From: NMOAI, NMENV
To: Spillers, Robert, NMENV
Subject: Fw: [EXT] Comments on NMED draft emissions rule
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Attachments: Comments on NMED draft rule.pdf

From: [redacted]
Sent: Monday, September 14, 2020 10:07 PM
To: NMOAI, NMENV
Subject: [EXT] Comments on NMED draft emissions rule

Thank you very much for the opportunity to comment on the NMED draft rule on ozone precursor emissions. My comments are attached.

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September 14, 2020

Enclosed please find comments on NMED's draft rule on ozone precursor emissions, which was made available for public comment on July 20, 2020. The rule establishes standards for wells and processing facilities, which when unabated emit volatile organic compounds (VOCs) and nitrogen oxides (NOx) during oil and natural gas production. The new regulation, put forward under Section 74-2-5.3 of the New Mexico Air Quality Control Act, aims to reduce emissions of these hazardous air pollutants in New Mexico counties (currently Bernalillo, Chavez, Doña Ana, Eddy, Lea, Rio Arriba, and San Juan) where ozone concentrations approach or exceed national air quality thresholds.

NMED has specifically asked for comments on the sections of the draft describing proposed equipment standards for oil and gas "stripper" wells, defined under draft section 20.2.50.25 as:

(a) oil wells producing on average less than ten barrels of oil per day; or
(b) natural gas wells producing on average less than 60,000 cubic feet of natural gas per day; or
(c) oil and gas facilities emitting less than 15 tons of VOCs per year.

The comments below address the proposed standards for stripper wells. In 2018, these wells accounted for about 20% of all New Mexico oil and gas production.

Background. The new NMED ozone precursor rule aims to reduce emissions of two pollutants frequently emitted during oil and natural gas extraction: volatile organic compounds (VOCs) and nitrogen oxides (NOx). Many VOCs (e.g. benzene, ethylbenzene, n-hexane, toluene, and xylene) are themselves hazardous to human health; they are also ozone precursors that react with nitrogen oxides in the presence of sunlight to form ground-level (tropospheric) ozone. Ground-level ozone, in turn, poses serious threats to the health of people, animals, and vegetation (and thus to agricultural production).

The draft rule establishes emissions standards for VOCs and NOx emitted by oil and gas facilities in the state. In draft sections 20.2.50.12 through 20.2.50.24, standards (e.g. maximum permissible emissions) are set forth for various equipment and processes involved in oil and natural gas production.

Draft section 20.2.50.25, however, specifically exempts stripper and other low-volume wells from the VOC and NOx emissions standards set forth in the preceding sections. As long as an operator attests that a well's annual production (in their estimation) falls within defined limits for stripper wells, the well is not governed by the VOC and NOx standards mandated for higher-volume facilities. The only regulatory requirements set forth for stripper wells are: maintaining equipment in good condition; self-monitoring of annual production volumes and estimation of VOC emissions; and reporting and record keeping. **Under the draft rule, stripper and other low-volume wells are, for all practical purposes, unregulated**.

Analysis. It is NMED's charge to enact regulations that will effectively reduce emissions of two classes of hazardous air pollutants. Yet according to Jon Goldstein, former EMNRD Cabinet Secretary, former NMED Deputy Secretary, and current regulatory and legislative energy policy expert with the Environmental Defense Fund, exempting small-volume oil and gas facilities from standards set for higher-volume producers will (1) leave a significant proportion of wells in the state unregulated; and (2) render New Mexico's VOC and NOx emissions rules "among the weakest standards in the country." [ref. 1]

The NMED draft rule, which proposes to regulate larger producers but leave emissions from stripper wells untouched, is unacceptable as written. The proposed exemption of stripper wells (1) cripples the effectiveness of the regulation as a whole, and (2) renders the rule in violation of core principles of environmental justice. These principles, as set forth at the first National People of Color Environmental Leadership Summit in 1991, (a) demand that public policy be based on mutual respect and justice for all peoples, free from any form of discrimination or bias; (b) call for universal protection from extraction, production, and disposal of toxic/hazardous wastes and poisons that threaten the fundamental right to clean air, land, water, and food; and (c) demand the right to participate as equal partners at every level of decision-making including in needs assessment, planning, implementation, enforcement, and evaluation.

