Exhibit No. 1

Staff – Exhibit 1
Comments
File No. GX-2024-0337

Specific Rule References	Proposed Language Edits/Disagreements/Comments	Comment by:	Staff Reaction
20 CSR 4240-40.100(4)(D) **Current Text:** Prudence reviews respecting a RNGRAM. A prudence review of the costs subject to the RNGRAM shall be conducted no less frequently <u>than at intervals established in the commission proceeding</u> in which the RNGRAM is established.	**Proposed Text:** Prudence reviews respecting a RNGRAM. A prudence review of the costs subject to the RNGRAM shall be conducted no less frequently <u>than once a year, unless the Commission orders otherwise during</u> proceeding in which the RNGRAM is established.	OPC GX-2024-0326 Prudence Review Period	Staff is not opposed to this modification.
20 CSR 4240-40.100(1)(D) **Current Text:** Renewable Natural Gas Rate Adjustment Mechanism (RNGRAM) means a mechanism that allows periodic adjustments to recover prudently incurred costs and passthrough of benefits of any savings achieved in implementing an approved RNG program.	**Proposed Text:** Renewable Natural Gas Rate Adjustment Mechanism (RNGRAM) means a mechanism that allows periodic adjustments to recover prudently incurred <u>capital</u> costs, <u>depreciation expense, and applicable taxes</u> and pass-through of benefits of any savings achieved in implementing an approved RNG program. **Reasoning:** Avoid double recovery by a gas corporation from RNGRAM and PGA.	OPC GX-2024-0326 Prudence Review Period	Staff is not opposed to this modification.
20 CSR 4240-40.100(4) **Current Text:**	**Proposed Text:** Cost Recovery and pass-through of benefits. A gas utility outside or in a general rate proceeding, and subsequent to or at the same time	OPC GX-2024-0326 Purchased RNG in RNGRAM	Staff is not opposed to this modification.

Specific Rule References	Proposed Language Edits/Disagreements/Comments	Comment by:	Staff Reaction
Cost Recovery and pass-through of benefits. A gas utility outside or in a general rate proceeding, and subsequent to or at the same time as the filing of an application in section (2), may file an application and rate schedules with the commission to establish, continue, modify, or discontinue a RNGRAM that shall allow for the adjustment of its rates and charges to provide for recovery of prudently incurred costs and pass-through of benefits as a result of its RNG program or hydrogen gas program.	as the filing of an application in section (2), may file an application and rate schedules with the commission to establish, continue, modify, or discontinue a RNGRAM that shall allow for the adjustment of its rates and charges to provide for recovery of prudently incurred <u>capital</u> costs, <u>depreciation expense</u>, <u>and applicable taxes</u> and pass-through of benefits as a result of its RNG program or hydrogen gas program. **Reasoning:** Avoid double recovery by a gas corporation from RNGRAM and PGA.		
20 CSR 4240-10.030	**Recommendations:** The rule refers to "manufactured gas," which is not defined in the rule. The OPC recommends providing a definition or removing the term.	OPC GX-2024-0337 Comment 1	The term "manufactured gas" is currently in Sections 10, 11, 12 and 15 of 20 CSR 4240-10.030 *Standards of Quality* which are being amended. Staff also notes that RSMo 386.250 refers to "…the manufacture, sale or distribution of gas, natural and artificial..", and the commission's pipeline safety standards in 20 CSR 4240-40.030 address safety requirements for pipelines transporting manufactured gas. As background, historically "manufactured gas" referred to a gas produced gas from coal or oil by heating the material in a nearly

