

Exhibit No.: _____
Issue(s): AMI/AMI Opt-Out/Corporate
Governance: Workplace Discrimination/Propane
Storage/Research and Development/Rate Design
Witness/Type of Exhibit: Marke/Surrebuttal
Sponsoring Party: Public Counsel
Case No.: GR-2021-0108

SURREBUTTAL TESTIMONY
OF
GEOFF MARKE

Submitted on Behalf of the Office of the Public Counsel

SPIRE MISSOURI, INC.

CASE NO. GR-2021-0108

July 14, 2021

**BEFORE THE PUBLIC SERVICE COMMISSION
OF THE STATE OF MISSOURI**

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)
Case No. GR-2021-0108

AFFIDAVIT OF GEOFF MARKE

STATE OF MISSOURI)
) ss
COUNTY OF COLE)

Geoff Marke, of lawful age and being first duly sworn, deposes and states:

1. My name is Geoff Marke. I am a Chief Economist for the Office of the Public Counsel.
2. Attached hereto and made a part hereof for all purposes is my surrebuttal testimony.
3. I hereby swear and affirm that my statements contained in the attached testimony are true and correct to the best of my knowledge and belief.

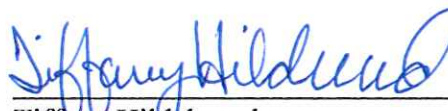


Geoff Marke
Chief Economist

Subscribed and sworn to me this 14th day of July 2021.



TIFFANY HILDEBRAND
My Commission Expires
August 8, 2023
Cole County
Commission #15637121



Tiffany Hildebrand
Notary Public

My commission expires August 8, 2023.

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SURREBUTTAL TESTIMONY

OF

GEOFF MARKE

SPIRE MISSOURI, INC.

CASE NO. GR-2021-0108

1 **I. INTRODUCTION**

2 **Q. Please state your name, title, and business address.**

3 A. Geoff Marke, PhD, Chief Economist, Office of the Public Counsel (OPC or Public Counsel),
4 P.O. Box 2230, Jefferson City, Missouri 65102.

5 **Q. Are you the same Dr. Marke that filed direct and rebuttal testimony in GR-2021-0108?**

6 A. I am.

7 **Q. What is the purpose of your surrebuttal testimony?**

8 I am responding to the rebuttal testimony of other parties' witnesses on select topics. The
9 following is a list of those topics and the witnesses:

- 10 • AMI
 - 11 ○ Spire Inc. ("Spire") witness James Rieske
- 12 • AMI Opt-Out
 - 13 ○ Staff witness Claire M. Eubanks
- 14 • Corporate Governance: Workplace Discrimination
 - 15 ○ Spire witness C. Eric Lobser and
 - 16 ○ Staff witness Jeremy Julitte
- 17 • Propane Storage
 - 18 ○ Spire witness Robert Noelker
- 19 • Research and Development
 - 20 ○ Staff witness Karen Lyons
- 21 • Rate Design
 - 22 ○ Spire witness Scott A. Weitzel

1 I am also formally adopting former OPC witness Amanda Conner’s direct and rebuttal
2 testimony on the topics of “Bad Debt and Uncollectables” and “Credit Card Fees” if those
3 issues require further commentary in an evidentiary hearing.

4 Finally, my silence regarding any issue should not be construed as an endorsement of,
5 agreement with, or consent to any other party’s filed position.

6 **II. AMI**

7 **Q. What was your recommendation in direct testimony regarding Spire’s AMI costs?**

8 A. I believe customers should only be charged, and the Company should only be earning a
9 profit on, one meter, not two (or more) meters per account as the Company is requesting
10 and currently practicing.

11 As such, my primary recommendation is that the Commission disallow the total costs
12 associated with AMI deployment in utility account 381100 that Spire is seeking in this
13 rate case.

14 **Q. Did Spire agree?**

15 A. No.

16 **Q. Did Staff agree?**

17 A. Yes.

18 **Q. Did Spire respond to each of your arguments in direct testimony?**

19 A. No. Spire witness James Rieske only responded to the following four arguments:

- 20 1. Spire’s premature retirement of its diaphragm meters creates stranded assets;¹

¹ “Stranded asset” is a term that has different meanings depending on the context. For example, regulation-based stranded assets differ from market-based stranded assets. The latter simply compares the book value of an asset relative to some future market value of the asset. For example, if an oil reserve has \$1 billion book value but sliding demand due to carbon taxes or other environmental regulations reduces its market value to \$400 million, the result is \$600 million in stranded assets. By contrast, regulation-based assets are assets that are covered by cost of service or other rate-of return regulation. Government regulators at some point have explicitly approved this type of asset in the past to earn a return over a defined period of time—typically in line with the Company’s depreciation schedule and subsequent rate cases; however, assets can and should remain useful above and beyond the point they have been paid off. In this case, the stranded assets are the diaphragm meter’s remaining book value when Spire decided to “retire”

2. That further capital investment is necessary for full two-way AMI capability;
3. Diaphragm meters are not obsolete; and
4. It is not clear what benefits these meters provide customers.

I will provide greater context and respond to each of these four rebuttals to my direct position in turn.²

Stranded Assets

Q. What was Mr. Rieske’s response to your objection to Spire prematurely retiring their existing diaphragm meters before the end of their depreciated and useful life?

A. Mr. Rieske argues the Company is required to by citing to Commission safety rule 20 CSR 4240-10.030 (19) which states:

Unless otherwise ordered by the commission, each gas service meter installed shall be periodically removed, inspected and tested at least once every one hundred twenty (120) months, or as often as the results obtained may warrant to insure compliance with the provisions of section (18) of this rule.

Q. That rule only says the Company needs to test the meters, not replace them every ten years. Did you submit further discovery to clarify Spire’s practice?

A. Yes. OPC DR-2142 inquired into this practice by asking the following question:

Request: The rebuttal testimony of James Rieske p. 4, lines 12-13 states:
Finally, the Company’s installation strategy minimizes the potential for stranded assets by focusing on diaphragm meters that are already scheduled for replacement.

these assets within ten years despite the Company’s Commission approved 35-year depreciation schedule the Company has offered and maintained for multiple consecutive rate cases (including this one).

² Mr. Rieske was silent as to my assertion that Spire failed to engage stakeholders on this topic in the eight months preceding direct testimony. He was also silent on Spire’s failure to provide any cost-benefit studies or RFP’s to support the capital investment decision. Finally, although he agreed with my assertion that that natural gas AMI meters do not produce the same espoused benefits as electric AMI meters he did not speak to the fact that several State Commissions have rejected the case for electric AMI investments due to lack of demonstrable benefits relative to their costs.

- 1 • Please provide a copy of “the Company’s installation strategy” referenced
- 2 above.
- 3 • Please define “replacement” in the above referenced statement. Is Spire
- 4 removing and retiring meters (i.e., no longer in service) with thirty-five useful
- 5 lives every ten years?

