

Exhibit No.:
Issue(s): *Metering Infrastructure;
Combined Heat and
Power*
Witness: *J Luebbert*
Sponsoring Party: *MoPSC Staff*
Type of Exhibit: *Rebuttal Testimony*
Case No.: *GR-2021-0108*
Date Testimony Prepared: *June 17, 2021*

MISSOURI PUBLIC SERVICE COMMISSION

INDUSTRY ANALYSIS DIVISION

ENGINEERING ANALYSIS DEPARTMENT

REBUTTAL TESTIMONY

OF

J LUEBBERT

**SPIRE MISSOURI INC., d/b/a SPIRE
SPIRE EAST and SPIRE WEST
GENERAL RATE CASE**

CASE NO. GR-2021-0108

*Jefferson City, Missouri
June 2021*

1 its inclusion of investments in advanced metering infrastructure to replace existing
2 meters regardless of age. I will also explain why Staff recommends not including the
3 \$4,419,631 booked in FERC subaccount 381.1 and \$919,416 booked in FERC subaccount
4 382.2 in rates based on the lack of support provided by Spire Missouri to date. Additionally,
5 I will address the proposed Combined Heat and Power initiative.

6 Q. Has Spire Missouri supported the inclusion of the investments in replacing the
7 existing metering infrastructure with new meters and the associated capital costs?

8 A. No, Spire Missouri has not fully supported the aforementioned investments. The
9 direct testimony provided by Spire Missouri to support the inclusion of the costs to replace
10 existing metering equipment with new advanced metering equipment in this case was limited
11 to the following two sentences in Mr. Weitzel's direct testimony:¹

12 Spire is installing advanced metering technology to improve metering
13 quality and provide enhanced safety. These investments in new
14 technology allow Spire to provide smarter, safer, and more efficient
15 service to our customers.

16 Q. What does the existing metering infrastructure consist of?

17 A. The existing metering infrastructure consists of diaphragm meters paired with
18 Automated Meter Reading ("AMR") devices. AMR devices allow for one-way communication
19 from the meter to the utility.

20 Q. What does the Company mean by advanced meters?

21 A. Spire Missouri has begun installing new ultrasonic meters that have integrated
22 network devices. The integrated network devices could allow Spire Missouri to fully implement
23 Advanced Meter Infrastructure ("AMI") technology in the future. Once fully implemented,

¹ Direct testimony of Scott A. Weitzel, page 9 lines 5-7.

1 AMI technology would allow for two-way communication between a given device and the
2 utility. This two-way communication would allow Spire Missouri to remotely shut-off meters
3 on an individual basis, which is a capability that is unavailable with AMR technology.
4 However, despite the two-way communication enabled by AMI technology, Spire Missouri will
5 still need a field technician on-site at the premises for service restoration.

6 Q. Will moving to AMI technology require additional capital costs?

7 A. Yes. According to Spire Missouri to fully access all AMI technology
8 capabilities, it will require additional investments in network technology, network
9 management software, and a data warehouse in addition to the meters.² However, during the
10 June 9th technical conference Spire indicated that fully implementing AMI technology was not
11 needed in order to realize the safety benefits of the new ultrasonic meters.

12 Q. Has Spire Missouri provided additional information to Staff outside of the
13 normal discovery process?

14 A. Yes. During a technical conference on June 9, Spire Missouri provided
15 additional context regarding the approach Spire is employing to replace the existing metering
16 infrastructure. Some of the information provided during that technical conference indicated
17 that the benefits and potential safety features of the new ultrasonic meters are not dependent on
18 additional AMI metering infrastructure. Some additional benefits of the ultrasonic meters
19 mentioned during the technical conference included the existence of an internal shut-off valve,
20 temperature sensor, remote shut-off,³ and a pressure sensor. Spire also indicated that
21 mechanical failure of the diaphragm meters and AMR devices happened frequently within each

² Spire Missouri response to OPC data request No. 2056.

³ Within 1,000 feet without additional AMI infrastructure.