Specific Rule References	Proposed Language Edits/Disagreements/Comments	Comment by:	Staff Reaction
			oxygen free environment to break it down to volatile components. The gas created from these volatile components was used as fuel for lighting and later for cooking and heating. Gas manufacturing was commonplace in Missouri from about 1860 until 1940. When interstate pipelines brought natural gas to the state in the 1930s, gas manufacturing waned and then ended. However, with the current push towards alternative fuel sources, Staff anticipates that there could be a return to similar or alternative means of manufacturing gas for use as fuel. To the extent that such gas may be introduced into natural gas distribution systems, Staff does not see any reason to eliminate the standards for gas quality of manufactured gas.
20 CSR 4240-10.030	The second issue concerns the fact that it is not clear whether the rule fully contemplates the use of hydrogen gas, which is included in the definition of renewable nature gas referenced in the rule. Because hydrogen gas has substantially different chemical properties when compared to what is commonly known as natural gas (which is primarily composed of methane), there is significant questions whether the quality requirements,	OPC GX-2024-0337 Comment 2	The basis of Staff's proposed limits was a review of the FERC Tariffs for the ten interstate natural gas pipeline operators delivering natural gas to Missouri. Four out of the ten limit hydrogen to 400 ppm as proposed by Staff, and another specifies "Trace amounts". Staff believes that the limit of 400 ppm maximum hydrogen is appropriate for renewable natural gas products that are intended to be a direct substitute for natural gas.

Specific Rule References	Proposed Language Edits/Disagreements/Comments	Comment by:	Staff Reaction
	including heating value, are intended to refer to just natural gas, hydrogen gas, or some combination of the two. The OPC recommends the Commission consider modifying its rule to more specially state what, if any, quality standards are affected or applicable to hydrogen gas in its final rule.		As OPC notes, 20 CSR 4240-40.100 allows a utility's Renewable Natural Gas Program to potentially include hydrogen gas, presumably at levels greater than those currently listed in 20 CSR 4240-10.030 (10) (E) as currently proposed. However, 20 CSR 4240-40.100 also requires that this be considered on a case-by-case basis. Staff anticipates that if any such projects are proposed and approved, specific limits for the volume of hydrogen that may be blended with natural gas will be specified in the approval. Staff accounted for this possibility in the "unless otherwise ordered by the commission" language it proposed in 20 CSR 4240-10.030(10): (10) **Unless otherwise ordered by the commission**, all gas, including manufactured gas and RNG delivered to customers in the state other than gas that is delivered on an interstate natural gas pipeline subject to the jurisdiction of the Federal Energy Regulatory Commission (FERC), shall conform to the following specifications…
20 CSR 4240-40.100 (2)(I) **Current Text:** All prospective sales of Renewable Identification Numbers for RNG;	**Proposed Text:** All prospective sales of Renewable Identification Numbers for RNG, or other sales for RNG credit;	Roeslein GX-2024-0326 paragraph 2	Change is unnecessary, existing language is broad enough to consider during an application for approval of a program. **Alternative language suggested by Staff:**

Specific Rule References	Proposed Language Edits/Disagreements/Comments	Comment by:	Staff Reaction
	Reasoning: Believes that should be expanded to also include state-regulated credit and voluntary credit programs, where appropriate Examples of other such programs would be: 1. the Low Carbon Fuel Standard (LCFS) available from California, Washington, New York, New Mexico, or other states; 2. The International Sustainability and Carbon Certification (ISCC) program. The ISCC EU+ program is a voluntary program matching producers of renewable natural gas with prospective buyers. ISCC certifies the RNG producers and assesses a "Greenhouse Gas Emissions" score for the benefit of the buyers.		All prospective sales of ~~Renewable Identification Numbers for RNG~~ RNG attributes;
20 CSR 4240-40.100(1)(C)(2) **Current Text:**	**Requests for Language Alteration:** The current definition excludes other hydrogen production methods such as steam methane, photobiological, fermentation, and	SNGMO GX-2024-0326 paragraph 1	Staff recommends no change be made to the rule at this time. As additional renewable hydrogen production methods become feasible, parties may propose a modification to the rule.

