

MISSOURI PUBLIC SERVICE COMMISSION

STAFF REPORT

**NINTH PRUDENCE REVIEW OF COSTS
RELATED TO THE FUEL ADJUSTMENT CLAUSE
FOR THE ELECTRIC OPERATIONS
OF
THE EMPIRE DISTRICT ELECTRIC COMPANY,
d/b/a LIBERTY (EMPIRE)**

FILE NO. EO-2021-0281

September 1, 2019 through February 28, 2021

*Jefferson City, Missouri
August 31, 2021*

**** Denotes Confidential Information ****

***** Denotes Highly Confidential Information *****

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I. EXECUTIVE SUMMARY

The Missouri Public Service Commission (“Commission”) first authorized a Fuel Adjustment Clause (“FAC”) for The Empire District Electric Company, d/b/a Liberty (Empire) (“Liberty-Empire” or “Company”) in the Company’s 2008 general rate case (Case No. ER-2008-0093). Since then, the Commission has approved continuation of Liberty-Empire’s FAC with modifications in its orders in Liberty-Empire’s subsequent general rate cases, Case Nos. ER-2010-0130, ER-2011-0004, ER-2012-0345, ER-2014-0351, ER-2016-0023, and ER-2019-0374.

Commission Rule 20 CSR 4240-20.090(11) and Missouri Revised Statute Section 386.266.5(4) require that the Commission’s Staff (“Staff”) conduct prudence reviews of an electric utility’s FAC no less frequently than every 18 months. In this ninth prudence review of Liberty-Empire’s FAC for the period September 1, 2019 through February 28, 2021, Staff analyzed items affecting Liberty-Empire’s total fuel costs, purchased power costs, net emission costs, transmission costs, off-system sales revenues, and interest for the twenty-third, twenty-fourth, and twenty-fifth six-month accumulation periods of Liberty-Empire’s FAC. Staff’s previous Liberty-Empire FAC prudence reviews are listed in Table 1:

Table 1

Prudence Review	File Number	Review Period
First	EO-2010-0084	September 1, 2008 through August 31, 2009
Second	EO-2011-0285	September 1, 2009 through February 28, 2011
Third	EO-2013-0114	March 1, 2011 through August 31, 2012
Fourth	EO-2014-0057	September 1, 2012 through February 28, 2013
Fifth	EO-2015-0214	March 1, 2013 through February 28, 2015
Sixth	EO-2017-0065	March 1, 2015 through August 31, 2016
Seventh	EO-2018-0244	September 1, 2016 through February 28, 2018
Eighth	EO-2020-0059	March 1, 2018 through August 31, 2019

In evaluating prudence, Staff reviews whether a reasonable person making the same decision would find both the information the decision-maker relied on and the process the decision-maker employed were reasonable based on the circumstances at the time the decision was made, *i.e.*, without the benefit of hindsight. Instead, the review evaluates the decision in light of the reasonableness of the information the decision-maker relied on and the decision-making process the decision-maker employed. If either the information relied upon or the decision-making process employed was imprudent, then Staff examines whether the imprudent decision caused any harm to ratepayers. Only if an imprudent decision resulted in harm to ratepayers, will Staff recommend a refund. However, if an imprudent decision did not result in harm to the Company's customers, then Staff may further evaluate the decision-making process, and may recommend changes to the Company's business practice going forward.

Staff analyzed a variety of items in examining whether Liberty-Empire prudently incurred the fuel and purchased power costs associated with its FAC tariff sheets. Based on its review, Staff identified no incidence or evidence of imprudence by Liberty-Empire in the items Staff examined for the period of September 1, 2019 through February 28, 2021.

Table 2 identifies Liberty-Empire's Commission-approved FAC tariff sheets¹ which were applicable for service provided by Liberty-Empire to its customers during the period of September 1, 2019 through February 28, 2021 including the tariff sheets applicable to calculation of the Fuel Adjustment Rates² ("FAR") for the twenty-third, twenty-fourth, and twenty-fifth accumulation period ("AP")³ covered by the Fuel and Purchase Power Adjustment Clause Rider FAC for the same period:

Table 2

September 1, 2019 through September 15, 2020	September 16, 2020 through February 28, 2021
Original Sheet No. 17	Original Sheet No. 17i
Original Sheet No. 17a	Original Sheet No. 17j
Original Sheet No. 17b	Original Sheet No. 17k
Original Sheet No. 17c	Original Sheet No. 17l
Original Sheet No. 17d	Original Sheet No. 17m
Original Sheet No. 17e	Original Sheet No. 17n
Original Sheet No. 17f	Original Sheet No. 17o
Original Sheet No. 17g	Original Sheet No. 17p
8th Revised Sheet No. 17ac	1st Revised Sheet No. 17q
	2nd Revised Sheet No. 17q

Staff Expert/Witness: Brooke Mastrogianis

¹ Original Sheet No. 17u through 17ab were also effective during this Review Period. However, they were cancelled September 16, 2020 and replaced with Original Sheet No. 17a through 17g to update the Company name to "The Empire District Electric Company, d.b.a Liberty".

² Fuel Adjustment Rate Filings, File Nos. ER-2020-0311, ER-2021-0097 and ER-2021-0332.

³ Accumulation periods: AP 23; September 2019 – February 2020, AP 24; March 2020 – August 2020, and AP 25; September 2020 – February 2021.

II. INTRODUCTION

A. Prudence Standard

In *State ex rel. Associated Natural Gas Co. v. Public Service Com'n of State of Mo.*, the Western District Court of Appeals stated the Commission defined its prudence standard as follows:

[A] utility's costs are presumed to be prudently incurred.... However, the presumption does not survive “a showing of inefficiency or improvidence... [W]here some other participant in the proceeding creates a serious doubt as to the prudence of expenditure, then the applicant has the burden of dispelling these doubts and proving the questioned expenditure to have been prudent.

In the same case, the PSC noted that this test of prudence should not be based upon hindsight, but upon a reasonableness standard: [T]he company's conduct should be judged by asking whether the conduct was reasonable at the time, under all the circumstances, considering that the company had to solve its problem prospectively rather than in reliance on hindsight. In effect, our responsibility is to determine how reasonable people would have performed the tasks that confronted the company.

954 S.W.2d 520, 528-29 (Mo. App. W.D., 1997) (citations omitted).

In reversing the Commission decision in that case, the Court did not criticize the Commission's definition of prudence, but held, in part, that to disallow a utility's recovery of costs from its customers based on imprudence, the Commission must determine the detrimental impact of that imprudence on the utility's customers, *Id.* at 529-30. This is the prudence standard Staff has followed in this review.

Staff Expert/Witness: Brooke Mastrogiannis

B. General Description of Liberty-Empire's FAC

Liberty-Empire's FAC requires that it accumulate its Total Energy Cost (“TEC”)⁴; defined generally as variable fuel, purchased power, transmission and net emissions costs less

⁴ Total Energy Costs are equal to fuel costs (FC) plus costs of purchased power (PP) plus net emissions allowances (E) minus off-system sales revenue (OSSR) minus renewable energy credits (REC) as defined on Liberty-Empire's Original Sheet No. 17o (For service on and after September 16, 2020).

1 off-system sales revenue and renewable energy credit revenue during the six-month
2 accumulation periods. Each six-month accumulation period is followed by a six-month
3 recovery period (“RP”)⁵ during which ninety-five percent (95%) of the over- or under-recovery
4 of TEC during the previous six-month accumulation period relative to the Base Energy Cost
5 (“B”) amount⁶ is returned to or collected from customers as part of a decrease or an increase of
6 the FAC Fuel and Purchased Power Adjustment (“FPA”) per kWh rate, which is the FAR
7 for each accumulation period. Because the total amount charged through the FAR rarely,
8 if ever, will exactly match the required offset, Liberty-Empire’s FAC is designed to true-up⁷
9 the difference between the revenues billed and the revenues authorized for collection during
10 recovery periods including interest at Liberty-Empire’s short-term interest rate. Any
11 disallowance the Commission orders as a result of a FAC prudence review shall include interest
12 at Liberty-Empire’s short-term interest rate and will be accounted for as an adjustment⁸ item
13 when calculating the FPA for a future recovery period.

14 *Staff Expert/Witness: Brooke Mastrogiannis*

15 **C. Staff Review and Reconciliation of FERC Accounts**

16 Staff has reviewed all Federal Energy Regulatory Commission (“FERC”) accounts
17 related to Liberty-Empire’s FAC for this review period. FERC accounts subject for this FAC
18 review are 411 Gains and Losses from Disposition of Allowances, 447 Sales for Resale,
19 456 Other Electric Revenues, 501 Fuel, 506 Air Quality Control Systems (“AQCS”),
20 509 Allowances, 547 Fuel, 555 Purchased Power, and 565 Transmission by Others.

21 Staff created independent work papers that are based on three separate sources provided
22 by Liberty-Empire, as further explained below. These work papers were created to review and
23 reconcile the FERC Accounts in Table 3 below and included in the calculation of the
24 components of the TEC presented in Tables 5 (A) and 5 (B).

⁵ Recovery periods are: June through November for each immediately preceding September through February accumulation period; and December through May for each immediately preceding March through August accumulation period.

⁶ “Base Energy Cost” (B) as defined on Liberty-Empire’s Original Sheet No. 17i (For service on and after September 16, 2020).

⁷ True-up of FAC is defined on Liberty-Empire’s Original Sheet No. 17o and 17p (For service on and after September 16, 2020).

⁸ See line item 10 on Liberty-Empire’s 1st Revised Sheet No. 17q (For service on and after September 16, 2020).

Liberty-Empire provided its monthly General Ledger to Staff through its response to Staff Data Request No. 0027, which provided the detail of all accounting transactions for the expenses and revenues encompassed in the TEC in Tables 5 (A) and 5 (B). Staff sorted the General Ledger by each account reflected in the FERC Accounts listed in Table 3:

Table 3

Account Name	FERC Account Number
Fuel used for Steam	501
AQCS Consumables	506
Fuel/Natural Gas	547
Short-Term Purchased Power Costs	555
Long-Term Purchased Power Contracts	555
Transmission Expense	565
Net Emission Allowances	411 and 509
REC Revenue	456
Off System Sales Revenue	447

Staff sorted these transactions in ascending order by the corresponding Minor account number assigned to each Major account number listed in Table 3.

The transactions and totals for each FERC account by month and year from the General Ledger were compared to the accounts included in the TEC Monthly Reports and FAC FAR filings. In addition to verifying that the total dollar amounts from these three accounting sources are equal, Staff reviewed expense and revenue transactions to identify any unusual dollar amounts, improperly categorized amounts, or categories of cost or revenue, which are not allowed in the FAC's definition of TEC.

Staff Expert/Witness: Brooke Mastrogiannis

D. Staff Review of Ordinary FAC Costs

In the FAC FAR filing for Accumulation Period 25, Case No. ER-2021-0332⁹, covering the six-month period of September 2020 through February 2021, Liberty-Empire requested to defer \$168,720,211 of extraordinary costs associated with the February 2021 cold weather event ("Storm Uri"). Company witness Charlotte T. Emery's direct testimony in that filing explained

⁹ Filed April 1, 2021.

