

Exhibit No.:
Issue(s): Revenue Allocation,
Rate Design
Witness: Sarah L.K. Lange
Sponsoring Party: MoPSC Staff
Type of Exhibit: Direct Testimony
Case No.: GR-2022-0179
Date Testimony Prepared: September 9, 2022

MISSOURI PUBLIC SERVICE COMMISSION

INDUSTRY ANALYSIS DIVISION

TARIFF/RATE DESIGN DEPARTMENT

**DIRECT TESTIMONY
Rate Design**

OF

SARAH L.K. LANGE

**SPIRE MISSOURI, INC., d/b/a Spire
CASE NO. GR-2022-0179**

*Jefferson City, Missouri
September 2022*

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5 **SPIRE MISSOURI, INC., d/b/a Spire**

6 **CASE NO. GR-2022-0179**

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1 **SUMMARY OF RECOMMENDATIONS**

2 Q. Could you summarize your recommendations in this case?

3 A. Yes. I recommend that the Commission order Spire Missouri to:

- 4 1. Implement revenue requirement increases as an equal percent adjustment
5 to each rate element of each rate schedule of Spire East.
6 2. Retain and develop customer-level demand determinants for each class
7 for potential use in future rate structures for both Spire East and
8 Spire West.
9 3. Monitor and retain daily demand information for each class for use in
10 future Class Cost of Service Studies for both utilities.
11 4. Improve the accuracy of plant and accounting records concerning meters
12 for both utilities.

13 **CLASS REVENUE REQUIREMENTS**

14 Q. Are you providing a Class Cost of Service Study in this case?

15 A. No. As discussed in greater detail below, the information necessary to conduct
16 a meaningful Class Cost of Service Study is not fully available in this case, primarily due to the
17 limited passage of time since significant rate schedule modifications were made in the recent
18 Spire rate case, GR-2021-0108.

19 Q. How should the revenue requirement increase determined in this case be
20 allocated to the classes of Spire East?

21 A. The Commission should implement the revenue requirement increase for
22 Spire East as an equal percent adjustment to each rate element of each rate schedule.

23 Q. Is this result reasonable?

24 A. Yes. Interclass and intraclass movements were made in the last case, and too
25 little time has elapsed to effectuate those movements in the billing determinants and allocators

1 that would apply to this case.¹ Further, as discussed below, the data necessary for meaningful
2 CCOS study is not available.

3 Q. Is this result practical?

4 A. Yes. Intraclass stability of relative rate component values minimizes the impact
5 of any inaccuracies in the billing determinants that exist due to the recent rate structure
6 reconfigurations. It also moderates the impact on customers of successive rate increases.

7 **RETENTION OF ADDITIONAL INFORMATION**

8 Q. Are there determinants you recommend be retained for consideration of
9 future rate structure components?

10 A. Yes. I recommend Spire Missouri be ordered to retain and develop
11 customer-level demand determinants for each class for service to Spire Missouri East and
12 Spire Missouri West for potential use in future rate structures.

13 Q. What do you mean by customer-level demand determinants?

14 A. For gas customers, the applicable demand determinant is generally regarded as
15 the amount of gas used on the day in a month during which that customer used the most gas,
16 relative to other days in that month.

17 Q. Is this information also relevant to information necessary to conduct a gas class
18 cost of service study?

¹ “Billing Determinants” refers to the units of sales to customers, consisting of the number of customer charges applicable to each rate schedule, the Ccf of sales, by month and block, to each rate schedule, and, for certain classes, the demand determinants applicable to each month for applicable rate schedules.
“Allocators” refers to the mathematical calculations made to prorate a given cost or expense to the studied classes in a class cost of service study. Several allocators typically relied upon for a gas class cost of service study incorporate the number of customers taking service on a given rate schedule into this calculation.

1 A. It can be. As discussed below, it is necessary that Spire improve the data it
2 retains and makes available for CCOS purposes related to daily demands. Individual customer
3 daily demands and a coincidence study can be a reasonable method of estimating class-level
4 daily demands.

