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Rate Design
Witness: *Sarah L.K. Lange*
Sponsoring Party: *MoPSC Staff*
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MISSOURI PUBLIC SERVICE COMMISSION

INDUSTRY ANALYSIS DIVISION

ENGINEERING ANALYSIS

REBUTTAL TESTIMONY

OF

SARAH L.K. LANGE

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

** Denotes Confidential Information **

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Q. Are you the same Sarah L.K. Lange who provided portions of Staff's Class Cost of Service Report ("CCOS"), as updated by the June 8, 2021 filing of the Updated Direct Testimony of Robin Kliethermes?

A. Yes.

Q. What witnesses and issues will you be responding to in this rebuttal testimony?

A. I will first respond to certain issues described in the Direct Testimony of Wesley E. Selinger:

i. Interruptible rate schedule elimination
ii. Vehicular Fuel rate schedule elimination
iii. Large Volume rate schedule elimination
iv. Creation of seasonal use rate schedule
v. Multifamily Pilot Program

I will also be responding to changes to Spire's existing facility extension provisions, which were not supported by testimony but are contained in the suspended tariff filing associated with this case. I will respond to the Direct Testimony of Michelle Antrainer concerning the "Growing Missouri," program and tariff. I will address various rate design and class revenue responsibility proposals, specifically concerning the following items Mr. Selinger discussed:

a. Reliability of Spire's Class Cost of Service ("CCOS") Study
b. Residential "Customer Choice"
    i. $40.50 customer charge with $0.00000 volumetric rate
    ii. $15.00 customer charge with $0.40211 volumetric rate

While other witnesses do provide CCOS and rate design recommendations, they generally rely on the Spire CCOS study, or do not require additional information from that provided in Staff's direct testimony, so I will not be responding to those recommendations, which should not be interpreted as agreement with those positions.

Also, I will take this opportunity to correct an error contained on page 41 of the Staff's CCOS Report. There, with reference to the blocks of usage intended to be captured by Staff's Alternative Rate Normalization Adjustment ("RNA") I identified in the text the Small General Service (SGS) class usage to be captured as 300-500 Ccf. However, in the accompanying chart, I have indicated the usage to be captured as 300 – 599 Ccf. The intended recommendation for RNA SGS block size is 300 – 599 Ccf.

VEHICULAR FUEL, INTERRUPTIBLE, LARGE VOLUME, AND SEASONAL RATE SCHEDULES

Q. Does Staff oppose the elimination of the Vehicular Fuel and Interruptible rate schedules?

A. No. In its direct filing, Staff recommended removal of the Interruptible rate schedule for Spire East (Spire West does not have an Interruptible schedule). Staff is not opposed to elimination of the Vehicular Fuel tariff. In both instances, given the relatively small number of customers involved, Staff recommends direct one-on-one customer communication to inform the customers of the transition to the appropriate rate schedule including education on the rate structure and determinants of the schedule under which they will be receiving service going forward.

Q. Does Staff support the elimination of the Large Volume (LV) rate schedules currently offered by Spire East and Spire West?

A. No. In the analysis undertaken to reconfigure the Spire West non-residential rate classes, Staff determined that approximately 20 customers are suited for service on the LV rate schedule based on test year usage. Those customers experienced average test year usage of approximately 170,000 Ccf, or approximately 14,000 Ccf per month. At that level of usage, significant customer impacts would result from transitioning those customers to the Large General Service rate schedule. Staff found similar concerns in reviewing the Spire East customer characteristics. Staff is not opposed to continued refinement of the General Service rate schedules, and notes that incorporation of well-designed demand-based determinants could negate the need for a separate LV rate schedule at some point in the future. Consistent with Staff's direct-filed recommendation, Staff recommends that Spire retain demand information to facilitate the development of demand-based rate elements for the General Service rate schedules and the LV rate schedules, which may facilitate elimination of the LV rate schedule in a future case.

Q. Does Staff support the creation of a Seasonal Tariff rate schedule as Spire proposed?

A. No. However, Staff may support the development of a reasonably-designed seasonal rate schedule, rider, or tariff design, which leaves the PGA as-is, but offers reduced recovery of the revenue requirement associated with distribution-costs. It would be best practice to rely on demand determinants for the proportionate reduction of the recovery of distribution-related revenue requirement. It would also be appropriate to ensure that facility extensions or CCN's made in support of seasonal customers reflect the reduced revenue stream associated with the seasonal provision in any economic analysis undertaken. Importantly, such reduction is only appropriate if a customer has prepaid the entirety of the marginal costs of its dedicated portion of the distribution system and any portion of the distribution system that was sized to accommodate that customer, or if that customer has provided sufficient revenues to compensate for the revenue requirement associated with those portions of the distribution system. Such prepayment of costs would occur under the modifications to the facilities extension policy discussed by Staff below.