1 service territory, although Spire has not provided any documentation to support this claim.
2 Staff has issued data requests to Spire Missouri requesting verification of the information
3 portrayed during the technical conference as well as supporting documentation for some of the
4 anecdotal evidence portrayed.

5 Q. Could Spire Missouri have provided Staff with the information offered during
6 the technical conference prior to June 9, 2021?

7 A. Yes. Much of the information shared by Spire Missouri could have been
8 provided either through direct testimony or in response to the data requests sent by The Office
9 of the Public Counsel (“OPC”) and Staff through the discovery process. Unfortunately, Spire
10 did not fully support this information within the context of direct testimony or through the
11 normal discovery process leaving Staff with little in the way of citable information with which
12 to make a recommendation to the Commission at this time. Spire went on to mention that many
13 of the concerns raised during the course of the technical conference would likely be addressed
14 through the company’s rebuttal testimony in response to OPC witness Dr. Geoff Marke. It is
15 unknown to what extent Spire will address all of the concerns raised to date or whether the
16 explanations will include supporting documentation that fully supports the claims therein.

17 Q. What justification has Spire Missouri provided for the investment in replacing
18 the existing metering infrastructure with new technology?

19 A. Spire Missouri has provided limited justification for replacing the existing
20 metering infrastructure. Spire Missouri claims that “the current diaphragm technology is simply
21 obsolete”⁴ without providing evidence and documentation to support such a claim. In the same
22 data request response, Spire Missouri stated that the current vendor is discontinuing

⁴ Spire response to OPC data request No. 2047.

1 manufacture of the diaphragm meter in 2021⁵, but did not provide any documentation regarding
2 the discontinuance. However, at this time diaphragm meters are still being offered for purchase
3 on the Itron website.⁶ Spire Missouri also indicated that, “The current sampling program has a
4 significant population of aged meters that can be targeted to accelerate the tempo of
5 replacements. When a meter is off and customer service needs to be re-established, the meter is
6 being replaced regardless of age. At this point, the change in the frequency of replacements has
7 not been targeted to a level that has warranted an evaluation of the impact to the retirement of
8 the meter plant in service.”⁷ This response is concerning for several reasons. First, it is not clear
9 what level of targeting would “warrant an evaluation of the impact of the retirement” according
10 to Spire Missouri. Second, it is concerning that replacement of the meter regardless of age may
11 lead to a significant amount of stranded investment. Spire Missouri’s response to OPC data
12 request No. 2059 indicates that ** [REDACTED]

13 [REDACTED]
14 [REDACTED]. ** According to the testimony provided in Case No. GR-2017-0215 the
15 batteries for these types of devices have an effective useful life of approximately 20 years.

16 Q. Does a lack of production of a product automatically make it useless and
17 necessary to replace regardless of age?

18 A. No, it does not. As long as the meters are used, useful, and cost effective they
19 may be worth keeping as an asset. However, Spire Missouri has not provided cost benefit
20 analyses with supporting documentation that supports abandoning the existing diaphragm
21 meters regardless of the age of the assets in favor of new ultrasonic meters. Spire stated that

⁵ Ibid.

⁶ [Gas Meters Modules \(itron.com\)](http://itron.com).

⁷ Spire Missouri response to Staff data request No. 0293.

1 “[t]he Company needs to change all meter reading equipment in [Spire] Missouri East by
2 April 2025 because our contract with our current provider (Landis & Gyr) ends at that time.”
3 Spire has not provided documentation that indicates that the existing meter devices will no
4 longer be useable beyond that date. Information provided by Spire in response to Staff data
5 request No. 0295.3 indicates that replacing the AMR device with a new “advanced device” on
6 existing diaphragm meters ** [REDACTED]
7 [REDACTED]. ** This cost disparity warrants additional justification for the
8 decision to proceed with replacing existing meters regardless of the age of the meter.

9 Q. Since the filing of Staff’s direct Cost of Service Report in this case has
10 Spire Missouri provided Staff with information indicating how many ultrasonic meters were
11 installed as of December 31, 2020?

