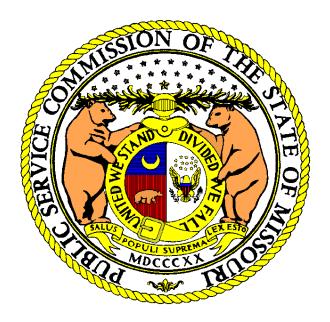
# **MISSOURI PUBLIC SERVICE COMMISSION**

# STAFF

# **DIRECT REPORT**



## SPIRE MISSOURI, INC., d/b/a SPIRE (EAST)

## CASE NO. GO-2019-0115

Jefferson City, Missouri March 29, 2019

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4		d/b/a Spire (East)			
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1	STAFF DIRECT REPORT
2 3	SPIRE MISSOURI, INC., d/b/a Spire (East)
4	CASE NO. GO-2019-0115
5	I. <u>Executive Summary</u>
6	On October 29, 2018, Spire Missouri, Inc. ("Spire", "Spire East", or "Company") filed
7	"Spire Missouri, Inc.'s Request for Waiver of Rule 4 CSR 4.017(1) for ISRS Case Filings, or
8	in the Alternative, Notice of Intended Case Filings". On December 17, 2018, the Commission
9	responded by issuing "Order Granting Waiver."
10	On January 14, 2019, Spire East filed "Verified Application and Petition of
11	Spire Missouri, Inc. to Change its Infrastructure System Replacement Surcharge for its
12	Spire Missouri East Service Territory."
13	As part of its Application, Spire filed a revised tariff sheet No. 12 that increases its
14	ISRS revenues by \$9,203,991 annually. The filed rates will produce ISRS revenues of the
15	magnitude of \$11,811,601 annually. <sup>1</sup> The initially-filed tariff rates do generate the
16	appropriate Revenue Requirement, in total, that Spire East initially requested. The proposed
17	effective date of the Company's initial tariff was February 13, 2019.
18	Spire East asserts it made its filing pursuant to Sections 393.1009, 393.1012 and
19	393.1015 of the Revised Statutes of Missouri and Commission Rules 4 CSR 240-2.060,
20	2.080, and 3.265, which allow Missouri natural gas corporations to file a petition and
21	proposed rate schedule with the Commission to recover certain infrastructure system
22	replacement costs outside a formal rate case, through a surcharge on customers' bills.
23	Spire East is requesting to recover ISRS costs as follows:
24	Eligibility of Costs
25 26 27 28 29 30	9. The infrastructure system replacements for which Spire East seeks ISRS recognition are set forth on Appendix A and Appendix B, which are attached hereto and made a part hereof for all purposes. AppendixA includes those eligible infrastructure investments placed into service or to be placed into service on or after July 1, 2018 and Appendix B includes those eligible infrastructure
	<sup>1</sup> Previously, as the Commission deemed appropriate in Case No. GO-2018-0309, Spire East established its existing ISRS rates that produce \$2,607,610 annually that are in place today.

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investments placed into service between October 1, 2017 and June 30, 2018 to the extent not previously recovered in Case No. GO-2018-0309. The infrastructure system replacements listed on Appendix A and Appendix B are eligible gas utility plant projects in that they are all either: a) mains, valves, service lines, regulator stations, vaults, and other pipeline system components installed to comply with state or federal safety requirements as replacements for existing facilities that have worn out or are in deteriorated condition; or b) main relining projects, service line insertion projects, joint encapsulation projects, and other similar projects extending the useful life, or enhancing the integrity of pipeline system components undertaken to comply with state or federal safety requirements; or c) unreimbursed infrastructure facility relocations due to the construction or improvement of a highway, road, street, public way or other public work required by or on behalf of the United States, the State of Missouri, a political subdivision of the State of Missouri, or another entity having the power of eminent domain.<sup>2</sup> [Emphasis added.]

19 Spire East has two cost recovery requests included in this filing. One request is "new" costs 20 for the period of July 1, 2018, to January 31, 2019, that Staff and the Commission have never 21 addressed. The months of December 2018 and January 2019 cost data were estimated 22 amounts<sup>3</sup> and subject to updating to actual costs incurred once known. This portion of the 23 filing is consistent with traditional procedure concerning the timeframe of the costs being 24 captured for the "typical" ISRS recovery filing. The other component is Spire East's 25 additional request to recover costs that relate to a time period that Staff and the Commission has already addressed in a previous proceeding.<sup>4</sup> Specifically, Spire East is requesting to 26 27 recover qualifying ISRS costs incurred during the period of October 1, 2017 to 28 June 30, 2018, that were not recovered in the previous ISRS Case No. GO-2018-0309 29 because the Commission deemed the costs ineligible for ISRS recovery at that time. The 30 Commission's Report and Order in that ISRS case is currently under appeal at the Missouri 31 Court of Appeals, Western District, as Docket No. WD82302 (consolidated with WD82373). Since the Western District has not yet issued its opinion ruling on the appeal of the ISRS

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<sup>&</sup>lt;sup>2</sup> "Verified Application and Petition of Spire Missouri, Inc. to Change its Infrastructure System Replacement Surcharge for its Spire Missouri East Territory," Pages 4 - 5.

<sup>&</sup>lt;sup>3</sup> On February 25, 2019, Spire East filed a revised Appendix A including actual costs through January 2019.

<sup>&</sup>lt;sup>4</sup>Case No. GO-2018-0309.

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recovery denied by the Commission in underlying Case No. GO-2018-0309, Staff, under
 advisement of Staff Counsel, believes it is premature to include any additional costs related to
 that ISRS case at this time. Therefore, Staff is not including those requested ISRS costs in its
 recommended Revenue Requirement in this proceeding.

5 On January 15, 2019, the Commission issued its "Order Directing Notice, Setting 6 Intervention Deadline, Directing Filing, and Suspending Tariff Sheets." The order directed 7 Staff to file a recommendation not later than March 15, 2019. It also suspended the tariff's 8 effective date until May 14, 2019. On March 15, 2019, Staff filed its Recommendation and 9 attached Memorandum that recommended the Commission issue an order that:

Rejects Spire East's ISRS tariff sheet (YG-2019-0138) P.S.C.

MO. No. 7, Second Revised Sheet No. 12 cancelling P.S.C. MO.

Approves Staff's recommended ISRS surcharge revenues in this

docket in the incremental pre-tax revenue amount of \$6,480,635 with a total current and cumulative ISRS surcharge of \$9,088,245.

Authorizes Spire East to file an ISRS rate for each customer class as reflected in Appendix B, which generates \$9,088,245 annually.

No. 7, First Revised Sheet No. 12, as filed on January 14, 2019.

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4. Authorizes an effective date no later than May 14, 2019.

The Office of the Public Counsel also filed its *Objections to Spire Missouri Inc.'s Applications and Petitions and Request for an Evidentiary Hearing* on March 15, 2019.

On February 25, 2019, Spire East submitted its updated figures for December 2018 and January 2019 to reflect the actual costs incurred. The revised revenue requirement was increased from the initially-filed \$9,203,991 estimate, to the revised \$9,257,817 actual. The "adjustment" increased the company's revenue requirement by \$53,826 annually. After the update to actuals, Spire East is seeking a cumulative revenue requirement of \$11,865,427 annually.

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Spire East asserts it is complying with notice requirements, as follows:

21. Pursuant to 4 CSR 240-3.265(8) and (9), Spire East intends to continue using the annual notices and customer bill language approved by the Commission in Case No. GO-2018-0309, at the time its current ISRS was first established.<sup>5</sup>

In Case No. GO-2016-0196, the Commission accepted Spire East's (then Laclede) interpretation of Commission Rule 4 CSR 240-3.265 (8) and (9) allowing the Company to reference and use the previous Commission-approved actual annual notices and customer billing information.

Spire East has filed its 2017 Annual Report (submitted April 2018), and Spire is not delinquent on paying its assessments.