MULTIFAMILY DEVELOPER SUBSIDY AND OVERVIEW OF ATTRITION CONCERNS

Q. Does Staff support Spire's requested change to its facilities extension tariff provisions to authorize a ratepayer-funded contribution of up to $1,500 to qualifying developers of multifamily buildings, with an annual budget of $2 million?

A. No. As Mr. Selinger stated on pages 31-32 of his direct testimony,

> Under the Company's proposed tariff, 'The amount of the Company's financial contribution shall be limited to the lesser of the actual cost of installing the required piping and venting for the dwelling units within a project, or $1,500 per dwelling unit.' In other words, the contribution is capped at $1,500 per unit, and could be less depending on the developer's actual costs. Qualifying developers will be required to consult with the Company prior to construction and must submit actual costs of the venting and indoor piping work to ensure financial incentives are paid appropriately. The Company proposes to cap the annual program budget at $2 million, with the ability to roll over unused program dollars to a subsequent year; to exceed this amount, the Company would need to receive additional authority from the Commission.

Q. How would Spire "receive additional authority from the Commission?"

A. This is not stated in the testimony or proposed tariff.

Q. Does this provision provide a reasonable level of detail for effective administration by the Company and review by the Commission?

A. No.[1]

Q. Is Mr. Selinger's assertion at page 33 of his direct filed testimony that "Assuming the Company's proposed rate structure including a customer charge of ($22) and volumetric rates of ($0.29073), an investment of $1,500 per customer pays for itself in less than 6 years regardless of consumption levels in the home," reasonable?

A. Mr. Selinger's example relies on the assumptions:

- that all units will be instantly and continuously occupied and
- that all occupants will obtain gas service and make timely payment, and
- that there are no incremental costs associated with providing service to a customer.

None of those assumptions are reasonable. It also assumes that the Commission will grant Spire's requested rate increase in this case in full at Spire's requested residential cost of service and rate design. While possible, this result is not typical.

[1] Response to Staff Data Request 0197
Question:
With regard to requested Extension of Distribution Facilities tariff language, "For multifamily projects, the Company may provide a contribution to builder/developers to offset the costs of gas piping and venting equal to the lesser of $1,500 per unit or the actual cost of installation. A project will be determined to be multi-family if there are at least four (4) individually metered dwelling units in one premise. When providing a contribution to offset costs related to the installation of gas piping, the customer/builder-developer bears all responsibility for proper installation and maintenance of all pipe beyond the Company's meter," describe what process, analysis, metric, and level of review will be employed by the Company in the exercise of its discretion.
Response:
As stated in the Company's direct testimony, developers qualifying for incentives will be required to consult with the Company prior to construction to determine eligibility and must submit actual costs of the venting and indoor piping work before they can receive the incentives. The Company has proposed an annual reporting requirement associated with the program that will provide an opportunity to review project information and incentives provided. The Company is amenable to working with other stakeholders to refine this reporting in order to ensure a satisfactory audit of the program.

Q. Have you reviewed the state of net customer additions and attrition at Spire East[2] and Spire West, and why is that information relevant to Spire's requests in this case?

A. Several aspects of Spire's pending request are aimed at increasing the size of Spire's distribution system:

- the proposed subsidy for developers of multifamily housing,
- the Grow Missouri program,
- the changes to the EDR (discussed in the rebuttal testimony of Nancy L. Harris),
- changes to the facility extension policy
- the proposed Seasonal Rate schedule
- the sizing of customer charges.

Spire has also recently pursued multiple requests to serve additional customers and/or obtain additional service territory. However, Spire does not take reasonable steps to monitor and identify ways to mitigate the extent to which its existing distribution system is utilized, and whether further expansion is warranted or prudent.

Spire caveated in its response to Data Request No. 0203.1 that "this is a count of active service agreements. It is not counting customers, accounts, bills, or premises, which can all be different. The sheet also includes all customer classes, including propane." The following tables indicate that net customers are increasing in some areas, while decreasing in others, over the period during which Spire provided data, which is October of 2016 through March of 2021.

[2] For example, the customer numbers provided in the Annual Reports of Laclede Natural Gas are indicated below:

Year	2003	2004	2005	2006	2007	2008	2009
Residential Customers	590,785	591,547	589,082	590,392	590,337	588,228	601,785
All other Customers	40,336	40,584	40,640	41,074	41,222	40,962	41,914
Total Customers	631,121	632,131	629,722	631,466	631,559	629,190	643,699

Spire East:

Active Accounts by County	Change #	Change %	Beginning #	Ending #
Butler	(232)	-5.6%	4,099	3,867
Iron	(10)	-3.3%	307	296
St. Francois	(2)	0.0%	5,328	5,325
Madison	(2)	-0.1%	1,273	1,269
Crawford	8	3.5%	242	250
Ste. Genevieve	19	1.1%	1,762	1,779
Franklin	373	6.4%	5,829	6,190
St. Louis City	1,335	1.2%	112,506	113,703
Jefferson	1,825	5.6%	32,616	34,329
St. Charles	5,503	5.2%	105,345	110,606
St. Louis County	6,559	1.8%	372,944	379,202

