Attachment A

Schedule DAY-D-11

UNITED STATES OF AMERICA
BEFORE THE
FEDERAL ENERGY REGULATORY COMMISSION

Spire STL Pipeline LLC	**)**	**Docket No. CP17-40-000, et al.**

AFFIDAVIT OF GEORGE GODAT
ON BEHALF OF SPIRE MISSOURI INC.

I. Identity, Purpose and Summary of Conclusions.

1. My name is George Godat, and I am Vice President, Gas Supply and General Manager Spire Missouri East, a division of Spire Missouri Inc. ("Spire Missouri"). My business address is 700 Market Street St Louis, Missouri 63101.

2. I have held this position since October 2020, and previously held the positions of Vice President – Gas Supply (2018-2020) of Spire Missouri, and prior to that, the position of Vice President, Spire Marketing (fka Laclede Energy Resources) (2009-2018). Prior to joining Laclede Energy Resources, I held various positions in Laclede Gas Company's Gas Supply department for over 14 years with the final position of Director of Gas Supply.

3. In my current position I am responsible, among other duties, for overseeing the gas purchasing and gas control for Spire Missouri, as well as field operations for Spire Missouri East. Except where there are specific references to other Spire Missouri service areas, operational references to Spire Missouri in this Affidavit are to Spire Missouri East.

4. The purpose of this Affidavit is to provide both (1) the perspective and plans of Spire Missouri and (2) specific facts underlying Spire Missouri's support for the "Request of Spire STL Pipeline LLC for Expedited Reissuance of Certificates" filed by Spire STL Pipeline, LLC

("Spire STL") on November 10, 2021 ("November 10 Request"). Many supporting, additional facts are being provided in other submissions attached to Spire Missouri's Comments being filed today, as I discuss in more detail below.

5. Attached to this Affidavit as Exhibit 1 is a current map of Spire Missouri's system and as Exhibit 2 some pressure profile charts provided by our gas control department, for reference purposes.

II. Summary of Conclusions

6. Specifically, this Affidavit will support several critical conclusions, which Spire Missouri strongly recommends the Commission consider with regard to the November 10 Request.

7. First, the record previously provided to the Commission in this certificate proceeding, prior to the issuance of the original certificates for the Spire STL Pipeline in 2018 fully supports the re-issuance requested by Spire STL because it addresses and resolves very real concerns that existed for Spire Missouri prior to the in-service of Spire STL Pipeline.

8. Second, completely irrespective of the earlier record before the Commission in 2018, events have occurred and circumstances have changed since the original close of the record in this proceeding that further support the issuance of the requested certificates, including shifts in Spire Missouri's market demand, the demonstration of the benefits of supply diversity during Winter Storm Uri in February 2021, changes to supply arrangements and the continued leveraging of the benefits of Spire STL Pipeline's high pressure supply across Spire Missouri's distribution system. Consequently, based on the facts viewed as of the present time, Spire Missouri has a need for the Spire STL Pipeline, independent of the facts as they were presented in 2018.

9. Third, looking forward, following this 2021-2022 winter season Spire Missouri does not have adequate alternatives to meet its peak day load obligations if the firm pipeline supply provided by the Spire STL Pipeline facilities were no longer available. Even if, for the sake of

argument, one were to assume potential alternatives could be used by Spire Missouri over the long term – (1) the acquisition of available capacity on the MRT East Line, and associated pipeline asset construction and facilities acquisition to access that MRT East Line supply, (2) re-activation in part of the propane system, and (3) the use of trucked-in Liquified Natural Gas ("LNG") or Compressed Natural Gas ("CNG") supplies – the supplies offered by the alternatives that could be reasonably implemented by the winter of 2022/2023 would simply fall significantly short of meeting Spire Missouri's peak requirements, both in the aggregate and with respect to Spire Missouri East's western service areas.

10. Fourth, on a forward-looking basis, Spire Missouri does not consider re-establishment of the propane system and reliance on LNG or CNG supplies to be reasonable alternatives to firm pipeline flowing supplies for gas utility supply planning purposes. Such alternatives also carry heightened safety concerns. Therefore, even if the Spire STL Pipeline were not available due to a decision by this Commission, Spire Missouri would only use the propane and LNG/CNG options as interim, and incomplete, emergency "band-aids." Spire Missouri would solicit new or expanded pipeline capacity that would require new construction and its attendant capital and other costs, as well as new environmental impacts, to provide firm pipeline supply for its peak demand. This option, relative to the use of the existing, fully-constructed Spire STL Pipeline Project system, would require years of costly and likely inadequate reliance on the band-aids of propane and LNG/CNG, only ultimately to require wasteful and duplicative new construction and capacity. Put differently, shutting down the Spire STL Pipeline will not remove the need for new pipeline capacity, it will only push such new pipeline capacity costs and impacts into the future while continuing to pose risk and uncertainty to customers similar to what Spire Missouri is currently experiencing

III. The Spire STL Pipeline's Benefits Support Continuation of the Certificate as Requested in the November 10 Request.

11. Spire Missouri strongly stands by the evidence provided via affidavits, pleadings and data requests in the period before the 2018 certificate was issued, that the Spire STL Pipeline is needed because of the significant benefits that it would provide, and since has proved, including:

- Supply diversity, improving Spire Missouri's ability to access the prolific supplies in the Rocky Mountain and Marcellus/Utica production basins, for both pricing and supply security reasons.
- Allowing retirement of the propane peaking system:
- Reducing the potential loss of service due to the seismic risks affecting the MRT Mainline facilities providing service from the southwest through the New Madrid seismic zone of which we just experienced a magnitude 4.0 earthquake on 11/17/21 within 5 miles of MRT's mainline.
- Providing a high pressure supply source in the St Louis region that can be leveraged for multiple operational benefits across the distribution system

The citations for these facts are being provided in the Comments being filed with this Affidavit, but I will add that from the original discussions of alternative projects that were rejected, to the development of the Spire STL Pipeline, Spire Missouri has been motivated by the conclusion that these benefits supported the need for a new pipeline and that the Spire STL Pipeline would provide those benefits.

