Exhibit No:	
Issue:	**Evidence from 2018 ISRS Case Showing Worn Out or Deteriorated Condition of Cast Iron and Bare Steel Facilities**
Witness:	**Wesley E. Selinger**
Type of Exhibit:	**Rebuttal Testimony**
Sponsoring Party:	**Spire Missouri Inc.**
Case Nos.:	**GO-2018-0309, GO-2018-0310**
Date Prepared:	**May 20, 2020**

SPIRE MISSOURI INC.

File Nos. GO-2018-0309, GO-2018-0310

REBUTTAL TESTIMONY

OF

WESLEY E. SELINGER

May 2020

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REBUTTAL TESTIMONY OF WESLEY E. SELINGER

Q. PLEASE STATE YOUR NAME AND BUSINESS ADDRESS.

A. My name is Wesley E. Selinger and my business address is 700 Market St., St. Louis, Missouri, 63101.

Q. ARE YOU THE SAME WESLEY E. SELINGER WHO PREVIOUSLY FILED DIRECT TESTIMONY IN THIS PROCEEDING?

A. Yes, I submitted direct testimony in these cases on May 13, 2020.

I. PURPOSE OF REBUTTAL TESTIMONY

Q. WHAT IS THE PURPOSE OF YOUR REBUTTAL TESTIMONY?

A. The purpose of my rebuttal testimony is to respond to certain aspects of the direct testimony of the Missouri Public Service Commission Staff ("Staff") and the Office of Public Counsel ("OPC") filed in these cases on May 13, 2020. Specifically, I will explain why their direct testimony fails to even address whether the evidence in these cases shows that the Company's cast iron and bare steel are "worn out or in a deteriorated condition" as those terms have been defined by the appellate courts, much less cast any doubt on the Company's position that it does. I will also correct one piece of my own direct testimony that was also filed on May 13, 2020, in these cases.

II. REBUTTAL OF STAFF AND OPC DIRECT TESTIMONY

Q. HAVE YOU REVIEWED THE DIRECT TESTIMONIES FILED ON MAY 13, 2020 IN THESE CASES?

A. Yes, I have.

Q. DO YOU HAVE ANY GENERAL COMMENTS/ISSUES REGARDING THE DIRECT REPORT/TESTIMONY FILED BY STAFF AND OPC?

A. Yes. As mentioned above, the Staff and OPC have made no effort to address the issue of what the evidence in these cases show regarding the worn out or deteriorated condition of the Company's cast iron and steel facilities. As I indicated in my direct testimony, the courts have adopted the following definition of "deteriorate" as used in the ISRS Statute's requirement that facilities be worn out OR in a deteriorated condition to qualify for ISRS recovery.

> "The definition of 'deteriorate' is 'to make inferior in quality or value,' 'to grow worse,' and 'become impaired in quality, state, or condition.'" *In Matter of Verified Application & Petition of Liberty Energy (Midstates) Corp.*, 464 S.W.3d 520, 525 (Mo. banc 2015) (quoting WEBSTER'S THIRD NEW INTERNATIONAL DICTIONARY 616 (1993)). "Clearly, this definition indicates that deterioration is a gradual process that happens over a period of time rather than an immediate event."

There is a great deal of evidence in the work order authorization sheets that Staff reviewed and used to perform its calculations that directly bear on whether the Company's cast iron and bare steel facilities are in a deteriorated condition within the meaning of this definition. Such evidence was completely ignored by Staff, and by OPC for that matter.

Q. PLEASE EXPLAIN WHAT A "WORK ORDER AUTHORIZATION SHEET" IS.

A. A work order authorization sheet provides summary information on the Company's ISRS (and non-ISRS) projects.

Q. WHAT EVIDENCE IN THE WORK ORDER AUTHORIZATION SHEETS ARE YOU REFERRING TO?

A. In addition to showing the footage of cast iron and steel facilities that were replaced – information that Staff used to calculate its adjustment – the same work order authorization sheets in these cases also show the age of the cast iron and bare steel facilities that were replaced. As my direct testimony demonstrated, a review of those sheets shows that nearly

95% of the cast iron facilities, 96% of the steel services and at least 35% of the steel mains replaced as a result of these projects had reached or exceeded their estimated service lives. In my view, the fact that such facilities had reached or exceeded an age where one would expect them to be replaced in the normal course of business, combined with the Commission's prior recognition of the problematic nature of such facilities, constitutes overwhelming evidence that they are "inferior in quality or value" compared to their original condition when installed and thus in deteriorated condition.

