

## **CONFIDENTIAL DESIGNATIONS**

**The Empire District Electric Company d/b/a Liberty**

**ER-2024-0261**

**RE: All confidential testimony (pp. 12-13) and schedules (Direct Schedule JW-1) of Jeffery Westfall**

Jeffery Westfall's direct testimony and Schedule JW-1 contain the Transmission and Distribution additions since the last rate case. The information provided in the "Description & Justification" column for projects DA0640, DR0188, TA0925, TA0941, and TR150 is designated "Confidential" in accordance with Commission Rule 20 CSR 4240-2.135(2)(A)7, as it contains important security, cybersecurity and safety information related to the Company's substations and network. The confidentiality shall be maintained consistent with that Rule and/or Section 386.480 RSMo, as the case may be.

Parts of the information provided in the "Funding Project Description" and "Description & Justification" columns for project DR0176 are designated "Confidential" in accordance with Commission Rule 20 CSR 4240-2.135(2)(A)1, as it contains customer-specific information. The confidentiality shall be maintained consistent with that Rule and/or Section 386.480 RSMo, as the case may be.

Exhibit No.: \_\_\_\_\_  
Issues: Rate Base, Capital Improvements,  
Transmission & Distribution, Reliability  
Witness: Jeffery Westfall  
Type of Exhibit: Direct Testimony  
Sponsoring Party: The Empire District  
Electric Company d/b/a Liberty  
Case No.: ER-2024-0261  
Date Testimony Prepared: November 2024

**Before the Public Service Commission  
of the State of Missouri**

**Direct Testimony**

**of**

**Jeffery Westfall**

**on behalf of**

**The Empire District Electric Company d/b/a Liberty**

**November 6, 2024**



**\*\*DENOTES CONFIDENTIAL\*\***  
20 CSR 4240-2.135(2)(A)7

**PUBLIC VERSION**

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THE EMPIRE DISTRICT ELECTRIC COMPANY D/B/A LIBERTY  
BEFORE THE MISSOURI PUBLIC SERVICE COMMISSION  
CASE NO. ER-2024-0261

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DIRECT TESTIMONY OF JEFFERY WESTFALL  
THE EMPIRE DISTRICT ELECTRIC COMPANY D/B/A LIBERTY  
BEFORE THE MISSOURI PUBLIC SERVICE COMMISSION  
CASE NO. ER-2024-0261

1   **I.    INTRODUCTION**

2   **Q.    Please state your name and business address.**

3   A.    My name is Jeffery Westfall, and my business address is 602 S. Joplin Ave, Joplin,  
4       Missouri 64801.

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

6   A.    I am employed by Liberty Utilities Service Corp. (“LUSC”) as the Central Region Vice  
7       President of Technical Services for Liberty Utilities supporting the Central Region,  
8       which includes The Empire District Electric Company d/b/a Liberty (“Liberty” or the  
9       “Company”). My primary responsibilities include construction standards, GIS,  
10      technical training, distribution planning, asset management and outage management.

11   **Q.    On whose behalf are you testifying in this proceeding?**

12   A.    I am testifying on behalf of Liberty.

13   **Q.    Please describe your educational and professional background.**

14   A.    I began my employment with Empire in December of 1989 in the Building Services  
15      department as a night janitor, switchboard operator and mail clerk. In August 1990, I  
16      became a warehouseman in the Company’s Stores department. In March of 1991, I  
17      transferred to the Asbury power plant where I held the position of Laborer and Laborer  
18      semi-skilled. I accepted the position of groundman in Aurora, MO in March of 1992. I  
19      progressed in classification and obtained my Journeyman Lineman status in June of  
20      1995, which I held until I was named Manager of Line Operations in July 2008. As the  
21      Manager of Line Operations, I oversaw the line operations for the Aurora, MO service

1 area, which included managing the workload and outage response for four line crews  
2 and three service trucks. In addition, I was responsible for the Construction and  
3 Maintenance budgets for the Aurora area. In June of 2015, I accepted the position of  
4 Director of Operations – East where my responsibilities were expanded to include our  
5 four operating areas on the east side of Empire's electric service area. In October 2016,  
6 I was promoted to Director of Operations, and my responsibility was expanded to  
7 include all eight operating service areas. In October of 2017, I was named the Central  
8 Region Director of Operations – T&D and in 2018 I was promoted to Central Region  
9 Senior Director of Operations – T&D. In May of 2024, I accepted my current role of  
10 Vice President of Technical Services – Electric.

11 **Q. Have you previously testified before the Missouri Public Service Commission**  
12 **(“Commission”) or any other regulatory agency?**

13 A. Yes, I have provided testimony before this Commission, the Kansas Corporation  
14 Commission, the Oklahoma Corporation Commission, and the Arkansas Public Service  
15 Commission.

16 **Q. What is the purpose of your direct testimony in this proceeding?**

17 A My testimony provides an overview of the transmission and distribution investments  
18 made by Liberty since our last rate case in Missouri, Case No. ER-2021-0312, to  
19 increase reliability for our customers and to improve system operability and safety. I  
20 also provide examples of the Company’s strategy to proactively mitigate outage risk.  
21 Liberty has replaced equipment found to be in poor condition, end of service life, or  
22 otherwise in a non-conforming condition based on objective evidence collected through  
23 field inspections. For instance, solutions that increase sectionalization of our  
24 transmission and distribution system help reduce the number of customers impacted by

1 outages. Additionally, the solutions implemented by Liberty help the Company enable  
2 faster restoration times when outages do occur. Construction of new substations and  
3 reconductoring projects also provide additional system redundancy and switching paths  
4 to make the system more operable under a variety of normal operating conditions and  
5 weather events. Replacing aging and deteriorating infrastructure is a key component of  
6 assuring that we can continue to provide safe reliable service for our customers. The  
7 results of these investments are evident from the system's relatively strong performance  
8 during the recent extreme weather events in our service area. I will also discuss the  
9 Company's system reliability metrics and the efforts made by Liberty to improve its  
10 service reliability and service quality for our customers in Missouri.

