Exhibit No.: Issue(s): Witness: Sponsoring Party: MoPSC Staff Date Testimony Prepared: November 5, 2021

Variable Fuel Expense Shawn E. Lange. PE 
 Type of Exhibit:
 True-up Direct Testimony

 Case No.:
 ER-2021-0240

# **MISSOURI PUBLIC SERVICE COMMISSION**

## **INDUSTRY ANALYSIS DIVISION**

### **ENGINEERING ANALYSIS DEPARTMENT**

## **TRUE-UP DIRECT TESTIMONY**

OF

### SHAWN E. LANGE, PE

## UNION ELECTRIC COMPANY d/b/a Ameren Missouri

## **CASE NO. ER-2021-0240**

Jefferson City, Missouri November 2021

\*\* Denotes Confidential Information \*\*

1	TRUE-UP DIRECT TESTIMONY		
2		OF	
3		SHAWN E. LANGE, PE	
4 5		UNION ELECTRIC COMPANY d/b/a Ameren Missouri	
6 7		CASE NO. ER-2021-0240	
8			
9	Q.	Please state your name and business address.	
10	А.	My name is Shawn E. Lange and my business address is Missouri Public	
11	Service Commission, P.O. Box 360, Jefferson City, MO 65102.		
12	Q.	Are you the same Shawn E. Lange who contributed to Staff's Cost of	
13	Service Report and rebuttal filed in this case?		
14	А.	Yes, I am.	
15	Q.	What is the purpose of your True-up direct testimony?	
16	А.	The purpose of my True-up direct testimony is to provide the variable fuel	
17	and purchase power expense incorporating all known and measurable changes as of		
18	September 30, 2021 as well as discuss any revisions from direct.		
19		Variable Fuel Expense	
20	Q.	How have you revised your production model for true-up?	
21	А.	I have updated the time periods reflected in certain model assumptions to	
22	change the ending period from the update cut off to the true-up cut off. I have also made		
23	certain modifications to the modeling associated with the High Prairie wind farm to account		
24	for bat mitiga	tion and Atchison Wind farm to account for the capacity of plant in-service.	
25	Q.	What changes were made to the modeling associated with High Prairie?	
	I		

#### True-up Direct Testimony of Shawn E. Lange, PE

1	A. In direct Staff modeled High Prairie based on the 5 m/s cut in speed			
2	generation shape <sup>1</sup> .			
3				
4	** . Staff witness Claire M. Eubanks			
5	states:			
6	Ameren Missouri is purchasing and installing the deterrent system for 15 of			
7	the turbines at High Prairie to study its effectiveness during the 2022 bat season			
8	(April 1, 2022 – October 31, 2022). Ameren Missouri is also preparing a request			
9	for proposal for an active curtailment system for use during the 2022 bat season.			
10	Finally, model-based curtailment requires time to study weather and bat activity.			
11	Ameren Missouri does not expect to implement this approach until the 2023 bat			
12	season. <sup>3</sup>			
13	Ameren witness Ajay Aurora stated "We likely will not know the efficacy of these			
14	systems until sometime in 2022" <sup>4</sup> . Therefore Staff is adjusting the generation shape to			
15	account for the reduction in nighttime generation during the period of April 1 through			
16	October 31.			
17	Q. What changes were made to the modeling associated with Atchison wind			
18	farm?			
19	A. At direct Staff did not have sufficient information to deem the plant in-			
20	service but reasonably expected additional information from Ameren Missouri to be			

<sup>&</sup>lt;sup>1</sup> Generation shape in this context is the modeled hourly generation of a developing wind site. This shape is typically developed using specialized software that takes into account historical wind speeds expected for the wind farm site, site layout, turbine placement, hub height, turbine capacity as well as other pertinent information.

<sup>&</sup>lt;sup>2</sup> Ameren Response to Staff DR 714.1
<sup>3</sup> Claire M. Eubanks Rebuttal Pg. 5 lines 12-17.
<sup>4</sup> Ajay Aurora Rebuttal Pg. 16 lines 2-3.

True-up Direct Testimony of Shawn E. Lange, PE

1	forthcoming; therefore, Staff recommended the wind farms be included in the development			
2	of revenue requirement. In my rebuttal testimony, I recommended the Commission find			
3	294.4 MW of wind capacity at Atchison met the in-service criteria. Additionally, Staff			
4	Witness J Luebbert recommended that High Prairie met the in-service Criteria. I have			
5	adjusted the capacity of Atchison from the modeled 299 MW in direct to 294.4 MW in			
6	True-up Direct and made no changes to the capacity of High Prairie.			
7	Q. What is the value of the variable fuel and purchase power expense?			
8	A. The Staff calculates the variable fuel and purchased power expense			
9	for Ameren Missouri for known and measureable changes through September 30, 2021,			
10	to be \$356,857,756.			
11	Q. What is the true up value of the physical bilateral margins, financial			
12	swaps, and real time deviation?			
13	A. The adjustments for physical bilateral margins, financial swaps, and			
13 14	A. The adjustments for physical bilateral margins, financial swaps, and real time deviation are **			
14	real time deviation are **			
14 15	real time deviation are ** Q. What is your recommendation?			
14 15 16	real time deviation are ** Q. What is your recommendation? A. I recommend that the Commission adopt the updated variable fuel			
14 15 16 17	real time deviation are ** Q. What is your recommendation? A. I recommend that the Commission adopt the updated variable fuel and purchase power expense that Staff modeled as well as the updated value of physical			
14 15 16 17 18	real time deviation are ** Q. What is your recommendation? A. I recommend that the Commission adopt the updated variable fuel and purchase power expense that Staff modeled as well as the updated value of physical bilateral margins, financial swaps, and real time deviation.			
14 15 16 17 18 19	real time deviation are ** Q. What is your recommendation? A. I recommend that the Commission adopt the updated variable fuel and purchase power expense that Staff modeled as well as the updated value of physical bilateral margins, financial swaps, and real time deviation. Q. Does this conclude your True-up direct testimony?			

#### 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-2021-0240

#### **AFFIDAVIT OF SHAWN E. LANGE, PE**

STATE OF MISSOURI	)	
	)	SS.
COUNTY OF COLE	)	

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 True-Up Direct 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.

n E Lange SHAWN E. LANGE.

#### 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 3 rdday of November, 2021.

Dianne L. Vaugh-Notary Public

DIANNA L. VAUGHT Notary Public - Notary Seal State of Missouri Commissioned for Cole County My Commission Expires: July 18, 2023 Commission Number: 15207377