

BEFORE THE CORPORATION COMMISSION OF THE STATE OF OKLAHOMA

APPLICATION OF THE EMPIRE DISTRICT)
ELECTRIC COMPANY, A KANSAS)
CORPORATION, FOR AN ADJUSTMENT IN ITS)
RATES AND CHARGES FOR ELECTRIC SERVICE)
IN THE STATE OF OKLAHOMA)

CAUSE NO. PUD 202100163

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CORPORATION COMMISSION
OF OKLAHOMA

Direct Testimony

of

Aaron J. Doll

Submitted on behalf of

The Empire District Electric Company

February 28, 2022

****DENOTES CONFIDENTIAL****



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THE EMPIRE DISTRICT ELECTRIC COMPANY
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1.	AJD-1 Schedule SPPTC Tariff
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DIRECT TESTIMONY OF AARON J. DOLL
THE EMPIRE DISTRICT ELECTRIC COMPANY
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1 **I. INTRODUCTION**

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

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

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

6 A. I am employed by Liberty Utilities Service Corp. (“LUSC”) as Senior Director of
7 Energy Strategy for the Liberty Central Region, which includes The Empire District
8 Electric Company (“Liberty-Empire” or the “Company”).

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

10 A. I am testifying on behalf of The Empire District Electric Company (“Liberty-Empire”
11 or “Company”).

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

13 A. I graduated from Missouri State University in 2003 with a Bachelor of Science degree
14 in Psychology and a minor in Philosophy. I received my Master of Business
15 Administration from Missouri State University in 2008.

16 I have worked for Liberty-Empire for approximately 14 years. I worked in the
17 Planning and Regulatory Department for six years as a Planning Analyst and was
18 responsible for load forecasting, weather normalization, and sales and revenue variance
19 analysis. In 2012, I transferred to the Supply Management Department as the Market
20 Risk Manager and eventually the Manager of Market Settlements and Systems. In this

1 capacity, I worked to facilitate the migration of the daily power marketing activities
2 from the Southwest Power Pool, Inc. (“SPP”) Energy Imbalance Market (“EIS”) to the
3 SPP Integrated Marketplace (“IM”) and oversaw the procurement of the Transmission
4 Congestion Rights (“TCRs”). Additionally, I provided oversight of the meter
5 management, market settlements, and market applications.

6 In 2020, I was promoted to my current position of Senior Director of Energy
7 Strategy. In this role, I oversee the procurement of fuel for electrical generation, the
8 day-to-day interfacing, systems, and settlements with SPP as it relates to the IM, the
9 long term and short-term load forecasting, and the production cost modeling. I also
10 provide regulatory support relating to those responsibilities.

11 **Q. Have you previously testified in a proceeding before the Oklahoma Corporation**
12 **Commission (“Commission”) or before any other utility regulatory agency?**

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

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

17 A. As the Senior Director of Energy Strategy, I am responsible for the overall strategy
18 associated with generating revenues from the Company’s generation fleet, as well as
19 advising on the long-term economics of that fleet. In that regard, my testimony
20 addresses the market benefits of the retirement of the Asbury power plant given the
21 deteriorating performance of Asbury in the Southwest Power Pool’s Integrated
22 Marketplace (“SPP IM” or “market”). I also discuss the net benefits gained by Liberty-
23 Empire’s customers through a combination of Asbury’s retirement and commissioning
24 of the three new wind farms that are described in detail in Mr. Melnyk’s and Mr.

1 Rooney’s testimonies (the “Wind Projects”). I explain how the Wind Projects are bid
2 into the SPP IM, their impact on the Company’s Fuel Adjustment Rider (“FA”), and
3 affiliate waivers that were granted by the Federal Energy Regulatory Commission
4 (“FERC”) allowing Liberty-Empire to market the Wind Projects. I also address the
5 Company’s request for the continuation and rebasing of its Southwest Power Pool
6 Transmission (“SPPTC”) Tariff.

7 **II. ASBURY RETIREMENT – MARKET IMPACTS**

8 **Q. Please describe your involvement with Asbury and the SPP IM over the years.**

9 A. I have been involved with Asbury’s participation in the SPP IM since it went live on
10 March 1, 2014. My position at that time was focused on the new SPP settlements
11 created as a result of the SPP IM construct and the management of congestion
12 derivatives. I worked closely with market settlements and internal reporting to inform
13 management of the Company’s performance in the market which included Asbury. As
14 it relates to the management of congestion hedging products, I evaluated the locational
15 marginal pricing (“LMP”) between all of the Company’s generating units and load to
16 determine whether a Financial Transmission Right (“FTR”) was valuable. The
17 evaluation included the basis differential in LMPs between the Asbury power plant and
18 the Company’s load settlement location. As my role expanded in the department, I was
19 involved in management discussions to increase the economics of Asbury as it relates
20 to its performance in the SPP IM which is discussed in more detail in my testimony
21 below.

22 **Q. Please describe Asbury’s primary operating characteristics at the beginning of the**
23 **SPP IM.**

1 A. Asbury was a 200-megawatt (MW) coal plant with a 10,638 average heat rate
2 (Btu/kWh), 16-hour start-up time, 96-hour minimum run-time, and 48 hour minimum
3 down-time.

4 **Q. Explain what is meant by average heat rate, start-up time, minimum run-time,
5 and minimum down-time.**

6 A. Average heat rate is a metric of efficiency that is calculated as the amount of energy
7 used to generate 1 Kilowatt-hour (kWh). Incremental heat rates, or heat rates along an
8 output curve supplied by power plant testing, can be multiplied by fuel costs to provide
9 the fuel-related cost curve of an entity's energy offer into the SPP IM. As heat rate
10 increases, efficiencies decrease.

11 Start-up Time, as defined by the SPP IM, is the time required to start a resource
12 and reach the Minimum Economic Capacity Operating Limit following receipt of a
13 start-up order from SPP. Asbury began participation in the SPP IM with a 16-hour
14 Start-Up Time.