1 that Storm Uri caused record snowfall and extremely cold temperatures, which affected market
2 prices of fuel and fuel availability. Ms. Emery further stated that natural gas and market prices
3 rose to unprecedented levels, much higher than budgeted levels, and Liberty-Empire actually
4 incurred an average energy cost of \$99.24/MWh, which was about 324.5 percent more than the
5 current base factor of \$23.38/MWh.¹⁰ The requested deferral of costs was Liberty-Empire's
6 effort to prevent charging customers a substantial rate increase by deferring high costs that
7 would have been included in the FAR filing for Accumulation Period 25, and instead include
8 the high costs for consideration in a subsequent Liberty-Empire general rate case, or other type
9 of application. Potential recovery of the deferred costs through a different means than through
10 a Liberty-Empire FAR filing would allow the opportunity to "spread" recovery of the costs out
11 over a longer period than otherwise would be possible using the standard FAR methodology.
12 The requested deferral of costs was also pursuant to Commission Rule 20 CSR 4240-
13 20.090(8)(A)2.A.(XI) which directs that tariff sheet(s) filed to change fuel adjustment rates
14 include certain information, including, "For the period of historical costs which are being
15 used to propose the fuel adjustment rates... Extraordinary costs not to be passed through, if any,
16 due to such costs being an insured loss, or subject to reduction due to litigation or for any
17 other reason."

18 On May 26, 2021, the Commission approved a substitute tariff sheet that was filed
19 on May 25, 2021, to become effective June 1, 2021. The substitute tariff sheet reflected a
20 reduction for deferred costs of \$168,720,211 and reflected current period Fuel Adjustment
21 Rates of \$0.0000.

22 Table 4 below, created by Staff, reflects the deferred costs allocation percentages that
23 were based on February 2021 FAC recoverable costs, in addition to the original FAR
24 costs/revenues for the review period, as well as the revised costs and revenues for the period
25 reduced for the deferred costs. This table is only an estimation of all the accounts, by
26 sub-account, which were impacted by this deferral. However, the deferred costs of
27 \$168,720,211 are not subject to this prudence review. It is Staff's current understanding that
28 Liberty-Empire is seeking to securitize these costs in its application in Case No. EO-2022-0040;
29 if approved, these deferred costs would be subject to review in that case.

¹⁰ Charlotte T. Emery's Direct Testimony page 8, filed on April 1, 2021.

1

Table 4

FAR FILING COMPONENTS			% of total Feb 2021	Allocation of deferred	Original Sept 19--Feb 21	Reduced Sept 19--Feb 21
FAR--Generation	Account #	Feb 2021 FAR Costs	FAR Costs	168,720,211.25	before deferral reduction	after deferral reduction
Fuel - Coal	501042	1,454,787.01	0.6677%	1,126,508.82	32,420,185	31,293,676.18
Fuel - Oil	501045	66,391.59	0.0305%	51,410.08	818,229	766,818.92
Sales Of Ash	501183	0.00	0.0000%	0.00	(32,067)	(32,067.00)
Ops Mtl's-Fuel Handling	501401	5,732.73	0.0026%	4,439.12	230,524	226,084.88
Total 501 accounts		1,526,911.33	0.7008%	1,182,358.01	33,436,871	32,254,512.99
Combust Turb Fuel Natural Gas	547210	131,489,118.03	60.3473%	101,818,101.23	212,438,104	110,620,002.77
Fuel - No 2 Oil Fuel	547213	7,945,141.94	3.6464%	6,152,290.61	10,441,443	4,289,152.39
NonFAS133 Deriv (Gain)/Loss	547301	160,000.00	0.0734%	123,895.39	2,296,000	2,172,104.61
Fuel Adm E Traders Commission	547607	0.00	0.0000%	0.00	4,494	4,494.00
Total 547 accounts		139,594,259.97	64.0672%	108,094,287.24	225,180,041	117,085,753.76
Direct Purchases	555430	3,279,575.25	1.5052%	2,539,526.69	71,831,592	69,292,065.31
Total Fuel Costs		144,400,746.55	66.2731%	111,816,171.94	330,448,504.00	218,632,332.06
FAR removal of Pipeline Res Charges	547210	(497,335.34)	-0.2283%	(385,109.74)	(9,000,978)	(8,615,868.20)
FAR removal of Capacity Charges	555430	(976,297.51)	-0.4481%	(755,992.28)	(17,343,638)	(16,587,645.82)
FAR--Generation		142,927,113.70	65.5968%	110,675,069.92	304,103,887.96	193,428,818.04
FAR---Fuel - AQCS						
Limestone Expense	506201	14,012.25	0.0064%	10,850.33	246,842	235,991.67
Ammonia Expense	506202	8,083.88	0.0037%	6,259.72	170,106	163,846.28
Powder Activated Carbon	506203	7,889.85	0.0036%	6,109.48	118,761	112,651.52
Lime Expense	506204	12,120.84	0.0056%	9,385.73	233,649	224,263.27
Total 506 accounts		42,106.82	0.0193%	32,605.26	769,358	736,752.74
Ammonia Expense	548202	41,679.32	0.0191%	32,274.22	552,298	520,023.78
FAR---Fuel - AQCS		83,786.14	0.0385%	64,879.48	1,321,656.00	1,256,776.52
FAR-- Native Load Cost						
DA Asset Energy Purchase	555800	134,924,063.51	61.9238%	104,477,938.27	155,916,662.33	51,438,724.06
DA NonAsset Energy Purchase	555810	0.00	0.0000%	0.00	1,125,878.18	1,125,878.18
DA Virtual Energy Purchase	555820	0.00	0.0000%	0.00	302,061.75	302,061.75
DA Reg Up Cost	555840	363,536.55	0.1668%	281,503.15	709,895.36	428,392.21
DA Reg Down Cost	555850	39,853.10	0.0183%	30,860.10	158,357.54	127,497.44
DA Spin Reserve Cost	555860	745,673.85	0.3422%	577,409.73	1,209,333.30	631,923.57
DA Supp Reserve Cost	555870	427,452.58	0.1962%	330,996.29	538,380.96	207,384.67
DA Other PP Expense	555880	26,027,761.85	11.9455%	20,154,498.95	27,722,522.30	7,568,023.35
RT Asset Energy Purchase	555900	4,597,995.72	2.1103%	3,560,440.60	11,169,334.67	7,608,894.07
RT Virtual Energy Purchase	555920	2,504.60	0.0011%	1,939.43	419,037.64	417,098.21
RT Reg Up Cost	555940	1,032,209.72	0.4737%	799,287.69	1,762,364.65	963,076.96
RT Reg Down Cost	555950	129,729.45	0.0595%	100,455.51	903,411.33	802,955.82
RT Spin Reserve Cost	555960	734,607.88	0.3372%	568,840.83	1,032,404.02	463,563.19
RT Supp Reserve Cost	555970	202,228.64	0.0928%	156,594.98	210,714.87	54,119.89
RT Other PP Expense	555980	(6,771,033.61)	-3.1076%	(5,243,124.27)	(7,988,727.19)	(2,745,602.92)
TCR Settlements	555990	(2,353,646.29)	-1.0802%	(1,822,537.10)	(11,477,687.02)	(9,655,149.92)
Auction Revenue Rights	555995	(531,754.36)	-0.2441%	(411,761.98)	(2,057,492.80)	(1,645,730.82)
FAR-- Native Load Cost		159,571,183.19	73.2356%	123,563,342.18	181,656,451.89	58,093,109.71
FAR--Transmission Costs						
SPP Fixed Chg - Native Load	565414	263,427.51	0.1209%	203,984.10	5,000,145.92	4,796,161.82
Non SPP Fixed Chg - Native Load	565416	135,355.25	0.0621%	104,811.83	2,904,182.43	2,799,370.60
Total FAR - Transmission Costs		398,782.76	0.1830%	308,795.92	7,904,328.35	7,595,532.42
FAR--EDE Sales (OSSR)						
SPP IM Rev	447850	(85,089,899.45)	-39.0523%	(65,889,041.81)	(114,624,350.00)	(48,735,308.19)
Bilateral/Off Line Aux Rev	447860	(3,660.42)	-0.0017%	(2,834.43)	(53,845.00)	(51,010.57)
FAR--EDE Sales (OSSR)		(85,093,559.87)	-39.0539%	(65,891,876.25)	(114,678,195.00)	(48,786,318.75)
Total Deferred Costs & Reduced Costs		217,887,305.92	100%	168,720,211.25	380,308,129.20	211,587,917.95

2

Staff created Tables 5 (A), 5 (B), 8 (A), and 8 (B) on pages 10 through 17 below, which are only an estimation of all the accounts, by subaccount, which were impacted by this deferral. Table 5 (A) reflects Total Energy Costs for the review period, including the \$168,720,211 costs that were approved to be deferred, while Table 5 (B) reflects the reduced energy costs after removal of the \$168,720,211 deferral. Likewise, Table 8 (A) reflects Total Fuel Costs for the review period, including the \$168,720,211 costs that were approved to be deferred, while Table 8 (B) reflects the reduced fuel costs after removal of the \$168,720,211 deferral.

Staff Expert/Witness: Brooke Mastrogiannis

E. Staff Regulatory Accounting Summary

Staff analyzed the TEC based on the transactions in the FERC accounts related to the calculation of the TEC from three different sources: the General Ledger, the Monthly Reports, and the FAR work papers provided by Liberty-Empire. Staff analyzed, reviewed and was able to reconcile these three individual sources to each other based on the individual line items categorized by FERC Accounts that captured Fuel Costs, Costs of Purchased Power, and Off-System Sales Revenues for the TEC.

Staff Expert/Witness: Lisa Wildhaber

F. Participation with Regional Transmission Organizations

As part of this review, Staff reviewed Liberty-Empire's participation in Regional Transmission Organizations (RTOs). Liberty-Empire participates in Southwest Power Pool¹¹ ("SPP"). Staff reviewed a wide variety of Liberty-Empire's practices and procedures related to SPP. Liberty-Empire directly participates in SPP's Day Ahead Market and Real-time Market. At a high level, these markets allow Liberty-Empire to offer-in and - if cleared in the market - to sell the energy it generates to SPP. In turn, Liberty-Empire must purchase back from SPP the energy needed to serve its native load. The practices and procedures related to these transactions are highly technical and complex. Liberty-Empire was required to develop specialized front

¹¹ SPP is a regional transmission organization that provides electric power across all or parts of 14 U.S. states. SPP assures consumers have an unbiased regional grid management and open access to the transmission facilities under SPP's functional supervision.

1 and back office¹² practices and procedures to manage the large amounts of data associated with
2 its market participation. Liberty-Empire utilizes specialized software¹³ to manage key
3 components of the bid-to-settlement trading cycle and analysis modes for the Day-Ahead
4 Market and Real-time Market bidding. These processes and software include robust capabilities
5 for settling and disputing a wide range of market transactions. Liberty-Empire uses this
6 software to verify and shadow complex RTO charge codes and invoices and to customize
7 contract settlements.