Looking to product regulation. To appreciate the magnitude of the error in leaving New Mexico's small-volume wells unregulated, I found it helpful to consider a parallel case from the domain of product regulation.

Imagine some manufactured product, which, soon after its introduction into the marketplace, is found to be pose significant dangers to young children's health. Public health authorities, as part of an effort to limit children's access to the product in every way possible, draft state legislation prohibiting sales of the product to minors.

Further imagine that the legislation prohibiting sales to minors, as written, applies only to retailers having the highest product sales volumes in the state. Large outlet, discount, and megastores, mostly located in commercial districts in the Albuquerque metro area, are seen as the primary targets of the new regulation.

Note that the rule prohibiting sales to minors, however, specifically excludes retailers whose sales volumes fall below a certain pre-determined threshold. In fact, the thousands of convenience stores, small neighborhood outlets, and mom-and-pop retailers across the state are categorically exempted from the rule.

Yet it is precisely these neighborhood retailers—retailers situated close to schools, parks, and homes—that children visit most frequently, and where products of all kinds are generally most accessible to them. Neighborhood retailers, not discount outlets, are doubtless the site of the vast majority of sales made to children, because proximity and accessibility are two of the strongest influences on children's ability to make purchases. Although local retailers' annual sales may be low in relation to other venues, a far greater proportion of their sales are made to children.

Neighborhood and local retailers thus play an outsize role in exposing children to products—and despite their low annual sales volumes—make a disproportionate share of all direct sales to children. Hence the critical importance of regulating product sales from these venues. It is evident that both *sales volume* and *proximity* are fundamental attributes governing retail sales. Strong product regulation cannot neglect either essential variable.

In the imagined scenario above, public health authorities drafted legislation in order to to limit children's exposure to a dangerous product. While they effectively limited sales to minors from high-volume retailers (which are mostly located in business districts in the metropolitan area), they neglected to regulate small neighborhood retailers—the very venues where direct sales to children are most likely to occur.

While implementation of this draft rule might allow the state to meet targets for overall reduction of sales volumes, it would utterly fail the parallel and overarching goal of limiting children's exposure to a dangerous product. Under such a rule, a significant proportion of purchases by young children would likely continue, because product sales are explicitly unregulated in places close to where children live, learn, and play. In fact, the rule might even create a perverse incentive for the product manufacturer, who, faced with declining sales from high-volume outlets, might be led to try to increase sales from small neighborhood outlets.

Regulating ozone precursor emissions. The NMED draft rule, in like manner, proposes to regulate only the highest-volume VOC/NOx emitters in New Mexico. The state's countless small-volume gas and oil producers will be virtually untouched by the rule. And while the rule's enactment may perhaps enable the state to meet regulatory targets for overall reduction in VOC/NOx emissions by volume, it will leave small-volume producers—those often located close to neighborhoods, schools, and homes—essentially unregulated.

The Environmental Defense Fund recently estimated that oil and gas facilities in New Mexico emit more than 300,000 metric tons of VOCs annually [ref. 2]. The state's high-volume oil and gas producers generate the greatest share of these emissions, contributing to poor local air quality and fueling New Mexico's rapidly growing regional smog problem. Yet the state's small-volume producers—many of which are located in very close proximity to communities—may in fact pose the most acute risks to New Mexicans' health.

The NM OCD Oil and Gas Map (www.emnrd.state.nm.us/OCD/ocdgis.html) displays the locations of oil and natural gas production facilities in the state of New Mexico. In parts of San Juan, Eddy, and Lea counties, the highest-producing counties in the state, small wells dot the landscape at densities of 5, 10, even 100 wells per square mile. These dense arrays of small-volume wells often lie in close proximity to, and sometimes surround rural residences and communities.

Many of these small-volume wells would be considered stripper wells under the NMED draft rule. These wells, in comparison to the state's highest-volume facilities, do generate relatively lower annual volumes of VOC, NOx, and other toxic emissions. But because many of these small wells lie in close proximity to homes and communities, sometimes at great density, they have far greater potential to expose nearby residents to high concentrations of toxic pollutants.

