

Exhibit No.:
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Storm Outage,
Turbine Collapses*
Witness: *Claire M. Eubanks, PE*
Sponsoring Party: *MoPSC Staff*
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Case No.: *ER-2024-0319*
Date Testimony Prepared: *January 17, 2025*

MISSOURI PUBLIC SERVICE COMMISSION

INDUSTRY ANALYSIS DIVISION

ENGINEERING ANALYSIS DEPARTMENT

REBUTTAL TESTIMONY

OF

CLAIRE M. EUBANKS, PE

**UNION ELECTRIC COMPANY,
d/b/a Ameren Missouri**

CASE NO. ER-2024-0319

*Jefferson City, Missouri
January 2025*

*** Denotes Highly Confidential Information ***

** Denotes Confidential Information **

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1 **REBUTTAL TESTIMONY**

2 **OF**

3 **CLAIRE M. EUBANKS, PE**

4 **UNION ELECTRIC COMPANY,**

5 **d/b/a Ameren Missouri**

6 **CASE NO. ER-2024-0319**

7 Q. Please state your name and business address.

8 A. Claire M. Eubanks and my business address is Missouri Public Service
9 Commission, P.O. Box 360, Jefferson City, Missouri, 65102.

10 Q. By whom are you employed and in what capacity?

11 A. I am employed by the Missouri Public Service Commission (“Commission”) as
12 a member of Commission Staff (“Staff”) and my title is Engineer Manager of the Engineering
13 Analysis Department of the Industry Analysis Division.

14 Q. Are you the same Claire M. Eubanks that previously filed direct testimony in
15 this case?

16 A. Yes.

17 Q. What is the purpose of your rebuttal testimony?

18 A. The purpose of my rebuttal testimony is to respond to Ameren Missouri witness
19 Steven M. Wills and Renew Missouri (RM) witness James Owen regarding proposals to expand
20 time of use (“TOU”) rates to net-metered customers of Ameren Missouri. My testimony
21 responds to the testimony of James Owen regarding proposals to expand the Renewable
22 Solutions Program (“RSP”). I also respond to Jacqueline A. Hutchinson regarding Consumer
23 Council’s proposal to compensate customers for food spoilage and provide additional context

1 regarding the 2023 summer storms. Finally, I provide an update to an issue raised in Staff's
2 direct testimony regarding the collapsed turbines at High Prairie Renewable Energy Center.

3 **NET-METERING**

4 Q. Did Staff provide an alternative method to expand TOU rates to net-metered
5 customers if the Commission determines it appropriate to do so?

6 A. Yes. The direct testimony of Staff witness Sarah L.K. Lange provided Staff's
7 method and corresponding tariff language necessary to offer TOU rates to all net-metered
8 customers if the Commission determines that it is appropriate to do so. She corrected this
9 language in her filed rebuttal testimony.

10 Q. Please briefly describe Staff's recommendation.

11 A. If the Commission determines it reasonable to do so, Staff proposes the
12 Commission order Ameren Missouri to include the following language¹ on the more
13 highly-differentiated rate plans:

14 For bill calculation purposes, all net kWh shall be billed at the
15 intermediate rate, with the difference between the on-peak and
16 intermediate rate applied as a surcharge to the net kWh consumed during
17 the on-peak period, and the difference between the off-peak and
18 intermediate rate applied as a credit to the net kWh consumed during the
19 off-peak period. In no event shall the cash value of the credits calculated
20 pursuant to this calculation be used to offset the customer charge or any
21 rider, tax, or other charge.

22 Q. Does Staff's proposal align with 386.890 RSMo?

23 A. Yes. Staff's recommendation does not alter the determination of net excess
24 generation over the billing period.

¹ Staff notes that in its direct testimony the proposed language was reflective of Evergy's naming convention for TOU periods rather than Ameren Missouri.

1 Q. What is Ameren Missouri's proposal?

2 A. Ameren Missouri's witness Steven M. Wills presents a report discussing four
3 methods for calculating and billing net usage by TOU time period.² However, Ameren Missouri
4 does not propose language in its proposed tariffs to address offering the more highly
5 differentiated rates to net-metered customers.

6 Q. Please briefly describe Renew Missouri's proposal.

7 A. Renew Missouri's proposal is to include an On-Peak credit³ when a
8 customer-generator provides excess generation during an on-peak period and an Off-Peak
9 credit when a customer-generator provides excess generation during an off-peak period.⁴

10 Q. Does Renew Missouri's proposal comply with the 386.890?

11 A. It is unclear how excess generation credits would be treated under Renew
12 Missouri's proposal.

13 Q. Returning to Ameren Missouri's report that outlines four methods for
14 calculating and billing net usage, are any of these methods reflective of Staff's proposal?

15 A. No.

16 Q. Ameren Missouri reads the Net Metering and Easy Connection Act as requiring,
17 in instances where a customer-generator supplies excess energy to the grid, a zero bill for
18 variable energy charges. Does Staff agree?

19 A. No. Staff agrees that in current application of the statute, customer-generators
20 may have months where variable energy charges are zero. However, the statute also requires
21 the utility to offer the customer-generator a tariff that is identical in electrical energy rates, rate

² Direct Testimony of Steven M. Wills, Schedule SMW-D1, *Report on Challenges and Opportunities in Integrating Distributed Energy Resources with Time of Use Rates June 2024*.

³ Staff prefers to use the terminology on-peak and off-peak rather than on-phase and off-phase.

⁴ Direct testimony of James Owen, page 8, lines 6-10.

1 structure, and monthly charges to other customers.⁵ Additionally, the statute requires a utility
2 to measure net electrical energy produced or consumed in accordance with normal metering
3 practices for customers in the same rate class.⁶ The portion of the statute Ameren Missouri
4 cites⁷ does not specifically mention producing a zero bill. It does describe the application of the
5 determination of net electrical energy for purposes of determining the excess generation credit.

6 Q. How does Staff's proposal compare to Renew Missouri's?

7 A. Under Staff's proposal a customer-generator will be billed as follows for
8 variable energy:

- 9 • All net usage is billed at the intermediate rate.
- 10 • There is a surcharge for net usage used during the on-peak period.
- 11 • There is a credit for net usage occurring during the off-peak period.

12 Under Staff's proposal, it is possible for a customer-generator to receive a bill with
13 no variable energy charges, however, the only credit carried forward to future billing periods is
14 the excess generation credit. Additionally, the determination of excess generation credits
15 does not change from the current practice. The net usage over the billing period multiplied by
16 the excess generation credit rate⁸ determines the value of the excess generation. These credits
17 expire 12-months from issuance.⁹

18 Under Renew Missouri's proposal, a customer-generator would be billed for the
19 net usage in each time-of-use period rather than each billing period. It is not clear under

⁵ 386.890.3.(2).

⁶ 386.890.5.(1).

⁷ 386.890.5.(3).

⁸ Filed biennially on January 15 of odd-numbered years.

⁹ 386.890.5.(4).

1 Renew Missouri's proposal how or if customer-generators would receive an additional excess
2 generation credit nor whether credits for period usage would expire.

3 Q. If the Commission determines it is appropriate to do so, why should the
4 Commission adopt Staff's proposal over the other proposals?

5 A. Staff's proposal does not alter how excess generation is determined over the
6 billing period and is therefore the only option which complies with Section 386.890 RSMo.¹⁰

7 **RENEWABLE SOLUTIONS PROGRAM EXPANSION PLAN**

8 Q. Please briefly describe the RSP.

9 A. The purpose of the RSP is to offer eligible customers an opportunity to subscribe
10 to a renewable energy product associated with new renewable wind and/or solar generation
11 resources to be developed for the Program.¹¹

12 Q. Please describe Renew Missouri's proposal in this case regarding the Renewable
13 Solutions Program expansion.

14 A. Renew Missouri's witness James Owen¹² recommends that the Commission
15 order Ameren Missouri to "file an expansion plan to meet customer demand for the
16 Renewable Solutions Program in its next rate case along with an outline for Phase 4 of the
17 project, including a date by which a certificate of convenience and necessity will be requested
18 to expand the facility."

19 Q. Mr. Owen implies there are three phases of the RSP at this time, is that accurate?

¹⁰ Staff witness Sarah L.K. Lange discusses in her direct testimony how the proposals in this case are not truly cost-based.

¹¹ MO PSC Schedule 6, 2nd revised sheet 83.

¹² Direct Testimony of James Owen, page 35, lines 5-9.

1 A. No. Ameren Missouri's tariffs include two program phases. Phase 1 is the
2 Boomtown Energy Center¹³ and Phase 2 is the Cass County Energy Center.¹⁴ Staff notes here
3 that these facilities are expected to be in-service in the true-up portion of this case but Staff has
4 not yet received in-service documentation.¹⁵ ** [REDACTED]

5 [REDACTED]
6 [REDACTED] ** The Stipulation and Agreement
7 in EA-2023-0286, the CCN case approving Vandalia and Bowling Green, requires Ameren
8 Missouri to provide Staff and the Commission notice within seven days of deciding to designate
9 these resources to the RSP.