15 Minimum Run Time is the length of time a Resource must run from the time the
16 Resource is put online to the time the Resource is shut down. Asbury began
17 participation in the market with a 96-hour Minimum Run Time.

18 Minimum Down Time is the minimum length of time required following
19 desynchronization that a Resource must remain off-line prior to a subsequent
20 synchronization. Asbury began participation in the SPP IM with a Minimum Down
21 Time of 48 hours.

22 **Q. Describe Asbury's first few years of participation in the SPP IM?**

23 A. From March 2014 until October 2016, Asbury was offered in the SPP IM with a Day-
24 Ahead ("DA") market status of "Self." The "Self" status communicates to SPP that

1 the Market Participant, Liberty-Empire in this case, is committing the Resource and
2 SPP should include it as committed in either the DA Market and/or Reliability Unit
3 Commitment (“RUC”) as specified. As a result of Asbury’s “Self” status, Liberty-
4 Empire could be sure that the unit would be online the following day which prevents
5 unit cycling from an SPP de-commitment instruction and also helps manage fuel
6 inventory. However, as a result of the “Self” status, the unit is considered a “price
7 taker” which means it could not be certain that the LMPs would be greater than the cost
8 of generation during its run.

9 **Q. What is unit cycling and why was Liberty-Empire seeking to avoid it?**

10 A. Unit cycling is the continual starting up and shutting down of a unit. In the SPP IM,
11 cycling is caused by economic signals that do not support the continuous operation of
12 a generating unit day-to-day and instead signals the unit to start up or shut down. As
13 discussed below, Liberty-Empire attempted to avoid cycling out of concern for daily
14 energy pricing to serve load, start-up risk, and fuel inventory management.

15 **Q. Please describe each of the aforementioned risks that Liberty-Empire was**
16 **attempting to mitigate.**

17 A. **(1) Daily Energy Pricing to Serve Load:** If Asbury was de-committed from the IM,
18 the unit would only receive a start-up instruction in instances where DA prices could
19 support both start-up costs (which are not insignificant for baseload coal units) and the
20 energy offer which is comprised of a no-load offer and incremental energy offer. If the
21 prices didn’t justify the Start-Up and energy offer of the unit, Asbury would not be
22 selected, even if its marginal energy costs were in the money. This creates a situation
23 in which units that may not be as economical as Asbury on an energy-only basis are
24 being called on more frequently, simply due to Asbury’s start-up cost, thereby raising

1 the cost of energy and negatively impacting Liberty-Empire’s customers. Avoiding
2 cycling of the unit mitigated this risk, as it took the start-up costs out of the equation
3 and allowed dispatch of the unit based solely on incremental energy costs.

4 **(2) Start-up Risk:** Cycling introduces a fair amount of risk in that with every start-up
5 instruction there is a possibility that the unit is unable to start-up when receiving a
6 commitment from the market. Coal plants are designed for base load generation and
7 are not made for continuous starts and stops and often exhibit problems when asked to
8 cycle. If a unit receives a Day-Ahead commitment instruction in the SPP IM, it has
9 created a financial position relating to the sale of energy to serve a portion of SPP load.
10 If the generating unit is unable to meet its obligation to provide the energy that has
11 already been sold in the Day-Ahead market, then the Market Participant that is offering
12 the unit is forced to purchase back the energy that it was unable to deliver in the Real-
13 Time Balancing Market (“RTBM”). Often, the generation purchased back in the
14 RTBM is at a higher cost than what it was sold for in the DA, because a less efficient
15 unit would need to be called on to replace the generation that failed to make it online.
16 The spread between what the energy was sold for in the DA and what is was purchased
17 back for in the RT, often called the DART spread, creates a financial position for the
18 market participant which can often result in dollars owed for power that was sold but
19 that was not delivered. Keeping Asbury from cycling served to mitigate the risk
20 associated with the failure to provide energy when committed. In his Direct Testimony,
21 Liberty-Empire witness Shaen Rooney discusses in more detail the negative impacts
22 on power plants like Asbury when asked to continuously start and stop (cycling).

23 **(3) Fuel Delivery Contract Management:** Liberty-Empire, not unlike many coal plant
24 owners, had coal delivery contracts that have specific required amounts of delivery. If

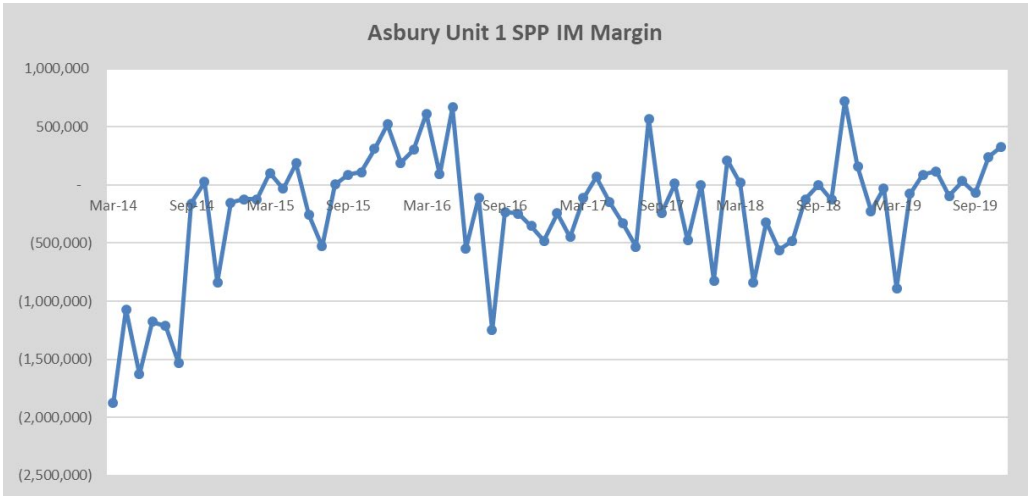
1 Asbury was left offline for extended periods of time, the amount of delivered coal on
2 the ground could present both environmental and safety issues. These issues include
3 bulldozer safety, permitted coal pile size, water discharge, required packing to prevent
4 spontaneous combustion, etc. Keeping Asbury from cycling was an effective mitigant
5 to prevent excess coal inventory problems.

