

**MISSOURI PUBLIC SERVICE COMMISSION
STAFF INVESTIGATION REPORT**



**STAFF'S INVESTIGATION OF
SPIRE STL PIPELINE'S APPLICATION AT
FERC FOR A TEMPORARY CERTIFICATE TO OPERATE
CASE NO. GO-2022-0022**

August 16, 2021

**** Denotes Confidential Information ****

Appendix A

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STAFF INVESTIGATION REPORT

SPIRE STL PIPELINE

FILE NO. GO-2022-0022

I. BACKGROUND

On July 28, 2021, the Missouri Public Service Commission (Commission) opened an investigation of recent filings with the Federal Energy Regulatory Commission (FERC) related to Spire STL Pipeline LLC (Spire STL). Spire STL filed an *Application for Temporary Emergency Certificate, Or, In the Alternative, Limited-Term Certificate* (Application) asking the FERC for authority to continue operating the pipeline to provide natural gas to the St. Louis area despite the recent decision of the U.S. Court of Appeals for the D.C. Circuit (Court) vacating the certificate of convenience and necessity (CCN) that had been issued for the operation of the pipeline. Spire STL, supported its Application by an affidavit provided by Spire Missouri’s (Spire or Spire Missouri) president, Mr. Scott Carter. Spire STL represented in its Application that a shut-down of the pipeline would create “serious service disruptions” for the St. Louis area.

As part of the order initiating this case, the Commission directed Staff to investigate the Spire STL Application and submit an initial report no later than August 16, 2021. This report is responsive to that order.

Staff focused its investigation on the claims made by Spire Missouri in the affidavit of Mr. Carter (Carter affidavit). Staff sent 16 data requests to Spire Missouri on July 30, 2021. Staff sent an additional four data requests on August 9, 2021. Staff and Spire Missouri employees met by teleconference on August 3, 2021—the day before Spire Missouri submitted its first written responses to data requests—to discuss questions related to the Carter affidavit, particularly as to the methods Spire Missouri employed to model the extent of service losses to customers and its claims of savings associated with operation of the Spire STL during Winter Storm Uri in February 2021.

The following discussion summarizes Staff’s initial findings from the investigation. The report closes with Staff’s recommendations. Nothing in this report should be taken as a prejudgment or statement of Staff’s recommendations related to the prudence of Spire Missouri’s actions related to Spire STL, either leading up to or following its connection to the pipeline. Staff’s Actual Cost Adjustment (ACA) memorandum in Case No. GR-2019-0119 noted that the affiliated pipeline and transactions between Spire Missouri and Spire STL Pipeline would be examined as part of the 2019-2020 ACA period review, in Case No. GR-2021-0127. Staff is currently undertaking this review.

II. DISCUSSION OF STAFF INVESTIGATION

A. Post-Spire STL Changes to Spire Missouri Facilities and Operations, and Potential for Replacing Former Capacities in Advance of Winter 2021-2022

Spire Missouri noted in the Carter affidavit a number of changes it made to distribution system facilities and operations in relation to its connection with Spire STL in 2019. These changes all affect the ability of Spire Missouri to replace capacity immediately or near-term from other sources if Spire STL is taken out of service.

Distribution System

Changes or decisions related to the distribution system are:

1. Removal of the Chain of Rocks city gate;
2. Removal of propane peaking facilities;
3. Forgoing of distribution system reinforcement' and
4. Retirement of compressors at the underground storage (UGS) facility.

The former Chain of Rocks city gate, once a connection between Spire Missouri and the Enable Mississippi River Transmission (MRT) Pipeline, was taken out of service by Spire Missouri following Spire Missouri's contract with Spire STL. According to Spire Missouri,

** [REDACTED]
[REDACTED]
[REDACTED]
[REDACTED].**1

Spire's propane peaking facilities are no longer in service following the contract with Spire STL. It is disconnected and some equipment has been removed or repurposed. ** [REDACTED]

[REDACTED]
[REDACTED]
[REDACTED].** The propane vaporizers at Catalan were built to also serve as natural gas heaters, and they are still in place for that purpose. ** [REDACTED]
[REDACTED]
[REDACTED]
[REDACTED].**2

¹ Spire response to Staff Data Request (DR) No. 0015.
² Spire response to Staff DR No. 0014.

