From:	Nadia Steinzor
To:	WasteRule, EMNRD, EMNRD
Subject:	[EXT] Oil and gas waste rule comments
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Attachments:	Earthworks EMNRD StakeholderComments 9-15-20.pdf

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Thank you for the opportunity to comment on EMNRD's proposed oil and gas waste reduction rule. Attached are comments from Earthworks.

=== EARTHWORKS: Protecting Communities and the Environment

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Watch invisible oil & gas pollution become visible through optical gas imaging videos created for the Community Empowerment Project.

EARTHWORKS

September 15, 2020

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New Mexico Department of Energy, Minerals, and Natural Resources
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Comments submitted by email to EMNRD.WasteRule@state.nm.us

Dear Ms. Polak and EMNRD staff:

Thank you for the opportunity to submit comments on EMNRD's draft regulations to prevent the waste of oil and natural gas resources due to venting and flaring. Earthworks appreciated being part of the Methane Advisory Panel (MAP) convened to guide the development of these regulations.

Earthworks is a national nonprofit organization committed to protecting communities and the environment from the impacts of mining and energy development while seeking sustainable solutions. For nearly 30 years, we have fulfilled our mission by working with communities and grassroots groups to reform government policies, improve corporate practices, influence investment decisions and encourage responsible materials sourcing and consumption.

Our comments are informed by the governor's mandate to EMNRD and the New Mexico Environment Department (NMED):
"...jointly develop a statewide, enforceable regulatory framework to secure reductions in oil and gas sector methane emissions and to prevent waste from new and existing sources and enact such rules as soon as practicable."

The issuance of regulations to reduce emissions is an important step on the path toward New Mexico's stated goal of curbing climate pollution, including from the oil and gas industry.

Such efforts are particularly critical now because methane pollution is 86 times more damaging to our climate than carbon dioxide over a 20-year time frame.[1] Currently, this is only twice as long as the time that scientists say we have to avoid the most catastrophic effects of climate change.[2]

In addition to being bad for the climate, oil and gas pollution must be reined in because of its contribution to the formation of ozone. It is well-known that oil and gas pollution causes a range of health problems, in particular those connected with volatile organic compounds (VOCs).[3]

The contributions of oil and gas pollution to the formation of ozone threatens the health of the nearly 140,000 New Mexico residents who live within a half-mile of active operations—a number that is growing as the state allows industry to continue to expand.[4]

Dedicated to protecting communities and the environment from the adverse impacts of mineral and energy development while promoting sustainable solutions.

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The following comments are underpinned by these pressing realities, which Earthworks has closely documented in oil and gas fields nationwide. We have worked with directly impacted residents, researched the ability of state agencies to oversee the industry and enforce regulations, and, since 2014, used Optical Gas Imaging (OGI) to make visible otherwise invisible oil and gas pollution.

In short, our experience underscores the importance of having strong rules to reduce the harm caused by the oil and gas industry. However, equally important is the need for state agencies to have the resources, staff, and political will to enforce rules and, in so doing, increase protection for communities and the environment. Only then will regulations serve their intended purpose as mechanisms to hold operators accountable for the pollution and harm they cause.[5]

1. Flaring and venting have no place in communities and a warming world

Earthworks appreciates EMNRD's efforts to establish requirements that would begin to rein in flaring and venting. This month, investors managing more than $2 trillion called on regulators in Texas to prohibit the routine flaring of natural gas.

Yet as the MAP report made clear, rates of flaring are on the rise in New Mexico and currently outpace growth in oil and gas production. In the course of extensive field work in New Mexico, Earthworks has documented numerous instances of unlit flares serving as vent stacks--a practice that releases large volumes of pollution straight into the atmosphere. As noted in our comments on the MAP report, field observations of unlit flares point to the possibility that higher levels of emissions are being released through malfunctioning flares than operators report.