8 As a result of Staff's understanding and experience with these practices and processes,
9 Staff found that Liberty-Empire is managing its participation in these markets effectively and
10 maintains appropriate procedures and processes to account for the financial and operational
11 results of participation in SPP. During the Review Period, there were no instances of recovery
12 for penalties associated with SPP services.

13 *Staff Expert/Witness: Cynthia M. Tandy*

14 **III. TOTAL ENERGY COSTS**

15 The Liberty-Empire FAC definition of Total Energy Costs includes three components
16 of costs – fuel costs (“FC”), costs of purchased power (“PP”) and net emissions allowance costs
17 (“E”), and two components of revenue – off-system sales revenues (“OSSR”) and Renewable
18 Energy Credit Revenues (“REC”). Table 5 (A)¹⁴ and 5 (B) is a breakdown of Liberty-Empire's
19 fuel costs, costs of purchased power, net emissions allowance costs, off-system sales
20 revenues and renewable energy credit revenues for the period of September 1, 2019 through
21 February 28, 2021:

¹² Front Office: A blanket term that refers to the portion of a company that deals with outside entities in its daily functions of buying, selling and trading of energy. Back Office: A blanket term that refers to the portion of a company made up of administration, accounting and settlement functions in support of the selling, buying and trading of energy.

¹³ Adapt2 Solution was implemented in 2018 and replaced the previous software PCI.

¹⁴ Table 5 (A) reflects Total Energy Costs for this review period and does not reflect the removal of extraordinary costs deferred from Accumulation Period 25, as noted in Section II.D of this report. Table 5 (B) reflects Total Energy Costs reduced for the removal of deferred extraordinary costs.

Table 5 (A)

Component		Summary
Generation	(FC)	\$ 302,000,717
Fuel - AQCS	(FC)	\$ 1,321,653
Native Load Costs	(PP)	\$ 181,656,452
Transmission Costs	(PP)	\$ 7,904,328
Net Emission Allowances	(E)	\$ (4)
EMPIRE Sales	(OSSR)	\$ (114,678,196)
Renewable Energy Credit Revenues	(REC)	\$ (445,753)
Total Energy Cost	(TEC)	\$ 377,759,197

Table 5 (B)

Component		Summary
Generation	(FC)	\$ 191,325,642
Fuel - AQCS	(FC)	\$ 1,256,777
Native Load Costs	(PP)	\$ 58,093,110
Transmission Costs	(PP)	\$ 7,595,532
Net Emission Allowances	(E)	\$ (4)
EMPIRE Sales	(OSSR)	\$ (48,786,319)
Renewable Energy Credit Revenues	(REC)	\$ (445,753)
Total Energy Cost	(TEC)	\$ 209,038,985

Staff Expert/Witness: Lisa Wildhaber

A. Fuel Risk Management Policy

1. Description

In Case No. ER-2019-0374 Staff witness Brad J. Fortson stated in his Supplemental Testimony¹⁵,

** [REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

¹⁵ Filed on May 6, 2020, page 3, line 20 through page 4, line 6.

1 [REDACTED]
2 [REDACTED]
3 [REDACTED]
4 [REDACTED]
5 [REDACTED]
6 [REDACTED]
7 [REDACTED]
8 [REDACTED]
9 [REDACTED] **

10 Based on Mr. Fortson's testimony, Staff is providing a more thorough review of
11 Liberty-Empire's new gas hedging policy below.

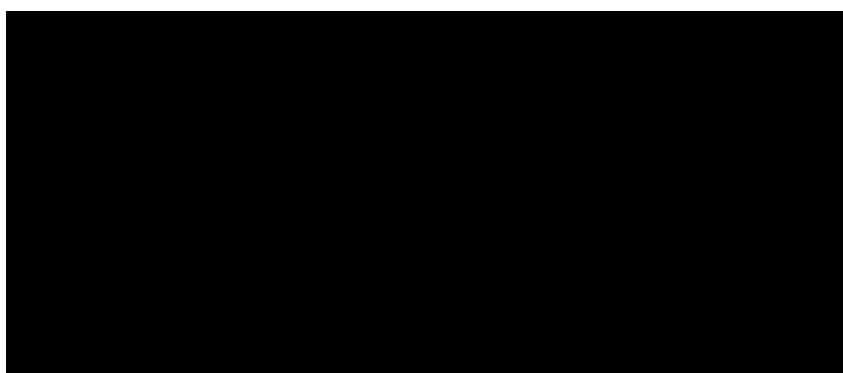
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13 [REDACTED]
14 [REDACTED]
15 [REDACTED]
16 [REDACTED]
17 [REDACTED]
18 [REDACTED]
19 [REDACTED]
20 [REDACTED] ¹⁶ **

21 *** [REDACTED]
22 [REDACTED]
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28 [REDACTED]
29 [REDACTED]

¹⁶ Data Request Response 0070.

1 [REDACTED] 17 [REDACTED]
2 [REDACTED]
3 [REDACTED]
4 [REDACTED]
5 [REDACTED]
6 [REDACTED]
7 [REDACTED]
8 [REDACTED]
9 [REDACTED]
10 [REDACTED] 18
11 [REDACTED]
12 [REDACTED]
13 [REDACTED]
14 [REDACTED]
15 [REDACTED] 19
16 [REDACTED]
17 [REDACTED]
18 [REDACTED]
19 [REDACTED] ***

Table 6 - Highly Confidential

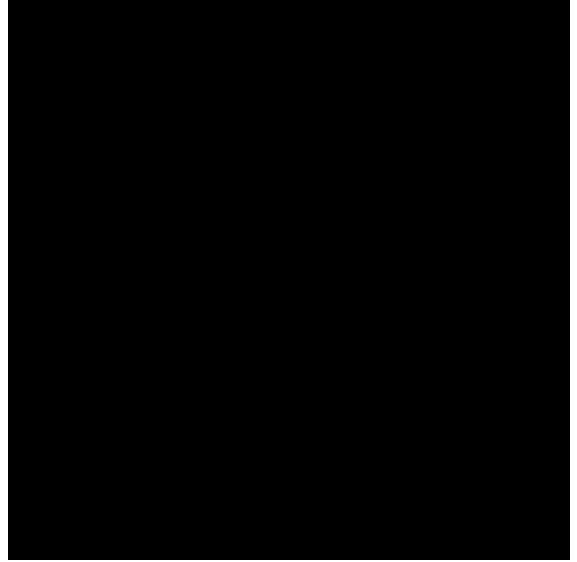
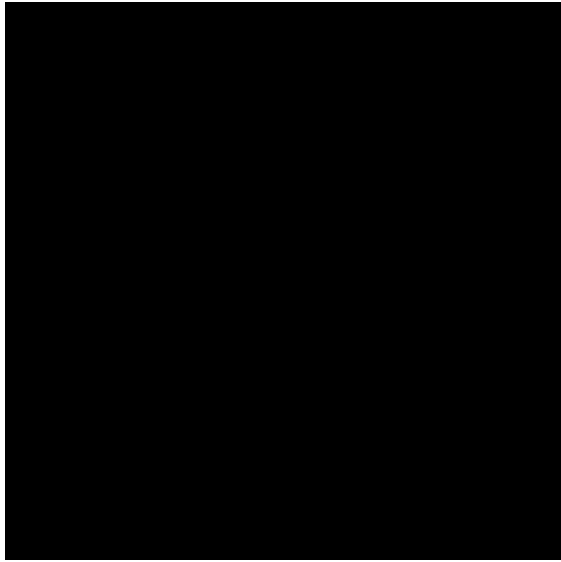


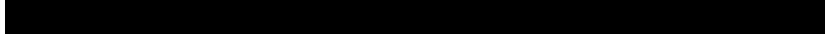
¹⁷ Data Request Response 0028, 0070.2, and 0070.5.

¹⁸ Data Request Response 0070.2.

¹⁹ Data Request Response 0070.

Table 7 - Highly Confidential





1 [REDACTED]
2 [REDACTED]
3 [REDACTED]
4 [REDACTED]
5 [REDACTED]
6 [REDACTED]
7 [REDACTED]
8 [REDACTED]
9 [REDACTED]²⁰ [REDACTED]
10 [REDACTED]
11 [REDACTED]
12 [REDACTED]
13 [REDACTED]²¹ ***
14 The Company has stated in response to Staff Data Request No. 0070.4,
15 ** [REDACTED]
16 [REDACTED]
17 [REDACTED]
18 [REDACTED]
19 [REDACTED]
20 [REDACTED]
21 [REDACTED]
22 [REDACTED]
23 [REDACTED]
24 [REDACTED]
25 [REDACTED]
26 [REDACTED]
27 [REDACTED]
28 [REDACTED]
29 [REDACTED]
30 [REDACTED]
31 [REDACTED]**

²⁰ IFERC stands for “Inside FERC” and they are the main postings for daily natural gas.

²¹ Data Request Response 0070.3.

Staff has reviewed the new policy along with extensive data provided by Liberty-Empire including prices paid per DTh for both the fixed physical purchases and monthly index purchases as compared to the SSC-GDD. Staff has also reviewed prices paid per DTh during this review period under the new policy as compared to a 6-year average price per DTh under the Legacy policy. Even though market conditions and exposures changed, and the sample size is not as large to review since this new RMP has only been in place since August 2019, Staff is of the opinion that Liberty-Empire's new RMP does help mitigate risk and volatility for their natural gas hedging.

2. Summary of Cost Implications

If Liberty-Empire does not manage its risk management strategies prudently, fuel costs that are collected from customers through Liberty-Empire's FAC could be increased.

3. Conclusion

Staff did a thorough review of Liberty-Empire's risk management strategies and the provided financial results of its natural gas hedging associated with Liberty-Empire's past policy and practices. Staff did not find any imprudent actions on the part of Liberty-Empire in the administration, under past policies and practices, of its risk management strategies during the review period. Staff reviewed the changes Liberty-Empire made to its processes and procedures related to natural gas purchases, specifically transitioning from financial hedging instruments to fixed physical purchases and monthly index physical purchases. Although market conditions could change, which could result in an updated RMP, and even though Liberty-Empire does not record hedging losses or gains as a financial hedge in the general ledger under the new RMP, Staff did not find any prudence issues with Liberty-Empire's new policy and practices during this review period.

4. Documents Reviewed

a. Liberty-Empire's response to Staff Data Request Nos. 0028, 0028.1, 0045, 0070, 0070.1, 0070.2, 0070.3, 0070.4, 0070.5, and 0070.6; and,

b. Emails and phone conversations with Aaron Doll.

