

Radioactive and Hazardous Material Interim Committee - Carlsbad Produced Water In and Out of the Oil Field June 14, 2021

I am Camilla Feibelman, director of the Rio Grande Chapter of the Sierra Club, representing our 35,000 members and supporters in New Mexico and West Texas. These last weeks have been a testament to the presence of climate change in our lives and its potential to do our families harm. Extreme heat, brutal fires, deep drought are all consequences of our fossil fuel based lifestyles. But most pertinent to this presentation, climate change has reduced the availability of the very thing we have the least of, our water resources.

Not only does the oil and gas industry drive climate disruption, but it consumes billions¹ of gallons of New Mexico's precious fresh water every year in the fracking process and literally converts it into a toxic liquid waste that requires disposal.

The unprecedented fracking boom in the last decade has come at a heavy cost to New Mexico's communities, air, water and health. As oil and gas production increases, so does the number of spills, explosions and releases that have contaminated air and drinking water and directly harmed people and communities. Here, in southeast New Mexico in early 2020, a pipeline carrying produced water burst near Carlsbad and showered a family's home, bodies and livestock² with toxic chemicals, forcing them to euthanize animals and deal with lingering health effects. In February of 2019, there was a spill of 42,000 gallons of produced water and 12,600 gallons of oil in the Counselor Chapter area of the Navajo Nation³. Both cases are documented in the Earthworks New Mexico's Oil and Gas Waste Report⁴, which I have circulated.

Preserving New Mexico's Freshwater Resources

Drilling, development and hydraulic fracking of oil and gas wells generates huge volumes of toxic waste liquid known as "Produced Water." According to the Oil Conservation Division (OCD), 4 to 7 barrels of produced liquid waste are generated for

¹ Oil and gas monthly production data downloaded to Excel spreadsheet from <http://www.emnrd.state.nm.us/OCD/statistics.html>

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<https://nmpoliticalreport.com/2020/08/19/dereliction-of-duty-1-6-million-gallons-of-produced-water-spilled-so-far-in-2020/>

³ Testimony of Kendra Pinto before the U.S. Congress, available at: <https://www.congress.gov/116/meeting/house/109319/witnesses/HHRG-116-II06-Wstate-PintoK-20190415.pdf>

⁴ <https://www.earthworks.org/cms/assets/uploads/2020/11/NM-Waste-Report-2020-final2.pdf>

every barrel of oil produced in the Permian Basin⁵. A recent UNM study reports approximately 1.2 billion barrels of produced water were generated in the Permian by the oil and gas industry in 2019⁶. That is a huge volume of waste to be safely managed and indeed it currently is not. OCD recently testified that in 2020 that the state experienced more than 1,100 oil or gas related releases, an average of more than 3.0 spills every day⁷.

Some industry leaders are now reusing recycled or treated produced water for deep drilling and fracking in lieu of fresh water which should be preserved for the needs of our communities and environment. The UNM report indicates that there is more than enough produced water to meet the hydraulic fracking needs of the industry in the Permian and San Juan Basins.

We believe the oil and gas in NM has the capability to make a full transition to produced-water reuse and eliminate all use of freshwater inside the oil and gas operations. Why on earth should we allow our scarce fresh water resources to be spoiled for extractive purposes? Every bit of fresh or brackish water unnecessarily used for fracking increases the volume of wastewater, which requires expensive disposal. We need to preserve and protect our scarce freshwater resources.

Produced water should not be used outside oil field operations

There are huge gaps in the scientific understanding of the toxicity and risks associated with safe use of produced water outside oil field operations. In addition to high levels of salt, produced water contains many toxic chemicals that are either present in formation water (the ancient waters released by fracking) or known to be used in the well completion and hydraulic fracking processes. Chemicals may range from ethylene glycol (antifreeze), heavy metals, acetone, and dissolved organic compounds, to radionuclides (from Naturally Occurring Radioactive Material). A report published this week by Physicians for Social Responsibility covered in the New York Times⁸, which I have circulated, revealed that PFAS (known as forever chemicals) have been used by major oil and gas companies in hydraulic fracturing (“fracking”) of oil and gas wells in 6 states, including New Mexico. The GroundWater Protection Council reports that EPA-approved chemical detection methods only exist for about a quarter of the potential

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https://www.env.nm.gov/new-mexico-produced-water/wp-content/uploads/sites/16/2019/11/Produced-Water-Public-Meeting-Presentation_ENGLISH_FINAL-191114.pdf

⁶ <https://nmwrri.nmsu.edu/tr-390/>

⁷ Jim Griswold's Testimony at June 9th, 2021 Spill Hearing at OCC.

https://ocdimage.emnrd.state.nm.us/Imaging/FileStore/santafeadmin/cf/20210521/21834_05_21_2021_01_27_13.pdf

⁸ <https://www.nytimes.com/2021/07/12/climate/epa-pfas-fracking-forever-chemicals.html>

chemicals present in this wastewater⁹. But what is more concerning is how little we know about the toxicity of the vast majority of chemicals detected in produced water. One recent report found that 86% of the more than 1,300 chemicals found in produced water do not have established toxicity thresholds¹⁰. This means we don't know to what level produced water would need to be treated in order to be safe. Without full public disclosure and understanding of all of the chemicals used in fracking, how can the people of New Mexico have confidence that produced water is truly safe?