Events and Developments Following Issuance of Spire STL Certificate in 2018 Demonstrate the Need for Continued Certification

12. I will discuss below some of the recent, post-FERC Certificate Order developments that have further lent weight and support to these original bases for Spire Missouri's decision to support the Spire STL Pipeline. However, an additional benefit from Spire Missouri that was not appreciated in 2018 has been the Spire STL Pipeline's role in alleviating potentially severe gas

shortages in the service areas west of St. Louis County where Spire Missouri has and continues to experience substantially all of its new growth.

13. To better provide context for this development, I will provide some relevant historical background on the development of both the broader St. Louis distribution system and the expansion of service to the western, or St. Charles, region of that system in recent decades.[1]

14. By 1990, St. Charles had been the fastest growing county in Missouri for more than a decade with its population increasing almost 48-percent since 1979. St. Charles Gas, a predecessor utility, had 4,000 customers when Laclede Gas took operational control in the summer of 1963. By the 1980s, there were more than 49,000 customers in St. Charles County and an increase to both distribution piping and gas supply capacity was needed. To solve the problem of inadequate distribution capacity, Laclede installed a new 16-inch feeder line that ran beneath the Missouri River. This new pipeline corridor allowed gas to flow from the eastern supply sources – *i.e.*, underground storage and Enable MRT take points – into St Charles County. Gas supply capacity was increased in January 1990 and subsequently increased again in the summer of 1991 by making two connections to a 12-inch interstate pipeline operated by the Missouri Pipeline Company (MoGas) on the far west and southwestern borders of the distribution system – *i.e.*, Wentzville and South Point take points. At that point, St. Charles County had redundant supply sources with western-sourced gas from the MoGas take point at Wentzville and eastern-sourced gas from the 16-inch feeder line beneath the river.

15. However, growth continued to materialize in St. Charles County in the 1990s with roughly 2,000 customers being added each year. Land primarily located between the bounds of I-

[1] Spire STL Request at 25, Figure 1 (depicting the substantial population growth has occurred in this area). Spire Missouri notes that the Spire STL Request further details evidence of the significant and rapid population growth that is being experienced in the western portion of Spire Missouri's distribution system in St. Charles County. *See* Spire STL Request at 24-29.

70, Hwy 94, and I-64 was slated for roughly 1,800 homes by 2000. The proximity of the 300-pound MAOP high-pressure pipeline feeding already inadequately sized main traversing along I-70 from downtown St. Charles to Wentzville in relation to the expected future development southward to the Missouri River presented a challenge. The rapid growth in the region began to constrain the capacity of the 60-pound MAOP system in St. Charles County. Although there were 60-pound MAOP reinforcements that could provide assistance in supplying future load, a high-pressure source located closer to the growth area was required, particularly in light of projected continued load growth in that area.

16. To meet this western supply need, Laclede entered into an agreement with Williams Natural Gas (now Southern Star Central Gas Pipeline, Inc., "Southern Star Central") to provide firm transportation service to Laclede at a delivery point or points near St. Charles in 1997. Under the agreement, Williams would acquire and convert to natural gas service an approximately 185-mile segment of 8-inch petroleum products pipeline running from the vicinity of Lone Jack, MO to the vicinity of St. Charles, MO. Williams Natural Gas granted Laclede the rights to add four delivery points downstream of their primary measurement point. Today, that additional pipeline supplier continues to provide critical feeds into the St. Charles 60-pound MAOP system, but the 8-inch line is very limited in capacity and only provided 30,300 dth/day of capacity running at its peak with no ability to expand.

17. Subsequently, demand continued to grow in this western area. While St. Louis County operations lost a small number of customers during the first five years of the 2000s, the suburban counties north and west of the old city of St. Louis were growing at a rate of 5-10 percent. By 2004, Laclede experienced close to a 7-percent increase overall in new residential customers, and the major focus of that growth was in St. Charles County, thanks to several massive residential

developments and an abundance of available land for new construction. In 2004 alone, Laclede added 2,533 new residential customers representing nearly half of the metropolitan area's total residential customer connections.

18. More recently, the St. Louis Region has continued to see population displacement from St. Louis City and North St. Louis County to the western suburbs. Over the years, this continuing displacement caused Laclede (and now Spire Missouri) to build several new regulator stations and high-pressure lines to sufficiently serve these growing areas.[2] These efforts were all centered around solving the challenges to meet the growing needs of the area with the flowing supply limitations to these portions of the system.

19. Despite its long-term and persistent demand growth, the primary gas supply sources for St. Charles County remained the same redundant supply sources from MoGas and the 16-inch feeder line across the Missouri River as in 1990.

20. Providing service to St. Charles County's current, approximately 110,000 customers, while maintaining gas supply and distribution piping capacity for future growth that continues to materialize, is critical. To address this growth, Spire Missouri had begun to take preliminary steps to maintain pressure in these western service areas in the years preceding the commencement of operations over the Spire STL Pipeline, and had begun to plan on long-term reinforcements to its system flowing gas from the east – a process that would take years, and would require significant costs to Missouri customers, as well as environmental impacts. The development of the Spire STL Pipeline, and its direct interconnections with Spire Missouri, as well as the increase in MoGas deliverability created by the Spire STL Pipeline's high-pressure

[2] Examples of these lines are the 2014 extension to Kehr's Mill and Strecker, the 2015 addition of a new Take Point off of Southern Star at Lake St. Louis and Hawk's Ridge, and the 2018 addition of a new high-pressure line and regulator station at Old Highway 94 and Pralle.

interconnection with MoGas, have addressed the need for additional supply in Spire Missouri's western service areas without the need to engage in system reinforcements.

21. The need for additional supply in the western service areas does not simply stem from projections of future growth, but also from operational pressure challenges actually experienced in the west. Prior to the commencement of service of the Spire STL Pipeline, which increased operating pressures and delivery capability on MoGas, Spire Missouri consistently experienced significantly lower pressures in its Western service areas juggling the small amounts of supply that was available on the MoGas system during cold weather events by flipping it back and forth between the St Charles/Wentzville area and down to the southern portion of its system at the Southpoint take point as pressures continued to drop in both of those areas. MoGas constructed a new interconnected with the Spire STL Pipeline, which in turn increased operating pressures and deliverability capability from MoGas to Spire Missouri. The additional capacity on MoGas was a true game-changer for the pressures across the distribution system and resolved this problem and removed the need, at a minimum, for the lengthy and costly construction of reinforcements to Spire Missouri's system supplying these areas from the east with supply along the Mississippi River corridor if available.

