

*Exhibit No.:*  
*Issue(s):* Customer Blocks  
*Witness:* Michael L. Stahlman  
*Sponsoring Party:* MoPSC Staff  
*Type of Exhibit:* Direct Testimony  
*Case No.:* ER-2022-0337  
*Date Testimony Prepared:* January 10, 2023

**MISSOURI PUBLIC SERVICE COMMISSION**

**INDUSTRY ANALYSIS DIVISION**

**TARIFF AND RATE DESIGN DEPARTMENT**

**DIRECT TESTIMONY  
Revenue Requirement**

**OF**

**MICHAEL L. STAHLMAN**

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

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

*Jefferson City, Missouri  
January 2023*

1 **DIRECT TESTIMONY**

2 **OF**

3 **MICHAEL L. STAHLMAN**

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 Michael L. Stahlman, and my business address is Missouri Public  
9 Service Commission, P.O. Box 360, Jefferson City, Missouri, 65102.

10 Q. Please provide your credentials.

11 A. Please see Attachment MLS-d1.

12 Q. What is the purpose of your testimony?

13 A. I will explain Staff's normalized usage by rate block adjustments to the Residential  
14 and Small General Service (SGS) classes.

15 Q. Why does Staff make an adjustment to these blocks?

16 A. The winter rates for residential and SGS customers are split into two blocks with  
17 different rates. This adjustment is necessary to properly apply the correct rate to a class's usage  
18 to account for the change in usage that occurs with Staff's normalization process.

19 Q. Why does Staff not apply the change in usage to the block with the highest usage?

20 A. Some customers only have usage in the first block, even in winter. Since  
21 block two has a lower rate than block one, assuming that all changes occur in block two would  
22 underestimate the revenue impact of Staff's normalization process.

23 Q. How did Staff develop the normalized usage by rate block adjustment for the  
24 Residential class?

1           A. Staff used the data provided by Ameren Missouri in the Response to Staff  
2 Data Request 0147 to determine how much usage would have occurred in the first block for  
3 all months, including the summer months as if the summer months also had a block one for  
4 all usage 750 kWh or less. Staff then performed a regression analysis of the percentage of usage  
5 that would have occurred in the first block to the actual total usage per customer. Staff then  
6 used these regression results to estimate the block one percentages for each month by using the  
7 normal usage per customer which was provided by Staff witness Kim Cox. I provided the  
8 results to Staff witness Kim Cox.

9           Q. What factors were used in Staff's regression analysis?

10          A. Staff used the actual usage per customer determined by the data in the Response  
11 to Staff Data Request 0147 and two dummy variables, one for summer and another for a  
12 shoulder period.

13          Q. What do the summer and shoulder dummy variables account for?

14          A. These variables likely account for a larger percentage of customers using  
15 electric air conditioning in the summer than electric resistance heating in the winter.

16          Q. Do the summer and shoulder dummy variables match Ameren Missouri's tariffed  
17 summer months?

18          A. No. The two shoulder periods are June and October and the summer months are  
19 in-between. However, much of June's usage would have occurred in May (and October's usage  
20 in September) due to the meter reading cycles.

21          Q. How did Staff develop the normalized usage by rate block adjustment for the  
22 SGS class?

1           A. Staff performed a regression analysis using the actual block one percentage  
2 and the winter usage per customer. Staff then used these regression results to estimate the  
3 block one percentages for each month by using the normal usage per customer from  
4 Staff witness Kim Cox.

5           Q. Did Staff consider using the Response to Staff Data Request 0147 for the  
6 SGS class?

7           A. Yes. However, the SGS class subject to block rates is a smaller subset of the entire  
8 SGS tariffed rates and the data included in the Response to Staff Data Request 0147 was for all  
9 SGS customers and not separated by tariffed rates. Analysis of the data in the Response to  
10 Staff Data Request 0147 indicated that the customers making up the various SGS tariffed rate  
11 classes were not homogeneous, including a large divergence in block one usage percentages,  
12 making the data unsuitable to use for estimating normalized block one usage.

13           Q. Did you provide the estimated block one percentages for SGS and Residential  
14 customers to other Staff witnesses?

