From:	NMOAI, NMENV
To:	Spillers, Robert, NMENV
Subject:	Fw: [EXT] Public Comment to the NMED
Date:	Thursday, September 17, 2020 7:26:14 AM
Attachments:	NMED Comment from YUCCA NM re Methane.pdf

From: YUCCA <yucca@earthcarenm.org>
Sent: Wednesday, September 16, 2020 11:56 AM
To: NMOAI, NMENV
Subject: [EXT] Public Comment to the NMED

Dear NM Environment Department,

This is Youth United for Climate Crisis Action. We are submitting our public comment regarding the Methane rule. Please see the attached document.

Thank you,
YUCCA NM

To The New Mexico Environment Department,

First, we would like to thank you for extending your deadline to allow greater feedback from the public. Methane pollution is a serious issue in New Mexico, and it is necessary to address the problem properly with robust community engagement and input. After looking through the draft rules, we found serious issues that need to be addressed.

The most obvious issue is the exemptions in sections C and D of part 20.2.50.6, which states: *"C. Equipment located at stripper wells, as defined in 20.2.50.8 NMAC, is exempt from the requirements of this Part 50, except as specified in 20.2.50.25 NMAC.*
D. Individual facilities with a site-wide total annual potential to emit less than 15 tons per year (tpy) of volatile organic compounds (VOC) are exempt from the requirements of this Part, except as specified in 20.2.50.25 NMAC."

This would exempt 95% of active wells in NM from any control requirements. Stripper wells alone account for roughly 2/3rds (assuming current OCD definition of stripper well).[1]

This exemption applies to all facilities with a potential to emit 15 tpy VOCs or less, not just wellheads. And yet, part 20.2.50.23: STANDARDS FOR STORAGE TANKS sets out capture and control standards for storage tanks with a potential to emit between 2 and 10 tpy as well as greater than 10 tpy. In other words, this exemption overrides other provisions within the exact same draft rule.

The few regulations that apply to these wells and facilities, which are described in part 20.2.50.25, can hardly be called regulations. The only monitoring and recording requirement in regards to methane emissions is to log the time, date, and duration of every venting or flaring event lasting longer than 8 hours. At the same time, operators are required to describe the actions they took in order to prevent emissions. The only thing these two requirements do is give the operator all the regulatory tools they need to falsify the emissions of their facilities. Operators would be able to claim that an absence of recorded methane emissions is due to new management practices, as opposed to a failure to record the infrequent flaring events that last longer than 8 hours. Independent fly-over monitoring has shown that self-reporting by industry is well below actual emissions levels. While we recognize that New Mexico is already struggling to enforce existing regulations, minimal as they are, this should not be an excuse to allow industry to go unregulated.

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[1] 31,286 stripper wells were produced Oil or Gas during 2019 - 48,745 total have produced oil/gas during 2020 as of August 3rd - based on data provided by EMNRD:
<http://www.emnrd.state.nm.us/OCD/documents/OCDWellStatistics.xlsx>
<http://www.emnrd.state.nm.us/OCD/documents/GasProducedByStripperWells2019.xlsx>
<http://www.emnrd.state.nm.us/OCD/documents/OilProducedByStripperWells2019.xlsx>

The rationale given for these exemptions that claims that these stripper wells are on “the economic margin,” or that regulating “low emitting facilities” wouldn’t be cost-effective, and therefore should be given a break is offensive. This shouldn't have to be said: the role of the NMED is not to protect the profit margins of the oil and gas industry. To exempt a vast majority of wells from regulation for this reason can't be referred to as anything other than an abdication of the NMED's fundamental duties.

Another reason given for this exemption is that stripper wells are not high polluters, but this is not clearly established at all. An EDF Report[2] estimates that, in 2017, NM methane production emissions totaled 904,000 metric tons, or ~44.75 million MSCF (1/2.02 scf/g * 1000000 g/ton * 1/1000 mscf/scf * 904000 tons). Only 16% of these emissions are accounted for in the EPA's Greenhouse Gas Emission Inventory. Globally, anthropogenic methane emissions are underestimated by ~25-40%[3], so this disparity between the EPA and EDF estimates are unsurprising. These disparities also exist for VOC emissions. Jon Goldstein, an oil and Gas policy expert from EDF and former Cabinet Secretary of NMNRD indicated that there is a growing amount scientific evidence that shows that stripper wells can in fact be substantial sources of methane and other VOC emissions during a presentation to the Water And Natural Resources Committee on September 3rd, where he called for the exemptions in question to be removed as well.

It is well understood that the Gas/Oil Ratio ("GOR") of horizontally fracked wells increases over time.[4] The GOR of the permian basin is rarely less than 1 mcf of gas produced per barrel of oil (bbl) (this is considered a ratio of 1), and has been demonstrated to exceed 5 mcf/bbl within just thirty months.