Spire West:

Active Accounts by County	Change #	Change %	Beginning #	Ending #
Saline	(44)	-3.0%	1,448	1,401
McDonald	(44)	-2.3%	1,900	1,858
Henry	(31)	-1.5%	2,010	1,984
Carroll	(13)	-0.7%	1,923	1,910
Cooper	(9)	-3.4%	265	257
Barton	(7)	-0.3%	2,273	2,263
Bates	(2)	-4.9%	36	34
Vernon	2	1.5%	174	176
Moniteau	7	0.9%	819	825
Pettis	8	1.8%	439	447
Dade	9	1.1%	863	870
Dekalb	14	1.7%	833	846
Stone	17	3.2%	524	540
Andrew	31	1.5%	2,084	2,113
Ray	42	3.4%	1,229	1,269
Cedar	43	2.0%	2,236	2,276
Clinton	51	1.6%	3,274	3,323
Buchanan	75	0.3%	24,778	24,846
Johnson	100	1.3%	8,050	8,152
Barry	111	2.4%	4,659	4,765
Lafayette	116	2.1%	5,435	5,547
Lawrence	188	3.6%	5,300	5,481
Newton	220	2.9%	7,602	7,812
Greene	614	7.3%	8,400	8,988
Jasper	956	3.6%	26,947	27,853
Cass	970	5.2%	18,513	19,441
Christian	1,998	12.7%	15,681	17,604
Platte	2,140	8.0%	26,712	28,752
Clay	4,525	5.7%	79,617	84,007
Jackson	10,317	4.1%	250,207	260,095

Staff issued multiple data requests and engaged in extensive discussions with Spire to obtain more granular data, such as customer counts by zip code and the customers by class by geographic area, but Spire was unable to provide such data. Staff also requested more granular data concerning the number of active accounts, inactive accounts, new meters installed, and meters removed but not replaced by geographic area. Spire indicated that they do not retain this information in a form that is readily accessible, nor do they curate similar information for internal review.

Q. If, for example, Spire is adding 10,000 net customers in Jackson County, why does it matter if Spire lost 44 customers in Saline County?

A. These are net numbers. These numbers do not tell us if Spire actually lost 10,000 customers in Jackson County and added 20,000. Based on my experience with various MEEIA programs, it is common to see the conversion of multifamily housing to all electric at some point when the housing is 10-20 years old. The resulting abandoned infrastructure increases the revenue responsibility of the remaining customers, increasing the possibility that those customers will make an economic decision to quit taking gas service, thus exacerbating the revenue responsibility of those who remain on the system.

Q. If a new customer fully pays the cost of connection, does this economic "death spiral" exist?

A. No, or at least not to nearly the same extent. Natural gas facilities require maintenance. I am not an expert in gas safety, but even a novice understands that there is a danger associated with a long-forgotten gas line deteriorating or being disturbed. That means that O&M expenses, as well as property tax and insurance liability persist after a gas line is no longer utilized. A well-designed and prudently executed facility extension policy will mitigate the revenue requirement impact associated with short-lived customer connections in that it recovers all or nearly all of the incremental costs of a new connection from the connecting customer. This higher buy-in requirement reduces the risk that a customer connection will be short-lived.

Q. What are reasonable steps Spire could take to design such a policy?

A. Spire could examine the average time to conversion of developments in its service territory. For example, if it found that 75% of moderate income multifamily housing that is built with gas service converts to all electric (or propane) about 15 years after construction, or that 50% of high income multifamily housing maintains gas service for at least 20 years, that could assist in assessing not only the reasonableness of its proposed subsidy for multifamily housing developers, but also of its existing facility extension policies.

Q. What are other areas that it would be reasonable for Spire to study further?

A. Obvious examples include the longevity of service life of suburban and rural subdivisions, and agricultural properties. Spire has recently undertaken aggressive pursuit of industrial agriculture properties. The conversion rates of such properties should be reviewed and Spire should ensure that requesting customers adequately pay upfront costs.

Q. What complicates a Staff review of the prudency of Spire's implementation of its facility extension policies?

A. Beyond the obvious disparities in access to information, Spire has discretion to expand and size its system within its certificated service territory. If a single customer requests service a mile from an existing main, it is Spire's discretion whether to run a single service line and charge that customer the entire cost of the line (minus the value of the free extension), or to run a new main in anticipation of future growth and charge that customer only the cost of a

75' service line from the new main to the meter, (or nothing, if the requested changes to the facilities extension provisions described below are granted). This is a potential difference of hundreds of thousands of dollars of capital cost within Spire's rate base, and thousands of dollars of required customer contributions. This situation would be mitigated by the recommended revisions to the facilities extension provisions described later in this testimony. A better understanding of these issues and Spire's assumptions supporting its requested multifamily developer is necessary to even consider the appropriateness of the multifamily developer subsidy and its potential impact on other customers.