The persistent and widespread problem of unlit flares and venting is illustrated by the following example of numerous complaints that Earthworks filed with NMED using OGI and field observations:

- 2/15/19 ***(NMED complaint #13455):*** OGI video shows emissions coming from an unlit flare, tank vents, and leaking thief hatches over the course of 3 separate days and 5 visits. Workers on the site explained that the auto-ignite on the flare was broken and they had to bring in a "man-lift" to manually relight the flare. When we discovered the unlit flare it has already been unlit for several days, if not a full week. The flare problem was re-lit, but significant emissions continued from the tanks (both from the vents and the thief hatches). https://youtu.be/u2yYXfuekDU.

Earthworks strongly supports the requirement that operators use best available control technologies to capture or combust gas and operate enclosed flare stacks. We also appreciate the requirement that flares at all types of wells be subject to installation and retrofits of automatic ignition and continuous pilots. Taken together, these requirements will limit "grandfathering" of older operations and ensure that all wells and facilities adopt state-of-the-art technology in a relatively reasonable timeframe.

However, <u>we strongly urge EMNRD to require retrofitting of flares within 60 days of the effective date of these rules. This would be consistent with the language adopted by the US Bureau of Land Management</u> in 2016 (81 Fed. Reg. 83008), which provided that its final oil and gas waste prevention rule was effective January 17, 2017, 60 days after the publication date. Section 3179.8(c) provided that all flares or combustion devices were to be equipped with an automatic ignition system as of the effective date.

We also support the limitation of venting to instances of "emergency or malfunction," as well as the clarification that operators cannot define pollution events in these terms if they arise from their own negligence and neglect to install and maintain equipment.

2. Accurate emissions measurements are needed to assess progress

Earthworks appreciates and supports EMNRD's establishment of requirements for operators to demonstrate that they have reduced volumes of vented and flared gas by 98% by 2026. In light of the climate and health impacts of wasted gas, this goal is both ambitious and necessary.

As the MAP recognized in its technical report, several studies demonstrate that measured emissions can be significantly higher than what operators report to inventories.[6] We strongly support the requirements in the draft rule (Section E) that most operators measure (rather than estimate) the volume of gas being flared and vented.

EMNRD should consider adding to the list of measurement options the use of quantitative optical gas imaging (QOGI), an affordable technology that is increasingly being deployed in oil and gas fields for use by operators and regulators.[7] EMNRD could require operators to conduct periodic QOGI analysis (for example, during one of every four Advanced Leak and Repair Monitoring/Leak Detection and Repair inspections.

Earthworks has significant experience using QOGI, which is compatible with industry-standard OGI cameras. The technology allows for real-time quantification for any fairly well-defined point source that is not derived from combusted emissions, including unlit flares.

Given the new scope of the proposed rules, we suggest the adoption of language requiring EMNRD to assess the performance of operators in the course of the five-year reduction effort. This language is particularly necessary in light of New Mexico's commitment to greater accountability for and pollution reductions by the oil and gas industry, which generates the largest proportion of greenhouse gases in the state (including 62% of methane emissions).[8]

To this end, EMNRD should add a new sentence to the end of the first paragraph in both §19.15.27.9(A) and §19.15.28.23(A) (i.e., after the words "divided by five") to read, "The division will undertake an assessment of the extent to which total emissions volume in the state has reached the 98% reduction target, by March 31, 2027."

3. Operator planning is essential to reduce flaring and venting

The approval of new and existing wells should be contingent on demonstrable gas takeaway capacity. The proposed rule only requires that gas takeaway capacity be "anticipated" rather than demonstrated (e.g., through signed contracts for new export capacity and/or the integration of nearby gathering lines and pipelines to accept additional throughput volumes). EMNRD should add an explicit requirement that operators document and guarantee takeaway capacity *before* a new application for permit to drill (APD) can be approved and a new well completed.

EMNRD should also require existing well operators to submit a roadmap report within one year of the adoption of the new rules detailing how each venting/flaring well will export gas each year until the 2026 mandate of 98% reduction in volumes of flared and vented gas is achieved. A violation of this provision should lead to the temporary revocation of existing permits and a shut-in mandate until operators verify export plans with clear documentation.

