Exhibit No.: _____
Issue(s): Fuel Costs
Witness: Aaron J. Doll
Type of Exhibit: Direct Testimony
Sponsoring Party: The Empire District Electric Company
Case No.: 21-EPDE-330-GIE
Date Testimony Prepared: November 2022

Before the State Corporation Commission of the State of Kansas

Direct Testimony

of

Aaron J. Doll

on behalf of

The Empire District Electric Company

November 23, 2022

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THE EMPIRE DISTRICT ELECTRIC COMPANY
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DIRECT TESTIMONY OF AARON J DOLL
THE EMPIRE DISTRICT ELECTRIC COMPANY
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I. INTRODUCTION

Q. Please state your name and business address.

A. My name is Aaron J. Doll. My business address is 602 South Joplin Avenue, Joplin, Missouri,64081.

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

A. I am employed by Liberty Utilities Service Corp. ("LUSC") as Senior Director of Energy Strategy for the Liberty Central Region, which includes The Empire District Electric Company d/b/a Liberty ("Liberty" or the "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 Missouri State University in 2003 with a Bachelor of Science degree in Psychology and a minor in Philosophy. I received my Master of Business Administration from Missouri State University in 2008. I have worked for Liberty for approximately 14 years. I worked in the Planning and Regulatory Department for six years as a Planning Analyst and was responsible for load forecasting, weather normalization, and sales and revenue variance analysis. In 2012, I transferred to the Supply Management Department as the Market Risk Manager and eventually the Manager of Market Settlements and Systems. In this capacity, I worked to facilitate the migration of the daily power marketing activities from the Southwest Power Pool, Inc. ("SPP") Energy Imbalance Market ("EIS") to the SPP Integrated Marketplace ("IM") and oversaw the procurement of the Transmission Congestion Rights ("TCRs"). Additionally, I provided oversight of the meter management, market settlements, and market applications.

In 2016, I was promoted to Director of Electric Procurement. In this role, I was responsible for the procurement of fuel for electrical generation, the day-to-day interfacing, systems, and settlements with SPP as it relates to the IM, the long term and short-term load forecasting, and the production cost modeling. I also provide regulatory support relating to those responsibilities. In 2019, I was promoted to Senior Director of Energy Strategy which added strategic planning and regulatory assistance to my aforementioned responsibilities.

Q. Have you previously testified before the Kansas Corporation Commission ("Commission") or any other regulatory agency?

A. Yes. I have testified on behalf of the Company before this Commission, the Oklahoma Corporation Commission, the Missouri Public Service Commission, and the Arkansas Public Service Commission.

Q. What is the purpose of your Direct Testimony in this proceeding?

A. The purpose of my testimony is to provide detailed information about the fuel costs incurred by the Company during the cold weather event in February 2021 ("Winter Storm Uri' or "Winter Weather Event"). My testimony will provide details regarding Liberty's generation fleet, an explanation to the approach for fuel procurement for its fleet, the events that occurred during Winter Storm Uri that affected the procurement and delivery of fuel to our generation fleet, the costs incurred, and efforts undertaken by Liberty to mitigate those costs.

II. LIBERTY'S GENERATION FLEET AND APPROACH TO FUEL PROCUREMENT FOR THE FLEET

Q. Please describe the Company's generation fleet.

A. The Company has a generation fleet made up of coal, natural gas, wind, and hydro resources with a total capability of approximately 2,200 MWs as shown below. My team is responsible for securing the fuel necessary to serve this fleet, submitting offers to sell the generation of these units into the SPP IM, and purchasing energy to supply the Company's native load. Below is a table of the Company's generation fleet capacity from the 2021 SPP Summer and Winter Resource Adequacy ("RA") submission as well as the Economic Max (total capability) of the unit as currently offered to the Integrated Marketplace.

