Exhibit No.: _____
Issue(s): Need for Service/Economic Feasibility
Witness/Type of Exhibit: Wade/Rebuttal
Sponsoring Party: Public Counsel
Case No.: GA-2026-0121

REBUTTAL TESTIMONY

OF

JILL WADE

Submitted on Behalf of the Office of the Public Counsel

SPIRE MISSOURI, INC.

FILE NO. GA-2026-0121

** _____ **
Denotes Confidential Information that has been redacted.

July 31, 2026

PUBLIC

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DIRECT TESTIMONY

OF

JILL S. WADE

SPIRE MISSOURI, INC.

CASE NO. GA-2026-0121

I. INTRODUCTION

Q. What is your name and what is your business address?

A. Jill S. Wade, PO Box 2230, Jefferson City, Missouri 65102.

Q. By whom are you employed and in what capacity?

A. I am employed by the Missouri Office of the Public Counsel ("OPC" or "Public Counsel") as a Professional Engineer.

Q. Have you previously provided testimony before the Missouri Public Service Commission?

A. Yes. I have previously provided testimony before the Missouri Public Service Commission ("Commission") in case EA-2025-0299.

Q. What is your work and educational background?

A. My educational background includes a Bachelor of Science degree in Civil Engineering and a Minor in Mathematics from the University of Missouri – Columbia, which I received in 2000. I have been a registered Professional Engineer in the State of Missouri since 2006.

Prior to joining the Office of Public Counsel, I was employed as a Professional Engineer with the Missouri Department of Natural Resources' ("MODNR" or "the Department") Air Pollution Control Program ("APCP") Planning section. In this position I drafted revisions to the State Implementation Plan, prepared comments on EPA actions and proposed rules and led a team executing the Department's Climate Pollution Reduction Grant.

Other relevant prior experience with APCP includes 14 years in the Permitting Section where I drafted Title V operating permits for industrial, commercial and institutional facilities in Missouri including for regulated utility facilities, municipal utilities and other energy producers, and five years in the Air Quality Analysis Section evaluating emissions

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data from these sources. Other relevant positions held in the Department include Engineering Manager for the Water Protection Program's Antidegradation Unit where I reviewed antidegradation wastewater permits and sewer extension applications.

Q. What is the purpose of your rebuttal testimony?

A. The purpose of my rebuttal testimony is to address Spire Missouri's ("Company" or "Spire") Certificate of Convenience and Necessity ("CCN") for a renewable natural gas ("RNG") generation facility, interconnection, and pipeline to Spire's existing distribution infrastructure ("the Project") as well as the application for its renewable natural gas program ("RNG Program"). I will respond to Spire's applications, Staff's recommendation and the direct testimony of Company Witness, Eric Bouselli.

Q. What are the central issues you will be addressing in your testimony?

A. The central issues that I will be addressing are the need for the CCN and RNG Program and the economic feasibility of the Project. I will refute the list of reasons Mr. Bouselli presents in his direct testimony regarding why the Project is needed and suggest alternative uses for the biogas that avoid raising the utility bills of Spire customers.

II. THE PROJECT

Q. Please describe the Project and CCN that Spire is proposing it its Applications?

A. Spire is requesting a CCN for a qualified investment in renewable natural gas infrastructure which will be located at the Blue River Wastewater Treatment Plant ("Blue River WWTP") owned by the City of Kansas City, Missouri ("Kansas City") through its Water Services Department ("KC Water"). The proposed Project consists of the construction of a biogas upgrading facility with a meter and regulation interconnect at the Blue River WWTP and the construction of 1,200 feet of 6-inch steel to connect the new biogas upgrading facility to Spire's existing distribution infrastructure.

III. PROJECT NEED

Q. Beginning on page 12 of his direct testimony, Mr. Bouselli discussed the need for this project. Why is it important to evaluate the need for the Project?