15           A. Yes. I provided the estimates to Staff witness Kim Cox.

16           Q. Does this conclude your direct testimony?

17           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 MICHAEL L. STAHLMAN**

STATE OF MISSOURI        )  
  )        ss.  
COUNTY OF COLE        )

**COMES NOW MICHAEL L. STAHLMAN** and on his oath declares that he is of sound mind and lawful age; that he contributed to the foregoing *Direct Testimony of Michael L. Stahlman*; and that the same is true and correct according to his best knowledge and belief.


Further the Affiant sayeth not.

  
\_\_\_\_\_  
MICHAEL L. STAHLMAN

**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 5<sup>th</sup> day of January 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

## Michael Stahlman

### Education

- 2009 M. S., Agricultural Economics, University of Missouri, Columbia.  
2007 B.A., Economics, Summa Cum Laude, Westminster College, Fulton, MO.

### Professional Experience

- 2010 - Regulatory Economist, Missouri Public Service Commission  
2007 – 2009 Graduate Research Assistant, University of Missouri  
2008 Graduate Teaching Assistant, University of Missouri  
2007 American Institute for Economic Research (AIER) Summer Fellowship Program  
2006 Price Analysis Intern, Food and Agricultural Policy Research Institute (FAPRI), Columbia, MO  
2006 Legislative Intern for State Representative Munzlinger  
2005 – 2006 Certified Tutor in Macroeconomics, Westminster College, Fulton, MO  
1998 – 2004 Engineering Watch Supervisor, United States Navy

### Expert Witness Testimony

- Union Electric Company d/b/a AmerenUE GR-2010-0363  
In the Matter of Union Electric Company d/b/a AmerenUE for Authority to File Tariffs Increasing Rates for Natural Gas Service Provided to Customers in the Company's Missouri Service Area
- Union Electric Company d/b/a Ameren Missouri GT-2011-0410  
In the Matter of the Union Electric Company's (d/b/a Ameren Missouri) Gas Service Tariffs Removing Certain Provisions for Rebates from Its Missouri Energy Efficient Natural Gas Equipment and Building Shell Measure Rebate Program
- KCP&L Great Missouri Operations Company EO-2012-0009  
In the Matter of KCP&L Greater Missouri Operations Company's Notice of Intent to File an Application for Authority to Establish a Demand-Side Programs Investment Mechanism
- Union Electric Company d/b/a Ameren Missouri EO-2012-0142  
In the Matter of Union Electric Company d/b/a Ameren Missouri's Filing to Implement Regulatory Changes Furtherance of Energy Efficiency as Allowed by MEEIA
- Kansas City Power & Light Company EO-2012-0323  
In the Matter of the Resource Plan of Kansas City Power & Light Company
- KCP&L Great Missouri Operations Company EO-2012-0324  
In the Matter of the Resource Plan of KCP&L Greater Missouri Operations Company
- Kansas City Power & Light Company EO-2012-0135  
KCP&L Great Missouri Operations Company EO-2012-0136  
In the Matter of the Application of Kansas City Power & Light Company [KCP&L Great Missouri Operations Company] for Authority to Extend the Transfer of Functional Control of Certain Transmission Assets to the Southwest Power Pool, Inc.

Kansas City Power & Light Company, KCP&L Great Missouri Operations Company, and Transource Missouri EA-2013-0098  
EO-2012-0367  
In the Matter of the Application of Transource Missouri, LLC for a Certificate of Convenience and Necessity Authorizing it to Construct, Finance, Own, Operate, and Maintain the Iatan-Nashua and Sibley-Nebraska City Electric Transmission Projects

Kansas City Power & Light Company EU-2014-0077  
KCP&L Great Missouri Operations Company  
In the Matter of the Application of Kansas City Power & Light Company and KCP&L Greater Missouri Operations Company for the Issuance of an Accounting Authority Order relating to their Electrical Operations and for a Contingent Waiver of the Notice Requirement of 4 CSR 240-4.020(2)

Kansas City Power & Light Company EO-2014-0095  
In the Matter of Kansas City Power & Light Company's Notice of Intent to File an Application for Authority To Establish a Demand-Side Programs Investment Mechanism

Veolia Energy Kansas City, Inc HR-2014-0066  
In the Matter of Veolia Energy Kansas City, Inc for Authority to File Tariffs to Increase Rates