Spire STL interconnects with MoGas Pipeline (MoGas). ** [REDACTED]

[REDACTED].** Because Spire could supply greater pressures at these city gates with service from MoGas supported by the Spire STL pipeline, it forewent improvements to its distribution system that would make higher pressures available in this region. ** [REDACTED]

[REDACTED].**³

The compressors formerly used to inject gas into the UGS are no longer in service. Natural gas is injected into the ground at very high pressure, filling the pores and fissures in the rocks. The pressure was previously provided by compressors, though Spire Missouri states that the pressure provided by Spire STL is enough to inject gas into the UGS. The UGS is capped with impervious rock that prevents the gas from rising up out of the aquifer, though some gas migration can occur in this type of storage field leading to losses and gas that cannot be recovered. Spire Missouri is the only Missouri gas company with storage within its distribution system. Spire did not specifically address the costs of restoring or replacing compression facilities.⁴

Staff acknowledges that Spire Missouri cannot reasonably reconfigure its system to replace or restore former capacity, or replace reliance on Spire STL for transportation before or during the Winter of 2021-2022. Spire Missouri in its current configuration would benefit from transportation support by Spire STL on very cold days, and Spire STL transportation services would be necessary if the planned peak demand occurs.

Staff notes that by making these prior configuration changes, particularly forgoing distribution system improvements and removing UGS compression, Spire Missouri has made itself currently particularly reliant on Spire STL and the interstate pipelines interconnected with Spire STL to deliver gas and support pressure in parts of the distribution system. The interconnection between Spire STL and MoGas allowed Spire Missouri to move gas westward on MoGas rather than increasing the capacity of its distribution system to move gas to the western part of its system. Similarly, the interconnection between Spire STL and MRT allows Spire Missouri to put gas into MRT at the Chain of Rocks interconnection and withdraw more gas from city gates in the southern part of its distribution system, having the effect of moving gas from north to south on MRT.⁵ Spire Missouri's modeling of service losses highlights this issue. The first areas to be affected in association with the loss of transportation capacity on Spire STL are in the western and southern

³ Spire response to Staff DR No. 0016.

⁴ Spire response to Staff DR No. 0015.

⁵ The Chain of Rocks facility referenced here is an interconnection between Spire STL and MRT, not the former Spire Missouri city gate previously referenced.

parts of the distribution system, which are supported by westbound flows on MoGas and southbound flows on MRT from Spire STL.

By pushing for changes in interstate pipelines rather than reinforcing its distribution system, Spire Missouri also shifted the recovery of associated costs. Distribution system improvements would be handled through a rate case with associated scrutiny of plant in service, in-service dates, depreciation expense and related issues. Leveraging the interstate pipelines pushes those issues into transportation-related gas costs, which are recovered through the purchased gas adjustment (PGA).

B. Operations and Contracts

Spire Missouri contracts for 350,000 MMBtu/day of transportation service with Spire STL, a significant part of its transportation portfolio. As part of this portfolio change, it reduced capacity on other pipelines, particularly MRT and pipelines upstream of the MRT East Line.

In response to Staff inquiry, Spire provided information on its contacts with pipelines to find available capacity that may replace some of the service provided by Spire STL if that pipeline is removed from service. ** [REDACTED]

[REDACTED]. ** The only significant quantity of transportation capacity offered any of these entities during this period was ** [REDACTED] ** on MRT East Line, or approximately ** [REDACTED] ** of the transportation capacity currently available to Spire Missouri from Spire STL.⁶ Spire has expressed skepticism about MRT's ability to reliably deliver nominated quantities on its East Line. When it is clear that Spire STL will be out of service into the winter of 2021-2022 Staff recommends that Spire Missouri take further steps to actively explore the possibility of obtaining transportation capacity from MRT East, Trunkline, and NGPL.

Spire Missouri shifted a significant part of its transportation portfolio to Spire STL in 2019, and based on the information available to Staff, it currently appears that comparable quantities are not readily available on existing pipelines into St. Louis. Spire's inquiries to pipelines were not fully answered during this period in the communications supplied to Staff. Staff recommends that Spire continue communicating with pipelines both to clarify the capacity that may be available this winter if it is needed and the long-term potential for providing transportation capacity if the Spire STL is ultimately denied or modified by the Court or FERC.