6 **Q. Did Spire clarify whether or not they are removing meters from service categorically at**
7 **the ten-year mark (or close to it) despite the meters 35-year depreciation schedule?**

8 A. Yes. He provided the following specific response on that question:

9 When a meter is selected for the accuracy testing beginning at 10 years, it is
10 removed from service and shipped back to the Company’s testing facility. The
11 meter is tested for accuracy and the external condition is evaluated against its
12 age. However, the working mechanisms of the meter are inside the sealed
13 body of the meter core. To examine or repair these internal parts the body must
14 be opened. The process to open the core, replace the gaskets and reseal it
15 would take far longer than the meter is worth for reuse. The Company, as most
16 other companies in the industry, have found that reconditioning or
17 refurbishing a used meter is nearly as expensive or more expensive than
18 buying a new one. We are not able to physically inspect the condition of the
19 internal components of the meter or perform replacement or repair cost
20 effectively. This means reusing a removed meter increases the occurrence of
21 mechanical failure or metrology inaccuracies.

22 This is common occurrence in the industry that has existed for years. **For**
23 **these reasons, for years the Company has condemned most meters that**
24 **are removed for accuracy testing, particularly if that age exceeds more**
25 **than 15 years.** At times the Company will retire a meter as old as 10 years old

1 based on the actual condition and useful life of that particular meter. (emphasis
2 added)³

3 **Q. Is it fair to say that Spire interprets the phrase “testing” under 20 CSR 4240-10.030 (19)**
4 **as “retirement and replacement”?**

5 A. It would appear so.

6 **Q. Do you agree with that interpretation?**

7 A. No. That would clearly be an inefficient use of an asset that is booked on a 35-year depreciation
8 schedule.

9 **Q. What is the practical result of this?**

10 A. The Company’s unique interpretation of these rules has allowed it to increase its rate base
11 beyond what it should be at great costs to customers. Moreover, Spire’s repeated failure to
12 update its meter depreciation schedules to assume a 10-year operational life means that it has
13 been earning a larger return on its meter investments than it should have. Customers are
14 effectively paying for the costs (including profits) of two meters despite only using one at a
15 given time.

16 **Q. Are there other concerns if the Commission approves the ultrasonic meters?**

17 A. Yes. Based on Spire’s interpretation of the Commission’s rule 20 CSR 4240-10.030 (19), the
18 Company would be continuing the practice of replacing meters every ten years despite the
19 ultrasonic meters having a twenty-year depreciation life.

20 **Q. Your discovery also asked to provide a copy of the installation strategy. Did Spire provide**
21 **it?**

22 A. In part. A three-and-a-half page “Overall Strategy” was provided for ultrasonic/AMI
23 deployment across all of its regulated affiliates (only three pages were Missouri applicable).

³ See GM-1.

1 However, the overall strategy can be summarized as follows: Plans will be developed.⁴

2 **Q. Have you seen any of these plans?**

3 A. No.

4 **Q. Can you summarize your response to Spire’s rebuttal to your assertion that the Company**
5 **is creating a multi-million dollar stranded asset?**

6 A. Yes. Based on discovery Spire is:

- 7 • Removing all diaphragm meters that have been in service more than ten-years
8 (or that are otherwise present in a domicile, regardless of age, if a service
9 representative needs to make a scheduled visit);
- 10 • Retiring those meters despite the approximate 25-years in remaining
11 depreciation on the books;
- 12 • Replacing those retired meters with brand new meters under a 20-year
13 depreciation schedule;
- 14 • Continuing to replace the new meters every ten-years based on the
15 Company’s interpretation of 20 CSR 4240-10.030 (19);
- 16 • Apparently, this practice has been going on for years with no proposed
17 adjustments; and
- 18 • The Company is still in the process of developing plans to articulate and
19 measure how they will accomplish this.

20 The end result is that customers are paying above and beyond the cost of service for a capital
21 investment whose primary responsibility is to just tell the Company and the customer how
22 much gas they used on a monthly basis. There have been no cost-benefit studies conducted, no

⁴ See also GM-2. I have highlighted the sentences in each section that effectively state plans will be developed to emphasize the lack of details surrounding said strategy. Examples include, “A complete implementation plan will be developed”, “A training plan will be created”, “A customer communication plan will be developed”, “The change strategy and plans will include...”

1 Request-for-Proposals issued, and no implementation plans designed to date. The Company is
2 simply replacing functional meters that have not been paid off with more expensive meters that
3 require further capital investments.

4 **Further Capital Investments for AMI Capability**

5 **Q. Did Spire address your concern about the prudence of further capital investments**
6 **related to these meters?**

7 A. In part. Mr. Rieske says that the benefits from ultrasonic meters could be enhanced by
8 additional investment in a wireless network but is silent on whether this would include
9 additional costs related to customer information system (“CIS”) build-out. My experience
10 with at least one utility who converted to AMI, Evergy, included hundreds of millions of
11 additional dollars in software costs above and beyond the hardware meter investments.

12 **Q. What benefits did Mr. Rieske identify as a result of further investment in an advanced**
13 **wireless network system to complement the ultrasonic meters?**

14 A. Mr. Rieske identifies three benefits:

- 15 1.) Customers could see their hourly gas usage;
16 2.) Anomalies in gas usage could be detected on a more frequent finite (hourly) level; and
17 3.) The Company could more accurately model customer load profiles (peak day and peak
18 hour demand requirements)

19 **Q. Did Mr. Rieske provide any cost estimates for the wireless network system?**

20 A. No.

21 **Q. Do you agree these are benefits worth investing in?**

22 A. No. To be clear, I have no idea what it would cost to obtain these benefits, but I struggle to
23 see a scenario where these three identified benefits (which are effectively the same thing—
24 more real time data) would ever justify the likely costs.

1 I am aware of no demand for hourly gas usage data from Spire customers. Furthermore,
2 the value of knowing one's natural gas consumption on a more real-time basis as opposed
3 to consumption on a monthly basis needs to be contrasted with the costs for such a service.

4 **Natural Gas Diaphragm Meters Are Not Obsolete**

5 **Q. Mr. Rieske counter's your assertion that diaphragm meters are not obsolete by including**
6 **a letter from Itron informing customers that they will no longer be offering diaphragm**
7 **natural gas meters. What is your response?**

8 A. First, one Company sending out a letter to customers that they no longer plan to offer a
9 product is not evidence that a product is obsolete. Second, it is now mid-July and Itron is
10 still advertising diaphragm meters on its website.⁵ Third, the letter from Itron is dated 10
11 September 2020 which is 77 days *after* Spire filed its Depreciation Authority Order in Case
12 No: GO-2020-0416 with the Commission. It appears as though the impetus behind Spire's
13 meter switch predates Itron's letter to no longer offer diaphragm meters.

14 Finally, just because Itron is no longer offering diaphragm meters (despite the website
15 suggesting differently) does not mean other natural gas meter vendors are not offering or
16 making diaphragm meters.