Q. BUT DIDN'T THE WESTERN DISTRICT REJECT AGE AS A FACTOR IN MAKING AN ASSESSMENT OF WHETHER FACILITIES ARE WORN OUT OR DETERIORATED?

A. No. What the Court focused on was the fact that some of the facilities replaced by the Company had not yet reached their estimated service life; a criticism that I have addressed by excluding the replacement costs for those facilities that have not met this criteria.

Q. IS THERE ANY OTHER DEPRECIATION-RELATED INFORMATION REGARDING THE AGE AND CONDITION OF THESE FACILITIES THAT BEARS ON WHETHER THEY ARE IN A DETERIORATED CONDITION?

A. Yes. As noted above, the definition of "deteriorate" adopted by the courts means something that has become "inferior in quality or *value*". (emphasis supplied) The NARUC Report on Public Utility Depreciation Practices, which was introduced by OPC as Exhibit 203 in these cases, states that a critical component of setting depreciation rates is to determine the net salvage value that facilities are expected to have at the end of their service lives. (See page 18). As the name implies, the net salvage value includes any value

that might be received for an asset once it is removed from service minus the cost of removing it from the ground.

Q. WHAT DO THE DEPRECIATION RATES APPROVED BY THE COMMISSION SHOW ABOUT THE VALUE OF THE COMPANY'S CAST IRON AND STEEL FACILITIES ONCE THEY ARE REMOVED FROM SERVICE?

A. The depreciation elements approved by the Commission in the Company's last rate cases show, for Spire East, a negative 165% net salvage value for cast iron mains, a negative 130% for steel services and a negative 15% for steel mains. For Spire West, the approved depreciation elements show a net salvage value of 10% for mains and a negative 7.2% for services.

Q. IN YOUR VIEW ARE THESE APPROVED SALVAGE VALUES FOR CAST IRON AND STEEL FACILITIES A FURTHER INDICATION THAT SUCH FACILITIES HAVE BECOME "INFERIOR IN . . . VALUE" COMPARED TO THEIR ORIGINAL VALUE?

A. Yes. If, for example, the value of a Spire East cast iron main has declined from a positive value of $1000 at the time it was installed, to a negative value of $1650 80 years later, it has obviously become inferior in value over its service life.

Q. HAVE YOU ATTEMPTED TO BE CONSERVATIVE IN YOUR EXCLUSION OF REPLACEMENT COSTS BASED ON WHETHER THEY HAVE EXCEEDED THEIR SERVICE LIFE?

A Yes. For example, in excluding steel main costs for Spire West I used a 69-year average service life as proposed by Staff in the Company's last rate case, rather than the 50 year service life set forth in the Company's Commission-approved depreciation rates. Had I

used the approved depreciation rates, my refund for steel mains would have been reduced from $3,326,359 to $1,053,027, resulting in a total refund under these assumptions of $2,719,271. The revised refund summary tables are presented below.

Case Nos. GO-2018-0309 - ISRS Refund Calculation				
	Revenue Refund	Adjusted for Collection Period*	Interest @2.83%**	Total
Cast Iron Mains	$ 544,928.78	$ 870,393.09	$ 24,632.12	$ 895,025.22
Steel Mains	$ 11,520.08	$ 18,400.57	$ 520.74	$ 18,921.30
Services	$ 107,183.98	$ 171,200.72	$ 4,844.98	$ 176,045.70
			Total Refund	$ 1,089,992.22
*Assumes a collection period of 10/8/2018-5/13/2020				
**Interest rate based on a weighted average of the prime rate minus two over the collection period				

Case Nos. GO-2018-0310 - ISRS Refund Calculation				
	Revenue Refund	Adjusted for Collection Period*	Interest @2.83%**	Total
Cast Iron Mains	$ 340,998.96	$ 544,664.09	$ 15,413.99	$ 560,078.08
Steel Mains	$ 629,789.46	$ 1,005,937.68	$ 28,468.04	$ 1,034,405.71
Services	$ 21,184.50	$ 33,837.16	$ 957.59	$ 34,794.75
			Total Refund	$ 1,629,278.54
*Assumes a collection period of 10/8/2018-5/13/2020				
**Interest rate based on a weighted average of the prime rate minus two over the collection period				

Case Nos. GO-2018-0309 and GO-2018-0310 - ISRS Refund Calculation				
	Revenue Refund	Adjusted for Collection Period*	Interest @2.83%**	Total
Cast Iron Mains	$ 885,927.74	$ 1,415,057.18	$ 40,046.12	$ 1,455,103.30
Steel Mains	$ 641,309.53	$ 1,024,338.24	$ 28,988.77	$ 1,053,327.02
Services	$ 128,368.48	$ 205,037.88	$ 5,802.57	$ 210,840.45
			Total Refund	$ 2,719,270.76
*Assumes a collection period of 10/8/2018-5/13/2020				
**Interest rate based on a weighted average of the prime rate minus two over the collection period				

Q. DO YOU HAVE ANY OTHER GENERAL COMMENTS REGARDING THE METHODS USED BY STAFF AND OPC TO EXCLUDE REPLACEMENT COSTS FOR CAST IRON AND STEEL FACILITIES?