An estimated 138,000 New Mexico residents—the vast majority people of color—live within a one-half mile radius of an active oil and gas facility [ref. 3]. In San Juan, Lea, and Eddy counties, (the three largest oil and gas producing counties in the state), Hispanics, Latinos, and Native Americans are disproportionately likely to live in close proximity to active wells [ref. 4]. Furthermore, many New Mexicans living in close proximity to active wells and production facilities are economically disadvantaged: in San Juan county, about 14.5% of the population is uninsured, and about 28% of children live in poverty [2010 US Census data]. These factors magnify the physical risk of exposure to oil and gas emissions.

The burden of exposure. A growing body of evidence demonstrates the serious adverse health effects of living in proximity to active oil and gas production facilities. Paralleling this research is a growing scholarly attention to the environmental justice dimensions of oil and gas extraction—how the many hazards of our nation's dependence on fossil fuels are disproportionately borne by low-income people and people of color. Two of the most recent studies demonstrated an increased risk of adverse birth outcomes, including pre-term delivery and low birth-weight, among expectant women living near oil and gas developments in central and coastal California, and the Eagle Ford Shale of south Texas, respectively [refs. 5-6]. These studies show that the negative health impacts of living near active oil and gas wells can reach across generations. In the Texas study, a commentator noted, "the adverse outcomes fell entirely upon Hispanic women." [ref. 7]

In New Mexico, as in California and Texas, oil and gas wells located near communities create serious risks to health. The two cases below, from San Juan county in northwestern New Mexico—one of the most densely drilled regions in the state—illustrate the dangerous proximity of oil and gas wells to New Mexico residents and communities.

• **Dził-na-o-dith-hle Community School**. Lying on the Navajo Nation a few miles south of the sacred mountain of Dził-na-o-dith-hle ("dee-zeel-NAH-oh-dee-lee"; "Turning Mountain"), near Bloomfield, NM, the Dził-na-o-dith-hle Community School was established by the Bureau of Indian Affairs in 1968. The school now serves about 180 Diné students in grades K-8 from the nearby communities of Counselor, Nageezi, Huerfano, Nenahnezad, and Shiprock. It also provides early childhood and adult education services, including a family literacy program that helps parents prepare for college or the GED. Nearly 100% of students attending Dził-na-o-dith-hle school qualify for free or reduced price lunch [ref. 8].

According to the most recent (2019) OCD data, there are currently ***ten active gas wells operating within a mile of Dził-na-o-dith-hle school.*** Two of the ten wells are less than one-third mile (1500 ft) away. None of these wells close to the school are owned by local *c*ommunity or New Mexico entities. One is owned by a Denver-based corporation; the remaining nine by Houston-based Hilcorp Energy Company.

In 2019, all ten of the gas wells operating within a mile of Dził-na-o-dith-hle school were stripper wells (wells producing less than 60,000 cubic feet a day). Yet taken together, ***these ten stripper wells produced 335,000 cubic feet of gas a day within a mile of the school***.

A single large well producing this volume of gas, irrespective of its location, would be subject to emissions regulation under the NMED draft rule. Yet the combined emissions from a cluster of stripper wells—even a cluster lying in dangerous proximity to a school—would be categorically exempt, and escape regulation.

• **Naabá Áni Elementary School.** About thirty miles to the north, in the town of Bloomfield, Naabá Áni Elementary School serves about 575 students in grades 4-6. Minority enrollment at Naabá Áni is 74%, with most students identifying as Native American (42%) or Hispanic (31%). About 84% of students at Naabá Áni are eligible for free or reduced price lunch [ref. 9].

According to OCD data, ***there are 27 active gas wells operating within a mile of Naabá Áni School***. Two of these wells (designated Mexico Federal N 001 and 002) lie within a few hundred feet of the school. In aerial photographs of the Mexico Federal well site, the wellheads, pumps, and storage tanks are readily visible, and a high chain link fence marks the site's perimeter [Google Maps]. The Naabá Áni Elementary School playground lies a few feet over the fence to the east, its brightly colored swings, slides, and climbing structures in daily use just a few hundred feet from the active Mexico Federal N 001 wellhead. Immediately north of the fence lie the two Naabá Áni ballfields, the home plates and backstops likewise a few hundred feet from the wellhead.

In 2019, at least 21 of the 27 gas wells operating within a mile of Naabá Áni School were stripper wells. Taken together, ***these stripper wells produced 604,000 cubic feet of gas a day within a mile of Naabá Áni school***. Yet once again, emissions from these wells—although generated in the immediate vicinity of a school—would go unregulated if the draft rule were finalized as currently written.