22. As explained above I am responsible for gas supply as well as gas control and I saw first-hand the major operational benefits the new high pressure interconnect that was installed with MoGas pipeline brought to the western part of our distribution system last winter. As shown below, one can see the actual details of the pressure monitoring charts that my controllers were watching as the cold temperatures set in on the St Louis area both January of 2019 when we relied on the traditional MoGas supplies and in February of 2021 after we had the ability to move high pressure supply off the Spire STL Pipeline into MoGas. Maintaining adequate, and higher,

pressures on a utility distribution system is essential. Also, as I mentioned, I have been watching the shift in our demand occur for almost 30 years and have experienced the struggles Spire Missouri has had serving that new demand due to the distance from our traditional MRT supplies on the Eastern side of our system from these growth areas combined with the highly populated areas that lie between the two. The dramatic effect of the new supplies provided directly and indirectly from the Spire STL Pipeline are summarized in a document attached as "Exhibit 2," which is entitled "Illustrative Pressure Differentials – Before and After Spire STL Pipeline Commences Service." This exhibit has detailed pressure data from a number of points on Spire Missouri's system – on the charts, the blue lines show St. Louis County points, and the purple lines show St. Charles County points. The data are from 8 a.m. on the two days I mentioned, approximately two years apart – the first, January 30, 2019. Of particular significance for this discussion are the pressures shown for three points on the line serving St. Charles County, at South Point, Wentzville and Terra & Drug, on Spire Missouri's 300-pound distribution system. The gas day average temperature on that day was 4 degrees Fahrenheit, preceded by three days whose gas day average temperatures were 33, 22 and 12 degrees Fahrenheit, respectively. The second chart shows the pressures for the same points, on February 15, 2021, when the gas day average temperature was 2 degrees Fahrenheit, preceded by three days whose gas day average temperatures were 8, 5 and 3 degrees Fahrenheit, respectively – *i.e.*, both the gas day average temperature on the 2021 date and the three-day run-up to that date were significantly colder than we experienced on January 30, 2019. Yet, the pressures experienced at those three points were far higher in 2021, as shown in the chart below:

Points	South Point	Wentzville	Terra & Drug
Pressure January 30, 2019	81.67 psig	86.71 psig	67.85 psig
Pressure February 15, 2021	222.24 psig	136.45 psig	130.16 psig

The 2019 pressures shown on the chart were especially troubling for Spire Missouri's gas control team given that the temperatures on January 30th were 15 degrees Fahrenheit warmer than our peak day of -10.6 degrees Fahrenheit and our sendout was over 200,000 dth shy of our peak day scenario. When pressures on our 300-pound supply feeder system drop to the 67 pound range they are critically low given they supply gas into our 60 pound intermediate pressure systems that ultimately deliver that gas to the homes and businesses.

23. The dramatic increases in pressure between January 2019 and February 2021 stem solely from the new high pressure deliveries that were made available by the new interconnect with MoGas that went into effect in late 2020, bringing much needed supplies at high pressure to the high growth area of Spire Missouri's system. Since 1990 Spire Missouri had only been successful at adding 93,100 dth/day of pipeline capacity on the western side of its system with MoGas providing 62,800dth/day and Southern Star Central adding 30,300 dth/day. The single interconnect between the Spire STL Pipeline and MoGas provided Spire Missouri with an additional 82,200 dth/day of capacity on MoGas, constituting a true game-changer for our system operations.

24. Without the Spire STL Pipeline's deliveries, not only would Spire Missouri have still been in the process of constructing reinforcements to these western areas, it would have been

in severe danger of losing pressure and experiencing outages during the February 15, 2021 cold weather event. Undeniably, the Spire STL Pipeline has proven itself necessary to ensure adequate natural gas supplies to Spire Missouri in the period after commencement of operations.

25. The experience of Spire Missouri with Winter Storm Uri, in February 2021 (reflected in part in the discussion and chart above), powerfully demonstrates the benefits of the Spire STL Pipeline. During Winter Storm Uri, as the Commission knows from many sources, other areas affected by reduced production in Texas, Oklahoma, and Kansas experienced both outages and tremendous price spikes for the remaining gas flows. Spire Missouri itself experienced significant difficulties in supplying Spire Missouri's Kansas City related markets – including competing for very limited supplies and paying much higher prices. As the VP of gas supply all of my focus was on our Kansas City utility division during that 10 day period of Winter storm Uri, where we sat on calls during all of the night wondering if we were going to have the supply needed to be able to provide service to our customers. Due to the Spire STL Pipeline providing access to supply in the Northeast, at no point was Spire Missouri's St. Louis area service territory at risk of losing service. In fact, Spire STL Pipeline has resulted in the improvement of resiliency to the broader St. Louis region, including western Illinois. For example, Spire Missouri was in a position to help other customers on MRT whose supply sourced out of Oklahoma and on MRT's East Line was being curtailed as illustrated in Symmetry's Comments in Support of the Spire STL Emergency Application.[3]

[3] Motion to Intervene and Comments of Symmetry Energy Solutions, LLC, Docket No. CP17-40-007 (dated Aug. 23, 2021) (explaining that "…Symmetry faced curtailment of gas supplies due to loss of supplies on MRT resulting from force majeures issued by Symmetry's suppliers as well as the loss of supplies due to insufficient pressure on pipelines upstream of MRT's East Line… Furthermore, as agent for an industrial customer on MRT, Symmetry knows that this industrial customer also faced curtailment issues on the MRT System…Symmetry understands that this gas supply provided to both Symmetry and the industrial customer during the weather event was available only because of the availability of STL Pipeline.").