Specific Rule References	Proposed Language Edits/Disagreements/Comments	Comment by:	Staff Reaction
Hydrogen gas that is derived from electrolysis of water using renewable electricity; or	others… SNGMO proposes a broader definition be implemented to be inclusive of other methods of hydrogen production.		
20 CSR 4240-40.100(1)(D) **Current Text:** Renewable Natural Gas Rate Adjustment Mechanism (RNGRAM) means a mechanism that allows periodic adjustments to recover prudently incurred costs and pass-through of benefits of any savings achieved in implementing an approved RNG program.	**Request to add Language:** No frequency clarified for the periodic adjustments… SNGMO recommends that the RNGRAM be filed annually. This annual filing will include a review of the proposed rate adjustments to recover these costs from customers.	SNGMO GX-2024-0326 paragraph 2	Staff prefers either the existing proposed language or OPC's recommendation. Being allowed to determine on a case by case basis the timelines for prudence reviews gives Staff the flexibility to stagger gas corporation prudence reviews.
20 CSR 4240-40.100(2)(D) **Current Text:** An explanation of how the utility will match generation with customer usage, be it on a retrospective or percentage basis;	**Request for clarification:** It is not clear what information natural gas utilities are required to provide to the PSC. It would be valuable to receive further clarification on the SNGMO required information.	SNGMO GX-2024-0326 paragraph 3 See also Spire Comment.	Proposed language is intended to seek information about the seasonality/timing of production of renewable natural gas versus its usage by customers.
20 CSR 4240-40.100(2)(K)(11) **Current Text:** A cost-benefit analysis, including but not limited to: …. 11. Estimated cost of procuring the same volume of natural gas from a	**Disagreement:** An estimated cost may not be available for all years, depending on the estimated project life. A 5–10-year projection is recommended to balance short-term and long-term financial planning, initial program phases,	SNGMO GX-2024-0326 paragraph 4 See also Spire Comment.	Any reasonable cost-benefit analysis will consider costs and benefits over the same time period. A cost-benefit analysis over the life of a facility needs to incorporate operations, maintenance, replacements of parts as facilities age, etc. Recovery of the investment will occur over the life of the

Specific Rule References	Proposed Language Edits/Disagreements/Comments	Comment by:	Staff Reaction
pipeline, including estimates of the price per Million British Thermal Units (MMBtu) by month for the life of the proposed RNG project; and	and assess the long-term sustainability and cost-effectiveness of proposed projects.		facilities thus a cost-benefit analysis should cover the same time period.
20 CSR 4240-40.100(3)(B) **Current Text:** All proposed hydrogen gas programs must include the requirements in section (2) and: … (B) Feasibility analysis;	**Request for clarification:** Provide clarity on essential components and considerations to be included in the feasibility analysis.	SNGMO GX-2024-0326 paragraph 5	A feasibility analysis should cover market demand, technical feasibility, financial viability, and operational capabilities.
20 CSR 4240-40.100(3)(E) **Current Text:** All relevant information to a customer bill that accounts for the differences in heat content of hydrogen compared to natural gas measured in British Thermal Unit (BTU) per hundred cubic feet (Ccf) of fuel.	**Requests for clarification:** What the Commission requests from natural gas utilities regarding this requirement needs to be clarified it would be valuable to obtain a more comprehensive understanding of the rationale for soliciting this information within the application framework.	SNGMO GX-2024-0326 paragraph 6	This proposed language is intended to obtain information needed to accurately identify gas composition to ensure accurate billing and tracking of gas heat content.
20 CSR 4240-40.100(4)(A)(11) **Current Text:** Evidence that projects developed pursuant to its approved RNG program are operational and capable of delivering RNG to customers.	**Request for Clarification:** Provide clarity on what constitutes "evidence" to determine whether a project is operational and producing RNG or hydrogen.	SNGMO GX-2024-0326 paragraph 7	Evidence may include items such as: as-built drawings, engineering reports, and operating permits from applicable governmental entities.
Additional Recommendation	**Recommendation:** The proposed rulemaking classifies hydrogen as RNG but distinguishes it in other provisions. Despite the	SNGMO GX-2024-0326 paragraph 8	RNG that is primarily composed of methane is more chemically and physically similar to natural gas than is hydrogen. Staff anticipates that methane-based RNG