6 **Q. Did Liberty-Empire cease Self-Committing Asbury in October of 2016?**

7 A. Right around that time, Liberty-Empire ceased self-committing Asbury for the reasons
8 mentioned below. The only self-commitment of Asbury on a forward-going basis
9 would have been for discrete scenarios similar to other generating units in the
10 Company's fleet such as unit testing.

11 **Q. Why did Liberty-Empire not continue self-committing the unit if it avoided costly
12 and damaging cycling, mitigated start/stop risk, and helped manage fuel
13 inventory, as described above?**

14 A. Liberty-Empire believed the initial decisions to self-commit Asbury were justified
15 based on the supporting locational marginal prices ("LMP") which, when netted with
16 fuel costs, resulted in favorable net operating margins. In essence, our customers were
17 still receiving net revenues that were offsetting the cost to purchase generation.
18 However, the margins began to diminish in 2015 and by the summer of 2015, the unit
19 began to exhibit negative net operating margins for 10 consecutive months.



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***Negative values indicate favorable margins (unit costs – SPP IM revenues) and positive values represent unfavorable margins**

In the 2015 Annual State of the Market (“ASOM”), the SPP Market Monitoring Unit (“MMU”) stated:

In 2014, coal, combined cycle, and combustion turbine technologies were able to support their ongoing maintenance costs with that year’s prices. However...while 2015 prices did support the ongoing maintenance cost of combined cycle and combustion turbine units, they did not support the cost of scrubbed coal units.

The report went on to describe that the “MMU expects the market to signal the retirement of inefficient generation.” The MMU provided more details on its long run price signals including the table below.

Technology	AVG Marginal Cost (\$/MWh)	Net Revenue from SPP Market (\$/MW Yr)	Annual Revenue Requirement (\$/MW Yr)	Able to Recover New Entry Cost	Annual Fixed O & M Cost (\$/MW Yr)	Able to Recover Avoidable Cost
Scrubbed Coal	23.74	20,626	421,684	NO	31,160	NO
Gas Combined Cycle	19.22	36,122	151,525	NO	15,370	YES
Combustion Turbine	34.55	9,533	284,437	NO	7,040	YES

The 2016 and 2017 MMU ASOM found consistent results with the 2015 ASOM, in that prices did not support the cost of scrubbed coal units.

1 **Q. Did Liberty-Empire stop self-committing Asbury immediately following the**
2 **reduction in prices?**

3 A. No. Liberty-Empire still had must-take coal delivery challenges to navigate. However,
4 in October 2016, Liberty-Empire was able to renegotiate its coal delivery contract to
5 avoid must-take scenarios, which would allow the Company to manage its coal pile
6 without having to self-commit Asbury to keep inventory levels manageable. From
7 November 2016 forward, Asbury was almost exclusively offered in “market” status in
8 which case SPP would commit the unit based on sufficient pricing.

9 **Q. What was the result of allowing Asbury to be offered in “Market” status?**

10 A. Although the unit was then only committed and dispatched when it was considered “in-
11 the-money,” in order to improve its net operating margins, Asbury operated less and
12 less. Below is a table with Asbury’s Net Capacity Factor (“NCF”):

Asbury Unit 1	
Year	NCF
2010	76.42%
2011	70.72%
2012	70.32%
2013	78.17%
2014	64.05%
2015	63.50%
2016	62.69%
2017	56.92%
2018	48.01%
2019	46.97%

13

14 **Q. What is a Net Capacity Factor (“NCF”)?**

15 A. A Net Capacity Factor is an industry standard used to assess how much a unit generates
16 over a period of time compared with how much it could generate if it ran at the top of
17 its net capacity during that same time. For example, a 200 MW net capacity unit is
18 capable of generating 1,752,000 MWh annually (200 MW * 8,760 hours (assuming a

1 non-leap year)). If the unit actually generates 1,314,000 MWh over the same 8,760
2 hours, it would have a NCF of 75% (1,314,000 MWh /1,752,000 MWh).

3 **Q. What do the NCF figures in the table above say about the operation of Asbury?**

4 A. The NCF figures show that the unit was running lower and lower annually when
5 compared to what it was capable of running (assuming 100% availability). The NCF
6 is used to make an apples-to-apples comparison of a unit's amount of generation
7 compared to what it is capable of generating over a fixed period of time. Over time, a
8 unit's capacity may fluctuate based on degradation or investment in that unit, but an
9 NCF takes that information into account to isolate its generation performance compared
10 to its respective capabilities.

11 **Q. As Asbury's NCF began to decline, what did Liberty-Empire do to try and**
12 **improve its performance in the SPP IM?**

13 A. As Asbury's NCF continued to decline, plant personnel worked on various aspects of
14 its operating characteristics to make it more amenable to market commitments,
15 therefore improving its NCF.

16 **Q. What aspects of Asbury's operating characteristics were modified?**

17 A. During 2018, plant personnel worked on getting the unit to be more flexible with the
18 hope that improvements in its market-operating agility would increase its NCF.
19 Around February 2018, Liberty-Empire decreased Asbury's Minimum Run Time from
20 96 hours to 48 hours. Additionally, plant personnel were able to successfully operate
21 the plant with a new Minimum Down Time of 6 hours compared to its previous
22 Minimum Down Time of 48 hours. Please see the Direct Testimony of Liberty-Empire
23 witness Shaen Rooney for a discussion of how these changes were made and the effects
24 they had on the unit.