Q. At pages 34-35 of his Direct Testimony, Mr. Selinger states that recent multifamily build-outs show that the projects would still be cost-effective even with the addition of the proposed subsidy. Does this conclusion provide reasonable support for the requested program?

A. No. By establishing that certain projects went forward without the subsidy, Mr. Selinger demonstrates nothing more than that certain projects went forward without the subsidy. For those projects which were built without the subsidy, this establishes that the subsidy is not necessary to build those projects. However, the economic case for THESE projects which were built without the subsidy, does not make an economic case for other projects that were not built. Those projects which would only be built with provision of a subsidy are likely less economically efficient to the developer and will be less economically efficient to non-subsidized ratepayers then those that were built without the subsidy.

Q. Are the examples provided in Mr. Selinger's appendix backward looking or forward looking?

A. The examples are the company's projected costs and projected revenues. They do not indicate the revenue customers actually generated in the projects referenced.

Q. If multifamily projects are cost effective even with the application of the subsidy, is it reasonable to allow direct revenue recovery of the subsidy from other ratepayers?

A. No. The expense associated with the subsidy would generally be recovered as a product of regulatory lag, assuming the units become occupied and customers connect to the system and pay their bills.

Q. If multifamily projects are not cost effective after the application of the subsidy, is it reasonable to allow direct revenue recovery of the subsidy from other ratepayers?

A. No. If the project was not cost effective then application of the subsidy to the project was imprudent.

CHANGES TO FACILITY EXTENSION PROVISIONS NOT SUPPORTED IN SPIRE'S DIRECT TESTIMONY AND STAFF'S RECOMMENDED CHANGES

Q. Have your reviewed the existing language for the "Estimated Cost of Customer Extension" provision and the language Spire has requested in its suspended tariff?

A. Yes. Both are provided below.

Existing language:

> The estimate, with an administratively reasonable level of detail, will include all direct, indirect, and overhead costs. Overhead construction costs include administrative and general salaries and expenses, charges for injuries and damages, pensions, and other fringe benefits. Overheads transferred to construction are determined based on the percentage that construction payroll bears to total payroll and are distributed to construction work orders on a percentage allocation basis.

Proposed language:

> The estimate, with an administratively reasonable level of detail, will include all direct and variable indirect, costs. Variable indirect costs

> include vehicle and equipment charges, materials handling charges and other costs that increase due to increased construction activity.

Q. Is this change reasonable?

A. Not in the form Spire has requested. A well-designed facility extension policy does rely on an analysis of the impositions of marginal costs. However, Spire's extension policy provides very little guidance and reducing the hurdle for increasing the size and cost of its distribution system without significant contributions from connecting customers is poor regulatory policy. Staff recommends a thorough redevelopment of Spire's facility extension policy to better reflect customer-specific and facility-specific projections of customer marginal revenue and customer marginal cost.

Q. Have you reviewed the existing and proposed language for Paragraph D of Spire's Rules and Regulations tariffs, "Free Extensions?"

A. Yes. The first changes Spire has proposed are to change therm references to Ccf, which Staff does not oppose if the Spire East billing determinants are changed to Ccf as a result of this case. Spire has also proposed to change the amount of service line the company will install at no direct cost to the connecting customer from 175 feet of main and 75 feet of service line, to 250 feet of main and 75 feet of service line.

Q. Did Spire provide any support for these changes in testimony?

A. No. In response to Staff Data Request No. 0144, as it pertains to these changes, Spire stated only the following:

> R-15.1 changed "175 feet" to "250 feet" and changed "$1,000 per customer" to "$2,000 per customer"
> Response:
> The change was made to increase the footage allowance up to our internal 9.01% hurdle rate for 2" plastic. This analysis accounts for the increase in cost per foot since the rule was first enacted. The $,2000 [sic]

is the investment level that remains economic for a low use customer, and still meets our required hurdle rate.

Q. What is the financial impact to nonparticipating customers of providing up to an additional 75' of main to newly connecting customers consuming under 6,000 Ccf annually?

A. In its response to Staff Data Request No. 0196, Spire stated "Using 2 inch main at a cost per foot of $6.44, this component of the Company's current extension allowance equates to $1,127. Using a 1" service at a cost per foot of $6.79, the component of the Company's current extension allowance equates to approximately $509; resulting in a total current average allowance of $1,636." However, in response to Data Request No. 0190, Spire indicated the Confidential cost of "New 2"" that is included in the table, below.[3] Using these figures, the existing and proposed cost of the connection allowances are derived below:

	DR 196				
	Cost / Foot	Existing Allowance		Proposed Allowance	
2" main	$ 6.44	175	$ 1,127	250	$ 1,610
1" service line	$ 6.79	75	$ 509	75	$ 509
			$ 1,636		$ 2,119

However, in response to Data Request No. 0190, Spire indicated the Confidential cost of "New 2"" that is included in the Confidential table, below.

**

[redacted]

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[3] None of Spire's modeling or cost discussions reference meter cost or reflect incremental expenses, except as specifically noted herein.