Specific Rule References	Proposed Language Edits/Disagreements/Comments	Comment by:	Staff Reaction
	molecular differences between RNG and hydrogen, it makes sense to have consistent criteria for approving projects. The proposed rulemaking would benefit from greater consistency in the treatment of RNG and hydrogen projects. It is recommended that innovative resources, including RNG and hydrogen, adhere to the same application requirements for project approval.		meeting the quality standards in proposed in 20 CSR 4240-10.030 could either be blended with or substituted in large proportions for natural gas without harm to the pipelines or connected customer equipment. That is not the case with hydrogen due to physical and chemical differences between hydrogen and natural gas. Limits will need to be determined for the amount of hydrogen that can be safely blended with a natural gas stream to allow safe use in customer equipment. This will need to be on a case-by-case basis as it is not yet clear whether or not natural gas that has already been blended with some amount of hydrogen may be delivered to the gas distribution systems on the FERC regulated interstate natural gas pipelines.
20 CSR 4240-10.030(11) Comment 1	**Comment:** SNGMO generally supports the Commission's approach to proposing standards for Renewable Natural Gas ("RNG") quality and offers the following suggestions. The last sentence of 20 CSR 4240-10.030(11) states "Each gas utility, including municipal systems, receiving or transporting manufactured gas and RNG on its gas transmission and distribution systems shall provide, install, operate, maintain and continuously	SNGMO	Staff believes that the operator of the natural gas utility system ("utility") is responsible for ensuring that the gas quality on the system meets the rule requirements. The extent to which a utility chooses to meet its obligations under the rule by either self-performing or utilizing contractors is a business decision, therefore Staff has not specified how this may be accomplished within the rule. However, the utility remains responsible for compliance with the rule, and any regulatory action taken by the Commission Staff with respect to non-compliance will be against the utility.

Specific Rule References	Proposed Language Edits/Disagreements/Comments	Comment by:	Staff Reaction
	monitor sensors and testing equipment to determine if the quality of manufactured gas and RNG meets the requirements of section (10) of this rule." It is unclear whether this language allows natural gas utilities to use third party contracts to ensure that natural gas producers adhere to natural gas utility standards, which are likely to be stricter than the requirements proposed by Commission. The language suggests that utilities must have the staff and equipment necessary to supervise and manage systems, leading to substantial and duplicative investments in monitoring and control systems. The producers of RNG will already be investing in monitoring and testing requirements due to the nature of their process. These costs will be included in their gas supply rates. Therefore, duplicating the monitoring and testing costs will unnecessarily increase the costs for the utility and its ratepayers		
20 CSR 4240-40.100 (2) **Current Text:**	**Requested Addition:** Applications under this rule do not supersede a gas utility's obligation	Spire GX-2024-0326 paragraph 2	The proposed Rule requires the utility to apply for a CCN for each RNG infrastructure.

Specific Rule References	Proposed Language Edits/Disagreements/Comments	Comment by:	Staff Reaction
Applications under this rule do not supersede a gas utility's obligation to apply for a certificate of convenience and necessity under section 393.170, RSMo.	to apply for a certificate of convenience and necessity under section 393.170, RSMo unless the proposed RNG infrastructure is in a location that is already certificated. **Reasoning:** The company requests clarification on the Commission's position of when a certificate of convenience would be required. Requiring an additional CCN for RNG infrastructure constructed in already-certificated areas would present an unnecessary hurdle for RNG development.		
20 CSR 4240-40.100(2)(D) **Current:** An explanation of how the utility will match generation with customer usage, be it on a retrospective or percentage basis	**Request for clarification:** Spire Missouri requests clarification on the objective of this provision to ensure the Company understands how to best comply with this requirement.	Spire GX-2024-0326 paragraph 2	Proposed language is intended to seek information about the seasonality/timing of production of renewable natural gas versus its usage by customers. See also SNGMO comment.
20 CSR 4240-40.100(2)(I) **Current Language:** All prospective sales of Renewable Identification Numbers for RNG;	**Proposed modification:** All prospective sales of RNG Attributes **Reasoning:** Accommodate other forms of environmental attributes derived	Spire GX-2024-0326 paragraph 3	Change is unnecessary, existing language is broad enough to consider during an application for approval of a program. **Alternative language suggested by Staff:**

Specific Rule References	Proposed Language Edits/Disagreements/Comments	Comment by:	Staff Reaction
	from RNG production such as Renewable Thermal Certificates ("RTCs"), verified carbon offsets ("VCOs"), etc. RNG Attributes is already defined in 20 CSR 4240-40.100 (1) (E)		All prospective sales of ~~Renewable Identification Numbers for RNG~~ RNG attributes;
20 CSR 4240-40.100(2)(K)(11)	**Disagreement:** When performing a cost-benefit analysis of RNG projects brought before it, the Commission should consider factors other than lowest cost such as customer demand, economic and environmental benefits, and enhanced system resiliency and reliability. **Reasoning:** Considerations of customer demand, economic and environmental benefits, and enhanced system resiliency and reliability will all play a role in determining the prudency of projects brought forth under Section 386.895, RSMo. (the "RNG Statute"). These factors focus on benefits other than the lowest cost of the fuel source. For decades, the Commission has deemed prudent generation sources for Missouri electric utilities that employ multiple sources of fuels to generate	Spire GX-2024-0326 paragraph 4a	The proposed rule language does not prevent gas corporations from providing support for the inclusion of reasonably estimated benefits in a cost-benefit analysis.

