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Witness: Charles T. Poston, PE
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MISSOURI PUBLIC SERVICE COMMISSION

INDUSTRY ANALYSIS DIVISION

ENGINEERING ANALYSIS DEPARTMENT

SUPPLEMENTAL TESTIMONY

OF

CHARLES T. POSTON, PE

THE EMPIRE DISTRICT ELECTRIC COMPANY

CASE NO. ER-2019-0374

Jefferson City, Missouri
May 2020

**** Denotes Confidential Information ****

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1 A. Prior to its retirement, Asbury was a coal-fired power plant owned and operated
2 by Empire. It was located about 20 miles north of Joplin, Missouri and had a maximum capacity
3 of approximately 200 MW. Asbury began commercial operation in 1970.

4 Q. What was Empire's stated retirement date for the Asbury Plant?

5 A. Empire stated that the Asbury Plant was retired on March 1, 2020.¹

6 **Staff Position On Asbury Retirement Date**

7 Q. Do you support the Global Stipulation and Agreement as a reasonable resolution
8 to this case?

9 A. Yes. The Global Stipulation and Agreement is the proper resolution of all issues
10 in this case. However, to the extent OPC has objected and that the Commission does not
11 approve the Global Agreement as a full resolution of all issues, Staff reserves the right to take
12 a position in the appropriate case on the March 1, 2020 retirement date for the Asbury Plant.

13 Q. In the Global Stipulation and Agreement there is a provision that states, "Any
14 fuel related costs or market related charges or revenue incurred at Asbury or related to Asbury
15 after January 1, 2020 shall not be eligible for inclusion in the FAC."² Does this provision
16 indicate that Staff supports a retirement date of January 1, 2020 for the Asbury Plant?

17 A. No. This provision is not indicative that Staff supports a retirement date of
18 January 1, 2020 for the Asbury Plant, or any other date at this time. As stated in the footnote
19 associated with that provision, "Use of January 1, 2020 in this settlement provision does not
20 represent an agreement regarding the retirement date of the plant."

¹ Case No. ER-2019-0374, Rebuttal Testimony of Aaron J. Doll, page 2, line 4.

² Case No. ER-2019-0374, Global Stipulation and Agreement, page 3, provision 6.a.

1 **Staff Review Of Information Related To The Asbury Retirement**

2 Q. What evidence did Staff review that was related to the fuel inventory at Asbury
3 prior to March 1, 2020?

4 A. Staff reviewed case filings made by Empire, responses to Staff data
5 requests, and responses to OPC data requests. A summary of that information is included in
6 the attached schedules. Schedule CTP-sup1 is a timeline that contains information about
7 Empire’s communications with the Commission and the Southwest Power Pool (“SPP”) that
8 are related to fuel management practices and the planned retirement date of Asbury. Schedule
9 CTP-sup 2 is a copy of a timeline created by Empire that contains details of the efforts made to
10 procure economical fuel for Asbury prior March 1, 2020.³ Schedule CTP-sup 3 is a copy of a
11 memo written by Empire that documents its justification for the cessation of efforts to procure
12 fuel for Asbury.⁴

13 Q. Did Staff attempt to corroborate or verify any of the information about the fuel
14 inventory at Asbury?

15 A. Yes. Staff reviewed hourly generation data for the Asbury Plant that Empire
16 provided in accordance with the requirements of 20 CSR 4240-3.190 for the second half of
17 2019. Using a combination of the fuel heat content specification, power plant efficiency, and
18 Empire’s estimated fuel requirements for two days of full power operations at Asbury, Staff
19 was able to verify that the amount of generation at Asbury corresponded proportionally (within
20 reasonable uncertainties) to the decreasing fuel inventories that Empire was reporting to Staff
21 and SPP.

³ Case No. ER-2019-0374, Empire Response to OPC data request 8523.

⁴ Case No. ER-2019-0374, Empire Response to OPC data request 8523.