10 Q. Mr. Owen seems to suggest that the RSP program may provide renewable
11 energy credits ("REC") to Ameren Missouri to support its obligation to meet the Renewable
12 Energy Standard. Do you agree?

13 A. No. The tariff prohibits the use of RECs generated by the RSP¹⁶ for any other
14 use during the term of subscription:

The RECs associated with the generation output of currently subscribed
Program Resources will be retired on behalf of subscribed customers, and
shall not be used for any other purposes during the term of subscription
including for the Company's compliance with RES requirements. The
Program is considered a voluntary program unrelated to compliance with
RES requirements, therefore, the Commission is not actively monitoring
the retirement of RECs or allocation amongst customers.

22 Q. Mr. Owen seems to acknowledge Ameren Missouri's struggle to comply with
23 the Renewable Energy Standard, 393.1030 RSMo., without requesting a timing variance.

¹³ Certificate of Convenience and Necessity granted in EA-2022-0245.

¹⁴ Certificate of Convenience and Necessity granted in EA-2023-0286.

¹⁵ Staff witness Brodrick Niemeier outlines the criteria for determining in-service for these facilities in his Direct Testimony. Staff witness Paul K. Amenthor discusses the RSP program in relation to establishment of the base amount for tracking purposes.

¹⁶ MO PSC Schedule 6, 2nd Revised Sheet 83.3.

1 Is Staff concerned with the RSP program interfering with Ameren Missouri plans for RES
2 compliance?

3 A. Yes. Ameren Missouri’s plan to comply with the RES, as filed¹⁷ in its *Renewable*
4 *Energy Standard Compliance Plan 2024-2026*, April 15, 2024, indicated that Ameren Missouri
5 anticipated utilizing Vandalia and Bowling Green for RES compliance.¹⁸ ** [REDACTED]

6 [REDACTED]
7 [REDACTED]

8 [REDACTED]¹⁹ ** However, in response to Renew Missouri’s discovery²⁰ in this case, Ameren
9 Missouri states in part:

10 ** [REDACTED]
11 [REDACTED]
12 [REDACTED]
13 [REDACTED]
14 [REDACTED]
15 [REDACTED]
16 [REDACTED]
17 [REDACTED]
18 [REDACTED] **

19 Q. Has Ameren Missouri provided notice to Staff and the Commission, as required
20 by the Stipulation and Agreement in EA-2023-0286 Paragraph 5j, of new resources being
21 designated for the RSP?

¹⁷ EO-2024-0231.

¹⁸ *Renewable Energy Standard Compliance Plan 2024-2026*, April 15, 2024, page 9.

¹⁹ *Renewable Energy Standard Compliance Plan 2024-2026*, April 15, 2024, page 9 ** [REDACTED]

[REDACTED] **
²⁰ Ameren Missouri Response to RM-06.

1 A. No.

2 Q. Does the Stipulation and Agreement indicate Staff's support for designating
3 these resources to the RSP program?

4 A. No.

5 Q. What is Staff's recommendation regarding Renew Missouri's proposal
6 regarding expanding the RSP?

7 A. If the Commission orders the plan contemplated by Renew Missouri's
8 testimony, Staff recommends the Commission order the following as well:

- 9 • If Ameren Missouri designates Vandalia and/or Bowling Green to the RSP
10 program, Ameren Missouri shall provide testimony supporting its decision and
11 revise its RES compliance plan. Ameren Missouri shall provide workpapers
12 demonstrating that its decision is the least-cost, prudent methodology to comply
13 with the RES.

14 **STORM OUTAGE COMPENSATION PROPOSAL AND 2023 SUMMER STORMS**

15 Q. Please briefly describe Consumers Council's recommendations related to storm
16 restoration policies.

17 A. The direct testimony of Jacqueline Hutchinson²¹ outlines Consumer Council's
18 recommendations related to storm restoration policies. Consumer Council recommends that:

19 (1) Residential customers be compensated for food spoilage and other expenses, up to
20 \$200 per claim or more if receipts are provided, that are incurred as a result of an outage lasting
21 more than 48 hours.

22 (2) A priority list should be created for restoring electric service to non-profits who
23 provide essential services, such as food, shelter and medical services to vulnerable customers.

²¹ Direct testimony of Jacqueline A. Hutchinson, page 7, lines 22-30.

1 Q. Did Ms. Hutchinson provide an example of an extended power outage in
2 Ameren Missouri's service territory?

3 A. Yes. Ms. Hutchinson briefly mentions the 2023 summer storms that lasted as
4 long as seven days for some Ameren Missouri customers.

5 Q. Did Staff investigate Ameren Missouri's restoration efforts related to the 2023
6 summer storms?

7 A. Yes. Staff corresponded with Ameren Missouri from August 14, 2023 through
8 November 29, 2023, regarding the 2023 Summer storms. Staff documented its investigation
9 in a Staff Report, attached to this testimony as Confidential Schedule CME-r1. The Staff Report
10 provides additional context to the nature of the 2023 summer storms and Ameren Missouri's
11 restoration efforts.

12 Q. Does Staff have concerns with Consumer Council's proposal regarding food
13 spoilage compensation?

14 A. Yes. Staff is concerned with the potential cost impact to all ratepayers of
15 reimbursing customers as described by Consumers Council.

16 Q. Does Staff have concerns with Consumers Council's recommendation that
17 Ameren Missouri develop a list for restoring service for non-profits providing essential
18 services?

19 A. No. Staff understands that Ameren Missouri has an essential customer list for its
20 emergency energy conservation plan that includes registered heating/cooling centers.²²

²² MO PSC Schedule 6, 1st Revised Sheet 146.

HIGH PRAIRIE TURBINE COLLAPSES

1
2 Q. Has Ameren Missouri provided an update to Staff regarding the turbine
3 collapses at High Prairie Renewable Energy Center?

4 A. Yes. *** [REDACTED]
5 [REDACTED]
6 [REDACTED]
7 [REDACTED]
8 [REDACTED]
9 [REDACTED]
10 [REDACTED]
11 [REDACTED]
12 [REDACTED]
13 [REDACTED] 23
14 [REDACTED]
15 [REDACTED] ***

16 Q. Given the update discussed above, does Staff have further recommendations for
17 the Commission?

18 A. Yes. First, Staff has not changed its position regarding its adjustment²⁴ to
19 Ameren Missouri's revenue requirement to reflect that three collapsed turbines are not used for
20 service nor are the replacement turbines expected to be constructed prior December 31, 2024.

23 *** [REDACTED] ***

²⁴ Refers to Staff's adjustment related the turbine collapses. Regarding Staff's adjustments made related to the on-going bat mitigation issue, Staff has made a correction related to production tax credits. See also Lisa M. Ferguson's rebuttal testimony.

Rebuttal Testimony of
Claire M. Eubanks, PE

1 *** [REDACTED]
2 [REDACTED]
3 [REDACTED]
4 [REDACTED]
5 [REDACTED]
6 [REDACTED]
7 [REDACTED]
8 [REDACTED]
9 [REDACTED]

- 10 • [REDACTED]
- 11 • [REDACTED]
- 12 • [REDACTED]
- 13 • [REDACTED]
- 14 [REDACTED]
- 15 • [REDACTED] ***

16 Q. Does this conclude your rebuttal testimony?
17 A. Yes it does.

BEFORE THE PUBLIC SERVICE COMMISSION

OF THE STATE OF MISSOURI

In the Matter of Union Electric Company)
d/b/a Ameren Missouri's Tariffs to Adjust)
Its Revenues for Electric Service) Case No. ER-2024-0319

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 16th day of January 2025.

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

Missouri Public Service Commission Staff Investigation

Ameren Missouri's Response to Summer Storms 2023

This report is a result of the investigation of the Staff of the Missouri Public Service Commission (“Staff”) into the response of Ameren Missouri in a series of severe weather events in the summer of 2023. The series of summer storms impacted different portions of Ameren Missouri’s service territory at different times with several events impacting the St. Louis region. More specifically this Staff report covers storm events and restoration efforts from June 29 – July 7, 2023; July 12-18, 2023; July 29-30, 2023; and August 2-4, 2023.