1 **Q. How did these new operating parameters change Asbury's operation?**

2 A. Asbury could now cycle down for a short period of time, often during low price periods,
3 and come back online as needed by SPP. With the operating parameters of Asbury
4 closer to those of a combined cycle generator, Asbury was able to maximize its ability
5 to offer into the IM unencumbered by its lack of market-operating agility and the result
6 was a record number of starts in its last 2 years of operation.

Asbury Unit 1	
Year	Starts
2010	10
2011	9
2012	7
2013	2
2014	8
2015	11
2016	10
2017	11
2018	34
2019	26

7
8 **Q. Did this greater number of starts impact the NCF trend?**

9 A. No. As you can see above, the NCF continued to fall, even with the greater number of
10 starts.

11 **Q. Ultimately, what happened with Asbury?**

12 A. Liberty-Empire notified SPP of Asbury's coming retirement in August 2019, and
13 Asbury was officially de-designated as a network resource on March 1, 2020.

14 **Q. What were the considerations underlying Liberty-Empire's analysis to retire
15 Asbury?**

16 A. Not unlike the aforementioned ASOM's prediction based on long term price signals,
17 market fundamentals eventually signaled the need for the retirement of Asbury. The
18 evaluation of Asbury's ongoing useful life given market conditions, the lower cost of
19 wind, and the avoidance of additional environmental compliance-related investment in

1 Asbury, was first conducted by Charles River Associates (“CRA”) in the Generation
2 Fleet Savings Analysis (“GFSA”). The GFSA found that the lowest cost way for
3 Liberty-Empire to serve its load obligations over the next twenty to thirty years was to
4 undertake a near-term strategy that builds up to 800 MW of strategically located wind
5 in or near Liberty-Empire’s service territory and retire Asbury. In particular, Asbury’s
6 selection for retirement was further provoked by coal combustion residual rules that
7 required significant investment in a bottom ash conveyance system and coal pond
8 enclosure, along with its actual performance in the SPP IM. Based on these factors, as
9 well as the ability to add wind generation before the production tax credits began to
10 phase out at 100%, the Company determined that it was prudent to retire Asbury.

11 **Q. Was this analysis confirmed in Liberty-Empire’s 2019 Integrated Resource Plan**
12 **(“IRP”) filing?**

13 A. Yes. Based on the 2019 IRP, retiring Asbury results in savings of approximately \$93
14 million on a 20-year expected value basis. From a risk perspective, retiring Asbury
15 also demonstrated significant savings. Under a stochastic analysis conducted by CRA
16 looking at 54 different scenarios (*see* Missouri Case No. EO-2019-0049), retiring
17 Asbury resulted in savings over maintaining Asbury until end of life 94% of the time,
18 on a probability-weighted basis. Savings range from \$18 million to \$144 million. Only
19 under limited combinations of high capital costs, high gas and power prices, and no
20 carbon price did retiring Asbury not reduce costs, as compared to continuing to operate
21 Asbury until fully depreciated.

22 **Q. Does Liberty-Empire’s analyses of cost savings relating to the retirement of**
23 **Asbury take into account Liberty-Empire’s request in this proceeding for**
24 **customers to continue to pay the pre-tax return on the retired investment?**

1 A. Yes. My understanding of the customer savings calculated in the GFSA assumed that
2 customers would pay the remaining outstanding balance on Asbury over 30 years, the
3 cost of the capital, and decommissioning costs. The cost of the capital reflects the cost
4 of debt and the allowed return on equity, calculated on a pre-tax basis.

5 **Q. Are there other benefits to retiring Asbury?**

6 A. Yes. The wind generation would provide cost savings to Liberty-Empire's customers
7 over the next 20-30 years, would serve as a replacement of Asbury's capacity, and
8 would enable Liberty-Empire to meet the Renewable Portfolio Standards ("RPS") of
9 Missouri when the Elk River Wind Farm and Meridian Way Wind Farm purchase
10 power agreements expire in 2025 and 2028. Additionally, risks associated with costs
11 for further emissions controls investment or potential carbon tax are reduced by the
12 retirement of Asbury.

13 **Q. Did the Company explore options for repurposing or selling the Asbury facility?**

14 A. Yes, see the Direct testimony of Liberty-Empire witness Drew Landoll for discussion
15 on the options explored by the Company.

16 **Q. Was the decision to retire Asbury reasonable and prudent?**

17 A. Yes.

18 **Q. What was the actual retirement date of Asbury?**

19 A. As noted above, Asbury was de-designated from the market on March 1, 2020. That
20 was the earliest possible retirement date for Asbury per the SPP guidelines that were in
21 place at the time and it was retired as a coal-fired generating facility at that time.

1 **III. WIND FARM MARKETING**

2 **Q. Explain how Liberty-Empire is marketing the Wind Farm into the SPP IM in**
3 **accordance with applicable SPP IM rules and in a manner that is not**
4 **detrimental to customers.**

5 A. The Wind Projects are registered as dispatchable variable energy resources (“DVER”)
6 in the SPP IM and the offering strategy is very similar to the strategy utilized with the
7 Elk River and Meridian Way Wind Projects. During their first 10 years of operation,
8 both of these purchased power agreements (“PPA”) were offered into the SPP IM at a
9 negative offer calculated to reflect the lost production tax credit. After 10 years of each
10 contract, the offer was then reduced to nearly a \$0/MWh offer to reflect the ten-year
11 expiration of the production tax credit. Liberty-Empire will also be offering the Wind
12 Projects in at a negative offer reflective of a lost production tax credit if the market
13 chooses to curtail.

