From:	Doucette, Paul
To:	WasteRule, EMNRD, EMNRD
Cc:	Wilcoxon, Bruce
Subject:	[EXT] Subject: Baker Hughes Comments re EMNRD Natural Gas Waste Draft Rule
Date:	Wednesday, September 16, 2020 3:08:19 PM
Attachments:	Baker Hughes comments on EMNRD Natural Gas Waste Rule - 09162020.docx

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Dear Department Staff,

The attached document includes the Baker Hughes comments on New Mexico Energy Minerals and Natural Resources Department Natural Gas Waste draft rule. We appreciate the chance to participate in this public comment period and applaud the Department's extra effort to engage stakeholders on this important topic. We look forward to continuing our engagement during the formal public comment period once draft regulations are developed.

Sincerely,

Paul

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September 16, 2020

Oil Conservation Division
New Mexico Energy, Minerals and Natural Resources Department
Wendell Chino Building
1220 South St. Francis Drive
Santa Fe, NM 87505

Re: Draft Rulemaking: Natural Gas Waste Rule

Baker Hughes (NYSE: BKR) is pleased to submit initial comments to the New Mexico Energy, Minerals and Natural Resources Department, Oil Conservation Division on the draft version of the state's natural gas waste rule for the oil and natural gas sector (Draft Rule).

Baker Hughes is an energy technology company that provides solutions to energy and industrial customers worldwide. Built on a century of experience and with operations in over 120 countries, our innovative technologies and services are taking energy forward - making it safer, cleaner, and more efficient for people and the planet.

We have a long history of working with operators large and small to drive more effective, efficient, and environmentally responsible oil and gas development in New Mexico. From our offices in Hobbs and Artesia, Baker Hughes provides a full range of products and services from drilling and completion, to artificial lift and pressure control, to measurement and sensing and digital solutions.

Baker Hughes has technology today to cost-effectively detect, monitor and reduce methane emissions, utilizing associated gas otherwise flared as fuel; detecting and repairing leaks to improve flare combustion efficiency; or upgrading equipment to reduce venting in the course of ordinary operations. For instance, our technology such as LUMEN and flare.IQ not only help operators achieve their low carbon objectives, but also help drive down operational cost.

- Our flare.IQ flare control solution reduces methane emissions, ensures high-efficiency flare combustion, and reduces steam usage in flare systems. flare.IQ uses advanced algorithms to ensure a proper balance between flare, steam and fuel in the flare stack and prevent inefficient steaming.
- LUMEN is our integrated monitoring technology that detects fugitive emissions, quantifies the emission rate, and identifies the source location in real-time so operators can take immediate action and save costs.

LUMEN Sky is an aerial drone-based platform fitted with an optical gas imaging camera to detect and pinpoint the location of an emission source. Sky utilizes computer vision-based analytics to estimate the flow rate of an emission source. LUMEN Terrain is a ground based IIOT (industrial internet of things) system that uses concentration data collected by a network of point sensors, along with local environmental conditions, to continuously monitor the emissions at a site and to alert operators to any anomalies caused by leaks or abnormal operations.

Natural gas flaring, venting and fugitive emissions are a critical issue and we believe the industry must commit to reducing those emissions. Natural gas is helping achieve the world's carbon-reduction goals, but production-related emissions threaten to undermine that progress and impact the industry's social license to operate. Our goal as a technology provider is to develop innovative solutions that help our customers thrive in a lower carbon business environment. The industry will continue to innovate, and at speed. It is our position that any regulatory framework should be technology neutral and performance based, and it ought to embrace new technologies and encourage competition. Guided by that position, we offer the following comments and recommendations.

Section 19.15.27.7 DEFINITIONS

A. ALARM means advanced leak detection and repair monitoring[1]

Comment: Section 19.15.27.7(A) NMAC defines the ALARM acronym but does not include any description of what constitutes ALARM technology, particularly in the context of compliance with the proposed rule.

Baker Hughes Recommendation: ALARM - advanced leak detection and repair monitoring - should be defined as:

> *Any science-based methodology and/or technology that can be demonstrated to achieve an overall emissions volume reduction equivalent to or greater than that achieved through the standard method (ex. portable analyzer or optical gas imaging camera, tri-annual inspections).*

Section 19.15.27.8 VENTING AND FLARING OF NATURAL GAS

B. Venting and flaring during drilling operations

(1) The operator shall capture and combust natural gas escaping from the well using *best available control technologies.*

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[1] The recommendations apply equally to the definition of ALARM in proposed Section 19.15.28.7(A) NMAC.