June 29 – July 7, 2023

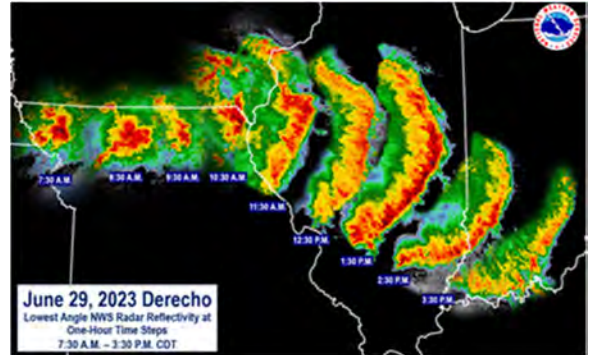
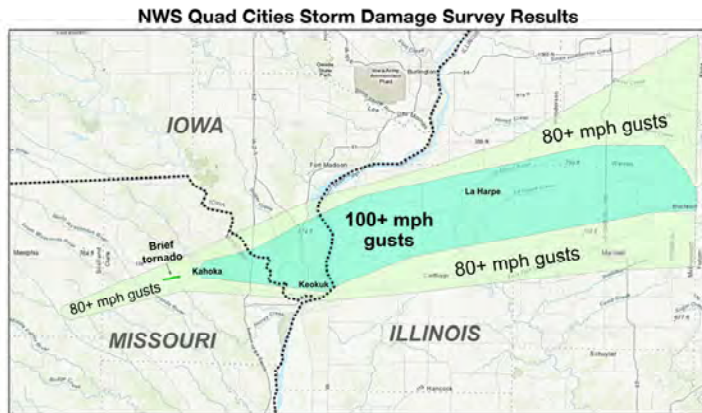
A series of storms occurred in counties served by Ameren Missouri during the period June 29 to July 4, 2023. NOAA’s Storm Data identifies 45 events, occurring on June 29 or June 30, 2023, reported in counties served by Ameren Missouri including hail, thunderstorm, wind, excessive heat, and one tornado event.¹ NOAA Storm Data documents the occurrence of storms having sufficient intensity to cause loss of life, significant property damage, and/or disruption to commerce.²

On June 29, 2023, the National Weather Service issued a severe thunderstorm watch across northern Missouri. This event resulted in severe thunderstorms with winds up to 100 mph and included a brief tornado that touched down west of Kahoka, Missouri. This storm system strengthened and became a derecho that affected Illinois and Indiana. A large portion of

¹ [Storm Events Database | National Centers for Environmental Information \(noaa.gov\)](#)

² [NWSI 10-1605, Storm Data Preparation \(noaa.gov\)](#). “Storm Data is an official publication of the National Oceanic and Atmospheric Administration (NOAA) which documents: a. The occurrence of storms and other significant weather phenomena having sufficient intensity to cause loss of life, injuries, significant property damage, and/or disruption to commerce; b. Rare, unusual, weather phenomena that generate media attention, such as snow flurries in South Florida or the San Diego coastal area; and c. Other significant meteorological events, such as record maximum or minimum temperatures or precipitation that occur in connection with another event.”

Ameren Illinois' service territory was affected by this event.³ The images below⁴ show the area affected by the June 29 Derecho event:



The June 29 Derecho event caused more than 500,000 people in Illinois and Indiana to be without electricity.⁵ Missouri counties served by Ameren Missouri were impacted by the June 29 storms but Ameren Missouri reported less than 2,000 customers out on June 29 and the morning of June 30.

Ameren Missouri released its contractors and some of its internal resources to assist Ameren Illinois with its restoration efforts. Specifically, on June 30th Ameren Missouri released 43 line resources, 37 damage assessors, one safety supervisor and one bargaining unit safety representative. Ameren Missouri Contractor Services released 125 line resources, 95 vegetation management resources, and 10 supervisors.⁶

On June 30, 2023, the National Weather Service issued a severe thunderstorm watch across east-central and southeast Missouri. The St. Louis area was affected beginning around

³ Ameren Missouri Response to Staff request 1.
⁴ [Derecho Summary: June 29, 2023 \(weather.gov\)](#)
⁵ Ameren Missouri Response to Staff request 8.
⁶ Ameren Missouri Response to Staff request 17.

1800 (6 PM). Hazards included 60-mph wind gusts and hail.⁷ Ameren Missouri reported that storms also affected Jefferson County and St. Charles County.⁸

Ameren Missouri's Incident Management Team ("IMT") activated beginning on June 30, 2023 at 2230 (10:30 PM).⁹

On July 1, 2023, thunderstorms affected the metropolitan St. Louis area beginning shortly after 1500 (3 PM) with wind in excess of 50 mph and significant tree damage reported. The storm system moved out of the St. Louis area around 1710 (5:10 PM)¹⁰ and continued into central Illinois (Ameren Illinois' service territory).¹¹ The July 1 storms resulted in over 90,000 Ameren Missouri customers out. Unlike the June 29 and June 30 events, the July 1 event is not in NOAA Storm Events database.

Ameren Missouri recalled its contractors and internal resources from Illinois on July 1 (between 6 AM and 8 AM).¹² Prior to returning to work on the Ameren Missouri restoration efforts, the resources completed the task they were working on at jobsites as far away as eastern Illinois.¹³

On July 2, 2023, shortly after midnight the National Weather Service issued a severe thunderstorm warning for east-central Missouri for thunderstorms with hazards of 60-mph wind gusts and quarter size hail. The storms affected areas to the south and east of St. Louis County plus St. Louis City and St. Louis County.¹⁴ On July 4, 2023, around 1800 (6 PM) thunderstorms affected Franklin County and Jefferson County.¹⁵

⁷ Ameren Missouri Response to Staff request 1.

⁸ Ameren Missouri Response to Staff request 1.

⁹ Ameren Missouri Response to Staff request 5.

¹⁰ [St. Louis weather: Strong storms return Saturday | ksd.com](https://www.ksdk.com/news/st-louis-weather-strong-storms-return-saturday/)

¹¹ Ameren Missouri Response to Staff request 1.

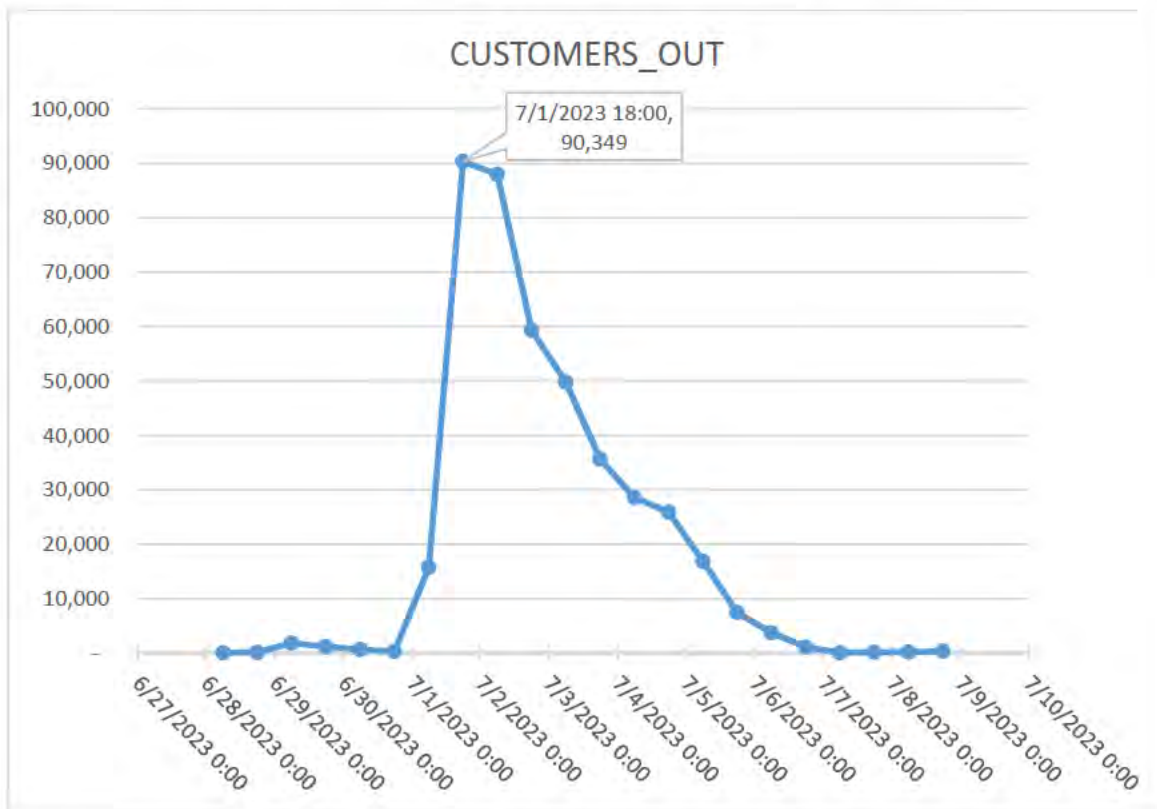
¹² Ameren Missouri Response to Staff request 8 and 17s1.

¹³ Ameren Missouri Response to Staff request 8.

¹⁴ Ameren Missouri Response to Staff request 1.

¹⁵ Ameren Missouri Response to Staff request 1.

The graph below depicts the number of Ameren Missouri customers out at 0600 (6 AM) and 1800 (6 PM) each day from June 28, 2023 through July 8, 2023. The peak number of customers out (90,349 customers) occurred at approximately 1800 (6 PM) on July 1, 2023.¹⁶



Ameren Missouri and Ameren Illinois both had around 90,000 customer outages resulting from the July 1, 2023 storms.¹⁷ Ameren Missouri reported that it did not immediately accept all external contractor resources offered until it was apparent that closer resources were not available.¹⁸ The original offer of assistance was at 5 PM on July 1 and Ameren Missouri requested northeastern states to mobilize at around 11 AM on July 2¹⁹ (approximately 18 hours from the initial offer). Ameren Missouri requested contractors from farther away which took longer to

¹⁶ Data provided by Ameren Missouri in Response to Staff request 3. Data provided is number of customers out daily at 0600 (6 AM) and 1800 (6 PM).