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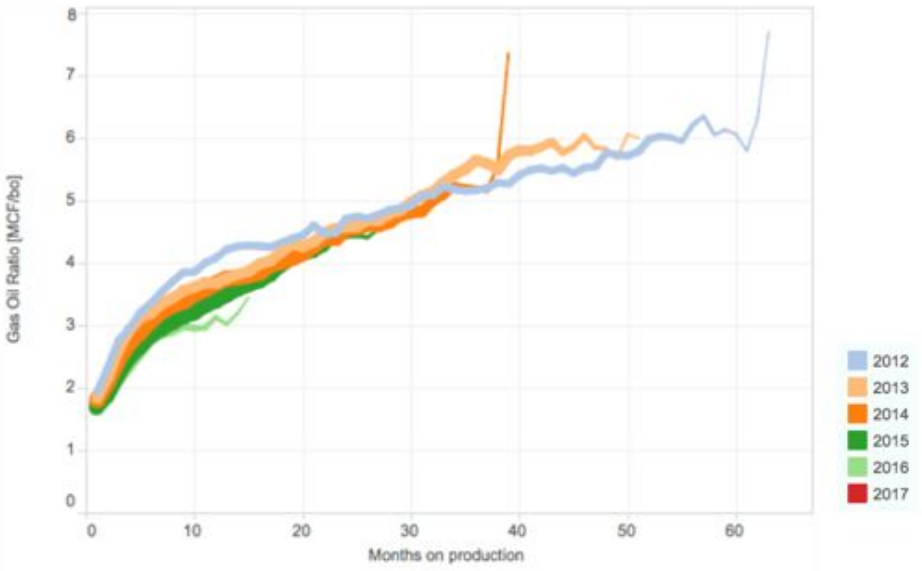
[2] “New Analysis Reveals Growing Methane Problem.” Published by the Environmental Defense Fund.. <**https://www.edf.org/nm-oil-gas**>

[3] “Preindustrial $^{14}CH_4$ indicates greater anthropogenic fossil CH_4 emissions,” by Benjamin Hmiel et. al. Published Feb. 19th, 2020 by Nature. <**https://www.nature.com/articles/s41586-020-1991-8**>

[4]“Producing-Gas/Oil-Ratio Behavior of Multifractured Horizontal Wells in Tight Oil Reservoirs” by R. Steven Jones Jr. Published by the Society of Petroleum Engineers in Aug. 2017. <https://www.onepetro.org/journal-paper/SPE-184397-PA>.



GOR variation along with months on production for Resolute Energy, modified after Shaleprofile.com.[5]

Any stripper well has almost certainly been producing for thirty months; a well producing 10 bbl per day could potentially be emitting more that 50 mscf of methane and VOCs per day, and would not be regulated under the proposed rule. Stripper wells produced 14.3 million barrels of oil in 2019 - even if the GOR for these wells was only 2, the uncontrolled emissions from these wells would amount to more than 28 million MSCF.

The fact that oil and gas mixtures for wells trend toward gas over time is important, because it leads to another problem with the draft rules: Section D(1)(d) of part 20.2.50.23, Standards for Storage Tanks, states: *"Owners and operators subject to control requirements under 20.2.50.23 NMAC shall, on a monthly basis, maintain records in accordance with 20.2.50.12 NMAC for each storage tank of (d) The data and methodology used to calculate the potential to emit (PTE) of VOC (the calculation methodology must be a Department approved methodology)."*

The problem with this language is that it doesn't require that the PTE be re-calculated as the GOR changes – Only that the methodology and data used to make the calculation be maintained by the owner. It is essential that operators be required to perform a full gas and GOR analysis every 6 months, since the potential to emit VOCs for a given well is known to change over time, and GOR can increase by 50% over a 6-month period. So called "low-emitting facilities" can quickly become significant sources of emissions.

This failure to accurately estimate emissions only exacerbates an existing problem with control devices: A methane/VOC control device system designed for a certain oil/gas composition will

[5] Figure 4 of "Understanding GOR In Unconventional Play: Permian And Beyond." Aug. 9, 2017. Published by Laurentian Research.
<https://seekingalpha.com/article/4096835-understanding-gor-in-unconventional-play-permian-and-beyond>

frequently fail when the GOR of the inlet stream changes. Many tanks in the Permian basin were installed before there were any control requirements, and thus are only designed to withstand 8 ounces of internal vapor pressure. While this is fine when methane and volatiles are being vented, it poses an enormous challenge when attempting to engineer a control system. As a result, many control devices on Storage Tanks regulated under 40 CFR 60 subparts OOOO/OOOOa almost never actually operate, and the failure rate of these controls will only increase as the GOR of a given well increases.

Since methane emissions are likely to increase over time, this leads the pressure relief valve/thief hatch (PRV) to pop open and allow methane to be vented more often without much of it ever being piped into the control device. There's a very real danger that owners and operators of oil facilities will claim 95% or 98% control efficiency, when in fact a much smaller portion is being captured, because as the GOR increases, the PRV will consistently begin to open before the control device can activate and the PTE will be increasingly underestimated. It's another but more subtle way for New Mexico to be fooled into thinking methane emissions have decreased as they continue to skyrocket.

Ultimately, for all the reasons mentioned above, the draft rules as they are will not achieve the stated methane emissions goals. There is simply no way New Mexico can either exempt 95% of all wells from methane emission reduction requirements or not require a routine gas full gas and GOR analysis every 6 months, and still achieve anywhere near its desired goal of 98% reduction in methane emissions by 2026. More importantly, however, is the likelihood that it will appear that New Mexico has reached a 98% reduction in methane emissions, when in fact emissions have not changed much at all, and may even increase. YUCCA believes that transparency in the Oil and Gas industry is paramount for overseeing and regulating the industry for the interest of the public, and by removing the exemptions for stripper wells and facilities with a potential to emit VOC of 15 tpy or less, as well as requiring a full gas and GOR analysis every 6 months for each well, it will be a large step towards that direction. Thank you.

Sincerely,

Youth United for Climate Crisis Action