Comment: The Draft Rule uses the term "best available control technologies" only once in both 19.15.27 NMAC and 19.15.28 NMAC and does not the define the term in Section 19.15.27.7 NMAC. Best available control technology (BACT) has a specific definition under U.S. Federal Clean Air Act[2] within the context the Prevention of Significant Deterioration (PSD) program. Use of the term in the Draft Rule without definition has the potential to cause confusion among operators seeking to comply with a final rule.

Baker Hughes Recommendation: To avoid confusion with the Federal Clean Air Act BACT requirement, we recommend either providing a definition of the term in Section 19.15.27.7 NMAC or rephrasing/eliminating the term in the Section 19.15.27.8(B)(1) NMAC.

Section 19.15.27.9 STATEWIDE NATURAL GAS CAPTURE REQUIREMENTS[3]

(B)(4) The operator may obtain a credit against a reported volume of lost natural gas by using a *division-approved* ALARM technology to monitor, discover, report, isolate and make repairs to prevent leaks of natural gas.

Comment: Section 19.15.27.9(B)(4) NAMC refers to *division-approved* ALARM technology however, the Draft Rule do not speak to the process for obtaining division approval for existing or new ALARM technology. It is important for ALARM equipment providers to understand the division approval process to 1) quickly and efficiently supply operators the equipment they need to comply with a final rule and 2) develop and commercialize new ALARM technologies.

Baker Hughes Recommendations:

1. Include the concept of division approval in a revised definition of ALARM in Section 19.15.27.7(A) to avoid the necessity of restatement elsewhere in the Draft Rule.
2. Describe within the Draft Rule the process by which operators and equipment providers can obtain division approval for existing and new ALARM technologies. We recommend that process includes the following elements:
    a. Emission reduction estimates including methodology and supporting data.
    b. Description of how the technology and/or methodology will achieve a reduction in total emissions volume equivalent to or greater than the standard method.

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[2] Clean Air Act, section 169(3). "Definitions."

[3] Recommendations apply equally to the division approval process for ALARM technology - Section 19.15.28.23 (B) NMAC

c. Provision for operators to meet their regulatory obligations while piloting innovative and science-based methodologies and technologies for the purpose of demonstrating the above.
d. Provision for operators to apply to use an alternative technology and/or methodology in a full scale program where emissions reduction equivalency, as described above, can be satisfactorily demonstrated through the provision of supporting documentation including, but not limited to: results of previous pilots with the same or a different operator, computer simulations, other methods based on sound science and engineering.

3. Coordinate the New Mexico Environment Department (NMED) to ensure alignment between the process developed to obtain division approval for existing and new ALARM technologies and the NMED process to approve instrument-based monitoring methods or programs as alternatives to infra-red camera and U.S. EPA Method 21 under the draft ozone precursor rule.
4. Finally, we recommend that the Department look to the State of Colorado, Department Of Public Health And Environment, Air Quality Control Commission, Regulation 7, PART D Oil and Natural Gas Operations, Section I. Volatile Organic Compound Emissions from Oil and Gas Operations, Subsection I.L.8. as an example of regulatory language establishing a procedure for approving an alternate instrument-based monitoring method or program.[4]

Section 19.15.27.9 STATEWIDE NATURAL GAS CAPTURE REQUIREMENTS

(D) Natural gas management plan

Comment: This section establishes the requirement for operators to file a natural gas management plan for each APD submitted after May 31st, 2021 and defines the information that must be included in such plans. However, that list of required plan information does not include a description of the ALARM technologies that will be employed at the new wellsite to minimize the risk of fugitive natural gas emissions and the plan for deploying those technologies. Further, sub-part (h) includes the requirement that operators submit a venting and flaring plan in cases where natural gas cannot be connected to a natural gas gathering system. However, the venting and flaring plan described in sub-part (h) does not include the requirement that operators ensure maximum efficiency of the technology employed for flaring.

Baker Hughes Recommendation: We recommend that Section 19.15.27.9(D) NMAC include in the list of required elements 1) a description of the ALARM technologies that will be employed at the new wellsite to

[4] https://drive.google.com/file/d/16qTQLSTX1T49DYWp3voXRNl4_g-vbhQT/view

minimize the risk of fugitive natural gas emissions and 2) details of the technology that will be employed to ensure efficient flaring operations when flaring is a necessary element of production.

We appreciate the chance to participate in this public comment period on the Draft Rule and applaud the Department's extra effort to engage stakeholders on this important topic. We look forward to continuing our engagement during the formal public comment period once draft regulations are developed.

Yours sincerely,

Paul Doucette