Venting from pipeline blowdowns can release significant volumes of VOCs and greenhouse gases, often resulting in "excess emissions" events that far exceed permitted volumes. For example, Earthworks captured optical gas imaging footage of a blowdown in North Dakota, which released for at least 13 hours at a rate estimated with QOGI to potentially be in thousands of pounds per hour.[9]

Blowdowns regularly occur in oil and gas fields nationwide, including in New Mexico--despite the technical feasibility of mitigating these emissions.[10] Since blowdowns can typically be planned in advance for facility maintenance and in conjunction with throughput projections, EMNRD should not allow operators to claim blowdowns as "emergency" events.

This is particularly important because blowdowns pose a health and safety risk to workers and nearby residents and should be avoided whenever possible. Environmental health research confirms that large, episodic emission events can cause health impacts immediately or in as little as 1-2 hours, in part because toxicity is determined by the concentration of the chemical and intensity of exposure.[11]

Because blowdowns are planned, EMNRD should require operators to develop plans to avoid them, for example by temporarily routing pipeline gas around a compressor station in order to commence station maintenance or by utilizing a temporary intertie to an existing gas export pipeline. EMNRD should also require operators to select blowdown locations based on their proximity to takeaway capacity points of access.

Over time, these requirements can help ensure that operators establish durable, alternative systems to avoid blowdown gas venting and invest in the infrastructure needed to avoid the practice altogether. In addition, they would be consistent with the applicable Environmental Protection Agency Natural Gas STAR guidelines, in particular: (1) the guidance on PRO Fact Sheet No. 401, "Inject BlowdownGas into Low Pressure Mains or Fuel Gas System" and the guidance on PRO Fact Sheet No. 403, "Use Inert Gases and Pigs to Perform Pipeline Purges."[12]

If operators evaluate and deem infeasible all technical options to prevent venting, they should be required to provide EMNRD with a written explanation of the reasons to conduct blowdowns. EMNRD should evaluate the proposal and make arrangements for operators to capture blowdown gas. Such gas capture can be accomplished with mobile units that create compressed natural gas and export it by truck to the nearest place where gas can be sent to market. Another option, as a last resort, could be a dispersed flaring network so that blowdown gas is properly combusted rather than vented.

If operators continue to be allowed to conduct blowdowns as a last resort, EMNRD should require them to develop and implement a notification system for blowdowns or other large emissions and/or noise events that would allow sufficient time (e.g., 72 hours) for nearby residents to either leave the area or take measures to limit their exposure. Notification should be given to all residents within, at minimum, a half-mile, a conservative estimate of the distance at which elevated levels of toxic pollution from oil and gas operations can impact health, according to peer-reviewed studies.[13]

In addition, we suggest specific language changes to clarify blowdown requirements, including:

- §19.15.28.22 B(3)(a) to read, "scheduled repair and maintenance, including blowing down **from fixed stations** and depressurizing equipment to perform repair and maintenances."

- §19.15.28.23 D(2)(b) to read, "name and list of facilities located within the natural gas gathering system, length of gathering pipelines and a GIS digitally formatted as-built map of the gathering pipeline and associated components**, including fixed blowdown stations**, of the natural gas gathering system."

4. Redundant gas collection infrastructure should be avoided

When operators plan to build or expand facilities (such as compressor stations and pipelines) independently and without consulting other operators working nearby, the potential exists for creating redundant infrastructure. If EMNRD and New Mexico operators project an increase in gas export capacity, it will be critical to adopt measures to reduce the surface and pollution impacts of new, potentially unnecessary infrastructure.

We note that EMNRD's current system of "well-by-well" permitting has created a planning gap with all other wells in the vicinity of a proposed well, including *existing* wells that may be venting or flaring and *new* wells that are planned to be developed by the operator.

<u>EMNRD should address this gap by requiring operators to package into a single application all planned, foreseeable drilling and infrastructure approval requests</u> anticipated over a 6-12 month time period. These approval requests should be considered within a given field or unit based on geographic proximity or potential use of shared infrastructure, such as gathering systems, compressor stations, or processing facilities.