1 Q. What uncertainties did Staff consider during its review of fuel inventory?

2 A. The coal supply at a power plant is typically referred to in terms of “days of
3 burn.” That value is not equivalent to calendar days, but is instead an estimate based on
4 historical consumption rates and the amount of recoverable fuel that is available. Consumption
5 rates are dependent on plant efficiency (which is itself dependent on power level and weather
6 conditions), planned and forced outage rates, and the actual commitment of the plant within the
7 integrated marketplace. Obviously, a power plant that is not committed into the market to run
8 will not consume fuel. The amount of recoverable fuel in a coal pile can be variable and difficult
9 to estimate. The bottom section of a coal pile can remain undisturbed for long periods of time
10 while fresh shipments of coal are being regularly delivered. However, during the period of
11 drawdown on a coal pile prior to a retirement, the older, undisturbed coal is uncovered and
12 made available for use. During long periods of storage, coal can degrade and lose part of its
13 original energy content. Increased moisture levels from adverse weather can also have
14 significant effects on the quality of coal and decrease the total amount of recoverable fuel.

15 Q. Why is fuel inventory relevant to the retirement of Asbury?

16 A. Without readily available, high quality fuel onsite at Asbury, it could not reliably
17 be dispatched into the SPP Integrated Marketplace. Managing fuel inventory prior to the
18 retirement of a coal-fired power plant involves balancing a number of competing priorities. If
19 market conditions allow for economic dispatch of a power plant and there is enough fuel to
20 allow it operate for its minimum run time, revenue can be earned from the generation and sale
21 of electricity. However, with a known retirement date approaching, there is also a desire to
22 limit the amount of excess coal that could be left over after the final shutdown of the plant.
23 Excess remaining coal inventory represents money that need not have been spent. The costs of

1 small amounts of remaining coal might be written off, while larger amounts could be dealt with
2 in a number of ways. Large quantities of excess coal could be transported by rail or truck for
3 use at another coal-fired power plant owned by the Company or they could possibly be sold to
4 third-party buyers. Alternately, a Company facing the possibility of a large excess of remaining
5 coal following the retirement of a power plant could decide to burn all of the fuel prior to final
6 shutdown by self-committing the plant into the market regardless of economic conditions. Each
7 of the coal management options listed above have costs and/or drawbacks that make it important
8 to minimize the amount of coal left over following plant retirement.

9 Q. How did Empire manage the fuel inventory at Asbury in the months leading up
10 to its retirement?

11 A. In response to a Staff data request Empire stated,
12 December 12th, 2019 was the last operating day that Asbury was offered
13 into the SPP IM as Market.⁵ Starting December 13, 2019, the plant was
14 offered daily to the SPP IM as Outage.⁶ Empire continued to monitor
15 market conditions, forward market prices and evaluate economical fuel
16 procurement options. If market conditions and forward market prices
17 created an opportunity for Empire to procure fuel at a price allowing
18 Asbury to operate economically, fuel would have been purchased and
19 the unit would have been offered Available to the markets once fuel was
20 received. In order to properly manage costs, Empire did not want to

⁵ Explained in detail below.

⁶ Explained in detail below.

1 procure additional fuel if the unit was not going to be able to
2 economically make use of it.⁷

3 Q. Empire said that prior to December 13, 2019 it offered Asbury into the
4 SPP IM as “Market.” What does “Market” mean in this context?

5 A. SPP defines “Market” commitment status as, “The Resource is available for
6 SPP economic commitment if it is off-line.”⁸ This is in contrast with “Self” commitment status
7 in which a generating resource is designated to run regardless of economic conditions.

8 Q. Empire said that on December 13, 2019 it began offering Asbury into the
9 SPP IM as “Outage.” What does “Outage” mean in this context?

10 A. “Outage” commitment status is defined as, “The Resource is unavailable due to
11 a planned, forced, maintenance or other approved outage.” Among the approved outage reasons
12 within SPP is one designated as “Fuel Supply.”⁹ The “Fuel Supply” outage reason is defined
13 as, “Removal from service or limitation due to fuel supply interruption. Does not include local
14 equipment failures related to fuel supply. Includes loss of gas pressure due to offsite issue,
15 *coal supply exhaustion* [emphasis added], lack of headwater issues for hydro, etc.” That type
16 of outage corresponds with the outage information for December 2019 that Empire provided in
17 its 20 CSR 4240-3.190 filings.

