

**BEFORE THE PUBLIC SERVICE COMMISSION
OF THE STATE OF MISSOURI**

In the Matter of the Establishment of a Working Case For the Review and Consideration of Amending The Commission’s Rule on Electric, Gas, and Water Utilities Standards of Quality)
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)
) **File No. AW-2021-0064**

ROESLEIN COMMENTS

Roeslein Alternative Energy (RAE), a Missouri based LLC, in response to the *Order Opening a Working Case to Consider an Amendment of the Commission’s Rule on electric, Gas, and Water Utility Standards of Quality*, submits these comments to the Missouri Public Service Commission (“Commission”):

INTRODUCTION

RAE supports and respects the Commission’s role and responsibility as to the safety and quality of gas products produced, transported, distributed, and sold within the State of Missouri. All of RAE’s 47 fulltime employees are residents of Missouri, and we all want our energy resources to be reliable, safe, and free from toxic chemicals as we continue to work and contribute to the environmental and economic growth and health of the State of Missouri.

RAE looks forward to participating in this Working Case on Biogas. Since 2016, RAE has produced and injected over 5,000,000 ccfs of renewable natural gas (RNG) into pipelines in the State of Missouri. This RNG meets or exceeds the gas quality specifications contained within the tariff of the closest Federal Energy Regulatory Commission (FERC)-regulated interstate pipeline.

This has been accomplished at the same time RAE has brought both environmental benefits to the State of Missouri and invested heavily in rural areas of the State. Ultimately, the Commission must take all of these subjects into account as it considers amendments to the Standards of Quality rule.

SOURCES AND CONSTITUENTS

RAE would also like to specifically respond to the following statement made in paragraph 6 of the *Staff Request for Working Case and Comments*:

Biogas is produced from different sources and in its untreated form has different constituents than traditional natural gas.

This statement suggests a difference between renewable natural gas upgraded from biogas and “traditional natural gas” upgraded from sour gas that RAE does not believe exists or, at worst, is a distinction without a difference. The production sources, origin of, and original feedstocks of “traditional natural gas” are many and varied. Furthermore, constituents found in the untreated form of “traditional natural gas,” commonly referred to as “sour gas,” are also quite varied.¹

As to RAE, this information is known: the source of the RNG produced by RAE is 100% swine manure. The constituents in our untreated biogas stream are: methane (CH₄), carbon dioxide (CO₂), water (H₂O), nitrogen (N₂), oxygen (O₂), hydrogen sulfide (H₂S), and trace amounts of ammonia (NH₃).

The gas quality specifications of the FERC-regulated pipeline system have historically been the gatekeeper determining which natural gas products are allowed into the pipeline system and which are excluded. These standards focus not on the untreated, raw gas, but instead on the gas in its treated form when ready for injection and use. RAE complies with these FERC-regulated natural gas quality standards. Such standards have worked successfully for decades throughout the United States to ensure gas product quality and safety. There is no indication that these FERC-

¹ “In addition to water, oil, and NGL removal, one of the most important parts of gas processing involves the removal of sulfur and carbon dioxide. Natural gas from some wells contains significant amounts of sulfur and carbon dioxide. This natural gas, because of the rotten smell provided by its sulfur content, is commonly called ‘sour gas’. Sour gas is undesirable because the sulfur compounds it contains can be extremely harmful, even lethal, to breathe. Sour gas can also be extremely corrosive.” (<http://naturalgas.org/naturalgas/processing-ng/#:~:text=In%20addition%20to%20water%2C%20oil.of%20sulfur%20and%20carbon%20dioxide.&text=This%20natural%20gas%2C%20because%20of,commonly%20called%20'sour%20gas'>).

regulated gas quality standards are now insufficient to ensure the quality and safety of the gas supply in the State of Missouri.

In summary, RAE believes that product quality and safety of the natural gas supply in the State of Missouri can be best protected through the gas quality standards that protect the FERC-regulated pipeline systems. These standards have been and continue to be sufficient to determine which products should be allowed into these pipelines and which products should be excluded.