⁶ Spire's response to Staff DR No. 0012.

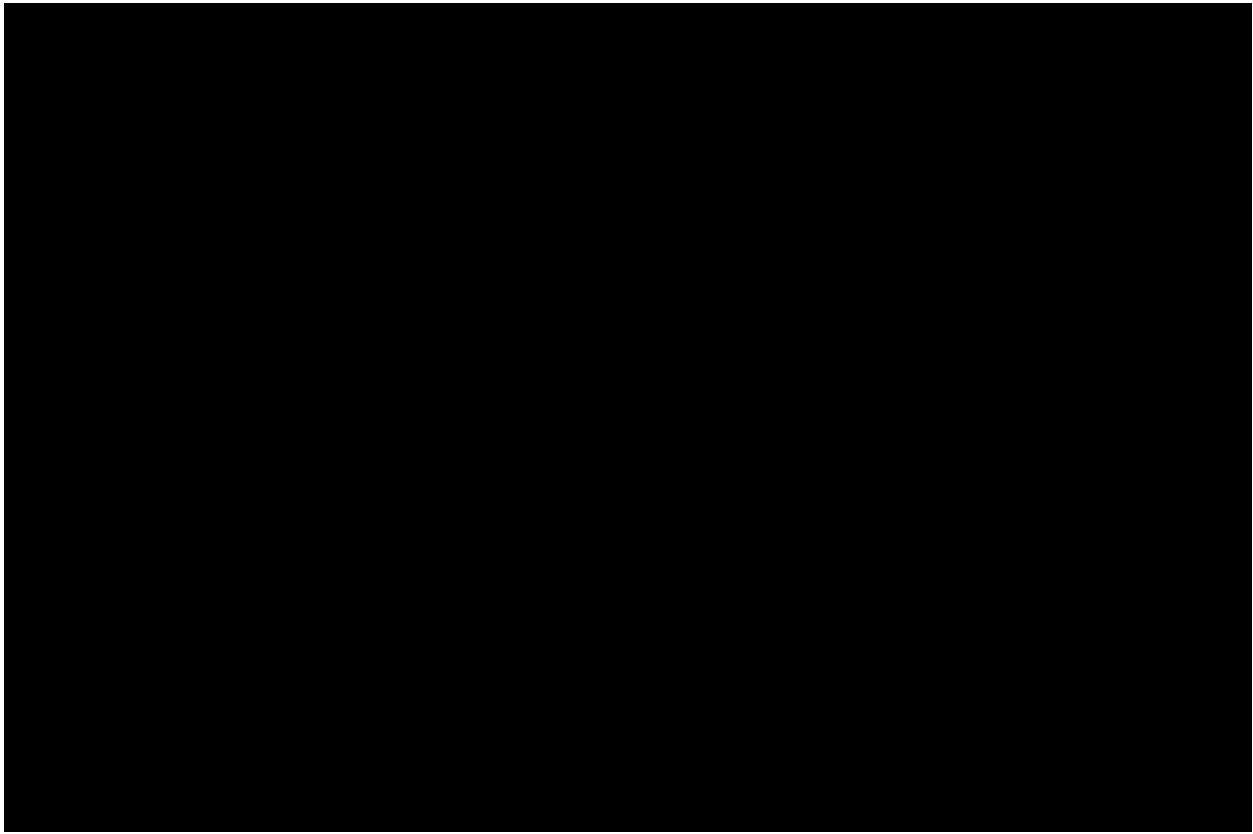
C. Potential for Loss of Service to Customers

Demand Expectations and Available Capacity without Spire STL

In its Carter affidavit in the FERC case, Spire discussed scenarios in which customers may be out of service as a result of loss of service from Spire STL. These scenarios are based on planned peak demand. This is an important consideration because a gas company must be prepared to meet firm demand for reasonably foreseeable high-demand conditions. However, these conditions do not occur every year nor are they especially likely to occur in any particular year.