Specific Rule References	Proposed Language Edits/Disagreements/Comments	Comment by:	Staff Reaction
	electricity with each having a different cost profile and some being more costly than others. Even within the procurement of natural gas by a gas utility, there is a variety of pricing experienced throughout a given year.		
20 CSR 4240-40.100 (2) (K) (11)	**Disagreement:** While it may be possible to forecast the cost of natural gas over such a long time horizon, using historical cost measures (i.e. average historical cost for a certain number of years) or shorter forecasted periods, or both will allow for reasonable estimates to be considered in cost-benefit analyses. **Reasoning:** Many of the RNG projects being developed are long duration projects that may last up to 20 years or more.	Spire GX-2024-0326 paragraph 4b	Any reasonable cost-benefit analysis will consider costs and benefits over the same time period. A cost-benefit analysis over the life of a facility needs to incorporate operations, maintenance, replacements of parts as facilities age, etc. Recovery of the investment will occur over the life of the facilities thus a cost-benefit analysis should cover the same time period.
20 CSR 4240-40.100 (4)(A) 3-5 3. The regulatory capital structure used in calculating the proposed RNGRAM and an explanation of the source of and the basis for using the capital structure; 4. The cost rates for debt and preferred stock used in calculating	**Clarification request:** Spire Missouri requests clarification on whether the proposed rule would allow gas utilities to bring forth a different cost of capital in a RNGRAM other than those established in a utility's most recent general rate case	Spire GX-2024-0326 paragraph 5	Staff recommends the most current cost of capital established in the most recent rate case. This is how other single-issue ratemaking mechanisms work, such as ISRS, etc.

Specific Rule References	Proposed Language Edits/Disagreements/Comments	Comment by:	Staff Reaction
the proposed RNGRAM and an explanation of the source of and the basis for using those rates; 5. The cost of common equity used in calculating the proposed RNGRAM and an explanation of the source of and the basis for that equity cost;	**Proposed Language Addition:** If the intention is to utilize the cost of capital in the most recent rate case, Spire Missouri would propose adding language stating as such: "…or the cost of capital established by the commission in the gas corporation's most recent general rate case."		
20 CSR 4240-40.100 (4)(A)8	**Clarification Request:** The Company requests clarification on whether the Commission has an expectation that certain customer classes be included or excluded from an RNGRAM, or whether the language would require applicants to identify if a methodology other than that used in the gas utility's last rate case was utilized.	Spire GX-2024-0326 paragraph 6	Applicants should identify if a methodology other than that used in the gas utility's last rate case was utilized.
20 CSR 4240-40.100 (4) (C) **Current Text:** The gas utility shall offset its RNGRAM in the future as necessary to recognize and account for any such costs The RNGRAM offset will be designed to reconcile such disallowed costs or benefits within the six- (6-) month period immediately subsequent to	**Proposed Language Change:** The gas utility shall offset its RNGRAM in the future as necessary to recognize and account for any such <u>disallowed</u> costs **Reasoning:** The company believes these two phrases conflict one another. The proposed language change would be similar in nature to the related ISRS language found in 20 CSR 4240-3.265 (15), and provides a clear and	Spire GX-2024-0326 paragraph 7 a&b	Staff supports Language modification to (4)(C): The gas utility shall offset its RNGRAM in the future as necessary to recognize and account for any such <u>disallowed</u> costs

