

*Exhibit No.:*  
*Issue(s):* Mains, Meters, and  
Service Lines  
*Witness:* Claire M. Eubanks, P.E.  
*Sponsoring Party:* MoPSC Staff  
*Type of Exhibit:* Direct Testimony  
*Case No.:* GR-2024-0106  
*Date Testimony Prepared:* August 1, 2024

**MISSOURI PUBLIC SERVICE COMMISSION**

**INDUSTRY ANALYSIS DIVISION**

**ENGINEERING ANALYSIS DEPARTMENT**

**DIRECT TESTIMONY**

**OF**

**CLAIRE M. EUBANKS, P.E.**

**LIBERTY UTILITIES (Midstates Natural Gas) CORP.,**

**d/b/a Liberty**

**CASE NO. GR-2024-0106**

*Jefferson City, Missouri*  
*August 2024*

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CLAIRE M. EUBANKS, P.E.**

**LIBERTY UTILITIES (Midstates Natural Gas) CORP.,  
d/b/a Liberty**

**CASE NO. GR-2024-0106**

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1 **DIRECT TESTIMONY**

2 **OF**

3 **CLAIRE M. EUBANKS, P.E.**

4 **LIBERTY UTILITIES (Midstates Natural Gas) CORP.,**

5 **d/b/a Liberty**

6 **CASE NO. GR-2024-0106**

7 Q. Please state your name and business address.

8 A. Claire M. Eubanks and my business address is Missouri Public Service  
9 Commission, P.O. Box 360, Jefferson City, Missouri, 65102.

10 Q. By whom are you employed and in what capacity?

11 A. I am employed by the Missouri Public Service Commission (“Commission”) as  
12 the Manager of the Engineering Analysis Department, Industry Analysis Division.

13 Q. Describe your educational and work background.

14 A. Please see Schedule CME-d1.

15 Q. Have you previously testified in proceedings before the Missouri Public  
16 Service Commission?

17 A. Yes. I have provided testimonies in multiple cases before the Missouri Public  
18 Service Commission. Please see Schedule CME-d1.

19 **EXECUTIVE SUMMARY**

20 Q. What is the purpose of your direct testimony?

21 A. The purpose of my direct testimony is to sponsor Staff’s proposed allocation of  
22 certain distribution costs for use in Staff’s Class Cost of Service Study. Staff’s Class Cost of  
23 Service Study is sponsored by Staff witness, Michael L. Stahlman.

1 Q. What are distribution system costs?

2 A. The distribution system is the portion of the utility's system that links the  
3 transmission system to customer's homes and businesses. Liberty Utilities (Midstates Natural  
4 Gas) Corp., d/b/a Liberty ("Liberty Midstates") distribution system includes mains, service  
5 lines, regulators, and meters.

6 Q. What distributions cost classifiers and allocators are sponsored through  
7 your testimony?

8 A. I address the classification of distribution mains and allocation of service lines  
9 and meters.

10 Q. What portion of the costs associated with distribution mains, service lines, and  
11 meters should be classified as customer-related versus demand-related for Liberty Midstates,  
12 and how should these costs be allocated among different customer classes?

13 A. Staff's position is that the classification and allocation of costs should be  
14 as follows:

15

|                            | WEMO <sup>1</sup> /NEMO <sup>2</sup> | SEMO <sup>3</sup> | Total |
|----------------------------|--------------------------------------|-------------------|-------|
| Customer portion of mains: | 54%                                  | 62%               | 57%   |

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<sup>1</sup> Western Missouri district ("WEMO")

<sup>2</sup> Northeastern Missouri district ("NEMO")

<sup>3</sup> Southeastern Missouri district ("SEMO")

1

| Total Company | Total   | Residential | Small General Service | Medium General Service | Large General Service | Special Contract | Interruptible |
|---------------|---------|-------------|-----------------------|------------------------|-----------------------|------------------|---------------|
| Meters        | 100.00% | 80.83%      | 11.82%                | 6.62%                  | 0.60%                 | 0.07%            | 0.07%         |
| Services      | 100.00% | 62.40%      | 8.50%                 | 26.90%                 | 1.80%                 | 0.30%            | 0.10%         |

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| WEMO/NEMO | Total   | Residential | Small General Service | Medium General Service | Large General Service | Special Contract | Interruptible |
|-----------|---------|-------------|-----------------------|------------------------|-----------------------|------------------|---------------|
| Meters    | 100.00% | 81.19%      | 12.54%                | 5.54%                  | 0.55%                 | 0.15%            | 0.02%         |
| Services  | 100.00% | 65.20%      | 9.10%                 | 22.70%                 | 2.40%                 | 0.50%            | 0.10%         |