A. Yes. Both Staff and OPC have advocated the use of the so-called "percentage method" which has been employed in the last three Spire ISRS cases as a means to adjust the

Company's ISRS investments to remove the cost of plastic retired as part of the Company's strategic cast iron and steel replacement programs. Here, Staff used the percentage method to remove replacement costs for all of the cast iron and bare steel included as part of Spire's replacement programs.

Q. IS THE USE OF THIS METHOD PROBLEMATIC, GIVEN THE EVIDENCE ON THE RECORD IN THESE CASES?

A. Yes. As described in my direct testimony, for the first 15 years that the ISRS mechanism was in effect, all of the parties to these cases supported, both at the Commission and the appellate court level, the position that cast iron and bare steel are worn out or in a deteriorated condition, and thus the costs to replace them are ISRS-eligible. The parties maintained this position in Spire's ISRS cases from 2004 until one business hour before the start of the evidentiary hearing in these 2018 cases, when OPC made a passing reference in its Position Statement that Spire had not demonstrated that any of its facilities were worn out or in a deteriorated condition. Of course, this 11th hour approach deprived the Company of any meaningful opportunity to respond. Given these facts, making an adjustment to the Company's approved ISRS revenues for cast iron and bare steel, under the percentage or any other method, is inappropriate.

Q. WHAT IS THE IMPACT OF STAFF'S APPLICATION OF THE PERCENTAGE METHOD?

A. Staff's application of the percentage method in these cases removes ***all*** costs related to the Company's strategic cast iron and bare steel replacement investments. In doing so, Staff fails to recognize that an overwhelming majority of the infrastructure retired as part of these ISRS projects has exceeded its average service life. Staff also fails to recognize other

evidence in the record of these cases demonstrating that the investments meet the criteria of being worn out or deteriorated.

Q. WHAT OTHER EVIDENCE ARE YOU REFERRING TO?

A. In the August 22, 2018 direct testimony of Spire witness Craig R. Hoeferlin, Mr. Hoeferlin explains that the Commission has previously determined that public safety requires replacement programs for certain facilities, most notably programs for the replacement of cast iron and unprotected steel facilities. These rules are found at 20 CSR 4240-40.030(15)(D)&(E). These rules were enacted by the Missouri Public Service Commission ("the Commission") following several fatal gas explosions in the late 1980's.

Q. **DID MR. HOEFERLIN DISCUSS ADDITIONAL ITEMS IN THAT TESTIMONY WHICH WOULD SUPPORT THE WORN OUT OR DETERIORATED NATURE OF CAST IRON AND BARE STEEL?**

A. Yes. In that testimony Mr. Hoeferlin referenced several items that would support the worn out or deteriorated nature of these facilities and the actions of the Commission to establish these replacement policies, including:

- The 2011 Department of Transportation forum, which he personally attended, in which states were urged to consider methods to accelerate the replacement of these materials;
- The April 2011 Missouri Public Service Commission's Pipeline Safety Report discussing the need to accelerate these replacement programs, which also recognizes the age of these facilities as a determining factor;
- The December 2011 Pipeline and Hazardous Materials Safety Administration's ("PHMSA") white paper which urged state Commissions to "accelerate the repair,

rehabilitation, and replacement of high-risk infrastructure" and specifically praised the actions of the Missouri Commission in doing so; and

- Mr. Hoeferlin provided information on a March 2012 PHMSA advisory bulletin urging gas distribution system operators such as Spire Missouri to "conduct a comprehensive review of their cast iron distribution pipelines and replacement programs, and accelerate the pipeline repair rehabilitation and replacement of high risk pipelines." (Hoeferlin Direct Testimony, pp. 8-11)

Q. DOES SPIRE PROVIDE STAFF AND OPC WITH PLANS REGARDING ITS CAST IRON AND STEEL REPLACEMENT PROGRAMS?

A. Yes, as part of the stipulation in Case No. GM-2013-0254 Spire is required to provide the Staff and OPC with one and three year plans for its cast iron and bare steel replacement programs. (Hoeferlin Direct, pp. 13-14). Specifically, at page 32 of that stipulation, Spire is required to file ***ISRS plans***. The fact that all of the parties in this case agreed that Spire's plans for cast iron and bare steel safety replacement programs should be referred to as "ISRS plans" is yet ***another*** indication that cast iron and bare steel replacements are ISRS-eligible because those materials are worn out or deteriorated.

