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Exhibit No.:  
Issue(s): *Advanced Metering Infrastructure*  
Witness: *Daniel I. Beck, PE*  
Sponsoring Party: *MoPSC Staff*  
Type of Exhibit: *Supplemental Surrebuttal Testimony*  
Case No.: *ER-2019-0335*  
Date Testimony Prepared: *February 20, 2020*

**MISSOURI PUBLIC SERVICE COMMISSION**

**INDUSTRY ANALYSIS DIVISION**

**ENGINEERING ANALYSIS DEPARTMENT**

**SUPPLEMENTAL SURREBUTTAL TESTIMONY**

**OF**

**DANIEL I. BECK, PE**

**UNION ELECTRIC COMPANY,  
d/b/a Ameren Missouri**

**CASE NO. ER-2019-0335**

*Jefferson City, Missouri  
February 2020*

*Staff* Exhibit No. *128*  
Date *3/4/20* Reporter *JMB*  
File No. *ER-2019-0335*

1 SUPPLEMENTAL SURREBUTTAL TESTIMONY OF

2 DANIEL I. BECK, PE

3 UNION ELECTRIC COMPANY,  
4 d/b/a Ameren Missouri

5 CASE NO. ER-2019-0335

6 Q. Please state your name and business address.

7 A. My name is Daniel I. Beck and my business address is Missouri Public Service  
8 Commission, P. O. Box 360, Jefferson City, Missouri 65102.

9 Q. Who is your employer and what is your present position?

10 A. I am employed by the Missouri Public Service Commission ("Commission")  
11 and my title is Manager, Engineering Analysis Department of the Industry Analysis Division.

12 A copy of my credentials and case participation is attached as Schedule DIB-ss1.

13 Q. What is the purpose of your testimony?

14 A. I will provide a portion of Staff's response to Commissioner Rupp's Order  
15 Regarding Inclining Block Rate Proposals. This Order included a request for information about  
16 advanced metering infrastructure ("AMI") which is the topic my testimony addresses.

17 Q. What is the specific request that you are addressing?

18 A. The Order stated "Staff shall provide testimony comparing: ... Ameren  
19 Missouri's current roll-out of advanced metering infrastructure (AMI) to Evergy Metro's and  
20 Evergy West's roll-out of AMI meters in their respective service territories at the time  
21 the Commission approved their current inclining block rate in File ER-2018-0145 and  
22 ER-2018-0146, respectively."

23 Q. And what is your response?

Supplemental Surrebuttal Testimony of  
Daniel I. Beck, PE

1           A.     The Commission approved the current tariffs implementing inclining block rates  
2 for residential summer usage in Case Nos. ER-2018-0145 and ER-2018-0146 on December 6,  
3 2018. KCPL had already installed AMI meters for over 90% of its Missouri customers by  
4 December 31, 2015 (Customers in the Kansas City metro area). Approximately 15,000 KCPL  
5 customers located in Saline, Chariton, Carroll, Lafayette, Howard, and Pettis Counties did not  
6 get AMI meters initially.<sup>1</sup> By September 2016, approximately 180,000 GMO customers, which  
7 equates to approximately 56% of GMO's customers, had AMI installed.<sup>2</sup> GMO planned to  
8 install approximately 140,000 additional units in its rural service areas by the end of 2019.<sup>3</sup>

9                     In contrast, Ameren Missouri expects to install its first AMI meter in July 2020  
10 (approximately one year after it filed the current case) with deployment of approximately  
11 1.3 million AMI meters taking place over a period of years from 2020 to 2025.<sup>4</sup> The table  
12 below lists end of year targets planned by Ameren Missouri:<sup>5</sup>

<u>Year</u>	<u>%</u>
2020	10%
2021	25%
2022	45%
2023	60%
2024	80%
2025	100%

20           Q.     Does this conclude your supplemental surrebuttal testimony?

21           A.     Yes.

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<sup>1</sup> Staff's Report Responding to Certain Commission Questions, Case No. ER-2016-0286, December 14, 2016.

<sup>2</sup> Id.

<sup>3</sup> Direct Testimony of Darrin Ives, Case No. ER-2018-0146, January 30, 2018, Page 16.

<sup>4</sup> Direct Testimony of Steven M. Wills, July 3, 2019, Page 12.

<sup>5</sup> Direct Testimony of Steven M. Wills, July 3, 2019, Table 13.

**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 Decrease    )  
Its Revenues for Electric Service                )            Case No. ER-2019-0335

**AFFIDAVIT OF DANIEL I. BECK, PE**

STATE OF MISSOURI        )  
  )            ss.  
COUNTY OF COLE        )

COMES NOW DANIEL I. BECK, PE and on his oath declares that he is of sound mind and lawful age; that he contributed to the foregoing *Supplemental Surrebuttal Testimony of Daniel I. Beck, PE*; and that the same is true and correct according to his best knowledge and belief.


Further the Affiant sayeth not.

  
\_\_\_\_\_  
DANIEL I. BECK, 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 20<sup>th</sup> day of February, 2020.