Commission Rule 4 CSR 240-3.265 Natural Gas Utility Petitions for Infrastructure System Replacement Surcharges sets forth the definitions of natural gas utility plant projects that are eligible for ISRS treatment. Based on Staff's review of a sampling of work orders included in the Company's filing, Staff concluded that each of the projects reviewed meets the ISRS rule qualifications, with the exception of costs associated with replacement of plastic mains and services when such cost was greater than the estimated cost of utilizing existing plastic pipe. Based upon Staff's analysis of the avoided cost studies and supplemental detail provided by Spire, Staff found the level of detail in the avoided cost studies related to the replacement or reuse of plastic service lines was sufficient to make conclusions about the reasonableness of the construction decisions made by Spire. After examination of the avoided cost studies provided by the Company in this proceeding, Audit Staff, in conjunction with Engineering Analysis Staff, takes the position that the Company has complied with this rule and fulfilled the requirement contained within the Commission's Report and Order in Case No. GO-2018-0309 by providing evidence to support its proposed recovery of certain plastic mains and services replacement costs.

<sup>&</sup>lt;sup>5</sup> "Verified Application and Petition of Spire Missouri, Inc. to Change its Infrastructure System Replacement Surcharge for its Spire Missouri East Territory", Page 7.

 Based upon its review and calculations made in response to this ISRS Application,
 Staff recommends Spire East receive additional ISRS revenues of \$6,480,670 (See Schedule 2 attached to this report).

4 Staff Expert/Witness: J Luebbert on behalf of all witnesses

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## II. ISRS Rate Schedules

Staff's recommended ISRS rates are contained in Schedule 1, attached hereto and incorporated by reference. The rates in Schedule 1 are consistent with Staff's recommended Revenue Requirement of \$6,480,670 annually (as related to the pending ISRS) and generate \$9,088,280 annually for the cumulative ISRS.

10 Most ISRS filings utilize the most current annual report figures to establish the 11 customer-count used in the calculation of rates. These ISRS rates are calculated based on the 12 customer-count used in the last rate case, Case No. GR-2017-0215. The relevant statute 13 clearly allows for this substitution:

> 393.1015. 5. (1) The monthly ISRS charge may be calculated based on a reasonable estimate of billing units in the period in which the charge will be in effect, which shall be conclusively established by dividing the appropriate pretax revenues by the customer numbers reported by the gas corporation in the annual report it most recently filed with the commission pursuant to subdivision (6) of section 393.140, and then further dividing this quotient by twelve. **Provided, however, that the monthly ISRS may vary according to customer class and may be calculated based on customer numbers as** determined during the most recent general rate proceeding of the gas corporation so long as the monthly ISRS for each customer class maintains a proportional relationship equivalent to the proportional relationship of the monthly customer charge for each customer class. [Emphasis added.]

27 This change in method of calculation was necessary because of revisions that took place in the

28 rate cases, and by the addition of newly-designed and newly-established rate classes.

29 Staff Expert/Witness: David M. Sommerer

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## III. <u>Engineering Review</u>

Following the Commission's Report and Order in Case Nos. GO-2018-0309 andGO-2018-0310, Spire provided avoided cost studies for the projects they claimed as ISRS

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1 eligible. These studies were created to help quantify the cost differential between two 2 different types of construction scenarios. Scenario 1 was the project as it was actually 3 completed. Scenario 2 was a hypothetical look at what it would have taken to reuse as much 4 of the existing plastic pipe as would be practically possible. The two scenarios were cost 5 estimated based on a common set of assumptions related to labor, materials, required tools, 6 and overhead. By cost estimating each of the scenarios with the same set of assumptions, 7 conclusions could be drawn about the relative cost between the two different approaches to 8 construction: replacement or reuse of existing plastic pipes. Since differences between the 9 cost estimates would be used to calculate the percentage of actual costs that would be claimed 10 as ISRS eligible, it was important to ensure that the methods and assumptions used by Spire 11 to create the avoided cost studies were reasonable.

Every construction project was unique, but Spire used similar formats for all of the avoided costs studies. Each avoided cost study typically contained a tabular breakdown of the footage of pipe that was abandoned or reused along with counts of service lines that were in some way modified as a part of the project. The costs of labor, materials, tools, and overhead were also broken down for each construction scenario. As appropriate, a short narrative description would also be included. Finally, a series of maps or diagrams would be provided giving an overview of the project being analyzed. The maps would include highlighting, arrows, notes, or other information to indicate how the different construction scenarios would replace or reuse sections of plastic pipe. Staff recognized that due to the wide range of complexity of the projects being examined that not every avoided cost study would contain the same amount of information or level of detail. Small, simple projects would not be expected to require as much documentation or explanation as larger, more complicated projects.

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Spire provided 509 avoided cost studies in the initial set of workpapers delivered to Staff. Spire East had 207 projects with avoided cost studies and Spire West had 302. Staff performed a high level review of all 509 avoided cost studies to determine if each met basic expectations for content. Specifically, Staff checked to see if Spire had provided a tabular breakdown of the differences between the two construction scenarios, a brief narrative description, and legible diagrams or maps. During Staff's initial review of all of the avoided

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cost studies, it was concluded that a significant fraction of the documents were lacking at least some piece of important information. As a result, Staff requested that Spire revisit 158 of the avoided cost studies and revise them to include more detail.<sup>6</sup> In addition to the high level review that was performed on all of the avoided cost studies, 65 avoided cost studies were chosen by Staff for more detailed reviews.

Staff found that the type of information in the avoided cost studies could be broken down into two different major categories: gas mains and gas service lines. The methods used by Spire to determine costs for the reuse or replacement of mains and services lines were found to be different. For mains, it was typical to find specific lengths of plastic pipe that were either being reused or replaced. However, service lines were treated on an average length and average cost basis. Actual lengths of individual service lines were not included in the avoided cost studies. The assumptions about average service line lengths and costs were based on prior experience by Spire in performing those types of work tasks. Discussions with Spire indicated that in order to present cost estimates for services at the same level of detail that was provided for mains in the avoided cost studies, it would have required a significant increase in the amount of work needed to perform the analysis. In a typical avoided cost study only a small number of specific design decisions would have to be considered when evaluating the reuse or abandonment of existing pieces of plastic mains. For service lines, the number of specific design decisions would routinely have been in the dozens and were often more than one hundred. Staff found the level of detail in the avoided cost studies related to the replacement or reuse of plastic mains and plastic service lines was sufficient to make conclusions about the reasonableness of the construction decisions made by Spire.

23 Staff Expert/Witness: Charles T. Poston, PE

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## **OPPORTUNITIES FOR IMPROVEMENT**

The determination of "reasonableness" made during Staff's engineering review does not imply that no improvements could be made to the content of avoided cost studies if Spire chooses to use them in any future ISRS filings. As previously stated, Staff found an uneven level of detail within Spire's avoided cost studies. This primarily dealt with illegible or

<sup>&</sup>lt;sup>6</sup> This issue is being addressed with Data Request No. 0011 in Case No. GO-2019-0115 and Data Request No. 0010 in Case No. GO-2019-0116.

missing maps and diagrams. This issue has already been raised with the Company and is in the process of being resolved.

Following Staff's review it become apparent that the reuse of small segments of plastic main were often unreasonable from an engineering perspective. The amount of effort and material required to salvage small pieces of main often exceeded what would have been necessary to abandon it and replace it with new plastic pipe. It may be possible for future efforts to be streamlined by specific analyses to determine if there is a minimum length below which small segments of plastic main may be excluded from any similar avoided cost studies.

The information provided for service line modifications in the avoided cost studies is done on an average length and average cost basis. Staff believes that opportunities exist for improvements to be made to the formatting and terminology used by Spire regarding service lines in order to more clearly communicate what assumptions are being made in the analyses.

Because this was the first opportunity for Spire to use avoided cost studies within an ISRS case, there was some uncertainty about what constituted necessary content. Numerous meetings were organized between the parties in which participants could ask questions about specific projects or the avoided cost study format in general. Time was also taken to ask about terminology or abbreviations used by the Company within the avoided cost studies. These meetings were typically productive and helped to improve the quality of Staff's review of the avoided cost studies. It would be expected that any changes to future avoided cost studies studies would require additional contact between parties to ensure that the same high level of information sharing would continue to take place.