A. Establishing that there is a need for the project is important because Need for Service is one of the five Tartan Factors, or standard criteria used by the Commission to determine if granting a CCN to a public utility or infrastructure project is "necessary or convenient for the public service". A descriptive list of the five factors is as follows:

1. Need for Service: There is a genuine public demand or requirement for the proposed service, and it will enhance utility delivery.
2. Qualifications: The applicant has technical expertise and is qualified to build, operate, and maintain the proposed project.
3. Financial Ability: The entity has the necessary capital and financial strength to undertake the endeavor without compromising service to existing customers.
4. Economic Feasibility: The project makes economic sense, typically meaning the projected benefits justify the construction and operational costs.
5. Public Interest: The project's overall benefits outweigh any negative impacts to the community.

Affirmative finding of the first four factors generally leads to the conclusion that the fifth factor is satisfied.

Staff analyzed Spire's proposed CCN under the Tartan criteria and found that it did not satisfy the "need for service" or the "economic feasibility factors. Mr. Bouselli disagrees with Staff's assessment. I am addressing Mr. Bouselli's disagreement by providing my own analysis of the need for the Project and its economic feasibility.

Q. What does Mr. Bouselli say regarding the need for the Project in his Direct Testimony?

A. On page 12, lines 13-16, of his direct testimony, Mr. Bouselli explains that Spire did not initiate this project, rather KC Water saw the need for the project, determined that biogas

upgrading was in the interests of KC Water's customers and issued a Request for Proposals ("RFP") to which Spire responded.

Q. What were the factors that KC Water considered when determining the need for the Project?

A. According to Mr. Bouselli's direct testimony and KC Water's Letter of Support (attached as Schedule EAB-D-4 to his direct), the foremost factor that Spire relies on to demonstrate the need for the Project is KC Water's identification that there is a beneficial use for the gas generated by Blue River WWTP operations.

Q. Should the existence of a beneficial use for the biogas produced by Blue River WWTP's operations support the need for this Project?

A. No, the existence of a beneficial use for biogas produced by Blue River WWTP operations does not justify the need for Spire's RNG Program and the Project. Currently Blue River WWTP flares the biogas, and it can continue to do so without this Project. There are also several possible alternative uses for the biogas that would not require Spire's involvement. According to KC Water's own Letter of Support for the Project (EAB-D-4 from Mr. Bouselli's direct testimony), biogas produced from anaerobic digestion "may be used for (but not limited to) heating applications, electrical generation and automotive fuel." This means that there are multiple ways that KC Water could utilize the biogas produced by Blue River WWTP's anaerobic digestors in a beneficial manner at the plant itself. There is thus no need for Spire's captive customers to fund construction of this Project.

Q. Do other municipal wastewater treatment plants in Missouri beneficially utilize biogas produced from aerobic digestion?

A. Yes, it is common for wastewater treatment plants to utilize biogas produced from anaerobic digesters and there are several facilities in Missouri that do so. For example, Southwest Wastewater Treatment Plant in Springfield, Missouri utilizes a 2.4 megawatt combined heat and power system that turns biogas from their anaerobic digesters into electricity and thermal energy.[1] Likewise, the Missouri River Wastewater Treatment Plant

[1] Southwest Wastewater Treatment Plant, Springfield, MO, https://www.springfieldmo.gov/405/Southwest-Treatment-Plant (last visited July 24, 2025)

in Maryland Heights, Missouri also converts biogas from their anaerobic digesters into electricity. Their onsite generation helps power treatment operations, increases energy efficiency, and offsets the facility's reliance on purchased power.[2] The Columbia Regional Wastewater Treatment Plant in Columbia, MO is a smaller system that also uses the biogas produced from its anaerobic digesters. The plant uses the biogas as fuel in a boiler that heats the plant's buildings and stabilizes the temperature for the sludge digestion process.[3]

Q. Has KC Water been permitted to use the biogas produced at Blue River WWTP as fuel in the past?

A. Yes. Air Construction Permit 1458 was issued to Blue River WWTP on April 7, 2017, to construct two new boilers fueled by digester gas or natural gas and the 2025 Emissions Inventory Questionnaire for Blue River WWTP lists these units as EP-113 Digester Boiler #1 and EP-114 Digester Boiler #2. MODNR Air Inspection Report, attached as Schedule JSW-R-1, for the inspection carried out on July 2, 2025, includes pictures of the two digester gas boilers, along with their nameplates, which were onsite at the time of the inspection.