Specific Rule References	Proposed Language Edits/Disagreements/Comments	Comment by:	Staff Reaction
any commission order regarding such disallowance.	established process for how disallowed costs may be returned back to customers. **Other Request:** Company requests that proposed disallowances in rate case proceedings or prudence reviews of RNG investments be rigorously analyzed by the Commission, especially when evidence of prudence may have already been provided in not one, but two prior proceedings.		
20 CSR 4240-40.100 (4) (D) (1) **Current Text:** All amounts ordered refunded by the commission shall include interest at the gas utility's short-term borrowing rate. The interest shall be calculated on a monthly basis for each month the RNGRAM rate is in effect, equal to the weighted average interest rate paid by the gas utility on short-term debt for that calendar month.	**Disagreement:** Spire Missouri believes a definitive rate such as prime rate minus 2 at the beginning of the month should replace the existing rate definition used. This rate is used by the Company for other regulatory balances, such as in the Purchase Gas Adjustment. It is also an easy, understandable rate that is readily available, which would limit any contention over this value.	Spire GX-2024-0326 paragraph 7c	Staff does not oppose.
20 CSR 4240-40.100 (4) (G) **Current Text:** The cost of RNG or hydrogen gas shall not flow through the Purchased	**Clarification Request:** Meaning of comparable basis.	Spire GX-2024-0326 paragraph 8	Staff's position is that only the cost of molecules should be recovered in the PGA. Any primum for renewable natural gas attributes should be considered in the RNGRAM.

Specific Rule References	Proposed Language Edits/Disagreements/Comments	Comment by:	Staff Reaction
Gas Adjustment Clause unless the cost for the RNG or hydrogen gas, including RNG infrastructure, can be obtained on a comparable basis as natural gas purchased at the city gate of the utility. Amounts collected under the RNGRAM will not be collected though the Purchased Gas Adjustment Clause.			Evaluation of cost and gas quality would need to be performed.
20 CSR 4240-40.100 (5) (B) **Current Text:** (5) Treatment and reporting of RNG Attributes. A gas utility may propose, through the application in section (2) of this rule, to procure, utilize, or sell RNG Attributes as a part of its RNG program provided that: (A) All attributes are tracked in a commission approved tracking system that ensures that attributes are tracked from creation to retirement and are verified to be only used once; and (B) All revenues are passed through to customers as provided for in section (4) of this rule or through a general rate proceeding.	**Clarification Request:** meaning of "all revenue," **Request for additional clarifying Language:** Company… suggests that additional language be added in consideration of how RNG attributes are handled… Using clarifying language such as net revenues or revenues remaining after required costs, fees, sharing with other parties, etc. would be beneficial and more closely resemble actual economic arguments. **Additional Proposal:** In the event that the Company optimizes the purchase and sale of RNG attributes associated with an RNG Program, the Company proposes that this transaction flow through the Company's existing	Spire GX-2024-0326 paragraph 9	Staff is opposed to RNG transactions flowing through the PGA. Only costs associated with molecules should be recovered through the PGA. Rather than the company's proposed language of net revenues staff recommends the following alternative language: (B) **All costs and** all revenues are passed through to customers as provided for in section (4) of this rule or through a general rate proceeding.

Specific Rule References	Proposed Language Edits/Disagreements/Comments	Comment by:	Staff Reaction
	Purchased Gas Cost Adjustment Gas Cost Incentive Mechanism similar to other off-system sale transactions.		
Additional request	**Request:** Add the length of time from when a filing is made to when a commission order is issued. **Reasoning:** ISRS cases have a statutory 180-day time frame, set in section 393.1015.2(3) RSMo. While the RNG statute does not contain similar language, such language would provide certainty for RNG developers and utilities making investments in RNG infrastructure**.**	Spire GX-2024-0326 Paragraph 10	Staff response: There is no statutory time frame. At this time the type of RNG programs and projects being discussed vary greatly in complexity. This makes it difficult to propose a timeline for Staff to complete its due diligence and provide recommendations to the Commission. Considering the proposed language is broad and allows the gas corporations to propose a variety of programs, using a variety of possible attributes, flexibility on the timeline for Commission decision is reasonable.
20 CSR 4240-10.030 (10) and (11) **Current Text:** 20 CSR 4240-10.030 (11) states, "Each gas utility…shall provide, install, operate, maintain and continuously monitor sensors and testing equipment to determine if the quality of manufactured gas and RNG meets the requirements of section (10) of this rule."	**Comment:** From its experience, research and consultation with others, the Company wants to note that not all constituents contained in RNG are continuously monitored. This is because not all constituents found in RNG are present in every RNG feedstock. Constituents that are common practice to be continuously monitored in RNG include BTU	Spire GX-2024-0337 Paragraph 1	Staff acknowledges that not all constitutes that may conceivably be found in RNG are specifically required to be monitored under the proposed rule amendments. The constituents for which Staff included limits in the proposed rule amendment are based on Staff's review of the current Natural Gas Quality standards in the FERC Tariffs for the interstate natural gas pipeline operators delivering gas to Missouri natural gas distribution systems. Staff's intention is