11 **II. TRANSMISSION AND DISTRIBUTION INVESTMENTS**

12 **Q. Please describe the capital investments in the transmission and distribution system**  
13 **Liberty has made since its last general rate case.**

14 A. The Company continually seeks to reinvest in infrastructure to ensure that the  
15 transmission and distribution systems are providing reliable and adequate service to  
16 customers. The Company has invested \$491.7 million in transmission and distribution  
17 system projects since the last general rate case. To aid in supporting the prudence of  
18 these investments I have prepared a list of the capital investments exceeding \$1 million  
19 made in Liberty's transmission and distribution systems since July 1, 2021, through the  
20 end of the update period in this case, September 30, 2024. This list includes a  
21 description and justification for each capital project and is attached to my testimony as  
22 **Confidential Direct Schedule JW-1.**

23 **Q. Why does Liberty invest in projects reinforcing its transmission and distribution**  
24 **systems?**

1 A. There are many reasons underlying Liberty's investments in transmission and  
2 distribution projects which serve to reinforce its system: standards compliance, past  
3 reliability data, load growth accommodation, and the results of field inspections. A  
4 common theme across all investment drivers is the Company's commitment to  
5 maintaining and improving the reliability of the grid. More specifically, the Company's  
6 transmission and distribution investments serve the following functions:

- 7 • sectionalize existing circuits to quickly and efficiently reduce the number of  
8 customers affected by outages by restoring service to adjacent areas through  
9 alternate supply paths;
- 10 • harden the system and make it more resilient to extreme weather events by replacing  
11 deteriorated assets, reducing line sag, trimming adjacent vegetation, etc.;
- 12 • upgrade system voltages by reconductoring existing circuits and replacing older  
13 station assets with higher-rated equipment to enable load growth, reduce system  
14 losses, and increase line transfer capability during the times of high loading;
- 15 • comply with relevant North American Electric Reliability Corporation ("NERC")  
16 standards and directives of the Southwest Power Pool ("SPP") associated with  
17 system capacity, redundancies, and other priorities;
- 18 • undertake reactive repairs to line and station assets caused by weather, faulty  
19 equipment, and other common outage causes;
- 20 • replace or refurbish deteriorated or obsolete station equipment no longer deemed to  
21 be operable because of inspections; and
- 22 • other types of proactive and reactive work associated with transmission and  
23 distribution infrastructure and supporting equipment and facilities.

24 Q. What is "Operation Toughen-Up"?

1 A. In 2010, Liberty developed a multi-year plan to undertake a series of system reliability  
2 performance enhancements by replacing aged and deteriorated assets and undertaking  
3 other types of upgrades, such as sectionalizing line infrastructure to reduce the impact  
4 of outages, as well as protection, control and remote operation and monitoring  
5 improvements. This reliability plan is often referred to as “Operation Toughen-Up.”

6 **Q. In the last case, you provided an update on Missouri projects that were included**  
7 **in “Operation Toughen-Up.” Have there been any additional Operation Toughen-**  
8 **Up projects since the June 30, 2021 update period in the last case?**

9 A. Yes, several Operation Toughen-Up projects were completed since the Company’s last  
10 rate case and are included in this current case for recovery. These projects consist of  
11 the following investments:

- 12 • TA0925 – Install 69kV Breakers at Sub 332,
- 13 • TA0936 – Install (2) 161kV Breakers at Sub 432,
- 14 • TA0937 – Install (2) 69kV Breakers at Sub 251,
- 15 • TA0952 – Install SCADA and Replace Aged Assets at Sub #392, and
- 16 • TR0910 – Rebuild 69kV Boston to Greenfield.

17 **Q. Has Operation Toughen-Up extended beyond the originally scheduled ten years?**

18 A. Yes. As of the September 30, 2024 update period in this case, Liberty has one remaining  
19 project to complete from Operation Toughen-Up: TR0910 – Install Automated Switch  
20 at Sub 400. It is expected to be completed by 2025, and will be included for recovery  
21 in a subsequent case.

22 **Q. How has the Company’s Operation Toughen-Up Program changed its overall**  
23 **approach to making investments in its Transmission and Distribution**



1        **infrastructure which will continue to be used even after the Program has reached**  
2        **completion?**

3        A.        As Project Toughen-Up comes to a close, the Company has taken the philosophy of  
4        the program and has applied it across system program needs and applicable  
5        requirements including updating construction standards, an aged asset replacement  
6        program, and system reliability improvement. The Company continues to recognize the  
7        need for system hardening and modernizing the grid.