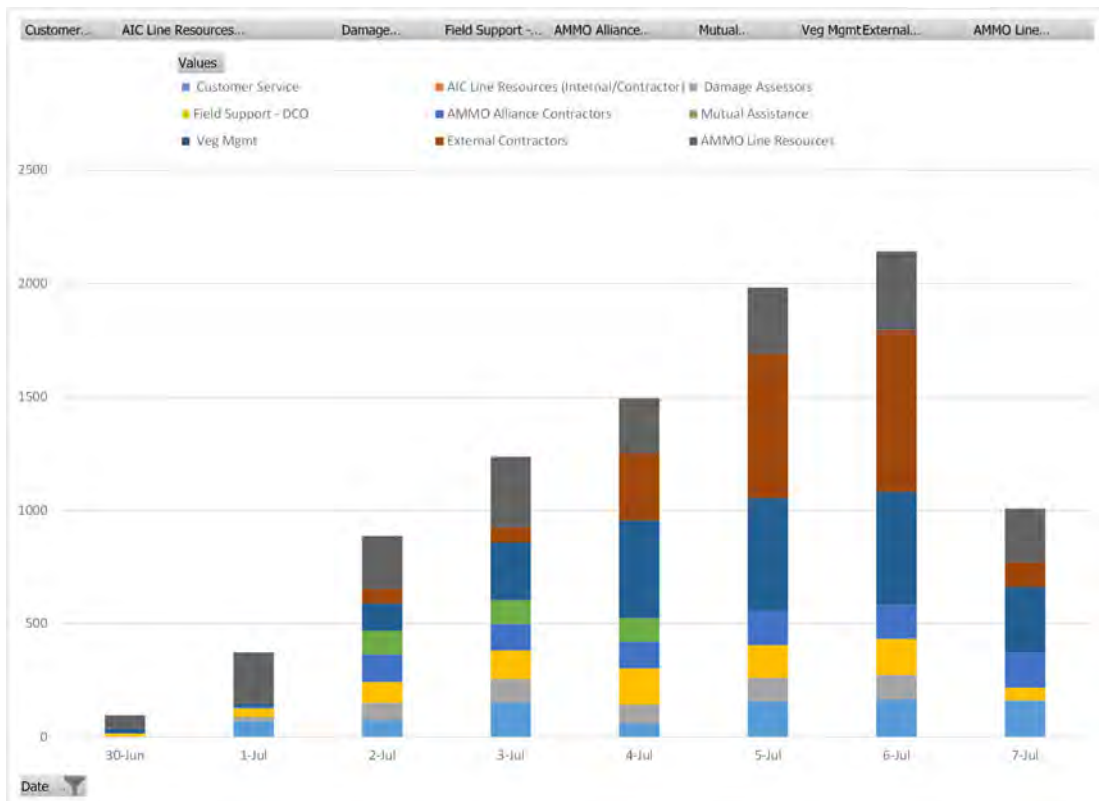
¹⁷ Ameren Missouri Response to Staff request 8.

¹⁸ Ameren Missouri Response to Staff request 11.

¹⁹ Ameren Missouri Response to Staff request 11s1.

identify and secure those resources.²⁰ Ameren Missouri received overhead line mutual assistance and external contractor resources for the June 30 - July 7 restoration efforts from the following states: Alabama, Arkansas, Illinois, Indiana, Iowa, Kansas, Kentucky, Michigan, Missouri, New York, Ohio, and Oklahoma.

The following Resources graph depicts the number and source of resources²¹ utilized during the storm restoration between June 30 and July 7, 2023. Approximately 5 days after the storm event, on July 6, 2023, Ameren Missouri had its peak number of personnel assigned to restoration efforts (2,263 personnel).



Certain categories of personnel resources were staffed lower over the July 4th holiday including Ameren Missouri Line resources, customer service, damage assessors, and fleet. However, Ameren Missouri was able to bring in additional external contractors, vegetation

²⁰ Ameren Missouri Response to Staff request 8.

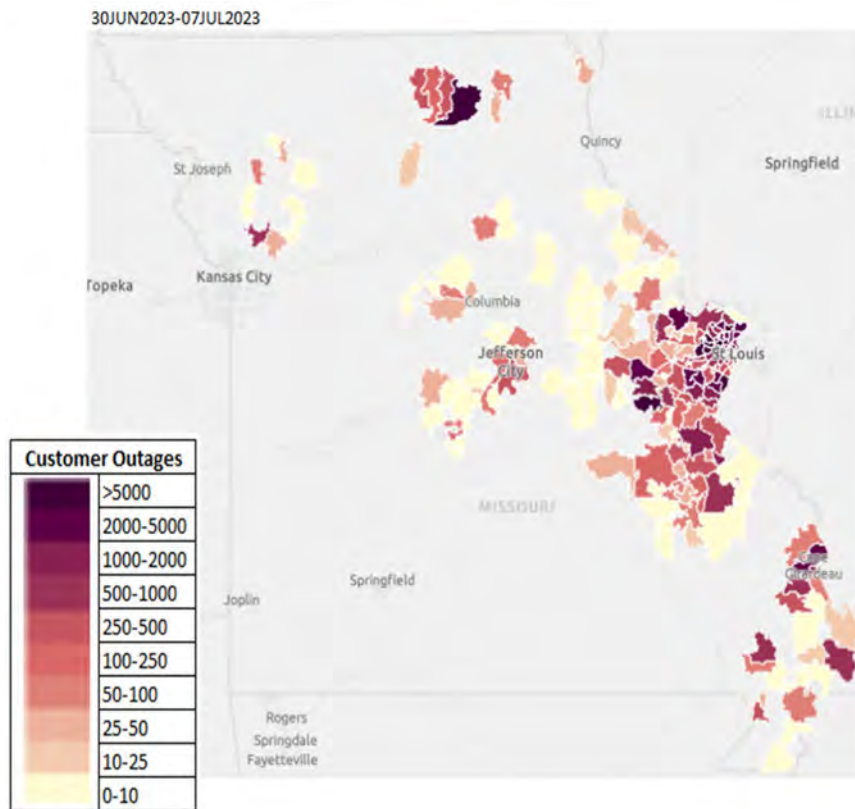
²¹ Graph does not depict IMT, safety, security, logistics, stores, and fleet resources.

management resources, and field support.²² Additional details regarding the comparison of July 4th staffing to the days immediately preceding and following the holiday are provided below:

Date	Internal Resources										
	AMO Line Resources	Customer Service	Damage Assessors	Fleet	IMT	Safety	Logistics	Veg Mgmt Resources	Stores/ Material Mgmt Resources	Security	Field Support/ DCO
07/03/2023	↑ 311	↑ 153	↑ 104	↑ 23	11	5	6	↓ 252	↓ 17	↓ 35	↓ 123
07/04/2023	↓ 242	↓ 60	↓ 84	↓ 10	11	5	6	↑ 432	↑ 23	↑ 38	↑ 157
07/05/2023	↑ 294	↑ 158	↑ 104	↑ 31	11	9	8	↑ 500	↑ 20	↓ 34	↑ 142

Date	External Resources		
	AMO Alliance Contractors	Mutual Assistance (through MMAG)	External Contractors
07/03/2023	118	105	↓ 72
07/04/2023	118	105	↑ 297
07/05/2023	151		↑ 634

The following map²³ depicts the location of Ameren Missouri customer outages from June 30 – July 7, 2023:



²² Excludes IMT, safety, security, logistics, stores, and fleet resources.

²³ Ameren Missouri Response to Staff request 2.

While the above map is helpful to identify the general location of customer outages, the number of customer outages in certain areas far exceeded the dark red shading of 5,000 customer outages. Specifically, on July 1 at 1800 (6 PM) the Gateway operating division had over 50,000 customer outages and the Archview operating division had nearly 30,000 customer outages.

On July 7, 2023, Ameren Missouri released crews from storm restoration efforts and at 1800 (6 PM) Ameren Missouri's IMT deactivated.²⁴

Ameren Missouri's estimate of the total cost of the July 1 storm is approximately \$36.9 million.²⁵ The top causes of customer interruptions Ameren Missouri identified for the June 30 – July 7 storm event were trees (48.5%), equipment/overhead issues (26%), and thunderstorm/lightning (11.4%).²⁶

July 12-14, 2023 and July 14-18, 2023

Approximately one week after the first series of storms that affected Ameren Missouri's service territory, on the evening of July 12, 2023, thunderstorms moved through the metropolitan St. Louis area. The storms formed a line that strengthened prior to entering St. Louis City, St. Louis County, St. Charles County, and Jefferson County.²⁷ Ameren Missouri activated its IMT on July 12 at 2145 (9:45 PM).