Q. ARE THERE ADDITIONAL PIECES OF EVIDENCE IN THE RECORD OF THESE CASES DEMONSTRATING THE ISRS ELIGIBILITY OF THESE PROJECTS?

A. Yes. During the evidentiary hearing, Mr. Hoeferlin explained the processes of graphitization and corrosion as they apply to cast iron and steel infrastructure. As described by Mr. Hoeferlin, graphitization is the process of iron leaching out of cast iron over time and leaving it brittle and subject to cracking. Mr. Hoeferlin explained that steel corrodes

quickly leaving the pipes subject to leaking. (Tr. 373-74). The Commission has cited this specific language in prior ISRS orders including the orders in these cases at Findings of Fact (13).

Q. HOW SHOULD THIS EVIDENCE INFORM THESE CASES?

A. As stated above, the Western District ordered that a revenue adjustment be made to remove the costs associated with pipe not shown to be worn out or deteriorated. It is important to note that the Western District is not stating than an adjustment must be made. The court is specifically directing that an adjustment be made for infrastructure not shown to meet the criteria of worn out or deteriorated. The Commission and Staff should continue to support their long-standing positions of supporting the ISRS eligibility of this work. Staff's proposed adjustment removes all costs related to the Company's strategic cast iron and bare steel programs, reverses the position of the Commission, Staff, and OPC regarding this work, and defies the legislative intent of the ISRS statute.

Q. HAS THE MISSOURI GENERAL ASSEMBLY TAKEN ACTION TO ADDRESS THE ISRS STATUTE?

A. Yes. On May 15, 2020, the Missouri House of Representatives passed HB 2120, which revisited the ISRS statute, provided clarity on the types of materials the ISRS statute is designed to address, and amended the criteria of "worn out or in deteriorated condition" in Section 393.1009(5)(a), reconfirming the legislative intent of the ISRS statute.

Q. HOW DID THE LEGISLATURE CHANGE THE "WORN OUT OR IN DETERIORATED CONDITION" CRITERIA?

A. The Legislature has clarified the criteria by specifically referencing cast iron and steel facilities, as follows:

"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 that can no longer be installed under currently applicable safety requirements or any cast iron or steel facilities including any connected or associated facilities that, regardless of their material, age, or condition, are replaced as part of a qualifying replacement project in a manner that adds no incremental cost to a project compared to tying into or reusing existing facilities**;".

Q. WHAT DOES THIS LEGISLATIVE CHANGE INDICATE TO YOU?

A. That the legislature wanted to clarify that the ISRS includes cast iron and steel, as the legislature intended when the ISRS was first passed in 2003, and as it was treated at the Commission for the next decade and a half. The federal Department of Transportation, the Federal Pipeline and Hazardous Safety Administration, and the Commission's Safety Staff have all raised and documented safety concerns regarding cast iron and steel facilities, and have issued statements, rules, and regulations accordingly, recommending and requiring removal of these materials from operators' systems.. The legislature thought it was important enough to re-emphasize the ISRS-eligibility of costs incurred to replace cast iron and steel to protect public safety.

III. TECHNICAL ASPECTS OF STAFF'S PERCENTAGE ADJUSTMENT

Q. ASIDE FROM YOUR COMMENTS ABOVE, DO YOU HAVE OTHER ISSUES WITH STAFF'S PROPOSED ADJUSTMENT?

A. Yes. Staff has removed costs associated with a large group of projects that meet even the strict criteria described by OPC in its testimony.

Q. PLEASE EXPLAIN.

A. As described in the direct testimony of OPC witness John Robinett, "OPC would be supportive of continued recovery on any work order authorization sheet that specifically stated corrosion, leak repair, main relocation, main-relining, and joint encapsulation."

Q EXPLAIN HOW STAFF USES WORK ORDER AUTHORIZATION SHEETS TO PERFORM ITS PERCENTAGE ADJUSTMENT.

A. One piece of information contained in the work order authorization sheets is retirement information associated with a project. The retirement information contained in the work order authorization sheets provided by the Company are the sole source of information used to support Staff's percentage adjustment.