26. The Spire STL Pipeline was critical in other respects as a result of Winter Storm Uri. As Mr. Scott Carter stated in his Affidavit (Exh. Z-1 to the July 26 "Application of Spire STL Pipeline LLC for a Temporary Emergency Certificate, or, in the Alternative, Limited-Term Certificate"), following Winter Storm Uri, Spire Missouri reinjected natural gas into its Lange storage facility during February 20-28, 2021, to replenish inventory in the event of another late cold spell during that winter season. Without the high pressure supply from the Spire STL Pipeline for this purpose, Spire Missouri would not have been able to replenish that level of inventory and would have been at risk for customer outages throughout the rest of the winter season if there had been another cold snap. Again, the historical experience of Spire Missouri subsequent to the commencement of service of the Spire STL Pipeline demonstrates the need for the continued, uninterrupted operation of the pipeline.[4]

27. The seismic risks that are documented extensively in the earlier record prior to the original certificate being granted, have also been further supported by more recent events. On November 18, 2021, an earthquake occurred near Poplar Bluff, Missouri, registering 4.0 on the Richter scale. [5] It was not enough to damage pipeline facilities, but a vivid illustration of the potential for more damaging seismic events in the same active fault zone. Spire Missouri estimates that the epicenter of this earthquake was just over 4 miles from the MRT Mainline. The Spire STL Pipeline not only avoids this seismic area sourcing supply from the north, but the Spire STL Pipeline's interconnection with MRT would also allow Spire Missouri to continue to provide gas to its customers as far south as Poplar Bluff in the event MRT's system were to be compromised by an earthquake.

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[4] Spire Missouri's ability to reinject to storage during the winter in the future would depend on Spire STL Pipeline's availability, and also the availability of receipts from Chain of Rocks station.

[5] *See*, *e.g.*, https://www.google.com/amp/s/fox2now.com/news/missouri/4-0-magnitude-earthquake-hits-se-missouri-wednesday-night/amp/ ; https://earthquake.usgs.gov/earthquakes/eventpage/nm60363582/executive .

28. In addition, it is important to note that in the proceedings leading to the 2018 certificate order, one of the grounds for needing the Spire STL Pipeline capacity in preference to MRT East Line capacity was the historical experience of inadequate operating pressures at interconnections with upstream suppliers into the East Line (Trunkline Gas Company, LLC, or "Trunkline" and Natural Gas Pipeline Company of America LLC, or "NGPL"), which rendered these supplies unreliable.[6] That concern has persisted to the present day, but has been dramatically validated recently by the cuts that occurred between MRT and Trunkline during Winter Storm Uri and Trunkline's posted announcement that it was engaging in construction efforts intended to remedy pressure issues at its interconnection with MRT's East Line.[7]

29. Specifically, Trunkline's published notice stated as follows (emphasis added):[8]

> In order to facilitate firm deliveries at Trunkline's existing interconnect with MRT in Clay County, Illinois, Trunkline will be installing a new control valve near the Tuscola station that will enable Trunkline to compress gas to MRT utilizing gas flowing from points North or South of the interconnect. Upon completion of this modification, *Trunkline expects increased pressures to allow firm delivery commitments into MRT*.

Put differently, Trunkline's announcement admits that until this work would be done, even Trunkline agrees that its prior facilities did <u>*not*</u> "allow firm delivery commitments into MRT."

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[6] *See, e.g.*, Motion For Leave To File An Answer And Answer Of Laclede Gas Company To Certain Protests, Docket No. CP17-40-000, at 11-13, 16-17 (dated March 22, 2017) ("Spire Missouri March 2017 Answer"); Comments of Spire Missouri Inc., Docket No. CP17-40-007, at 4 (dated Sept. 7, 2021) ("Spire Missouri Comments") (citing Carter Aff. ¶¶ 7-9); Motion to Intervene and Comments in Support of Symmetry Energy Solutions, LLC, Docket No. CP17-40-007 (dated Aug. 23, 2021) (commenting that Symmetry is familiar with a customer's curtailment problems in using MRT for service to St. Louis).

[7] *See, e.g.*, Motion to Intervene Comments of Spire Marketing Inc., Docket No. CP17-40-007 (dated Sept. 7, 2021); Motion to Intervene and Comments in Support of Symmetry Energy Solutions, LLC, Docket No. CP17-40-007 (dated Aug. 23, 2021); *see also* https://tgcmessenger.energytransfer.com/ipost/TGC/notice/non-critical, Notice ID 9145, "Trunkline Reliability Modifications" (posted Sept. 3, 2021).

[8] https://tgcmessenger.energytransfer.com/ipost/TGC/notice/non-critical, Notice ID 9145, "Trunkline Reliability Modifications" (posted Sept. 3, 2021). Trunkline subsequently announced that it had completed these modifications https://tgcmessenger.energytransfer.com/ipost/TGC/notice/non-critical, Notice ID 25874, "Trunkline Reliability Modifications Complete" (posted Nov. 3, 2021).

30. Trunkline has announced that these improvements were completed on November 1, 2021;[9] Spire Missouri does not know whether these improvements would resolve the long-standing pressure deficiencies as to Trunkline deliveries into MRT's East Line, which have not yet been tested in actual practice, but the work and announcement prove that the insufficiency of the MRT East Line was a valid problem at the time of the 2018 certificate order, and supported Spire Missouri's allegations of need for the Spire STL Pipeline.

The Decision to Retire the Propane System Was Final Except as Necessary to serve as a Band-Aid to Address Temporary Emergency Peak Needs

31. It is important to clarify Spire Missouri's position regarding the propane plant. For the reasons detailed in the pre-certificate record, Spire Missouri made the decision to retire and de-activate the propane peaking facilities upon the commencement of the Spire STL Pipeline. This was not a decision made specifically in response to the Spire STL Pipeline, but reflected a broader conclusion by Spire Missouri that the aging propane facilities and the negative impacts of directly injecting high Btu propane into its natural gas system were not an appropriate element of the supply stack for meeting peak day needs on an ongoing basis.