Grain Belt Express Clean Line, LLC EA-2014-0207  
In the Matter of the Application of Grain Belt Express Clean Line LLC for a Certificate of Convenience and Necessity Authorizing It to Construct, Own, Operate, Control, Manage, and Maintain a High Voltage, Direct Current Transmission Line and an Associated Converter Station Providing an Interconnection on the Maywood - Montgomery 345 kV Transmission Line

Union Electric Company d/b/a Ameren Missouri ER-2014-0258  
In the Matter of Union Electric Company d/b/a Ameren Missouri's Tariff to Increase Its Revenues for Electric Service

Empire District Electric Company ER-2014-0351  
In the Matter of The Empire District Electric Company for Authority to File Tariffs Increasing Rates for Electric Service Provided to Customers in the Company's Missouri Service Area

Kansas City Power & Light Company ER-2014-0370  
In the Matter of Kansas City Power & Light Company's Request for Authority to Implement a General Rate Increase for Electric Service

Kansas City Power & Light Company EO-2014-0240  
In the Matter of Kansas City Power & Light Company's Filing for Approval of Demand-Side Programs and for Authority to Establish a Demand-Side Programs Investment Mechanism

KCP&L Great Missouri Operations Company EO-2014-0241  
In the Matter of KCP&L Greater Missouri Operations Company's Filing for Approval of Demand-Side Programs and for Authority to Establish a Demand-Side Programs Investment Mechanism

- Ameren Transmission Company of Illinois EA-2015-0146  
In the Matter of the Application of Ameren Transmission Company of Illinois for Other Relief or, in the Alternative, a Certificate of Public Convenience and Necessity Authorizing it to Construct, Install, Own, Operate, Maintain and Otherwise Control and Manage a 345,000-volt Electric Transmission Line from Palmyra, Missouri to the Iowa Border and an Associated Substation Near Kirksville, Missouri
- Empire District Electric Company ER-2016-0023  
In the Matter of The Empire District Electric Company's Request for Authority to Implement a General Rate Increase for Electric Service
- KCP&L Great Missouri Operations Company ER-2016-0156  
In the Matter of KCP&L Greater Missouri Operations Company's Request for Authority to Implement a General Rate Increase for Electric Service
- Kansas City Power & Light Company ER-2016-0285  
In the Matter of Kansas City Power & Light Company's Request for Authority to Implement A General Rate Increase for Electric Service
- Union Electric Company d/b/a Ameren Missouri ER-2016-0179  
In the Matter of Union Electric Company d/b/a Ameren Missouri's Tariff to Increase Its Revenues for Electric Service
- Grain Belt Express Clean Line, LLC EA-2016-0358  
In the Matter of the Application of Grain Belt Express Clean Line LLC for a Certificate of Convenience and Necessity Authorizing it to Construct, Own, Operate, Control, Manage and Maintain a High Voltage, Direct Current Transmission Line and an Associated Converter Station Providing an Interconnection on the Maywood-Montgomery 345kV transmission line.
- Spire Missouri, Inc. GR-2017-0215 and GR-2017-0216  
In the Matter of Spire Missouri, Inc.'s Request to Increase Its Revenues for Gas Service
- Liberty Utilities GR-2018-0013  
In the Matter of Liberty Utilities (Midstates Natural Gas) Corp. d/b/a Liberty Utilities' Tariff Revisions Designed to Implement a General Rate Increase for Natural Gas Service in the Missouri Service Areas of the Company
- Spire Missouri, Inc. GO-2019-0058 and GO-2019-0059  
In the Matter of Spire Missouri, Inc. d/b/a Spire's Request to Decrease [Increase] WNAR
- Grain Belt Express Clean Line LLC EM-2019-0150  
Invenergy Transmission LLC  
Invenergy Investment Company LLC  
In the Matter of the Joint Application of Invenergy Transmission LLC, Invenergy Investment Company LLC, Grain Belt Express Clean Line LLC and Grain Belt Express Holding LLC for an Order Approving the Acquisition by Invenergy Transmission LLC of Grain Belt Express Clean Line LLC



