

CONFIDENTIAL DESIGNATIONS

The Empire District Electric Company d/b/a Liberty

Case No. ER-2024-0261

RE: All confidential testimony of Brian Berkstresser, page 3, lines 14-15.

The information provided is designated “Confidential” in accordance with Commission Rule 20 CSR 4240-2.135(2)(A)7 due to the nature of the material regarding the safety and security of Liberty’s critical infrastructure and other utility facilities. The confidentiality shall be maintained consistent with that Rule and/or Section 386.480 RSMo., as the case may be. This confidential designation is made in recognition of the ongoing responsibility to protect public safety and national security and to ensure the continued reliability of critical infrastructure. Liberty trusts that all relevant parties will respect the need for such safeguards and will work with Liberty to establish the necessary protections to preserve confidentiality through the regulatory process.

Exhibit No.: _____
Issue(s): Riverton 10 & 11, Heat Rate
Testing, CCN Compliance Item and
Generation Maintenance
Witness: Brian Berkstresser
Type of Exhibit: Rebuttal Testimony
Sponsoring Party: The Empire District
Electric Company d/b/a Liberty
Case No.: ER-2024-0261
Date Testimony Prepared: August 2025

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

Rebuttal Testimony

of

Brian Berkstresser

on behalf of

The Empire District Electric Company d/b/a Liberty

August 18, 2025



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

PUBLIC VERSION

TABLE OF CONTENTS
FOR THE REBUTTAL TESTIMONY OF BRIAN BERKSTRESSER
THE EMPIRE DISTRICT ELECTRIC COMPANY D/B/A LIBERTY
BEFORE THE MISSOURI PUBLIC SERVICE COMMISSION
CASE NO. ER-2024-0261

SUBJECT	PAGE
I. INTRODUCTION.....	1
II. RIVERTON UNIT 10 PRUDENCY AND LIBERTY’S GENERATION MAINTENANCE PRACTICES	2
III. COMPLIANCE WITH STIPULATION FROM CASE NO. EA-2023-0131 AND TRACKING OF THE COSTS	6
IV. HEAT RATE TESTING	8
V. CONCLUSION	8

REBUTTAL TESTIMONY OF BRIAN BERKSTRESSER
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 Brian Berkstresser. My business address is 602 S. Joplin Ave, Joplin,
4 Missouri 64801.

5 **Q. Are you the same Brian Berkstresser who provided direct testimony in this matter**
6 **on behalf of The Empire District Electric Company d/b/a Liberty (“Liberty” or**
7 **the “Company”)?**

8 A. Yes.

9 **Q. What is the purpose of your rebuttal testimony in this proceeding before the**
10 **Missouri Public Service Commission (“Commission”)?**

11 A. The purpose of my rebuttal testimony is to address several issues raised by Office of
12 Public Counsel (“OPC”) witness John A. Robinett including allegations of imprudence
13 related to the repair of Riverton Unit 10, concerns regarding compliance with a
14 stipulation requirement tied to repair costs, and matters related to heat rate testing for
15 Liberty’s generating units. I also respond to OPC witness Lena Mantle’s assertions
16 regarding Liberty’s generation maintenance practices and their impact on the Fuel
17 Adjustment Clause (“FAC”) mechanism. Additionally, I briefly address
18 recommendations made by Commission Staff witness Matthew Young concerning the
19 tracking of PISA deferrals and associated net plant and ADIT values for repair costs of
20 Riverton Units 10 and 11.

**II. RIVERTON UNIT 10 PRUDENCY AND LIBERTY'S GENERATION
MAINTENANCE PRACTICES**

Q. OPC witness Robinett alleges imprudence by the Company for not repairing Riverton Unit 10 within the 1-year timeframe to qualify for the Generator Facility Replacement Process allowed in Attachment V of the SPP Open Access Transmission Tariff ("OATT"). Mr. Robinett further asks the Commission to disallow all costs associated with repairing Riverton 10 based on imprudence. How do you respond?