Staff Expert/Witness: Brooke Mastrogiannis

B. Fuel Costs (Coal Plants)

1. Description

Liberty-Empire is required to account for fuel costs contained within FERC²² Account 501 used in the production of steam for the generation of electricity per its Fuel Adjustment Rider Tariff. Staff reviewed Liberty-Empire's fuel costs associated with Liberty-Empire's generation facilities, which are comprised of coal and natural gas generation units. Staff has summarized these fuel costs in Table 8 (A)²³ and 8 (B):

Table 8 (A)

Fuel Cost (Coal Plants)	For the Period September 2019 through February	Total
Fuel - Coal	\$ 32,191,991	12.27%
Fuel - Tires	\$ -	0.00%
Operations Fuel Handling	\$ 2,339,174	0.89%
Total Fuel Costs (Coal Plants)	\$ 34,531,165	13.16%
Fuel Cost Oil		
Fuel - Oil	\$ 11,347,980	4.32%
Total Fuel Costs Oil	\$ 11,347,980	4.32%
Fuel Costs (Additives)		
Limestone	\$ 480,490	0.18%
Ammonia	\$ 722,403	0.28%
Powdered Activated Carbon	\$ 118,760	0.05%
Total Fuel Costs (Additives)	\$ 1,321,653	0.50%
Fuel Cost (Natural Gas Plants)		
Natural Gas	\$ 203,850,706	77.67%
Natural Gas Transportation and Storage	\$ 12,900,754	4.92%
Natural Gas Transportation Credits	\$ (3,790,368)	-1.44%
(Gain)/Loss on Hedging	\$ 2,296,000	0.87%
Fuel Costs (Natural Gas Plants)	\$ 215,257,092	82.02%
Total Fuel Costs	\$ 262,457,890	100.00%

²² Federal Energy Regulatory Commission, Uniform System of Accounts ("FERC Account").

²³ Table 8 (A) reflects Total Fuel Costs for the review period and does not reflect the removal of extraordinary costs deferred from Accumulation Period 25, as noted in Section II.D of this report. Table 8 (B) reflects Total Fuel Costs reduced for the removal of deferred extraordinary costs.

Table 8 (B)

	For the Period September 2019 through February	Total
Fuel Cost (Coal Plants)		
Fuel - Coal	\$ 31,065,482	20.24%
Fuel - Tires	\$ -	0.00%
Operations Fuel Handling	\$ 2,334,735	1.52%
Total Fuel Costs (Coal Plants)	\$ 33,400,217	21.76%
Fuel Cost Oil		
Fuel - Oil	\$ 5,144,279	3.35%
Total Fuel Costs Oil	\$ 5,144,279	3.35%
Fuel Costs (Additives)		
Limestone	\$ 460,254	0.30%
Ammonia	\$ 683,869	0.45%
Powdered Activated Carbon	\$ 112,651	0.07%
Total Fuel Costs (Additives)	\$ 1,256,774	0.82%
Fuel Cost (Natural Gas Plants)		
Natural Gas	\$ 102,032,605	66.47%
Natural Gas Transportation and Storage	\$ 13,431,936	8.75%
Natural Gas Transportation Credits	\$ (3,936,440)	-2.56%
(Gain)/Loss on Hedging	\$ 2,172,105	1.42%
Fuel Costs (Natural Gas Plants)	\$ 113,700,205	74.07%
Total Fuel Costs	\$ 153,501,475	100.00%

For the review period, \$32,191,991 or 12.27%²⁴ of Liberty-Empire's total fuel costs were associated with the generation of electricity from its coal-fired generation facilities. During the review period Liberty-Empire generated 26.6% of its electricity with its coal-fired generation facilities and burned ** [REDACTED] **, tons of coal which translates to an average price of ** [REDACTED] ** per ton including transportation/freight and other rail charges. Staff reviews public sources in an effort to determine the reasonableness of prices paid by Liberty-Empire for its coal supply. Staff monitors U.S. Energy Information Administration ("EIA") and CME Group for past and future market prices, supply forecasts and other

²⁴ The coal costs and percentage of total fuel costs do not reflect the removal of extraordinary costs deferred from Accumulation Period 25, as noted in Section II.D of this report. Liberty-Empire's total coal costs after reduction for the deferral is \$31,065,482 or 20.24% of total fuel costs.

market trends.²⁵ Staff finds that the prices paid by Liberty-Empire appear to be within current market prices in effect during the review period.

Also contained within FERC Account 501 and reviewed during this review is fuel oil. The total fuel oil costs for the review period was \$11,347,980²⁶. The fuel oil burned only accounts for about 1.06% or ** [REDACTED] ** kWh of total kWhs generated. Fuel oil is used as a support fuel (startup and/or burn stabilization) in the production of steam with the coal and natural gas fired generation facilities.

Liberty-Empire maintains ** [REDACTED] ** short and long-term coal purchase contracts, and ** [REDACTED] ** rail transportation contract. The counterparties for the contracts are shown below in Table 9:

Table 9 – Confidential

**



**

Staff reviewed Liberty-Empire's 2019 Energy Risk Management Policy that was in effect during the review period. Staff has also reviewed Liberty-Empire's Solid Fuel

²⁵ EIA Quarterly Coal Report, EIA Average Price of U.S. Coal, EIA Coal Markets 2021, CME Group Coal Futures Quotes.

²⁶ The fuel oil costs and kWh's generated do not reflect the removal of extraordinary costs deferred from Accumulation Period 25, as noted in Section II.D of this report. Liberty-Empire's total fuel oil costs after reduction for the deferral is \$5,144,279.

Procurement Guidelines and concludes that Liberty-Empire has complied with its stated objectives.

2. Summary of Cost Implications

If Liberty-Empire was imprudent in its purchasing decisions relating to the purchase of coal and transportation, customer harm could result from such imprudence through an increase in Liberty-Empire customer FAC charges.

3. Conclusion

Staff identified no imprudence by Liberty-Empire in its purchase of coal and transportation contained in FERC Account 501 for the prudence review period.

4. Documents Reviewed

a. Liberty-Empire's response to Staff Data Request Nos. 0001, 0002, 0007, 0008, 0009, 0016, 0023, 0024, 0025, 0027, 0030, 0033, 0034, 0035, 0036, 0037, 0039, 0039.1, 0044, 0045, 0053, 0067, 0067.1, 0068, 0069, 0074 and 0074.1; and,

b. Market research: <https://www.eia.gov> and <http://www.cmegroup.com>.

Staff Expert/Witness: Lisa Wildhaber

C. Air Quality Control Systems ("AQCS") Chemicals

1. Description

For the review period, \$1,321,653, or .50%,²⁷ of Liberty-Empire's total fuel costs is associated with FERC Account 506. This account includes expenses associated with AQCS materials used to reduce emissions as a result of burning fossil fuels in Liberty-Empire's generation facilities.

2. Summary of Cost Implications

If Staff determined that Liberty-Empire was imprudent in its purchasing decisions relating to AQCS materials costs, customer harm could result from that imprudence by an increase in FAC charges.

²⁷ The AQCS costs and percentage of total fuel costs do not reflect the removal of extraordinary costs deferred from Accumulation Period 25, as noted in Section II.D of this report. Liberty-Empire's total AQCS costs after reduction for the deferral is \$1,256,774 or \$.82% of total fuel costs.

3. Conclusion

Staff found no evidence of imprudence associated with Liberty-Empire's AQCS purchases for the prudence review period.

4. Documents Reviewed

a. Liberty-Empire's response to Staff Data Request Nos. 0001, 0002, 0013, 0027, 0053 and 0075.

Staff Expert/Witness: Lisa Wildhaber

D. Fuel Costs (Natural Gas Plants)

1. Description

Liberty-Empire accounts for the natural gas and natural gas transportation capacity costs used in its generation facilities in FERC Account 547. For the review period, \$215,257,092, or 82%,²⁸ of Liberty-Empire's total fuel costs is associated with FERC Account 547. The total natural gas cost recorded in FERC Account 547 is comprised of several components. The natural gas commodity cost is \$203,850,706 with transportation costs of \$12,900,754, transportation credits of \$3,790,368 and natural gas hedging expense (gains)/losses²⁹ of \$2,296,000. Page 10, Section III.A of this report addresses the change to Liberty-Empire's hedging policies and the resulting loss issue.

Liberty-Empire's natural gas generation facilities are combustion turbine generators ("CTGs") and combined cycle ("CC") units (*see* Table 10). Liberty-Empire's CTGs are used as peaking units which means they are used generally when demand for electricity increases to a point baseload units cannot meet that demand. Liberty-Empire's Stateline CC by nature is more efficient than the CTG units in Liberty-Empire's generation fleet, and, therefore, less expensive to operate. During the review period, Liberty-Empire's CTGs consumed

²⁸ The natural gas total cost, percentage, and breakdown of natural gas costs do not reflect the removal of extraordinary costs deferred from Accumulation Period 25, as noted in Section II.D of this report. Liberty-Empire's total natural gas costs after reduction for the deferral is \$113,700,205 or 74.07% of total fuel costs.

²⁹ These losses were initiated from the legacy policy and they are derived from the futures and swaps purchase value as compared to the actual natural gas market price value once the volumes were expired. Losses occur when actual market prices are lower than the futures and swaps purchases, and gains occur when the actual market prices are higher than the futures and swaps purchases.

1 ** [REDACTED] ** million cubic feet³⁰ of natural gas which translates to an average of
2 ** [REDACTED] ** per MMBTU.

3 Southwest Power Pool (SPP) dispatches these units when needed in the market.
4 However, Liberty-Empire must still ensure these CTG's have adequate fuel to operate and are
5 maintained properly and reliably for when they are called upon by SPP.

6 The following table identifies Liberty-Empire's peaking generating units that burn
7 natural gas:

8 **Table 10**

Energy Center 1, 2, 3, and 4; Combustion Turbine
Riverton 10, 11, and 12; Combustion Turbine
State Line Unit 1; Combustion Turbine

9 **2. Summary of Cost Implications**

10 If Staff determined that Liberty-Empire was imprudent in its purchasing decisions
11 relating to natural gas commodity, reservation, transportation, storage, and hedging costs,
12 customer harm could result from that imprudence by an increase in FAC charges.

13 **3. Conclusion**

14 Staff observed no indication of imprudence associated with Liberty-Empire's natural
15 gas commodity purchases for the prudence review period. See Section III.A for a discussion of
16 Liberty-Empire's hedging practices.

17 **4. Documents Reviewed**

18 a. Liberty-Empire's response to Staff Data Request Nos. 0001, 0002, 0007, 0016,
19 0027, 0028, 0029, 0031, 0032, 0039, 0045, 0053, 0067, 0067.1, 0070, 0074 and 0074.1; and,

20 b. Market research: <https://www.eia.gov> and <https://www.cmegroup.com/>.

21 *Staff Expert/Witness: Lisa Wildhaber*

³⁰ The cubic feet of natural gas consumed and the average price per MMBTU do not reflect the removal of extraordinary costs deferred from Accumulation Period 25, as noted in Section II.D of this report.

E. FERC Account 555 - Purchased Power – Long Term Variable Contracts

1. Description

For the period September 1, 2019, through February 28, 2021, Staff reviewed the Renewable Resource Energy Purchase Power Agreement (“PPA”) by and between Elk River Windfarm, LLC (“Elk River PPA”) and Liberty-Empire, and Cloud County Wind Farm, LLC (“Cloud County PPA”)³¹ and Liberty-Empire. The Elk River PPA is a ** [REDACTED] ** that expires ** [REDACTED] ** and provides a capacity of ** [REDACTED] ** MW and energy purchases for the review period of ** [REDACTED] ** MWhs at a contract price of ** [REDACTED] ** per MWh during 2019 and ** [REDACTED] ** per MWh during 2020 and 2021 with a total cost of ** [REDACTED] ** and revenue associated with sales of ** [REDACTED] ** which resulted in a net ** [REDACTED] ** of ** [REDACTED] ** for the review period. The Cloud County PPA is a ** [REDACTED] ** that expires ** [REDACTED] ** and provides a capacity of ** [REDACTED] ** MW and energy purchases for the review period of ** [REDACTED] ** MWhs at a contract price of ** [REDACTED] ** per MWh for the Second-Half³² Contract Price with a total cost of ** [REDACTED] ** and revenue associated with sales of ** [REDACTED] ** which resulted in a net ** [REDACTED] ** of ** [REDACTED] ** for the review period.