17 **Q. Do you have any evidence to support that assertion?**

18 A. I sent an email to Gasco natural gas meter representatives affiliated with Sensus (a Xylem
19 Inc. brand) with the following questions on that very topic. The email questions and
20 response are as follows:

- 21 1.) Are diaphragm natural gas meters currently in stock and
22 available? If yes, what sizes do you have?
- 23 2.) Is there any legitimate fear that diaphragm natural gas meters from
24 Gasco will not be available in the next year? Next five years?

⁵ Itron. (2021) I-250 Residential and Light Commercial Gas Diaphragm Meter.
<https://www.itron.com/na/solutions/product-catalog/i250> 7/12/2021 1:40pm

1 3.) Is there any legitimate fear that diaphragm natural gas meters will
2 not be available from any Company (if Gasco were to stop
3 carrying diaphragm natural gas meters) in the next year? Next five
4 years?

5
6 I received the following email response:

7
8 Hi Geoff,

9
10 Yes, we have ¾”, 1”, & 1-1/4” in R275’s. In the R415’s we have 1-1/4” & 1-1/2”
11 connections in-stock. No, there is no fears of these not being available next year or
12 five years even if we did not sell them anymore, they would still be available. There
13 are no plans for us to stop selling them within the next five years. Depending on
14 the needed meter we have hundreds in stock and thousands on order with Sensus.

15 I hope this is helpful. Please don’t hesitate to give us a call.⁶

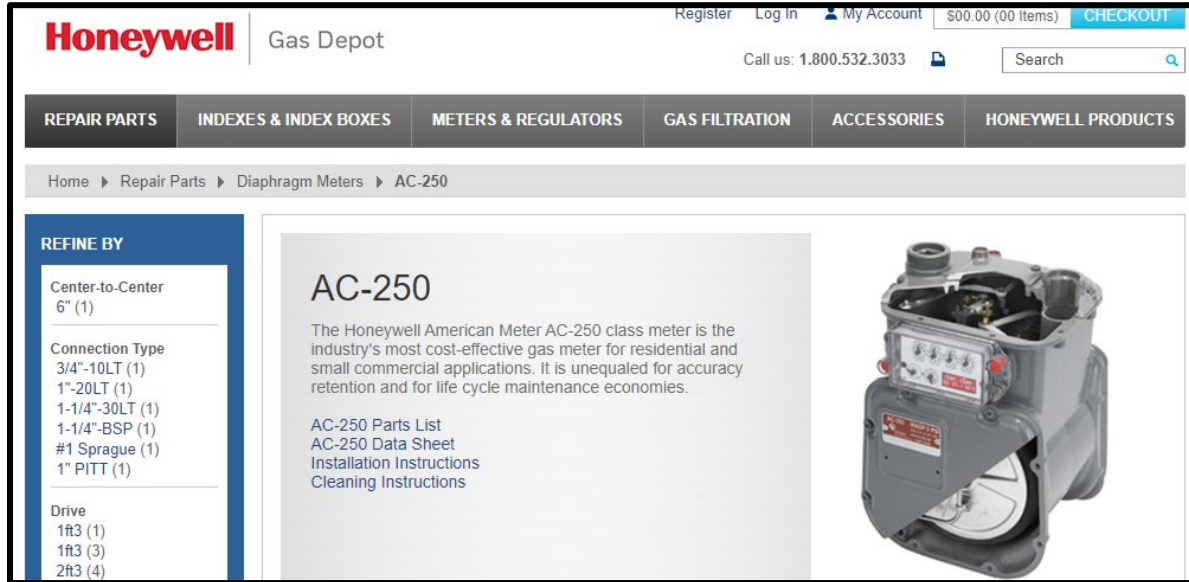
16 Based on this response I doubt the soundness in Spire’s assertion that diaphragm natural
17 gas meter technology is obsolete.

18 **Q. That’s one example. Could you find any other examples?**

19 A. Figure’s 1 and 2 include snippets of 250 series natural gas diaphragm meters currently
20 advertised for sale by other prominent vendors.
21
22
23
24
25
26

⁶ See GM-3 for a copy of the email and response.

1 Figure 1: Honeywell AC-250⁷



2
 3 Figure 2: American Meter AM-250⁸



4
⁷ Honeywell (2021) Gas Depot. AC-250 <https://www.honeywellgasdepot.com/repair-parts/diaphragm-meters/ac-250.html>

⁸ IMAC Systems Inc. (2021) Diaphragm Gas Meters: American Meter AM-250 Diaphragm Gas Meter. <https://www.imacsystems.com/am250.htm>

1 **Benefits to Customers**

2 **Q. What benefits from ultrasonic meters did Mr. Rieske identify to justify prematurely**
3 **retiring diaphragm meters with 25-years of remaining useful life?**

4 A. He identified four benefits including:

5 1.) Safety benefits for customers;

6 2.) Safety benefits for Spire service/meter employees;

7 3.) A 20% increase in accuracy compared to diaphragm meters; and the

8 4.) Reliability of not having to change moving parts within a meter

9 **Q. Mr. Rieske posits that if ultrasonic meters were present in the 2018 Merrimack gas**
10 **explosion the disaster could have been averted. Do you agree?**

11 A. I believe the presence of a remote shut-off could theoretically have minimized that outcome.
12 Importantly, the ability to remotely shut-off at the meter is not a feature unique unto
13 ultrasonic technology.

14 A cursory Google review of the term “natural gas diaphragm meter remote shut off”
15 suggests that the remote shut-off feature exists for diaphragm meters as well. For example,
16 Figure 3 includes a snippet of news clip in 2011 from Elster announcing the launch of a
17 remote shut-off valve for its AC-250 Residential gas meter.