A. This is the same argument that OPC made in the Certificate of Convenience and Necessity ("CCN") proceeding (Case No. EA-2023-0131) to replace Riverton Unit 10 and Riverton Unit 11 with new simple cycle combustion turbines of a similar size. The Company provided a full and thorough response in the "Liberty's Response To OPC's Ratemaking Suggestion" within the CCN docket but will quote its response within this docket as well:

First, Liberty did not repair Riverton Unit 10 so it could utilize the Generator Facility Replacement process. The Company only chose to repair Riverton Unit 10 after Riverton Unit 11 demonstrated significant blade migration following two separate borescopes of the unit. The Company conducted a borescope of Riverton Unit 11 on April 5, 2023; and, following a short market run on August 1, 2023, the Company conducted a second borescope to provide a comparative analysis of the risk of continuing to run the unit. The results of the borescopes presented the Company with significant safety and reliability concerns. Further, the Company had a borescope of Riverton 10 performed to provide an assessment of the most cost-efficient unit to repair, with the cost to repair Unit 10 being significantly less than the cost to repair Unit 11. The Company then made a prudent decision to repair Riverton Unit 10 based on the appropriate balance between cost, safety, and reliability.

Second, Liberty was not required to use the Generator Facility Replacement process for Riverton Unit 10. The Company was in conversations with the Southwest Power Pool ("SPP") regarding avenues for replacement. The Company had discussions regarding the "material modification" provision within Attachment V of the SPP

1 Open Access Transmission Tariff (“OATT”), given the replacement
2 units were going to be of similar size, at the same point of
3 interconnection, and may use some of the same common facilities as the
4 original units. Following the aforementioned borescopes of the Riverton
5 units, however, the Company made the decision to pause these
6 discussions and proceed to repairing Unit 10.
7

8 Third, Liberty’s customers have benefited from the repairs of Riverton
9 Unit 10. Given the recent planning reserve margin increase and the
10 Company’s accredited capacity addition, Liberty would have had to
11 purchase additional replacement capacity or be in violation of
12 Attachment AA of the SPP OATT. Further, the Company has an
13 obligation to provide a restoration plan to SPP, and Riverton Unit 10
14 **

15 **

16
17 Lastly, denial of traditional cost recovery for Liberty’s repair of
18 Riverton Unit 10, as suggested by OPC, would punish Liberty for
19 making a well-reasoned, prudent decision. A request for Generating
20 Facility Replacement must be submitted at least one year prior to the
21 date that the Existing Generating Facility will cease operation or up to
22 one year after a unit is determined to be in forced outage, and the process
23 requires submission of an initial study deposit and a host of materials,
24 including highly technical data that is only available after the
25 replacement technology has been selected and procured. As stated in the
26 Company’s CCN application, although the Company’s 2022 IRP
27 identified 30 MW of reciprocating internal combustion engine (RICE)
28 generation using existing interconnection, the Company engaged Black
29 and Veatch to perform a technology study to fine tune the IRP results
30 by examining three models of RICE, six simple-cycle combustion
31 turbine models, and batteries. The results were then compared using a
32 net present value of the revenue requirement, which ultimately led to
33 the Company’s proposed selection as presented in this docket.
34

35 It appears that OPC has a disregard for the amount of analytical work
36 that the Company performed to demonstrate that the units selected were
37 the correct units to best serve Liberty’s customers. Based on OPC’s
38 suggested ratemaking condition in this CCN docket, OPC would have
39 preferred the Company to ignore the IRP process and hastily propose a
40 replacement technology to try and beat the one-year forced outage
41 window in the Generator Facility Replacement process.
42

43 **Q. Was the Company prudent in its decision to repair Riverton Unit 10?**

44 **A.** Yes. The Company’s decision was thoughtfully made only after a robust analysis of
45 the data and was based upon what was known at the time of its decision. On the other

1 hand, OPC is advancing a circumstantial narrative without providing any credible
2 support and certainly has not satisfied the burden of showing that the Company's
3 decision is outside of the reasonable bounds; nor did OPC provide a comparison to
4 demonstrate that the Company's decision was outside a range of reasonable behavior¹.

5 **Q. On page 28 of her direct testimony, OPC Witness Mantle states that Empire did**
6 **not “weatherize or otherwise prepare its Riverton 10 and 11 combustion turbine**
7 **generating units to be available on fuel oil before the winter of 2021 so that during**
8 **Storm Uri in February 2021 when market prices skyrocketed it could not dispatch**
9 **them.” Is this an accurate portrayal of the facts surrounding maintenance**
10 **activities for those units?**

11 A. No. This issue was discussed in depth in the surrebuttal testimony of my predecessor,
12 Dr. Brian Mushimba²:

13 **Q. What type of unit is Riverton Unit 11?**

14 A. Riverton Unit 11 is a 1966 Westinghouse W191 dual fuel turbine
15 that was purchased used by The Empire District Electric Company and
16 placed into service in 1988 at the Riverton generating station in
17 Riverton, Kansas.