Specifically, EMNRD should change:

- §19.15.27.9 D(2)(x) to read, "existing wells, expansion plans and other issues affecting the gathering of natural gas in the general area."
- §19.15.27.9 D(1) to change "may" to "shall" in the second sentence, i.e., to read : "The operator shall file a single natural gas management plan for multiple wells drilled from a single well pad or that will be connected to a central delivery point."

EMNRD should consider a model similar to the federal Master Leasing Plan (MLP) framework, which has been implemented by several field offices of the Bureau of Land Management and offers useful tools regarding the creation of efficiencies through regional planning efforts.[14] Under MLPs, pipelines may be joined together upstream, with gas then routed to a central gathering hub before being transported to market.

In neighboring Colorado, oil and gas operators are required to develop Comprehensive Drilling Plans, including measures to minimize adverse impacts to public health, safety, welfare, and the environment by timing well drilling, coordinating pipeline and processing plant locations, and installing emissions reduction technologies for large numbers of wells.[15]

This coordinated approach is essential given EMNRD's mandate that operators reduce the volume of gas flared and vented by 98% by 2026. With the need for these reductions in mind, operators will benefit from planning across sub-plays and entire basins, taking into account estimates of increased capacity and export dynamics in the coming years. <u>EMNRD should require operators to demonstrate that export infrastructure is being fully utilized before issuing permits for the construction of new infrastructure.</u>

4. Some requirements should be more specific and comprehensive
To ensure consistency in regulatory language and avoid misunderstanding among stakeholders, EMNRD should expand and clarify some of the definitions in the draft rule, as follows.

Advanced Leak and Repair Monitoring (ALARM) should be defined. This term is not elaborated in the definitions section. It is unclear whether the practice is the same as or different than Leak Detection and Repair (LDAR), which is the common term used by operators and in oil and gas pollution control rules adopted at the federal and state levels, including the US Environmental Protection Agency standards with which New Mexico must comply and draft rules under development by NMED.[16]

EMNRD should strengthen requirements for well completions (§19.5.27.8(C)) by clearly defining what would constitute a "risk to safe operation personnel safety." The rule should clearly state that operators must immediately stop venting activities as soon as gas can be safely flared, and immediately stop flaring as soon as the gas can be safely routed to a completion or storage tank.

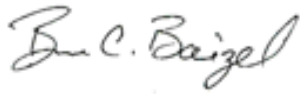
EMNRD should require Audio/visual/olfactory (AVO) inspections on a weekly basis at all wells, and not only monthly at stripper wells. If EMNRD's goal is to prevent waste and to have an enforceable mechanism for doing so, *all* active wells should be covered by strong requirements because waste can occur at *all* wells. AVO inspections are a basic part of site and equipment maintenance, and no operator able to produce should be exempt from properly overseeing their wells.

EMNRD should clarify what constitutes a "risk of an immediate and substantial adverse impact on safety, public health, or the environment" in §19.15.27.8(B), and thereby the rationale for allowing flaring and venting. Under which specific circumstances would venting be allowed (e.g., an explosion or fire)? EMNRD should not leave it up to the operator's discretion to determine "risk" and allow venting under a wide range of scenarios.

EMNRD should specify the information and documentation that operators need to provide to justify flaring and venting and establish a clear basis in the rules for issuing violations and fines if operators are found to be misusing the "emergency exception." The C-129 form (Application for Exception to No-Flare Rule) cited in the draft rule does not include fields for information on the reasons for conducting "emergency" venting.

Thank you for your time and consideration of our comments. Earthworks looks forward to continued dialogue with EMNRD, NMED, and the stakeholders whose engagement will pave the way for comprehensive and effective gas waste reduction rules for New Mexico.