Q. Is there any reason to assume that all connections will be made using 2" main?

A. No, Spire has discretion to oversize the main in anticipation of future customer additions that may or may not materialize.

Q. What is the average installation lengths recently experienced?

A. In discussions with Spire related to its inability to provide information Staff requested, Spire indicated that it does not maintain records associating main lengths extended with the requesting customers' service classification or whether the customer is expected to use more or less than 6,000 Ccf annually. The average non-zero main lengths Spire provided for the years 2009-2019 for Spire East and 2013-2019 for Spire West, as well as the average number of mains installed by year, are provided below:

			Average Annual #	
	East	**West**	**East**	**West**
Average length	1,378	1,476	70.20	121.57
Average length in excess of 175' allowance	1,313	1,480	64.60	107.43
Average length in excess of 250' allowance	1,329	1,525	60.30	99.14

As discussed in greater detail in the section of this testimony concerning the requested "Growing Missouri" tariff, the cost of mains varies greatly with main size, topographical conditions, soil conditions, and the presence of other infrastructure. The variability of these conditions indicates that an average cost of over $100/ft. is not uncommon.

These numbers indicate that approximately five to ten customers per year, on average, based on the data Spire provided, would be impacted by a change in the allowed main length from 175'-250'. If this few customers are impacted, it is not reasonable to pursue changes to Spire's tariff. Further, Spire provided no justification in testimony for this change, and further analysis of both its need and its impact on non-participating ratepayers are necessary prior to making this change. This change is not consistent with Staff's general recommendation to strengthen the facility extension provisions to minimize the buildout of underutilized infrastructure.

Q. Is Staff implying that Spire's requested facilities extension provisions would authorize Spire to incur $250,000 in additional distribution plant to connect a single customer?

A. That interpretation would be unreasonable. Arguably, the discretion that Spire incorporates into its tariff could achieve such a result. A well-designed and prudently implanted facilities extension tariff is necessary to forestall any attempt at such a result.

Q. Have you reviewed the analysis, designated as confidential, that Spire provided in support of its requested change from $1,000 to $2,000 for customers using less than 6,000 Ccf annually?

A. Yes. The data request responses the company has provided with pertinent information are designated Confidential. However, Staff has reviewed the Company's assumed level of revenue that underlies the analysis provided, and has determined that it is not reasonable in light of an analysis of the number of existing residential customers who use less than the level of Ccf assumed in the analysis. Staff notes that both the assumed level of revenues and the assumed cost of materials differed in Spire's responses to Data Request Nos. 0190 and 0191. The number of existing customers using less than the level of usage required under Spire's revenue model are provided below. Note that customer usage characteristics at Spire East and Spire West do vary, as indicated in this Confidential chart.

**

[redacted]

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Q. Does Staff recommend incorporating this requested change?

A. No. The assumed revenue Spire relies on to justify this request is not a reasonable reflection of Spire's customer base. This change is not supported by testimony, and it is not consistent with Staff's general recommendation to strengthen the facility extension provisions to minimize the buildout of underutilized infrastructure.

Q. Has Spire requested additional changes to Paragraph D., "Free Extensions?"

A. Yes. Spire's suspended tariff reflects the cap of the indirect customer costs not borne by the connecting customer be changed from $1,000 per connecting customer to $2,000 per connecting customer. Existing tariff provisions establish that Spire has discretion in determining the level of contribution required from customers exceeding 6,000 Ccf of annual consumption. Spire's proposed change would provide unfettered discretion for Spire to determine which connecting customers will be subject to Spire's unfettered discretion. The existing and proposed language are provided below. Note that "will" has also been changed to "may," with reference to whether Spire will exercise its discretion to exercise its discretion to exercise its discretion.

Existing language:

> For a prospective customer whose annual consumption exceeds 6,000 therms / CCF, the amount of main and service the Company will install at no cost to the customer will be determined by the Company from an analysis of the character of service requested, the estimated annual revenue to be derived from the customer, the estimated annual cost of providing gas service and the estimated annual return to be derived from such investment.

Proposed language:

> For any prospective customer, at the Company's discretion, the amount of main and service the Company will install at no cost to the customer may be determined by the Company from an analysis of the character of service requested, the estimated annual revenue to be derived from the customer, the estimated annual cost of providing gas service and the estimated annual return to be derived from such investment.

Q. Does Staff recommend incorporating this requested change?

A. No. Spire currently has tremendous discretion in the requirement of contribution from a connecting customer. This change is not supported by testimony, and is not consistent with Staff's general recommendation to strengthen the facility extension provisions to minimize the buildout of underutilized infrastructure. Further, Staff's attempts to elucidate Spire's need for this change through data requests proved fruitless as demonstrated by Spire's Data Request responses:

> Response to Staff Data Request 0195
> Question:
> With regard to requested Extension of Distribution Facilities tariff language, "the amount of main and service the Company will install at no cost to the customer may be determined," describe what process, analysis, metric, and level of review will be employed by the Company in the exercise of its discretion.
> Response:
> Please see the response to Staff Data Request 0194. The Company will apply its standard economic extension test when exercising its discretion.