18 **Q. Staff witness Hull recommends a disallowance because the**
19 **Company failed to tune Riverton Unit 11 at extreme cold**
20 **temperatures. Can you explain what “tune Riverton 11” means and**
21 **how it relates to this issue?**

22 A. Tuning a generation turbine in a complex task of adjustment or
23 modification of the internal combustion of the engine of the unit to yield
24 optimal performance and efficiency at given ambient temperatures. It's
25 an iterative process that ensures that at a given ambient temperature, the
26 fuel-oxygen ratio and the subsequent combustion is optimal and the
27 resultant energy output is maximized while controlling undesirable
28 byproducts of the combustion, such as emissions

29 **Q. Can Liberty tune Riverton 11 during extreme cold weather?**

30 A. Yes, so long as the unit is generating on natural gas and the
31 Company operates within the air permit restriction related to natural gas
32 emissions. However, tuning a unit is an iterative process that increases

¹ The Missouri Public Service Commission adoption of regulatory prudence, Case Nos. EO-2022-0040 & EO-2022-0193, Commission Order NUNC PRO TUNC issued November 29, 2023 on page 29.

² Brian Mushimba Surrebuttal Testimony filed in Case Nos. EO-2022-0040 & EO-2022-0193 starting on page 4.

1 the risk of an operational trip and extreme cold weather is generally not
2 an opportune time to risk tripping a unit when generation is likely
3 needed for grid reliability.

4 **Q. Are there any governmental limitations on tuning on**
5 **emergency fuel oil?**

6 A. Yes. Regarding tuning on emergency fuel oil, the Company's air
7 permit from the Kansas Department of Health and Environment
8 ("KDHE") restricts any operations on emergency fuel oil subject to the
9 following two restrictions:

10 1) The natural gas delivery system must break down and the
11 required natural gas supply becomes unavailable to The Empire District
12 Electric Company AND 2) The power requirements from the Riverton
13 station cannot be assumed by power generating equipment other than
14 Unit # 10 and Unit # 11.

15 **Q. Does the KDHE Air Permit allow Unit 11 to operate on fuel**
16 **oil for the purpose of tuning?**

17 A. No. There is no specific provision in the air permit that allows
18 Unit 11 to operate on fuel oil for the sole purpose of tuning. The
19 prohibitions in the Air Permit mean that the only time the Company
20 would have been permitted to tune Unit 11 while operating on
21 emergency fuel oil would have been during extreme events, such as
22 Storm Uri. Again, this is obviously problematic in the sense that tuning
23 in preparation for extreme events required such tuning to take place
24 during extreme events. This particular issue is identified in the FERC-
25 NERC – Regional Entity Staff Report: The February 2021 Cold
26 Weather Outages in Texas and South Central United States. "Key
27 Recommendation" 7 on page 196, which recommends establishing a
28 forum consisting of state legislatures and/or regulators, in cooperation
29 with FERC, NERC, and Regional Entities to discuss, amongst other
30 things, "Whether there are barriers to dual-fuel capability that could be
31 addressed by changes in state or federal rules or regulations. Dual-fuel
32 capability can help mitigate the risk of loss of natural gas fuel supply,
33 and issues to consider include facilitating testing to run on the alternate
34 fuel, ensuring adequate fuel supply of the alternate fuel and obtaining
35 the necessary air permits and air permit waivers." Unfortunately, the
36 Company does not have the ability to perform fuel oil tuning based on
37 its current Air Permit. Put another way, the Company could not have
38 performed oil tuning at Riverton 11 without violating its air permit and
39 thus violating the law.

40 **Q. Does tuning the unit on natural gas improve the**
41 **performance of the unit when attempting to fire on emergency fuel**
42 **oil?**

43 A. No, tuning Riverton 11 on natural gas does not improve
44 performance of the unit on emergency fuel oil. The natural gas and
45 emergency fuel oil delivery systems are completely separate on Unit 11.
46 In particular, the control valve for natural gas delivery is completely
47 separate from the control valve for emergency fuel oil delivery. Each of
48 these control valves has unique flow characteristics that must be used

1 during the tuning process on that specific fuel type to ensure that Unit
2 11 operates at desired air and fuel ratios. As referenced above, this is an
3 iterative process that is temperature and fuel dependent.
4

5 **Q. Did the Commission find the Company imprudent in the handling of their**
6 **Riverton Unit 10 and Unit 11 leading up to and during Storm Uri?**

7 A. No. Regarding alleged imprudence relating to Riverton Unit 10 and Unit 11, the
8 Commission ruled that “there was no evidence that would support a finding of
9 imprudence, and the Commission will make no adjustments on that basis.”³ Thus, there
10 is no basis for OPC’s position advanced in this case.