Specific Rule References	Proposed Language Edits/Disagreements/Comments	Comment by:	Staff Reaction
	value, Wobbe Index, methane content, temperature, hydrocarbon dew point, liquids, N2, CO and CO2, & O2. Additional analyzers are often installed for specific constituents, such as H2O, siloxanes and H2S. Other constituents monitored, such as halogens and vinyl chloride, are analyzed in a lab through reoccurring, periodic sampling submissions, but these are constituents that may not be found in every RNG feedstock		that the RNG that is substituted for or blended with the natural gas delivered to a system must be of equal quality as the natural gas that is currently delivered to Missouri and utilized by Missouri customers. To the extent that there may be other less commonly occurring constituents of concern (for example halogens and vinyl chloride as indicated by Spire), Staff's proposed amendments do not provide specific limits, but instead include the following general provisions: - 20 CSR 4240-10.030 (10)(K) The gas shall be substantially free from impurities that may cause excessive fumes when combusted in a properly designed and adjusted burner. And - 20 CSR 4240-10.030 (10) (M) Each gas utility, including municipal systems, receiving or transporting manufactured gas or RNG on its gas transmission and distribution systems shall further limit the quantity of impurities and physical and chemical properties in the manufactured gas and RNG as necessary so that the gas is

Specific Rule References	Proposed Language Edits/Disagreements/Comments	Comment by:	Staff Reaction
			delivered within the limits of its system.
20 CSR 4240-10.030(10)(E)	**Comment** Spire also wants to note that the hydrogen parameter found in 20 CSR 4240-10.030 (10) (E) is not necessary and proposes to remove that requirement. This is a gas constituent that may be monitored based on the feedstock of the RNG, but monitoring is not always necessary. Additionally, there is an acceptable range of H2 levels that would still ensure safe operation and meet the BTU content requirement specified in 20 CSR 4240-10.030 (10) (A). The Company has observed multiple interstate pipelines that serve Missouri, that do not specify H2 limits in their tariffs. Finally, 20 CSR 4240-40.100 allows a utility's Renewable Natural Gas Program to potentially include hydrogen gas, presumably at levels greater than those currently listed in 20 CSR 4240-10.030 (10) (E) as currently proposed.	Spire GX-2024-0337 Paragraph 2	The basis of Staff's proposal was a review of the FERC Tariffs for the ten interstate natural gas pipeline operators delivering natural gas to Missouri. Four out of the ten limit hydrogen to 400 ppm as proposed by Staff, and another specifies "Trace amounts". Staff believes that the limit of 400 ppm maximum hydrogen is appropriate for renewable natural gas products that are intended to be a direct substitute for natural gas. As Spire notes, 20 CSR 4240-40.100 allows a utility's Renewable Natural Gas Program to potentially include hydrogen gas, presumably at levels greater than those currently listed in 20 CSR 4240-10.030 (10) (E) as currently proposed. However, 20 CSR 4240-40.100 also requires that this be considered on a case-by-case basis. Staff anticipates that if any such projects are proposed and approved, specific limits for the volume of hydrogen that may be blended with natural gas will be specified in the approval. Staff accounted for this possibility in the "unless otherwise ordered by the commission" language it proposed in 20 CSR 4240-10.030(10):