On July 13, 2023, a thunderstorm affected northern St. Louis County and parts of St. Louis City beginning at approximately 1800 (6 PM). Additional storms moved through the St. Louis area around 2300 (11 PM). Ameren Missouri released crews on July 14 and deactivated its IMT at 0800 (8 AM) and then reactivated the team at 2100 (9 PM).²⁸

²⁴ Ameren Missouri Response to Staff request 5.

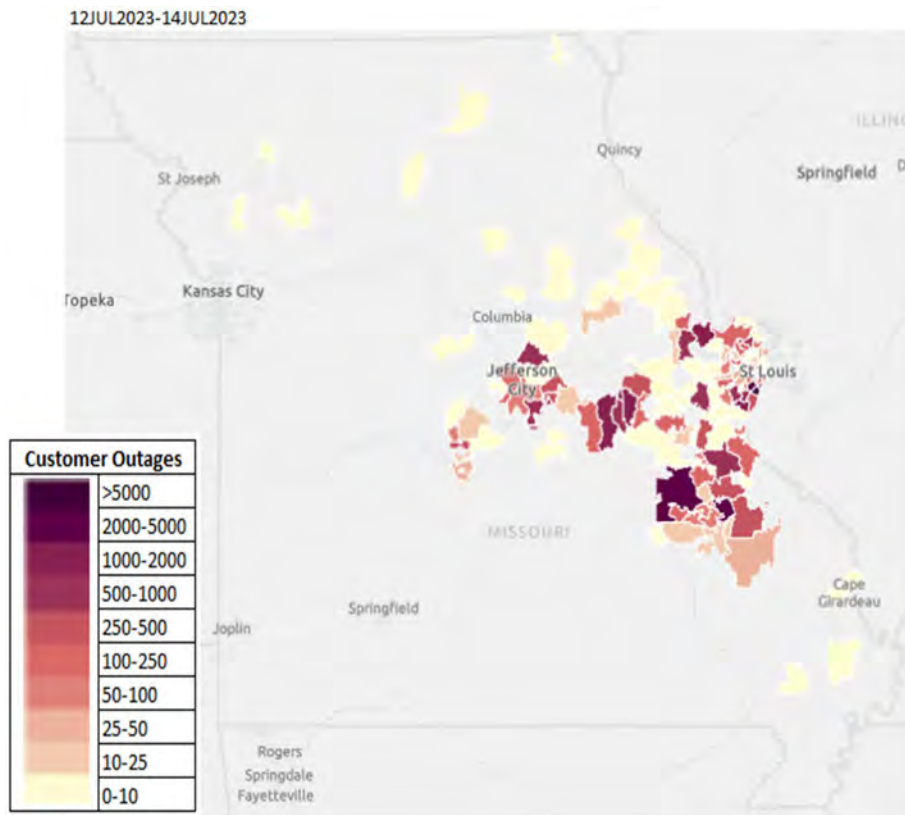
²⁵ Ameren Missouri Response to Staff request 16s1.

²⁶ Ameren Missouri Response to Staff request 21.

²⁷ Ameren Missouri Response to Staff request 1.

²⁸ Ameren Missouri Response to Staff requests 5 and 10.

The peak customer outages for July 12-14 was 10,399 customers out on July 13 at 0600 (6 AM). The operating divisions with the most outages for this period were Archview and SEMO. The following map²⁹ depicts the location of Ameren Missouri customer outages from July 12 – July 14, 2023:



Additional storms came though St. Louis County and St. Louis City on July 15,³⁰ resulting in approximately 20,000 customers out primarily in the Gateway and Archview operating divisions.³¹

On July 16, 2023, storms affected Warren County, western St. Louis County, southern St. Louis County, southern St. Louis City, Franklin County, Jefferson County, and St. Francois County. Thunderstorms affected central Missouri, specifically Miller County at approximately

²⁹ Ameren Missouri Response to Staff request 2.

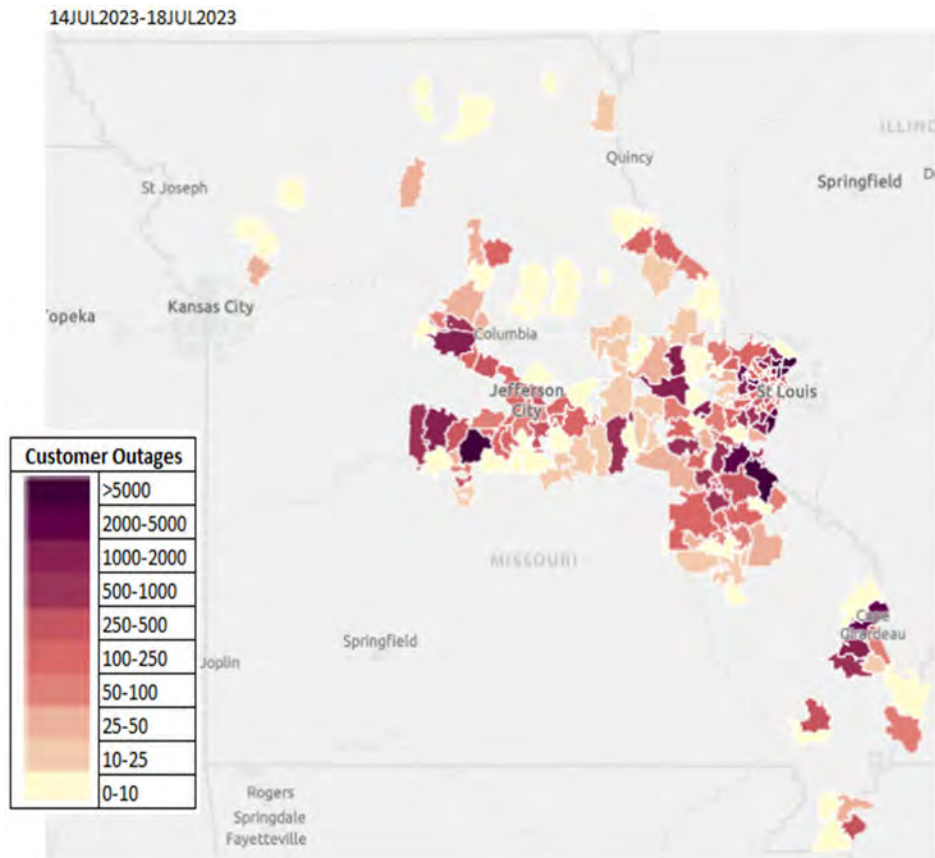
³⁰ Ameren Missouri Response to Staff request 1.

³¹ Ameren Missouri Response to Staff request 4.

2130 (9:30 PM).³² On July 16 at 1800 (6 PM), approximately 10,000 customer outages in the Meramec Valley operating division were recorded with additional outages in the Gateway and Archview operating divisions.

On July 17, 2023, thunderstorms occurred separately in Miller County, northern St. Louis County, and southeastern Missouri (Cape Girardeau County and Scott County).³³ Additional severe thunderstorms and heavy rain occurred in southeastern Missouri and Jefferson County, Missouri on July 20, 2023.³⁴

The following map³⁵ depicts the location of Ameren Missouri customer outages from July 14 – July 18, 2023:



³² Ameren Missouri Response to Staff request 1.

³³ Ameren Missouri Response to Staff request 1.

³⁴ Ameren Missouri Response to Staff request 1.

³⁵ Ameren Missouri Response to Staff request 2.

Ameren Missouri had over 1,700 personnel assigned to work on storm restoration on July 17 including internal resources and contractors.³⁶ On July 18, 2023, Ameren Missouri released crews and at 1420 (2:20 PM) its IMT deactivated.³⁷

Ameren Missouri's estimate of the total cost of the July 12 and July 14 storms is approximately \$27.1 million.³⁸ The top causes of customer interruptions Ameren Missouri identified for the July 12 – July 14 storm event were trees (40.9%), equipment/overhead issues (36.8%), and thunderstorm/lightning (11.1%).³⁹ The top causes of customer interruptions Ameren Missouri identified for the July 14 – July 18 storm event were trees (48.5%), equipment/ overhead issues (22.2%), and thunderstorm/lightning (11.4%).⁴⁰

July 29-30, 2023

On July 29, 2023, severe thunderstorms progressed easterly along the Interstate 70 corridor across Missouri. Ameren Missouri reported that all its divisions experienced some form of impact from this storm system.⁴¹ Ameren Missouri activated its IMT at 1600 (4 PM) on July 29, 2023.⁴²

The following graphics⁴³ present the July 29, 2023 severe thunderstorm watch #566 and #567:

³⁶ Ameren Missouri Response to Staff request 6.

³⁷ Ameren Missouri Response to Staff request 5.

³⁸ Ameren Missouri Response to Staff request 16s1.

³⁹ Ameren Missouri Response to Staff request 21.

⁴⁰ Ameren Missouri Response to Staff request 21.

⁴¹ Ameren Missouri Response to Staff request 1.