ALTERNATIVE GAS DEFINITION

In the “PROPOSED AMENDMENT” to 20 CSR 4240-10.030 Standards of Quality, the Staff suggested the following definition for “Alternative gas:

Alternative gas shall mean gas capable of combustion in customer appliances or facilities which is similar in heat content and chemical characteristics to natural gas produced from traditional underground well sources and which is intended to act as a substitute or replacement for natural gas traditionally supplied by interstate pipelines that are regulated by the Federal Energy Regulatory Commission (FERC). Alternative gas shall include but not be limited to biogas, biomethane, and landfill gas, as well as any other type of natural gas equivalent produced or manufactured from sources other than traditional underground well sources.

RAE finds this proposed definition to be superfluous. If a product meets or exceeds the gas quality standards that are regulated by the Federal Energy Regulatory Commission (FERC) prior to injection, then this product is natural gas and not “alternative.”

RAE, of course, does use “alternative” in its own description. In this context, RAE intends to convey that its renewable natural gas (RNG) product is an alternative to traditional underground or fossil natural gas (FNG) in that its greenhouse gas emissions lifecycle is neutral—it does not contribute net greenhouse gas emissions to the atmosphere.

FNG is found in “traditional underground well sources” where it has been sequestered for millions of years. When humans extract this sour FNG product from underground, it must first be treated and upgraded to meet pipeline gas quality standards. When it is combusted as an energy

source, it has the net effect of releasing into the atmosphere greenhouse gases that were previously stored underground. These FNG product emissions, without the concomitant carbon drawdown to grow crops, contribute to increasing the concentration of greenhouse gases in the atmosphere which in turn retain reflected light energy from the sun and increase the overall temperature within the atmosphere.

The natural gas produced by RAE is an alternative to the FNG product described above in that it first removes carbon dioxide from the atmosphere by growing corn and soybeans which are then fed to swine. The undigested carbon from the corn and soybeans that is excreted by the swine is then turned into RNG through the process of anaerobic digestion. The emissions in this process are part of a cycle in which CO₂ is drawn out of the atmosphere to grow feed crops, and then this same CO₂ is returned to the atmosphere when the RNG is combusted as an energy source. This is a carbon-neutral lifecycle that does not increase the concentration of greenhouse gases in the atmosphere and does not contribute to the warming of the Earth.

GOALS

As this working case progresses, the Commission should be mindful of the need to achieve the appropriate balance between both its responsibility as to safety and the state interest in the RNG process.

Since it began production of natural gas in 2016, RAE has made a positive impact on both the environment and the economies of many communities in the State of Missouri. Some key environmental benefits that RAE's RNG projects provide are:

1. Local odor reduction and air quality improvement—by placing impermeable covers on the swine manure lagoons, the odors near the hog farms are greatly reduced;

2. Prevention of lagoon inundation and toxic wastewater releases—the impermeable covers keep the swine manure lagoons from overflowing in extreme rain events; and,
3. Reduction of greenhouse gas emissions—the California Low Carbon Fuel Standard program has evaluated RAE’s projects in Missouri and has determined that they are some of the very best in the country for delivering transportation fuels with a low carbon footprint using the carbon intensity (CI) scoring system developed by the United States Department of Energy.

RAE’s renewable natural gas projects have also brought many economic benefits to the State of Missouri. RAE has grown to employ 47 fulltime workers, with more jobs openings to be filled into 2021. RAE’s projects in Missouri have brought in over \$100,000,000 of capital investment and have employed many contractors and engineering firms in Missouri in the construction processes. RAE’s projects have further significantly reduced operating expenses for the hog farms with which they’ve partnered and have allowed the hog farms to expand their operations, increase their profitability, and improve their long-term viability.

CONCLUSION

The RNG product produced by RAE is chemically and functionally identical to the FNG product extracted from traditional underground deposits after they both have gone through the treatment process. RNG is a drop-in equivalent to FNG in its uses and its product safety. RAE’s RNG product is an *alternative* to the traditional FNG product in that its lifecycle of production

and use does not add net greenhouse gas emissions to the atmosphere and thus does not contribute to climate change.



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