A major producer in San Juan county. The situation regarding well ownership at Naabá Áni is much like that encountered at Dziłth-na-o-dith-hle: of the more than two dozen active wells within a mile of the school—including the two next to the playground and ballfields—more than two-thirds are owned by Hilcorp Energy Company.

Hilcorp Energy, headed by billionaire Jeffery Hildebrand, is one of the largest privately-held oil and gas producers in the US. The company has extensive oil and gas holdings in the Gulf Coast of Louisiana, Texas, the Rocky Mountains, and Alaska's Cook Inlet and North Slope. In 2017, the company made the San Juan Basin the focus of a major ($3 billion) expansion, acquiring 1.3 million net acres of oil and gas holdings in the area from ConocoPhillips. The company now owns almost 11,000 active wells in San Juan and Rio

Arriba counties, and these holdings constitute more than half of its total assets [refs. 10-11].

Unfortunately for New Mexico residents and communities, however, Hilcorp has a long record of safety violations and regulatory noncompliance. The company began to accumulate serious regulatory violations in Alaska within a few years of beginning oil and gas operations there in 2012. In 2017, an independent review of the company's regulatory violations in the state revealed "a company that...prioritized an aggressive expansion...while repeatedly falling short on compliance." [ref. 12] In coastal Louisiana, according to the Association of Family Fishermen, the company developed a reputation as "a bad operator", when its use of illegal dredging methods caused hundreds of thousands of dollars in damages to local fishermen's oyster leases [ref. 13]. Some observers have speculated that the company, as one of few privately-held operators in the oil and gas industry, has escaped the constraints of shareholder scrutiny and public reporting requirements. This relative immunity may have shaped Hilcorp's business practices and attitudes towards regulatory compliance [ref. 14].

Given its history of noncompliance (and in light of its extensive New Mexico holdings), Hilcorp does not present a picture of a likely candidate for responsible self-regulation. Any state regulatory program designed to reduce emissions in the San Juan Basin must not rest on hopes of voluntary compliance by aggressive industry players. Effective regulation will combine strict limits on all emissions with a program of regular and robust enforcement.

Conclusions. Neighborhood polluters, like neighborhood retailers, have outsize impacts on life and health. VOCs emitted by wells situated just over the fence pose vastly greater health risks than do equivalent volumes emitted by larger but more distant producers.

Both volume and proximity, then, are crucial metrics to use in accurately describing the risks of ozone precursor emissions. State regulators should consider both criteria in the rule-making process, and take into account the differential impact of nearby sources. Because emissions from these sources can expose local communities to high concentrations of pollutants, regulating them effectively is of special concern. NMED's leadership on this issue will curb rogue producers and pave the way for important national regulatory reforms.

In the absence of robust state regulation of both large and small producers, however, some New Mexico residents will continue to suffer preventable injury and diminished quality of life. This is especially true in an era of indifference, even radical deregulation, from regulators at the federal level.

Specific recommendations for the NMED final rule:

1. The NMED final rule must ***address both volume and proximity*** of ozone precursor emissions. Engaging both these metrics is essential to strong VOC and NOx regulation.

2. The NMED final rule must ***regulate the full spectrum of oil and gas producers*** in the state, not merely the largest producers. The state must regulate both the highest volume producers and those operating nearest the places where people live, learn, work, and play.

Reducing VOC and NOx emissions from the state's highest-volume producers will bring about the most rapid and significant reductions of regional smog, and is also the quickest and most effective route towards mitigating the growing threat of the climate crisis. But regulating the state's small-volume producers will more effectively reduce high local concentrations of dangerous pollutants near New Mexico schools, businesses, and homes —bringing the most immediate health benefits to local residents and communities.

3. The NMED must **c*onfront the ethical questions*** raised by its issuance of a draft rule that leaves neighborhood wells unregulated. The social equity dimensions of living in proximity to oil and gas facilities is a subject of urgent importance; to downplay these concerns in the rule-making process seriously compromises the integrity of the measure and the process as a whole.

The NMED regulation can neither be effective nor just if the two essential metrics of volume and proximity are not satisfied in the final rule. **The goal is not only to reduce emissions, but to reduce emissions where they matter most.**

Thank you very much for the opportunity to comment on the NMED draft rule on ozone precursor emissions.

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