> Response to Staff Data Request 0194
> Question:
> With regard to requested Extension of Distribution Facilities tariff language, "the amount of main and service the Company will install at no cost to the customer may be determined," please provide all analysis and documentation supporting this change in language.
> Response:
> Please see the response to Staff Data Request 0192. The above-referenced language refers to the Company's standard economic extension test.
>
> Response to Staff Data Request 0193
> Question: With regard to requested Extension of Distribution Facilities tariff language, "For any prospective customer, at the Company's discretion, the amount of main and service the Company will install at no cost to the customer," please provide all analysis and documentation supporting this change in language.
> Response: Please see the response to Staff Data Request 0192.
>
> Response to Staff Data Request 0192
> Question: With regard to requested Extension of Distribution Facilities tariff language, "For any prospective customer, at the Company's discretion, the amount of main and service the Company will install at no cost to the customer," please provide all analysis and documentation supporting this change in language.
> Response: The Company proposed adding this language to allow for additional flexibility to extend its facilities to customers that satisfy the Company's standard economic extension test. There is no documentation in addition to this analysis and explanation.

Q. Does Spire's suspended tariff require a "standard economic extension test?"

A. The suspended tariff gives Spire the discretion to exclude any customer from any economic test. Further, Spire has not explained how these requested increases in discretion under the facilities extension provisions interact with either the Growing Missouri program or the Multifamily provisions.

Q. What is example language that would establish an economic extension test that is more consistent with those that were developed through the Commission's recent updating of electric utility line extensions?

A. A reasonable provision would examine the relationship between a number of years of direct revenue requirement associated with the requested extension, and the marginal revenue associated with the requested extension, with a requirement for a connecting customer contribution for any marginal revenue requirement in excess of the reasonably projected revenues. Given Spire's historic use of the ISRS, a four year look-out is reasonable. It is also appropriate to require that Spire document any instances in which mains are oversized in anticipation of growth or future demand, so that the prudency of such investment can be reasonably reviewed in future rate cases. This documentation should include the size and projected cost of main the customer actually required; the size, projected cost, and actual cost of main Spire installed; the Contributions in Aid of Construction (CIAC) provided and/or refunded on the connecting customer's part; and the basis for Spire's projected growth or future demand.

GROWING MISSOURI

Q. Have you reviewed the requested "Growing Missouri Program" tariff, and sponsoring testimony of Michelle Antrainer?

A. Yes.

Q. Does Staff recommend approval of the "Growing Missouri Program," with or without the incorporation of the additional information contained in Ms. Antrainer's testimony or provided by Spire in response to Staff Data Requests?

A. No. Staff does not recommend approval of the program as described in the proposed tariff, nor as such tariff would be amended to incorporate further details.

Q. What metrics and reporting requirements has Spire proposed to review and determine project success?

A. Through its proposed tariff, direct testimony, and data request responses to date, none.[4]

Q. Has Spire proposed objective criteria for selection of expansion projects?

A. No. In response to Staff's request for the metric or metrics by which Spire will select expansion projects to include in the program, Spire has provided a list of vague considerations it may take into account in selecting projects. Not only are these considerations not enumerated in the proposed tariff, they do not include whether such areas have existing or underutilized infrastructure, and whether or not areas have sufficient pipeline capacity.[5]

Q. The tariff provides that the $5,000,000 annual program allowance is not intended to be a hard cap on program expenditures. What process does Spire describe for expanding the program expenditures?

[4] Response to Staff Data Request 0185
Question:
With regard to the "Growing Missouri Program" as proposed, will the Company perform any after-the-fact reviews to determine if each project was successful? What will that analysis consist of, when will it be performed, and what metric or metrics will be used for such evaluation?
Response:
In its direct testimony, Spire has committed to maintaining detailed records for each project and to provide annually reporting on expenditures under the "Growing Missouri Program." The Company will work with Staff and other parties to establish a set of metrics/reporting requirements that satisfy program audit requirements.

[5] Response to Staff Data Request 0184
Question:
With regard to the "Growing Missouri Program" as proposed, what is the metric or metrics by which the Company will select expansions?
Response:
Projects will be selected by the Company in consultation with the local Economic Development organizations and will be based upon their potential for economic development. Projects will be selected by the Company based on criteria including but not limited to: economic development site activity, expansion into unserved areas, enhancement of underserved areas and overall potential for growth.

A. Spire does not describe how the budget will be expanded, and did not provide any meaningful detail in response to Staff's Data Requests.[6]

Q. In general, does Spire's proposed tariff provide clear and detailed implementation provisions?

A. No. Neither does its data request responses.[7]

Q. How much expansion is provided by $5,000,000?

A. It depends. Staff Data Request No. 0172 and its response are as follows:

> Question:
> Please provide all analysis and all communications related to the proposed $5,000,000 threshold.
> Response:
> This response is confidential pursuant to 20 CSR 4240-2.135 (2)(A) 3 and 4.
> ** [redacted]

[6] Response to Staff Data Request 0181
Question:
With regard to the "Growing Missouri Program" as proposed, what is the process by which the Company will seek approval to invest in excess of $5,000,000 annually?
Response:
In order to exceed the proposed $5 million annual budget, the Company would make a formal request with the Commission for approval to increase the annual budget for a given year. The request will include the additional amount requested as well as details supporting the proposed increase.