22 Staff Expert/Witness: Charles T. Poston, PE

## SUMMARY AND FINDINGS

The avoided cost studies created by Spire have demonstrated that the circumstances surrounding the decision to reuse or abandon a section of plastic pipe are not necessarily straightforward. For example, to tie into an existing piece of plastic pipe, it may be necessary to make additional excavations which require shoring to ensure the safety of construction personnel. Much of the existing plastic pipe would require pressure testing to enable it to be upgraded to operate in a new, higher pressure distribution system. Scheduling reconnection of customers, relocation of meters, and temporary bypasses necessary to support continuous

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gas service are all issues which can also impact the decision to reuse or abandon sections of
 existing plastic pipe. For short segments of gas mains or for service lines that could be
 reused, the cost of the additional excavations, pipe fittings, and testing necessary for
 successful reuse could be expected to exceed the costs of abandonment and replacement.

Staff Expert/Witness: Charles T. Poston, PE

### IV. <u>Review and Revenue Calculations</u>

Section 393.1015.3, RSMo, states, "A gas corporation may effectuate a change in its rate pursuant to the provisions of this section no more often than two times every twelve months." The Spire East tariffs filed with this Application have been suspended until May 14, 2019. In Case No. GR-2017-0215, effective April 19, 2018, the ISRS balances were reset to zero. Since that date, Spire East has changed its ISRS surcharge once, in Case No. GO-2018-0309, with an effective date of October 8, 2018. Based on Spire East's previous ISRS filings and the statute, Staff asserts Spire East is currently in compliance with this section of the statute.

Commission Rule 4 CSR 240-3.265(18), Natural Gas Utility Petitions for Infrastructure System Replacement Surcharges, states:

> The commission shall reject an ISRS petition after a commission order in a general rate proceeding unless the ISRS revenues requested in the petition, on an annualized basis, will produce ISRS revenues of at least the lesser of one-half of one percent (1/2%) of the natural gas utility's base revenue level approved by the commission in the natural gas utility's most recent general rate case proceeding or one (1) million dollars, but not in excess of ten percent (10%) of the subject utility's base revenue level approved by the commission in the utility's most recent general rate proceeding.

Spire East's requested ISRS revenues exceed one-half of one percent of the natural gas utility's base revenue level approved by the Commission in the most recent Spire East rate case, and Spire's cumulative ISRS revenues, including the amounts requested in this filing, do not exceed ten percent of the base revenue levels approved by the Commission in the last Spire East rate case, Case No. GR-2017-0215.

#### Staff Direct Report Case No. GO-2019-0115

In this Application, Spire East filed to recover qualifying ISRS costs incurred during the period of July 1, 2018, through January 31, 2019. The ISRS recovery requested for December 2018 and January 2019 plant-in-service additions was included on an estimated basis at the time Spire East's Application was filed, but an updated Appendix A that includes December and January actuals was filed February 25, 2019, and documentation supporting actual ISRS plant addition costs for these months was supplied by Spire East during the course of Staff's audit.

As part of its examination of Spire East's application, Auditing Staff reviewed supporting workpapers, work order authorizations, and a sample of invoices supporting the work order authorizations. Staff also communicated with Spire East's personnel to clarify Spire's application when necessary.

In previous ISRS applications, issues were raised regarding the inclusion of the cost associated with replacement of plastic main and services undertaken as part of a larger mains and services replacement program. In response to guidance from the Commission in its Report and Order in the last ISRS Case No. GO-2018-0309, in this ISRS Petition Spire East provided an avoided cost study for each ISRS-eligible work order that included estimated costs associated with plastic mains and services replacement as discussed in the Staff Engineering Review Section of this report. If the estimated cost of an ISRS-eligible work order for Scenario 1 was greater than the estimated cost for Scenario 2, meaning it cost more to replace the existing plastic mains or services than it would to reuse them, Spire East calculated the percentage difference in costs between the two scenarios and made an adjustment to reduce its actual ISRS-eligible costs incurred for that work order by that percentage difference. If the estimated cost of an ISRS-eligible work order for Scenario 2 was greater than the estimated cost of an ISRS-eligible work order by that percentage difference. If the estimated cost of an ISRS-eligible work order for Scenario 2 was greater than the estimated cost for Scenario 1, meaning it cost more to utilize the existing plastic mains or services than to replace it, no adjustment was made by the Company to the actual ISRS-eligible costs incurred for that work order.

As part of its work scope in this case, Audit Staff compared the information contained within each avoided cost study to the information in the Company's Revenue Requirement workpaper to verify the amounts used to determine the plastic percentage differences matched. Staff noted any discrepancies and sought clarification from the Company.

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In addition, Audit Staff obtained a sample of the detailed calculations used to develop the
 estimated costs for selected avoided cost studies. These samples were then compared to each
 avoided cost study to verify the total of the amounts matched each cost element. Again, any
 discrepancies were noted by Staff and provided to the Company for further clarification.

Commission Rule 4 CSR 240-3.265 Natural Gas Utility Petitions for Infrastructure System Replacement Surcharges sets forth the definitions of natural gas utility plant projects that are eligible for ISRS treatment. Based on Staff's review of a sampling of work orders included in the Company's filing, Staff concluded that each of the projects reviewed meets the ISRS rule qualifications, with the exception of costs associated with replacement of plastic mains and services when such cost was greater than the estimated cost of utilizing existing plastic pipe. After examination of the avoided cost studies provided by the Company in this proceeding, Audit Staff, in conjunction with Engineering Analysis Staff, takes the position that the Company has complied with this rule and fulfilled the requirement contained within the Commission's Report and Order in Case No. GO-2018-0309 by providing evidence to support its proposed recovery of certain plastic mains and services replacement costs.

The methodology used by Auditing Staff to determine ISRS revenue requirement allows for consideration of all accumulated depreciation and deferred income taxes on ISRS qualifying infrastructure replacement costs through April 30, 2019. This methodology is consistent with past reviews conducted by Auditing Staff and with Staff's view that the calculation of the ISRS revenue requirement should closely reflect the revenue requirement for ISRS qualifying plant as of the effective date of the ISRS rates.

Staff Expert/Witness: Keith D. Foster

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## BLANKET WORK ORDERS

Staff reviewed Spire's workpapers concerning ISRS costs included in "blanket work orders." Blanket work orders are work orders that cover a large number of tasks, and which do not close for an extended period of time. Issues have arisen in prior Spire ISRS filings regarding the eligibility for recovery of the costs included in blanket work orders through the ISRS rate mechanism. In this proceeding, the Company categorized each separate task in the blanket work order as either ISRS eligible or ISRS ineligible. Spire then calculated the percentage of eligible vs. ineligible tasks and applied the ineligible task percentage to the

1 blanket work order total amounts to calculate an amount of blanket work order costs that are 2 not ISRS eligible. Staff reviewed Spire's categorization to determine if each task Spire 3 considered eligible met the requirements for ISRS recovery. Tasks considered eligible 4 included mandated relocations, replacements due to leak repairs and corrosion inspections, 5 and replacement of copper and cast iron pipe. Ineligible items included relocations at a 6 customer's request, replacements due to excavation damage, replacement of plastic not related 7 to a leak repair, and installation of new services. Staff and Spire are in agreement as to the 8 eligibility of all the tasks included in the blanket work orders.

9 Staff Expert/Witness: Kimberly K. Bolin

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CURRENT INCOME TAXES

Staff's calculation of income taxes is in compliance with the Missouri Revised
Statutes associated with income taxes for an ISRS for gas utilities, Sections 393.1009(1) and
(a) and (b), which states:

- (1) "Appropriate pretax revenues", the revenues necessary to produce net operating income equal to:
  - (a) The gas corporation's weighted cost of capital multiplied by the net original cost of eligible infrastructure system replacements, including recognition of accumulated deferred income taxes and accumulated depreciation associated with eligible infrastructure system replacements which are included in a currently effective ISRS; and
  - (b) Recover state, federal, and local income or excise taxes applicable to such income.

There are certain tax deductions associated with ISRS plant additions that should be taken into account in determining the amount of state and federal income taxes applicable to ISRS net operating income. All of these tax deductions are directly associated with and incremental to the ISRS plant additions in this proceeding.

The tax deductions that Spire can claim for construction of ISRS property are interest expense, and Internal Revenue Code (IRC) Section 263A transfers. These deductions result in income tax savings of approximately \$2.4 million, which more than offsets the calculation of the \$1.3 million of ISRS related income taxes stated prior to the consideration of any income tax deductions.