32. Because of the court decision and mandate vacating the order, and because of uncertainties over the position of this Commission since the court order, Spire Missouri has taken steps to be prepared to temporarily re-activate the propane system in part. As discussed below, the propane system, with other alternatives, would be insufficient to meet Spire Missouri's needs even if they were considered adequate ongoing supply options. However, Spire Missouri does not intend to reinstitute a long-term reliance upon the propane facilities. As shown in the Charles River Associates' study, "Risk Assessment of Alternative Gas Supply Options," ("CRA Report"),

[9] *Id.*

being concurrently submitted to the Commission, the propane system has significant ongoing risks and deficiencies that make it inferior to the Spire STL Pipeline. If the Spire STL Pipeline were not an option, though, Spire Missouri will seek an option that provides firm pipeline supply to replace it, over whatever term is necessary to create the additional capacity. The decision to end reliance on propane has been made, and Spire Missouri is prepared to defend that conclusion to the Missouri Public Service Commission.[10] This Commission should not consider the propane system to be a long-term option, and any assessment of the costs and environmental impacts of going forward without the Spire STL Pipeline's operations would have to take into account the additional cost and environmental impacts of other, as yet undetermined, firm pipeline options.

Environmental Benefits to Continued Reliance on The Spire STL Pipeline

33. Other environmental benefits relating to Spire Missouri's operations with the Spire STL Pipeline's service are demonstrated in a report by Trinity Consultants, "Evaluation of Environmental Impacts of Spire STL Pipeline" ("Trinity Report") which is being submitted concurrently with this Affidavit.

34. The Trinity Consultants' report concludes that use of the Spire STL Pipeline will have numerous improved environmental effects, including the following: (1) reduced emissions and environmental impacts from Spire's Lange underground storage facility (largely due to the ability to rely on higher pressure from the Spire STL Pipeline to allow direct injections without additional compression by Spire Missouri); (2) reduced emissions and environmental impacts

[10] Proceedings involving prudence reviews of Spire Missouri's actions by the Missouri Public Service Commission include: *In the Matter of Spire Missouri, Inc.'s d/b/a Spire Request for Authority to Implement a General Rate Increase for Natural Gas Service Provided in the Company's Missouri Service Areas,* Case No. GR-2021-0108; I*n the Matter of Spire Missouri, Inc. d/b/a Spire (East)* Purchased Gas Adjustment (PGA) Tariff Filing, File No. GR-2021-0127.

from Spire's propane storage facility ; (3) an overall decrease in the use of less efficient alternative fuel sources used during gas curtailment; and (4) it would allow Spire to source gas that is extracted and transported with less emissions than its other existing gas sources (Appalachian sources and fewer fugitive natural gas leaks).

35. In sum, the Trinity Report concludes that continued use of the Spire STL Pipeline will allow Spire Missouri to maintain its current gas supply operations while decreasing both environmental impacts and the emissions of greenhouse gasses, criteria pollutants, and hazardous air pollutants.

IV. Spire Missouri Cannot Rely Upon the Available Alternatives to the Spire STL Pipeline to Meet Its Obligations.

36. The Spire STL Pipeline facilities provide deep and broad benefits, viewed either in light of the original 2018 record or the record, and even more starkly as illuminated by subsequent events. In addition, however, the need for the Spire STL Pipeline is also demonstrated by the fact that Spire Missouri lacks viable alternatives to its service. The absence of alternatives for this 2021-2022 winter are addressed in Spire STL's emergency application in Dkt. No. CP17-40-007, and the various pleadings submitted with additional information in that sub-docket.

37. In addition, however, the alternatives are insufficient going forward as well. Specifically, if the Commission were to issue an order declining to issue the permanent certificate sought in the November 10 Request, Spire Missouri would not have sufficient supply if it attempted to utilize the alternatives available by next winter season, 2022-2023.

38. Spire Missouri requested that Concentric Energy Advisors prepare a study of the alternatives available to Spire Missouri, and that report, "Assessment of Spire Missouri's Gas Supply Alternatives in the Absence of STL Pipeline," ("Concentric Report") is being concurrently

submitted to the Commission in this proceeding. The Concentric Report reaches significant conclusions, which must also be considered in light of the conclusions of the CRA Report addressing risks. Those conclusions match Spire Missouri's internal assessments, which are as follows:

- Even if Spire Missouri were to attempt to rely on the available alternatives – MRT's East Line, propane and a LNG/CNG supply – these alternatives would be insufficient to replace the loss of the Spire STL Pipeline's capacity and Spire Missouri would fall short of meeting its peak day needs. Consequently, there is a need for the Spire STL Pipeline's continued operation.

- Putting aside the gap in overall adequacy and, the fact that Spire Missouri does not plan to rely upon the propane and LNG/CNG options even if the Spire STL Pipeline were not to remain in service, each of these alternatives have significantly greater costs and/or risks relative to the service provided by the Spire STL Pipeline that render these alternatives inappropriate for reliance over the long term. Consequently, there is an even greater need for the Spire STL Pipeline's continued operation.

39. Concentric concludes, and Spire Missouri agrees, that the only three alternatives for the next winter are similar to the options available for this winter, which are: the currently available capacity on the MRT East Line, restoring propane capability, and developing distributed LNG/CNG, and that together, these three options do not add up to the volume necessary to meet Spire Missouri's peak needs.[11]

40. Other potential future supply alternatives – such as developing a permanent LNG peaking facility on Spire's distribution system, contracting for, new pipeline capacity from other sources – would take multiple years to develop, and are out of the question for next winter on timeline grounds. For example, Concentric considers the potential for a pipeline expansion, but there is no currently pending proposal for such an expansion, it would take years to develop, certificate and build, and its costs and environmental impacts are not known. All pipeline construction alternatives would impose cost and environmental impacts that would be substantial,

[11] Attachment B at 1, 7-9.

but cannot be fairly compared to a fully-installed Spire STL Pipeline's costs and impacts, for purposes of this analysis.

41. Even viewed as partial replacements – and there is no point to building, as it were, three-fourths of a bridge that falls short of its destination – each of the options have grave flaws.