4

5

| SEMO     | Total   | Residential | Small General Service | Medium General Service | Large General Service | Special Contract | Interruptible |
|----------|---------|-------------|-----------------------|------------------------|-----------------------|------------------|---------------|
| Meters   | 100.00% | 79.71%      | 11.45%                | 8.44%                  | 0.37%                 | 0.00%            | 0.02%         |
| Services | 100.00% | 58.76%      | 7.96%                 | 31.81%                 | 1.17%                 | 0.10%            | 0.20%         |

6

7 **CLASSIFICATION OF MAINS**

8 Q. How did Staff classify distribution mains?

9 A. Distribution mains are designed to provide customers access to the natural gas  
10 system and also to meet peak demand requirements. Staff classified distribution mains into  
11 customer and demand based on two methods. The minimum system method and the  
12 zero-intercept method.

13 Q. What is the minimum system method?

1           A.     The minimum system method as applied to gas distribution mains involves  
2 determining the cost of a theoretical system constructed only of the minimum size main.  
3 This theory assumes there is a minimum size main necessary to connect a customer to the  
4 system.<sup>4</sup> A ratio of the cost of the theoretical minimum system to the actual total main system  
5 represents the customer portion.

6           Q.     What is the zero-inch or zero-intercept method as applied to the classification of  
7 gas distribution mains?

8           A.     The zero-inch or zero-intercept method as applied to gas distribution mains is a  
9 regression analysis that examines the relationship between main sizes and average cost.  
10 The zero-intercept method uses regressions to extend a curve representing the relationship  
11 between main sizes and average cost through the intercept simulating a zero-sized main.  
12 The regression analysis produces an intercept that represents a distribution main that serves no  
13 demand (i.e., classified as customer).

14          Q.     What data and information did Staff use to perform these analyses?

15          A.     Staff utilized the Company's continuing property records ("CPR") for the  
16 distribution mains (FERC accounts 376, 376.2, and 376.3) to determine the average cost of  
17 mains by diameter and material and the corresponding footage installed.<sup>5</sup> The Company's CPR  
18 differentiates between plant installed in the historic rate districts. Staff's analysis is presented  
19 as total company and as WEMO/NEMO combined with SEMO separate.

20          Q.     What minimum-size main did Staff select to determine the theoretical minimum  
21 system cost for the minimum system method?

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<sup>4</sup> NARUC Gas Distribution Rate Design Manual, NARUC Staff Subcommittee on Gas, June 1989.

<sup>5</sup> For purposes of this case, to minimize differences between Staff and the Company, Staff adjusted historical costs to reflect 2023 costs using the Handy-Whitman index.

1 A. Liberty Midstate’s system, according to its property records, includes iron, steel  
 2 and plastic mains of various diameters from ¾” to 24”. In the past 10-years plastic has been  
 3 the predominately installed material. For mains less than 2”, the Company’s retirement units  
 4 for mains include ranges of mains sizes, for example less than 1” or less than 2”.  
 5 Therefore, Staff calculated the cost of mains less than or equal to 2” to determine the unit cost  
 6 of the minimum-size main. This unit cost was multiplied by the total footage installed to  
 7 determine a theoretical minimum system cost.

8 Q. Please present the results of the minimum system method.

9 A. The customer-portion of the mains account using the minimum method is  
 10 presented in the table below:

|            | WEMO/NEMO | SEMO | Total |
|------------|-----------|------|-------|
| Min system | 78%       | 71%  | 72%   |

11 Q. Please present the results of the zero-intercept method.

12 A. The customer-portion of the mains account using the zero-intercept method is  
 13 presented in the table below. Schedule CME-d2 contains additional details regarding the  
 14 regression analysis.  
 15

|                             | WEMO/NEMO         | SEMO              | Total             |
|-----------------------------|-------------------|-------------------|-------------------|
| Plastic - Footage           | 1,236,445         | 1,947,975         | 3,184,420         |
| Plastic - Cost/Unit         | \$ 8.16           | \$ 4.30           | \$ 6.93           |
|                             | \$ 10,092,351.42  | \$ 8,378,429.78   | \$ 22,061,914.98  |
| Steel - Footage             | 2,359,640         | 3,420,303         | 5,779,943         |
| Steel - Cost/Unit           | \$ 8.34           | \$ 14.58          | \$ 11.59          |
|                             | \$ 19,673,786.13  | \$ 49,882,615.95  | \$ 66,978,160.24  |
| Zero-Intercept System Costs | \$ 29,766,137.55  | \$ 58,261,045.73  | \$ 89,040,075.23  |
| Total Cost                  | \$ 100,763,454.16 | \$ 109,639,282.56 | \$ 210,402,736.72 |
| Zero intercept              | 30%               | 53%               | 42%               |

1 Q. What is Staff's recommendation regarding the classification of distribution  
2 system mains?

3 A. Staff recommends classifying distribution mains as 57% customer related  
4 (Total Company), 62% customer related (SEMO), and 54% customer related (WEMO and  
5 NEMO) which is an average of the results using the two methods discussed above.