18

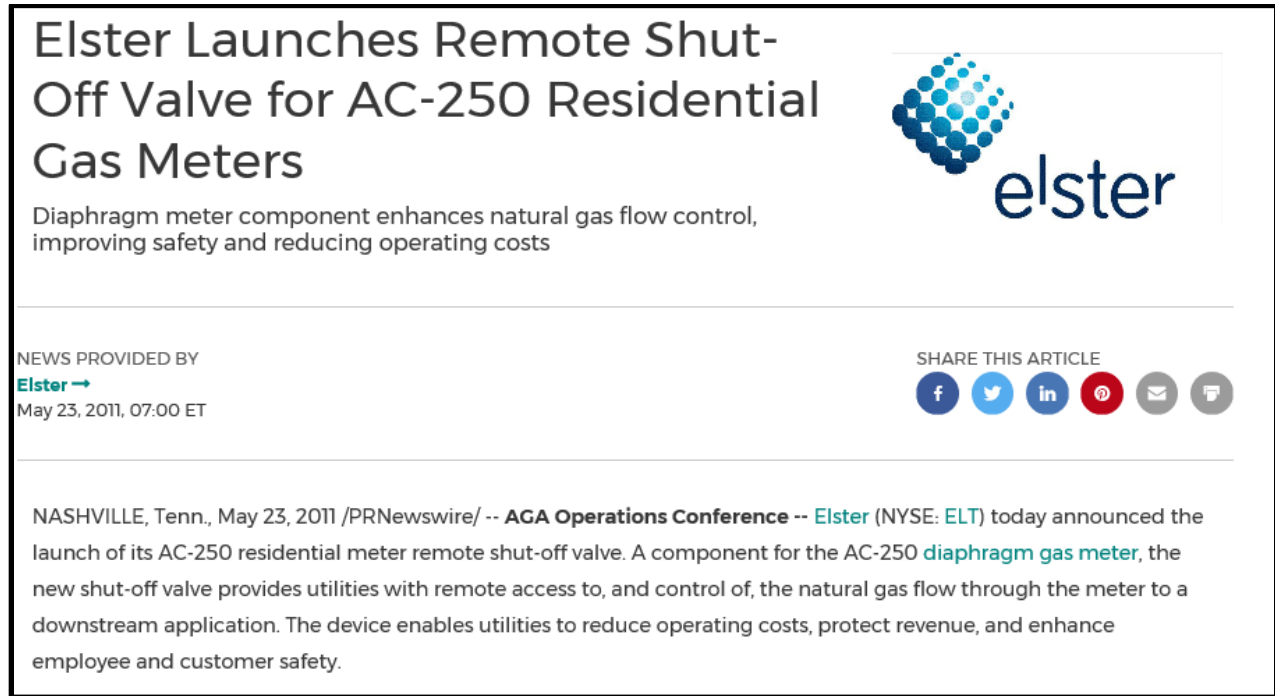
19

20

21

22

1 Figure 3: Elster remote shut-off of natural gas diaphragm meters⁹



2
3 Just as important is the admission by Mr. Rieske that the remote shut-off feature is not currently
4 in place on any ultrasonic meter installed to date but rather a feature expected to be included
5 in a future 400 series later this year. To be clear, no ultrasonic meters currently in operation
6 and subject to the revenue requirement in this case have the “remote shut-off” feature that he
7 singles out as the primary safety customer benefit.

8 **Q. Did you review any literature on the Merrimack explosion to see if ultrasonic meters were**
9 **cited as a recommended feature to prevent future over-pressurization events?**

10 A. Yes. I reviewed the official Merrimack Valley Natural Gas Explosions After Action Report
11 September 13 - December 16, 2018¹⁰ and the American Gas Association’s (“AGA”)

⁹ Elster (2011) Elster launches remote shut-off valve for AC-250 residential gas meters. *PR NEWSWIRE*
<https://www.prnewswire.com/news-releases/elster-launches-remote-shut-off-valve-for-ac-250-residential-gas-meters-122436468.html>

¹⁰ Merrimack Valley Natural Gas Explosions After Action Report September 13 - December 16, 2018
https://andoverma.gov/DocumentCenter/View/7038/September-2018-Merrimack-Valley-Natural-Gas-Explosion-AAR_MEMA?bidId=

1 Leading Practices to Reduce the Possibility of a Natural Gas Over-Pressurization Event¹¹
2 that came out after the Merrimack tragedy. Neither document recommends or references
3 ultrasonic meters or remote shut-offs. I believe that having the ability to remotely shut-off
4 a meter would have been helpful, but it would not have prevented the over-pressurization
5 event, which represented multiple failures across the utility and distribution system.¹²
6 Moreover, I fail to see why ultrasonic meters, specifically, would have been uniquely more
7 beneficial if they were in place.

8 **Q. Mr. Rieske says ultrasonic meters would have saved a Spire employee life if they had**
9 **been operational. What do you know about this claim?**

10 A. OPC DR-2144 inquired on this topic and was informed of a 2000 fatality in Barnhardt,
11 Missouri of a Laclede Gas employee who died after a contractor for Southwestern Bell
12 Telephone Company punctured a main.¹³

13 **Q. What is your response?**

14 A. At the likely risk of coming across as unsympathetic. I cannot unequivocally say that the
15 Laclede employee would be alive today if ultrasonic meters were operational twenty-years
16 ago as the leak appears to have occurred prior to the meter on the main, and again, the
17 remote shut-off is not a unique feature solely attributable to ultrasonic meters. Diaphragm
18 meters can be equipped with this feature as well.

19 **Q. Do you have any final comments on customer safety?**

20 A. Spire has relied upon customer safety as the lynchpin argument for its ultrasonic investment,
21 but a little scrutiny reveals that many of the customer safety assertions are not exclusive to

¹¹ American Gas Association (2018) Leading Practices to Reduce the Possibility of a Natural Gas Over-Pressurization Event <https://www.aga.org/globalassets/safety-and-operations-member-resources/leading-practices-to-prevent-over-pressurization-final.pdf>

¹² For example, the official after action report speaks to the “Strength” in having available locksmiths to ensure utility presence in entering homes. No doubt that strength may not be applicable in every conceivable situation.

¹³ Missouri Lawyers Media (2002) Worker killed in residential gas explosion—hew was responding to puncture of main. <https://molawyersmedia.com/2002/12/02/worker-killed-in-residential-gas-explosion-he-was-responding-to-puncture-of-main/> see also GM-4.

1 ultrasonic meters. The Commission should not be swayed by tragedies that are, at best, only
2 distantly tangible to the argument at hand.

3 More to the point, when Mr. Rieske speaks of customer benefits, he conveniently omits any
4 discussion of the costs associated with this abrupt conversion including: 1.) the existing
5 undepreciated diaphragm meter; 2.) the new more expensive ultrasonic meter; 3.) the
6 accompanying software expenses to enable AMI capability; 4.) the operational expenses of
7 replacing said meters; and 5.) the profit on top of all of these capital investments against any
8 other reasonable alternative scenario which should include using the investments that are
9 already in rate base to determine the customer's monthly bill.

10 The Company has merely identified a feature—remote shut-off that it implies is unique to
11 ultrasonic meters—which is not true. Even the Merrimack explosion is a bad illustrative
12 example, as that event was the result of failure at the district regulator stations not the
13 meters. Finally, I cannot confidently sit here and say that the existing diaphragm meters
14 could not be retrofitted with remote shut-off valves, because again, no analysis (or RFP)
15 was conducted to consider alternative actions.

16 **Q. Mr. Rieske's next purported benefit includes safety to Spire employees. Do you agree?**

17 A. First, I would argue that this is just an extension of the first purported unique benefit—
18 customer safety. Second, my argument remains the same. The Company has provided no
19 empirical analysis on the costs or benefits necessary for this investment and the unique
20 feature being espoused “remote shut-off” is not unique to ultrasonic meters.

21 **Q. Mr. Rieske's next purported benefit is a 20% increase in meter accuracy. Do you agree?**

22 A. No. I have to believe this is a misstatement on his end. I struggle to believe that Spire's
23 current diaphragm meters are producing such inaccurate usage results. Let alone this being
24 the first time we are hearing this.

