Exhibit No.: _____
Issues: Fuel Adjustment Base Factor, Non-FAC Fuel & Purchased Power Costs
Witness: Todd W. Tarter
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

Todd W. Tarter

on behalf of

The Empire District Electric Company d/b/a Liberty

November 6, 2024

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PUBLIC VERSION

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THE EMPIRE DISTRICT ELECTRIC COMPANY D/B/A LIBERTY
BEFORE THE MISSOURI PUBLIC SERVICE COMMISSION
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I. INTRODUCTION

Q. Please state your name and business address.

A. My name is Todd W. Tarter. My business address is 602 S. Joplin Avenue, Joplin, Missouri, 64801.

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

A. I am employed by Liberty Utilities Service Corp. ("LUSC") as Senior Manager, Strategic Planning for the Liberty Central Region, which includes The Empire District Electric Company d/b/a Liberty ("Liberty" or "Company").

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

A. I am testifying on behalf of Liberty.

Q. Please describe your educational and professional background.

A. I graduated from Pittsburg State University in 1986 with a Bachelor of Science Degree in Computer Science. After graduation, I received a mathematics education certification. I began my employment with Liberty in May 1989. During my tenure with Liberty, I have worked in the Corporate Planning, Strategic Planning, Information Technology ("IT"), Planning and Regulatory, Electrical Procurement, and Energy Supply Services departments. My primary responsibilities during the early parts of my career included work with the Company's construction budget, load forecasts, sales and revenue budgets, financial forecasts, fuel and purchased power projections, and IT projects, among others. In 2004, I was promoted to Manager of Strategic Planning, where I primarily worked with fuel and purchased power projections, energy efficiency, and integrated resource planning ("IRP"). In October 2016, I assumed the position of Manager of Systems and Settlements, where I was primarily responsible for market settlements, the computer systems used by the Electrical Procurement department, load forecasting, load research, transmission congestion hedging, and fuel and purchased power projections. In December 2019, I was promoted to Senior Manager, Strategic Planning, where I continue to work with load forecasting, transmission congestion hedging, IRP, Plant in Service Accounting ("PISA") reporting, and fuel and purchased power projections.

Q. Have you previously testified before the Missouri Public Service Commission ("Commission") or any other regulatory agency?

A. Yes. I have testified on behalf of Liberty before this Commission, the Kansas Corporation Commission, the Oklahoma Corporation Commission, and the Arkansas Public Service Commission. The case references are attached to this testimony as **Direct Schedule TWT-1**.

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

A. The primary purpose of this testimony is to discuss the fuel adjustment clause ("FAC") base factor proposal for this case, how Liberty developed it, and why it is reasonable.

My direct testimony also discusses and shows the reasonableness of the proposed base rate cost levels for natural gas firm transportation, the Plum Point Power Purchase Agreement ("PPA") demand charge, and the revenues received from a capacity sale to the Missouri Joint Municipal Electric Utility Commission ("MJMEUC") d/b/a Missouri Electric Commission ("MEC") on behalf of the Southwest Missouri Power Electric Pool ("SWMPEP"). It should be noted these three

Fuel and Purchased Power ("F&PP") related costs and revenues do not run through the Company's current FAC.

Q. Are you sponsoring any schedules with your testimony?

A. Yes. This testimony contains the following attached schedules:

- **Direct Schedule TWT-1**, Case references;
- **Confidential Direct Schedule TWT-2**, Summary of Fuel and Purchased Power for the FAC Base Factor Model Run; and
- **Confidential Direct Schedule TWT-3**, Summary of FAC Base Factor Calculation (with a list of FAC base factor components).

II. F&PP EXPENSE FOR BASE RATES AND THE FAC BASE FACTOR

Q. What is the Company proposing for fuel recovery in this case?

A. Liberty is recommending the continuation of its FAC. Liberty is also recommending a new FAC base factor developed with a computer production cost model run using current known and measurable amounts for fuel, purchased power, market revenue, transmission costs, and other cost components of the proposed FAC base factor, which will be further discussed in this testimony.

Q. What FAC "sharing" mechanism is the Company proposing?

A. The Company is proposing 0% sharing for the FAC mechanism. For the discussion of the Company's FAC sharing mechanism proposal, please refer to the direct testimony of Liberty witness John J. Reed.