[7] Response to Staff Data Request 0180
Question:
With regard to the "Growing Missouri Program" as proposed, will labor costs related to this program include direct costs only? If indirect costs will be included, how will those costs be distinguished from annual indirect expenses?
Response:
The "Growing Missouri Program" labor costs will include both direct and indirect costs and will be charged to specific capital projects that will allow Spire to separate these costs from other costs. These specific projects could be summarized under a funding arrangement which allows projects to be grouped together.

Response to Staff Data Request 0176
Question:
With regard to the "Growing Missouri Program" as proposed, what is the process and timeline by which extensions will be designated as pursuant to this program?
Response:

[redacted] **

Spire provided slightly more granular information in its response to Staff Data Request No. 0173, although not at the level of detail requested:

> Response to Staff Data Request 0173
> Question:
> Please provide the approximate length of main that could be installed (including estimated costs of acquiring easements or other property rights) for $5,000,000 capital and expense in each of the following

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The Company will designate projects as pursuant to this program prior to design and construction. After making this designation, the Company will evaluate, design, and construct these projects as it would typical extension/capital projects.

Response to Staff Data Request 0175
Question:
With regard to the "Growing Missouri Program" as proposed, is the intended meaning of this program that extensions established pursuant to this program would not be subject to prudence review in future rate cases?
Response:
Detailed program expenditures will be tracked by the Company and subject to reporting on an annual basis. The Staff will also have the opportunity to review expenditures as part of its review in the Company's future rate cases.

Response to Staff Data Request 0171
Question:
With regard to the Growing Missouri Program, please describe and provide examples of what is meant by the provision "The Growing Missouri Program ("GMP") shall apply to all capital expenditures projected or incurred by Spire Missouri Inc." Please provide an example of a situation when "projected" expenditures would be subject to the GMP? What applies to those expenditures?" Please provide an example of a situation when "incurred" expenditures would be subject to the GMP? What applies to those expenditures?
Response:
This statement is to clarify the intent of the proposed Growing Missouri Program to be applicable or related to projects related to industrial development or rural expansion as outlined in the Company's proposed tariff sheet. The proposed program is not intended to recover any projected expenditures but only those that the Company actually incurs. An example of a situation in which incurred expenditures would be subject to the program could include making a strategic main extension to a targeted development area to attract investment. The expenditures would be afforded typical gas utility plant accounting treatment and would count against the program's annual allowance.

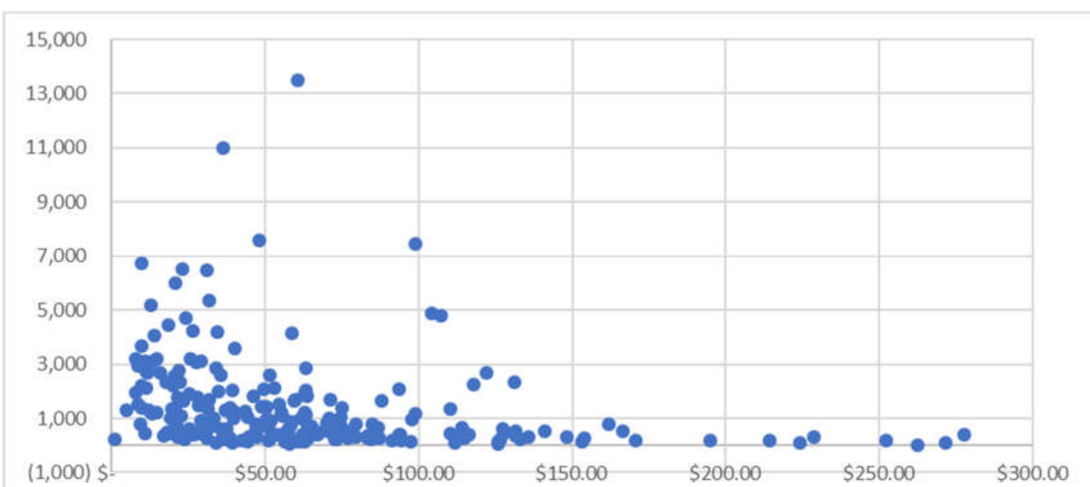
conditions: a. Deep loam soil with few road, driveway, or ditch crossings. b. Deep loam soil in typical suburban conditions. c. Deep loam soil with ditch, creek, or river crossings. d. Shallow, rocky soil with few road, driveway, or ditch crossings. e. Shallow, rocky soil in typical suburban conditions. f. Shallow, rocky soil with ditch, creek, or river crossings. g. Clay soil with few road, driveway, or ditch crossings. h. Clay soil in typical suburban conditions. i. Clay soil with ditch, creek, or river crossings.