8        **Q.        Please further describe the Distribution and Transmission investments made by**  
9        **Liberty since the last general case.**

10       A.        The Company has made significant investments in its Distribution and Transmission  
11       system since the last rate case. As mentioned above, **Confidential Direct Schedule**  
12       **JW-1** provides a detailed list of all transmission and distribution investments over one  
13       million dollars that have been made since the last rate case. This list includes many of  
14       the “Operation Toughen-Up” projects, as well as other capital investments. In addition,  
15       the following are examples of some of the Missouri distribution and transmission  
16       investments constructed since the last rate case.

17       **Distribution Investments:**

18       **DB0001 – Extensions (Annual):** This portfolio consists of multiple small-scale  
19       projects that involve line extensions to accommodate service requests for new and/or  
20       existing customers. The number of extensions for new or reconfigured services can  
21       vary from year to year, and as such, historical volumes are used for budgeting purposes.  
22       The dynamic nature of connection requests is not correlated with any single investment  
23       driver, but rather entails an interplay of various elements which influence the number  
24       of projects and associated costs. Among others, economic growth (both nationally and

1 locally) is a significant parameter determining the ultimate volume of work in any given  
2 year.

3 **DB0007 – Customer Services (Annual):** This recurring budget line allocation is set  
4 aside for a range of small-scale projects involving the ordering or replacement of  
5 customer service lines. The scope of work is determined by policies, customer demands,  
6 and design specifications to fulfill service requests. Projects and work orders within this  
7 budget line cover the installation of overhead and underground services for new  
8 customers, from the Company’s transformer to the customer’s meter. This work is  
9 typically done separately from extension projects due to construction timelines.

10 **DA0155 – Add Transformer to Sub 434 and Upgrades at Sub 330 (Completed**  
11 **2023):** Substation 434 housed a single 22.4 Mega Volt Amp (“MVA”) transformer. The  
12 peak summer load registered on the single transformer resulted in inadequate capacity  
13 at substation 434 deeming it unable to accommodate switching requirements during  
14 contingency scenarios. The neighboring substations could no longer assist with the 18-  
15 19 MVA load. To address this issue and enhance contingency capacity, an additional  
16 22.4 MVA transformer was required to distribute the load effectively in addition to  
17 distribution double-circuit line exits. Additional upgrades were required at Sub 330  
18 (Ozark NW) to include a new capacitor switcher, capacitor bank relay panel, capacitor  
19 bank (relocated from Sub 434), current limiting reactors, current transformers, and  
20 associated equipment structures relocated from Sub 434.

21 **DA0630 – Substation Security (Completed 2022):** The installation of physical  
22 security in our substations aims to enhance customer reliability, personnel safety and  
23 substation security. These investments encompass a range of physical security

1 measures. The goal for these investments is to deliver physical security and deterrence  
2 systems.

3 **DR0002 – Replace Bad Order Distribution Poles (Annual):** Liberty is required to  
4 have a safe and reliable distribution system. These requirements are supported through  
5 a distribution system inspection program in all jurisdictions. This budget line is used  
6 to replace or reinforce items identified through the inspections that would jeopardize  
7 safety and/or reliability. The work included the replacement of poles, wire, anchors,  
8 and other plant items and reinforcement of structures to extend the useful life of the  
9 asset. Each identified item is given a priority at the time of the inspection that correlates  
10 to the asset's condition. Liberty endeavors to meet the priority schedule; however,  
11 constraints with material, labor, or additional analytics can cause remediation to extend  
12 beyond the priority schedule.

13 **DR0004 – Joplin 4kV Distribution Conversion (Completed 2023):** The downtown  
14 Joplin 4kV system was served out of three substations which were isolated from all  
15 neighboring 12kV circuits and substations. The lower primary voltage 4kV system had  
16 the highest available fault current and arc flash values in the region. In previous years,  
17 the Company performed conversion projects and moved loads to Subs 145, 372, and  
18 59, but these substations could no longer receive the remaining load. To mitigate the  
19 issue and provide increased reliability and limit exposure of outages, the 4kV system  
20 was converted to a 12kV system which required transitioning from 16 distribution  
21 circuits to six, rebuilding Subs 64 and 284, and conversion of Sub 100.

22 **DR0209 – Build New Line to Sub 487 Branson (Completed 2022):** To accommodate  
23 the increasing demand in the northern Branson, MO area, it was essential to build a new  
24 distribution line and a tie between circuits. This project was crucial to sustain current

1 service levels, accommodate new customers due to growth in the area, and maintain  
2 system reliability.

3 **DS0130 – Service Center Improvements/Additions (Annual):** This budget line  
4 facilitated the construction of a new service center in Aurora and a new service center  
5 in Bolivar. The service centers were built to serve as a base of operations for Area-211  
6 (Aurora) and Area-213 (Bolivar) line and substation crews, support staff with offices  
7 for construction design, management, and business and community development  
8 personnel. The facilities are similar in architecture and were designed to provide a more  
9 efficient layout to increase and improve storage capacity. The facilities provide space  
10 for staging areas which will allow a quicker response from internal crews during  
11 restoration periods, reducing the outage duration for customers. Customer-facing  
12 improvements at each facility provide for a better customer service experience and  
13 allow for local bill drop-off and payment. The direct testimony of Candice Kelly  
14 includes further discussion of the enhanced customer experience. Additionally, the  
15 improved traffic flow and reduced backing requirements have reduced the risk of  
16 accidents and potential impacts to overall safety. A storm shelter was also included at  
17 each facility, which will provide refuge from severe storm events for employees and  
18 any community members in and around the facility.