Agency Budgets and Resources

The Oil Conservation Division's budget¹¹ and staffing levels are woefully inadequate. They do not have the resources to fulfill their statutory public health and environmental protection mandates.

The Council of State Regulatory Officials (CRO) of the Interstate Oil and Gas Compact Commission (IOGCC)¹² does an annual comparison of budget and staffing for states' oil and gas regulatory programs. I have included a table from that report as Figure 1. According to OCD, even with fewer oil and gas production wells than New Mexico (15 inspectors), North Dakota has 3X (43) the inspectors and Oklahoma has more than 4X (68) the inspectors than OCD has. The division is severely understaffed and underfunded, and has been for a long time. Agencies should not be driven to permit industries they don't have the resources to properly oversee.

The New Mexico Environment Department (NMED)¹³ also faces resource limitations, with responsibilities that have increased dramatically over the past decade to include PFAS contamination and cleanup, produced water, methane emissions, and filling gaps left by rollbacks in EPA programs, among others. NMED staffing levels are currently not sufficient to protect public health and natural resources.

We recognize the budgetary challenges legislators are facing due to COVID-19 and the instability of the oil and gas industry, and we credit you for making positive gains in

⁹https://www.gwpc.org/sites/gwpc/uploads/documents/Research/Produced_Water_Full_Report___Digital_Use.pdf

¹⁰ Danforth et al., An Integrative Method for Identification and Prioritization of Constituents of Concern in Produced Water from Onshore Oil and Gas Extraction, Environment International 134, at 8 (2020)

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https://docs.google.com/document/d/1hOFVyosn4wdB39_R-yLPxJUzQyflKEyRQpVmW0mJZw0/edit?usp=sharing

¹²

https://iogcc.ok.gov/sites/g/files/gmc836/f/documents/2021/final_report_for_budget_staffing_and_funding_state_and_provincial_oil_and_gas_regulatory_programs.pdf

¹³

https://docs.google.com/document/d/1bfmkdKsNjFeSblyiVLxzQ_lanmGhtVzLdVGfHkjtYyg/edit?usp=sharing

certain areas. But maintaining drastic cuts, from years past, at these agencies is jeopardizing the state's ability to meet our basic needs. Because of the severe lack of funding for these agencies, we and many of our partner organizations are worried about the long-term harm this poses for New Mexico's workers, air, land, water and communities. Please put New Mexico back on a path of environmental sustainability, protecting public health and safety, and providing stewardship of our natural resources.

Recent and Urgent Actions Needed to Protect Public Health, the Environment and Freshwater Resources

The Oil Conservation Division and WildEarth Guardians recently petitioned the Oil Conservation Commission to amend the rules governing spills and releases to make unauthorized releases illegal. The Sierra Club and its partners including frontline communities strongly supported this rule change, and industry leaders did not oppose it. This rule change was successful because the parties involved agreed that all, or at very least, the vast majority of spills are preventable.

But more protections are needed to meet the mandate put in place by legislature in 2019 that OCD's rules governing oilfield wastes should protect public health, the environment, and freshwater resources.

Our proposed legislation in the last session would have helped to better fulfill that mandate¹⁴. In addition to prohibiting spills, which was achieved administratively, it would have prohibited the use of freshwater in fracking and would have required companies to reveal the contents of fracking water if it is spilled or were to be used outside oilfield operations.

Both the legislature and the agencies have pressing work to do to protect our water and our communities. Urgent needs are to:

1. *Fully fund oversight and enforcement agencies.*
2. *Prohibit the use of freshwater in fracking.*
3. *Remove the exemption for oil and gas waste, including produced water, from the New Mexico Hazardous Waste Act.*
4. *Require reporting of spills to all neighbors with specified distance with 24 hours*
5. *Update OCD regulations for transportation, handling and storage of oil field wastes to ensure protection of public health and the environment.*
6. *Prohibit the use of produced water and treated produced water outside of oil and gas operation until we have adequate science to ensure it is safe.*

¹⁴ <https://drive.google.com/file/d/1Dffc14Fbx72HBWFHEHdGINBvU61niOWp/view?usp=sharing>

We look forward to collaborating with EMNRD and NMED to strengthen these protections of human health, environment and water resources as directed by the legislature.

And we thank you so much for your service, time and attention to the urgent needs that face all New Mexicans.

Table 1. Excerpt from the 2020 Council of State Regulatory Officials (CRO) of the Interstate Oil and Gas Compact Commission (IOGCC) Report

Summary of Budget, Staffing, and Funding of State Oil and Gas Regulatory Programs

State	Total oil & gas program budget	Portion of oil & gas budget for plugging & restoration ¹	Total FTEs	Inspector FTEs
New Mexico	\$13,442,800	\$5,242,400	71	15
North Dakota	\$32,761,000	\$7,500,000	72.5	43
Oklahoma	\$19,082,135	\$2,010,000	130	68

1 Plugging and restoration funds are included in the total budget and in general cannot be used for FTE

2 According to NM OCD, North Dakota has production levels that are similar to New Mexico, however, they have fewer wells to manage in general. Oklahoma has less production but is similar to the number of wells that New Mexico has to manage.