

Exhibit No.:
Issue: *Production Cost Model*
Witness: *Charles T. Poston, PE*
Sponsoring Party: *MoPSC Staff*
Type of Exhibit: *Rebuttal Testimony*
Case No.: *ER-2019-0374*
Date Testimony Prepared: *March 3, 2020*

MISSOURI PUBLIC SERVICE COMMISSION
INDUSTRY ANALYSIS DIVISION
ENGINEERING ANALYSIS DEPARTMENT

REBUTTAL TESTIMONY
OF
CHARLES T. POSTON, PE

THE EMPIRE DISTRICT ELECTRIC COMPANY
CASE NO. ER-2019-0374

Jefferson City, Missouri
March 2020

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CHARLES T. POSTON, PE
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1 appear to account for behavior that is regularly seen in historic market price data. Transmission
2 congestion and reliability issues within the market place can cause the relative price differences
3 between nodes to shift significantly. In some circumstances, a day may start with all nodes
4 closely grouped in terms of price, perhaps with a less than \$10/MWh difference between the
5 highest price and lowest price. Then, due to transient market conditions, the price spread
6 between nodes could increase to \$50/MWh or more for a limited number of hours before
7 returning to closer agreement. These short term pricing differences can impact dispatching
8 decisions and the revenue earned by power plants. Empire's market price data does not capture
9 this type of market behavior.

10 Q. Do the market prices used in Staff's production cost model contain these type of
11 short-term market price fluctuations that are actually seen within the integrated marketplace?

12 A. Yes. Since Staff's market prices are based on a three year average of the historic
13 day-ahead prices within the Southwest Power Pool's Integrated Marketplace, the intra-day
14 variability in prices between nodes has been accounted for.

15 **NEGATIVE MARKET PRICES**

16 Q. During Staff's analysis of Empire's market prices, what did Staff observe
17 regarding the prevalence of negative market prices?

18 A. Based on the data provided by Empire, its method of developing market prices
19 does not appear to adequately account for market conditions that can lead to different numbers
20 of hours of negative market prices at different price nodes. Staff's examination of three years
21 of historic market data found that some price nodes consistently experience more hours of
22 negative market prices than others. The market price data used by Empire does not reflect this

1 behavior. Empire's data has an identical, very low number of hours of negative market prices
2 for every price node.

3 Q. Do Staff's market prices account for certain price nodes more frequently
4 experiencing negative market prices?

5 A. Yes. Since Staff based its prices directly off of historic market data, the relative
6 differences in how often negative market prices are experienced at different price nodes
7 were preserved.

8 **FORCED OUTAGE RATES**

9 Q. How did the forced outage rates used by Empire in its production cost model
10 compare with the rates used by Staff?

11 A. Staff found that the forced outage rates used by Empire at Asbury 1, Riverton 12
12 combined cycle, and State Line combined cycle were significantly higher than the values
13 calculated by Staff.

14 Q. Do you believe that the forced outage rates used are a good representation of the
15 actual operational characteristics of those power plants?

16 A. No. For the power plants listed above, the forced outage rates assumed by
17 Empire were approximately two to four times higher than the highest annual forced outage rate
18 seen at each plant since 2012.

19 Q. How did Staff calculate forced outage rates for use in its production cost model?

20 A. Forced outages are infrequent in occurrence and variable in duration. In order
21 to capture this variability, the forced outage rates were normalized by averaging seven years of

1 historic outage data that Empire provided to comply with 20 CSR 4240-3.190, along with
2 supplemental information provided in response to a Staff data request.

3 Q. Could the use of artificially high forced outage rates change the output of
4 Empire's production cost model?

5 A. Yes. Within a production cost model, forced outage rates can impact the total
6 amount of generation at a power plant along with the resulting fuel costs and market revenues
7 from the sale of energy.

8 Q. Does this conclude your rebuttal testimony?

9 A. Yes.

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)

COMES 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 *Rebuttal Testimony*; and that the same is true and correct according to his best knowledge and belief.

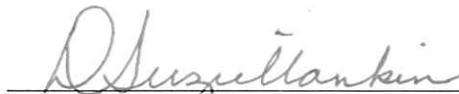
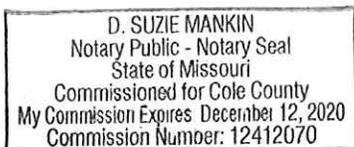
Further the Affiant sayeth not.



CHARLES T. POSTON, PE

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 2nd day of March 2020.



Notary Public