19 **DB0010 – Misc Dist of OH Lines (Annual):** Recurring budget line is reserved to  
20 install and remove/replace overhead distribution assets across system as needed. The  
21 projects associated with the budget line are for various small-scale projects in which  
22 overhead distribution services to customers are maintained.

23 **DA0660 – Underground Conductor (Annual):** The recurring budget line for  
24 underground conductor is to analyze the system to determine the locations where there

are numerous or long duration underground system faults. Then, a geographic area that is trackable is defined and all of the cable in the area is analyzed to determine the type of cable to then treat/replace if in poor condition. The overall objective is to create a reliable underground distribution system and track condition of underground facilities.

**Transmission Investments:**

**TA0923- Inst 2-69kV Breakers #447 & #258 (Completed 2022):** This project consisted of expanding the substation footprint to allow the installation of a new, two-bay 69kV standard box structure with four 69kV circuit breakers and five 69kV Power Transformers. The expansion included installing a new prefabricated control enclosure, relay protection panels, a communications panel, and replacement of AC/DC panels. These upgrades enhanced the station's capacity to accommodate the anticipated customer growth, while providing adequate protection and reducing transmission line risk exposure to potential causes of outages.

**TA0936 – Install (2) 161kV Breakers at #432 (Completed 2022):** This project provides positive impacts to multiple substations which are either landlocked or are experiencing high load conditions during peak load scenarios. A lack of alternate source options constrains the ability to switch load to relieve feeders. Inadvertent tripping of equipment has occurred under high loading which further restricted restoration efforts. Impacted substations include: 432, 105, 436, 421, 108, 110, 360, 109, and 395. Specifically, Sub 432 with radial industrial feeders without options for switching; Subs 105, 436 and 421 have shown winter loading issues without switching options, trip events, and conductor issues; Sub 108 and Sub 421 could tie but have voltage issues and cannot support each other. Sub 110 and 360 need distribution relief of a single-sourced industrial customer. Sub 109 and 395 circuits also could use relief

1 from a distribution reliability standpoint, with the build of Sub 432. The installation of  
2 additional capacity at Sub 432 and circuitry to connect to existing infrastructure  
3 alleviates problems at the above-mentioned substations and enables greater flexibility,  
4 redundancy, and resiliency of the transmission system.

5 **TA0937 - Install (2) 161kV Breakers at 251 (Completed 2023):** Greenfield  
6 Substation 614 was an aged facility which required complete replacement. The 69kV  
7 support structures were wood, and the workspace is confined and contains 69kV oil  
8 circuit breakers averaging nearly 40 years in age. The structure also contained two  
9 power transformers averaging nearly 60 years in age. One transformer served two  
10 distribution circuits at 12.47kV, and the other served two distribution circuits at 4.16kV.  
11 The controls and electromechanical relays were housed in a stone building which  
12 formerly served as the Greenfield Service Center. The building, constructed in the  
13 1930s, also housed communication equipment for the on-site radio tower. The new  
14 substation consists of three 69kV transmission lines and a single 10.5MVA 69/12.47kV  
15 power transformer, all configured in a 4-position ring bus. A new distribution structure  
16 was constructed to contain four 12.47kV breakers using a 'D2' or in-line structure. Two  
17 of these breakers directly feed two 12.47kV circuits, and the remaining two breakers  
18 serve two pad-mounted 12.47/4.16kV transformers, which feed the two 4.16kV circuits  
19 via G&W Viper reclosers. Once new Sub 498 is in service, the structures inside of Sub  
20 614 will be removed, including above and below-ground conduits, and foundations  
21 within a foot of the final grade. The fence and building will remain and the building  
22 will continue to house the communication equipment for the radio tower. The  
23 substation-related relays and controls will be removed from the building. All oil-filled  
24 equipment will be tested for PCBs prior to removal. In the process of removing the

1 high-profile substation equipment from Sub 614, the 33-0 line will be modified to pass  
2 over the old sub site uninterrupted. The conductors for the segment of 08-0 line that is  
3 currently between 614 and 498 will be repurposed to become part of a distribution  
4 circuit. 08-0 line will then begin at Sub 498, a mile north of its present beginning.  
5 Transmission line exits will be constructed from 498 out to the lines running along the  
6 west side of Hwy 39.

7 **TR0001 – Replace BO Trans Poles (Annual):** Routine annual reliability inspections  
8 to replace or restore structural integrity through the pole inspection program.

9 **TR0009 – Misc Rebuilds/Add – Trans Subs:** These are projects used to replace failed  
10 transmission equipment in substations that occur throughout the year.

11 **TR0014 - Install 161kV & 69kV Bus Diff#184 (Completed 2022):** The Company  
12 replaced two existing 161/69/12kV autotransformers with a single 100MVA  
13 autotransformer relocated from Substation 452. The existing 69kV box structure was  
14 replaced with a 69kV 5-bay ring bus structure, which included new switches, potential  
15 transformers, and breakers. Temporary reconfiguration of 161kV 91-0 line and the  
16 12kV distribution lines near the substation was required to support a 161/12kV mobile  
17 substation. The 161kV 92-0 line was temporarily reconfigured to support the 161/69kV  
18 mobile substation feeding into the bus which feeds the KAMO Electric Cooperative,  
19 Inc. lines.