12 A. Yes. According to Spire Missouri’s response to Staff data request No. 0389,
13 Spire Missouri installed ** [REDACTED] ** ultrasonic meters in the Spire Missouri West service
14 territory as of December 31, 2020.

15 Q. How does the cost of the ultrasonic meters provided by Spire Missouri in
16 response to Staff data request No. 0295.2 compare to the average costs per meter included
17 within account number FERC account 381.1 (smart meters) and FERC subaccount 3822.2
18 (smart meter installation) as of December 31, 2020?

19 A. The response to Staff data request No. 0295.2 indicates that the ultrasonic
20 meters cost \$170 per meter with an installation cost estimated to be \$107 per meter. Based
21 on the entry of \$4,419,631 in FERC subaccount 381.1 for “smart meters” and the
22 provided meter installations as of December 31, 2020 the amount being included in the
23 account is roughly ** [REDACTED] ** per meter. However, based on the amount booked in

1 FERC subaccount 382.2 of \$919,416 for “smart meter installations” the average cost to install
2 the meters is about ** [REDACTED] ** per meter installed as of December 31, 2020. Staff is
3 unaware of the reason for the pricing discrepancy at this time and Spire Missouri has not
4 provided an explanation to date. Staff has issued data requests to Spire Missouri requesting
5 an explanation for the discrepancies in costs booked to the aforementioned subaccounts versus
6 actual costs of installation.

7 Q. Did Spire Missouri provide an estimate for the additional costs related to
8 AMI technology or a timeframe for the expected expenditures?

9 A. No, according to Spire Missouri, “The overall capabilities and timing of
10 delivering those capabilities will dictate the deployment timing and expenditures. The overall
11 design of the system simply has not developed far enough to provide such estimates at this
12 time.”⁸ In a separate response Spire Missouri went on to state that, “The scope and extent of
13 the software required will be dictated by the network hardware that is deployed. The network
14 strategy and design is still being studied and the projected cost cannot yet be provided.”⁹

15 Q. Spire Missouri provided Staff with some analyses regarding plans to install new
16 devices. Were the assumptions within the analyses supported with substantial documentation?

17 A. They were not. The estimates provided by Spire Missouri in response to
18 Staff’s request for cost benefit analysis included mostly hard coded cost and benefit estimates
19 without support. The estimates also included various disclaimers that raise additional doubt as
20 to the accuracy and reliability of the estimates. I have listed a few of the disclaimers included
21 within Spire Missouri’s analyses below:

⁸ Ibid.

⁹ Spire Missouri response to OPC data request No. 2064.

1 “The two scenarios chosen in the analysis were chosen for directional purposes only.
2 We have not confirmed if either scenario is achievable.”¹⁰

3 “High level estimates were used to forecast hours required. More analysis still needs to
4 be done.”¹¹

5 “This model makes an assumption that will need to be updated when program
6 parameters are determined.”¹²

7 “High level estimates were used for Total Capital Cost and Avoided Capital Cost.”¹³

8 Q. Why is it important for Spire Missouri to fully support the inclusion of the
9 investment of advanced metering replacing existing metering equipment within the context of
10 its witnesses’ direct testimony?

11 A. Spire Missouri should have provided justification for replacing existing assets
12 with new technology which includes fully supported cost benefit analyses especially in an
13 instance when the existing assets are being replaced regardless of age which increases the
14 possibility of substantial stranded assets.¹⁴ Spire Missouri’s lack of support within the filing of
15 its direct testimony puts all of the other parties at an obvious disadvantage of not being able to
16 fully respond to Spire Missouri’s position within rebuttal testimony and limiting the time to
17 conduct further discovery as necessary to respond to the information or claims provided by
18 Spire Missouri in rebuttal.

19 Q. What is Staff’s recommendation regarding the inclusion of the costs of the
20 ultrasonic meters?

¹⁰ Spire Missouri response to Staff data request No. 0295.

¹¹ Spire Missouri response to Staff data request No. 0295.2.

¹² Ibid.

¹³ Ibid.