6

|                | WEMO/NEMO | SEMO | Total |
|----------------|-----------|------|-------|
| Zero intercept | 30%       | 53%  | 42%   |
| Min system     | 78%       | 71%  | 72%   |
| Average        | 54%       | 62%  | 57%   |

7

8 **ALLOCATION OF SERVICE LINES AND METERS**

9 Q. What data and information did Staff use to allocate service lines to the  
10 customer classes?

11 A. Staff utilized the Company's CPR for the Services account (FERC account 380),  
12 2022 year-end meter counts, and the service line diameter associated with each meter type  
13 provided by the Company in its workpapers.<sup>6</sup> Staff's analysis is presented as total company  
14 and as WEMO/NEMO combined with SEMO separate.

15 Q. Describe the method Staff used to develop the service line allocator.

16 A. Liberty Midstate's service lines, according to its property records, range in size  
17 from ¾" to 6". Staff calculated the historic cost of installing service lines by meter count.  
18 For example, if the CPR indicates there is \$50,000 in 2" service lines and there are 400 meters  
19 that utilize a 2" service line the cost would be \$125 per meter. Using the actual year-end 2022

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<sup>6</sup> WP (Allocators) – Meters and Services



1 meter counts by rate class, Staff calculated the cost of service lines for each class and developed  
2 the allocation factor as a percent contribution to the total cost.

3 Q. What data and information did Staff use to allocate meters to the  
4 customer classes?

5 A. Staff utilized the Company's CPR for the Meters account (FERC account 381)  
6 and 2022 year-end meter count provided by the Company in response to Staff Data  
7 Request 0302.1. Staff's analysis is presented as total company and as WEMO/NEMO  
8 combined with SEMO separate.

9 Q. Describe the method Staff used to develop the meter allocator.

10 A. Staff calculated the unit cost of meters by meter classification using the data  
11 contained in the Company's CPR.<sup>7</sup> Similar to the service line allocator, Staff used the actual  
12 year-end 2022 meter counts by rate class to develop the allocation factor as a percent  
13 contribution to the total cost. Where costs were not identified by meter classification or service  
14 type in the Company's CPR Staff allocated these costs based on meter counts.

15 Staff's recommended meter and service allocation factors by rate class are presented below:

16

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| Meters        | 100.00% | 80.83%      | 11.82%                | 6.62%                  | 0.60%                 | 0.07%            | 0.07%         |
| Services      | 100.00% | 62.40%      | 8.50%                 | 26.90%                 | 1.80%                 | 0.30%            | 0.10%         |

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<sup>7</sup> Company response to DR 0337 provided the meter codes as used in response to DR 0302.1 and the meter classification as used in the company's CPR.

Direct Testimony of  
Claire M. Eubanks, P.E.

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| Services  | 100.00% | 65.20%      | 9.10%                 | 22.70%                 | 2.40%                 | 0.50%            | 0.10%         |

2

3

| SEMO     | Total   | Residential | Small General Service | Medium General Service | Large General Service | Special Contract | Interruptible |
|----------|---------|-------------|-----------------------|------------------------|-----------------------|------------------|---------------|
| Meters   | 100.00% | 79.71%      | 11.45%                | 8.44%                  | 0.37%                 | 0.00%            | 0.02%         |
| Services | 100.00% | 58.76%      | 7.96%                 | 31.81%                 | 1.17%                 | 0.10%            | 0.20%         |

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5

Q. Does this conclude your direct testimony?

6

A. Yes it does.

**BEFORE THE PUBLIC SERVICE COMMISSION**

**OF THE STATE OF MISSOURI**

In the Matter of the Request of Liberty )  
Utilities (Midstates Natural Gas) Corp. ) Case No. GR-2024-0106  
d/b/a Liberty to Implement a General Rate )  
Increase for Natural Gas Service in the )  
Missouri Service Areas of the Company )

**AFFIDAVIT OF CLAIRE M. EUBANKS, PE**

STATE OF MISSOURI )  
 ) ss.  
COUNTY OF COLE )

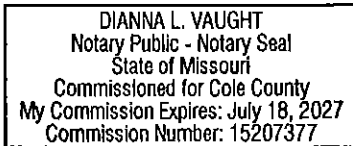
**COMES NOW CLAIRE M. EUBANKS, PE**, and on her oath declares that she is of sound mind and lawful age; that she contributed to the foregoing *Direct Testimony of Claire M. Eubanks, PE*; and that the same is true and correct according to her best knowledge and belief.

