

**BEFORE THE PUBLIC SERVICE COMMISSION
OF THE STATE OF MISSOURI**

In the Matter of the Application of The Empire District)
Electric Company d/b/a Liberty to Obtain a Certificate of) Case No. EA-2023-0131
Convenience and Necessity to Enhance System Resiliency)

APPLICATION FOR A CERTIFICATE OF CONVENIENCE AND NECESSITY

COMES NOW The Empire District Electric Company d/b/a Liberty (“Liberty” or the “Company”), and, pursuant to RSMo. §393.170 and Commission Rule 20 CSR 4240-20.045, submits its application for a certificate of convenience and necessity to enhance the resiliency of its electric system by replacing Riverton Units 10 and 11. In this regard, Liberty respectfully states as follows to the Missouri Public Service Commission (“Commission”):

1. Liberty is a Kansas corporation with its principal office and place of business at 602 Joplin Street, Joplin, Missouri. Liberty is qualified to conduct business and is conducting business in Missouri, as well as in the states of Arkansas, Kansas, and Oklahoma. Liberty is engaged, generally, in the business of generating, purchasing, transmitting, distributing, and selling electricity.

2. Liberty is a “public utility” and an “electric corporation” pursuant to RSMo. §393.1700.1(6), with its Missouri operations subject to the jurisdiction of the Commission as provided by law.

3. A certified copy of Liberty’s Restated Articles of Incorporation, as amended, was filed in Case No. EF-94-39, and a certificate from the Missouri Secretary of State that Liberty, a foreign corporation, is authorized to do business in Missouri was filed with the Commission in Case No. EM-2000-369. This information is current and correct, and the referenced documents are incorporated herein by reference.

4. Liberty has no pending actions or final unsatisfied judgments or decisions against it from any state or federal agency or court that involve customer service or rates. Liberty’s annual report and assessment fees are not overdue.

5. All correspondence, communications, notices, orders, and decisions of the Commission with respect to this matter should be sent to the undersigned counsel.

6. Commission Rule 20 CSR 4240-4.017(1) provides that “(a)ny person that intends to file a case shall file a notice with the secretary of the commission a minimum of sixty (60) days prior to filing such case.” Liberty filed its Notice of Intended Case Filing to initiate this proceeding on October 12, 2022.

7. Commission Rule 20 CSR 4240-20.045(2)(A) provides as follows: “An electric utility must obtain a certificate of convenience and necessity prior to – 1. Providing electric service to retail customers in a service area pursuant to section 393.170.2, RSMo; 2. Construction of an asset pursuant to section 393.170.1, RSMo; or 3. Operation of an asset pursuant to section 393.170.2, RSMo.”

8. Commission Rule 20 CSR 4240-20.045(1) defines “asset” as: “1. An electric generating plant, or a gas transmission line that facilitates the operation of an electric generating plant, that is expected to serve Missouri customers and be included in the rate base used to set their retail rates regardless of whether the item(s) to be constructed or operated is located inside or outside the electric utility’s certificated service area or inside or outside Missouri; or 2. Transmission and distribution plant located outside the electric utility’s service territory, but within Missouri.” And the rule defines “construction” as: “1. Construction of new asset(s); or 2. The improvement, retrofit, or rebuild of an asset that will result in a ten percent (10%) increase in rate base as established in the electric utility’s most recent rate case.”

9. As identified by its 2022 Integrated Resource Plan (“IRP”), the Company proposes to replace Riverton Units 10 and 11 to enhance the resiliency of the Company’s electric system (the “new assets”). This project requires a CCN pursuant to the definitions of “construction” and “asset” in 20 CSR 4240-20.045(1) and 20.045(2)(A).

10. The new assets are proposed to implement the supply-side resource acquisition plan in the Company's adopted preferred plan identified in its 2022 Integrated Resource Plan.