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The weighted cost of debt, which is multiplied by the ISRS investment in compliance with section 393.1009(1)(a), includes a component for both long-term and short-term debt. As a result, the return on ISRS investment includes interest paid to debt holders. This interest payment is tax deductible. Both Staff and Spire have recognized this tax deduction in the calculation of income taxes.

Section 263A of the Internal Revenue Code (IRC) discusses the tax treatment, capitalization versus expense, for various plant related costs that are self-constructed assets. On the Company's regulatory books, these various plant related costs are treated differently than the treatment prescribed by the IRC. In the aggregate, more costs are capitalized on the Company's regulatory books than are required to be capitalized for tax purposes. The amount capitalized on the Spire's books in excess of the amount capitalized for tax purposes is deductible in the calculation of applicable income taxes.

Staff calculated the amount of the 263A deduction, by developing a 263A transfers deduction percentage (14.05%). This percentage was developed by using the 263A transfer deduction used in 2016 (\$16,196,036) as compared to the amount of plant added during the same period per Company's annual report filed with the Missouri Public Service Commission (\$115,312,836). If Spire is able to provide information that would allow for a more precise 263A deduction calculation, Staff would consider using this information instead of the percentage that Staff has used in its current calculation.

In its initial recommendation in this case filed March 15, 2019, Staff proposed inclusion of a deduction for "service transfer" costs. At this time Staff is unsure if the service transfer deductions are embedded in the calculation of the 263A deduction. For this reason we are no longer including a deduction for service transfers in our ISRS revenue requirement. This change, however, does not change the amount of Staff's recommended revenue requirement.

26 Staff Expert/Witness: Kimberly K. Bolin

Based upon its review and calculations made in response to this ISRS Application, Staff recommends Spire East receive additional ISRS revenues of \$6,480,670 (See attached Schedule 2 to this report).

30 Staff Experts/Witnesses: Keith D. Foster and Kimberly K. Bolin

V. 1 **Recommendations** 2 Staff recommends the Commission issue an order that: 3 1. Rejects Spire East's ISRS tariff sheet (YG-2019-0138) P.S.C. MO. No. 7, 4 Second Revised Sheet No. 12 cancelling P.S.C. MO. No. 7, First Revised 5 Sheet No. 12, as filed on January 14, 2019. 6 2. Approves Staff's recommended ISRS surcharge revenues in this docket in 7 the incremental pre-tax revenue amount of \$6,480,670 with a total current 8 and cumulative ISRS surcharge of \$9,088,280. 9 3. Authorizes Spire East to file an ISRS rate for each customer class as 10 reflected in the attached Schedule 1, which generates \$9,088,280 annually. 11 4. Authorizes an effective date no later than May 14, 2019. 12 Staff Expert/Witness: J Luebbert on behalf of all witnesses 13 Schedule 1 – ISRS Rate Design 14 Schedule 2 – ISRS Revenue Requirement Calculation 15 **Appendix 1 – Staff Credentials** 

## SPIRE MISSOURI INC., SPIRE (East) CASE NO. GO-2019-0115 & YG-2019-0138 ISRS RATE DESIGN - Direct Testimony

	Staff's Total	ISRS Rev R	leq		\$9,088,280		
Customer Rate Class	<u>Cust #</u>	<u>Customer</u> <u>Charge</u>	<u>Ratio To</u> <u>Residential</u>	<u>Weighted</u> Cust #	<u>Customer</u> Percentage	<u>Cal</u> ISRS Charge	<u>ISRS</u> Revenues
Residential	604,973	\$22.00	1.0000	604,973	86.0152%	\$1.08	\$7,817,303
SGS - Small Gen. Service	36,743	\$35.00	1.5909	58,455	8.3111%	\$1.71	\$755,337
LGS-Large Gen. Service	3,882	\$125.00	5.6818	22,057	3.1360%	\$6.12	\$285,012
LV-Large Volume Service	67	\$914.25	41.5568	2,784	0.3959%	\$44.75	\$35,978
SL-Unmetered Gas Light	84	\$6.00	0.2727	23	0.0033%	\$0.29	\$296
IN-Interruptable	20	\$837.40	38.0636	761	0.1082%	\$40.99	\$9,837
General LP	36	\$17.94	0.8155	29	0.0042%	\$0.88	\$379
Vehicular Fuel	8	\$23.38	1.0627	9	0.0012%	\$1.14	\$110
LVTSS-Large Volume Transport & Sales Service	147	\$2,131.41	96.8823	14,242	2.0249%	\$104.32	\$184,027
TOTAL	645,960			703,333	100.00%		\$9,088,280

\* Due to rounding to the nearest penny, the designed ISRS rates will over-collect by \$1821 However, it should be noted that the total amount collected will be truedup at a later date.