14 In my experience, this is consistent with how much of renewable generation is offered
15 into the SPP IM and is permitted by documents governing participation in the SPP IM.
16 Additionally, as indicated below, Liberty-Empire, as the Service Provider, is restricted
17 from any scheduling activities that are not in accordance with the SPP Market Protocols
18 and the SPP Open Access Transmission Tariff (“OATT”). Essentially, the interests of
19 both Liberty-Empire, on behalf of its customers, and the tax equity partners, are aligned
20 and policies are in place to ensure adherence to the guidelines set forth in the SPP IM.

21 **Q. Is this bidding strategy consistent with the SPP IM Market Protocols?**

22 A. Yes. the Wind Projects shall be operated in accordance with applicable SPP Integrated
23 Marketplace rules and in a manner that is not detrimental to Liberty-Empire’s
24 customers.

1 **Q. Is Liberty-Empire marketing the Wind Projects in the SPP IM now?**

2 A. Yes. Liberty-Empire began marketing the North Fork Ridge Wind Farm in the SPP
3 IM in October 2020 and the Kings Point Wind Farm in March 2021, and the Neosho
4 Ridge Wind Farm in November 2020. Liberty-Empire is the acting Market Participant
5 (“MP”) for all three projects which allow the Company to claim the capacity for
6 resource adequacy requirements and obligate the marketing activities for the projects.

7 **Q. Are Liberty-Empire’s responsibilities regarding marketing of the Wind Projects**
8 **memorialized in any agreements?**

9 A. Yes. Liberty-Empire entered into an Energy Management Service Agreement
10 (“EMSA”) with each of the three Wind Farm companies, Neosho Ridge Wind, LLC,
11 North Fork Ridge Wind, LLC, and Kings Point Wind, LLC. In each of the EMSAs,
12 Liberty-Empire agrees to provide services for the dispatch and scheduling of energy
13 and ancillary services from the Wind Projects into the SPP IM. The agreement
14 specifically provides the granular level of responsibilities that are to be performed by
15 the scheduling entity (Liberty-Empire), in accordance with SPP Market Protocols and
16 the SPP OATT and what rate will be charged for those responsibilities. Furthermore,
17 the EMSA outlines the requirements for both the Project Company (the wind farm
18 LLCs) and the Service Provider (Liberty-Empire), in regard to the data collection and
19 communication from the facility via Remote Terminal Units (“RTU”) and the
20 Supervisory Control and Data Acquisition (“SCADA”).

21 **Q. Is Liberty-Empire being compensated for the services for which it provides to**
22 **each of the Project Companies (the Wind Farm LLCs)?**

23 A. Yes. Each EMSA provides a Services Fee for the annual provision of services outlined
24 in the document.

1 **Q. What are the Services Fee amounts and how were those determined?**

2 A. The service fees are market assessments for a third party to perform similar activities.
3 The annual EMSA service fees are: ****[REDACTED]**** for North Fork Ridge, ****[REDACTED]****,
4 for Neosho Ridge, and ****[REDACTED]**** for Kings Point.

5 **IV. WIND IMPACT ON THE FA**

6 **Q. Will the sales of the generation from the Wind Projects have any impact on the**
7 **FA?**

8 A. Yes. The Company is estimating a total Company annual normalized fuel savings of
9 approximately \$55 million to \$73 million related to the new wind resources. The
10 savings will depend on many factors such as wind production (e.g. weather,
11 curtailments, outages), the renewable energy credit market, and the SPP market prices
12 which is highly dependent on fuel prices. We anticipate that sales of energy from the
13 Wind Projects will lower the fuel costs on an annual Oklahoma retail jurisdictional
14 basis in the amount of approximately \$2.1 million.

15 **Q. How are you proposing that the market revenue from the Wind Projects be**
16 **calculated?**

17 A. Market revenue is simply the revenue received by Liberty-Empire for generation and
18 any other products sold into the SPP IM, net of any market charges that are typically
19 assessed to generators as distribution payments. The market revenue generated from
20 each Wind Farm should be treated exactly as Liberty-Empire treats the revenue from
21 the rest of its generation assets. Liberty-Empire also proposes to include the following
22 additional sources of revenue and credits to be received in the FA calculation: Paygo,
23 Production Tax Credits and, Renewable Energy Credits (“RECs”).

24 **Q. Why would Paygo be included in Liberty-Empire’s FA calculation?**

1 A. Paygo, which as more completely described in the Direct Testimony of Liberty-Empire
2 witness Kevin Melnyk, is a variable amount of revenue received from the tax equity
3 (“TE”) partners for generation beyond what was originally calculated as part of the
4 contribution to the project. Since this component is variable and is directly related to
5 generation levels that are subject to the IM, it is appropriate to be included into the FA
6 as an immediate source of revenue to customers for generation greater than that which
7 was calculated for the original contribution to the project.

8 **Q. Why should RECs be included in the FA calculation?**

9 A. Each of the Wind Projects will generate RECs. These RECs will be purchased by
10 Liberty-Empire as the “buyer” from Neosho Ridge, LLC, North Fork Ridge, LLC, and
11 Kings Points, LLC as the “sellers” for **[REDACTED]**. The three Wind Farm LLCs
12 are 100% owned by Liberty-Empire Wind Holdings, LLC of which The Liberty-
13 Empire District Electric Company is a Class B member representing approximately
14 50% of the ownership, with the other 50% owned by TE as the Class A member. This
15 process is outlined and memorialized in the Non-Energy Products Agreement for each
16 respective Wind Farm. After Liberty-Empire takes ownership of the RECs, any sales
17 of excess REC’s, beyond what is required to meet different renewable standards and
18 meet the requirements of the proposed REC tariff, will generate revenue which will be
19 refunded to the customer through the FA.

20 **Q. Will any adjustments to the FA be necessary to accommodate the net wind**
21 **revenues as described above?**

22 A. Yes. Liberty-Empire has proposed to adjust the language in the Off-System Sales credit
23 (“OSS”) to reflect the net wind revenues received from the components described
24 above.

