban circuits for calendar year 2023, but not only did EMM fail to complete its planned vegetation management in 2023, it was also not in compliance with the rule in that it only completed vegetation management on 22% of its urban distribution mileage in 2023.

Q. Mr. Mulvaney also addresses EMW’s proposed Storm Reserve. Do you believe that EMW’s proposal will improve reliability?

A. No. It does not appear Mr. Mulvaney is asserting so since he simply notes that storms are unpredictable and presents no evidence suggesting that storm reserve will benefit customer reliability.<sup>10</sup> As discussed above, EMW’s existing reliability programs and timely vegetation management are more direct ways to improve reliability for customers. Staff witness Karen Lyons presents Staff’s position on EMW’s proposed storm reserve.

<sup>9</sup> EO-2024-0377, Evergy Missouri West 2023 Annual Vegetation Management Report, Appendix C-6, tables 5 and 6. 463 urban miles completed of 3,074 urban mileage inventory.

<sup>10</sup> Direct Testimony of Mr. Ryan Mulvaney, page 14 line 14-15.

Rebuttal Testimony of  
Claire M. Eubanks, PE

1           Q.     Does this conclude your testimony?

2           A.     Yes.

**BEFORE THE PUBLIC SERVICE COMMISSION**

**OF THE STATE OF MISSOURI**

In the Matter of Evergy Missouri West, Inc.     )  
d/b/a Evergy Missouri West's Request for     )  
Authority to Implement A General Rate     )  
Increase for Electric Service                     )                     Case No. ER-2024-0189

**AFFIDAVIT OF CLAIRE M. EUBANKS, PE**

STATE OF MISSOURI     )  
   )                     ss.  
COUNTY OF COLE     )

COMES NOW CLAIRE M. EUBANKS, PE and on her oath declares that she is of sound mind and lawful age; that she contributed to the foregoing *Rebuttal Testimony of Claire M. Eubanks, PE*; and that the same is true and correct according to her best knowledge and belief.

Further the Affiant sayeth not.

Claire M Eubanks  
CLAIRE M. EUBANKS, PE

**JURAT**

Subscribed and sworn before me, a duly constituted and authorized Notary Public, in and for the County of Cole, State of Missouri, at my office in Jefferson City, on this 5<sup>th</sup> day of August 2024.

D. SUZIE MANKIN  
Notary Public - Notary Seal  
State of Missouri  
Commissioned for Cole County  
My Commission Expires: April 04, 2025  
Commission Number: 12412070

D Suzie Mankin  
Notary Public