In response to Staff's inquiry, Spire provided winter (November-March) daily firm demand for the period of November 2016 through March 2021. Collectively, these were normal winter periods.⁷ Staff created a distribution of firm demand based on this data, which is shown in the following figure:

**



**

⁷ Staff reviewed St. Louis weather data collected during previous actual cost adjustment case reviews for the winters of 2016-2017 through 2019-2021. The winter heating degree days (HDD) varied from 3,144 to 4,196. Two were warmer than the 30-year (1981-2010) winter normal of 3,916 HDD, and two were colder.

Based on this distribution, one would expect demand to exceed Spire Missouri's transportation capacity without Spire STL on ** [REDACTED] ** of days. This would be ** [REDACTED] ** days out of a 151 day winter.

As noted on the figure, withdrawals from storage would be expected to meet demand on some days during the winter. Based on this distribution, Staff estimates that the winter (November-March) withdrawals from on-system storage would need to total ** [REDACTED] ** to meet the demand. This is somewhat lower than the average of Spire's recent winter withdrawals from its on-system storage of ** [REDACTED] **. The net average winter withdrawal is ** [REDACTED] ** as a result of Spire Missouri's winter injections into the on-system storage.⁸ ** [REDACTED]

[REDACTED]
[REDACTED]
[REDACTED]
[REDACTED]
[REDACTED]

As Staff noted in its discussion of Spire Missouri distribution system changes, Spire Missouri relies on pressure from Spire STL to inject gas into the UGS.

The Spire Missouri Carter affidavit noted that it could face potential loss of service to customers without Spire STL at temperatures as high as 38°F. ** [REDACTED]

[REDACTED]
[REDACTED]
[REDACTED]
[REDACTED]
[REDACTED]
[REDACTED]
[REDACTED]
[REDACTED]
[REDACTED]
[REDACTED]

[REDACTED]. ** This demand could be met by withdrawals from underground storage while it is available with adequate volumes of gas and the necessary pressure to provide higher flow rates.

⁸ Staff reviewed November-March on-system storage withdrawal information supplied by Spire Missouri in response to Staff DR No. 0063 in Case Nos. GR-2017-0299, GR-2019-0119, GR-2020-0121 and GR-2021-0127. They ranged from ** [REDACTED] ** to ** [REDACTED] ** with an average of ** [REDACTED] **.

⁹ Spire Missouri East Resource Plan June 2020 was submitted by Spire in response to Staff DR No. 0003.

¹⁰ Spire response to Staff DR No. 0011.

Extent of Loss of Service

Spire used computer modeling of its distribution system to estimate the number of customers that could potentially experience an outage. It modeled a peak demand situation. Modeling these conditions is challenging, and Spire made adjustments to the model to account for the available transportation capacity without Spire STL. Though it is difficult to provide a detailed review of this modeling, in general the expectation of the model that locations in the western and southern part of the St. Louis metropolitan area will be affected first seem very reasonable.¹¹ More central parts of the area would become vulnerable as support from the on-system storage declines.

Even without a detailed analysis, peak day service interruptions could be expected without access to Spire STL capacity. The transportation capacity and on-system storage capacity are designed to match the peak demand and provide a modest reserve margin. Spire STL provides approximately one-third of this capacity. As noted, though peak day demand conditions are rare, Staff expects there to be some days in a typical winter in which demand would exceed Spire Missouri's interstate pipeline capacity without Spire STL, necessitating withdrawal from on-system storage while it is available.

In the event that loss of service to a large number of customers occurs, it is not a trivial matter to restore service. Each affected customer must be visited by trained personnel to shut off the meter while gas is unavailable and to turn it back on when gas flow is restored. Access into customer homes or facilities are needed to test and/or inspect gas piping as well as relight gas appliances. The probable occurrence of situations involving limited availability of customers for Spire Missouri to provide this necessary access will further prolong the service restoration process.