20 **TR0150 - Rebuild/New 69kV btw Atlas & Kodiak (Completed 2023):** The  
21 distribution circuits fed from \*\* [REDACTED]

22 [REDACTED]

23 [REDACTED]

24 [REDACTED]

1 [REDACTED]

2 [REDACTED]

3 [REDACTED] \*\*

4 Between Monett Sub 383 and Kodiak 471 are three other distribution substations on  
5 30-0 line; those being at Diamond, Wentworth, and Pierce City. To increase reliability  
6 and better serve the industrial load in the Kodiak area, a new transmission line from  
7 Atlas Junction Sub 109 to Kodiak Sub 471 was constructed. Sub 471 is laid out for a  
8 third transmission line and to convert to a ringbus for 161kV. At this time, there are no  
9 plans to energize Sub 471 at 161kV, and it will remain energized at 69kV.

10 **TR0166 – Rebuild EDE Riverton - Neosho 161Kv (Completed 2023):** The rebuild  
11 of the Empire Riverton to Westar Energy - Neosho 161kV line was required to comply  
12 with the Notice to Construct (“NTC”) issued to Liberty on December 13, 2019 (SPP-  
13 NTC-C-210549). This NTC required the Company to increase the MVA capacity of  
14 the line segment between Riverton, KS and Neosho, KS to reduce SPP congestion and  
15 remediate system deficiencies. SPP required a capacity increase to at least 250MVA  
16 for the line and terminal equipment. This line portion of the project includes a complete  
17 rebuild of the 25.4 miles of 161kV from Riverton to the tie location with Evergy which  
18 includes demolition of 201 existing structures, removal of associated existing 161kV  
19 conductor, 69kV conductor, and removal of the existing shield wire. The preliminary  
20 rebuild consists of 179 new H-Frame double circuit direct embedded structures  
21 approximately 100 to 110 feet above grade, one 2-pole double circuit direct embed  
22 strain structure, three 2-pole double circuit dead end structures on drilled shaft  
23 foundations, and three single circuit direct embed guyed monopole dead end structures.  
24 The line is designed for double circuit 161kV with bundled 1195 Aluminum Conductor



1 Steel Reinforced conductor. Optic ground wire will be installed on the 161kV side and  
2 3/8 inch Extra High Strength seven-strand shield wire will be installed on the 69kV side  
3 of the line. Shield wire will not be installed where the 69kV circuit is not present.  
4 Everygy provided the tie point structure with the hardware and attachments provided by  
5 Liberty on the Company side of the structure. All hardware, grounding, and  
6 transmission line accessories were upgraded to Liberty standards.

7 **TR0910 - Rebuild 69kV Boston to Greenfield (certain phases completed in 2021-**  
8 **2022):** This project was to rebuild the 69kV transmission line at 33-0 from Sub 614 to  
9 Sub 400, Boston Sub 249 to Golden City Sub 251, Golden City Sub 251 to Boston Sub  
10 400, and to install an automated switch at Boston Sub 400. This line needed to be  
11 upgraded to meet National Electrical Safety Code (“NESC”) Grade B construction and  
12 mitigate the vulnerability and integrity of line and structures due to the average age of  
13 line being around 70+ years. The automated switch allows for better sectionalizing and  
14 faster restoration times in case of outages, which will improve reliability indices.

15 **TR0134 – Reblld/Recnd 69kV Riverton to Joplin (Completed 2024):** This Project  
16 consisted of transmission and substation upgrades. The transmission upgrades included  
17 work to rebuild segments of 69-kV transmission lines between Riverton Sub 167 and  
18 Joplin Sub 145, constructing a new 69-kV line between Jayhawk Sub 339 and Galena  
19 Sub 278, and retiring the existing 69-kV line from Riverton Sub 167 to Galena Sub 278.

20 The substation upgrades included work at three substations: Joplin Sub 145,  
21 Riverton Sub 167, and Jayhawk Sub 339. At Joplin Sub 145, the upgrades include  
22 replacing one 69-kV breaker panel. At Riverton Sub 167, the upgrades include  
23 replacing one 69-kV breaker and relevant panel as well as installing a new SEL-3530  
24 RTAC and fiber optic connections to the communications panel. At Jayhawk Sub 339,

1 the upgrades included installing a three-way switch transmission structure and auto-  
2 throwover scheme with relevant communication cabinet.

3 **TR0168 – RBLD LINE 161Kv & OPGW 413 TO 438 (Completed 2023):** The 3.5-  
4 mile segment of 161kV transmission designated as 80-1 line connecting substations 413  
5 (Branson Southwest) and 438 (Riverside) in the Branson, Missouri area was built  
6 primarily on laminated wood monopoles. A recent patrol of the line revealed heavy  
7 woodpecker damage to these structures. 80-1 line is part of a loop-fed transmission  
8 system around the greater Branson area, which is a heavily commercialized tourism  
9 area. Thus, the project scope included retirement of approximately 28 161kV laminated  
10 wood structures between Substations 413 and 438 and replacing them with new steel  
11 monopole structures impervious to woodpeckers. H-Frame or 3-pole dead-end  
12 structures were required on both ends of the Lake Taneycomo crossing, as the span  
13 length is in excess of 1,400 feet with double-circuit distribution supported beneath the  
14 transmission line.

