

Exhibit No.:
Issue(s): Variable Fuel,
Rush Island
Witness: Shawn E. Lange, PE
Sponsoring Party: MoPSC Staff
Type of Exhibit: Rebuttal Testimony
Case No.: ER-2022-0337
Date Testimony Prepared: February 15, 2023

MISSOURI PUBLIC SERVICE COMMISSION
INDUSTRY ANALYSIS DIVISION
ENGINEERING ANALYSIS DEPARTMENT

REBUTTAL TESTIMONY
OF
SHAWN E. LANGE, PE

**UNION ELECTRIC COMPANY,
d/b/a AMEREN MISSOURI**

CASE NO. ER-2022-0337

Jefferson City, Missouri
February 2023

1
2
3
4
5
6
7
8
9
10

**TABLE OF CONTENTS OF
REBUTTAL TESTIMONY OF
SHAWN E. LANGE, PE
UNION ELECTRIC COMPANY
d/b/a AMEREN MISSOURI
CASE NO. ER-2022-0337**

EXECUTIVE SUMMARY1
VARIABLE FUEL AND PURCHASED POWER EXPENSE1
FORCED OUTAGE RATE.....2
RUSH ISLAND ENERGY CENTER3

1 **REBUTTAL TESTIMONY**

2 **OF**

3 **SHAWN E. LANGE, PE**

4 **UNION ELECTRIC COMPANY,**
5 **d/b/a AMEREN MISSOURI**

6 **CASE NO. ER-2022-0337**

7 Q. Please state your name and business address.

8 A. My name is Shawn E. Lange, and my business address is Missouri Public
9 Service Commission, P.O. Box 360, Jefferson City, MO 65102.

10 Q. Are you the same Shawn E. Lange that filed direct testimony in this proceeding?

11 A. Yes, I am.

12 **EXECUTIVE SUMMARY**

13 Q. What is the purpose of your rebuttal testimony?

14 A. The purpose of my rebuttal testimony is to update Staff's calculation of variable
15 fuel and purchased power expense, update forced outage calculation, and to provide an update
16 to the cost and timeline assumptions to the transmission system upgrades necessary for the
17 retirement of Rush Island.

18 **VARIABLE FUEL AND PURCHASED POWER EXPENSE**

19 Q. What is the purpose of your rebuttal testimony regarding variable fuel and
20 purchased power expense?

21 A. The purpose of this section of my rebuttal testimony is to describe changes to
22 Staff's direct variable fuel and purchase power results. Staff estimates the variable fuel and
23 purchased power expense for Ameren Missouri to be \$405,526,511.

1 Q. Explain what changed from Staff's direct variable fuel and purchase power
2 results.

3 A. Since Staff's direct filing, Staff has become aware of a formula error in the
4 calculation of market prices. Please refer to Staff witness Justin Tevie's rebuttal testimony.

5 Q. How do the market prices affect the variable fuel expense?

6 A. Staff uses a production cost model to perform a simulation of a utility's energy
7 generation, energy sales, and energy purchases. The production cost model simulates the
8 dispatch of each coal or natural gas-fired power plant based upon the market prices associated
9 with that generator's node. In each hour of the simulation, the total generation from all sources
10 is then summed and compared against the purchased energy required to satisfy load. If total
11 generation exceeds purchased energy, then net purchases are recorded for that hour.
12 Conversely, if total generation is less than purchased energy, net purchases are recorded. In that
13 way, net sales and purchases within the market are determined for each hour of the simulation.

14 Q. Did Staff perform updates to any other production cost model run in this
15 proceeding?

16 A. Yes, Staff modeled Rush Island unit 1 and Rush Island unit 2 consistent with the
17 Midcontinent Independent System Operator ("MISO") dispatch prior to the System Support
18 Resource ("SSR") designation. The Rush Island unit 1 and Rush Island unit 2 generation and
19 operating hours results for prior to and after the SSR designation was provided to Staff witness
20 Claire Eubanks for use in her determination of a Rush Island adjustment.

21 **FORCED OUTAGE RATE**

22 Q. Are there errors in the calculation of the forced outage rate?

1 A. Yes. There was a formula error that caused the wrong cell to be pulled when
2 calculating the forced outage rate.

3 Q. Is this change reflected in Staff's updated fuel expense discussed above?

4 A. No. This correction will be reflected in the Staff's true-up case.

5 **RUSH ISLAND ENERGY CENTER**

6 Q. What is the purpose of your rebuttal testimony regarding the Rush Island Energy
7 Center?

8 A. Ameren Missouri provided an update to Staff regarding anticipated costs and
9 timelines associated with the transmission upgrades necessary to ensure system reliability when
10 Rush Island retires.

11 Q. What are the updated costs of the transmission upgrades?

12 A. The total anticipated costs for all of the necessary transmission upgrades is
13 ** [REDACTED] **. The changes to timeline are included in Confidential Schedule SEL-r1.

14 Q. Does this conclude your rebuttal testimony?

15 A. Yes, it does.

BEFORE THE PUBLIC SERVICE COMMISSION

OF THE STATE OF MISSOURI

In the Matter of Union Electric Company)
d/b/a Ameren Missouri's Tariffs to Adjust)
Its Revenues for Electric Service) Case No. ER-2022-0337

AFFIDAVIT OF SHAWN E. LANGE, PE

STATE OF MISSOURI)
)
COUNTY OF COLE) ss.

COMES NOW SHAWN E. LANGE, PE and on his oath declares that he is of sound mind and lawful age; that he contributed to the foregoing *Rebuttal Testimony of Shawn E. Lange, PE*; and that the same is true and correct according to his best knowledge and belief.

Further the Affiant sayeth not.


SHAWN E. LANGE, 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 10th day of February 2023.

D. SUZIE MANKIN
Notary Public - Notary Seal
State of Missouri
Commissioned for Cole County
My Commission Expires: April 04, 2025
Commission Number: 12412070


Notary Public

SCHEDULE SEL-r1

HAS BEEN DEEMED

CONFIDENTIAL

IN ITS ENTIRETY