D. Winter Storm Uri Savings

Staff also reviewed Spire's assumptions related to its estimates of savings of approximately \$300 million associated with its use of Spire STL Pipeline during the Winter Storm Uri event in February 2021. In Staff's view, Spire's estimate of savings is overstated compared to a more reasonable comparison of a pre-Spire STL operations versus a post-Spire STL impact. Spire's calculation of savings takes an approach of assuming that ** [REDACTED] ** of the gas flowing on Spire STL would have been sourced over an extremely expensive ** [REDACTED] ** route, resulting in exposure to high daily prices. The other ** [REDACTED] ** of the Spire STL flows are assumed to generally flow at ** [REDACTED] ** spot prices, and though more moderate than the ** [REDACTED] ** route, are still high with respect to other possible pre-Spire STL sources.¹² ** [REDACTED] [REDACTED] **, ** that may have been available at lower Gulf Coast or Henry Hub based prices. Though Spire has cited pressure issues related to Trunkline deliveries into the East Line, a

¹¹ These are the yellow areas on the map (Appendix A) of the Carter affidavit.

¹² Spire response to Staff DR No. 0001.

gas portfolio without Spire STL would likely have resolved the delivery issues in order to preserve a traditional pre-Spire STL portfolio. ** [REDACTED] . ** No-notice service pipeline service does not require pre-ordering gas, and essentially allows automatic withdrawals from pipeline storage. The Spire savings calculation did not take into consideration the amount of lower-priced ** [REDACTED] ** that were available pre-Spire STL.

E. Summary of Staff Investigation

- Spire Missouri has made changes to its distribution system and operations as a result of the Spire STL contract that make it more reliant on Spire STL and interconnected pipelines.
- Spire’s estimate of customer loss of service is based on planned peak demand, a worst-case scenario that is not likely to occur in any particular year.
- Staff’s analysis of recent winter firm demand suggests that Spire Missouri can meet gas volume needs of a typical winter with current transportation capacity on pipelines other than Spire STL and its on-system UGS. This does not obviate potential concerns for peak or high demand days.
- High-demand situations can occur, and should be planned for. Meeting them is a matter of gas flow rate as well as total volume.
- Spire Missouri plans for a certain withdrawal flow rate from UGS to meet peak demand. ** [REDACTED] [REDACTED] . ** In addition, Spire STL could supply flowing gas during high-demand periods.
- In light of these facts, providing Spire Missouri with access to some transportation capacity on Spire STL is warranted for winter 2021-2022 at least in order to provide for high-demand events that may occur.
- It would be more appropriate to compare the costs of Winter Storm Uri with Spire STL in place as compared to costs Spire Missouri may have incurred in a pre-Spire STL configuration. The pricing indexes for sourced gas in a pre-Spire STL case would have been lower than those used to develop those used to prepare the estimate in the Carter affidavit, resulting in overall savings lower than those claimed by Spire Missouri.

III. RECOMMENDATIONS

Shortly before opening this investigation, on July 26, 2021, the Commission filed with FERC a *Response of the Public Service Commission of the State of Missouri to the Application of Spire STL Pipeline LLC for a Temporary Emergency Certificate, or, In the Alternative, Limited-Term Certificate* (Response). In the Response, the Commission encouraged FERC to take expeditious action on the Spire STL Application before the Court issues a mandate that may effectuate its order to vacate the pipeline CCN. Staff agrees that this is an appropriate recommendation. Further,

Staff recommends that the Commission continue to monitor the Spire STL case that has been remanded to FERC and take appropriate intervention. As a result of the significant alteration of Spire Missouri's distribution system to accommodate the Spire STL capacity, there is a real risk of natural gas outages during the winter of 2021-2022 absent the availability of Spire STL capacity from both a flow and pressure standpoint. Even if pressure issues of getting gas into the MRT East Line are addressed relatively quickly, the lack of a city-gate receipt point at Chain of Rocks could limit possible gas flows to far less than historical levels.

Staff also recommends that the Commission order Spire Missouri to report on its current contingency plans, ongoing contingency plan development, and conditions affecting its ability to provide adequate gas supply and pressure to all customers for the winters of 2021/2022, 2022/2023, and 2023/2024. Staff recommends that this reporting should occur monthly, by the 15th day of each month, for the period of November 2021 through March 2022. Subsequent reporting should occur at the end of each quarter, with additional reports provided when conditions occur operationally or related to Spire STL's Court and FERC cases that prompt Spire Missouri to take action related to its operations or its transportation and storage capacity on pipelines.

Additional discovery submitted by Staff to Spire is outstanding. To the extent any of the responses have a bearing on Staff's recommendations, Staff will update its report in this case based upon the information received.