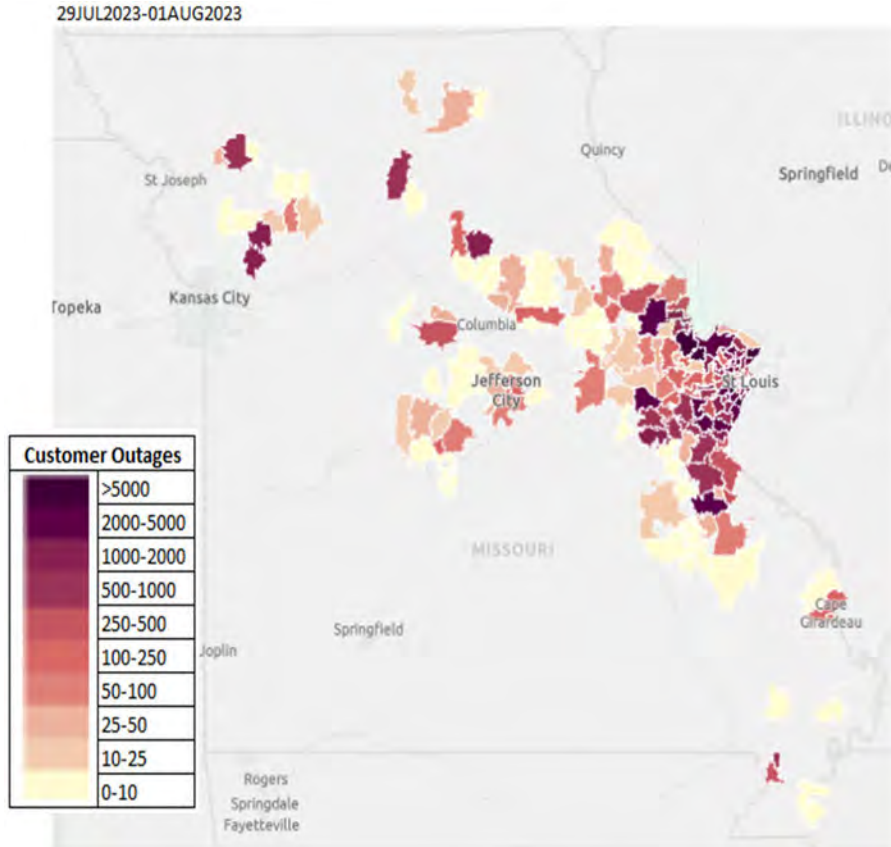
⁴² Ameren Missouri Response to Staff request 5.

⁴³ [Storm Prediction Center Severe Thunderstorm Watch 566 \(noaa.gov\)](https://www.noaa.gov/storm-prediction-center/severe-thunderstorm-watch-566) and [Storm Prediction Center Severe Thunderstorm Watch 567 \(noaa.gov\)](https://www.noaa.gov/storm-prediction-center/severe-thunderstorm-watch-567)



In terms of the number of customers out, the July 1 storm and July 29 storms both resulted in over 90,000 Ameren Missouri customers out. However, unlike the June 29 and June 30 storms, the July 1 and July 29 storms are not identified in the NOAA Storm Events Database.

The following map⁴⁴ depicts the location of Ameren Missouri customer outages from July 29 – August 1, 2023:

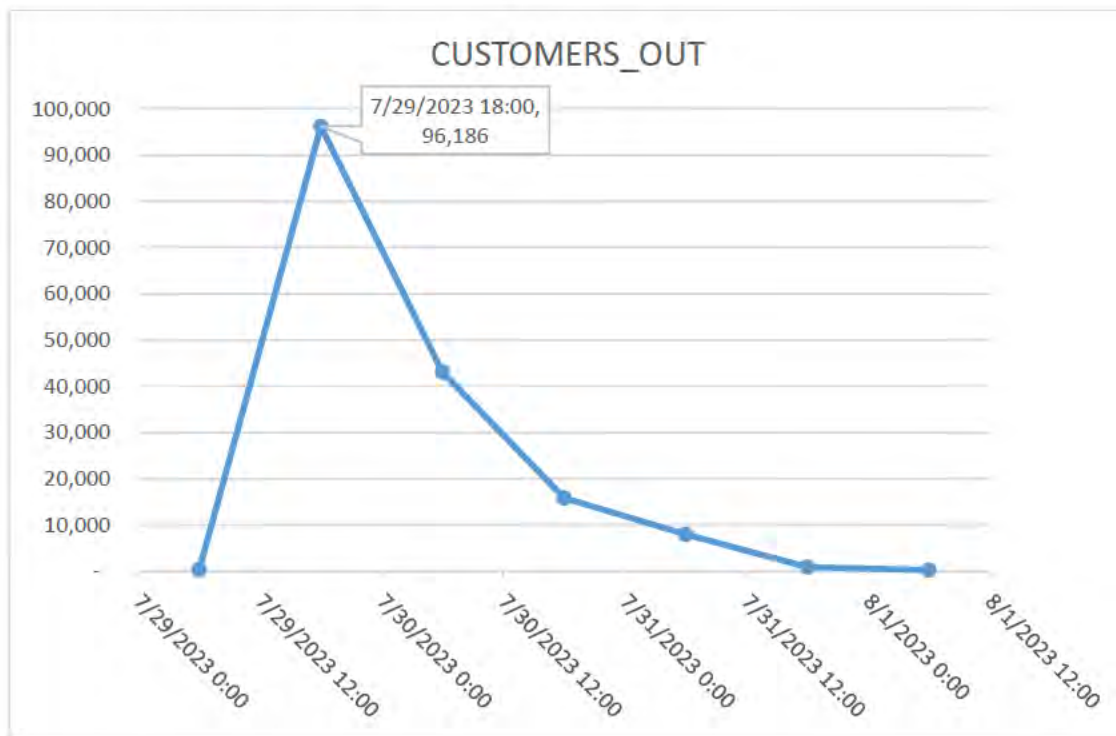


While all Ameren Missouri operating divisions were impacted, Gateway and Archview operating areas had the most customer outages.

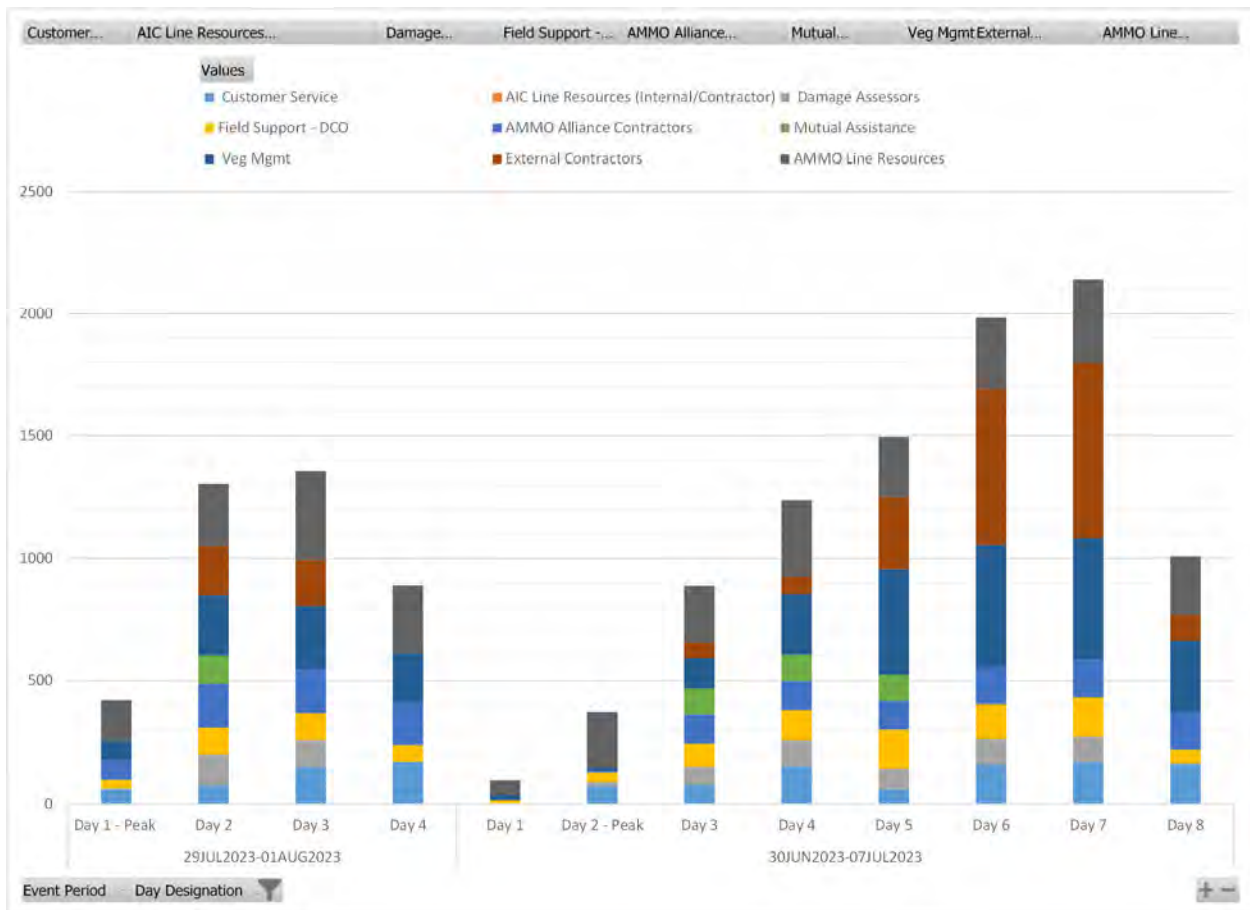
⁴⁴ Ameren Missouri Response to Staff request 2.