Q. Could KC Water capture the biogas produced at Blue River WWTP and use it to generate electricity and heat for their plant?

A. According to Special Condition 2.A. of Air Construction Permit No. 092025-006, which is attached as Schedule JSW-R-2, KC Water must obtain a new construction permit in order to resume burning digester gas in the digester boilers. KC Water could pursue this if the RNG Project is not approved. The biogas could be burned directly for heat or to generate electricity for onsite use or for sale to the electric power grid, which would significantly reduce the facility's carbon footprint and operational costs. Also, since the biogas could be used in this manner after basic moisture and hydrogen sulfide removal, it would be much less costly for Blue River WWTP to go this route than to transfer the gas to Spire for injection into the pipeline, which requires more extensive purification. Moreover, this

[2] Missouri River – Metropolitan St. Louis Sewer District, https://msdprojectclear.org/virtual-tours/missouri-river/ (
[3] Wastewater Treatment Process – City of Columbia, MO, https://www.como.gov/utilities/sewer/wastewater-treatment-process/ (last visited July 24, 2026)

would prevent Spire customers incurring the cost of the RNG Program through higher utility bills.

Q. Does Mr. Bouselli list any other factors in his direct testimony that he states support the need for Spire's RNG Project?

A. Yes, on Page 13 of his Direct Testimony, Mr. Bouselli lists several objectives that KC Water is trying to achieve through the Project which both KC Water and Spire argue support its need. Those objectives are listed on page 13, lines 8-15 of Mr. Bouselli's direct testimony, as follows:

- Supporting Kansas City's Climate Protection and Resiliency Plan
- Complying with Federal, State and Local regulations
- Maintaining stable plant operations
- Ensuring compliance with the national Pollutant Discharge Elimination System (NPDES) discharge permit
- Ensuring compliance with air emissions permits
- Utilizing revenues and resources to offset KC Water's capital costs
- Avoiding approximately 20,000 tons of carbon dioxide equivalents (CO2e), and
- Improving local air quality.

Q. Do you agree that these objectives support the need for the Project?

A. No. Each objective that Mr. Bouselli identifies as supporting the need for the Project can be refuted.

Q. Will Spire's RNG Program support implementation of Kansas City's Climate Protection Plan?

A. Yes. Spire's RNG Program is one of several ways the biogas can be utilized that will result in lower greenhouse gas emissions compared to flaring the gas, so it does support Kansas City's Climate Protection Plan.[4]

[4] Kansas City, Missouri Climate Protection and Resiliency Plan, https://indd.adobe.com/view/3e643429-e6da-428d-a6d6-00ef730388f5 (last visited July 24, 2026)

Q. Does this justify the need for Spire's RNG Program and CCN?

A. No. KC Water is a department of the City of Kansas City municipal government so it is reasonable that it would want to support the goals of city government officials and the residents of Kansas City. However, KC Water can utilize the biogas itself for onsite electricity and heat production at the Blue River WWTP which would also reduce greenhouse gas emissions compared to flaring the gas.

Furthermore, the greenhouse gas emission reductions due to this Project will not significantly impact the area. On page 13, lines 13-14 of his Direct Testimony, Mr. Bouselli states that the RNG Program will reduce carbon dioxide equivalent (CO2e) emissions by 20,000 tons annually. The City of Kansas City and the 9-county regional area greenhouse gas emissions are estimated to be 9.55[5] and 27.2[6] million metric tons of CO2e, respectively, therefore a reduction of 20,000 tons represents only a 0.2% reduction in CO2e emissions in the City of Kansas City and a 0.07% reduction for the 9-county region. Additionally, because the broader effects of greenhouse gas emissions by their nature are not typically localized to the area surrounding the source of the emissions, it is reasonable to consider that the emissions reductions from Spire's RNG Program will amount to only a 0.016%[7] decrease in statewide CO2e emissions and the percentage reduction would be even more negligible on a national and global scale.