Sincerely,



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[1] Gayathri Vaidyanathan, "How bad of a greenhouse gas is methane?" Scientific American, 2015. https://www.scientificamerican.com/article/how-bad-of-a-greenhouse-gas-is-methane/

[2] Intergovernmental Panel on Climate Change, Global Warming of 1.5 degrees celsius, 2018, https://www.ipcc.ch/sr15/

[3] See database of peer-reviewed science on health impacts at https://www.zotero.org/groups/248773/pse_study_citation_database/items/collectionKey/SASKSKDG; and Concerned Health Professionals of New York, Compendium of Scientific, Medical, and Media Findings Demonstrating Risks and Harms of Fracking (Unconventional Oil and Gas Extraction), Sixth Edition 2019. http://concernedhealthny.org/compendium/

[4] Earthworks, Clean Air Task Force, and FracTracker Alliance, Oil and gas Threat Map, New Mexico section, https://oilandgasthreatmap.com/threat-map/new-mexico/

[5] [5] Lisa Sumi, *Breaking All the Rules: The Crisis in Oil and Gas Regulatory Enforcement.* Earthworks 2012; Sharon Wilson, Lisa Sumi, and Wilma Subra, *Reckless Endangerment While Fracking the Eagle Ford Shale.* Earthworks 2013; Nadia Steinzor. *Blackout in the Gas Patch: How Pennsylvania residents are left in the dark on health and enforcement.* Earthworks 2014; Nadia Steinzor, *Permitted to Pollute: How oil and gas operators and regulators exploit clean air protections and put the public at risk*. Earthworks 2017; Nathalie Eddy, *New Mexico's Moving Ahead: Restoring the Oil Conservation Division's Strength and Authority.* Earthworks 2019; Nathalie Eddy, *Putting the Public First: How CDPHE can overcome its legacy of prioritizing oil and gas interests ahead of public health, safety, welfare, and the environment.* Earthworks 2020.

[6] Alvarez, R.A., Zavala-Araiza, D., Lyon, D.R. et al. "Assessment of methane emissions from the US oil and gas supply chain." *Science,* 2018; Barkley, Z.R., Davis, K.J., Feng, S. et al. "Forward Modeling and Optimization of Methane Emissions in the South Central United States Using Aircraft Transects Across Frontal Boundaries." *Geophysical Research Letters,* 2019.

[7] Providence Photonics, Quantitative Optical Gas Imaging with QL320, https://www.providencephotonics.com/leak-quantification.

[8] New Mexico Interagency Climate Change Task Force, New Mexico Climate Strategy, 2019. https://www.climateaction.state.nm.us/

[9] See optical gas imaging video of a pipeline blowdown event in North Dakota at: https://www.youtube.com/watch?v=bvPDbDIcoXQ&list=PL9BS7nDf-8toxkJJw4eDWt_qP1uIOcBYf

[10] MJ Bradley and Associates, *Pipeline Blowdown Emissions and Mitigation Options,* Analysis of PHMSA proposed new rules, July 2016. http://blogs.edf.org/energyexchange/files/2016/07/PHMSA-Blowdown-Analysis-FINAL.pdf

[11] Brown, D., Weinberger, B., Lewis, C., and Bonaparte, H. "Understanding exposure from natural gas drilling puts current air standards to the test." *Reviews on Environmental Health,* 2014.

[12] See EPA Gas STAR fact sheets at *See* http://www.epa.gov/gasstar/documents/injectblowdowngas.pdf

and http://www.epa.gov/gasstar/documents/useinertgases.pdf.

[13] See threat radius approach explanation at the Oil and Gas Threat Map, https://oilandgasthreatmap.com/about/threat/

[14] BLM, Oil and Gas Leasing Reform, Master Leasing Plan memorandum, 2013, https://www.blm.gov/policy/im-2013-101-0

[15] See Colorado Oil and Gas Conservation Commission, summary of Comprehensive Drilling Plans under Rule 216, http://www.oilandgasbmps.org/docs/What%20is%20a%20CDP.pdf.

[16] 40 Code of Federal Regulations, Part 60, Subpart OOOO and Subpart OOOOa; and NMED, Draft Ozone Precursor rule for the oil and gas sector.