Further the Affiant sayeth not.

Claire M Eubanks  
**CLAIRE M. EUBANKS**

**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 26th day of July 2024.



Dianna L. Vaught  
Notary Public

**CLAIRE M. EUBANKS, PE**

**PRESENT POSITION:**

I am the Manager of the Engineering Analysis Department, Industry Analysis Division of the Missouri Public Service Commission.

**EDUCATIONAL BACKGROUND AND WORK EXPERIENCE:**

I received my Bachelor of Science degree in Environmental Engineering from the University of Missouri – Rolla, now Missouri University of Science and Technology, in May 2006. I am a licensed professional engineer in the states of Missouri and Arkansas. Immediately after graduating from UMR, I began my career with Aquaterra Environmental Solutions, Inc., now SCS Aquaterra, an engineering consulting firm based in Overland Park, Kansas. During my time with Aquaterra, I worked on various engineering projects related to the design, construction oversight, and environmental compliance of solid waste landfills. I began my employment with the Commission in November 2012 and was promoted to my current position in April 2020.

Currently, I am the co-chair of the NARUC Staff subcommittee on Electric Reliability & Resilience.

**CASE HISTORY:**

| <b>Case Number</b>           | <b>Utility</b>        | <b>Type</b>                            | <b>Issue</b>                             |
|------------------------------|-----------------------|----------------------------------------|------------------------------------------|
| EA-2012-0281                 | Ameren                | Rebuttal                               | Certificate of Convenience and Necessity |
| EC-2013-0379<br>EC-2013-0380 | KCP&L<br>KCP&L<br>GMO | Rebuttal                               | RES Compliance                           |
| EO-2013-0458                 | Empire                | Memorandum                             | RES Compliance Plan & Report             |
| EO-2013-0462                 | Ameren                | Memorandum                             | RES Compliance Report                    |
| EO-2013-0503                 | Ameren                | Memorandum                             | RES Compliance Plan                      |
| EO-2013-0504                 | KCP&L                 | Memorandum                             | RES Compliance Plan & Report             |
| EO-2013-0505                 | GMO                   | Memorandum                             | RES Compliance Plan & Report             |
| ET-2014-0059                 | KCP&L<br>GMO          | Rebuttal                               | RES Retail Rate Impact                   |
| ET-2014-0071                 | KCP&L                 | Rebuttal                               | RES Retail Rate Impact                   |
| ET-2014-0085                 | Ameren                | Rebuttal                               | RES Retail Rate Impact                   |
| ER-2014-0258                 | Ameren                | Cost of Service Report,<br>Surrebuttal | RES,<br>In-Service                       |

| <b>Case Number</b> | <b>Utility</b> | <b>Type</b>            | <b>Issue</b>                                            |
|--------------------|----------------|------------------------|---------------------------------------------------------|
| EO-2014-0151       | KCP&L<br>GMO   | Memorandum             | RESRAM                                                  |
| EO-2014-0357       | Electric       | Memorandum             | Solar Rebates Payments                                  |
| EO-2014-0287       | KCPL           | Memorandum             | RES Compliance Plan                                     |
| EO-2014-0288       | GMO            | Memorandum             | RES Compliance Plan                                     |
| EO-2014-0289       | KCPL           | Memorandum             | RES Compliance Report                                   |
| EO-2014-0290       | GMO            | Memorandum             | RES Compliance Plan                                     |
| ER-2014-0370       | KCP&L          | Cost of Service Report | RES                                                     |
| EX-2014-0352       | N/A            | Live Comments          | RES rulemaking                                          |
| EC-2015-0155       | GMO            | Memorandum             | Solar Rebate Complaint                                  |
| EO-2015-0260       | Empire         | Memorandum             | RES Compliance Plan & Report                            |
| EO-2015-0263       | KCPL           | Memorandum             | RES Compliance Report                                   |
| EO-2015-0264       | GMO            | Memorandum             | RES Compliance Report                                   |
| EO-2015-0265       | KCPL           | Memorandum             | RES Compliance Plan                                     |
| EO-2015-0266       | GMO            | Memorandum             | RES Compliance Plan                                     |
| EO-2015-0267       | Ameren         | Memorandum             | RES Compliance Plan & Report                            |
| EO-2015-0252       | GMO            | Staff Report           | Integrated Resource Plan –<br>Renewable Energy Standard |
| EO-2015-0254       | KCPL           | Staff Report           | Integrated Resource Plan –<br>Renewable Energy Standard |
| EA-2015-0256       | KCP&L<br>GMO   | Live Testimony         | Greenwood Solar CCN                                     |
| EO-2015-0279       | Empire         | Memorandum             | RES Compliance Plan & Report                            |
| ET-2016-0185       | KCP&L          | Memorandum             | Solar Rebate Tariff Suspension                          |
| EO-2016-0280       | KCPL           | Memorandum             | RES Compliance Report                                   |
| EO-2016-0281       | GMO            | Memorandum             | RES Compliance Report                                   |
| EO-2016-0282       | KCPL           | Memorandum             | RES Compliance Plan                                     |
| EO-2016-0283       | GMO            | Memorandum             | RES Compliance Plan                                     |
| EO-2016-0284       | Ameren         | Memorandum             | RES Compliance Plan & Report                            |
| ER-2016-0023       | Empire         | Report                 | RES                                                     |
| ER-2016-0156       | KCP&L<br>GMO   | Rebuttal               | RESRAM Prudence Review                                  |