15 **TA0255 - Substn & 69kV insulations (Completed 2022):** Project required a new  
16 substation to be constructed three miles north of Humansville, MO (Sub 509) to help  
17 serve a 13 megawatt load customer and to allow for improved system redundancy which  
18 enhances service reliability. In order to build the substation, a three-acre site was  
19 procured near the intersection of Hwy 13 and SW1300 Road. The new substation  
20 consisted of a one-bay 69kV transmission box structure, a single 69kV breaker with  
21 transformer protection of a new 22.4MVA 69/12.47kV power transformer. A D-2  
22 distribution structure was constructed to contain three 12.47kV breakers. A new control  
23 enclosure was required to house the associated relays, controls, and 125 VDC battery  
24 array as well as allow for future panel expansion. The construction of the new substation

1 was coupled with the conversion of approximately 14.5 miles of 34.5kV transmission  
2 line from Fairplay East Sub 217 to Collin South Sub 318, through Humansville West  
3 Sub 308. The conversion of the transmission line also required upgrades to Sub 217,  
4 Sub 318, and Sub 308. The 34.5kV transmission line from Stockton Northwest Sub 324  
5 to Caplinger Sub 304 will be energized at 12.47kV. Approximately 0.75 miles of  
6 distribution line build will be required from Stockton AEC Tie Sub 418 to the existing  
7 transmission line connecting Subs 324 and 304 which retired Sub 324 and required  
8 upgrades to Caplinger Sub 304 including a new single-phase transformer 7.2kV/2.4kV.

9 **III. GRID RESILIENCE AND INNOVATION PARTNERSHIP PROGRAM**

10 **Q. Can you please describe the recently awarded grant Liberty received from the**  
11 **Grid Resilience and Innovation Partnership Program?**

12 A. Liberty Utilities recently applied for and was awarded a grant through the Grid  
13 Resilience and Innovation Partnerships (“GRIP”) Program under the Infrastructure  
14 Investment Jobs Act (“IIJA”). The IIJA GRIP program offers up to 50% funding  
15 contribution for eligible transmission or distribution Smart Grid and Resilience projects  
16 that comply with all applicable program objectives and undergo extensive competitive  
17 evaluation. “Project DA” was one of seven Concept Papers Liberty Utilities submitted  
18 in late 2022 for the first round of the selection process. Of the five concept papers  
19 encouraged to proceed to the next round, Liberty Utilities selected three, including two  
20 at Liberty and one at CalPeco in California. Along with CalPeco’s Project Leapfrog  
21 (AMI deployment), Liberty’s Project DA was one of the projects that the Department  
22 of Energy (“DOE”) selected for funding in October for 2023.

23 Since the DOE’s announcement, Liberty has been working with DOE staff on  
24 a series of engagements meant to serve as the project due diligence. This process is

1 expected to culminate in the signing of a Notice of Funding that will formalize the  
2 expectations regarding the project and start the clock on the five-year timeline. Project  
3 DA seeks to add approximately 261 new auto-reclosers and further integrates 49  
4 existing reclosers. It also includes prerequisite renewal and capacity upgrade work to  
5 adjacent distribution lines (poles, crossarms, conductor) and several upstream  
6 substation facilities. In total, approximately 179 circuits across all four states that  
7 Liberty serves are expected to be impacted. For further discussion regarding the IIJA  
8 grant, please refer to the direct testimony of Company witness Dmitry Balashov.

9 **Q. Did the Company include the recently awarded grant within its cost of service as**  
10 **submitted with this general rate case application?**

11 A. No, the Company has not included any investment costs associated with the GRIP grant  
12 within this general rate case application as this project will not be completed within the  
13 test year or the proposed update period of September 30, 2024.

14 **IV. SERVICE RELIABILITY AND QUALITY IMPROVEMENTS**

15 **Q. Since the last rate case, has Liberty undertaken any specific projects to improve**  
16 **reliability for Missouri customers?**

17 A. Yes. Liberty continues to invest in reliability for its Missouri customers. Since the last  
18 rate case, an additional seven circuits were sectionalized, and 2,296 poles were  
19 reinforced or replaced. Additionally, 14 substations and approximately 5,100 devices  
20 have received wildlife guards to protect against animal related outages.

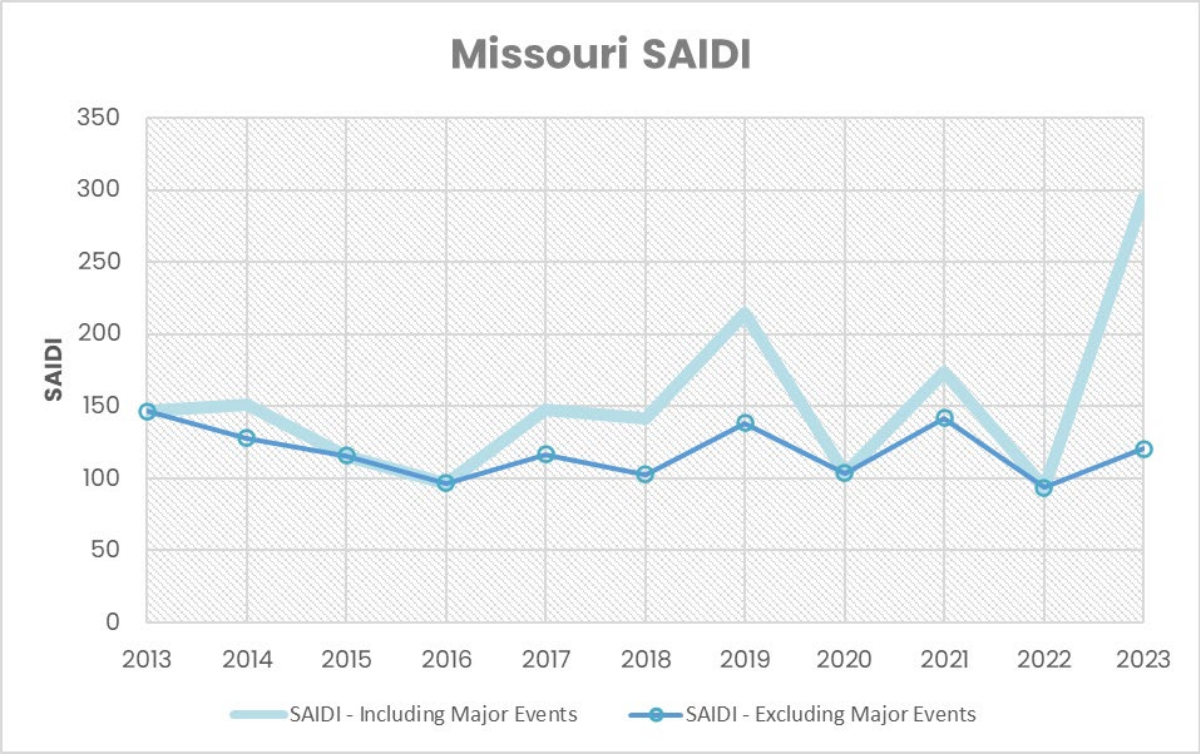
21 **Q. Please provide an update on Liberty's SAIDI, SAIFI, and CAIDI results.**