#### Spire Missouri East ISRS Revenue Requirement Calculation

State         State <th< th=""><th>ISRS Revenue Requirement Calculation</th><th>01-11</th><th>Outrate Filling</th><th></th></th<>	ISRS Revenue Requirement Calculation	01-11	Outrate Filling	
With Critics Planetic Service         31,943,765         31,923,775         33,527,135         33,261,71         31,527,135         33,261,71         31,527,135         32,261         31,943,765         31,943,765         31,943,765         31,943,765         31,943,765         31,943,765         31,943,765         31,923,97         31,627,135         32,627         31,923,97         31,923,97         31,923,97         30         0         0         0         0         0         0         0         0 <t< th=""><th>ISRS Activity:</th><th>Staff Recommendation</th><th>Spire's Filing Jan 2019 Update</th><th>Difference</th></t<>	ISRS Activity:	Staff Recommendation	Spire's Filing Jan 2019 Update	Difference
Gross Additions         31,492,765         31,492,765         31,492,765         31,492,765         31,492,765         31,492,765         31,527,135         (42,871)           Total Net         31,527,135         (3,261)         (44,871)         (44,871)           Gas Multicy Plant Projects - Service Line Replacements and Insertion Projects:         (44,871)         (3,22,874)         (3,22,874)         (3,201)           Gas Additions         22,096,148         22,076,128         (2,020)         (48,278)         (5,658)           Gross Additions         (425,720)         (182,728)         (6,683)         (1,057)           Gas Additions         -         0         0         0         0           Orders Additions         -         0         0         0         0           Orders Additions         -         0         0         0         0           Accumulated Depreciation         -         0         0         0         0         0           Gas Additions         1,532,907         0 </td <td></td> <td>of Mains:</td> <td></td> <td></td>		of Mains:		
Deferred Taxes         (157.449)         (148.400)         40.851           Accumulated Depreciation         (22.424)         (21.571)         (44.871)           Total Net         31.522.874         31.527.15         (32.641)           Gas Ullity Plant Projects - Sortice Line Replacements and Insertion Projects:         2000.148         22.0078.128         12.029           Order Additions         (22.720)         (182.278)         66558         Accumulated Depreciation         (182.78)         (1057)           Gas Ullity Plant Projects - Regulator Stations:         (23.922)         (270.28)         (68.855)           Total Net         21.524.504         21.525.561         (1.057)           Gas Ullity Plant Projects - Regulator Stations:         0         0         0           Order Additions         -         0         0         0           Grass Additions         -         0         0         0           Order Taxes         1.522.907         (1.52.907)         0.52.907         1.532.907         0           Grass Additions         1.507.400         1.506.45         1.532.907         0         0           Crass Additions         1.507.400         1.507.400         1.506.45         1.532.907         0         0         0		31 943 765	31 943 106	659
Accumulated Depreciation         (282,442)         (217,571)         (44,871)           Total Net         31,523,874         31,527,135         (32,821)           Gas Utility Plant Poince Pacedon         22,090,148         22,090,148         12,020           Deferred Taxes         (152,720)         (152,720)         (152,720)         (152,720)           Gas Utility Plant Poince Taxes         (152,720)         (152,720)         (152,720)         (152,720)           Gas Utility Plant Poince Taxes         -         0         0         0           Deferred Taxes         -         0         0         0           Deferred Taxes         -         0         0         0           Accumulated Depreciation         -         0         0         0           Deferred Taxes         -         0         0         0           Accumulated Depreciation         -         0         0         0           Deferred Taxes         -         0         0         0           Accumulated Depreciation         1,532,907         1,532,907         0           Accumulated Depreciation         -         0         0         0           Catal Net         1,507,400         1,500,445		, ,		
Gas Utility Plant Projects - Service Line Replacements and Insertion Projects:         22,000,148         22,078,128         12,020           Mich Order Placed In Service         (182,728)		( , , ,	· · · ·	,
Wick Orders Placed in Service         22,090,148         22,078,128         12,020           Gross Additions         (128,778)         (128,778)         (122,778)         (696,359)           Total Net         21,524,504         21,525,561         (1,057)           Gross Additions         -         0         0         0           Deferred Taxes         -         0         0         0           Cross Additions         -         0         0         0           Octared Taxes         -         0         0         0           Gross Additions         -         0         0         0           Gross Additions         -         0         0         0           Gross Additions         1,532,907         1,532,807         0           Deferred Taxes         -         0         0         0           Accumulated Depreciation         -         1,507,400         1,506,045         1,332,61           Total Net         1,507,400         1,506,045         1,332,61         0           Increase in Accumulated Depreciation         -         0         0         10           Accumulated Depreciation         -         0         0         0	Total Net	31,523,874	31,527,135	(3,261)
Gross Additions         22,000,148         22,078,128         12,020           Deferred Taxes         (125,720)         (182,778)         65,658           Accumulated Depreciation         (21,524,504)         21,525,661         (1,057)           Gas Utility Plant Projects - Regulator Stations:         ''''''''''''''''''''''''''''''''''''				
Deferred Taxes         (12 5720)         (192,278)         665588           Accumulated Depreciation         (139,924)         (370,289)         (698,635)           Total Net         21,524,504         21,525,561         (1,057)           Gas Utility Plant Projects - Regulator Stations:         -         0         0           Work Orders Placed in Service         -         0         0         0           Gross Additions         -         0         0         0         0           Total Net         -         0         0         0         0           Gross Additions         -         0         0         0         0           Order Taxes         1,532,907         0         0         0         1,532,907         0         0         0         1,532,907         0         0         1,532,907         0         0         1,532,907         0         0         1,532,907         0         1,532,907         0         0         1,532,907         0         1,532,907         0         1,532,907         0         1,532,907         0         1,532,907         0         1,532,907         0         1,532,907         0         1,532,907         0         1,533,933         0		22,000,149	22 070 120	12.020
Accumulated Depreciation         (438,924)         (370,289)         (69,835)           Total Net         21,524,504         21,525,561         (1,057)           Gas Utility Plant Projects - Regulator Stations; Wink Order Taxes         -         0         0           Gross Additions         -         0         0         0           Accumulated Depreciation         -         0         0         0           Gross Additions         1,532,907         1,532,907         0         0           Gross Additions         1,532,907         1,532,907         0         0           Corks Additions         1,552,907         1,552,907				,
Gas Utility Plant Projects - Regulator Stations: Work Orders Placed In Service Gross Additions         0         0         0           Gross Additions         -         0         0         0         0           Accumulated Depreciation         -         0         0         0         0           Total Net         -         0         0         0         0         0           Gross Additions         1,532,907         0				
More Orders Placed in Service           Gross Additions         -         0         0           Accumulated Depreciation         -         0         0           Total Net         -         0         0           Gross Additions         1,532,907         1,532,907         0           Gross Additions         1,532,907         1,532,907         0           Gross Additions         1,532,907         0         3,268           Accumulated Depreciation         (14,124)         (17,392)         3,268           Accumulated Depreciation         1,507,400         1,566,645         1,355           Increase in Accumulated Deferred Income Taxes and Accumulated Depreciation         Associated with Eligible Infrastructure System Replacements which are included in a Currently Effective ISRS         1         1         1         0         0         0           Total Incremental Accumulated Deferred Taxes         (110,103)         (01)         1         0         0         0         7         2,96,783         0         0         1         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0	Total Net	21,524,504	21,525,561	(1,057)
More Orders Placed in Service           Gross Additions         -         0         0           Accumulated Depreciation         -         0         0           Total Net         -         0         0           Gross Additions         1,532,907         1,532,907         0           Gross Additions         1,532,907         1,532,907         0           Gross Additions         1,532,907         0         3,268           Accumulated Depreciation         (14,124)         (17,392)         3,268           Accumulated Depreciation         1,507,400         1,566,645         1,355           Increase in Accumulated Deferred Income Taxes and Accumulated Depreciation         Associated with Eligible Infrastructure System Replacements which are included in a Currently Effective ISRS         1         1         1         0         0         0           Total Incremental Accumulated Deferred Taxes         (110,103)         (01)         1         0         0         0         7         2,96,783         0         0         1         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0	Gas Utility Plant Projects - Regulator Stations:			
Deferred Taxes         -         0         0           Accumulated Depreciation         -         0         0         0           Gas Utility Plant Projects - Main Relocations net of Reimbursements:         Work Orders Elaced in Service         -         0         0         0           Gas Utility Plant Projects - Main Relocations net of Reimbursements:         Work Orders Elaced in Service         1532.907         0         0         0         3.268           Mork Orders Elaced in Service         (14.124)         (17.392)         3.268         Accumulated Depreciation         (11.383)         (9,470)         (1.913)           Total Net         1.507.400         1.506.045         1.355         1.355           Increase in Accumulated Deferred Income Taxes and Accumulated Depreciation         G895.783)         0         0           Total Incremental Accumulated Depreciation         (195.783)         (595.783)         0         0           Total Incremental Accumulated Depreciation         (10.103)         (100)         00         0           Total Incremental Accumulated Depreciation         (10.103)         (100)         0           Total Incremental Accumulated Depreciation         (10.103)         (100)         0           Work Rate Base         (10.103)         (1010)         <				
Accumulated Depreciation         -         0         0           Total Net         -         0         0         0           Gas Utility Plant Projects - Main Relocations net of Reimbursements: Work Orders Placed In Service Gross Additions Deferred Taxes         1.552,907         0           Outered Taxes         (14,124)         (17,932)         3.268           Accumulated Depreciation         (11,1383)         (9,470)         (1,913)           Total Net         1.507,400         1.506,045         1,355           Increase in Accumulated Deferred Income Taxes and Accumulated Depreciation Associated with Eligible Infrastructure System Replacements which are included in a Currently Effective ISRS         0           Otal Increamental Accumulated Deferred Taxes         (110,103)         (0)           Otal Increamental Accumulated Deferred Taxes         (12,97,67)         (22,96)           Otal Increamental Accumulated Deferred Taxes         (12,97,67)         (21,97)           Otal Increamental Accumulated Deferred Taxes         (13,133, 13,135)         (22,96)           Otal Reave Requirement		-		