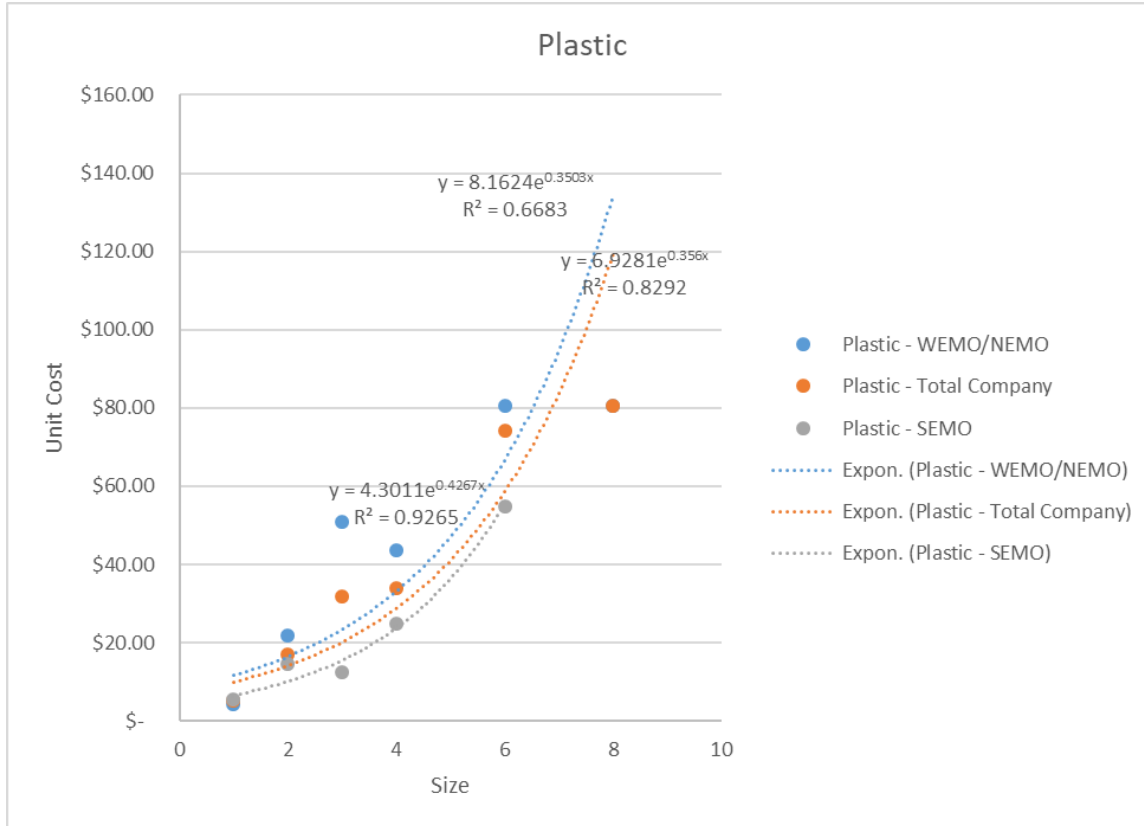
| <b>Case Number</b>                | <b>Utility</b>                            | <b>Type</b>                            | <b>Issue</b>                                                   |
|-----------------------------------|-------------------------------------------|----------------------------------------|----------------------------------------------------------------|
| EA-2016-0208                      | Ameren                                    | Rebuttal                               | Certificate of Convenience and Necessity                       |
| ER-2016-0285                      | KCPL                                      | Cost of Service Report                 | In-Service, Greenwood Solar                                    |
| ER-2016-0179                      | Ameren                                    | Rebuttal                               | In-Service, Labadie Landfill                                   |
| EW-2017-0245                      | Electric                                  | Report                                 | Working Case on Emerging Issues in Utility Regulation          |
| EO-2017-0268                      | Ameren                                    | Memorandum                             | RES Compliance Plan & Report                                   |
| EO-2017-0269                      | KCPL                                      | Memorandum                             | RES Compliance Report                                          |
| EO-2017-0271                      | KCPL                                      | Memorandum                             | RES Compliance Plan                                            |
| GR-2017-0215<br>&<br>GR-2017-0216 | Spire                                     | Rebuttal & Surrebuttal                 | CHP for Critical Infrastructure                                |
| GR-2018-0013                      | Liberty Utilities (Midstates Natural Gas) | Rebuttal                               | CHP Outreach Initiative for Critical Infrastructure Resiliency |
| EO-2018-0287                      | Ameren                                    | Memorandum                             | RES Compliance Plan & Report                                   |
| EO-2018-0288                      | KCPL                                      | Memorandum                             | RES Compliance Report                                          |
| EO-2018-0290                      | KCPL                                      | Memorandum                             | RES Compliance Plan                                            |
| EA-2016-0207                      | Ameren                                    | Memorandum                             | Certificate of Convenience and Necessity                       |
| ER-2018-0146                      | GMO                                       | Cost of Service Report                 | RESRAM Prudence Review                                         |
| ER-2018-0145<br>ER-2018-0146      | KCPL<br>GMO                               | Class Cost of Service Report, Rebuttal | Solar Subscription Pilot Rider, Standby Service Rider          |
| EA-2018-0202                      | Ameren                                    | Staff Report                           | Certificate of Convenience and Necessity                       |
| EE-2019-0076                      | Ameren                                    | Memorandum                             | Variance Request – Reliability Reporting                       |
| EA-2019-0021                      | Ameren                                    | Staff Report                           | Certificate of Convenience and Necessity                       |
| EA-2019-0010                      | Empire                                    | Staff Report                           | Certificate of Convenience and Necessity                       |
| EX-2019-0050                      | N/A                                       | Live Comments                          | Renewable Energy Standard                                      |