Response:

For Missouri East service territory, Spire could install approximately 80,640 feet of various sized steel and plastic mains comparable to mix encountered during fiscal year 2020. This calculation assumes an average cost of $62 per foot and encompasses all the conditions set forth in the question above.

For Missouri West service territory, Spire could install approximately 111,110 feet of various sized steel and plastic mains comparable to mix encountered during fiscal year 2020. This calculation assumes an average cost of $45 per foot and encompasses all the conditions set forth in the question above.[8]

In response to Data Request No. 0173.1, Spire provided the datasets used to derive the $45.00 value and the $62.00 value. Based on Spire's response to Data Request No. 0173.1, the average cost per foot of main by work order for Spire West for the 12 months ending September 2020 are provided below, with approximately four outliers excluded to improve the plot's readability.



[8] 80,640' is approximately 15.3 miles, 111,110' is approximately 21 miles.

Of note, this data set included 152 records for Spire West that included a negative cost. This indicates that retirements of existing plant that was replaced or removed to enable the installation of new facilities is included in these values which offsets the cost of the new installation.

Q. Does the cost of installing mains vary with soil conditions, topography, the presence of infrastructure, and other conditions?

A. Yes.

Q. Does Staff recommend promulgation of the "Growing Missouri" program?

A. No. Spire currently has tremendous discretion in the requirement of contribution from a connecting customer. This change is not consistent with Staff's general recommendation to strengthen the facility extension provisions to minimize the buildout of underutilized infrastructure.

RELIABILITY OF SPIRE'S CLASS COST OF SERVICE ("CCOS") STUDY

Q. Should the Commission rely on Spire's submitted CCOS study to develop class revenue requirements or for any other purpose in this case?

A. No. While any CCOS study is only as reliable as the revenue requirement and billing determinants that underlie it,[9] Spire's CCOS study in this case is deeply flawed as it pertains to allocation of meter costs, which is addressed in the Rebuttal Testimony of Charles T. Poston, PE, and carries through to many other allocators, as addressed in the

[9] A CCOS study is a reflection of the revenue requirement and its constituents at the point in time of that party's direct filing. For example, if a CCOS study is premised on a requested ROE of 13% but the Commission orders a ROE of 9.3%, then the CCOS study will indicate an inappropriately high revenue requirement for classes with a relatively high allocation of rate base, and potentially an inappropriately low revenue requirement for classes with a relatively low allocation of rate base. Similarly, as billing determinants or the basis for various allocators are refined and trued-up during the pendency of a case, the applicability of the CCOS study to the final revenue requirement and the usefulness of the CCOS study in general, diminish.

Rebuttal Testimony of Robin Kliethermes. The scope of these errors undercuts any usefulness of the study.

RESIDENTIAL "CUSTOMER CHOICE"

Q. What "Customer Choice" options does Spire propose?

A. Mr. Selinger proposes two options to the standard residential rate. The first is a $40.50 customer charge with $0.00000 volumetric rate, and the second is a $15.00 customer charge with $0.40211 volumetric rate.

Q. Does Staff support the $15.00 customer charge option?

A. No. Spire's proposal fails to provide a meaningfully lower customer charge to encourage retention, nor does it contain a "safety valve" feature to protect participating customers, nor does it require a demonstration of prior revenues to protect non-participating customers.

Q. Does Staff support the $40.50 customer charge option?

A. No. Customers using this option would self-select in a manner that would be dilutive to Spire's residential revenues, thus raising the revenue responsibility for other participants in a future case. Further, Spire has not presented evidence as to whether significant revenue streams were anticipated from customers who would self-select into this program in assessing CIAC for recent facilities extensions.

Q. Could you provide an example of this concern?

A. Yes. At Spire's proposed rates, customers using more than approximately 750 Ccf of gas in a year would be financially advantaged to opt into this rate. Based on Spire's cumulative frequency data, approximately 3,400 Spire West residential customers and approximately 3,900 Spire East residential customers use more than 750 Ccf in a MONTH.

A handful of customers on the residential tariff at each operating division use more than 2,500 Ccf per month. Not only are Spire's residential rates, by division, derived with an expectation that each of those Ccf will provide revenue to offset the class's allocated revenue requirement, but also for customers of that size larger-than-typical facilities would have been installed to enable receipt of that level of gas commodity. So if one (or more) of these customers connected to the system with projected consumption of 20,000 Ccf per year, with expected revenue in the neighborhood of $4,250 per year, Spire would have required less CIAC (or no CIAC) than if the same customer requiring the same facilities were projected to provide only $486 of annual revenue due to participation on this rate option. Thus, this customer would not cover the costs this customer directly caused, and remaining customers would have to make up the difference.

Q. Does this conclude your Rebuttal testimony?

A. Yes.

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 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 *Rebuttal 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
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 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