1 **Q. If the Commission objects to the inclusion of some or all of the components listed**
2 **above for pass through via the Liberty-Empire FA, how would the Company**
3 **propose to ensure the timely return of the revenues and credits to customers?**

4 A. Liberty-Empire wants to ensure that customers receive the benefit of the wind energy
5 as soon as possible. The Company is receptive to other mechanisms that would allow
6 a return of revenues and credits so long as the mechanism is transparent, and the
7 distributions are timely to its customers.

8 **V. AFFILIATE WAIVERS**

9 **Q. Please describe the affiliate waivers Liberty-Empire obtained from the FERC in**
10 **regard to the Wind Projects.**

11 A. Liberty-Empire obtained waivers from FERC from Title 18 of the Code of Federal
12 Regulations (“CFR”) relating to three affiliate related restrictions. In particular,
13 Liberty-Empire sought and received a waiver from (1) affiliate restrictions between
14 franchised public utilities with captive customers and market-regulated power sales
15 affiliates, 18 CFR §35.39 (2019); and (2) cross subsidization rules, 18 CFR §35.44
16 (2019). Specifically, the waivers addressed sections 35.39(c)(2), 35.39(d)(1), 35.39(e),
17 and 35.39(f), which would allow Liberty-Empire employees to schedule and market
18 the Wind Projects which are market-regulated power sales affiliates.

19 **Q. What would otherwise be required by those sections?**

20 A. Section 35.39(c)(2) states that “(t)o the maximum extent practical, the employees of a
21 market-regulated power sales affiliate must operate separately from the employees of
22 any affiliated franchised public utility with captive customers.” FERC conditionally
23 supported this request for waiver with reliance on Liberty-Empire’s “representations
24 that scheduling and related activities to maximize efficiencies, coordinate scheduling,

1 perform forecasting, and other sharing of information will be used to the benefit of the
2 captive customer.”

3 Section 35.39(d)(1) states that “(a) franchised public utility with captive
4 customers may not share market information with a market-regulated power sales
5 affiliate if the sharing could be used to the detriment of captive customers, unless
6 simultaneously disclosed to the public.” FERC granted this requested waiver on
7 Liberty-Empire’s representation and commitment that any information shared will be
8 not used to the detriment of the captive customer and the captive customer will not be
9 harmed.

10 Sections 35.39(e)(1) and 35.44(b)(1) state that “(u)nless otherwise permitted
11 by rule or order, sales of any non-power goods or services by a franchised public utility
12 with captive customers, to a market-regulated power sales affiliate must be at the higher
13 of cost or market price” and “(u)nless otherwise permitted by rule or order, and except
14 as permitted by of this section, sales of any non-power goods or services by a
15 franchised public utility that has captive customers or that owns or provides over
16 jurisdictional facilities, including sales made to or through its affiliated exempt
17 wholesale generators or qualifying facilities, to a market-regulated power sales affiliate
18 or non-utility affiliate must be at the higher of cost or market price,” respectively.

19 Finally, sections 35.39(f)(i) and 35.39(f)(ii) state that “(t)he market-regulated
20 power sales affiliate must offer the franchised public utility's power first” and “(t)he
21 arrangement between the market-regulated power sales affiliate and the franchised
22 public utility must be non-exclusive,” respectively. FERC granted this waiver based
23 on Liberty-Empire’s commitment that any brokering activities would be at cost and

1 that the waiver will not be used to harm or be used to the detriment of the captive
2 customers.

3 **Q. What was the purpose of the waivers?**

4 A. The purpose of the waivers obtained by Liberty-Empire was for the existing Liberty-
5 Empire power marketing staff and their responsibilities, which I currently oversee, to
6 offer the new Wind Projects into SPP IM. Since the Wind Projects are not directly
7 owned by Liberty-Empire, but rather are directly owned by Liberty-Empire Wind
8 Holdings, LLC, of which Liberty-Empire owns Class B membership shares, Liberty-
9 Empire needed a waiver to perform the same power marketing duties it would normally
10 perform if the assets were owned directly.

11 **Q. Please describe the process used by Liberty-Empire to obtain the waivers from**
12 **the FERC.**

13 A. Liberty-Empire staff met with FERC staff on April 25, 2019, to discuss the affiliate
14 waivers that were to be filed and answer any questions they may have about the
15 proposed waivers. Liberty-Empire filed its application for waiver on November 20,
16 2019, creating Docket No. ER20-432. Liberty-Empire filed a Supplement and
17 Amendment to its original application on April 9, 2020 and a second Supplement and
18 Amendment to its application on May 1, 2020, before receiving a Commission Order
19 on May 29, 2020, with a retroactive effective date of May 1, 2020. Additionally, FERC
20 requested that Liberty-Empire revise the limitations of exemptions of Liberty-Empire's
21 market-based rate tariffs as discussed in the order.

1 **VI. SCHEDULE SPPTC**

2 **Q. Please describe the SPP.**

3 A. The SPP is a non-profit Regional Transmission Organization (“RTO”) that has been
4 approved and continues to be regulated by the FERC. The SPP provides services on
5 behalf of its members including reliability coordination, tariff administration, regional
6 scheduling, transmission investment planning, market operations, compliance and
7 training. SPP began in 1941 and has evolved over the years from a reliability council
8 to an RTO. The SPP now operates a day ahead and real time energy and ancillary
9 services market called the Integrated Marketplace (“IM”), which began operations in
10 2014. Liberty-Empire now purchases energy from the IM to serve native load, sells
11 energy from its generation resources into the market and receives revenue from selling
12 its generation into the market.