Resource Name	Generation Type	2021 RA Summer Rating (MW)	2021 RA Winter Rating (MW)	Economic Max Capacity (MW)
Riverton 10	Natural Gas/Fuel Oil	13	15	15
Riverton 11	Natural Gas/Fuel Oil	16	15	16
Stateline 1	Natural Gas/Fuel Oil	93	113	113
Energy Center 1	Natural Gas/Fuel Oil	81	95	95
Energy Center 2	Natural Gas/Fuel Oil	81	80	81
Energy Center 3	Natural Gas/Fuel Oil	40	55	55
Energy Center 4	Natural Gas/Fuel Oil	43	58	58
Ozark Dam 5	Hydro	4	4	4
Ozark Dam 6	Hydro	4	4	4
Ozark Dam 7	Hydro	4	4	4
Ozark Dam 8	Hydro	4	4	4
Riverton 12	Natural Gas	254	283	283
Stateline CC (EDE share)	Natural Gas	300	329	329
Iatan 1 (12% owner)	Coal	84	84	84
Iatan 2 (12% owner)	Coal	108	108	108
Plum Point (7.5% owner)	Coal	50	50	50
Plum Point (7.5% MW PPA)	Coal	50	50	50
Elk River (PPA)	Wind	33	26	150
Meridian Way (PPA)	Wind	17	18	100
North Fork Ridge	Wind	7.5	7.5	150
Neosho Ridge	Wind	15.1	15.1	300
Kings Point	Wind	7.5	7.5	150
		1,309	1,425	2,203

Q. Please describe Liberty's approach to procure the fuel necessary to run its generation fleet.

A. As part of an annual process, Liberty models its electric system using a production cost model to project an expected fuel burn for its thermal fleet including a total gas burn and an expected gas burn for native load customers for each of the next six years. My team continuously assesses conditions that could affect the amount of gas necessary for our generation fleet and establishes revised or "expected" natural gas burns in order for our units to be available to generate energy and participate in the market. In order to manage the various risk aspects relating to fuel procurement, the Company has adopted an Energy Risk Management Policy ("RMP") to define the approach and internal rules that it will utilize to manage its power and natural gas commodity risk. The RMP, which is overseen by the Risk Management Oversight Committee ("RMOC"), governs execution of the Company's risk management strategy. The RMP's objectives are to: 1) provide an organizational structure to support management goals and budget performance by mitigating energy price volatility and, hence, limiting fluctuations in the cost of supplying energy to retail customers; 2) allow utilization of physical and financial tools to provide a predictably priced reasonable cost gas-supply; and 3) allow utilization of physical and financial tools to provide a predictably priced reasonable cost power-supply.

The Company's current methodology for procuring fuel to its generation plants is under the framework of the Advanced Procurement Plan ("APP"). The APP prescribes guidelines, including a minimum amount and maximum amount, for procurement of natural gas during the months of December, January, February and June, July, and August. The APP allows forward procurement in the form of Forward

Physical Index Contracts and Forward Physical Fixed Contracts. Forward Physical Fixed Contracts must show historical pricing levels based on an objective price matrix that was created and updated by the Company unless my team, the Energy Supply Services ("ESS") group, requests and receives a waiver of this or any requirement in the process. This approach is intended to protect our customers from volatility in the marketplace and provide the ability to procure natural gas in advance when pricing indicates economic value.

Q. Has the Company been through a fuel audit since the APP has been in place?

A. Yes. The APP was officially codified into the RMP in December 2019. The Commission recently approved Staff's Report and Recommendation to approve the Company's Fuel and Purchased power expenses from retail customers for the period ending October 31, 2020.[1]

Q. Does your team manage the capacity on any natural gas pipelines so that the fuel can reach the power plants?

A. Yes. My department, the ESS, has procured and managed the firm delivery of natural gas contracts that the Company has with Southern Star Central Gas Pipeline ("SSCGP" or "Southern Star"). The Company has firm production area and market area transport capacity on the SSCGP so that the fuel that it procures can be delivered to our gas fired units.

Q. Has the Company made any changes to its natural gas contracts in the past few years?

A. Yes. In June 2020, the Company added 25,000 DTh/day of market area capacity to its Energy Center Plant. Further, the Company negotiated a discount agreement for its

[1] 21-EPDE-198-ACA.

capacity and the ability to flex the capacity to its Riverton 12 and State Line Combined Cycle facilities. This additional capacity was in response to increasing curtailments of its non-firm capacity at Energy Center plant over the past few years and to meet the Accredited Net Capacity requirements of the Southwest Power Pool ("SPP") as stated in Section 7.1.5 of the SPP Planning Criteria. Since Riverton Unit 12 and State Line Combined Cycle don't have a backup fuel source on site, the supply of their primary fuel source (natural gas) needs to be adequate and reliable and delivered with physical or contractual arrangements that do not permit curtailment or interruption.

Q. Have those procurement practices historically been able to provide the Company with sufficient capacity to be compliant with the Company's Resource Adequacy requirements over the last few years?

A. Yes, Liberty has remained in compliance with the SPP Resource Adequacy ("RA") requirements before the APP was approved and subsequent to the commencement of the APP.