22 A. Liberty's Missouri electric service reliability metrics for 2021 through 2023 are  
23 provided in the table below. For the purpose of this testimony, the following reliability  
24 metric definitions apply:

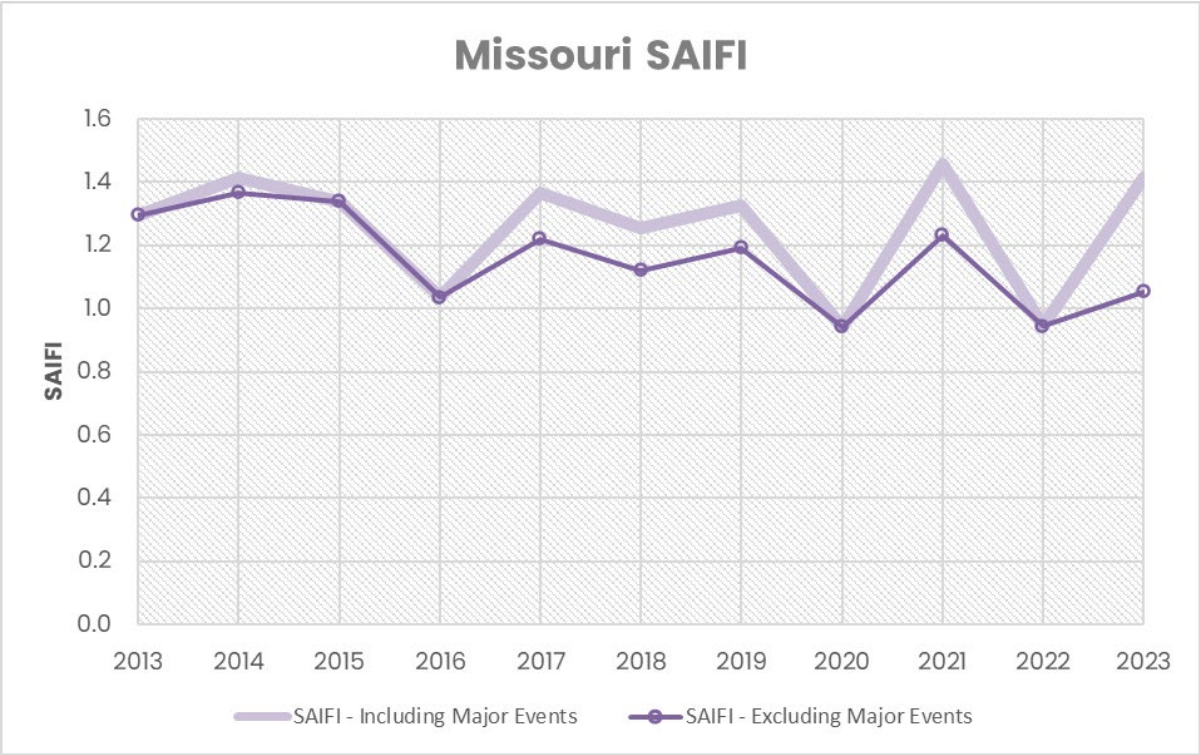
- System Average Interruption Duration Index (“SAIDI”) - the total duration of interruption for the average customer during a predefined period of time. SAIDI is measured in minutes and a one-year time period is used for the values presented below.
- System Average Interruption Frequency Index (“SAIFI”) - how often the average customer experiences a sustained service interruption over a predefined period of time. A one-year time period is used for the SAIFI values presented below.
- Customer Average Interruption Duration Index (“CAIDI”) - the average time duration required to restore service during a predefined period of time. CAIDI is measured in minutes and a one-year time period is used for the values presented below.