Additionally, the City's climate pollution reduction targets may be noble, however, they are not mandated by federal, state or local law. The Kansas City Climate Protection Plan is flexible and includes dozens of greenhouse gas reduction measures which may be more effective or prudent than Spire's RNG Program. Whether or not investing in biogas utilization for the purposes of supporting Kansas City's Climate Protection Plan is a sensible use of city resources is a decision for elected city officials and the residents of Kansas City. It is not appropriate, however, for the City of Kansas City along with their

[5] Kansas City Greenhouse Gas Community Inventory, 2022 Report, https://www.kcmo.gov/home/showpublisheddocument/16506/639112484932670000 (last visited July 24, 2026)
[6] Kansas City Regional Climate Action Technical Report, 2025, https://kcmetroclimateplan.org/wp-content/uploads/2021/05/NOV2025-MARC-Climate-Technical-Report.pdf
[7] Based on statewide GHG emissions inventory in the Missouri Comprehensive Air Quality Plan, https://dnr.mo.gov/document-search/missouri-comprehensive-air-quality-plan-0 (last visited July 24, 2026)

Water Services Department to devise a plan to transfer the costs of implementing their Climate Protection Plan to the customers of a privately owned utility, in this case Spire Customers, many of whom do not live in Kansas City.

Q. Is Spire's RNG Project needed to ensure KC Water's compliance with Federal, State and Local regulations?

A. No. OPC Data Request 8003 was issued to determine which specific Federal, State and Local regulations that KC Water is violating at the Blue River WWTP. Mr. Bouselli's response, attached as Schedule JSW-R-3, was not clear and advised that the information sought may be available on the EPA's Echo database and from the Missouri Department of Natural Resources. Given this response, I checked the database and obtained compliance records from the MODNR Air and Water Protection Programs, which are attached as Schedules JSW-R-1 and JSW-R-4, respectively, to investigate KC Water's and Mr. Bouselli's claims. MODNR records did not indicate that KC Water is currently violating any conditions of their Air and Water permits or that KC Water has violated any conditions in the past five years that this project will rectify.

Q. Is Spire's RNG Project needed to maintain stable plant operations at the Blue River WWTP?

A. No. According to MODNR Water Protection Program inspection reports (Schedule JSW-R-4), wastewater treatment operations at the Blue River WWTP are currently stable without Spire's RNG Project. The plant is treating incoming wastewater to standards acceptable for discharge into the Missouri River and the approval or disapproval of this Project would not affect Blue River WWTP's ability to continue to do so.

Q. Is Spire's RNG Project needed to ensure Blue River WWTP's compliance with its National Pollutant Discharge Elimination (NPDES) permit?

A. No, according to the MODNR Water Protection Program records (Schedule JSW-R-4), the most recent compliance inspection of the Kansas City's Combined Sewer System was carried out July 8-10, 2025, by staff from the Kansas City Regional Office, and no issues of noncompliance with Blue River WWTP's operating permit, MSOP MO0024911, were noted. Water Protection Program staff also visited the site in October 2025, January 2025

and June 2024 for various inspections and audits and no lingering compliance issues were noted during those visits either. The Blue River WWTP is currently in compliance with and can continue to comply with their operating permit regardless of whether Spire's RNG Program and CCN are approved.

Q. Is Spire's RNG Project needed to ensure Blue River WWTP's compliance with air emissions permits?

A. No. According to MODNR records, an air emissions inspection was carried out on July 2, 2025, by staff from the Kansas City Regional Office, and Blue River WWTP was found to be in compliance with all air emissions permits (Schedule JSW-R-1). The plant can continue to comply with all conditions of its air emissions permits regardless of whether Spire's RNG Project and CCN are approved.

Q. In KC Water's Letter of Support, the author implies that Spire's RNG Project is needed to ensure that the Blue River WWTP can reestablish compliance with sulfur dioxide emission limits. Is this true?

A. No. The RNG Project is not needed to ensure that the Blue River WWTP can meet sulfur dioxide (SO_2) emission limits of its air permit. Blue River WWTP is currently in compliance with all air emissions limitations and air permit conditions.