DATETIME	ARCHVIEW	CENTRAL MO	GATEWAY	MERAMEC VALLEY	NORTHEAST MO	SEMO	Grand Total
7/29/23 6:00	30	109	200	-	-	-	339
7/29/23 18:00	37,135	714	25,969	14,489	15,751	2,128	96,186
7/30/23 6:00	14,940	264	14,368	9,300	4,189	14	43,075
7/30/23 18:00	5,202	107	5,244	2,206	2,127	976	15,862
7/31/23 6:00	2,312	51	3,390	810	1,403	-	7,966
7/31/23 18:00	262	3	516	34	93	6	914
8/1/23 6:00	79	59	83	14	10	9	254

Ameren Missouri was able to restore approximately 80,000 customers in 24 hours from the peak number of customers out after the July 29 storm.



While comparable to the July 1 storm event in terms of number of customers out, Ameren Missouri was able to more quickly bring in personnel to assign to storm restoration efforts after the July 29 storm event. As shown in the graph below, Ameren Missouri brought in over 1,300 personnel in roughly 24 hours from the peak of customer outages whereas after the July 1 storm it took roughly 48 hours to bring in roughly the same number of personnel.



Ameren Missouri released crews on August 1 and its IMT deactivated at 0900 (9 AM).

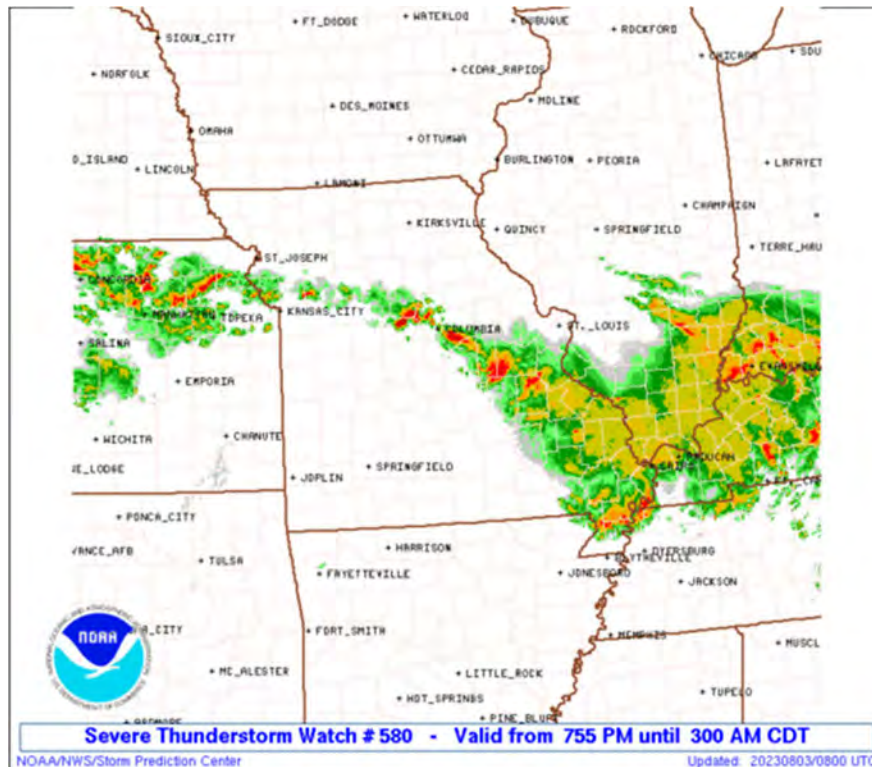
Ameren Missouri’s initial estimate of the total cost of the July 29 storm is approximately \$12.6 million.⁴⁵ The top causes of customer interruptions Ameren Missouri identified for the July 29 – August 1 storm event were trees (32.3%), equipment/overhead issues (20.9%), and thunderstorm/lightning (42.5%).⁴⁶

⁴⁵ Ameren Missouri Response to Staff request 16s1.

⁴⁶ Ameren Missouri Response to Staff request 21.

August 2-4, 2023

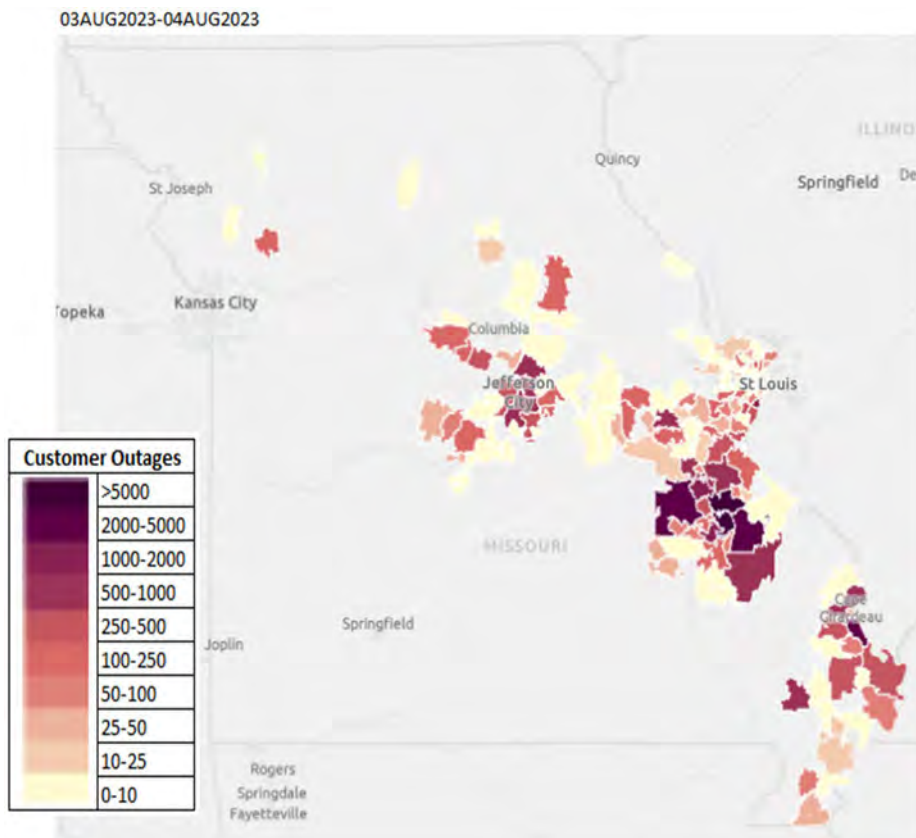
On August 2, 2023, at 1955 (7:55 PM) the National Weather Service issued a severe thunderstorm watch for central, east-central, southern, and southeastern Missouri, shown in the picture⁴⁷ below:



The thunderstorms continued into August 3 and August 4. Ameren Missouri’s IMT activated on August 3 at 12:04 AM. The peak number of customer outage for this event was approximately 20,000 on August 3 at 6 AM. The following map⁴⁸ depicts the location of Ameren Missouri customer outages from August 3 – August 4, 2023:

⁴⁷ [Storm Prediction Center Severe Thunderstorm Watch 580 \(noaa.gov\)](https://www.noaa.gov/storm-prediction-center/severe-thunderstorm-watch-580)

⁴⁸ Ameren Missouri Response to Staff request 2.



Ameren Missouri released crews on August 4 and its IMT deactivated at 1300 (1 PM).

Ameren Missouri’s initial estimate of the total cost of the August 2 storm is approximately \$6.0 million.⁴⁹ The top causes of customer interruptions Ameren Missouri identified for the August 3 – August 4 storm event were trees (29.1%), equipment/overhead issues (21.3%), and thunderstorm/lightning (29.1%).⁵⁰

Consumer Comments and Complaints

From June 29 – August 15, the Commission received 34 informal complaints and 17 public comments regarding Ameren Missouri’s service quality related to storm events or frequent outages. Eight of the informal complaints and three of the consumer comments specifically raised concerns with tree trimming in their neighborhoods. Additionally, several consumers raised

⁴⁹ Ameren Missouri Response to Staff request 16s1.

⁵⁰ Ameren Missouri Response to Staff request 21.

concerns to Staff regarding the lack of or confusion around communication from Ameren Missouri about service restoration. One consumer complimented Ameren Missouri and its lineman on its storm restoration.