D. SUZIE MANKIN  
Notary Public - Notary Seal  
State of Missouri  
Commissioned for Cole County  
My Commission Expires: December 12, 2020  
Commission Number: 12412070

  
\_\_\_\_\_  
Notary Public

**Daniel I. Beck, P.E.**

Manager of Engineering Analysis Department  
Industrial Analysis Division

Missouri Public Service Commission  
P.O. Box 360  
Jefferson City, MO 65102

I graduated with a Bachelor of Science Degree in Industrial Engineering from the University of Missouri at Columbia. Upon graduation, I was employed by the Navy Plant Representative Office in St. Louis, Missouri as an Industrial Engineer. I began my employment at the Commission in November, 1987, in the Research and Planning Department of the Utility Division (later renamed the Economic Analysis Department of the Policy and Planning Division) where my duties consisted of weather normalization, load forecasting, integrated resource planning, cost-of-service and rate design. In December, 1997, I was transferred to the Tariffs/Rate Design Section of the Commission's Gas Department where my duties include weather normalization, annualization, tariff review, cost-of-service and rate design. In June 2001, I was transferred to the Engineering Analysis Section of the Energy Department, which was created by combining the Gas and Electric Departments. I became the Supervisor of the Engineering Analysis Section, Energy Department, Utility Operations Division in November 2005. Since that time my title has been changed to reflect reorganizations and my current title is Manager of the Engineering Analysis Department, Industry Analysis Division. My job duties have basically remained the same since 2005 but in October 2015, I was given added responsibilities in the area of depreciation.

I am a Registered Professional Engineer in the State of Missouri. My registration number is E-26953.

**List of Cases in which prepared testimony was presented by:  
DANIEL I. BECK, PE**

<b>Company Name</b>	<b>Case No.</b>
Union Electric Company	EO-87-175
The Empire District Electric Company	EO-91-74
Missouri Public Service	ER-93-37
St. Joseph Power & Light Company	ER-93-41
The Empire District Electric Company	ER-94-174
Union Electric Company	EM-96-149
Laclede Gas Company	GR-96-193
Missouri Gas Energy	GR-96-285
Kansas City Power & Light Company	ET-97-113
Associated Natural Gas Company	GR-97-272
Union Electric Company	GR-97-393
Missouri Gas Energy	GR-98-140
Missouri Gas Energy	GT-98-237
Ozark Natural Gas Company, Inc.	GA-98-227
Laclede Gas Company	GR-98-374
St. Joseph Power & Light Company	GR-99-246
Laclede Gas Company	GR-99-315
Utilicorp United Inc. & St. Joseph Light & Power Co.	EM-2000-292
Union Electric Company d/b/a AmerenUE	GR-2000-512
Missouri Gas Energy	GR-2001-292
Laclede Gas Company	GR-2001-629
Union Electric Company d/b/a AmerenUE	GT-2002-70
Laclede Gas Company	GR-2001-629
Laclede Gas Company	GR-2002-356
Union Electric Company d/b/a AmerenUE	GR-2003-0517
Missouri Gas Energy	GR-2004-0209
Atmos Energy Corporation	GR-2006-0387
Missouri Gas Energy	GR-2006-0422
Union Electric Company d/b/a AmerenUE	GR-2007-0003
The Empire District Electric Company	EO-2007-0029/EE-2007-0030
Laclede Gas Company	GR-2007-0208
The Empire District Electric Company	EO-2008-0043

cont'd DANIEL I. BECK, PE  
List of Cases in which  
prepared testimony was presented

<u>Company Name</u>	<u>Case No.</u>
Missouri Gas Utility, Inc.	GR-2008-0060
The Empire District Electric Company	ER-2008-0093
Trigen Kansas City Energy Corporation	HR-2008-0300
Union Electric Company d/b/a AmerenUE	ER-2008-0318
Kansas City Power & Light Company	ER-2009-0089
KCP&L Greater Missouri Operations Company	ER-2009-0090
Missouri Gas Energy	GR-2009-0355
The Empire District Gas Company	GR-2009-0434
Union Electric Company d/b/a AmerenUE	ER-2010-0036
Laclede Gas Company	GR-2010-0171
Atmos Energy Corporation	GR-2010-0192
Kansas City Power & Light Company	ER-2010-0355
KCP&L Greater Missouri Operations Company	ER-2010-0356
Union Electric Company d/b/a Ameren Missouri	GR-2010-0363
Kansas City Power & Light Company	ER-2012-0174
KCP&L Greater Missouri Operations Company	ER-2012-0175
Chaney vs. Union Electric Company	EO-2011-0391
Veach vs. The Empire District Electric Company	EC-2012-0406
The Empire District Electric Company	ER-2012-0345
KCP&L Greater Missouri Operations Company	ET-2014-0059
Kansas City Power & Light Company	ET-2014-0071
Union Electric Company d/b/a Ameren Missouri	ET-2014-0085
Missouri Gas Energy	GR-2014-0007
Union Electric Company d/b/a Ameren Missouri	EA-2012-0281
Union Electric Company d/b/a Ameren Missouri	EA-2014-0136
Summit Natural Gas of Missouri, Inc.	GR-2014-0086
Grain Belt Express Clean Line LLC	EA-2014-0207
Union Electric Company d/b/a Ameren Missouri	ER-2014-0258
Kansas City Power & Light Company	ER-2014-0370
Ameren Transmission Company of Illinois	EA-2015-0146
KCP&L Greater Missouri Operations Company	EA-2015-0256

cont'd DANIEL I. BECK, PE  
List of Cases in which  
prepared testimony was presented

<u>Company Name</u>	<u>Case No.</u>
KCP&L Greater Missouri Operations Company	ER-2016-0156
Union Electric Company d/b/a Ameren Missouri	ER-2016-0179
Kansas City Power & Light Company	ER-2016-0285
Grain Belt Express Clean Line LLC	EA-2016-0358
The Empire District Electric Company	EO-2017-0277
Spire Missouri, Inc. dba Spire's division Laclede Gas	GR-2017-0215
Spire Missouri, Inc. dba Spire's division Missouri Gas Energy	GR-2017-0216
Liberty Utilities	GR-2018-0013
Union Electric Company d/b/a Ameren Missouri	GR-2019-0077