- Union Electric Company d/b/a Ameren Missouri GR-2019-0077  
In the Matter of Union Electric Company d/b/a Ameren Missouri's Tariffs to  
Increase its Revenues for Natural Gas Service
- Union Electric Company d/b/a Ameren Missouri ER-2019-0335  
In the Matter of Union Electric Company d/b/a Ameren Missouri's Tariffs to  
Decrease Its Revenues for Electric Service
- Empire District Electric Company ER-2019-0374  
In the Matter of The Empire District Electric Company's Request for Authority to  
File Tariffs Increasing Rates for Electric Service Provided to Customers in its  
Missouri Service Area
- Union Electric Company d/b/a Ameren Missouri EA-2020-0371  
In the Matter of the Application of Union Electric Company d/b/a Ameren  
Missouri for Permission and Approval and a Certificate of Public Convenience  
and Necessity Under 20 CSR 4240-3.105
- Spire Missouri, Inc. GR-2021-0108  
In the Matter of Spire Missouri Inc.'s d/b/a Spire Request for Authority to  
Implement a General Rate Increase for Natural Gas Service Provided in the  
Company's Missouri Service Areas
- Union Electric Company d/b/a Ameren Missouri ER-2021-0240  
In the Matter of Union Electric Company d/b/a Ameren Missouri's Tariffs to  
Adjust Its Revenues for Electric Service
- Union Electric Company d/b/a Ameren Missouri GR-2021-0241  
In the Matter of Union Electric Company d/b/a Ameren Missouri's Tariffs to  
Adjust Its Revenues for Natural Gas Service
- The Empire District Electric Company ER-2021-0312  
In the Matter of the Request of The Empire District Electric Company d/b/a  
Liberty for Authority to File Tariffs Increasing Rates for Electric Service  
Provided to Customers in its Missouri Service Area
- The Empire District Gas Company GR-2021-0320  
In the Matter of The Empire District Gas Company's d/b/a Liberty Request to File  
Tariffs to Change its Rates for Natural Gas Service
- Ameren Transmission Company of Illinois EA-2022-0099  
In the Matter of the Application of Ameren Transmission Company of Illinois for  
a Certificate of Convenience and Necessity Under Section 393.170.1, RSMo.  
Relating to Transmission Investments in Southeast Missouri
- Evergy Metro, Inc d/b/a Evergy Missouri Metro ER-2022-0129  
In the Matter of Evergy Metro, Inc. d/b/a Evergy Missouri Metro's Request for  
Authority to Implement A General Rate Increase for Electric Service
- Evergy Missouri West, Inc. d/b/a Evergy Missouri West ER-2022-0130  
In the Matter of Evergy Missouri West, Inc. d/b/a Evergy Missouri West's  
Request for Authority to Implement A General Rate Increase for Electric Service
- Spire Missouri, Inc. GR-2022-0179  
In the Matter of Spire Missouri, Inc. d/b/a Spire's Request for Authority to

*cont'd Michael L. Stahlman*

Implement a General Rate Increase for Natural Gas Service Provided in the Company's Missouri Service Areas

Union Electric Company d/b/a Ameren Missouri EA-2022-0245  
In the Matter of the Application of Union Electric Company d/b/a Ameren Missouri for Approval of a Subscription-Based Renewable Energy Program

**Selected Manuscripts**

Stahlman, Michael and Laura M.J. McCann. "Technology Characteristics, Choice Architecture and Farmer Knowledge: The Case of Phytase." *Agriculture and Human Values* (2012) 29: 371-379.

Stahlman, Michael. "The Amorality of Signals." Awarded in top 50 authors for SEVEN Fund essay competition, "The Morality of Profit."

**Selected Posters**

Stahlman, Michael, Laura M.J. McCann, and Haluk Gedikoglou. "Adoption of Phytase by Livestock Farmers." Selected poster at the American Agricultural Economics Association Annual Meeting, Orlando, FL, July 27-29, 2008. Also presented at the USDA/CSREES Annual Meeting in St. Louis, MO in February 2009.

McCann, Laura, Haluk Gedikoglu, Bob Broz, John Lory, Ray Massey, and Michael Stahlman. "Farm Size and Adoption of BMPs by AFOs." Selected poster at the 5<sup>th</sup> National Small Farm Conference in Springfield, IL in September 2009.