III. <u>THE COMPANY'S PROCUREMENT OF FUEL FOR FEBRUARY 2021</u>

Q. Based on Liberty's production cost modeling, how much fuel did it expect to procure for the February 2021 period for its generation fleet?

A. Approximately 50% of Liberty 's updated budgeted natural gas volumes to serve native load was approximately **[redacted]** DTh per day in February 2021. These volumes were purchased in January 2021 with Forward Physical Index Contracts, otherwise known as beginning of the month IFERC at a price of **[redacted]** and in accordance with the APP.

Q. Did the Company make any adjustments to its fuel procurement strategy based on changing conditions during that time period?

A. Yes. As the possibility for cold weather increased, Liberty purchased additional natural gas to secure enough supply to run our combined cycle units at their economic max if needed and to minimize the premium on the gas daily delivered ("GDD") as the weather forecasts began to predict colder temperatures. The additional quantities were procured for the period of February 9 – February 19 resulting in a total secured quantity of approximately 110,000 DTh of natural gas per day. As a result, the total amount of natural gas available for the period of February 9, 2021 – February 19, 2021, was as follows:

- 24,650 DTh/day from IFERC monthly
- 85,500 DTh/day from Gas Daily Index – SSCGP (includes 30,000 DTh/day AMA)

Q. Please explain Liberty's effort to track the weather forecasts leading up to Winter Storm Uri and the Company's actions.

A. The Company monitors a variety of local and regional forecasts with a focus on the next 36 hours up to the next 7 days to assist in the fuel procurement and marketing efforts. The Company currently has access to IBM Weather Company, Dark Sky by Apple, and the National Oceanic and Atmospheric Administration (NOAA) and monitors locally produced forecasts through publicly available means. The weather forecasts were originally showing cold weather, but not extreme cold, to begin around the second week of February. On February 2nd, Southern Star issued a Winter Weather Watch for February 6-10. However, as the temperatures in the second week of February moderated and the cold weather front began to get pushed out to the future, the predicted temperatures also began to drop. The ESS team worked to secure enough local natural gas supply to be able to offer generators at their economic maximum throughout the tightening of supply related to the cold weather. This forward procurement of daily spot natural gas ensured Liberty would have the necessary supply and would minimize the premium paid to marketers for daily spot natural gas. By the middle of the second week of February, the ESS team had secured the maximum volume it could take with firm transport.

Q. If the APP prescribes a 50% goal for forward procurement, why did only 22.4% of the total amount of natural gas purchased during the height of the Winter Weather Event come from APP purchases?

A. The APP sets a goal for 50% of expected burn associated with native load adjusted for updated outage information and imbalance. Essentially, the denominator in the APP goal is considered a normalized amount of fuel burn for the month based on a production cost model run and doesn't assume that the Company would need the maximum amount of natural gas that could be delivered with firm transportation for every day of the operating month. If the Company were to set the denominator in the APP as the maximum amount of natural gas that could be delivered with firm transportation every day of the month, the Company would have to carry a tremendous imbalance from month to month and either be forced to park and loan fuel at a cost or to cash out the natural gas. Park-and-loan is considered discretionary by the SSCGP tariff as it requires operational flexibility by the pipeline and thus is not a reliable market option for managing imbalance. Imbalance cash outs are paid out by reducing the spot price by a percentage (70%, 60%, 50%) depending on the level of imbalance. The Company's APP tries to strike a balance between managing operational constraints and minimizing the volatility of natural gas prices.

Q. Did Liberty receive delivery of all the fuel that it procured?

A. No. Despite the Company's firm capacity on the SSCGP pipeline, the Company did not receive all the gas that it purchased. On February 9, 2021, SSCGP issued a Standard Operational Flow Order ("OFO"), which required that nominated gas volumes, reduced for cuts, match consumption. An OFO is issued by a pipeline to alleviate conditions which could threaten pipeline safety and/or integrity. During the Winter Weather Event, the Company experienced falling natural gas pressures and over 300 cut notices, which were at times followed by cut restorations toward the latter end of the gas day. The combination of falling natural gas pressure that threatened plant operations and the litany of natural gas cuts and subsequent restoration of cuts contributed to the Company not being able to burn all the natural gas for which it was billed. The Company was able to cancel some of their natural gas purchases after experiencing insufficient pipeline pressure to mitigate additional costs to our customers as discussed later in my testimony.