Staff also reviewed for the review period the purchased power agreement between Plum Point Energy Associates, LLC (“Plum Point PPA”) and Liberty-Empire. The Plum Point PPA represents Liberty-Empire’s ownership interest in the generation facility sourced from the Plum Point coal-fired plant, with the delivery date of August 1, 2010. The Plum Point provides a capacity of ** [REDACTED] ** MW and energy purchases for the review period of ** [REDACTED] ** MWhs at a price of ** [REDACTED]³³ ** per MWh with a total cost of ** [REDACTED] ** and revenue associated with sales of ** [REDACTED] ** which resulted in a net ** [REDACTED] ** of ** [REDACTED] ** for the review period.

When Staff reviews PPAs for prudence it reviews transactions that occurred during the review period. Staff also considers the circumstances at the time these contracts are entered into

³¹ Liberty-Empire operates under the Cloud County Wind Farm purchased power agreement, however they refer to this PPA as “Meridian Way” under their monthly reporting since this contract purchases energy from their Meridian Wind Farm.

³² ** [REDACTED] **

³³ This price is calculated by taking the monthly Summary Fuel and Purchased Power reports and adding together the total Generation Cost and dividing that total by the total MWh’s.

1 between the parties. In the Direct Testimony of William L. Gipson in Case No. ER-2008-0093,
2 he describes the reasons securing long-term purchase power contracts attempts to mitigate
3 energy and fuel price risk:

4 Q. WITH REGARD TO THE FAC, IS EMPIRE
5 UNDERTAKING ANY STEPS TO MITIGATE THE
6 INCREASES IN FUEL COSTS, ESPECIALLY NATURAL
7 GAS?

8 A. Yes. Empire is working to control the volatility
9 associated with fuel costs through the use of a natural gas hedging
10 program which has been in place since 2001. In addition, Empire
11 began receiving wind energy from the Elk River Wind Farm in
12 October 2005, and Empire has recently signed a contract with
13 Horizon Wind Energy to purchase 100 percent of the output from
14 a new wind farm, Meridian Way Wind Farm, located near
15 Concordia, Kansas. The new wind farm is expected to come on
16 line in January 2009. These tools aid in mitigating price
17 volatility, mitigate our natural gas exposure and provide price
18 stability for Empire and our customers. As indicated, however,
19 Empire is still exposed to increased fuel cost risk and thus has
20 requested an FAC.

21 2. Summary of Cost Implication

22 If Liberty-Empire was imprudent by purchasing energy to meet its demand at a cost that
23 exceeded Liberty-Empire's cost to generate that energy itself, at the time Liberty-Empire
24 entered into those PPAs, customer harm could result from that imprudence through an increase
25 in FAC charges. Since the time these contracts were entered into, natural gas prices have
26 lowered and stabilized, SPP has developed a complete integrated market place which has
27 positively influenced market energy prices, and additional low cost wind resources have entered
28 the market.

29 3. Conclusion

30 Staff has identified no evidence of imprudence related to these long-term PPAs and is
31 not recommending a disallowance related to this ** [REDACTED] ** issue at this time.

32 4. Documents Reviewed

33 a. Liberty-Empire's responses to Staff Data Request Nos. 0001, 0019, 0021,
34 0021.1, 0021.2, 0021.3, 0022, 0027, 0043, 0051, 0053, 0063, 0066, 0066.1, 0066.2;

b. Liberty-Empire's responses to Staff Data Request No. 0023 in File No. EO-2018-0244;

c. Work papers for Liberty-Empire FAR filings in File Nos. ER-2020-0311, ER-2021-0097, and ER-2021-0332; and,

d. Liberty-Empire FAC Monthly Reports.

Staff Expert/Witness: Brooke Mastrogiannis

F. FERC Account 447 – Off-System Sales Revenue (“OSSR”) and FERC Account 555 - Purchased Power Costs (“PP”)

1. Description

For the period March 1, 2018, through August 31, 2019, Liberty-Empire received ** [REDACTED] **³⁴ in total OSSR. Liberty-Empire's Day-Ahead strategy consists of all generation units being offered to the market on a daily basis unless the unit is on an outage. Combined Interest Resources (Iatan, Iatan 2, and Plum Point) are offered in by the majority owner³⁵. Since Liberty-Empire participates in the SPP Integrated Marketplace, it offers in all of its available generation, and Liberty-Empire is then paid for the generation it produces based on a locational marginal price. Thus, Liberty-Empire sells energy from its generation resources into the market and purchases energy from the market to serve native load. Liberty-Empire records those PP transactions in FERC Account 555, and for the review period the PP costs were ** [REDACTED] **³⁶. Liberty-Empire's OSSRs and PP once netted over the review period showed OSSR to be ** [REDACTED] **.

2. Summary of Cost Implications

Liberty-Empire's revenues from off-system sales and ancillary services are offset against total fuel, purchased power and net emissions allowance costs. If Liberty-Empire was

³⁴ The total OSSR does not reflect the effects of the extraordinary costs deferred from Accumulation Period 25, as noted in Section II.D of this report. Liberty-Empire's total OSSR after reflecting the effect of the deferral is \$48,786,319.

³⁵ Staff Data Request No. 0061.

³⁶ The total PP does not reflect the effects of the extraordinary costs deferred from Accumulation Period 25, as noted in Section II.D of this report. Liberty-Empire's total PP for Native Load after reflecting the effect of the deferral is \$58,093,110.

imprudent, either because it did not maximize or did not make off-system sales and ancillary services, customers could be harmed by that imprudence through an increase in FAC charges.

3. Conclusion

Staff identified no indication of imprudence related to off-system sales revenue or purchased power costs for the prudence review period.

4. Documents Reviewed

a. Liberty-Empire's response to Staff Data Request Nos. 0001, 0002, 0010, 0011, 0012, 0025, 0027, 0053, 0056, 0061, 0067 and 0067.1;

b. Work papers for Liberty-Empire FAR filings in File Nos. ER-2020-0311, ER-2021-0097, and ER-2021-0332; and,

c. Liberty-Empire's FAC Monthly Reports.

Staff Experts/Witnesses: Lisa Wildhaber and Brooke Mastrogiannis

G. Transmission Costs

1. Description

For the Review Period, \$7,904,328, or 2.09%,³⁷ of Liberty-Empire's total fuel cost, cost of purchased power, transmission costs and net emission costs, was associated with transmission service costs.

There were two tariffs in effect during this Review Period: The Original Sheet No. 17b and 17c, applicable for service on and after September 14, 2016, and a new tariff, Original Sheet No. 17k and 17l, applicable for service on and after September 16, 2020. Both tariffs defines transmission service costs as:

Transmission service costs reflected in FERC Account Number 565:

A. Thirty-four percent (34%) of SPP costs associated with Network Transmission Service:

- i. SPP Schedule 2 – Reactive Supply and Voltage Control from Generation or Other Sources Service;
- ii. SPP Schedule 3 – Regulation and Frequency Response Service; and

³⁷ The total transmission cost does not reflect the effects of the extraordinary costs deferred from Accumulation Period 25, as noted in Section II.D of this report. Liberty-Empire's total transmission cost after reflecting the effect of the deferral is \$7,595,532.

- 1 iii. SPP Schedule 11 – Base Plan Zonal Charge
- 2 and Region-wide Charge.
- 3 B. Fifty percent (50%) of Mid-Continent Independent System
- 4 Operator (“MISO”) costs associated with:
- 5 i. Network transmission service;
- 6 ii. Point-to-point transmission service;
- 7 iii. System control and dispatch; and
- 8 iv. Reactive supply and voltage control.

9 For calculating transmission service costs, Liberty-Empire implemented a process
10 whereby total transmission expenses were tabulated and then costs not allowed in the FAC were
11 removed. Staff reviewed the transmission costs over the Review Period to verify only 34% of
12 the SPP transmission service costs were included as well as verifying only 50% of the MISO
13 transmission service costs were included. Staff also verified the SPP Schedule 1a³⁸ and
14 Schedule 12 were removed from transmission costs. Liberty-Empire’s transmission costs
15 during the Review Period was \$7,904,328.

16 **2. Summary of Cost Implications**

17 If Liberty-Empire imprudently included transmission costs or more than 34% of the SPP
18 transmission service costs and more than 50% of the MISO transmission service costs, ratepayer
19 harm could result from increased FAC charges.

20 **3. Conclusion**

21 Staff found no indication Liberty-Empire’s transmission costs were imprudent.

22 **4. Documents Reviewed**

- 23 a. Liberty-Empire’s General Ledger;
- 24 b. Liberty-Empire’s FAC tariff sheets;
- 25 c. Liberty-Empire’s FAC Monthly Reports;
- 26 d. Liberty-Empire’s responses to Staff Data Request Nos. 0001, 0022, 0027, 0048,
- 27 0048.1, 0053, 0062, 0064, and 0064.1; and,
- 28 e. Work papers for Liberty-Empire FAR filings in File Nos. ER-2020-0311,
- 29 ER-2021-0097, and ER-2021-0332.

30 *Staff Expert/Witness: Cynthia M. Tandy*

³⁸ As stated in Data Request Nos. 0064 and 0064.1, Schedule 1a is now broken down between 1a, 1a1, 1a2, 1a3, and 1a4 because of an SPP tariff change. All charges are excluded from the FAC.

H. Emission Allowances

1. Description

The Cross-State Air Pollution Rule (“CSAPR”) is a ruling by the United States Environmental Protection Agency (“EPA”) that requires a number of states, including Missouri, to reduce power plant emissions that contribute to ozone and/or fine particle pollution in other states. The CSAPR replaced EPA’s 2005 Clean Air Interstate Rule (“CAIR”), following the direction of a 2008 court decision that required EPA to issue a replacement regulation. CSAPR implementation began on January 1, 2015.

The CSAPR requires Missouri to reduce its annual emissions of sulfur dioxide (SO₂) and nitrous oxides (NO_x) to help downwind states attain the 24-hour National Ambient Air Quality Standards (“NAAQS”). The CSAPR also requires Missouri to reduce ozone season emissions of NO_x to help downwind states attain the 8-hour NAAQS.

On September 7, 2016, the EPA revised the CSAPR ozone season NO_x program by finalizing an update to CSAPR for the 2008 ozone NAAQS, known as the CSAPR Update. The CSAPR Update ozone season NO_x program largely replaced the original CSAPR ozone season NO_x program starting May 1, 2017. The CSAPR Update will further reduce summertime NO_x emissions from power plants in the eastern U.S.