11 **III. COMPLIANCE WITH STIPULATION FROM CASE NO. EA-2023-0131 AND**
12 **TRACKING OF THE COSTS**

13 **Q. OPC Witness Robinett alleges the Company did not comply with the agreement**
14 **from Case No. EA-2023-0131 to file testimony related to repairing/replacing**
15 **Riverton 10 and 11 in the first rate case wherein recovery of repair and**
16 **replacement costs are sought. How do you respond?**

17 A. The Company acknowledges that testimony “on the decision process followed during
18 the repair/replacement of Riverton Units 10 and 11 as well as any changes in policy
19 resulting from that process” was not included in the initial filing of this rate case. The
20 Company intends to include that testimony in the rate case where it first seeks cost
21 recovery related to the replacement units. Liberty apologizes for the misunderstanding
22 if the intent of the stipulation provision was for the testimony to be included in this
23 case. Riverton Unit 10 underwent repairs totaling \$1.74 million, which were fully
24 capitalized under projects 4008514, 4009846, 4009848, 4009862, and 4009979, and

³ The Missouri Public Service Commission adoption of regulatory prudence, Case Nos. EO-2022-0040 & EO-2022-0193, Commission Order NUNC PRO TUNC issued November 29, 2023 on page 31.

1 recorded in functional FERC plant account 343. These costs were incurred and
2 completed between mid-December 2023 and the end of March 2024. Riverton Unit 11
3 was not repaired, and therefore incurred \$0 in repair costs. The Company is providing
4 workpapers on the respective borescope documentation performed on Riverton Unit 10
5 and 11 in conjunction with this rebuttal testimony.

6 **Q. Do you have any concerns with the Commission Staff witness Mr. Young's**
7 **recommendation that Liberty account for PISA deferrals tied to Riverton Units**
8 **10 and 11 so that they will be readily identifiable in the rate case for which Liberty**
9 **seeks recovery. Additionally, Staff recommends that Liberty similarly account**
10 **for the net value of plant and ADIT so that amounts are clearly identifiable in**
11 **Liberty's rate recovery request?**

12 A. As noted earlier, Liberty is able to separately track the net plant value with Riverton
13 Units 10 through the respective project numbers. This provides a clear and auditable
14 trail for recovery purposes. However, Staff's recommendation to separately track PISA
15 deferrals and ADIT at the individual project level presents more of a challenge. Our
16 accounting systems and processes do not track these components by specific projects,
17 which limits our ability to provide precise figures in that format. That said, we believe
18 we can reasonably estimate and present approximate balances for both PISA deferrals
19 and ADIT using calculated values and supporting assumptions. While not exact, these
20 estimates should be sufficient to meet the intent of Staff's recommendation and provide
21 transparency in the rate recovery process. Finally, as mentioned above there have been
22 no repair costs incurred for Riverton Unit 11.

1 **IV. HEAT RATE TESTING**

2 **Q. OPC Witness Robinett alleges the Company did not comply with Commission**
3 **Rule 20 CSR 4240-20.090(2)(A)15 for the heat rate tests. How do you respond?**

4 A. The Company partially agrees with Mr. Robinett's assertion. The heat rate test results
5 initially provided were outside the 24-month period required by Commission Rule 20
6 CSR 4240-20.090(2)(A)15. We acknowledge this oversight and have since obtained
7 the most recent heat rate test results, which will be provided as workpapers supporting
8 this testimony. We are implementing process improvements to support timely
9 collection and submission of current heat rate data from our jointly owned units to
10 maintain full compliance going forward. However, the Company respectfully disagrees
11 with Mr. Robinett's characterization of the heat rate testing methodology and the
12 adequacy of supporting documentation. The single-point heat rate testing method used
13 is consistent with industry standards and aligns with the definition of heat rate testing.
14 Furthermore, the Company provided a comprehensive set of supporting materials,
15 including detailed testing procedures and data sheets for each unit tested. It is also
16 worth noting that in prior rate cases, including Case No. ER-2021-0312, the Company
17 submitted single-point heat rate test results with similar supporting documentation, and
18 no objections were raised.

19 **V. CONCLUSION**

20 **Q. Does this conclude your rebuttal testimony at this time?**

21 A. Yes.

VERIFICATION

I, Brian Berkstresser, under penalty of perjury, on this 18th day of August, 2025,
declare that the foregoing is true and correct to the best of my knowledge and belief.

/s/ Brian Berkstresser