| <b>Case Number</b>    | <b>Utility</b>        | <b>Type</b>                                    | <b>Issue</b>                                   |
|-----------------------|-----------------------|------------------------------------------------|------------------------------------------------|
| EO-2019-0315          | KCPL                  | Memorandum in Response to Commission Questions | Renewable Energy Standard                      |
| EO-2019-0316          | GMO                   | Memorandum                                     | Renewable Energy Standard                      |
| EO-2019-0317          | KCPL                  | Memorandum in Response to Commission Questions | Renewable Energy Standard                      |
| EO-2019-0318          | GMO                   | Memorandum                                     | Renewable Energy Standard                      |
| ER-2019-0335          | Ameren                | Cost of Service Report                         | Renewable Energy Standard, In-Service Criteria |
| EA-2019-0371          | Ameren                | Staff Report                                   | Certificate of Convenience and Necessity       |
| EO-2020-0329          | Evergy Missouri Metro | Memorandum                                     | Renewable Energy Standard                      |
| EO-2020-0330          | Evergy Missouri West  | Memorandum                                     | Renewable Energy Standard                      |
| EE-2021-0237          | Evergy Missouri Metro | Memorandum                                     | Cogeneration Tariff                            |
| EE-2021-0238          | Evergy Missouri West  | Memorandum                                     | Cogeneration Tariff                            |
| EE-2021-0180          | Ameren Missouri       | Memorandum                                     | Electric Meter Variance                        |
| ET-2021-0151 and 0269 | Evergy                | Memorandum, Rebuttal Report                    | Transportation Electrification                 |
| AO-2021-0264          | Various               | Staff Report                                   | February 2021 Cold Weather Event               |
| EW-2021-0104          | n/a                   | Staff Report                                   | RTO Membership                                 |
| EW-2021-0077          | n/a                   | Staff Report                                   | FERC Order 2222                                |
| EO-2021-0339          | Evergy Missouri West  | Memorandum                                     | Territorial Agreement                          |
| GR-2021-0108          | Spire                 | Rebuttal                                       | Automated Meter Reading Opt-out Tariff         |
| EA-2021-0087          | ATXI                  | Rebuttal Report                                | Certificate of Convenience and Necessity       |