Q. Has the Company prepared the minimum filing requirements ("MFRs") for an FAC continuation request?

A. Yes. Please see the direct testimony of Liberty witness Leigha Palumbo for a listing of these MFRs and where each item may be found.

Q. Are there other Company witnesses that address FAC issues?

A. Yes. For additional information on FAC proposals, please see the direct testimonies of Liberty witnesses Aaron J. Doll, Leigha Palumbo and Charlotte T. Emery. Mr. Doll discusses Southwest Power Pool ("SPP") net transmission charges. It should be noted the FAC proposals in Mr. Doll's direct testimony for pertinent cost and revenue components were incorporated into the proposed FAC base factor for this case, as discussed in my direct testimony. Ms. Emery's testimony addresses the respective pro forma adjustments (REV ADJ 11 and EXP ADJ 1) that reflect the impact the proposed FAC base factor has on the cost of service proposed in this case. In addition to the MFRs, Ms. Palumbo's direct testimony also addresses any FAC tariff language changes proposed by the Company.

Q. Briefly describe the purpose of the FAC base factor.

A. The FAC base factor is the base energy cost divided by net generation in kilowatt-hours ("kWh") as determined by the Commission in the last general rate case. The base energy cost is the F&PP costs net of fuel-related revenues determined by the Commission to be included in the FAC and is also included in the revenue requirement used to set base rates in a general rate case. As Liberty's FAC is currently designed, the FAC base factor has not changed since its last general rate case, ER-2021-0312. Then on a periodic basis, as prescribed by the tariff language, the actual prudently incurred FAC eligible costs are compared to the FAC base energy costs and any difference (less any sharing mechanism if one is in place) is either collected from or refunded to customers through the FAC rider tariff.

As a simple illustration: if prudently incurred FAC eligible costs are higher than the FAC base, then the Company is allowed to collect the additional amount from

Missouri retail customers (less any sharing mechanism if one is in place) via the FAC rider tariff. Likewise, if the prudently incurred FAC eligible costs are lower than the FAC base, the Company would return the additional amount to Missouri retail customers (less any sharing mechanism if one is in place) through the FAC rider tariff. The design of an FAC can vary and the details are provided in the FAC rider tariff.

Q. What is Liberty proposing as an updated FAC base factor for this case?

A. Using a computer production cost model described later in my testimony, Liberty analyzed the net F&PP cost level and other eligible FAC costs and revenues for base rates in this case. Based on this annualized and normalized approach, Liberty proposes to update the FAC base factor to $0.01659 per kWh in this proceeding. The total Company net base energy cost proposal is $85,924,986.

Q. How does the proposed FAC base factor compare to the Company's existing FAC base factor?

A. The existing FAC base factor, established in Case No. ER-2021-0312, is $0.00870 per kWh. The Company's proposal for this case is an increase of $0.00789 per kWh or about 90.7%. A summary of the model run used to help rebase the FAC is attached as **Confidential Direct Schedule TWT-2**.

Q. What are the primary drivers of the increase in the proposed FAC base factor?

A. The current FAC base factor was based on a negotiated settlement. At the time the proposed new base factor was developed, the Company utilized a low natural gas price and associated market price forecast while modelling the FAC base factor proposal. Within the model, this results in lower market revenue from generation sold into the market. Additionally, the Company is requesting a higher level of transmission expense than is in the current FAC base factor.

Q. Please describe the FAC base factor changes that are being proposed in this case, aside from updating the costs, prices, and revenues to current levels.

A. Liberty's existing Missouri retail FAC base factor took effect on June 1, 2022. Aside from updating the costs, prices, and revenues to current levels, the Company is also proposing to modify the level of transmission expense eligible for the FAC for this case as discussed in the direct testimony of Liberty witnesses Doll and Reed. Secondly, the Company is proposing to provide customers the benefit of revenue from variable energy sales related to a new MJMEUC power purchase agreement through the FAC. These proposals have been incorporated into the FAC base factor calculation supported in this testimony.

Q. Please further describe the new MJMEUC PPA previously mentioned in this testimony.

A. Liberty entered into a five-year PPA with MJMEUC for a capacity and energy sale beginning June 1, 2020. Other than the capacity revenue, the net energy related costs from the agreement flow through the current FAC. This agreement was scheduled to end May 31, 2025. An amended and restated PPA dated February 7, 2024, will begin March 1, 2025, and includes two phases, as described below.