Limitations and Significant Problems with the MRT East Line Option

42. The MRT East Line alternative, involving available capacity back to Trunkline or NGPL, has numerous disadvantages. The total amount of East Line capacity, at approximately 165,000 Dth/day (asserted by MRT) would fall short of the 350,000 Dth/day of capacity available from the Spire STL Pipeline (even with the other options noted below, which are not long-term solutions).[12]

43. As noted above, there remain unanswered questions regarding the adequacy of the upstream deliverability pressures, which have historically been inadequate and unreliable for utility planning purposes. The assertion by Trunkline that it has solved its pressure issues is yet unproven.

44. Heavier reliance on MRT's East Line would require continued, and substantial use of Line 880 in Spire Missouri's system. As is explained in detail in the CRA Report, Line 880 has integrity concerns and poses risks if it were to be relied upon, in the same manner as it was historically, going forward – including the potential for significant compliance costs and even the potential for line replacement, with its attendant service unavailability.[13]

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[12] In its recent open season for firm capacity to be delivered into MRT's East Line, Trunkline offered only 100,000 dth/day, suggesting potential upstream limits to the East Line option as well.

[13] Attachment C at 12-16.

45. Further, pressures from MRT's East Line would be inadequate to allow direct injection of gas into Spire Missouri's Lange storage field, thus requiring the operation and heavy reliance of Spire-owned compressors at Lange, with emissions and other negative impacts.

46. Use of the MRT East Line also requires additional construction work at the Chain of Rocks interconnection facilities, and other costs.

47. As Concentric highlights, by relying on the MRT East Line capacity, Spire Missouri would also be unable to meet the significant growth being experienced on the western portion of its system. Consequently, Spire Missouri would still require further alternatives, including potential significant, costly and time consuming infrastructure additions to its system for which regulatory approval is uncertain.

48. Concentric also assesses the relative cost of MRT's East Line versus the Spire STL Pipeline, and concludes that the Spire STL Pipeline would achieve significant savings on a delivered price basis, going forward, relative to an MRT/Trunkline or MRT/NGPL option (savings ranging from $0.13/dth to $0.19/dth), resulting in potentially $3.11 to $4.55 million annually in savings to customers.[14]

49. Concentric's assessment of delivered price concurs directionally with the analysis provided by Spire Missouri both prior to the 2018 certificate order,[15] and more recently in this proceeding.[16]

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[14] Attachment B at 15-18; *see esp.* Attachment B, Figure 3.

[15] *See, e.g.*, Spire Missouri March 2017 Answer at 12-13; Spire Missouri March 2017 Answer, Attachment F (LGC Delivered Cost Analysis); Motion For Leave To File An Answer And Answer Of Laclede Gas Company To Certain Protests, Docket No. CP17-40-000, at 5-9 (dated June 14, 2017) ("Spire Missouri June 2017 Answer"); Spire Missouri June 2017 Answer, Attachment B at 13-16; Responses Data Requests Issued By The Federal Energy Regulatory Commission, Response No. 1, Docket No. CP17-40-000 (dated March 13, 2018) ("March 2018 Responses to FERC Data Requests").

[16] Motion For Leave To Answer And Answer Of Spire Missouri Inc. To The Motion For Leave To Answer And Answer Of Environmental Defense Fund Dated October 20, 2021, Docket No. CP17-40-007, at 3-5 (dated Oct. 29, 2021).

50. Concentric also agrees with Spire Missouri's assessment of the operational issues with reliance on the MRT East Line, notably that during Winter Storm Uri, without the Spire STL Pipeline, Spire Missouri would not have been able to serve all of its customers and would have experienced significant service outages.[17]

51. While Spire Missouri would not have been able to maintain natural gas service to all of its customers during Winter Storm Uri without the Spire STL Pipeline, hypothetically assuming additional supplies could have been obtained from the south. In addition to preventing curtailments or even outages during Winter Storm Uri, the availability of the Spire STL Pipeline's capacity and its access to alternative gas basins, could have resulted in hundreds of millions of dollars in savings for Spire Missouri customers. The Concentric Report estimates potential illustrative savings of $280 million over the four day holiday weekend.[18]

52. As the Trinity Report found, reliance on the MRT/Trunkline option would result in greater emissions due to both compression by other operators, and the need for compression by Spire Missouri for injections into storage.[19]

The Propane Peaking System Will Not be a Long-Term Solution and Poses Significant Problems Relative to Firm Pipeline Capacity.

53. As noted above, the decision by Spire Missouri to obtain long-term, firm capacity from the Spire STL Pipeline stemmed in part from a managerial decision that the aging, outdated propane system should be retired. Following the commencement of Spire STL's operations, the propane peaking facilities were in fact retired – some were removed, some de-activated, and the

17 Attachment B at 12-14.
18 Attachment B at 13.
19 Attachment D at 3-1, 5-1.

propane supplies kept in the Lange propane cavern were not maintained at historical levels. Reliance on the propane system is not in the best interests of Spire Missouri's customers.

54. To the extent that the Commission were to require the Spire STL Pipeline to cease operations, Spire Missouri would consider any use of partially re-activated propane peaking facilities as a temporary, stopgap measure pending the acquisition of the necessary firm pipeline delivery rights, even though that might take years to fully realize.

55. The grounds supporting retiring, and not relying upon, the propane facilities were discussed at length in the underlying proceeding, but in addition, the CRA Report reviews this alternative in detail, and concludes that the propane option would be limited in volume due to quality problems with direct propane injection, that the supply chain to the Catalan injection site pose operational and integrity risks, and that other costs and risks would attend refurbishment of the facilities and supplies for this partial option.[20] The Trinity Report also identifies a number of respects in which the Spire STL Pipeline Project option would create less GHG and other emissions than continued use of the propane system.[21]

56. As described above, however, the problems identified by CRA as to the propane option only validate the decision by Spire Missouri management to retire that system and replace it with pipeline supplies. – the CRA Report and the Trinity Report both validate a choice already made and confirmed by Spire Missouri. It is my understanding that challenges to that decision should be made to or by the Missouri Public Service Commission, not this Commission.

[20] *See* Attachment C at 18-30.
[21] Attachment D at 4-1, 4-2.