In KC Water's letter of support for the project (Schedule EAB-D-4 of Mr. Bouselli's direct testimony), the author mentions that in 2023 the city received notice of violation from MODNR for exceeding the allowable SO_2 emission limit at the Blue River WWTP. However, MODNR APCP inspection records (Schedule JSW-R-1) do not support this claim and there have been no Notices of Violation issued to Blue River WWTP due to exceedances of SO_2 emissions limits at the Blue River WWTP within the past five years.

A summary of the plant's compliance history is listed in Table 5 of Construction Permit 095-0039, Issued September 9, 2025 (Schedule JSW-R-2). This list includes notice of violation RNOV# KCAP23007 which was issued following an air inspection carried out on July 25, 2023. Violations noted during the inspection include not following the fugitive emission observations schedule as outlined in the operating permit (a recordkeeping violation) and commencing construction of new equipment (thermal hydrolysis process)

prior to issuance of a construction permit or pre-construction waiver. The application for and issuance of Construction Permit 092025-006, resolved this issue and the plant is currently in compliance with its air permits.

If there were concerns about meeting the SO_2 emissions limit in 2023, they are satisfied by Construction Permit 095-0039 which authorized the construction of a new flare (Emission Unit EU-120) which will control sulfur emissions from the thermal hydrolysis process and anaerobic digestors, and bio scrubbers which will control sulfur emissions from the pre-thermal hydrolysis processes. A performance testing protocol to verify the emission factors utilized in the construction permit analysis was submitted to APCP in June 2026 but has not yet been approved and testing has not been completed on the new units. Therefore, KC Water has no basis at this time for claiming that the plant has violated, is currently violating, or is at risk of violating sulfur emissions limits in the future.

Q. Will the revenues from Spire's RNG Program help offset KC Water's capital costs?

A. Yes. KC Water's agreement to lease a portion of their property to Spire and the requirement that Spire share 21% of the value of the future environmental attributes produced by the RNG Program[8] will help offset KC Water's capital costs.

Q. Does this support the need for the Project?

A. No. The fact that Spire's RNG Program will help offset KC Water's capital costs does not support the need for the Project because it is not the role of Spire Missouri or its customers to offset capital costs for KC Water. Rather it is the responsibility of the City of Kansas City and KC Water customers to support operational efficiencies that will offset capital expenses at the Blue River WWTP. As previously mentioned, KC Water can use the biogas produced from Blue River WWTP's anaerobic digestors to produce electricity and heat on site which could offset KC Water's operating costs and free funds for capital projects without Spire's RNG Project raising the monthly utility bills of Spire Missouri customers, many who are not even Kansas City residents.

[8] Page 26 of Contract No. 1663/Project No. 81000992 – Biogas Use Applications Project Agreement Between Spire Missouri, Inc. and City of Kansas City, Missouri

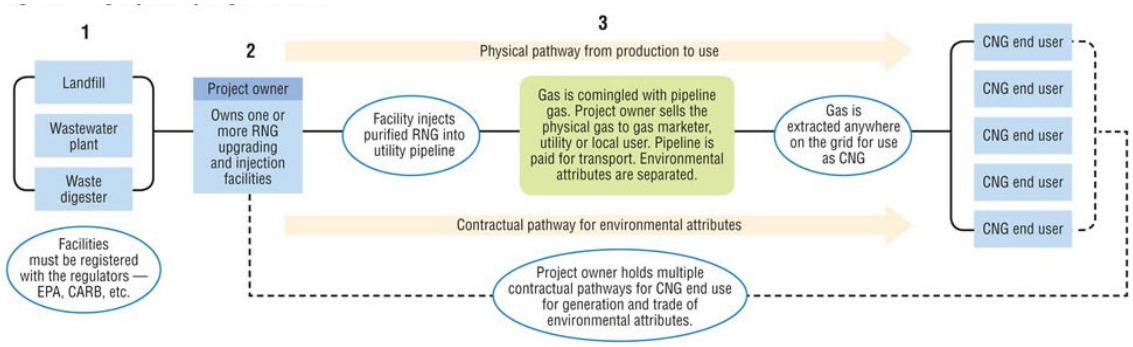
Q. What are the valuable environmental attributes that Spire is relying on to offset project costs?