- Phase 1 has a three-month term from March 1, 2025, to May 31, 2025. It is for 78 megawatt ("MW") capacity (slice of system) and 85 MW energy share from Liberty units specified in the contract.
- Phase 2 has a two-year term from June 1, 2025, to May 31, 2027. It is for 25 MW capacity (slice of system) and 30 MW energy share from Liberty units specified in the contract.

The MJMEUC PPA also enables MJMEUC to receive payment from SPP for energy sold into the market from Liberty resources that are allocated to MJMEUC by this agreement. MJMEUC will pay Liberty for the capacity and for their allocated portion of the fuel costs and an additional amount per unit of energy, in addition to certain transmission costs as described by the agreement.

Q. Which phase of the amended and restated MJMEUC PPA was included in the FAC base factor proposal for this case?

A. The annualized Phase 2 contract, which has a two-year term from June 1, 2025, to May 31, 2027, was utilized for the FAC base factor proposal in this case. As mentioned above, this includes a 25 MW capacity sale (slice of system) and 30 MW energy share from Liberty units specified in the contract. It is reasonable to use Phase 2 of the contract to set the level of anticipated cost and revenue from the MJMEUC PPA in setting the FAC base factor in this case because it is reasonably known and measurable and represents the ongoing expected level of cost and revenue resulting from the PPA (as opposed to the three-month levels of Phase 1).

Q. Please summarize the FAC cost and revenue components contained in the proposed FAC base factor calculation for this case.

A. The cost and revenue components of the proposed FAC base factor calculation are summarized in **Confidential Direct Schedule TWT-3** attached to this testimony. Net F&PP (without purchased demand or natural gas firm transportation charges) is the sum of fuel and purchased power energy cost netted with market revenues. Fuel cost consists of a generating unit’s fuel to operate, including start-up fuel, natural gas commodity charges, natural gas losses at the cost of natural gas, and other fuel related costs (such as the “undistributed and other” and the “unit train” cost categories).

Purchased power energy costs are composed of the energy costs from Liberty's PPAs (Plum Point PPA, Elk River Wind PPA and the Meridian Way Wind PPA), plus Plum Point PPA operation and maintenance ("O&M") costs.

The market revenues are the revenues received from selling energy into the Southwest Power Pool Integrated Marketplace ("SPP IM" or "market"). Native load cost, or the cost of energy to serve Liberty's customers, is the cost of energy purchased from the SPP IM plus ancillary and other charges, offset by net revenue from auction revenue rights and transmission congestion rights. Other FAC offsets include net renewable energy credits ("RECs") and the removal of fuel related administration and labor and net sales to MJMEUC from the previously mentioned amended and restated PPA. Other FAC eligible costs include net emission allowances, net metering credits, consumables used by generating plants' environmental equipment (e.g., ammonia, limestone, powder activated carbon), and FAC eligible transmission charges.

Q. Please briefly describe the modeled fuel and purchased power expense process that Liberty developed for this case.

A. Liberty considered all eligible FAC cost components and updated all annualized and normalized model assumptions from its last Missouri general rate case (Case No. ER-2021-0312) on a total Company basis. Liberty utilized its production cost model to simulate the SPP IM approach to calculate a net F&PP cost level.

Within the model, Liberty resources were dispatched against price curves with their dispatched generation sold into the SPP market with these resources receiving revenue based on the market approach. Also, within the model, the cost of Liberty's native load was supplied from the SPP market and not from the cost of Liberty's generating resources. Multiple sets of hourly market prices were utilized, and the market prices were correlated to the natural gas price within the model. This level of F&PP expense was developed by running the hourly production cost computer model using normalized sales levels, normalized outage data, and projected fuel and purchased power prices. Other F&PP cost and revenue components that are eligible for the FAC were normalized and added outside the model. Please refer to **Confidential Direct Schedule TWT-2** for the Summary of F&PP report for the FAC base factor model run.