25 **Q. Did you submit discovery to verify this claim?**

26 A. Yes. OPC DR-2145 inquired into this claim requesting any and all-empirical work that the
27 Company may have relied on to substantiate Mr. Rieske's reliability claims. There was no

1 data provided on diaphragm meter accuracy results. There was no data provided on
2 ultrasonic meter accuracy results in the field. His response only spoke to pre-installation
3 accuracy test results.¹⁴

4 **Q. Mr. Rieske’s final purported benefit for ultrasonic meters is over increased reliability.
5 Do you agree?**

6 A. I do not. Yet again, Mr. Rieske provides no empirical evidence to substantiate this claim.
7 His identified “benefit” is made based on the logic that ultrasonic meters do not have
8 “movable parts” like their diaphragm meter counterparts; therefore, there should be cost
9 benefits through increase reliability by not having to retrofit faulty moving parts.

10 Even if we were to accept this argument at face value without the support of any empirical
11 validation (savings in movable parts), the reliability argument is a flawed one because the
12 *average* useful life of a diaphragm meter is 35 years. While the *average* useful life of an
13 ultrasonic meter is 20 years. Stated differently, the average diaphragm meter provides
14 service for an additional 15 years on average. That is of course if the Company were
15 following its Commission-approved depreciation schedules. However, we know that is not
16 the case because they are retiring meters every ten years (or soon thereafter). Importantly,
17 under Spire’s logic and based on its response to Staff DR 0443-#13, this is true for any
18 meter.¹⁵ Thus, the reliability argument for ultrasonic meters is suspect at best based on the
19 Company’s interpretation of the Commission’s meter testing rules.

20 **Q. Spire was critical that you did not identify any benefits related to the meter replacements
21 in your testimony. Do you have a response?**

22 A. Ultrasonic meters are not a new, novel technology. They have been around since the late
23 1970s.¹⁶ The remote shut-off feature (which is on no ultrasonic meters currently deployed
24 by Spire) is a feature not limited to ultrasonic meters alone. The Company’s

¹⁴ See GM-5.

¹⁵ See the highlighted text in GM-6.

¹⁶ Scelze, M. et al. (2005) Fundamentals of ultrasonic meters. GE Infrastructure Sensing. <https://asgmt.com/wp-content/uploads/pdf-docs/2005/1/A3-A4.pdf>

1 “testing/retirement” practice is very concerning and raises many questions beyond their
2 decision to switch to a more expensive meter. Despite a filed pleading and memorandum
3 articulating OPC’s concerns last summer, the Company did not engage OPC before filing
4 its case-in-chief or identify these investments in its direct testimony. I have still yet to see
5 any evidence that the Company compared the two types of meters (diaphragm and
6 ultrasonic) side-by-side, that a cost-benefit analysis was conducted, that alternative options
7 were considered, or any request-for-proposals submitted. I have heard no arguments for why
8 existing diaphragm meters need to be prematurely retired or seen any articulated problems
9 that can/have to be solved immediately by investing hundreds of millions of dollars in
10 ultrasonic meters. The Company’s stated strategy is literally to “create a series of plans.”
11 This is to say nothing for the lingering additional “AMI” supporting software costs to
12 support—hourly natural gas usage data. A feature no one is asking for.

13 All of that being said, I could theoretically envision a benefit to customers in having a
14 remote shut-off option on future (or retrofitted) meters in the abstract, but I cannot expected
15 to reasonably support such a position without having the facts, the costs and the available
16 options in front of me to make an informed decision with captive ratepayers money. That is
17 what prudent management is supposed to do.

18 **A Carbon Neutral Fossil-Fuel Company**

19 **Q. Do you have any additional comments to make?**

20 A. Yes. At the conclusion of Mr. Rieske’s testimony he explains that Spire’s replacement meter
21 strategy (i.e, replacing meters whenever there is an opportunity to be on the premise of an
22 account) supports the Company’s commitment to becoming a carbon neutral company by
23 mid-century.

24 **Q. Did you inquire as to how Spire intends to become carbon neutral by mid-century?**

25 A. Yes. OPC DR-2148 asked the following question and received the following response:

26 **Request:** The rebuttal testimony of James Rieske p. 16, line 18 states:

27 *Spire has committed to becoming a carbon neutral company by mid-century.*

- 1 • How does a fossil fuel energy company become carbon neutral?
- 2 • Does Spire anticipate that ratepayers will shoulder the costs towards becoming
- 3 carbon neutral by mid-century?

4 **Response:** Spire has clearly articulated our commitments in the attached Corporate
5 Social Responsibility Report. Residential natural gas consumption only accounts for
6 4.6% of GHG. Natural gas LDC's and their residential customers are the closest sector
7 to being carbon neutral. Other sectors have a much harder hurdle to become carbon
8 neutral with industry at 23%, Electricity at 25%, and the transportation sector at 29%
9 <https://www.epa.gov/ghgemissions/sources-greenhouse-gas-emissions>.

10 Spire strongly believes that natural gas is a clean and efficient fuel that serves an
11 important role in our country's energy plan for the future. As we better try to
12 understand our true environmental impact and neutralize it, it is important that we find
13 ways to more accurately measure the gas we deliver to our customers. The ultrasonic
14 meter delivers significantly more accurate measurement and will sustain that accuracy
15 over the life of the meter. Again, it speaks to the fact that diaphragm meter technology
16 met the demands of the past but its design and capability simply do not meet the needs
17 of our customers and community now and going into the future.

18 **Q. What is your response?**

19 A. As it pertains to meters, I would point out that utilizing a diaphragm meter until the end of
20 its useful life would require no immediate car trips thus saving even more tailpipe emissions
21 than Mr. Rieske contemplates.

22 As to the larger question of how a fossil fuel Company will become carbon neutral by mid-
23 century. Mr. Rieske offers up Spire's Corporate Social Responsibility Report, which can be
24 summarized as follows: the Company plans on increasing capital expense to prevent
25 methane leaks in its distribution system.

26 **Q. Will captive customers be asked to shoulder those costs?**

27 A. They already are.

1 **Q. Would patching up all distribution pipe leaks accomplish the goal of carbon neutrality?**

2 A. I would say no. There are two inherent problems in such a philosophy. The first, is that Spire
3 is omitting the carbon emissions created by burning natural gas at each of its customer
4 premises from its calculation towards carbon neutrality. That is *the* “elephant in the room”
5 in terms of declaring emission neutrality from an environmental perspective. Second, there
6 is a very real concern that such a strategy is akin to gold plating the distribution system and
7 creating future legacy costs that become too large for existing/remaining customers. Stated
8 differently, this is analogous to finding yourself in a hole but continuing to dig. In this case,
9 the “hole” is the increasing unamortized utility plant that may no longer be used and useful
10 due to future emissions concerns and potential customer withdrawal.

11 **Q. What is your recommendation?**

12 A. The Company should engage regulators and OPC in discussions on how such investments
13 are prudent moving forward. My fear is that this meter issue is a symptom of a much larger
14 problem as it pertains to building out rate base under the premise of chasing hypothetical
15 fugitive emissions with no concern for the potential legacy cost liability for captive/stranded
16 customers in the future.