18 Q. Did Empire act in coordination with SPP and in accordance with current Market
19 Protocols in regards to its retirement notification?

20 A. Yes. The current SPP Integrated Marketplace Market Protocols dictate that
21 when a market participant such as Empire plans to terminate a generating resource due to

⁷ Case No. ER-2019-0374, Empire Response to Staff Data Request 333.

⁸ Market Protocols for SPP Integrated Marketplace, Version 75, 02-05-20, Section 4.2.2.2.1.

⁹ SPP, Reliability Coordinator Outage Coordination Methodology, Rev. 1.0, 04-30-18, Section 3.5.

1 retirement, it must provide a six month notification to SPP.¹⁰ Due to the possible reliability
2 and/or economic impacts to the Integrated Marketplace from the retirement of a generating
3 resource, the six month notification period is needed by SPP to have sufficient time to study the
4 impacts. The direct testimony of Empire witness Mr. Timothy Wilson acknowledged the need
5 to notify SPP about the decision to retire Asbury.¹¹ Following the six month notification period,
6 a retired power plant would be removed from SPP's Commercial Model during the next
7 regularly scheduled monthly update.¹²

8 Q. What is SPP's Commercial Model and why is it important for it to be accurately
9 updated when a power plant retires?

10 A. SPP defines the Commercial Model as, "A representation of the attributes of and
11 the relationships between Market Participants, Asset Owners, resource and load assets, and
12 [price nodes] for use in the Energy and Operating Reserve Markets, and Transmission
13 Congestion Rights (TCR) Markets."¹³ The Commercial Model is a necessary part of the
14 infrastructure that allows transactions to occur within the Integrated Marketplace.

15 Q. Did Staff find the explanation provided by Empire about its fuel management
16 plans at Asbury and its coordination with SPP to be convincing?

17 A. Yes. Empire was able to provide an adequate explanation to Staff that described
18 how it evaluated the economics of fuel procurement during the final months of operation at
19 Asbury and how it made proper notifications to SPP in accordance with required deadlines.

20 Q. Does this conclude your supplemental testimony?

21 A. Yes, it does.

¹⁰ Market Protocols for SPP Integrated Marketplace, Version 75, 02-05-20, Appendix E.

¹¹ Case No. ER-2019-0374, Direct Testimony of Timothy N. Wilson, filed 08-14-19, page 8, lines 10-12.

¹² Market Protocols for SPP Integrated Marketplace, Version 75, 02-05-20, Section 6.4

¹³ SPP Glossary, <https://www.spp.org/glossary/>

BEFORE THE PUBLIC SERVICE COMMISSION

OF THE STATE OF MISSOURI

In the Matter of The Empire District Electric)
Company's Request for Authority to File) Case No. ER-2019-0374
Tariffs Increasing Rates for Electric Service)
Provided to Customers in its Missouri)
Service Area)

AFFIDAVIT OF CHARLES T. POSTON, PE

STATE OF MISSOURI)
) ss.
COUNTY OF COLE)

COME NOW CHARLES T. POSTON, PE and on his oath declares that he is of sound mind and lawful age; that he contributed to the foregoing *Supplemental Testimony*; and that the same is true and correct according to his best knowledge and belief, under penalty of perjury.

Further the Affiant sayeth not.

/s/ Charles T. Poston, PE
CHARLES T. POSTON, PE

SCHEDULE CTP-sup 1

HAS BEEN DEEMED

CONFIDENTIAL

IN ITS ENTIRETY

SCHEDULE CTP-sup 2

HAS BEEN DEEMED

CONFIDENTIAL

IN ITS ENTIRETY

SCHEDULE CTP-sup 3

HAS BEEN DEEMED

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