Specific Rule References	Proposed Language Edits/Disagreements/Comments	Comment by:	Staff Reaction
			(10)**Unless otherwise ordered by the commission**, all gas, including manufactured gas and RNG delivered to customers in the state other than gas that is delivered on an interstate natural gas pipeline subject to the jurisdiction of the Federal Energy Regulatory Commission (FERC), shall conform to the following specifications…
20 CSR 4240-40.100 (1) (D)	**Additional Consideration:** Please consider allowing costs for gas distribution operators for specialized full time technicians to maintain the BTU, moisture, SCADA, and other analytical equipment necessary to ensure gas is within contract specifications.	Ted Christensen	Specific costs types would be considered in the application for a RNGRAM.
20 CSR 4240-40.100 (2) (D) **Current Text:** An explanation of how the utility will match generation with customer usage, be it on a retrospective or percentage basis;	**Comment:** Odorization facilities may need to be installed and/or odorization control considered.	Ted Christensen	The Commission's pipeline safety standards in 20 CSR 4240-40.030 apply to the transportation of gas by pipeline. "Gas" is defined in the rule as natural gas, flammable gas, manufactured gas or gas which is toxic or corrosive. Both hydrogen and RNG are flammable gases, and therefore required to be odorized in accordance with the requirements of 20 CSR 4240-40.030(12)(P).
20 CSR 4240-40.100 (2) (D)	**Comment:**	Ted Christensen	

Specific Rule References	Proposed Language Edits/Disagreements/Comments	Comment by:	Staff Reaction
Current Text: An explanation of how the utility will match generation with customer usage, be it on a retrospective or percentage basis;	Hydrogen has a much lower BTU content than fossil natural gas. Blending should be limited to no more than 10% hydrogen. The AGA has yet to make an official recommendation.		
20 CSR 4240-40.100 (2) (G)	**Comment:** The RNG operator shall submit their operations plan for self shut in during equipment malfunctions, RNG process upsets, potential instrumentation reading differences (ex. RNG BTU equipment registers 980 mmBTU and the gas utility BTU equipment registers 940 mmBTU). This is to prevent low quality and potentially deleterious gas from entering the distribution system. Currently, natural gas in Missouri is considered a "dry gas" or non-corrosive gas per DOT 192.903 and 192.927.	Ted Christensen	This is addressed in the proposed amendment to 20 CSR 4240-10.030(12): "Each gas utility, including municipal systems, receiving or transporting manufactured gas or RNG on its gas transmission and distribution systems shall install an insolation device at each location where manufactured gas or RNG is delivered to its natural gas pipeline systems. Each isolation device shall be designed and operated to completely isolate the source of manufactured gas or RNG from the downstream pipeline when the gas does not meet the quality standards in section (10) of this rule, as determined by the monitoring and testing performed in section (11) of this rule."
Comments	**Additional Request:** RNG Interconnection standards are needed, and most likely should be developed by the MOPSC in conjunction with gas operating companies **Reasoning:**	Ted Christensen	The proposed Rule requires the utility to apply for a CCN for each RNG infrastructure and must meet the quality standards set forth 20 CSR 4240-10.030. Gas quality standards are addressed in the proposed amendments to 20 CSR 4240-10.030(10). The standards proposed in this

Specific Rule References	Proposed Language Edits/Disagreements/Comments	Comment by:	Staff Reaction
	Developers play a large role in the RNG landscape. RNG interconnection standards should be similar to normal transmission pipeline interconnection standards, and these should include items pertinent to the specific RNG being supplied.		amendment are based on Staff's review of the quality standards within the tariffs of the FERC regulated interstate pipelines providing natural gas to Missouri natural gas distribution systems.
Comment	**Additional Request:** At a minimum gas operating companies should be able to recover their costs associated with the physical RNG interconnect including: BTU analyzers, moisture analyzers, oxygen, total sulfur, hydrogen sulfide, instrumentation building, metering, flow control valve, shut in valve, SCADA, over pressure protection, odorization, down stream internal corrosion monitoring probes, and other equipment that may be particular to the type of RNG process.	Ted Christensen	Specific costs types would be considered in the application for a RNGRAM.
Comments	**Consideration:** The gas operating companies should have the discretion to identify the receiving location. These additional costs should be borne by the RNG supplier/developer.	Ted Christensen	The proposed Rule requires the utility to apply for a CCN for each RNG infrastructure.

Specific Rule References	Proposed Language Edits/Disagreements/Comments	Comment by:	Staff Reaction
	Reasoning: The gas operating companies may not be able to take all of the RNG at the nearest location.		