Total Net         0         0         0         0           Gas Utility Plant Projects - Main Relocations net of Reimbursements: Work Orders Planed in Sancica Gross Additions         1,532,907         0         1,532,907         0           Deferred Taxes Accumulated Depreciation         (14,124)         (17,382)         3,268           More Net         1,507,400         1,506,045         1,335           Increase in Accumulated Deferred Income Taxes and Accumulated Depreciation Associated with Eligible Infrastructure System Replacements which are included in a Currently Effective ISRS         0           Total Incremental Accumulated Depreciation Total Incremental Accumulated Depreciation         (595,783)         (955,783)         0           Total Incremental Accumulated Depreciation Total Incremental Accumulated Deferred Taxes         (110,103)         (10)         (0)           Total Incremental Accumulated Deferred Taxes         53,849,892         53,852,855         (2,963)           Overall Rate of Return per GR-2017-0215         7,20%         7,20%         7,20%           UR equiveree Here to Eduction Interest Deductibility         51,842,825         25,862,855         (2,963)           Total Increme Tax Retuction on the tot set to therest         226,903         1,907,763         1,077,763         1,077,763         1,077,763         1,077,763         1,077,763         1,077,763		-		
Gas Utility Plant Projects - Main Relocations net of Reimbursements:           Work Orders: Placed in Service Gross Additions Deferred Taxes         1,532,907         0           Orders: Placed in Service Gross Additions         1,532,907         0           Accumulated Depreciation         (14,124)         (17,392)         3,268           Accumulated Depreciation         (14,124)         (17,392)         3,268           Increase in Accumulated Deferred Income Taxes and Accumulated Depreciation Associated with Eligible Infrastructure System Replacements which are included in a Currently Effective ISRS Total Incremental Accumulated Depreciation Total Incremental Accumulated Depreciation         (595,783)         0           Total Incremental Accumulated Depreciation Total Incremental Accumulated Deferred Taxes         (10,103)         (10,103)         (0)           Total Incremental Accumulated Deferred Taxes         53,849,892         53,852,855         (2,963)           UOI Required Income Tax Conversion Factor         1,34135         1,34135         1,34135           Revenue Requirement Before Interest Deductibility         5,189,992         53,852,855         (2,963)           More Tax Reduction due to Interest         1,201,77,63         1,017,819         (56)           Income Tax Reduction due to Interest         254,482%         1,244,42%         1,244,42%           Income Tax Reduction due to Interest Deductibi	Accumulated Depreciation		0	0
Work Ordere Placed in Service Gross Additions         1,532,907         1,532,907         0           Deferred Taxes Accumulated Depreciation         (14,124)         (17,392)         3,268           Accumulated Depreciation         (11,1383)         (9,470)         (1,131)           Total Net         1,507,400         1,506,045         1,335           Increase in Accumulated Deferred Income Taxes and Accumulated Depreciation Associated with Eligible Infrastructure System Replacements which are included in a Currently Effective ISRS         0           Currently Effective ISRS         (110,103)         (110,103)         (10,103)           Total Incremental Accumulated Deferred Taxes         (110,103)         (10,103)         (0)           Total Incremental Accumulated Deferred Taxes         (130,103)         (110,103)         (0)           Overall Rate of Return per GR-2017-0215         7.20%         7.20%         7.20%           UOI Required         3.875,954         3.876,167         (213)           Income Tax Conversion Factor         1.34135         1.44135         (2.963)           Total INSR Bate Base         53,849,892         53,852,855         (2.963)           Weighted Cost of Debt per GR-2017-0215         1.8900%         1.8900%         1.8900%           Income Tax Rate         2.54428%         254.442	Total Net		0	0
Gross Additions         1,532,907         0           Deferred Taxes         (14,124)         (17,392)         3,268           Accumulated Depreciation         (11,183)         (9,470)         (1,133)           Total Net         1,507,400         1,506,045         1,355           Increase in Accumulated Deferred Income Taxes and Accumulated Depreciation         Associated with Eligible Infrastructure System Replacements which are included in a Currently Effective ISRS         0           Total Incremental Accumulated Depreciation         (595,783)         0         0           Total Incremental Accumulated Depreciation Total Incremental Accumulated Depreciation Paces         (110,103)         (110,103)         0           Total Incremental Accumulated Depreciation Total Incremental Accumulated Depreciation Total ISRS Rate Base         (110,103)         (213)         (214)           UOI Required         3,875,954         3,876,167         (213)         (286)           Income Tax Conversion Factor         1,34135         1,34135         (107,763)         1,017,763         1,017,763         1,017,763         1,017,763         1,017,763         1,017,763         1,017,763         1,017,763         1,017,763         1,017,763         1,017,763         1,017,763         1,017,763         1,017,763         1,017,763         1,017,763         1,017,763				
Deferred Taxes Accumulated Depreciation         (14,124) (11,383)         (14,124) (9,470)         (11,913) (1,913)           Total Net         1,507,400         1,506,045         1,355           Increase in Accumulated Deferred Income Taxes and Accumulated Depreciation Associated with Eliable Infrastructure System Replacements which are included in a Currently Effective ISRS Total Incremental Accumulated Depreciation Total Incremental Accumulated Deferred Taxes         (595,783)         (595,783)         0           Total Incremental Accumulated Deferred Taxes         (110,103)         (110,103)         (10)         (0)           Total Incremental Accumulated Deferred Taxes         (110,103)         (110,103)         (0)         (0)           Total Incremental Accumulated Deferred Taxes         (110,103)         (110,103)         (10)         (0)           Total Incremental Accumulated Deferred Taxes         (110,103)         (110,103)         (0)           Total INSR ate Base         (2,963)         7,20%         7,20%         7,20%           UOI Required         3,875,954         3,876,167         (213)         1,34135           Income Tax Conversion Factor         1,34135         1,34135         1,34135           Interest Deductibility         53,849,892         53,852,855         (2,963)           Income Tax Reduction due to Interest         255,003				
Accumulated Depreciation         (11.383)         (9.470)         (1.913)           Total Net         1,507,400         1,506,045         1,355           Increase in Accumulated Deferred Income Taxes and Accumulated Depreciation Associated with Eligible Infrastructure System Replacements which are included in a Currently Effective ISRS         (595,783)         0           Total Incremental Accumulated Deferred Taxes         (110,103)         (110,103)         (0)           Total Incremental Accumulated Deferred Taxes         (110,103)         (110,103)         (0)           Total Incremental Accumulated Deferred Taxes         (110,103)         (110,103)         (0)           Overall Rate of Return per GR-2017-0215         20%         7.20% <td></td> <td>, ,</td> <td></td> <td></td>		, ,		
Total Net         1,507,400         1,506,045         1,355           Increase in Accumulated Deferred Income Taxes and Accumulated Depreciation Associated with Eligible Infrastructure System Replacements which are included in a Currently Effective ISRS Total Incremental Accumulated Deferred Taxes         (595,783)         (595,783)         0           Total Incremental Accumulated Deferred Taxes         (110,103)         (110,103)         (0)           Total Incremental Accumulated Deferred Taxes         (2,983)         7,20% <td></td> <td> ,</td> <td> ,</td> <td></td>		,	,	
Increase in Accumulated Deferred Income Taxes and Accumulated Depreciation Associated with Eligible Infrastructure System Replacements which are included in a Currently Effective ISRS Total Incremental Accumulated Depreciation Total Incremental Accumulated Deferred Taxes(595,783)(595,783)0Total Incremental Accumulated Depreciation Total Incremental Accumulated Deferred Taxes(110,103)(110,103)(0)Total Incremental Accumulated Deferred Taxes(110,103)(110,103)(10)Overall Rate Base Overall Rate of Return per GR-2017-02157.20%7.20%UOR Required Income Tax Conversion Factor3.875,9543.876,167(213)Revenue Requirement Before Interest Deductibility5.199,0115.199,297(286)Total ISRS Rate Base Weighted Cost of Debt per GR-2017-02151.8900%1.8900%1.8900%Income Tax Conversion Factor1.341351.017,763(56)Marginal Income Tax Rate Income Tax Conversion Factor25.4482%25.4482%(20)Revenue Requirement Impact of Interest Deductibility347,413347,413(20)263A Transfers Deduction Income Tax Reduction due to 263A Transfers Deduction6,269,749 0.341356,269,749 0.34135Applicable Income Tax Neduction due to 263A Transfers Deduction3.875,9544.851,864(975,910)Depreciation Expense 1,072,6091.072,6091.072,6091.072,609(7,463,232Applicable Income Tax Neduction due to 263A Transfers Deduction5.4480,6707,463,232(982,562)June 2018 - GO-2018-0309 - Additional Re	Accumulated Depreciation	(11,303)	(9,470)	(1,913)
Associated with Eligible Infrastructure System Replacements which are included in a Currently Effective ISRS         (595,783)         (595,783)         0           Total Incremental Accumulated Depreciation Total Incremental Accumulated Deferred Taxes         (110,103)         (110,103)         0           Total Incremental Accumulated Deferred Taxes         (110,103)         (110,103)         (10)         0           Total INCREMENTAL Accumulated Deferred Taxes         (110,103)         (110,103)         0         0           Total INCREMENTAL Accumulated Deferred Taxes         (110,103)         (110,103)         0         0           Overall Rate of Return per GR-2017-0215         7.20%         7.20%         7.20%         7.20%           UOI Required         3.875,954         3.876,167         (213)         1.34135         1.34135           Revenue Requirement Before Interest Deductibility         5.199,011         5.199,297         (286)           Total ISRS Rate Base         53.849,892         53.852,855         (2,963)           Weighted Cost of Debt per GR-2017-0215         1.8900%         1.8900%         1.8900%           Income Tax Reduction due to Interest         259,003         259,017         (14)           Income Tax Reduction due to Interest Deductibility         3.47,413         347,433         20)	Total Net	1,507,400	1,506,045	1,355
Total ISRS Rate Base         53,849,892         53,852,855         (2,963)           Overail Rate of Return per GR-2017-0215         3.875,954         3.876,954         3.876,167         (213)           UOI Required         1.34135         1.34135         1.34135         (2,963)           Income Tax Conversion Factor         51,99,011         5,199,297         (266)           Total ISRS Rate Base         53,849,892         53,852,855         (2,963)           Weighted Cost of Debt per GR-2017-0215         1.8900%         1.8900%         (1,017,763)           Income Tax Rate         1.017,763         1.017,819         (66)           Income Tax Rate         254,482%         (20)         (20)           Income Tax Conversion Factor         259,003         259,017         (14)           Income Tax Conversion Factor         0.34135         1.34135         (20)           Revenue Requirement Impact of Interest Deductibility         347,413         347,433         (20)           Income Tax Reduction         6,269,749         6,269,749         (2,649,749)         (2,649,749)         (2,649,749)         (2,140,179)           Income Tax Reduction due to 263A Transfers Deduction         2,140,179         (2,140,179)         (2,140,179)         (2,140,179)         (2,140,179)         <	Associated with Eligible Infrastructure System Replacements which are included in a Currently Effective ISRS Total Incremental Accumulated Depreciation	· · · /	· · · ·	