A. In Paragraph 19 of the application for the RNG Program (GA-2026-0122), Spire explains that the Company expects the Project to generate D3 (Cellulosic Biofuel) Renewable Identification Numbers ("D3 RINs") under the Environmental Protection Agency's Federal Renewable Fuel Standard ("RFS")[9] to offset the cost of the Project. A revenue sharing factor of 0.21 was agreed upon between Spire and the City of Kansas City. The value of the RINs is subject to market conditions and can fluctuate over time, therefore their exact current value is not known.

Q. How does RNG generate D3 RINs?

A. Renewable Natural Gas produced from organic waste such as landfills, agricultural manure or wastewater digesters generates D3 RINs when converted into compressed or liquefied natural gas (CNG/LNG) and pumped into the transportation network.[10] D3 RIN credits are monetized by producers who inject the gas into pipelines and use it to fuel vehicles. Figure 1, taken from BioCycle.net illustrates the pathway from biogas to RIN.[11]

Figure 1: Biogas Pathway to Generate RINs



[9] Renewable Fuel Standard, https://www.epa.gov/renewable-fuel-standard (last visited July 24, 2026)
[10] RINs explained, https://www.kindermorgan.com/ETV/KM-RNG/Resources/Insights/Renewable-Identification-Numbers-(RINs)-Explained (last visited July 24, 2026)
[11] BioCycle, https://www.biocycle.net/biogas-rng-projects/ (last visited (July 25, 2026)

Q. So, the RNG produced by the Project must be used as transportation fuel in order to generate D3 RINs?

A. Theoretically, yes. Under the EPA's Renewable Fuel Standard, RNG must be used as transportation fuel such as CNG or LNG to generate D3 RINs. Under the RFS program, RNG can be injected into the natural gas distribution grid and qualify as an eligible renewable fuel, but only as long as an equivalent volume of natural gas is then removed from the distribution grid elsewhere for the purpose of producing CNG or LNG that is used as transportation fuel.[12]

Q. Is the Project needed to improve local air quality as claimed by KC Water and Mr. Bouselli?

A. No, Kansas City is currently officially classified as attainment (meeting or exceeding expectations) for all criteria air pollutants and ozone under EPA's National Ambient Air Quality Standards (NAAQS). The Project would lower air pollutant emissions at the plant when compared with flaring the biogas. However, as previously mentioned, KC Water can use the biogas produced from Blue River WWTP's anaerobic digesters to produce electricity and heat on site which would also lower emissions as compared to flaring the gas, without Spire's RNG Project raising the monthly utility bills of Spire Missouri customers.

Q. What were the factors that Spire considered when determining the need for the Project?

A. On page 23, lines 15-21, of his direct testimony, Mr. Bouselli lists the following two main reasons that Spire's RNG Project is needed:

- To enhance overall system reliability with approximately 175,000 MMBtu coming online
- To allow for the generation of gas throughout the year which will be critical during the winter months

[12]Regulation of Fuels and Fuel Additives: RFS Pathways II, and Technical Amendments to the RFS Standards and E15 Misfueling Mitigation Requirements, 79 Fed. Reg. 42,128 (July 18, 2014) (40 CFR Part 80)

Q. Will the Project enhance system reliability for Spire's residential customers?

A. No. On page 13 of his direct testimony, Mr. Bouselli states that the RNG Program enhances overall system resiliency and reliability of Spire Missouri's western distribution system by bringing an additional 175,000 MMBtu of pipeline quality gas online. On page 7, lines 11-3 of his direct testimony, Mr. Bouselli states that the additional amount is enough to supply approximately 2,500 residential customers in Spire Missouri's western territory. Mr. Bouselli further explains that Spire currently procures around 483,357,270 CCF per year from other sources to meet the needs of its customers (page 14 of EAB-D-1). Assuming this total baseline amount of natural gas procured annually by Spire, the addition of 175,000 MMBtu (equivalent to 1,687,560 CCF[13]) of natural gas from the RNG Program would result in only a 0.35% increase in available natural gas for Spire Missouri customers. A 0.35% increase in gas supply should not be considered a significant enhancement of overall system resiliency, especially to customers whose needs are already being met by existing fossil gas sources.