5 **AREAS REQUIRING FURTHER STUDY FOR FUTURE CCOS RELIABILITY**

6 Q. Are there barriers to the conduct of a reasonable CCOS in this case?

7 A. Yes. This case was filed in immediate succession to the last Spire rate case,
8 GR-2021-0108. In that case issues arose with the availability of daily demands for all classes.
9 That issue has not been resolved. Also in that case, classes were restructured, and the test
10 period in this case does not fully capture resulting customer movements. In this case, concerns
11 have arisen with the accuracy of the time period to which usage was billed, and with the
12 accuracy of the meter plant accounts.

13 **Daily Demand Data**

14 Q. Did Staff address the quality of daily demand data available in Spire's last
15 general rate case, GR-2021-0108?

16 A. Yes. The Surrebuttal testimony of Robin Kliethermes contained the following
17 exchange at page 7:

18 Q. What is the concern with the allocation of distribution mains?

19 A. Since daily demand data per rate schedule is limited in this case, the
20 allocators used by the Company and Staff to allocate cost related to
21 distribution mains disproportionately weights the number of
22 customers per rate class and does not appropriately weight class
23 usage.

24 Q. What alternative to the Company's mains allocation did Staff
25 review?

1 A. Consistent with the Ameren Gas rate case, File No GR-2019-0077,
2 Staff reviewed the use of an Average and Excess (“A&E”) allocator
3 for mains. **While this is generally a more reasonable allocator**
4 **than Spire’s mains allocation, it depends on accurate coincident²**
5 **and non-coincident³ demand data. Staff developed an allocator**
6 **for study purposes based on imputed demand data, as actual**
7 **daily demand data is unavailable at this time for Spire. However,**
8 **Spire indicated that possibly by the time of its next rate case,**
9 **daily demand data could be available.** Below are the results of
10 Staff’s CCOS study updated for the change in the allocation of
11 income taxes, known changes to Transportation revenues, and if the
12 expenses and investments related to distribution mains were
13 allocated to the rate classes using an A&E allocation.

14 Q. Has Spire provided the daily demand data in this case?

15 A. No. The daily demand data would have been an input into Spire’s CCOS, had
16 Spire performed and provided a CCOS.⁴

17 Q. Is it your understanding that enough time has elapsed for Spire to have metered
18 and retained the data necessary to provide 12 months of daily demand data?

19 A. I do not believe enough time has passed for Spire to have accumulated 12 months
20 of daily demand data at this time. It is a certainty that not enough time has passed to accumulate
21 12 months of class-level daily demand data for the classes as restructured by the tariffs
22 promulgated in compliance with the Commission’s Order in Spire’s last general rate case,
23 GR-2021-0108, as those sheets took effect less than 12 months ago, on December 23, 2021.

² Coincident demand is a rate class’s demand at the time the system is peaking and is generally measured over a day for natural gas.

³ Non-coincident demand is a rate class’s demand regardless of when the distribution system is peaking and is generally measured over a day for natural gas.

⁴ In response to Staff DR 243, Spire stated that it did not track the data to respond to Staff’s request “Separately for Spire East and Spire West, for each calendar month, please identify the top three days of gas consumption. For each specified date, please indicate the usage, by rate schedule that occurred on that date. If this information is not available, please explain what additional information or process is needed to provide the information requested.”

1 **Class Restructuring**

2 Q. Has Spire prepared revised allocator workpapers for the meters and mains costs
3 for the classes as restructured by the tariffs promulgated in Spire’s last general rate case,
4 GR-2021-0108?

5 A. I do not believe so, as those sheets took effect less than 12 months ago, on
6 December 23, 2021. This information would have been an input into Spire’s CCOS Study, had
7 Spire performed and provided a CCOS Study in this case, GR-2022-0179.

8 Q. Is it likely that the revenues calculation in this case, including customer counts,
9 have not fully recognized the customer shifts that occurred as a result of the last rate case?

10 A. No. While the rate design changes made in the last case reduced the overall
11 revenue difference associated with a customer being served on the “wrong” rate schedule,
12 customer counts in particular will change over time as customers migrate to the appropriate
13 schedule. Customer counts are a significant input to the calculation of many of the allocators
14 commonly used to allocate gas distribution plant, including mains, meters, and services of all
15 material types.