LNG and CNG Are Not Viable Alternatives Except for Emergency Measures

57. As part of its contingency planning for the current winter season, Spire Missouri has investigated the option of distributed LNG, thereby trucking, storing and vaporizing it using portable storage and vaporization facilities available for rental, and injecting such vaporized LNG into its distribution system at a point that would assist in meeting shortfalls due to the potential cessation of service by the Spire STL Pipeline.

58. Because loss of the Spire STL Pipeline would also cause the loss of reliable deliveries from the Lange storage field, the LNG supplies have been projected as nearly baseload supplies.

59. CRA assessed the risks of this LNG option, as well as discussing CNG, which has been used by at least one large gas distributor to supplement pipeline supplies. CRA found that LNG was not feasible for meeting the loss of such a large supply as currently provided by the Spire STL Pipeline, due to its low density of energy, and that LNG posed very significant risks, particularly as to security of supply;[22] the option contemplated deliveries daily using 12 LNG trucks, for the entire winter season, raising the potential for interrupted deliveries due to truck and/or driver unavailability, or weather related problems, among others.[23] CRA also identified numerous other potential issues with the option, and further found only a 10,000 Dth/day contribution by LNG.[24]

60. It is apparent from the very limited volume available from LNG, as well as the extraordinary risks of supply interruption from relying on uninterrupted access to highly specialized trucks, during the most difficult driving period of the year to access LNG supplies over

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22 Attachment C at 33.
23 Attachment C at 33.
24 Attachment C at 30-33.

200 miles from St Louis, that this option is not a viable baseload alternative from a utility management perspective. Moreover, use of such a system as a baseload service would seem highly unusual, probably due to its risk.

61. Beyond the specific problems with LNG (or CNG), Spire Missouri would not plan on using such supplies on an ongoing basis, much less as baseload supplies, for supply security and other reasons. LNG might be utilized in an emergency setting in which the Commission has required that the Spire STL Pipeline shut down operations, but only in such an urgent shortfall scenario.

62. As with the propane option, Spire Missouri would, if necessary, employ LNG as a "band aid" while taking steps to secure new firm pipeline capacity. Consequently, LNG is not a long-term option, and would be displaced by new pipeline facilities, with new capital and other costs, and new and uncertain environmental impacts, which cannot be assessed in this proceeding.

V. Conclusion.

63. For the reasons stated above, the Spire STL Pipeline is needed to ensure affordable, safe and reliable natural gas service to Spire Missouri beyond the current winter season, and Spire Missouri lacks alternatives to meet its needs.

UNITED STATES OF AMERICA
BEFORE THE
FEDERAL ENERGY REGULATORY COMMISSION

Spire STL Pipeline LLC	)	**Docket No. CP17-40-000, et al.**

VERIFICATION

Commonwealth of Pennsylvania)
)
City of Philadelphia)

George Godat, being first duly sworn, says that he is the George Godat whose Affidavit in the above-referenced proceeding accompanies this verification.

George Godat further states that the Affidavit bearing his name is true, accurate and complete, to the best of his knowledge, understanding and belief.

George Godat

Subscribed and sworn to before me, the undersigned Notary Public, this 1st day of December, 2021.

Commonwealth of Pennsylvania - Notary Seal
SONYA E. BEY, Notary Public
Delaware County
My Commission Expires September 20, 2025
Commission Number 1267251

My Commission expires 9.20.25

Schedule DAY-D-11

Exhibit 1
to
Attachment A

Spire Missouri East Distribution System

STL to MoGas

UGS

STL Lange

STL Chain of Rocks

Legend

- UGS
- Interconnect
- City Gates
- Supply Feeder

Interstate Pipelines

Company

- Enable MRT
- MoGas Pipeline
- Southern Star Central
- Spire STL Pipeline

Exhibit 2
to
Attachment A

Exhibit 2 to Attachment A

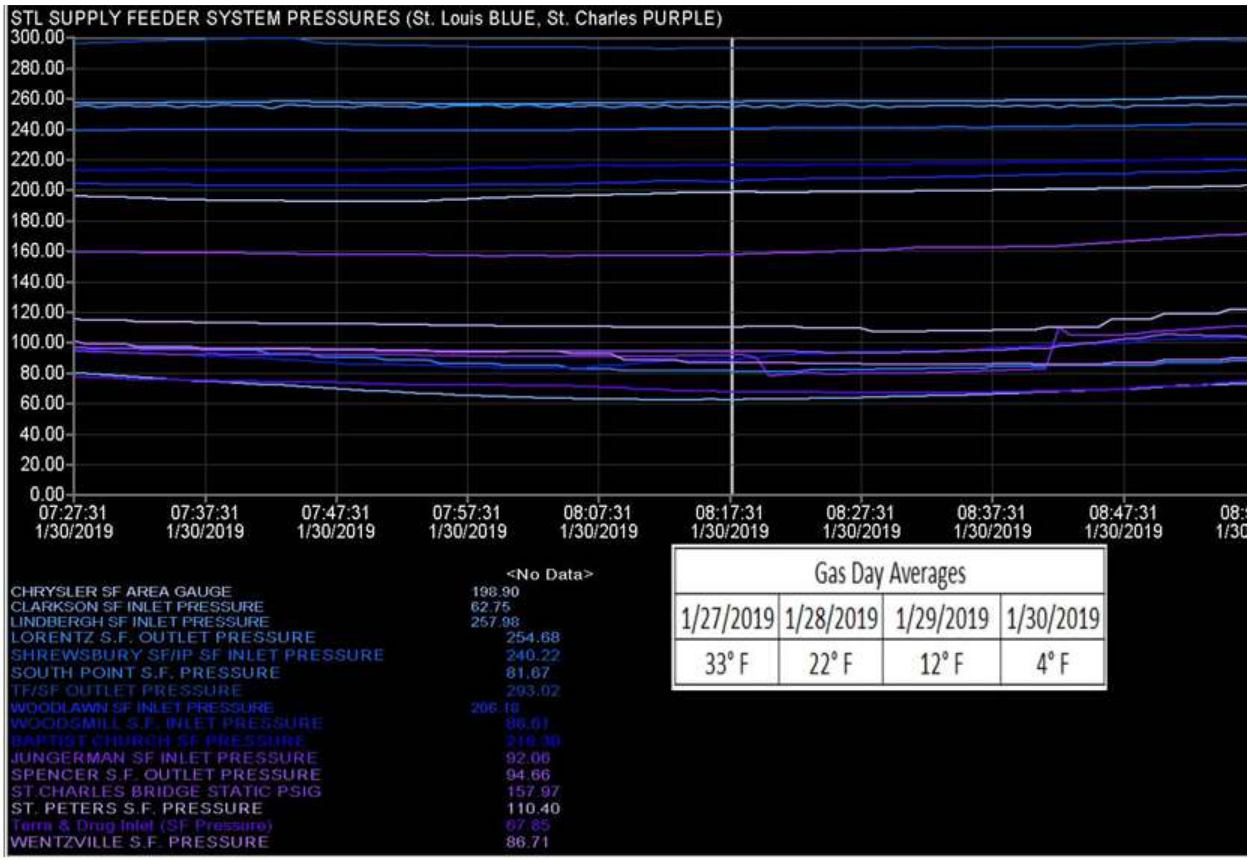
Illustrative Pressure Differentials – Before and After Spire STL Pipeline Commences Service