Furthermore, as previously explained, to qualify for D3 RINS, the value which Spire is anticipating will offset the RNG Program costs and compensate KC Water, the natural gas produced by the biogas must be used as transportation fuel. Therefore, the negligible increase in natural gas produced by the RNG Program will not enhance system resiliency for Spire's residential customers or offset the gas usage of 2,500 residential customers at all. The natural gas produced by the RNG Program, or an equivalent amount to be taken from the pipeline, is committed for use in making fuel to be used by CNG/LNG-vehicles in the Kansas City region, the vast majority of which are commercial and government fleet vehicles.

[13] Calculated based on a conversion factor of 100 cubic feet (1 Ccf) of natural gas being equal to 103,700 Btu according to the U.S. Energy Information Administration. USEIA, *Frequently Asked Questions (FAQs)*, https://www.eia.gov/tools/faqs/faq.php?id=45 (last visited July 24, 2026).

Q. Will the RNG Program support availability of natural gas during the critical winter months, when gas demand is high and prices may fluctuate?

A. The RNG Program will produce natural gas throughout the winter months, however, seasonal variations dramatically affect biogas digesters,[14] particularly in regions with substantial temperature fluctuations, such as Missouri. Digesters become significantly (50-70%) less productive during the winter and biogas production plummets when temperatures drop. [15] This temperature dependence can make biogas a less reliable energy source precisely when energy demands often increase.

Q. Does Mr. Bouselli present any other reasons that the RNG Program and CCN are needed?

A. Yes. On page 15, lines 1-4 of his direct testimony, Mr. Bouselli states that there have been no other RNG Programs pursuant to Section 386.895 proposed or authorized in Missouri thus far and that the Project has the opportunity to demonstrate the benefits of RNG for the State, therefore the Commission should approve it.

Q. Do you believe this is a valid reason for approving the RNG Program and CCN?

A. No. Spire's proposed RNG Program is not novel or exceptional in demonstrating that biogas can be beneficially used. There are numerous facilities in Missouri that already use biogas produced at landfills, livestock operations and wastewater treatment plants as fuel to create electricity and heat or upgrade it to pipeline-quality RNG. In addition to the wastewater treatment plants previously mentioned, other facilities include:

- Vision RNG and Meridian Waste operate a landfill gas to RNG plant at the Eagle Ridge Landfill in Bowling Green, Missouri. The project produces 375,000 MMBtu of RNG annually, enough renewable gas to heat approximately 8,800 homes per year[16]

[14] Sabbir, A. S. M. Y. B., Saha, C. K., Nandi, R., Zaman, M. F. U., Alam, M. M., & Sarker, S. (2021). Effects of Seasonal Temperature Variation on Slurry Temperature and Biogas Composition of a Commercial Fixed-Dome Anaerobic Digester Used in Bangladesh. *Sustainability*, *13*(19), 11096. https://doi.org/10.3390/su131911096
[15] Winter Impact on Biogas Production, https://rutherfordrenewables.co.uk/winter-impact-on-biogas-production-and-solutions/ (last visited July 25, 2026)
[16] Meridian Waste News, https://www.meridianwaste.com/news-room/2023/vision-rng-and-meridian-waste-announce-landfill-gas-to-renewable-natural-gas-project-first-in-missouri/ (last visited July 25, 2026)

- Republic Services and Ameresco, developed a landfill gas-to-electricity project at the Jefferson City Landfill that supplies power and heat to two correctional facilities. The waste heat from the engines is used for steam and hot water, reducing the state's heating bills by $500,000.[17]
- Smithfield Foods & Roeslein Alternative Energy is the largest manure-to-energy operation in the state and involves installing impermeable covers on dozens of synthetic manure lagoons to capture raw methane which is processed, compressed, and upgraded to pipeline-quality RNG to supply national natural gas networks[18]

Spire's proposed RNG Program is not needed to demonstrate RNG benefits because each of these facilities already demonstrates the benefits of biogas utilization and RNG.