Q. What production cost model did Liberty use for its review of the ongoing level of F&PP expense for this case?

A. Liberty developed the expected ongoing level of F&PP expenses for this case by running an hourly production cost computer model known as EnCompass. EnCompass is a planning tool developed by Anchor Power Solutions, which was recently acquired by Yes Energy. Liberty has used EnCompass for F&PP budgeting and other special studies for approximately six years and have used the model in the past three Missouri rate cases including this case. According to the model developer, EnCompass optimizes individual utilities or portfolios of assets using full operational details of power plants and complex contracts along with forecasted power prices. The software uses Mixed Integer Programming to determine the best combination of resources to commit and the appropriate dispatch levels for each interval of the operating day. In addition to minimum uptime and downtime requirements, EnCompass can also cap the number of starts and shutdowns and recognize costs and fuel requirements for hot, warm, and cold starts and shutdowns. Heat rates and dispatch costs are set for the minimum operating level, as well as any number of blocks up to maximum capacity. Any number of fuels may be defined for a resource, and EnCompass will utilize the least-cost fuel, subject to minimum and maximum limits.

Q. How was the natural gas price forecast and multiple sets of nodal market price forecasts obtained?

A. The natural gas prices and the associated sets of nodal market prices used in the FAC base factor modeling were provided by Horizons Energy, a consulting firm that the Company contracted to provide input data for the EnCompass model. This is the third consecutive Missouri rate case that Liberty has utilized Horizons Energy's fuel and market price data.

Q. What was the annual weighted average price of natural gas used in the FAC base factor modeling?

A. The weighted average price of natural gas yielded from the FAC base factor modeling was about $1.88/MMBtu.

Q. Was the net cost of natural gas hedging included in the FAC base factor calculation?

A. No. Natural gas hedging was not considered in the FAC base factor modeling for this case. In other words, only the projected spot market prices mentioned earlier were utilized. This is consistent with the approach the Company used in its past two Missouri general rate case filings (Case Nos. ER-2019-0374 and ER-2021-0312).

Q. How were the variable revenues for the amended and restated MJMEUC sale calculated for the FAC base factor proposal?

A. The variable revenues from the MJMEUC sale were calculated outside the model based on the energy settlements described in Schedule 3.2 of the amended and restated PPA and the modeled results for the specific generating resources described within the agreement.

III. ADDITIONAL F&PP COSTS AND REVENUES

Q. Are you sponsoring other F&PP related costs and revenues that do not flow through the FAC?

A. Yes. Consistent with Liberty's last general rate case (ER-2021-0312), the cost of natural gas firm transportation, the Plum Point PPA demand charge, and the capacity sale to MJMEUC are three F&PP costs that do not run through the FAC. These total company costs were annualized and based on actual contracted pricing for this filing.

A cost of $14,088,261 for natural gas firm transportation and $12,515,541 for the Plum Point PPA demand charge have been included to set base rates for this rate case filing. In addition, the 25 MW capacity sale to MJMEUC based on the amended and restated PPA will result in annual revenue of **[redacted]** for the duration of the agreement.

IV. CONCLUSION

Q. Please summarize your direct testimony.

A. In this case, Liberty is requesting the continuation of its FAC. In conjunction with the continuation of the FAC, Liberty has estimated an expected level of F&PP expenses and revenues in order to rebase the FAC, and Liberty is proposing an FAC base factor of $0.01659 per kWh, or a total company annual base energy cost proposal of $85,924,986 (please refer to **Confidential Direct Schedule TWT-3**). This is an increase of about 90.7% over the current $0.00870 per kWh level. The FAC base factor modeling considered changes to the fuel and market prices since the time the last FAC base factor was established. The FAC base factor calculation also includes a modification to a higher level of transmission expense eligible for recovery in the FAC (as supported in the direct testimony of Liberty witnesses Doll and Reed), as well as the anticipated variable revenues from the amended and restated MJMEUC PPA. Further, this testimony summarizes the FAC cost components considered in the FAC base factor proposal and describes the computer model and the modeling process. Finally, this testimony proposes updated base rate cost levels for the cost of natural gas firm transportation, the Plum Point PPA demand charge, and revenues from a capacity sale to MJMEUC (based on the amended and restated PPA), since these are F&PP costs and revenues that do not run through the FAC.

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

A. Yes.

VERIFICATION

I, Todd W. Tarter, 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/ Todd W. Tarter