Top chart – pre-Spire STL Pipeline:

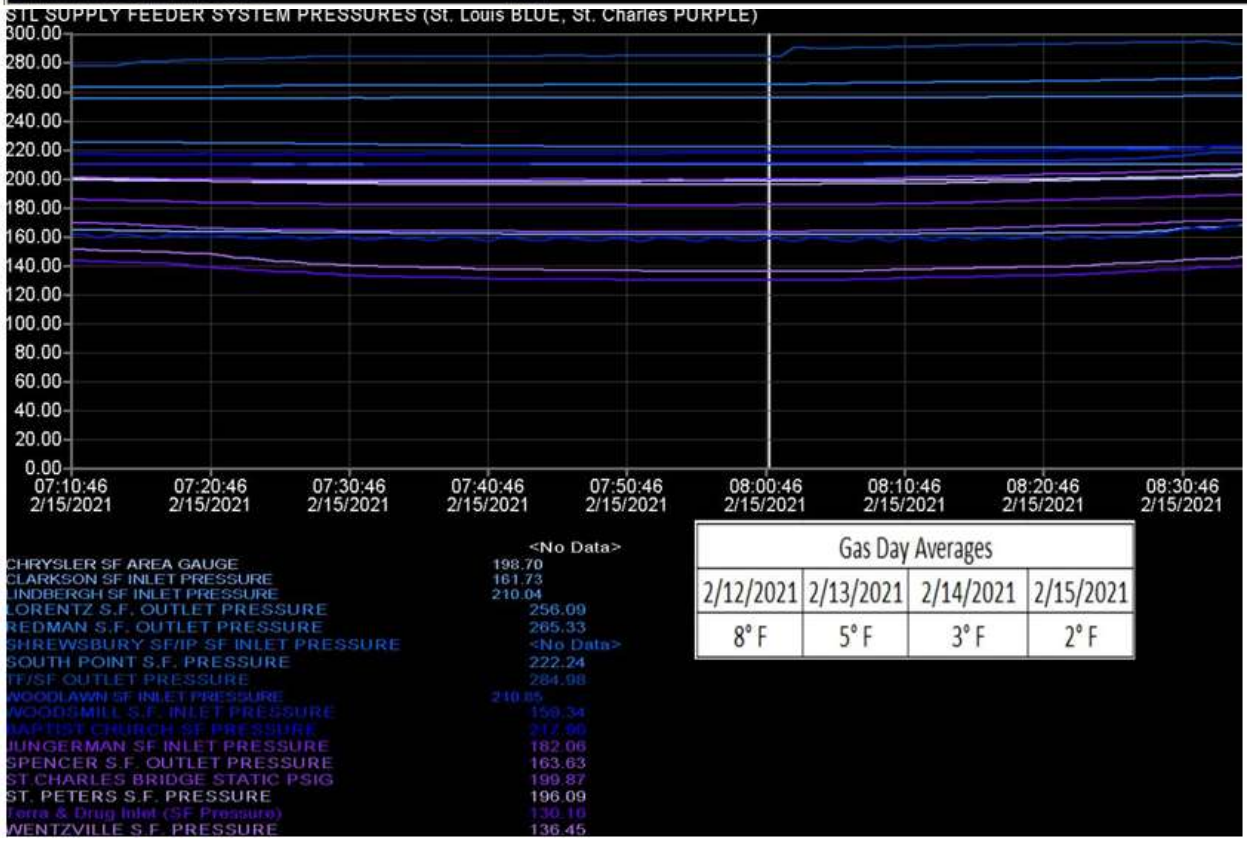
- January 30, 2019 at around 8 AM. Gas Day average temperature of 4 degrees. The previous day temperatures leading up to it were 33, 22, and 12, respectively.
- The chart shows multiple pressures, but of particular interest are the following citygates (on Spire Missouri's 300-pound system, serving St. Charles)
    - South Point: 81.67 psig
    - Wentzville: 86.71 psig
    - Terra & Drug: 67.85 psig

Bottom chart – with Spire STL Pipeline supplying Spire Missouri and MoGas Pipeline:

- February 15, 2021 at around 8 AM. Gas Day average temperature of 2 degrees. The previous day temperatures leading up to it were 8, 5, and 3, respectively. This difference is important to note because it is expected that the system will be in worse shape depending on how cold the temperatures are leading up to the current day (*i.e.*, if there is a series of consecutive very cold temperature days, the impact on system pressure is more severe)
- The chart shows multiple pressures, but of particular interest are the following (these are on Spire Missouri's 300 pound system, serving St. Charles), showing dramatically higher pressures than during the January 2019 cold weather event:
    - South Point: 222.24 psig
    - Wentzville: 136.45 psig
    - Terra & Drug: 130.16 psig



Gas Day Averages			
1/27/2019	1/28/2019	1/29/2019	1/30/2019
33° F	22° F	12° F	4° F



Gas Day Averages			
2/12/2021	2/13/2021	2/14/2021	2/15/2021
8° F	5° F	3° F	2° F