Six of the informal complaints raised concerns with low or downed power lines. On August 11, 2023, KMOV News 4 reported on a power line that had been down in the backyard of Darrell and Julie Gillespie since July 25, 2023. Staff inquired with Ameren Missouri regarding the KMOV News 4 report and Ameren explained its work processes and improvements for the future. Ameren Missouri's standard practice is for service down orders to be reviewed and prioritized. Ameren Missouri uses Priority Levels to organize work management, service lines down are a Priority Level 13. Ameren Missouri reports that in regards to the Gillespie's initial July 26th call, it was appropriately prioritized as a service down. Ameren Missouri reports receiving 20,000 orders from July 29, 2023 to August 4, 2023. Ameren Missouri's digital support team have added a reporting filter in the work management system that improves their visibility into service down orders. Additionally, the customer care team has added a protocol to escalate via phone service line orders when a customer calls multiple times.⁵¹

In regards to automatic outage notifications, Ameren indicated that during the July storms, some customers reported receiving restoration alerts when they were still without power. The notification was triggered when restoring the highest-level point of damage despite additional damage closer to the individual customer. Ameren Missouri is evaluating options to correct this notification issue.⁵²

⁵¹ Ameren Missouri Response to Staff request 23.

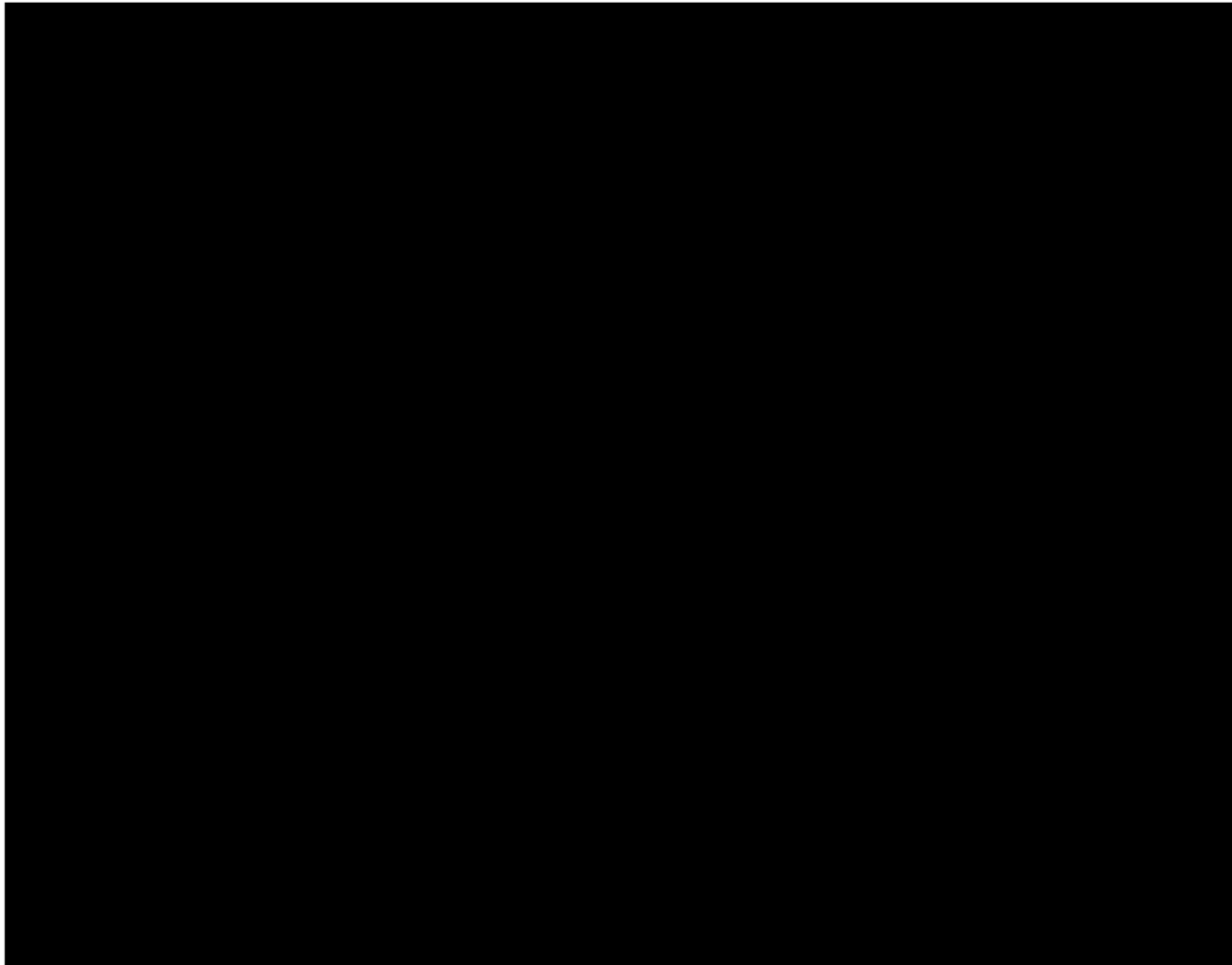
⁵² Ameren Missouri Response to Staff request 14.

Ameren Missouri proactively communicated with local community leaders, providing storm restoration updates and talking points. These communications are similar in nature to the proactive communications Ameren Missouri provides the Commission, Commission Staff, and Office of the Public Counsel during storm events.

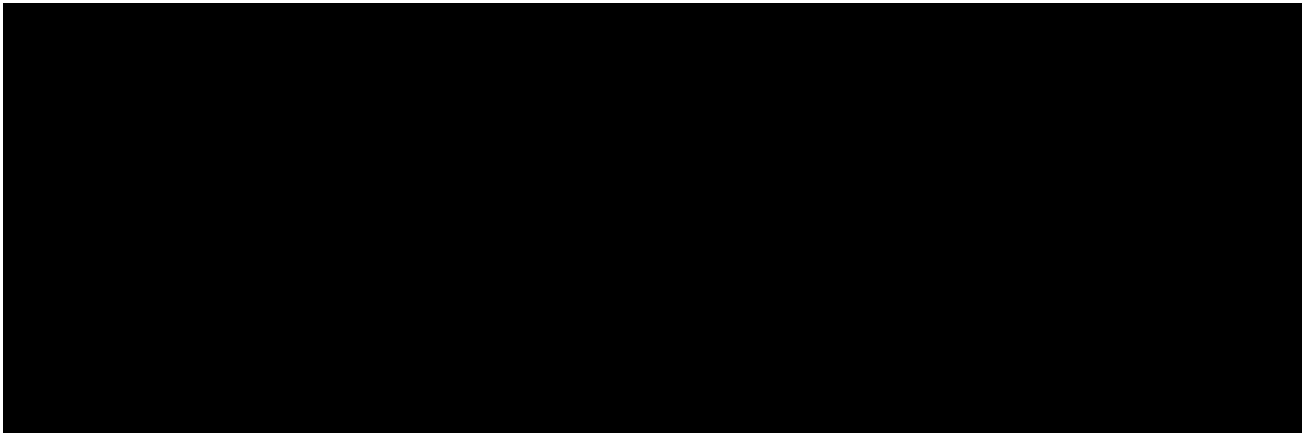
** [REDACTED] **

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⁵³ Ameren Missouri Response to Staff request 25.



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Staff Conclusions

The 2023 summer storms were on average larger in terms of peak outage count, amount of people involved with the restoration effort, and had a longer duration than 62 storm events from a 12-year dataset (January 2012-August 2023).⁵⁴ Of the summer 2023 storm events discussed in Staff’s report, the July 1 – July 7 restoration effort had the longest duration. A contributing factor was the time it took to ramp up resources. The derecho event in Illinois and Indiana contributed to the issue in that Ameren Missouri had to secure resources from further away. Certain items on the confidential **



**

Consumers were frustrated with automatic notifications of estimated service restoration times (ESRTs) being inaccurate. Additionally, consumers commented on receiving a notice that a crew was in their area with a subsequent notice of restoration in a short time frame.

⁵⁴ Ameren Missouri Response to Staff request 22c

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Trees were cited as being the top outage cause in each of the storm events discussed in this report. Additionally, tree trimming and vegetation management was brought up in the informal complaints and consumer comments received by the Commission. Staff reviews Ameren Missouri's annual vegetation management reporting and will continue to investigate whether additional recommendations regarding vegetation management are warranted.

Ameren Missouri's
Response to MPSC Supplemental - MPSC
ER-2024-0319

In the Matter of Union Electric Company d/b/a Ameren Missouri's Tariffs to Adjust Its Revenues
for Electric Service

No.: MPSC 0391s1

Please provide a narrative timeline of all events and actions that have occurred at the High Prairie Wind Facility since the last rate case proceeding. Please update through December 31, 2024, as new developments occur. The timeline of events should, include but not be limited to, a description and explanation of the species that have been killed, the turbine collapse with root cause and resolution, and all changes in operations and actions that have occurred at the facility as a result and all planned actions moving forward for operations.

RESPONSE

Prepared By: David Meiners
Title: Director, Renewables Operation
Date: 12/23/24

HIGHLY CONFIDENTIAL
(CERTAIN ATTACHMENTS ONLY)

This supplements the original response

With respect to conservation related matters, please see the attached Annual Report recently submitted to USFWS.

With respect to the three turbine collapses, please see attached update.

CASE NO. ER-2024-0319

SCHEDULE CME-r2, Pages 2 - 3

HAVE BEEN DEEMED

HIGH CONFIDENTIAL

IN ENTIRETY