17 **III. AMI OPT-OUT**

18 **Q. What are the opt-out fees associated with Spire’s proposed Automated Meter Reading
19 Opt-Out Tariff?**

20 A. Spire proposed an initial one-time meter setup fee of \$185 and a \$40 monthly non-standard
21 meter read charge.

22 **Q. Did Staff support this?**

23 A. Yes. In addition to supporting the changes, Staff witness Claire Eubanks recommended
24 clarifying language within the compliance tariff as well as a recommendation that the
25 Commission order the Company to notify customers prior to installation of the advanced
26 meters. In support of the amounts, Ms. Eubanks provided one-time and monthly opt-out meter
27 fees of other Missouri utilities for comparison. They are as follows:

1

Utility	One-Time Fee	Monthly Fee
Spire	\$185	\$40
Evergy West	\$150	\$45
Empire	\$150	\$45
Empire Water	\$150	\$45
Liberty Water	\$150	\$45
Ameren Missouri	\$100	\$40

2

3 **Q. Do you have any comparable state information on AMI opt-out & monthly reoccurring**
 4 **fees for the Commission’s reference.**

5 A. Yes. The following opt-out information was obtained from the National Conference of State
 6 Legislatures website and includes the following AMI Opt-Out Policies:¹⁷

7

State	AMI Opt-Out Policy
North Carolina	<ul style="list-style-type: none"> • \$150 one-time fee • \$11.75 monthly charge • Can waive fees with notarized doctor’s note confirming health issues related to smart meter technology
Georgia	<ul style="list-style-type: none"> • \$19 monthly charge
Florida	<ul style="list-style-type: none"> • Various plans approved • \$89 to \$96 one-time fees • \$13 to \$21 monthly charge
Maryland	<ul style="list-style-type: none"> • \$75 one-time fee • \$11 to \$17 monthly charge
Pennsylvania	<ul style="list-style-type: none"> • Law requires that customers cannot opt-out
New Jersey	<ul style="list-style-type: none"> • \$45 one-time fee • \$15 monthly charge

¹⁷ Shea, D. & K. Bell (2019) “Smart Meter Opt-Out Policies” National Conference of State Legislatures.
<https://www.ncsl.org/research/energy/smart-meter-opt-out-policies.aspx>

New York	<ul style="list-style-type: none"> • \$105 one-time fee • \$9.50 monthly charge
Massachusetts	<ul style="list-style-type: none"> • Need an approved opt-out plan if you want AMI approval
Rhode Island	<ul style="list-style-type: none"> • \$27 one-time fee • \$13 monthly charge
Vermont	<ul style="list-style-type: none"> • Law requires customers get a written notification prior to installation • Customers can remove an existing smart meter or opt-out
New Hampshire	<ul style="list-style-type: none"> • Law requires written consent from customers prior to installation • No fees assessed on customers who choose to keep their analog meters
Maine	<ul style="list-style-type: none"> • \$40 one-time fee • \$15.66 monthly charge to retain analog meter • \$20 one-time fee and \$13.98 monthly charge to install a smart meter with two-way transmitter turned off
Ohio	<ul style="list-style-type: none"> • Requires utility offer opt-out programs and include a process for how utilities assess any associated fees
Oklahoma	<ul style="list-style-type: none"> • \$110 one-time fee • \$28 monthly charge
Arizona	<ul style="list-style-type: none"> • \$38-\$50 one-time fee • \$5 to \$26 monthly charge
Wyoming	<ul style="list-style-type: none"> • \$50 one-time fee
Nevada	<ul style="list-style-type: none"> • \$52 one-time fee • \$9 monthly charge
Michigan	<ul style="list-style-type: none"> • \$67 to \$124 one-time fee • \$9.80 monthly charge (a utility gives reduced fees for customers who give notice of their decision to opt-out prior to installation)
California	<ul style="list-style-type: none"> • \$75 one-time fee • \$10 monthly charge (for three years) • \$10 one-time fee (Low-Income) • \$5 monthly charge (Low-Income for three years)
Indiana	<ul style="list-style-type: none"> • \$75 one-time fee • \$17.50 monthly charge • One-time fee is waived if customers notify the utility of their intent to opt-out prior to installation.
Illinois	<ul style="list-style-type: none"> • \$20 monthly charge

Oregon	<ul style="list-style-type: none">• \$9 tri-annual meter reads
Hawaii	<ul style="list-style-type: none">• \$50 one-time fee• \$15.30 (or less) monthly charge
Iowa	<ul style="list-style-type: none">• \$4.11 monthly charge
Louisiana	<ul style="list-style-type: none">• \$12.42 monthly charge in New Orleans• \$14.35 monthly charge
Washington	<ul style="list-style-type: none">• \$50 to \$90 one-time fee• \$5 to \$15 monthly charge
Kentucky	<ul style="list-style-type: none">• \$100 one-time fee• \$25 monthly charge
Texas	<ul style="list-style-type: none">• Fees vary

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Q. What should the Commission note from this information?

A. That Missouri utilities are an outlier.

No state commission has approved fees as high as \$185 that Spire is requesting and no state commission has approved monthly fees as high as \$40 that Spire is requesting except Missouri (\$45 and \$40 monthly AMI opt-out charge).

These costs are excessive and out-of-synch with the rest of the nation.

Q. Are you concerned that these numbers almost certainly correspond to electric AMI as opposed to gas AMI?

A. No. First, I believe that point underscores why AMI investment is not appropriate for a natural gas utility to begin with. Furthermore, I have little concern that a natural gas meter is more expensive than an electric meter based on the testimony of Spire witness James Rieske who states, “This trip [technician driving to a premise] is the largest portion of the overall replacement expense. . . . The meter swap itself is a simple process that does not require much additional time.”¹⁸

¹⁸ Case No: GR-2021-0108 Rebuttal Testimony of James Rieske p. 16, 11-14.

1 **Q. What do you recommend?**

2 A. To be clear, I do not believe Spire should be removing diaphragm meters with 2/3 of their
3 useful life remaining from operation. Nor do I support the “tentative” move to a new Customer
4 Information System that would support real-time natural gas usage data that would come from
5 AMI investment. These excessive costs do not outweigh the benefits.

6 That being said, Missouri regulators and stakeholders have clearly been given a different cost
7 of service estimate compared to every other utility in the US when it comes to both one-time
8 AMI opt-out fees and reoccurring monthly fees.

9 I recommend that the Commission order the following provisions as it pertains to Spire’s AMI
10 opt-out tariff policy:

- 11 • Customers should be notified at least two weeks in advance of replacement;
- 12 • Customer consent should be obtained prior to installation of a new meter for any non-
13 planned replacements (e.g., a “dig right” employee visit affords an opportunity);
- 14 • The one-time opt-out fee should be set at \$50 if the customer fails to notify the
15 Company prior to the installation date that they want to opt-out;
- 16 • Monthly fees of opt-out customers should be set at \$5; alternatively
- 17 • Customers should be allowed to self-report their usage on a monthly basis with a \$10
18 annual charge for meter reading verification.