Q. Did the Company operate within its APP during the Winter Weather Event?

A. Yes.

Q. Has the Company quantified the impact of the APP on the procurement of natural gas for the Winter Weather Event?

A. Yes. The Company performed a calculation where the **[redacted]** DTh/day was replaced with SSCGP GDD, otherwise known as daily spot. The savings as a result of the APP was approximately $50 million for the forward procurement of natural gas rather than daily spot purchases for the same amount.

Q. Did the Company minimize, to the extent possible, the impact of the significant increase in natural gas and subsequent market prices?

A. Yes. We were extremely disappointed that the Company did not receive all the gas it procured to serve customers during Winter Storm Uri. Despite our efforts to secure sufficient gas to keep our generation fleet running during this extreme cold event, much of the gas did not make it to the Company, which is near the end of the SSCGP system. While it is impossible to know exactly who consumed the gas, we expected that the Company would receive some financial remuneration for this loss of use of the pipeline through Southern Star's imposition of OFO penalties. To our great disappointment, Southern Star filed a request at FERC[2] seeking a waiver of the penalties required by its tariff in this very circumstance. The Company filed a protest at FERC against this waiver request given that the Company complied with all OFOs during the event and stood to receive OFO penalty credits under the General Terms and Conditions of Southern Star's FERC-approved tariff, which if received, could have substantially mitigated Liberty's fuel expense. To our great frustration, FERC granted Southern Star's request, eliminating the Company's opportunity to be remunerated for its own compliance with Southern Star's tariff requirements.

Additionally, the Company worked actively with marketers of natural gas to attempt a cancellation of some of the spot deals, given the Company's lack of natural gas pressure to burn all nominated natural gas. The Company was able to cancel between 33,500-35,000 DTh/daily of natural gas for February 17-18th and 26,500 DTh/daily of natural gas for February 19th. The cancellation of natural gas deals saved approximately $22.8 million in natural gas costs that would likely have ended up in imbalance.

[2] RP21-618.

Finally, the Company formally disputed with SPP some of the charges relating to the Winter Weather Event. Although SPP rejected some of the disputes filed, in December 2021, the Company was able to successfully receive approximately $13 million in resettlements as a result of the disputes, which when netted with the Company's share of uplift to other SPP member disputes results in a reduction in storm costs of approximately $10 million. These resettlements, when allocated to Kansas retail, result in a reduction of storm costs of approximately $484,000.

Q. Will the December resettlements discussed above benefit customers?

A. Yes. The amount is reflected in this filing and results in a reduction of expense.

Q. What amount of fuel costs did the Company incur relating to Winter Storm Uri?

A. Liberty incurred $10,773,444 in extraordinary fuel costs for services arising out of Winter Storm Uri on behalf of its Kansas retail customers under the circumstances set forth above. The costs were incurred after various measures and actions taken by Liberty to reduce extraordinary costs from Winter Storm Uri.

Q. Were those costs of an extraordinary nature and prudently incurred by the Company in response to Winter Storm Uri?

A. Yes, the Company incurred those costs prudently and those costs were of an extraordinary nature from fuel or purchased power, during an anomalous weather event.

Q. Has Liberty undertaken any review of its fuel procurement and operations associated with Winter Storm Uri?

A. Yes. Liberty retained a third party, Utilicast, to conduct an independent review of Liberty's fuel procurement, generation operations, transmission and distribution operations, communications, and market operations during Winter Storm Uri. A copy of the report is attached to my Direct Testimony as **<u>Confidential Schedule AJD-1</u>**. In that report, Utilicast concludes that "EDE operated proactively, prudently, and in compliance with its emergency operations and winter preparedness procedures" and that "EDE demonstrated operations proficiency that meets and at times exceeds prudent utility practices."

Q. Does this conclude your testimony?

A. Yes.

AFFIDAVIT OF AARON J. DOLL

STATE OF MISSOURI)

) ss

COUNTY OF JASPER)

On the 23 day of November, 2022, before me appeared Aaron J. Doll, to me personally known, who, being by me first duly sworn, states that he is Senior Director Energy Strategy of The Empire District Electric Company – Liberty Utilities Central and acknowledges that he has read the above and foregoing document and believes that the statements therein are true and correct to the best of his information, knowledge and belief.

Aaron J. Doll

Aaron J. Doll

Subscribed and sworn to before me this 23 day of November, 2022.

HOPE E OVERFELT
Notary Public – Notary Seal
STATE OF MISSOURI
Jasper County
My Commission Expires Nov. 24, 2022
Commission #14631693

Hope E Overfelt

Notary Public

My commission expires: 11/24/22.