¹⁴ 20 CSR 4240-2.130 states in part that “Direct testimony shall include all testimony and exhibits asserting and explaining that party’s entire case-in-chief.”

1 A. At this point in time Staff recommends not including the \$4,419,631 booked in
2 FERC subaccount 381.1 and \$919,416 booked in FERC subaccount 382.2 in rates based on a
3 lack of support provided by Spire Missouri to date.

4 **COMBINED HEAT AND POWER INITIATIVE**

5 Q. Did Spire Missouri propose a combined heat and power initiative as part of its
6 initial filing?

7 A. Yes. Spire Missouri witness Weitzel proposed a combined heat and power
8 (“CHP”) pilot initiative to serve critical infrastructure with a budget cap of \$4 million.
9 Mr. Weitzel dedicated all of six lines of his direct testimony to describe the CHP pilot initiative
10 and did not provide an exemplar tariff or any supporting documentation to support the
11 approval of the pilot and the subsequent recovery of the costs. Staff requested
12 additional information and support for the initiative to which Spire responded that it would
13 “file supplemental direct testimony that provides additional detail.”

14 Q. Does the supplemental direct testimony of Mr. Weitzel further support the
15 CHP initiative.

16 A. No, it does not. Mr. Weitzel indicated that, “the Company believes this topic is
17 more appropriate for a working docket where all industry participants are able to actively
18 participate and discuss whether such a program can be successfully done in the state of
19 Missouri.”¹⁵

20 Q. If Spire does not intend to move forward with the CHP initiative at this time, is
21 this still an issue within this case?

¹⁵ Supplemental direct testimony of Scott A. Weitzel.

1 A. It could be. While not explicitly stated within Spire’s proposed tariff
2 changes¹⁶, during the technical conference on June 9, 2021 Spire indicated to Staff that the
3 terms “grid resiliency”, “distributed generation” and “emergency back-up systems” could
4 include CHP. Out of an abundance of caution, Staff wanted to address the initial filing to
5 indicate that Staff is not supportive of the initially proposed CHP initiative at this time due to a
6 lack of supporting documentation filed by Spire Missouri. Spire Missouri did not include the
7 relevant information necessary for other parties to this case to review and make
8 reasonable recommendations to the Commission. Any future proposal for a CHP initiative by
9 Spire Missouri should include substantially more supporting documentation and explanations
10 regarding the funding and implementation of the proposed program. Furthermore, Staff is
11 concerned that the potential subsidization of CHP through the initially proposed CHP initiative
12 or the proposed changes to the Negotiated Gas Service Rider within the tariff could violate the
13 Commission’s Promotional Practices rule.¹⁷ Staff witness Nancy L. Harris provides additional
14 insight to the proposed language changes to the Negotiated Gas Service Rider within her
15 rebuttal testimony.

16 Q. Does this conclude your rebuttal testimony?

17 A. Yes, it does.

¹⁶ Proposed changes to the Negotiated Gas Service Rider.

¹⁷ 20 CSR 4240-14.020 Prohibited Promotional Practices.

BEFORE THE PUBLIC SERVICE COMMISSION

OF THE STATE OF MISSOURI

n the Matter of Spire Missouri Inc.'s d/b/a)
Spire Request for Authority to Implement a) Case No. GR-2021-0108
General Rate Increase for Natural Gas)
Service Provided in the Company's)
Missouri Service Areas)

AFFIDAVIT OF J LUEBBERT

STATE OF MISSOURI)
) ss.
COUNTY OF COLE)

COMES NOW J LUEBBERT and on his oath declares that he is of sound mind and lawful age; that he contributed to the foregoing *Rebuttal Testimony of J Luebbert*; and that the same is true and correct according to his best knowledge and belief.

Further the Affiant sayeth not.

J LUEBBERT *J Luebbert*

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 16th day of June 2021.

D. SUZIE MANKIN
Notary Public - Notary Seal
State of Missouri
Commissioned for Cole County
My Commission Expires: April 04, 2025
Commission Number: 12412070

D Suzie Mankin
Notary Public