Q. IS THERE ADDITIONAL INFORMATION CONTAINED IN THE WORK ORDER AUTHORIZATION SHEETS THAT WOULD SUPPORT ISRS RECOVERY FOR A PROJECT?

A. Yes. In many cases, as noted by OPC, a work order authorization sheet may directly point to a project being associated with corrosion, leaks, main relocation, main-relining, and joint encapsulation. Attached as Schedule WES-R1 are PDF's of summary pages from work order authorization sheets that state exactly this. Staff errantly included the costs associated with these work orders in its refund amount. Such costs should be treated as ISRS-eligible.

Q. HAVE YOU DISCOVERED ANY ERRORS IN STAFF'S APPLICATION OF THE PERCENTAGE METHOD?

A. Yes, as stated in Staff's direct report, it claims it has included as ISRS eligible, costs associated with relocations and angle of repose situations. After reviewing Staff's calculations, I have found that Staff's refund includes a significant amount of these investments, despite the fact that Staff has deemed them to be ISRS-eligible.

Q. WHAT IS THE TOTAL IMPACT OF THESE ERRORS BY STAFF?

A. These issues combined remove over $5.7 million in capital from Staff's revenue requirement calculation.

Q. ARE THERE ANY OTHER ELEMENTS OF STAFF'S REFUND CALCULATION YOU'D LIKE TO ADDRESS?

A. Yes. Staff has adjusted investments for projects captured under blanket work orders using models similar to those that have been employed in recent Spire ISRS cases.

Q. DID THE COMPANY PERFORM A SIMILAR ADJUSTMENT IN ITS REFUND CALCULATION?

A. No, it did not. The issue of blanket work orders does not relate to cast iron or bare steel and since adjustments in this case have been limited to those items, the Company did not make this additional adjustment.

Q. HAS THE COMPANY QUANTIFIED THE IMPACT OF INCORPORATING STAFF'S BLANKET WORK ORDER ADJUSTMENT INTO ITS REFUND CALCULATIONS?

A. Yes, Staff's blanket work order adjustment has erroneously increased Spire East's refund by $183,890 and Spire West's refund by $38,258.

Q. HAS OPC PROVIDED A REVENUE ADJUSTMENT IN THESE CASES?

A. No. OPC did not offer any calculation.

IV. CORRECTION TO DIRECT TESTIMONY

Q. DO YOU HAVE ANY CORRECTIONS TO YOUR DIRECT TESTIMONY?

A. Yes. My direct testimony contained a table on page 18 illustrating the percentage of mains and services by material retired in the ISRS projects underlying Spire's applications in these cases. Due to a formula error, the footage of steel mains for Spire West was understated by 26,606 feet. The correct footage of 388,909 is reflected in the table below, which leads to a corrected percentage of 35.85% for feet of steel main that are beyond the average service life. The correct table is shown below.

Footage Beyond Average Service Life - All 2018 Retirements

	Spire East	Spire West	Total Feet Beyond Average Service Life	Total Retirements	%
Cast Iron Mains	407,672	231,313	638,985	674,314	94.76%
Steel Mains	804	388,909	389,713	1,087,055	35.85%
Steel Services	85,302	67,182	152,484	158,830	96.00%

This error does not result in any change to the Company's calculation.

V. CONCLUSION

Q. DOES THIS CONCLUDE YOUR REBUTTAL TESTIMONY?

A. Yes, it does.

BEFORE THE PUBLIC SERVICE COMMISSION
OF THE STATE OF MISSOURI

In the Matter of the Application of Spire Missouri Inc. to Establish an Infrastructure System Replacement Surcharge in its Spire Missouri East Service Territory	))))	**File No. GO-2018-0309**
In the Matter of the Application of Spire Missouri Inc. to Establish an Infrastructure System Replacement Surcharge in its Spire Missouri West Service Territory	))))	**File No. GO-2018-0310**

A F F I D A V I T

STATE OF MISSOURI)
) SS.
CITY OF ST. LOUIS)

Wesley E. Selinger, of lawful age, being first duly sworn, deposes and states:

1. My name is Wesley E. Selinger. I am the Manager – Rates and Planning for Spire Missouri Inc. My business address is 700 Market St., St. Louis, Missouri, 63101.

2. Attached hereto and made a part hereof for all purposes is my rebuttal testimony on behalf of Spire Missouri Inc.

3. Under penalty of perjury I hereby swear and affirm that my answers contained in the attached testimony to the questions therein propounded are true and correct to the best of my knowledge and belief.

Wesley E. Selinger
Wesley E. Selinger

This 20th day of May 2020.