The primary mechanism of CSAPR is a cap-and-trade program that allows a major source of NO_x and/or SO₂ to trade excess allowances when its emissions of a specific pollutant fall below its cap for that pollutant. Originally, the EPA issued a model cap-and-trade program for power plants, which could have been used by states as the primary control mechanism under CAIR. This model, with modifications, had continued under CSAPR.

The requirements of CSAPR, CSAPR Update and the State of Missouri requirements were in effect for the entire Review Period from September 1, 2019 through February 28, 2021. Missouri was part of the twenty-two (22) states that the Update affected and per Staff’s review, Liberty-Empire units were in compliance with the CSAPR, CSAPR Update and Missouri limits for both SO₂ and NO_x.

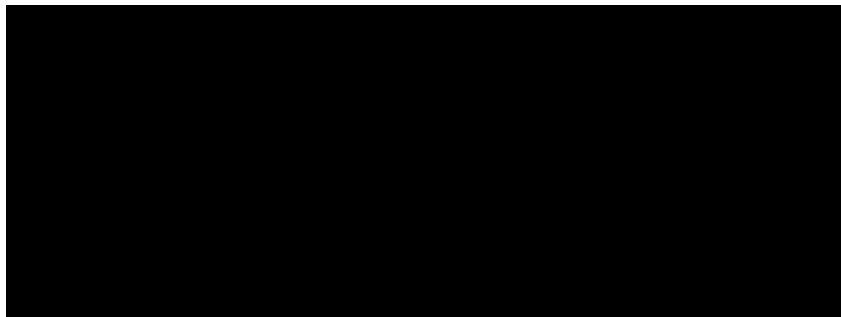
Liberty-Empire aggressively initiated control equipment on nearly every fuel-burning generating unit owned by Liberty-Empire. There are some units, such as water injection in

turbines and low-NO_x burners and over-fire air in boilers that control emissions by preventing their formation. Others, like selective catalytic reduction (SCR) systems for NO_x or oxidation catalysts for carbon monoxide, neutralize chemical pollutants after they have been generated. Still others, baghouses and electrostatic precipitators, for instance, capture emissions. Liberty-Empire also converted the Asbury Power Plant to a lower sulfur coal from Wyoming along with conversion of Riverton Unit 12 to a combined cycle unit.³⁹ The CSAPR and CSAPR Update rules caused Liberty-Empire to operate its SCR systems more robustly to further reduce NO_x emissions.

Liberty-Empire currently uses both the Acid Rain Program (“ARP”) and CSAPR programs for SO₂ and NO_x. They receive CSAPR and ARP allowance allocations. Currently one ton of SO₂ and NO_x emissions require one SO₂ or NO_x allowance to be retired under both programs. Liberty-Empire receives its emission allowances from the EPA on a yearly basis. Liberty-Empire’s 2019, 2020 and 2021 emission allowances by category for all plants are in Table 11 below:

Table 11 – Confidential

**



**

These allowances have no cost and are booked at zero dollars. Gains from disposition of emission allowances are recorded to FERC Account 254, and credited to FERC Account 411. There was a very small gain recognized in June 2020 for this Review Period. According to Liberty-Empire, as there were no sales or purchases of emissions during the Review Period.

The cost associated with the SO₂ premiums, net of discounts, and the revenues from gains on the sale of SO₂ emission allowances have been included in Liberty-Empire’s FAC.

³⁹ See response to Data Request No. 0013.

1 During the Review Period, Liberty-Empire indicated there were no sales of surplus SO₂ or NO_x
2 allowances.

3 Liberty-Empire does not currently need to purchase emission allowances. Staff
4 reviewed the work papers supporting the fuel and purchase power costs for load and off-system
5 sales for accumulation periods 23, 24 and 24 and also the FAC monthly reports as required by
6 20 CSR 4240-20.090(5).

7 Based on its review of Liberty-Empire's responses to Staff Data Request Nos. 0013,
8 0026, 0038, 0040, 0041, 0042 and 0055, Staff found that Liberty-Empire has appropriate
9 practices and processes in place to effectively manage its emission allowances to meet the
10 annual requirements during this Review Period either through generation or purchase
11 power contracts.

12 **2. Summary of Cost Implications**

13 If Liberty-Empire imprudently used, purchased, sold or banked its SO₂ and NO_x
14 allowances, customer harm could result from an increase in Liberty-Empire's FAC charges.

15 **3. Conclusion**

16 Staff observed no indication of imprudence associated with Liberty-Empire's
17 management of its emission allowances during the prudence review period.

18 **4. Documents Reviewed**

19 a. Liberty-Empire's responses to Staff Data Request Nos. 0013, 0026, 0038, 0040,
20 0041, 0042 and 0055; and,

21 b. Work papers for Liberty-Empire FAR filings in File Nos. ER-2020-0311,
22 ER-2021-0097, and ER-2021-0332.

23 *Staff Expert/Witness: Cynthia M. Tandy*

24 **I. Asbury Generating Unit**

25 **1. Description**

26 The retirement date of Asbury was an issue in the most recent general rate case, Case
27 No. ER-2019-0374. The FAC FAR filing, Case No. ER-2020-0311, originally included coal
28 inventory adjustments related to the Asbury generating facility. After the Office of the Public
29 Counsel proposed rejecting the tariff and removal of the disputed \$2,103,771 Asbury fuel
30 expenses, and the Commission issued its Order Rejecting Tariff to Change Fuel Adjustment

1 Rates, Liberty-Empire filed a revised tariff on June 5, 2020, reflecting removal of the disputed
2 Asbury related costs. After discussions between all parties, a Global, Unanimous Stipulation
3 and Agreement was filed on October 2, 2020 and approved by the Commission on October 7,
4 2020, which reflected Liberty-Empire's agreement to not seek recovery of \$1,925,886 coal
5 inventory adjustment through the FAC, with deferral of that amount to FERC Account 182.3,
6 Other Regulatory Assets, for consideration in Liberty-Empire's next general rate case.
7 The Stipulation also directed that \$177,885 of costs attributable to undistributed coal expenses
8 were eligible for recovery through the FAC. As such, the FAC FAR filing in Case No.
9 ER-2021-0097 reflected inclusion of the \$177,885 undistributed coal expenses, reduced to
10 \$141,557 after applying the Missouri allocation factor and the 95% sharing mechanism⁴⁰.
11 Staff has reviewed all of the costs associated with Asbury Generating Unit for the entire
12 Review Period of September 1, 2019 through February 28, 2021 and has not found any other
13 costs related to the retirement of Asbury that have been recovered through the FAC.

14 **2. Summary of Cost Implications**

15 If Liberty-Empire's use of the FAC to recover Asbury generating plant costs was
16 imprudent, ratepayer harm could result from an increase in FAC charges.

17 **3. Conclusion**

18 Staff found no indication that Liberty-Empire imprudently included costs associated
19 with the retirement of the Asbury Generating Unit during the prudence review period, as the
20 Company has agreed through FAR filing Case No. ER-2020-0311 to not seek recovery of the
21 coal inventory adjustment through the FAC, and deferred that amount to FERC Account 182.3
22 for consideration in Liberty-Empire's next general rate case.

23 **4. Documents Reviewed**

24 a. Liberty-Empire's responses to Staff Data Request Nos. 0069, 0069.1, 0069.2,
25 and 0069.3; and,

26 b. Work papers for Liberty-Empire FAR filings in File Nos. ER-2020-0311,
27 ER-2021-0097, and ER-2021-0332.

28 *Staff Expert/Witness: Brooke Mastrogianis*

⁴⁰ See Charlotte Emery's Direct Testimony in ER-2021-0097, pages 12-13, for an explanation of these calculations.

IV. RENEWABLE ENERGY CREDIT REVENUE

1. Description

The Missouri Renewable Energy Standard (“RES”)⁴¹ requires all investor-owned electric utilities in Missouri to provide at least two percent (2%) of their retail electricity sales using renewable energy resources in each calendar year 2011 through 2013, and to increase that percentage over time to at least fifteen percent (15%) by 2021.⁴² For this Review Period, the percentage for renewable energy resources requirement was 10% through December 2020 and then 15% for January and February, 2021. Commission Rule 20 CSR 4240-20.100 Electric Utility Renewable Energy Standard Requirements, which first became effective September 30, 2010⁴³, contains the definitions, structure, operations, and procedures for implementing the RES.

The RES rule creates two categories of energy-generating resources: non-renewable energy resources (including purchased power from non-renewable energy sources) and renewable energy resources (including purchased power from renewable energy sources). Renewable energy resources produce electrical energy and include:

- wind
- solar sources
- dedicated crop grown for energy production
- cellulosic agricultural residues
- plant residues
- methane from landfills, from agricultural operations or wastewater treatment
- thermal sources
- clean and untreated wood sources
- hydropower with rating of ten (10) megawatts or less
- fuel cells using hydrogen produced by one of the above named electrical energy sources
- other sources of energy that become available after November 4, 2008.

⁴¹ Section 393.1025 RSMo. and Section 393.1030.1(3), RSMo. Supp. 2018.

⁴² Commission Rule 20 CSR 4240-20.100(1)(R).

⁴³ Amended effective November 30, 2015; Last amended effective October 30, 2019.

Renewable energy resources are certified as renewable by the Missouri Division of Energy. Once an energy resource is certified, it becomes a Renewable Energy Credit (REC), with one (1) REC representing one (1) megawatt-hour of electricity that has been generated from the renewable energy resource.⁴⁴ These credits can be sold and/or traded in the marketplace bundled with or without the energy that generated the REC.⁴⁵ Revenues from the sale of RECs are recovered through the FAC as an off-set to fuel and purchased power costs. This is compliant to Liberty-Empire's tariff sheets; the Original Sheet No. 17e, applicable to service provided on or after September 14, 2016, along with the current tariff Original Sheet No. 17n effective September 16, 2020, defines RECs as:

REC = Renewable Energy Credit Revenue reflect in FERC Account 456 from the sale of Renewable Energy Credits that are not needed to meet the Renewable Energy Standard.

Liberty-Empire receives renewable energy from four sources: ownership of the Ozark Beach Hydroelectric Project (Missouri based); two purchased power agreements, one from Elk River Windfarm, LLC (Kansas based) and one from Cloud County Wind Farm, LLC (Meridian Way) (Kansas based), and customer-generated solar (not applicable to FAC). During the review period, Liberty-Empire generated more renewable energy than what was required for the Missouri RES. Liberty-Empire sold the excess RECs that generated *** [REDACTED] *** of REC revenue in FERC Account 456075 during the Review Period. All of the RECs sold during this Review Period were from wind sources only.

Liberty-Empire began receiving wind energy from the Elk River Wind Farm in 2004. Additionally, Liberty-Empire contracted to begin receiving wind energy from the Meridian Way Cloud County Wind Farm in 2007. In 2015, Liberty-Empire began offering rebates for Missouri customers for qualifying solar installations in accordance with the Missouri RES and Liberty-Empire's Solar Rebate Rider approved by the Commission.