11. On February 8, 2021, Riverton Unit 10 went offline as a result of a fire in the insulation around the turbine exhaust bearing. In order to minimize the fire damage, the lube oil system was shut down prior to the rotor coming to a stop, further damaging the unit. Because of the age of Riverton Unit 10, it is likely certain replacement parts would be unavailable and would have to be manufactured. Given the cost that Liberty's customers would incur associated with the fabrication of 1966 vintage custom parts for a relatively small, over thirty-year-old, used and refurbished generating facility, Liberty elected to analyze whether replacing Riverton Units 10 and 11 with new generation would be a more efficient and reliable option as part of the Commission's IRP process.

12. Liberty's 2022 IRP acquisition plan identified the addition of 30 MW of reciprocating internal combustion engine (RICE) generation using existing interconnection. RICE was selected because RICE generators are highly efficient and available with capacities similar to the units to be replaced. Before embarking on this project, however, the Company performed a technology review to verify that RICE units would best meet the Company's need at the least cost to customers.

13. In this regard, the Company engaged Black & Veatch ("B&V") to perform a study. The study examined three models of RICE, six simple-cycle combustion turbine models, and batteries. Using the operating data and capital cost information gathered by B&V and fuel and market pricing models available to the Company, Liberty calculated the 30-year net present value of the revenue requirement ("NPVRR") for the generators studied. This analysis demonstrated that the proposed combustion turbines (the new assets) had the lowest NPVRR.

14. For verification, Liberty requested Charles' River Associates ("CRA"), who performed modeling of plans for Liberty's 2022 IRP, to substitute the proposed combustion turbines (the new assets) for the RICE units in the preferred plan. CRA's analysis demonstrated that the substitution

reduced the NPVRR of the preferred plan by \$6.3 million.

15. The project is expected to be balance sheet financed or financed off balance sheet via a bill of exchange or similar financial instrument. The final decision will depend on market conditions at the time of the project funding and will be based on providing the greatest available value to Liberty's customers.

16. Liberty plans to procure the generating equipment from the original equipment manufacturer. The Company will also be contracting B&V to develop a specification for a request for proposals ("RFP"). The RFP will be released for competitive bid to contractors with demonstrated experience in successful delivery of projects of similar scope and scale. The successful bidder's scope will be for engineering, procurement, and construction and commissioning of the project. The project will be managed by Liberty personnel with external engineering support.

17. The new units will be located at the Company's existing Riverton Generation Station located in Riverton, Cherokee County, Kansas. The property is located at 7240 SE Highway 66, Riverton, Kansas and is described as follows:

A tract of Land located in Section Twenty (20), Township Thirty-Four (34) South, Range Twenty-Five (25) East, of Cherokee County, Kansas described as follows: Beginning at a point in the Northwest Quarter of the Northwest Quarter of said County where the South right of way line of U.S. Highway 66 intersects with the East right of way line of County Road SE 70th, thence South parallel with the East side of the right of way of County Road SE 70th, 3,265 feet to the North Bank of Spring River; thence Northeasterly along said bank 1,564 feet to the East Bank of Spring River; thence along said bank in a Northerly direction 2,364 feet to the South right of way line of U.S. Highway 66; thence West 2,227 feet to the point of beginning, containing one hundred thirty-two (132) acres, more or less.

18. Other than Liberty's own electric transmission lines and the gas pipeline that serves only this property, the proposed construction will cross no electric, gas, or telephone conduit, wires, cables, and lines of regulated and nonregulated utilities, railroad tracks, or underground facility, as defined in RSMo. §319.015.

19. All proposed construction will be within the existing Riverton Power Plant property boundaries. As such, no landowner notice is required in connection with the filing of this CCN application.

20. The Riverton Power Plant is an approximately 300 MW (nameplate) gas-fired electric generating facility comprised of three units: (1) Riverton Unit 10, a 16.3 MW simple cycle natural gas facility placed in service in December 1988; (2) Riverton Unit 11, a 16.3 MW simple cycle natural gas facility placed in service in December 1988; and (3) Riverton Unit 12, a 267.6 MW combined cycle natural gas facility placed in service in June 2016. Riverton Units 10 and 11 were purchased used and placed in service on the Company's system in 1988. The original manufacture date of these units was the mid-1960s and thus they are well past their original life expectancy.