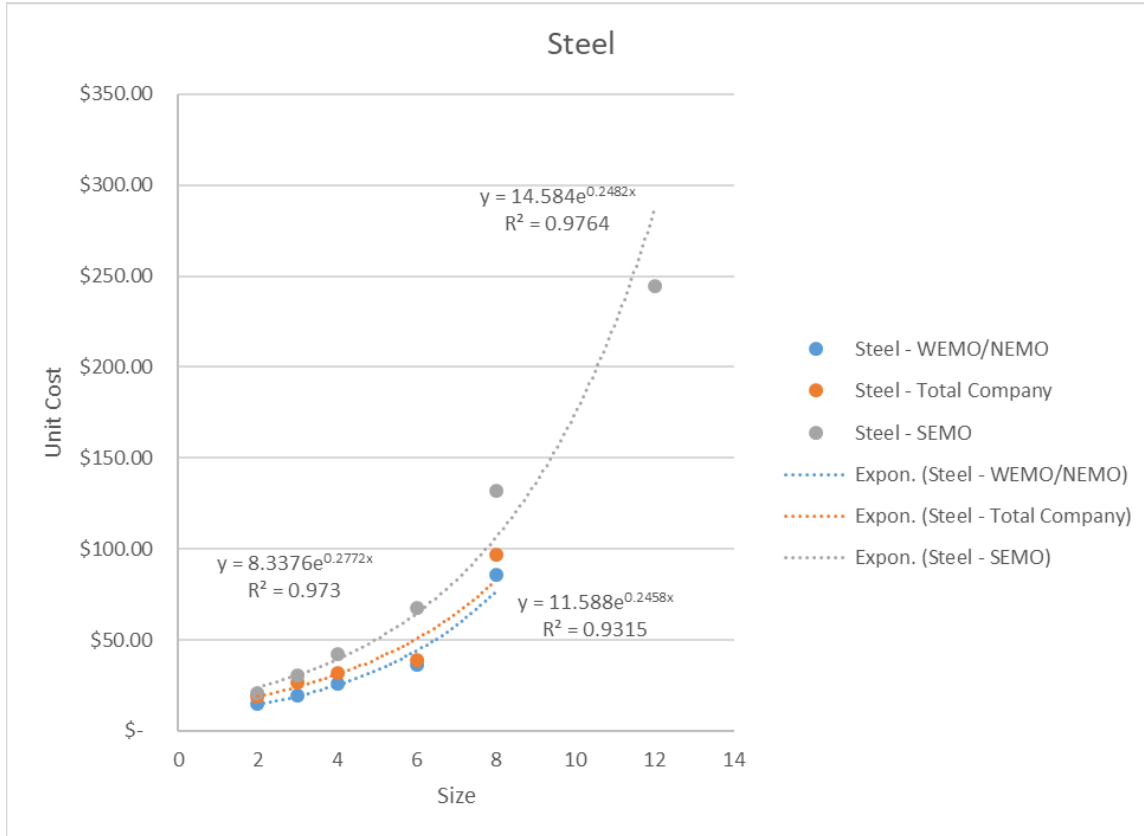
| <b>Case Number</b>           | <b>Utility</b>              | <b>Type</b>                         | <b>Issue</b>                                                                                                               |
|------------------------------|-----------------------------|-------------------------------------|----------------------------------------------------------------------------------------------------------------------------|
| ER-2021-0240                 | Ameren Missouri             | Cost of Service Report Rebuttal     | In-Service Bat Mitigation                                                                                                  |
| ER-2021-0312                 | Empire                      | Cost of Service Report              | Construction Audit – Engineering Review, In-service                                                                        |
| EO-2022-0061                 | Evergy Missouri West        | Surrebuttal                         | Special Rate/ Renewable Energy Standard                                                                                    |
| EA-2022-0099                 | ATXI                        | Rebuttal                            | Certificate of Convenience and Necessity                                                                                   |
| EA-2022-0234                 | NextEra Energy Transmission | Rebuttal                            | Certificate of Convenience and Necessity                                                                                   |
| ER-2022-0129                 | Evergy Missouri West        | Direct Rebuttal                     | Advanced Metering Infrastructure, Reliability, Transmission & Distribution Investment, PISA reporting, Misc. Tariff issues |
| ER-2022-0130                 | Evergy Missouri Metro       | Direct Rebuttal Surrebuttal/True-Up | Advanced Metering Infrastructure, Reliability, Transmission & Distribution Investment, PISA reporting, Misc. Tariff issues |
| EE-2022-0329                 | Ameren Missouri             | Memorandum                          | Variance Request                                                                                                           |
| GR-2022-0179                 | Spire Missouri              | Direct Rebuttal                     | Metering Infrastructure                                                                                                    |
| ER-2022-0337                 | Ameren Missouri             | Direct Rebuttal Surrebuttal/True-Up | Rush Island, Smart Energy Plan, High Prairie                                                                               |
| EA-2023-0017                 | Grain Belt                  | Rebuttal                            | Certificate of Convenience and Necessity                                                                                   |
| ET-2023-0250                 | Empire                      | Memorandum                          | Cogeneration/ Net Metering Tariff                                                                                          |
| GE-2023-0196                 | Empire District Gas Company | Memorandum                          | Variance Request                                                                                                           |
| EO-2023-0423<br>EO-2023-0424 | Evergy                      | Memorandum                          | Solar Subscription Program                                                                                                 |
| EC-2024-0108                 | Ameren Missouri             | Staff Report                        | Complaint                                                                                                                  |
| EA-2024-0147                 | ATXI                        | Memorandum                          | Certificate of Convenience and Necessity                                                                                   |
| EO-2024-0231                 | Ameren Missouri             | Memorandum                          | Renewable Energy Standard                                                                                                  |