19 Adoption of the aforementioned recommendations would place Spire roughly in the middle
20 relative to other approved state commission opt-out policies.

21 **Q. If the Commission approves this option do you believe many customers would take**
22 **advantage of it?**

23 A. No. Based on conversations with regulators and consumer advocates in other states, I
24 believe the numbers would be very, very small. The likely primary concern for any Spire
25 customers would center on future investments of two-way customer-usage information
26 system (“CIS”) investments that could be made. As there are essentially no benefits in
27 knowing “real-time” gas usage for most customers, I would consider any future investment

1 in such software as imprudent and not necessary for safe and adequate service. If the
2 Company still elects to move forward with such investment I would recommend that
3 customers be given the option to turn off the two-way customer usage information. Under
4 such a scenario, customers would not need to pay the one-time opt-out fee.

5 **IV. CORPORATE GOVERNANCE: WORKPLACE DISCRIMINATION**

6 **Q. What was your recommendation in direct testimony regarding Spire’s litigated racial**
7 **discrimination costs?**

8 A. I recommended that the \$300K in legal fees caused by Spire management as a result of the
9 Danielle McGaughy racial discriminatory lawsuits be disallowed from the Company’s
10 revenue requirement.

11 **Q. Did Spire agree?**

12 A. No. Spire witness Lobser argues that legal fees for “meritorious” lawsuits limit the
13 Company’s exposure and therefore should be included in the Company’s revenue
14 requirement.

15 **Q. What was the Company’s “exposure” as a result of the McGaughy judgment?**

16 A. At least \$8.5 million. I say at least, because there was a second lawsuit immediately
17 following the Supreme Court judgement that was settled for an undisclosed amount.

18 **Q. Are there any additional fees above and beyond the \$300K legal fees that ratepayers are**
19 **being asked to shoulder as a result of Spire’s management in the McGaughy judgment?**

20 A. My understanding is that the totality of the judgment costs, minus the legal fees, were
21 covered by the Company’s excess liability insurance.

22 **Q. Did Mr. Lobser provide any other rebuttal to your recommendation?**

23 A. Yes. Mr. Lobser pointed out that all of the damage costs (minus the external legal fees) were
24 covered by the Company’s insurance. Additionally, he pointed out that future meritorious
25 human rights violation judgments will be subject to “damage caps” at \$500K due to recent
26 Missouri legislative amendments. Furthermore, because of the amended legislative damage

1 cap, the Commission should not view any increase to the Company's insurance premium as
2 a reflection of the McGaughy lawsuit but rather the normal costs of doing business today as
3 an energy company. Mr. Lobser states:

4 As such, the McGaughy [*sic*] claim is not irrelevant, but it is not material.
5 In brief, it has not been our losses that are the driver for our premium
6 increases, but rather the historically difficult insurance market, as well as
7 some other notable energy industry events.¹⁹

8 **Q. What is your response?**

9 A. If all costs created by this meritorious lawsuit were covered by *excess* insurance (minus the
10 external legal fees), then how exactly did external counsel mitigate the company's exposure
11 of this lawsuit and result in customer benefits? It strikes me that the customers would have
12 been no worse off if the Company had not spent a dime to defend itself and been awarded
13 an even larger damage award because the insurance would have covered those costs.

14 Regarding the excess insurance premium, the sheer size of the McGaughy case would have
15 to be factored into the future increase in premiums, because the premium is determined on
16 the risk assessed, which the insurance company must now consider greater notwithstanding
17 the amount awarded.

18 **Q. What is your position in light of Spire's response?**

19 A. Spire should have dropped this issue. Arguing that future meritorious racial discrimination
20 lawsuits will not be as financially punitive as the McGaughy case is frankly a tone deaf
21 response.

22 Spire management alone caused the hostile work environment that resulted in the lawsuit.
23 Spire management and Spire external legal alone continued to unsuccessfully appeal the
24 McGaughy case up to and including the Missouri Supreme Court. Spire management and
25 Spire public relations alone caused the second lawsuit that resulted in the out-of-court
26 settlement. And, even now, Spire management alone is continuing to push the issue of the

¹⁹ GR-2021-0108 Rebuttal Testimony of C. Eric Lobser p. 4, 8-12.

1 McGaughy lawsuit by attempting to recover \$300K in legal expenses from ratepayers. The
2 Commission should not grant recovery, even if challenging “meritorious” discrimination
3 claims could theoretically limit the Company’s exposure, because the Company alone
4 caused the cost exposure in the first place. Simply put, a regulated natural monopoly utility
5 should never be allowed to recover the cost of defending “meritorious” claims because those
6 costs are purely a product of the company’s own malfeasance.

7 **Q. Do you have any additional comments to make?**

8 A. Spire should have had the common decency to drop (what amounts to a rounding error in
9 its cost of service) these costs in its rebuttal testimony. Instead, I find myself, yet again, not
10 only explaining why ratepayers should be held harmless for Spire’s inexcusable
11 management practices but now why Spire management should be held accountable for all
12 future human rights violations—regardless of damage caps—that it alone causes.

13 In a competitive market, buyers can exercise their protest of a Company’s management
14 actions/inactions by shopping somewhere else. Spire’s customers are captive customers.
15 They do not have the luxury of choosing a different natural gas provider. Therefore, it is
16 incumbent upon the Commission to hold the Company accountable for the costs it alone
17 caused and not pass along past or any future discriminatory transgressions despite Mr.
18 Lobser’s argument that future “meritorious” lawsuits won’t financially be as bad.

19 **Q. What is Staff’s position on the legal fees?**

20 A. Staff did not take a position.

21 Staff witness Jeremy Juliette provided the following testimony on the issue:

22 Staff is currently evaluating these costs and will make a determination in
23 surrebuttal testimony.²⁰

²⁰ GR-2021-0108 Rebuttal Testimony of Jeremy Juliette p. 13, 4-5.

1 **Q. Do you have a response?**

2 A. Above and beyond the comments I have already made, I would encourage Mr. Juliette and
3 the Commission to read the Eastern District Appeals Court judgment. I have included it as
4 an attachment in GM-7.

5 **V. PROPANE STORAGE**

6 **Q. What does Spire’s “propane storage system” consist of?**

7 A. Spire Missouri’s propane system comprises the following facilities:

- 8 • A vaporization plant (Lange) in north St. Louis County with a vaporization
9 capability of 76 MMcf/d; this facility includes a pre-heater, three
10 vaporizers and seven pumps;
- 11 • A vaporization plant (Catalan) in south St. Louis County with a
12 vaporization capability of 84 MMcf/d; this facility includes a pre-heater
13 and four vaporizers;
- 14 • A propane storage cavern with a capacity of over 32 million gallons; and
- 15 • A natural gas liquids pipeline, Spire NGL.

16 **Q. Are these assets fully depreciated?**

17 A. Yes.

18 **Q. What was Staff’s position on Spire’s propane storage in direct testimony?**

19 A. Staff recommended that the propane assets be included in the Company’s cost of service
20 because they could still serve the Company’s Spire East customers in an emergency.