13 **Q. Has membership in the SPP been beneficial to Liberty-Empire and its**
14 **customers?**

15 A. Yes. SPP serves a number of functions that Liberty-Empire no longer has to perform
16 itself, such as tariff administration, transmission planning, regional coordination and
17 scheduling. Moreover, the SPP IM is designed to create benefits for load serving
18 entities like Liberty-Empire through lower production costs and increased reliability
19 for members. The SPP IM construct allows for a more economic commitment and
20 dispatch of resources for the purposes of satisfying load and ancillary service
21 requirements thereby lowering production costs. Liberty-Empire offers its generating
22 resources into the SPP IM at the Company’s calculated variable fuel and variable O&M
23 costs. By doing this, Liberty-Empire only operates its own units when the costs to
24 operate those units are at or below the market clearing price in the SPP IM, which

1 generates fuel savings for customers. Liberty-Empire also bids to purchase its
2 forecasted load in the day-ahead market to reduce the exposure to the real-time market
3 and participates in the SPP’s congestion hedging process to reduce congestion paid by
4 Liberty-Empire’s load through the day-ahead locational marginal price (“LMP”). The
5 more efficient utilization of the bulk transmission system due to market-based
6 congestion management processes, supplanting transmission loading relief procedures,
7 improves the reliability of grid operations.

8 **Q. What is the Schedule SPPTC?**

9 A. The Schedule SPPTC was made effective after the issuance of Order No. 592623 in
10 Cause No. PUD 201100082 to allow Liberty-Empire the ability to recover costs for
11 projects approved through SPP’s planning process as outlined in Attachment O of the
12 SPP Open Access Transmission Tariff (“OATT”). These costs are commonly referred
13 to as Schedule 11 or Base Plan Funding costs under the OATT and are developed
14 subject to SPP’s FERC approved transmission planning process. Liberty-Empire is
15 required to pay its allocated share of these Schedule 11 costs by virtue of its status as a
16 Network Integrated Transmission Service (NITS) customer in the SPP. In Cause No.
17 PUD 201800133, Order No. 703403, the Schedule SPPTC was reauthorized, and the
18 language was modified to also allow recovery of the jurisdictionally allocated share of
19 all monthly Schedule 12 FERC Assessment Charges and 1-A Tariff Administration
20 Service Fee costs through the SPPTC.

21 **Q. What transmission costs are recovered in the Schedule SPPTC?**

22 A. The Schedule SPPTC is recovering costs associated with SPP’s Base Plan Upgrades
23 which are constructed pursuant to the SPP Transmission Expansion Plan (“STEP”) in
24 order to ensure the reliability of the Bulk Electric System (“BES”). According to the

1 SPP OATT, Base Plan Upgrades include: “(i) those Service Upgrades required for new
2 or changed Designated Resources to the extent allowed for in Attachment J to this
3 Tariff (ii) ITP upgrades that are approved for construction by the SPP Board of
4 Directors, and (iii) high priority upgrades, excluding Balanced Portfolios, that are
5 approved for construction by the SPP Board of Directors. The Schedule 1-A costs are
6 the administration charge that is applied to NITS and Point-to-Point (“PTP”) customers
7 taking service under the SPP OATT and attempts to cover the expenses related to the
8 administration of the OATT. The Schedule 12 FERC Assessment is charged by SPP to
9 recover the estimated amount to be assessed by FERC for transmission service,
10 including any true-up from the prior year assessment.

11 **Q. Were the Schedule 11, 12, and 1-A amounts included in the SPPTC properly**
12 **calculated?**

13 A. Based on our review, yes. On a monthly basis, Liberty-Empire produces a transmission
14 settlement variance report which details the variance of realized transmission
15 settlement with the amounts budgeted. For both the process of budgeting transmission
16 settlements and for monthly variance reporting, shadow calculations of Schedule 11
17 charges are performed using information provided from the SPP in the RRR
18 spreadsheet to validate the base plan funding charges billed to Liberty-Empire. Any
19 material variances, usually in the form of charge adjustments, are discussed with SPP
20 via the Request Management System (“RMS”) and that additional information is
21 provided in the monthly variance reports.

22 **Q. Have you reviewed the Schedule SPPTC to determine that the appropriate costs**
23 **are being recovered?**

24 A. Yes.

1 **Q. Were the Schedule SPPTC amounts appropriately allocated to the rate classes?**

2 A. Yes. The Company has calculated all the amounts that have been submitted to the
3 Commission via the annual Schedule SPPTC filing according to the appropriate tariff
4 and no variances of substance have been discovered.

5 **Q. Were there any additional requirements for the SPPTC ordered in Cause No.**
6 **PUD 201800133?**

7 A. Yes. The tariff language required the Company to provide quarterly submissions to the
8 Oklahoma Public Service Division (“PUD”) of the monthly over and under-deferral
9 accounting for costs being recovered through the SPPTC in addition to the annual re-
10 determination process.

11 **Q. Has the Company provided those quarterly submittals to the PUD?**

12 A. Yes.

13 **Q. What request is being made of the Commission in this proceeding as it pertains to**
14 **the Schedule SPPTC Tariff?**

15 A. The Company is requesting the Commission approve the continuation of the SPPTC
16 and the rebasing of the Schedule 11 Base Plan Funding Costs. The revised SPPTC is
17 attached hereto as Direct Exhibit AJD-1.

18 **Q. Does this conclude your direct testimony?**

19 A. Yes.

THE EMPIRE DISTRICT ELECTRIC COMPANY
 d/b/a Liberty-Empire
 602 Joplin Street
 Joplin, Missouri 64801

4th-5th Revised Sheet No. 24

Replacing 3rd-4th Revised Sheet No. 24
 Date Issued: ~~10-23-2002-28-22~~

STANDARD PRICING SCHEDULE: STATE OF OKLAHOMA
 SOUTHWEST POWER POOL TRANSMISSION TARIFF
 SCHEDULE SPPTC

AVAILABILITY

This Tariff is applicable to and becomes part of each OCC jurisdictional rate schedule and will apply to energy consumption of retail customers served at all service levels and to facilities, premises and loads of retail customer.

The SPPTC will be effective the first billing cycle of the month following Commission approval of the SPPTC and shall remain in effect until closed by Commission order.