Overall Rate of Return per GR-2017-0215         7.20%         7.20%           UOI Required         3,875,954         3,875,954         3,875,954         3,876,167         (213)           Income Tax Conversion Factor         1,34135         1,34135         1				
UOI Required Income Tax Conversion Factor         3.875,954 1.34135         3.876,167 1.34135         (213) 1.34135           Total ISRS Rate Base Weighted Cost of Debt per GR-2017-0215         53.849,892         53.852,855         (2,963)           Income Tax Reduction Income Tax Reduction due to Interest Income Tax Reduction due to Interest         1.017,763         1.017,819         (56)           Income Tax Reduction due to Interest         25.4482%         25.4482%         (14)           Income Tax Reduction due to Interest         25.003         259.017         (14)           Income Tax Reduction due to Interest         1.34135         1.34135         (20)           263A Transfers Deduction Income Tax Reduction due to 263A Transfers Deduction         6,269,749         6,269,749         (2,629,749)           Income Tax Reduction due to 263A Transfers Deduction         2,140,179         2,140,179         2,140,179           Applicable Income Tax         975,697         (975,697)         (975,697)         (975,697)           Total Revenue Requirement on Capital Depreciation Expense         3,875,954         4,851,864         (975,910)           1,532,107         1,532,2107         1,532,224         (7,117)         (7,463,232         (982,562)           June 2018 - GO-2018-0309 - Additional Revenues (From Appendix B)         1,794,585         1,794,585         (				(2,963)
Income Tax Conversion Factor         1.34135         1.34135           Revenue Requirement Before Interest Deductibility         5,199,011         5,199,027         (286)           Total ISRS Rate Base         53,849,892         53,852,855         (2,963)           Weighted Cost of Debt per GR-2017-0215         1.8900%         1.8900%         1.8900%           Interest Deduction         1.017,763         1.017,819         (56)           Marginal Income Tax Rate         254482%         254482%           Income Tax Reduction due to Interest         259,003         259,017         (14)           Income Tax Conversion Factor         1.34135         1.34135         1.34135           Revenue Requirement Impact of Interest Deductibility         347,413         347,433         (20)           263A Transfers Deduction         6,269,749         6,269,749         6,269,749           Income Tax Reduction due to 263A Transfers Deduction         2,140,179         2,140,179         2,140,179           Applicable Income Tax         975,697         (975,697)         1.072,609         1.072,609         1.072,609         1.072,609         1.072,609         1.072,609         1.072,609         1.072,609         1.532,107         1.532,22         (7,117)           Total Revenue Requirement on Capital <td< td=""><td>-</td><td></td><td></td><td>(213)</td></td<>	-			(213)
Revenue Requirement Before Interest Deductibility         5,199,011         5,199,011         5,199,297         (286)           Total ISRS Rate Base         53,849,892         53,852,855         (2,963)           Weighted Cost of Debt per GR-2017-0215         1.8900%         1.017,763         1.017,819         (56)           Income Tax Reduction         25,4482%         25,4482%         25,4482%         25,4482%         (14)           Income Tax Reduction due to Interest         1.034135         1.34135         1.34135         (14)           Income Tax Conversion Factor         6,269,749         6,269,749         6,269,749         (2,629,749)         (2,629,749)         (17)         (14)           Income Tax Factor         0.34135         0.34135         0.34135         (17)         (17)         (14)         (17)         (14)         (17)         (14)         (17)         (14)         (17)         (14)				(213)
Weighted Cost of Debt per GR-2017-0215         1.8900%         1.8900%           Interest Deduction         1.017.763         1.017.819         (56)           Marginal Income Tax Rate         25.4482%         25.4482%         25.4482%           Income Tax Reduction due to Interest         259,003         259,017         (14)           Income Tax Conversion Factor         1.34135         1.34135           Revenue Requirement Impact of Interest Deductibility         347,413         347,433         (20)           263A Transfers Deduction         6,269,749         6,269,749         6,269,749           Income Tax Factor         0.34135         1         1           Income Tax Reduction due to 263A Transfers Deduction         2,140,179         2,140,179         2,140,179           Applicable Income Tax         975,697         (975,697)         (975,697)         1,072,144         465           Net Property Taxes         1,532,107         1,539,224         (7,117)         1,539,224         (7,117)           Total ISRS Revenues         6,480,670         7,463,232         (982,562)         1,794,585         (1,794,585)	Revenue Requirement Before Interest Deductibility			(286)
Interest Deduction         1,017,763         1,017,819         (56)           Marginal Income Tax Rate         25,4482%         25,4482%         25,4482%           Income Tax Reduction due to Interest         259,003         259,003         259,017         (14)           Income Tax Conversion Factor         1.34135         1.34135         1.34135         1.34135           Revenue Requirement Impact of Interest Deductibility         347,413         347,433         (20)           263A Transfers Deduction         6,269,749         6,269,749         6,269,749           Income Tax Factor         0.34135         1         1           Income Tax Reduction due to 263A Transfers Deduction         2,140,179         2,140,179         2,140,179           Applicable Income Tax         975,697         (975,697)         (975,697)         1,072,144         465           Net Property Taxes         1,532,107         1,539,224         (7,117)         1,539,224         (7,117)           Total ISRS Revenues         6,480,670         7,463,232         (982,562)         982,562)         1,794,585         (1,794,585)				(2,963)
Marginal Income Tax Rate         25.4482%         25.4482%           Income Tax Reduction due to Interest         259,003         259,017         (14)           Income Tax Conversion Factor         1.34135         1.34135         1.34135           Revenue Requirement Impact of Interest Deductibility         347,413         347,433         (20)           263A Transfers Deduction         6,269,749         6,269,749         6,269,749           Income Tax Factor         0.34135         -         -           Income Tax Reduction due to 263A Transfers Deduction         2,140,179         2,140,179           Applicable Income Tax         975,697         (975,697)           Total Revenue Requirement on Capital         3,875,954         4,851,864         (975,910)           Depreciation Expense         1,072,609         1,072,144         465           Net Property Taxes         1,532,107         1,539,224         (7,117)           Total ISRS Revenues         6,480,670         7,463,232         (982,562)				(56)
Income Tax Reduction due to Interest       259,003       259,017       (14)         Income Tax Conversion Factor       1.34135       1.34135       1.34135         Revenue Requirement Impact of Interest Deductibility       347,413       347,433       (20)         263A Transfers Deduction Income Tax Factor       6,269,749       6,269,749       6,269,749         Income Tax Factor       0.34135       1.34135       1.34135         Income Tax Reduction due to 263A Transfers Deduction       2,140,179       2,140,179         Applicable Income Tax       975,697       (975,697)         Total Revenue Requirement on Capital Depreciation Expense       3,875,954       4,851,864       (975,910)         Net Property Taxes       1,532,107       1,533,224       (7,117)         Total ISRS Revenues       6,480,670       7,463,232       (982,562)         June 2018 - GO-2018-0309 - Additional Revenues (From Appendix B)       -       1,794,585       (1,794,585)				()
Revenue Requirement Impact of Interest Deductibility         347,413         347,413         347,433         (20)           263A Transfers Deduction Income Tax Factor         6,269,749         6,259,749         6,259,749	Income Tax Reduction due to Interest		259,017	(14)
263A Transfers Deduction         6,269,749         6,269,749           Income Tax Factor         0.34135         2,140,179           Income Tax Reduction due to 263A Transfers Deduction         2,140,179         2,140,179           Applicable Income Tax         975,697         (975,697)           Total Revenue Requirement on Capital         3,875,954         4,851,864         (975,910)           Depreciation Expense         1,072,609         1,072,144         465           Net Property Taxes         1,532,107         1,539,224         (7,117)           Total ISRS Revenues         6,480,670         7,463,232         (982,562)           June 2018 - GO-2018-0309 - Additional Revenues (From Appendix B)         -         1,794,585         (1,794,585)				
Income Tax Factor         0.34135           Income Tax Reduction due to 263A Transfers Deduction         2,140,179           Applicable Income Tax         975,697           Total Revenue Requirement on Capital         3,875,954           Depreciation Expense         1,072,609           Net Property Taxes         1,532,107           Total ISRS Revenues         6,480,670           June 2018 - GO-2018-0309 - Additional Revenues (From Appendix B)         -	Revenue Requirement Impact of Interest Deductibility	347,413	347,433	(20)
Income Tax Reduction due to 263A Transfers Deduction         2,140,179         2,140,179           Applicable Income Tax         975,697         (975,697)           Total Revenue Requirement on Capital         3,875,954         4,851,864         (975,910)           Depreciation Expense         1,072,609         1,072,144         465           Net Property Taxes         1,532,107         1,539,224         (7,117)           Total ISRS Revenues         6,480,670         7,463,232         (982,562)           June 2018 - GO-2018-0309 - Additional Revenues (From Appendix B)         -         1,794,585         (1,794,585)	263A Transfers Deduction	6,269,749		6,269,749
Applicable Income Tax         975,697         (975,697)           Total Revenue Requirement on Capital         3,875,954         4,851,864         (975,910)           Depreciation Expense         1,072,609         1,072,144         465           Net Property Taxes         1,532,107         1,539,224         (7,117)           Total ISRS Revenues         6,480,670         7,463,232         (982,562)           June 2018 - GO-2018-0309 - Additional Revenues (From Appendix B)         -         1,794,585         (1,794,585)				
Total Revenue Requirement on Capital       3,875,954       4,851,864       (975,910)         Depreciation Expense       1,072,609       1,072,144       465         Net Property Taxes       1,532,107       1,539,224       (7,117)         Total ISRS Revenues       6,480,670       7,463,232       (982,562)         June 2018 - GO-2018-0309 - Additional Revenues (From Appendix B)       -       1,794,585       (1,794,585)	Income Tax Reduction due to 263A Transfers Deduction	2,140,179		2,140,179
Depreciation Expense         1,072,609         1,072,144         465           Net Property Taxes         1,532,107         1,539,224         (7,117)           Total ISRS Revenues         6,480,670         7,463,232         (982,562)           June 2018 - GO-2018-0309 - Additional Revenues (From Appendix B)         -         1,794,585         (1,794,585)	Applicable Income Tax		975,697	(975,697)
Depreciation Expense         1,072,609         1,072,144         465           Net Property Taxes         1,532,107         1,539,224         (7,117)           Total ISRS Revenues         6,480,670         7,463,232         (982,562)           June 2018 - GO-2018-0309 - Additional Revenues (From Appendix B)         -         1,794,585         (1,794,585)	Total Revenue Requirement on Capital	3 875 954	4 851 864	(975.910)
Net Property Taxes         1,532,107         1,539,224         (7,117)           Total ISRS Revenues         6,480,670         7,463,232         (982,562)           June 2018 - GO-2018-0309 - Additional Revenues (From Appendix B)         -         1,794,585         (1,794,585)	• •			
Total ISRS Revenues         6,480,670         7,463,232         (982,562)           June 2018 - GO-2018-0309 - Additional Revenues (From Appendix B)         -         1,794,585         (1,794,585)	• •			
Total ISRS Revenues         6,480,670         9,257,817         (2,777,147)	June 2018 - GO-2018-0309 - Additional Revenues (From Appendix B)	-	1,794,585	(1,794,585)
	Total ISRS Revenues	6,480,670	9,257,817	(2,777,147)