16 **Revenues Accuracy and Meter Account Accuracy**

17 Q. In your Revenue Requirement Direct Testimony you noted concerns with
18 (1) the presence of apparent negative usage which undermines the reliability of the revenue
19 normalization process and (2) apparent accuracy issues in the meters accounts and/or the
20 presence of apparent excess plant in the meters accounts. Do these concerns diminish the
21 reliability of any CCOS Study that could be conducted in this case?

22 A. Yes. A CCOS Study compares the relationship of a class’s allocated cost of
23 service and its retail revenues. If the retail revenues are unreliable, the comparison of the

1 revenues to another value are unreliable. Further, within a CCOS, it is not uncommon for class
2 retail revenues to be used to calculate an allocator applicable to expense items within the CCOS,
3 particular the PSC assessment and taxes imposed on sales revenue. Similarly, the average value
4 of booked meters, vintage-adjusted average meter value, and meter count are common inputs
5 to the calculation of an allocator applicable to meter accounts. Further, Staff has been
6 attempting to move to assignment of meters and/or meter costs to classes where data exist to do
7 so. Neither allocators nor assignments will yield reliable CCOS results where the continuing
8 property record information is unreliable or inaccurate.

9 **Improvement Appropriate for Future CCOS Study Reliability**

10 Q. Going forward, what information is appropriate to address the lack of reasonable
11 daily demand data?

12 A. Staff recommends the Commission order Spire to sum and retain daily demand
13 data by rate schedule to the extent possible using the metering available. Staff recommends
14 that separately for Spire East and Spire West, Spire determine the top three usage days within
15 each month, and provide its calculation or best estimate of the contribution of customers, by
16 rate schedule, to the usage on each of those days.

17 As metering capabilities change, identifying the class non-coincident peaks by month
18 should also be a goal.

19 Q. Going forward, is further information necessary to address the class
20 restructuring issue?

21 A. Unless significant rate design or rate structure changes are made in this or a
22 future case, and so long as Spire diligently applies the customer eligibility provisions of its

1 | tariff, this issue should resolve with the passage of time. This is one of the reasons Staff
2 | recommends an equal percent adjustment to all rate elements in this case.

3 | Q. Did you address improvement of the accuracy of revenue inputs and the meter
4 | accounts in your Revenue Requirement Direct Testimony in this case?

5 | A. Yes.

6 | **CONCLUSION**

7 | Q. Could you summarize your recommendations?

8 | A. I recommend that the Commission order that Spire:

- 9 | 1. Implement revenue requirement increases as an equal percent adjustment
10 | to each rate element of each rate schedule of Spire East.
- 11 | 2. Retain and develop customer-level demand determinants for each class
12 | for potential use in future rate structures for both Spire East and Spire
13 | West.
- 14 | 3. Monitor and retain daily demand information for each class for use in
15 | future Class Cost of Service Studies for both utilities.
- 16 | 4. Improve the accuracy of plant and accounting records concerning meters
17 | for both utilities.

18 | Q. Does this conclude your direct testimony?

19 | A. Yes it does.

BEFORE THE PUBLIC SERVICE COMMISSION
OF THE STATE OF MISSOURI

In the Matter of Spire Missouri, Inc. d/b/a)
Spire's Request for Authority to Implement)
a General Rate Increase for Natural Gas)
Service Provided in the Company's)
Missouri Service Areas)

Case No. GR-2022-0179

AFFIDAVIT OF SARAH L.K. LANGE

STATE OF MISSOURI)
) ss.
COUNTY OF COLE)

COMES NOW SARAH L.K. LANGE and on her oath declares that she is of sound mind and lawful age; that she contributed to the foregoing *Direct Testimony of Sarah L.K. Lange*; and that the same is true and correct according to her best knowledge and belief.

Further the Affiant sayeth not.

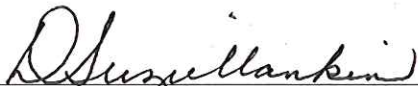


SARAH L.K. LANGE

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 7th day of September 2022.

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