21. The proposed project is the installation of two combustion turbine generators to replace existing combustion turbine generators Riverton Unit 10 and Riverton Unit 11. Each unit has a nominal net output of 13.3 MW. The turbines are fast-starting and are dual fuel capable, providing resiliency for periods of natural gas scarcity and the capability to start when no off-site power is available.

22. The two new turbines will have no post-combustion pollution controls but will employ dry low NO_x combustion to limit NO_x formation. The new units have a nominal heat rate of 10,906 Btu/kWh, meaning they will consume approximately 37% less fuel per kWh generated than the units they will replace.

23. The new assets will share a common generator step-up transformer. A short transmission line will tap into existing transmission lines and interconnect the new generators at the same position in the existing substation as the units to be retired. The scope of construction includes site preparation; foundation installation; electrical, gas, and fuel oil interconnects; mechanical installation and electrical installation of the owner-provided equipment; and commissioning and testing. The

estimated cost for the complete scope of the construction project is \$53 million.

24. The date for start of construction is dependent upon this CCN proceeding and receipt of a construction permit from the Kansas Department of Health and Environment, but for planning purposes, the Company projects that construction will begin late in the first quarter of 2024. Construction and commissioning duration is expected to be approximately one year, rendering the new units available for service late in the first quarter or early in the second quarter of 2025. The Company intends to utilize the Southwest Power Pool's Generator Replacement Interconnection Service process to obtain interconnection to the transmission system.

25. The assets will be operated by Riverton Power Plant personnel. Routine maintenance on the generating units and any balance of plant assets will be performed by Riverton Power Plant personnel, while routine maintenance on the substation will be performed by Liberty Substation Operations personnel. Major maintenance to be performed on intervals defined in the generating units' operation and maintenance manuals will be performed by the original equipment manufacturer's service personnel under a long-term service agreement.

26. Any significant forced outage of one or both units would be managed in the same way that Liberty manages such an outage on its similar generation units such as State Line Unit 1 or the units at the Energy Center. Diagnosis of the cause of an outage and the scope of repair would begin with review of data available from the unit's instrumentation and controls. Based on the scope of repair, Liberty will determine whether the unit's prompt return to service can best be accomplished by Liberty personnel, original equipment manufacturer's personnel, a contractor, or some combination of the above. If the failure were to occur during the new asset's warranty period, Liberty would utilize whatever warranty provisions exist in the supply agreements or engineering, procurement, and engineering (EPC) contract to bring about a timely return to service of the asset and protect its customers from the expense to complete the repair.

27. Grant of the requested CCN and completion of the proposed project will be in the public interest. There is a need for the new assets, Liberty is qualified and has the financial ability to operate the new assets, and Liberty's proposal is economically feasible. The new assets will assist Liberty with meeting the Southwest Power Pool's planning reserve requirement and will otherwise increase the resiliency of the Company's electric system, allowing the Company to continue providing its customers with safe and reliable electric service.

WHEREFORE, Liberty requests an order granting the Company a certificate of convenience and necessity to enhance the resiliency of its electric system by replacing Riverton Units 10 and 11.

Respectfully submitted,

/s/ Diana C. Carter

Diana C. Carter MBE #50527

The Empire District Electric Company d/b/a Liberty

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CERTIFICATE OF SERVICE

I hereby certify that the above document was filed in EFIS on this 14th day of February, 2023, and sent by electronic transmission to the Staff of the Commission and the Office of the Public Counsel.

/s/ Diana C. Carter

VERIFICATION

On behalf of The Empire District Electric Company d/b/a Liberty, and pursuant to Commission Rules, the undersigned, upon his oath and under penalty of perjury, hereby states that the above filing is true and correct to the best of his information, knowledge, and belief.

/s/ Tim Wilson

Liberty Central Region Vice President