#### **OF THE STATE OF MISSOURI**

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)

In the Matter of the Application of	
Spire Missouri Inc. to Change its	
Infrastructure System Replacement	
Surcharge in its Spire Missouri East	
Service Territory	

Case No. GO-2019-0115

#### **AFFIDAVIT OF KIMBERLY K. BOLIN**

STATE OF MISSOURI	)	
	)	SS.
COUNTY OF COLE	)	

COMES NOW KIMBERLY K. BOLIN and on her oath declares that she is of sound mind and lawful age; that she contributed to the foregoing Staff Direct Report; and that the same is true and correct according to her best knowledge and belief.

Further the Affiant sayeth not.

Kimberly K. Bolin

#### 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 \_\_\_\_\_\_ day of March 2019.

Junulankin Notary Public

#### **OF THE STATE OF MISSOURI**

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)

In the Matter of the Application of	
Spire Missouri Inc. to Change its	
Infrastructure System Replacement	
Surcharge in its Spire Missouri East	
Service Territory	

Case No. GO-2019-0115

#### **AFFIDAVIT OF KEITH D. FOSTER**

STATE OF MISSOURI	)	
	)	SS.
COUNTY OF COLE	)	

**COMES NOW KEITH D. FOSTER** and on his oath declares that he is of sound mind and lawful age; that he contributed to the foregoing *Staff Direct Report*; and that the same is true and correct according to his best knowledge and belief.

Further the Affiant sayeth not.

KEITH D. FOSTER

#### 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 28 Hz day of March 2019.

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Notary Public

#### **OF THE STATE OF MISSOURI**

In the Matter of the Application of	)	
Spire Missouri Inc. to Change its	)	(
Infrastructure System Replacement	)	
Surcharge in its Spire Missouri East	)	
Service Territory	)	

Case No. GO-2019-0115

#### **AFFIDAVIT OF J LUEBBERT**

STATE OF MISSOURI	)	
	)	SS.
COUNTY OF COLE	)	

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

Further the Affiant sayeth not.

Luello J LUEBBERT

#### JURAT

Subscribed and sworn before me, a duly constituted and authorized Notary Public, in and for the County of Cole, State of Missouri, at my office in Jefferson City, on this 28% day of March 2019.

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Notary Public

#### **OF THE STATE OF MISSOURI**

In the Matter of the Application of	)
Spire Missouri Inc. to Change its	)
Infrastructure System Replacement	)
Surcharge in its Spire Missouri East	)
Service Territory	)

Case No. GO-2019-0115

#### **AFFIDAVIT OF CHARLES T. POSTON, PE**

STATE OF MISSOURI	)	
	)	SS.
COUNTY OF COLE	)	

**COMES NOW CHARLES T. POSTON, PE** and on his oath declares that he is of sound mind and lawful age; that he contributed to the foregoing *Staff Direct Report*; and that the same is true and correct according to his best knowledge and belief.

Further the Affiant sayeth not.

CHARLES T. POSTON, PE

#### 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 28% day of March 2019.

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Notary Public

#### **OF THE STATE OF MISSOURI**

In the Matter of the Application of	)
Spire Missouri Inc. to Change its	)
Infrastructure System Replacement	)
Surcharge in its Spire Missouri East	)
Service Territory	)

Case No. GO-2019-0115

#### **AFFIDAVIT OF DAVID M. SOMMERER**

SS.

STATE OF MISSOURI	)
	)
COUNTY OF COLE	)

COMES NOW DAVID M. SOMMERER and on his oath declares that he is of sound mind and lawful age; that he contributed to the foregoing Staff Direct Report; and that the same is true and correct according to his best knowledge and belief.

Further the Affiant sayeth not.

DAVID M. SOMMERER

#### 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 \_2814 day of March 2019.

Surellankin Notary Public