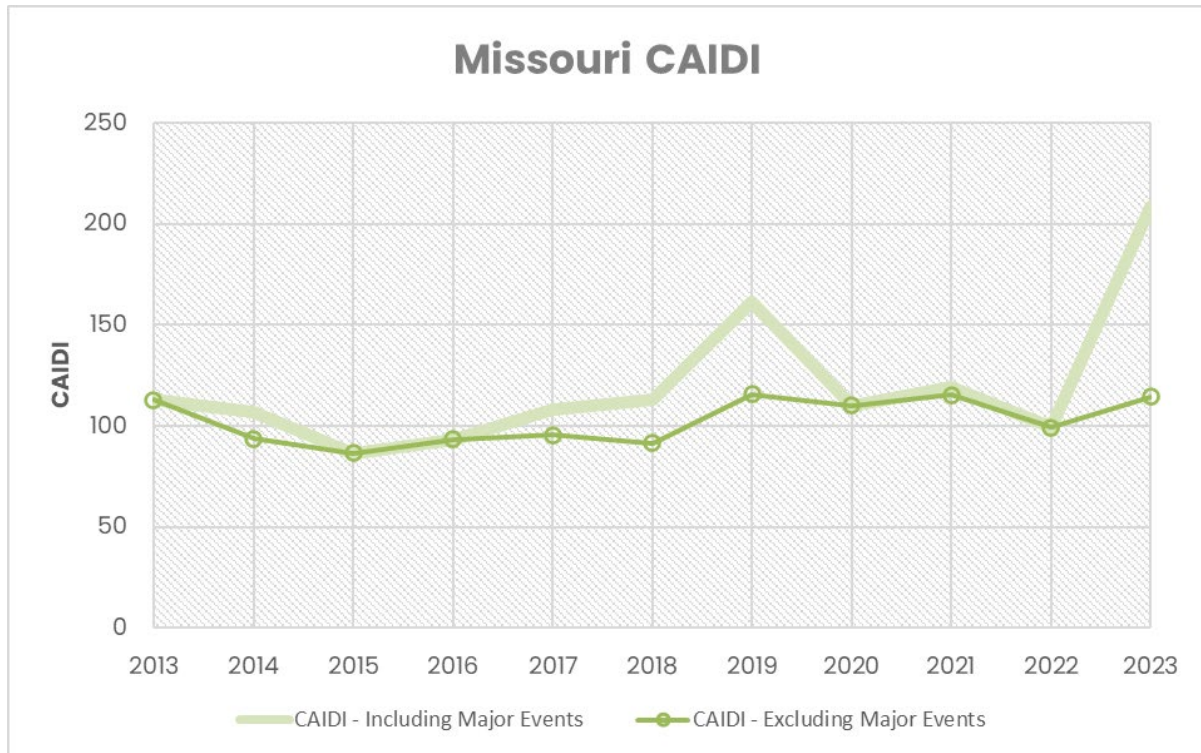
Missouri Reliability Metrics – Excluding Major Events			
Year	SAIDI	SAIFI	CAIDI
2021	141.92	1.231	115.27
2022	93.63	0.943	99.3
2023	120.62	1.054	114.45

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**V. RELIABILITY INSPECTION PROGRAM AND VEGETATION  
MANAGEMENT PROCEDURES**

**Q. In addition to the capital investments discussed above, what other programs help improve system reliability?**

A. The Commission implemented reliability inspection standards in 2008 that dictate the frequency and thoroughness of system inspections and repairs. Since the implementation of that rule, Liberty has elected to implement the Missouri standards for inspections and repairs for facilities in all jurisdictions served by Liberty. The Company performs scheduled inspections and vegetation clearing to maintain the reliability of transmission and distribution circuits. Since the implementation of these standards, approximately 249,000 poles were subjected to a pole ground-line (intrusive) inspection (excavate and drill the pole to determine the condition of the pole), approximately 655,000 poles and devices were subjected to a detail inspection

1 (visual inspection which includes infrared inspection of pole-mount and pad-mount  
2 equipment) and approximately 825,000 poles and devices were subjected to a patrol  
3 inspection (visual inspection). Since the last rate case, these inspections have resulted  
4 in approximately 2,300 poles being replaced. In addition to the inspections, Liberty  
5 also monitors reliability information on a monthly basis to determine if there are trends  
6 in reliability statistics which indicate a need for further investigation.

7 **VI. STIPULATION AND AGREEMENTS**

8 **Q. Has the Company complied with paragraph two in the Second Partial Stipulation**  
9 **and Agreement from Case No. ER-2021-0312 that states, “Empire agrees to**  
10 **update the status of its reliability improvements projects and expenditures in a**  
11 **format similar to Schedule JW-1 of Jeff Westfall’s testimony, with Staff and**  
12 **Empire meeting first to discuss the goals of the increased reporting. The additional**  
13 **information will be included with the reliability improvement program annual**  
14 **report currently required by the Commission’s rule and will be submitted as a**  
15 **non-case filing in EFIS”?**

16 **A.** In an effort to comply with this stipulation, meetings were held with Staff and the  
17 Company to determine the details associated with this requirement. At the conclusion  
18 of the meetings between the Company and Staff, the earliest report this information  
19 could be included was the 2024 Annual Reliability Improvement Program Report. In  
20 December of 2023, the Company submitted the additional information requested in the  
21 2024 Annual Reliability Improvement Program Report in an effort to satisfy this  
22 requirement. This information will be included in each future report.

23 **Q. Does this conclude your direct testimony at this time?**

24 **A.** Yes.



**VERIFICATION**

I, Jeffery Westfall, under penalty of perjury, on this 6th day of November, 2024, declare that the foregoing is true and correct to the best of my knowledge and belief.

/s/ Jeffery Westfall