This Tariff will include projected Southwest Power Pool (SPP) Base Plan expenses (Schedule 11 of the SPP Open Access Transmission Tariff) incremental to such costs included in Empire's most recent base rate case, PUD Cause No. PUD ~~201800133~~202100163, including any credits or refunds. Base Plan costs are associated with projects constructed by non-Empire transmission owners within the SPP. This Tariff will also include the jurisdictional allocated share of all monthly SPP Schedule 1-A and Schedule 12 charges.

The SPPTC shall be calculated on the customer's bill by multiplying the total billing kilowatt-hours (kWh) for each customer by the SPPTC Factor for that customer's class for the current month. For service billed under applicable rate schedules for which there is not metering, the monthly kWh usage shall be estimated by the Company and the SPPTC Factor shall be applied to the estimated kWh usage.

The SPPTC Factors shall be determined on an annual basis for each major rate class. The factors shall include the upcoming period's incremental projected SPP Base Plan expenses plus an over or under recovery of actual expenses compared to revenues received under the Tariff for the prior period. The initial SPPTC Factors and the projected SPP Base Plan Expenses to be recovered pursuant to such Factors are attached as Schedule 1 to this Tariff.

METHOD OF CALCULATION FOR SPPTC FACTOR

An SPPTC Factor is calculated annually for each major rate class on a per kWh basis. The formula for the SPPTC Factor is as follows:

$$\text{SPPTC Factor} = \frac{(\text{SPP Expenses} * \text{Class Transmission Allocator}) + \text{True-up}}{\text{kWh by Major Rate Class}}$$

where,

SPP Expenses = Projected Schedule 11 Base Plan Expense of the SPP Open Access Tariff associated with projects constructed by non-Empire or affiliated transmission owners within SPP, including any credits and refunds allocated to the Oklahoma retail jurisdiction using the most recently approved jurisdictional transmission allocator + Schedule 1-A Tariff Administration Service + Schedule 12 FERC Assessment Charge

Class Transmission Allocator = the most recently approved class transmission allocator for each major rate class within the Oklahoma retail jurisdiction

True-up = Over or under recovery of the previous period's actual SPP Expenses compared to SPPTC revenues by major rate class

kWh by Major Rate Class = Projected kWh sales for each major rate class for the twelve month effective period of the SPPTC Factors

Rates Authorized by the Oklahoma Corporation Commission

Effective	Order Number	Cause Number
October 23, 2020	713414	PUD-202000066
October 9, 2019	703403	PUD-201800133
October 1, 2019	Interim Rates	17 O.S.152 (B)(4)
January 6, 2012	592623	PUD-201100082
	639419	PUD-201500012

THE EMPIRE DISTRICT ELECTRIC COMPANY
 d/b/a Liberty-Empire
 602 Joplin Street
 Joplin, Missouri 64801

~~13th-14th~~ Revised Sheet No. 24a

Replacing ~~12th-13th~~ Revised Sheet No. 24a
 Date Issued: ~~10-23-2002-28-22~~

STANDARD PRICING SCHEDULE:

STATE OF OKLAHOMA

SOUTHWEST POWER POOL TRANSMISSION TARIFF
 SCHEDULE – SPPTC

ANNUAL RE-DETERMINATION

On or before September 1st of each year, the Company will submit the re-determined SPPTC factors to the Commission Staff for implementation on the first billing cycle of October of that year. Calculations for the re-determined rates shall be made by the application of the SPPTC formula set forth in this tariff. The Company shall submit a set of workpapers to the Commission Staff sufficient to document the calculations of the re-determined SPPTC rates with each annual re-determination. The re-determined SPPTC rates shall reflect the current year projected SPP Expenses and True-up. Should a cumulative over-recovery or under-collection balance arise during any SPPTC cycle which exceeds ten percent (10%) of the annual SPP Expenses reflected in the current SPPTC, then either the Commission Staff or the Company may propose an interim revision to the currently effective SPPTC rate. Prior to the submission of such re-determined rates, the Company may convene a meeting of all parties of record in Cause No. PUD ~~201800133-202100163~~ for the purposes of explaining the re-determined rates and answering questions regarding same. Also, the Company shall provide quarterly submittals to PUD of monthly over and under-deferral accounting for costs being recovered through the SPPTC in addition to the annual re-determination process.

The company will address the reasonableness of SPP Expenses collected through the SPPTC during the next Empire base rate case and in future base rate cases. Based on the review by the Commission Staff and parties in the next base rate case, any over or under recovery of SPP Expenses collected through the SPPTC shall be refunded to or collected from customers with interest calculated at the applicable Commission established interest rate applied to customer deposits for deposits held one year or less, or the interest rate applied to customer deposits held for more than one year.

SPPTC Factors:

	Factors per kWh
Residential *	\$ (0.00007)
Commercial	\$ (0.00007)
Total Elec. Building	\$ (0.00010)
General Power	\$ 0.00000
Power Transmission	\$ (0.00002)
Lighting **	\$ (0.00003)

* Includes the residential, and residential – total electric pricing plans.

** Includes the street light, private light and special light pricing plans.

Rates Authorized by the Oklahoma Corporation Commission:
 (Effective) (Order No.) (Cause No.)

Public Utility Division Stamp:

October 01, 2021	713414	PUD-202000066
October 23, 2020	713414	PUD-202000066
October 1, 2020	703403	PUD-201800133
October 9, 2019	703403	PUD-201800133
October 1, 2019	Interim Rates	17-O.S. 152(B)(4)

CERTIFICATION

The undersigned, Aaron Doll, deposes and states that he is the Senior Director, Energy Strategy, that he has personal knowledge of the matters set forth in the foregoing responses and the information contained therein is true and accurate to the best of his information, knowledge and belief after reasonable inquiry.

/s/ Aaron J. Doll

Aaron J. Doll