| <b>Case Number</b> | <b>Utility</b>             | <b>Type</b>             | <b>Issue</b>   |
|--------------------|----------------------------|-------------------------|----------------|
| EF-2024-0021       | Ameren<br>Missouri         | Rebuttal<br>Surrebuttal | Securitization |
| ER-2024-0189       | Evergy<br>Missouri<br>West | Direct                  | In-service     |



| <b>Plastic - WEMO/NEMO</b>     |        |      |                  |    |      |
|--------------------------------|--------|------|------------------|----|------|
| X-Variable                     | 0.3503 | 2.10 | Intercept        | \$ | 8.16 |
| X-Variable SE                  | 0.12   | 0.57 | Intercept SE     |    |      |
| R-Square                       | 66.83% | 0.72 | Model SE         |    |      |
| F                              | 8.06   | 4    | df               |    |      |
| SumSq (reg)                    | 4      | 2    | SumSq (resid)    |    |      |
| X-variable t-stat              | 2.84   | 3.66 | Intercept t-stat |    |      |
| <b>Plastic - SEMO</b>          |        |      |                  |    |      |
| X-Variable                     | 0.4267 | 1.46 | Intercept        | \$ | 4.30 |
| X-Variable SE                  | 0.07   | 0.25 | Intercept SE     |    |      |
| R-Square                       | 92.65% | 0.27 | Model SE         |    |      |
| F                              | 37.83  | 3    | df               |    |      |
| SumSq (reg)                    | 3      | 0    | SumSq (resid)    |    |      |
| X-variable t-stat              | 6.15   | 5.79 | Intercept t-stat |    |      |
| <b>Plastic - Total Company</b> |        |      |                  |    |      |
| X-Variable                     | 0.3560 | 1.94 | Intercept        | \$ | 6.93 |
| X-Variable SE                  | 0.08   | 0.38 | Intercept SE     |    |      |
| R-Square                       | 82.92% | 0.47 | Model SE         |    |      |
| F                              | 19.42  | 4    | df               |    |      |
| SumSq (reg)                    | 4      | 1    | SumSq (resid)    |    |      |
| X-variable t-stat              | 4.41   | 5.15 | Intercept t-stat |    |      |



|                              |        |       |                  |    |       |
|------------------------------|--------|-------|------------------|----|-------|
| <b>Steel - WEMO/NEMO</b>     |        |       |                  |    |       |
| X-Variable                   | 0.2772 | 2.12  | Intercept        | \$ | 8.34  |
| X-Variable SE                | 0.03   | 0.14  | Intercept SE     |    |       |
| R-Square                     | 97.30% | 0.13  | Model SE         |    |       |
| F                            | 107.92 | 3     | df               |    |       |
| SumSq (reg)                  | 2      | 0     | SumSq (resid)    |    |       |
| X-variable t-stat            | 10.39  | 15.65 | Intercept t-stat |    |       |
| <b>Steel - SEMO</b>          |        |       |                  |    |       |
| X-Variable                   | 0.2482 | 2.68  | Intercept        | \$ | 14.58 |
| X-Variable SE                | 0.02   | 0.13  | Intercept SE     |    |       |
| R-Square                     | 97.64% | 0.16  | Model SE         |    |       |
| F                            | 165.41 | 4     | df               |    |       |
| SumSq (reg)                  | 4      | 0     | SumSq (resid)    |    |       |
| X-variable t-stat            | 12.86  | 20.58 | Intercept t-stat |    |       |
| <b>Steel - Total Company</b> |        |       |                  |    |       |
| X-Variable                   | 0.2458 | 2.45  | Intercept        | \$ | 11.59 |
| X-Variable SE                | 0.04   | 0.20  | Intercept SE     |    |       |
| R-Square                     | 93.15% | 0.19  | Model SE         |    |       |
| F                            | 40.79  | 3     | df               |    |       |
| SumSq (reg)                  | 1      | 0     | SumSq (resid)    |    |       |
| X-variable t-stat            | 6.39   | 12.53 | Intercept t-stat |    |       |