In Liberty-Empire's REC Guidelines⁴⁶, "2019 Annual Renewable Energy Standard Compliance Report" and "2020 Annual Renewable Energy Standard Compliance Plan", it is Staff's opinion that Liberty-Empire provides clear and concise guidelines in regard to its

⁴⁴ Commission Rule 20 CSR 4240-20.100(1)(M).

⁴⁵ Commission Rule 20 CSR 4240-20.100(3)(I).

⁴⁶ Staff Data Request No. 0059.

Renewable Energy Credits. The Company appears to be following those guidelines and providing the best return to its customers by selling the excess credits.

As part of these contracts, Liberty-Empire receives RECs, which are credits issued under the Center for Resource Solutions' "green-e" program that certifies that one MWh of electricity has been generated by a facility engaged in the production of renewable energy. Liberty-Empire did not allow any RECs to expire on any of these wind RECs, but used them to meet the RES requirements during the review period, sold some of these RECs, or kept some of them for future use for compliance or sale. Liberty-Empire is certified to sell its RECs through the Center for Resource Solutions. For the Review Period September 1, 2019 through February 28, 2021, Liberty-Empire used *** [REDACTED] *** of REC revenue to offset its fuel and purchased power costs that flow through its FAC.

2. Summary of Cost Implications

If the Commission found Liberty-Empire was imprudent by not selling RECs when it had the opportunity to do so, ratepayer harm could result from decreased revenues in the FAC.

3. Conclusion

Staff did not find evidence of imprudence in Liberty-Empire's management of its RECs during the review period.

4. Documents Reviewed

- a. The Liberty-Empire REC Management Guidelines;
- b. Liberty-Empire's FAC tariff sheets;
- c. Liberty-Empire's 2019 Annual Renewable Energy Standard Compliance Report;
- d. Liberty-Empire's 2020 Annual Renewable Energy Standard Compliance Plan;
- e. Liberty-Empire's FAC Monthly Reports; and,
- f. Liberty-Empire's responses to Staff Data Request Nos. 0050, 0050.1, 0059, 0060 and 0060.1.

Staff Expert/Witness: Cynthia M. Tandy

V. INTEREST

1. Description

For its FAC, based on Liberty-Empire's short-term debt borrowing rate, Liberty-Empire is required to calculate the monthly interest rate that is applied to the monthly amount of its under-recovered, or over-recovered, net base energy costs. Liberty-Empire's primary source of short-term debt is its \$150 million commercial paper program which, prior to February 23, 2018, was supported by Liberty-Empire's \$200 million bank credit facility. As of February 23, 2018, Liberty-Empire's credit facility is supported by the \$500 million Liberty Utilities Company (parent company) bank credit facility. For the review period, all of Liberty-Empire's needs for short-term debt were met via its commercial paper program. Each business day, Wells Fargo Securities, Liberty-Empire's commercial paper dealer, provides indicative rates for Liberty-Empire for tenors ranging from overnight out to three months. These indicative rates change with the general level of short-term interest rates in the U.S. economy. There were four months in this review period (September through December 2019) that the Wells Fargo Securities were used for the short-term interest rate and the rest were based on Liberty Utilities short-term interest rates. Liberty-Empire's short-term borrowing rate for the review period averaged 1.11 percent (1.11%). The interest amount is component "I" of the FAC. The total accumulation interest amount for the Review Period of September 1, 2019 through February 28, 2021 was \$(38,295).

2. Summary of Interest Implications

If Liberty-Empire imprudently calculated the monthly interest amounts or imprudently used a short-term debt borrowing rate that did not fairly represent the actual cost of Liberty-Empire's short-term debt, ratepayer harm could result from understated or overstated monthly interest amounts.

3. Conclusion

Staff found no evidence Liberty-Empire acted imprudently with regard to its monthly interest rates and calculation of monthly interest amounts during the review period.

4. Documents Reviewed

- a. Liberty-Empire's response to Staff Data Request Nos. 0052 and 0052.1;

b. Liberty-Empire's interest calculation work papers in support of the interest calculation amount on the under-recovered or over-recovered balance; and,

c. Liberty-Empire's Wells Fargo and revolving credit report.

Staff Expert/Witness: Cynthia M. Tandy

VI. UTILIZATION OF GENERATION CAPACITY

1. Description

Liberty-Empire's generation consists of a mixture of Coal, Natural Gas/Oil, Wind (PPA), and Hydro generating stations as indicated in Table 12.⁴⁷ Table 12 contains the MWh used by each generating unit and the percentage associated with that unit's overall MWh production. Table 13 contains the net-generation broken down by unit type for Liberty-Empire's fleet. These tables illustrate how Liberty-Empire's generation fleet is being called upon by SPP in actual operation throughout the Review Period from September 1, 2019 through February 28, 2021:

Table 12 – Confidential⁴⁸

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⁴⁷ Liberty-Empire's Response to Staff Data Request No. 0016.

⁴⁸ Liberty-Empire's Response to Staff Data Request No. 0014.

Table 13 – Confidential⁴⁹

Unit Type	Net Generation (MWh)	Percentage of Total Net Generation
Coal	** [REDACTED] **	** [REDACTED] **
Combined Cycle	** [REDACTED] **	** [REDACTED] **
Combustion Turbine	** [REDACTED] **	** [REDACTED] **
Hydro/Pump Storage	** [REDACTED] **	** [REDACTED] **
Total MWh	** [REDACTED] **	** [REDACTED] **

Tables 12 and 13 Exclude wind PPA MWh (Elk River and Meridian Way)

2. Self – Commitment of Baseload Generation Facilities into SPP

During this FAC prudence review, Staff conducted a review of commitment status of Liberty-Empire’s electric generation facilities into SPP in an effort to determine any negative impacts that might be occurring because of such actions. Liberty-Empire has varied electric generation facilities that are designed to provide electric power to its customers. These generation facilities include coal, natural gas, hydro, and wind turbines. Each one of Liberty-Empire’s generation facilities has its own distinct operating characteristics and requires specific operational guidelines to be followed as to maintain the reliability of the units as determined by Liberty-Empire’s plant operations teams to determine optimal plant reliability and manufacturer operational guidelines. The SPP market allows participants to commit resources in different ways rather than have the market choose which units to run. SPP utilizes five resource offer commitment status designations⁵⁰ for its market participants (“MP”):

1. Market – the resource is available for centralized unit commitment through its price sensitive (merit-based) price quantity offers.

2. Self – the market participant is committing the resource through price insensitive offers outside of centralized unit commitment.

⁴⁹ *Ibid.*

⁵⁰ *Id.*, page 5.

1 **3. Reliability** – the resource is off-line and is only available for centralized unit
2 commitment if there is an anticipated reliability issue.

3 **4. Outage** – the resource is unavailable due to a planned, forced, maintenance,
4 or other approved outage.

5 **5. Not participating** – the resource is otherwise available but has elected not to
6 participate in the day-ahead market.

7 SPP Market participants have stated the following reasons for self-commitment:⁵¹

- 8 • Testing – NERC requirement
- 9 • Public Utilities Regulatory Policy Act (PURPA)
- 10 • Federal service exemptions
- 11 • Started by a different market
- 12 • Weather
- 13 • Long lead times
- 14 • Fuel contracts
- 15 • Other contracts
- 16 • Long minimum run times
- 17 • Commitment bridging
- 18 • Desire to reduce thermal damage to the unit due to starts and stops
- 19 • High startup costs

20 Some of these reasons are unavoidable and can require the resource to be offered in
21 self-commitment status. Testing the output of a plant, as periodically required by regulatory
22 agencies, is a frequent justification. “Some of the reasons, such as high start-up costs, fuel offer
23 through dollar-based offer parameters. Thermal damage due to start-ups and shutdowns and
24 resulting major maintenance could be included in mitigated offers starting in April 2019. SPP
25 has seen a decline in self-committed generation over time and it is possible that perceptions of
26 economic justifications have changed over time.”⁵²

27 Staff analyzed data received from Liberty-Empire⁵³ to determine the financial impacts
28 of the self-commit units as offered and cleared into the SPP Real-time market. *** [REDACTED]

⁵¹ SPP, Self-committing in SPP markets: Overview, impacts, and recommendations, December 2019, pages 7 and 8.

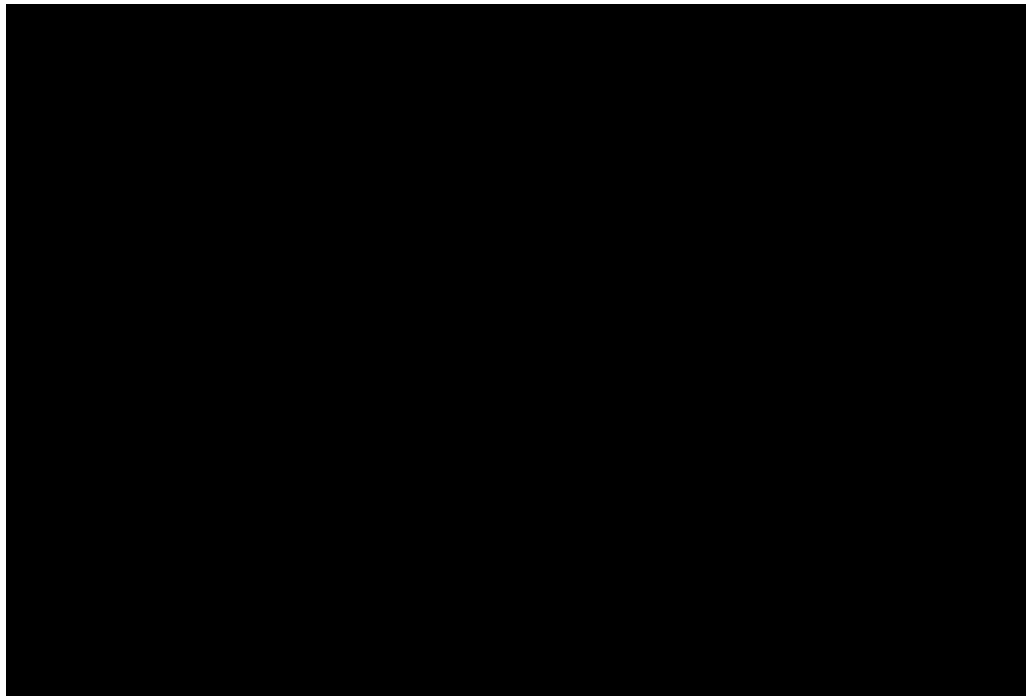
⁵² *Id.*, page 8.

⁵³ Staff Data Request No. 0061 in File No. EO-2021-0281.

1 [REDACTED] ***⁵⁴ Table 14 provides
2 the summary of Staff's review by generating unit for the period of September 1, 2019 through
3 February 28, 2021. Staff reviewed the hourly real-time transactions that were deemed
4 Self Commitment by taking the hourly real time energy cost and adding it to the hourly total
5 revenue for that same hour for the individual generating unit that was self-committed,
6 then compared the number of positive "In the Money" hourly transactions to the negative
7 "Out the Money" hourly transactions. Results are shown below in Table 14. Staff then took it
8 a step further to show the amount of revenue that corresponded to the "In vs Out" of money
9 transactions, as well as a net settlement (revenue) or total when adding the "In the Money"
10 to the "Out the Money" transactions, to show an overall revenue associated with
11 self-commitment. In the revenue portion of the table below a positive/negative sign
12 convention was used for revenues. i.e. (Negative values = Revenues/Generation and Positive
13 values = Charges/Station Use.