21 **Q. What was the Company’s response?**

22 A. Spire witness Noelker disagreed. He pointed out that the system is no longer in service
23 because Spire’s STL pipeline will be used to meet peak demand.

24

1 **Q. Have any events occurred since the rebuttal testimony was filed that call into question**
2 **Spire’s argument?**

3 A. Yes. Five days after rebuttal testimony was filed, on June 22, a three-judge panel for the
4 U.S. Court of Appeals for the D.C. Circuit on Tuesday vacated a federal order granting the
5 \$287 million STL gas pipeline license to operate. The court ruled in favor of the
6 Environmental Defense Fund, finding that the Federal Energy Regulatory Commission
7 (“FERC”) "ignored record evidence of self-dealing and failed to seriously and thoroughly
8 conduct the interest-balancing required by its own Certificate Policy Statement" in its 2018
9 order allowing the Spire STL pipeline project to move forward. The Court’s summary is as
10 follows:

11 In sum, it was arbitrary and capricious for the Commission to rely solely on
12 a precedent agreement to establish market need for a proposed pipeline
13 when (1) there was a single precedent agreement for the pipeline; (2) that
14 precedent agreement was with an affiliated shipper; (3) all parties agreed
15 that projected demand for natural gas in the area to be served by the new
16 pipeline was flat for the foreseeable future; and (4) the Commission
17 neglected to make a finding as to whether the construction of the proposed
18 pipeline would result in cost savings or otherwise represented a more
19 economical alternative to existing pipelines. In addition, the Commission’s
20 cursory balancing of public benefits and adverse impacts was arbitrary and
21 capricious.²¹

22 With the Court’s remedy as follows:

23 Based on these considerations, we believe that vacatur is appropriate. Given the
24 identified deficiencies in the Commission’s orders, it is far from certain that
25 FERC “chose correctly,” *see Allied-Signal*, 988 F.2d at 150 (citation omitted), in
26 issuing a Certificate to Spire STL. **We understand that the pipeline is**

²¹ See GM-8.

1 **operational, and thus there may be some disruption as a result of the**
2 **“interim change,” see id. at 150-51 (citation omitted), i.e., de-issuance of the**
3 **Certificate, caused by vacatur. However, we have identified serious**
4 **deficiencies in the Certificate Order and Rehearing Order. And “the second**
5 **Allied-Signal factor is weighty only insofar as the agency may be able to**
6 **rehabilitate its rationale.” Comcast Corp. v. FCC, 579 F.3d 1, 9 (D.C. Cir. 2009)**
7 (citation omitted). **The Commission’s ability to do so is not at all clear to us at**
8 **this juncture.** (emphasis added)²²

9 **Q. Have you sent discovery to check on the status of the pipeline?**

10 A. Yes. OPC DR-2155 asked the following question and received the following response:

11 **Request:** Is the Spire STL pipeline currently in operation in light of the DC
12 Circuit Court of Appeals ruling on the Spire STL pipeline?

13 **Response:** No.

14 **Q. What is your recommendation in light of that response?**

15 A. I fully support Staff’s position as the STL pipeline is not currently in operation. It would be
16 imprudent and irresponsible to retire the fully depreciated propane storage assets with the
17 heightened uncertainty surrounding the Spire STL pipeline. I recommend that the propane
18 storage facilities not be retired and be included in the Company’s cost of service until they
19 can be reexamined in the Company’s next rate case.

20 **VI. RESEARCH AND DEVELOPMENT**

21 **Q. Did Staff support Spire’s request to have ratepayers fund \$1 million in annual research**
22 **and development (“R&D”)?**

23 A. No. Staff witness Karen Lyons recommended that the R&D funding be rejected due to lack of
24 details surrounding the proposal.

²² Ibid.

1 **Q. Did you inquire what Spire plans to do with the \$1 million?**

2 A. Yes. OPC DR-2156 asked the following question and received the following response:

3 **Request:** Does Spire have a plan for how it intends to use the \$1 million in
4 requested research and development included in its filed case? If yes, please
5 provide said plan and a narrative explanation of the R&D objectives.

6 **Response:** Spire plans to utilize research and development funding to invest in
7 customer-focused deliverables aimed at promoting energy and environmental
8 solutions including investments in market analysis, technology analysis,
9 product development, lab and field testing, demonstration and
10 commercialization. This type of allowance has been approved in over 30
11 jurisdictions across the U.S.

12 **Q. Do you agree with Staff's position?**

13 A. Yes. Spire provides no specific context for what research and development they are
14 currently undertaking or planning on taking in the future. Spire is effectively asking for a
15 \$1 million ratepayer funded check "to do something." There are no explicit benefits to
16 customers, only costs in this proposal. The Commission should reject this proposal out-of-
17 hand. I was given no further context on similar "allowances" approved by Commissions in
18 the other 30 states as referenced in the discovery.

19 **VIII. RATE DESIGN**

20 **Q. Has OPC's position on rate design changed since rebuttal testimony?**

21 A. No. The delta in revenue requirement between parties and the uncertainty surrounding true-
22 up costs that need to be included provide a large degree of uncertainty surrounding whether
23 or not there will be an increase/decrease in rates and whether a revenue neutral shift between
24 rate classes is warranted if there is a rate decrease. Additionally, the uncertainty surrounding
25 overall meter numbers and proper allocation between Staff and the Company's CCOS as
26 well as the differences between a Spire-wide CCOS compared to a Spire East and Spire

1 West CCOS create a very confusing and opaque setting for considering cost allocation. As
2 such, after factoring in the economic uncertainty surrounding all customer classes due to the
3 COVID pandemic I would not advocate for any individual decrease in revenue
4 responsibility if rates resulted in an increase in the revenue requirement.

5 If rates result in a decrease I would advocate for an equal decrease across rate classes. If
6 there is an excessive rate decrease I would not be opposed to a greater decrease overall to
7 transportation customers.

8 **Q. Do you oppose any specific position Spire witness Mr. Weitzel took on rate design?**

9 A. Yes. Mr. Weitzel advocates for symmetry in the residential customer charge of \$22.50 between
10 Spire East and West I advocated for the exact opposite symmetric set-up favoring a \$20.00
11 customer charge for both Spire East and Spire West. Our rationales are similar but our
12 outcomes differ with Mr. Weitzel favoring revenue certainty while I would recommend greater
13 customer bill control/empowerment.

14 **Q. Do you support any specific position Spire witness Mr. Weitzel took on rate design?**

15 A. Yes. Both Mr. Weitzel and I support eliminating the residential summer inclining block rate
16 for similar reasons. It would be best to eliminate this option from future consideration.

17 **Q. Do you support Mr. Weitzel's position to reject Staff's proposed inclining block rate for
18 SGS customers for Spire West?**

19 A. Perhaps. I am concerned that this may be a crude away to keep certain customers from rate
20 switching but I will keep an open mind and review Staff's response in surrebuttal testimony.

21 **Q. Does this conclude your testimony?**

22 A. Yes.