IV. ECONOMIC BENEFITS

Q. Will Spire's RNG Program produce natural gas that is economically beneficial to Spire's residential customers?

A. No, the natural gas produced by Spire's RNG Program will not be economically beneficial to Spire's customers. Eric Bouselli states in his direct testimony (page 17, lines 14-15) that the natural gas produced by the RNG Program is estimated by the Company to have an average net cost of **_____** per MMBtu with consideration of avoided gas costs. According to Staff's analysis the estimated net levelized average cost of gas over the **_ **-year life of the project is **_____ ** (Staff's Recommendation, page 16). Both analyses show that the cost of the RNG Program is significantly greater than the economic advantages it will provide, therefore it is not economically feasible and thus will not benefit Spire's customers.

[17] Jefferson City News Tribune, https://www.newstribune.com/news/2023/dec/29/landfill-gas-powers-jefferson-city-prisons/ (last visited July 25, 2026)
[18] USEPA, https://www.epa.gov/agstar/project-profile-ruckman-farm (last viewed July 25, 2026)

V. STAFF'S RECOMMENDATION

Q. Please summarize Staff's recommendation regarding the CCN and RNG Program Applications?

A. In its Recommendation, Staff reviewed the Technical, Managerial, and Financial capacities of the Company and analyzed the proposed CCN under the Tartan criteria which are: need for the project; the utility's qualifications; the utility's financial ability; the economic feasibility of the proposal; and promotion of the public interest. An affirmative finding of the first four factors generally leads to the conclusion that the public interest factor is satisfied. Staff found that Spire Missouri is qualified and financially able to provide the service and construct the project. However, Staff found that the Project did not satisfy the "need for service" or "economic feasibility" factors, therefore concluded that the Project does not promote the public interest.

Q. Do you agree with Staff's Recommendation?

A. Yes. I agree with Staff's recommendation based on the determination that there is not a need for the service provided by the proposed Project and that the Project is not economically feasible. I agree that the Project does not promote the public interest.

VI. CONCLUSION

Q. In your opinion should the Commission grant Spire's CCN application and approve the RNG Program?

A. No. I do not believe the Commission should grant the CCN, nor should the Commission approve Spire's RNG Program because there is no need for either. Many of the objectives presented as to why this Project is needed benefit KC Water and can be pursued by KC Water without Spire's involvement. KC Water can beneficially use their biogas to offset KC Water's capital costs without Spire's RNG Program, and they can do it cheaper. KC Water can maintain stable operations at the Blue River WWTP, continue to comply with their NPDES and Air Emissions Permits, improve local air quality and reduce greenhouse gas emissions without Spire's RNG Program. Spire customers, many of whom are not residents of Kansas City, should not bear the cost, through higher utility bills, of a Program

that economically benefits the City of Kansas City, KC Water and its customers. Spire's claim that the Project's injection of a 0.35% increase in natural gas will enhance system reliability and is critical for winter gas supply is not valid and does not justify the high cost of the RNG Program. In conclusion, Spire's RNG Project and CCN should be denied because they are not needed, they are not prudent, and they will not benefit Spire Missouri's residential customers.

Q. Does this conclude your 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. d/b/a Spire for Approval of a Certificate of Convenience and Necessity to Construct and Operate Renewable Natural Gas Infrastructure in Kansas City, Missouri	)))))	Case No. GA-2026-0121

AFFIDAVIT OF JILL WADE

STATE OF MISSOURI)
) **ss**
COUNTY OF COLE)

Jill Wade, of lawful age and being first duly sworn, deposes and states:

1. My name is Jill Wade. I am a Professional Engineer for the Office of the Public Counsel.

2. Attached hereto and made a part hereof for all purposes is my rebuttal testimony.

3. I hereby swear and affirm that my statements contained in the attached testimony are true and correct to the best of my knowledge and belief.

Jill Wade
Professional Engineer

Subscribed and sworn to me this 30th day of July, 2026

TIFFANY HILDEBRAND
NOTARY PUBLIC - NOTARY SEAL
STATE OF MISSOURI
MY COMMISSION EXPIRES AUGUST 8, 2027
COLE COUNTY
COMMISSION #15637121

Tiffany Hildebrand
Notary Public

My Commission expires August 8, 2027.