14 **Table 14 – Highly Confidential**

15 ***



16 ***

⁵⁴ Staff Data Request No. 0071 in File No. EO-2021-0281.

Staff is providing Table 14 as actual financial results of Liberty-Empire's current practice of Self-Commit of its baseload generation units as described above. The overall findings from Table 14 revealed that 76% of Liberty-Empire's self-commitment hourly transactions had positive revenues associated with them.

Staff further explored this issue in Case No. EW-2019-0370. Some of the findings in that case were that:

. . . the utility responses indicate that the economic minimum for each unit is based upon the physical limitations of each plant at a given point in time. These physical limitations are highly variable among plants, are affected by a variety of factors, and can vary by hour. Many of the units in question were commissioned as base load units well before the day-ahead markets were formed. These base load coal units were not designed to be cycled frequently and doing so would likely increase the likelihood of outages, increase operations and maintenance expense, and reduce the reliability of the units... Staff maintains that in order to fully understand the economic impact of self-scheduling on a given unit's profitability, an analysis at the RTO level would need to be conducted. Due to the highly confidential nature of utilities' market bidding strategies, it is highly unlikely that any party other than SPP or MISO have the raw data, modeling software access, and resources to conduct such an extensive analysis of market trends.⁵⁵

Therefore, Staff does not have the data to perform a detailed analysis as to what would have been the additional costs to the units due to high cost of restart, increases in O&M cost and increased plant outages if Liberty-Empire would have designated these units as "Economic" instead of "Self-Commit".

3. Conclusion

Staff did not observe any evidence of imprudent utilization of generation resources during this prudence review.

4. Documents Reviewed

a. Liberty-Empire's responses to Staff Data Request Nos. 0014, 0016, 0062 and 0071;

⁵⁵ EW-2019-0370, Staff's Second Supplemental Report, pages 1 and 2.

b. SPP, Self-committing in SPP markets: Overview, impacts, and recommendations, December 2019; and,

c. Case No. EW-2019-0370.

Staff Expert/Witness: Jordan T. Hull

VII. HEAT RATES

1. Description

Heat rates of generating units are an indicator of each unit's performance. A heat rate is a calculation of total volume of fuel burned for electric generation multiplied by the average heat content of that volume of fuel for a given time period divided by the total net generation of electricity in kilowatt hours (kWh) for that same time period.

2. Summary of Cost Implications

Heat rates are inversely related to the efficiency of the generating unit. Increasing heat rates of specific units over time may indicate that a specific unit's efficiency is declining. Heat rates can vary greatly depending on operating conditions including but not limited to load, hours of operation, shut downs and startups, unit outages, derates⁵⁶, and weather conditions. Therefore, a good indication of unit performance for frequently used units is an analysis of the trend of heat rates over time. A permanent increase in monthly heat rates is commonly the result of a decrease in a generating unit's efficiency. This typically occurs when additional emissions reduction equipment is added to the exhaust of the generating unit. Continued utilization of units with sustained elevated heat rates could result in Liberty-Empire incurring higher fuel costs per unit of electricity generated than it would otherwise have incurred. If Liberty-Empire was imprudent in response to the ongoing trend of a unit's heat rate, ratepayer harm could result from an increase in the fuel costs that are collected through Liberty-Empire's FAC charges.

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⁵⁶ Derate- To lower the rating of (a device), especially because of a deterioration in efficiency or quality.

3. Conclusion

In reviewing the monthly heat rates of the Liberty-Empire's generating units, Staff found no indication that Liberty-Empire acted imprudently during the review period.

4. Documents Reviewed

- a. Liberty-Empire's responses to Staff Data Request No. 0020; and,
- b. Heat rate test data submitted by Liberty-Empire in compliance with Rule 20 CSR 4240-3.190.

Staff Expert/Witness: Jordan T. Hull

VIII. PLANT OUTAGES

1. Description

Outages occurring at any of the generating units can have an impact on how much Liberty-Empire pays for fuel and purchased power and could result in Liberty-Empire paying more for fuel and purchased power cost than is necessary. Liberty-Empire is required by the North American Electric Reliability Corporation ("NERC") to submit data for every outage in accordance with Generating Availability Data System ("GADS") data reporting instructions effective January, 2012. Generating unit outages generally can be classified as scheduled outages, forced outages, or partial outages (derating).

Staff examined the outages of Liberty-Empire's generation fleet and the timing of these outages to determine if the outages imprudently occurred. Any planned outage during peak load demand times or a period of high replacement energy prices has the potential result of Liberty-Empire paying more for fuel and purchased power costs than it would have paid if the outage was planned during forecasted low load times. Periodic planned outages are required to maintain each generating unit in peak operating condition to minimize forced or maintenance outages that could occur during peak load demand or periods of high replacement energy prices. Liberty-Empire has little or no control over the timing of maintenance or forced outages of the generating stations it owns and operates when such outages are the result of unforeseen events; therefore, these types of outages are not included as a part of this prudence review.

As with the extraordinary costs associated with the February 2021 Storm Uri that will be considered for recovery in a subsequent Liberty-Empire general rate case, or other type of

1 application, plant outages during February Storm Uri will also be further reviewed. At this
2 time, Staff has observed no evidence of imprudence as it relates to outages during February
3 Storm Uri.

4 **2. Summary of Cost Implications**

5 An imprudent outage could result in Liberty-Empire purchasing expensive spot market
6 energy or running its more expensive units to meet demand and could result in customer harm
7 through an increase in customer FAC charges.

8 **3. Conclusion**

9 Staff did not observe any evidence of imprudent outages during the time period
10 examined in this prudence review.

11 **4. Documents Reviewed**

12 a. Liberty-Empire's responses to Staff Data Requests Nos. 0004, 0005, 0006 and
13 0054; and,

14 b. Monthly Outage data submitted by Liberty-Empire in compliance with Rule
15 20 CSR 4240-3.190.

16 *Staff Expert/Witness: Jordan T. Hull*

BEFORE THE PUBLIC SERVICE COMMISSION

OF THE STATE OF MISSOURI

In the Matter of the Ninth Prudence Review of)
Costs Subject to the Commission-Approved) File No. EO-20201-0281
Fuel Adjustment Clause of The Empire District)
Electric Company d/b/a Liberty (Empire))

AFFIDAVIT OF BROOKE MASTROGIANNIS

STATE OF MISSOURI)
)
COUNTY OF COLE) ss.

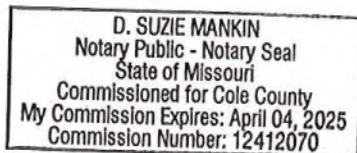
COMES NOW BROOKE MASTROGIANNIS and on her oath declares that she is of sound mind and lawful age; that she contributed to the foregoing, *Staff Report - Ninth Prudence Review*; and that the same is true and correct according to her best knowledge and belief.

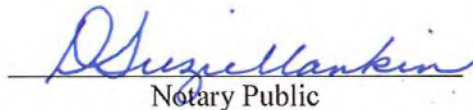
Further the Affiant sayeth not.


BROOKE MASTROGIANNIS

JURAT

Subscribed and sworn before me, a duly constituted and authorized Notary Public, in and for the County of Cole, State of Missouri, at my office in Jefferson City, on this 31st day of August 2021.




Notary Public

BEFORE THE PUBLIC SERVICE COMMISSION
OF THE STATE OF MISSOURI

In the Matter of the Ninth Prudence Review of)
Costs Subject to the Commission-Approved) File No. EO-20201-0281
Fuel Adjustment Clause of The Empire District)
Electric Company d/b/a Liberty (Empire))

AFFIDAVIT OF CYNTHIA M. TANDY

STATE OF MISSOURI)
)
COUNTY OF COLE) ss.

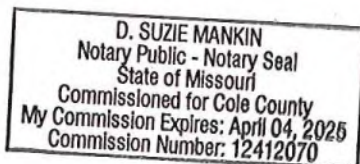
COMES NOW CYNTHIA M. TANDY and on her oath declares that she is of sound mind and lawful age; that she contributed to the foregoing, *Staff Report - Ninth Prudence Review*; and that the same is true and correct according to her best knowledge and belief.

Further the Affiant sayeth not.


CYNTHIA M. TANDY

JURAT

Subscribed and sworn before me, a duly constituted and authorized Notary Public, in and for the County of Cole, State of Missouri, at my office in Jefferson City, on this 31st day of August 2021.




Notary Public

BEFORE THE PUBLIC SERVICE COMMISSION
OF THE STATE OF MISSOURI

In the Matter of the Ninth Prudence Review of)
Costs Subject to the Commission-Approved) File No. EO-2021-0281
Fuel Adjustment Clause of The Empire District)
Electric Company d/b/a Liberty (Empire))

AFFIDAVIT OF JORDAN T. HULL

STATE OF MISSOURI)
) ss.
COUNTY OF COLE)

COMES NOW JORDAN T. HULL and on his oath declares that he is of sound mind and lawful age; that he contributed to the foregoing, *Staff Report - Ninth Prudence Review*; and that the same is true and correct according to his best knowledge and belief.

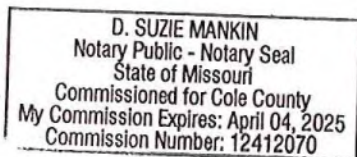
Further the Affiant sayeth not.




JORDAN T. HULL

JURAT

Subscribed and sworn before me, a duly constituted and authorized Notary Public, in and for the County of Cole, State of Missouri, at my office in Jefferson City, on this 30th day of August 2021.





Notary Public

BEFORE THE PUBLIC SERVICE COMMISSION
OF THE STATE OF MISSOURI

In the Matter of the Ninth Prudence Review of)
Costs Subject to the Commission-Approved) File No. EO-20201-0281
Fuel Adjustment Clause of The Empire District)
Electric Company d/b/a Liberty (Empire))

AFFIDAVIT OF LISA WILDHABER

STATE OF MISSOURI)
) ss.
COUNTY OF COLE)

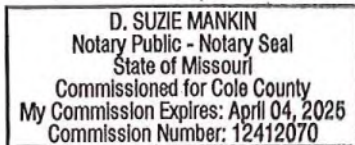
COMES NOW LISA WILDHABER and on her oath declares that she is of sound mind and lawful age; that she contributed to the foregoing, *Staff Report - Ninth Prudence Review*; and that the same is true and correct according to her best knowledge and belief.

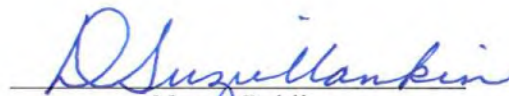
Further the Affiant sayeth not.


LISA WILDHABER

JURAT

Subscribed and sworn before me, a duly constituted and authorized Notary Public, in and for the County of Cole, State of Missouri, at my office in Jefferson City, on this 31st day of August 2021.




Notary Public