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Water and Natural Resources Committee
“Strategic Water Supply”: Brackish and Produced Water
August 26, 2024

Produced Water Reuse Rule Hearing before Water Quality Control Commission

- **NMED proposed:**
 - **A prohibition on the discharge of treated and untreated produced water to ground and surface waters**
 - **Discharge to land is a discharge to ground water**
 - **Authorizing demonstration projects or studies so long as there is no discharge**
 - **Authorizing industrial use so long as there is no discharge**
- **Tie to Strategic Water Supply: industrial use authorization**

What Is Produced Water?

- **Produced water is a wastewater produced from drilling for or producing oil and gas, and includes formation water, flowback water, and added chemicals**

What's in Produced Water?

- **Mineral salts, metals, oil and grease, volatile and semi-volatile organic compounds, naturally occurring radioactive material or NORM, ammonia, hydraulic fracturing additives, and PFAS**
- **Known hazards including arsenic, barium, bromide, mercury, benzene, toluene, ethylbenzene, and xylenes**
 - **Potential to cause carcinogenic, developmental, reproductive, and other adverse effects in humans and other biological organisms**
- **Unknown contaminants used in hydraulic fracturing fluids that have trade secret protection**

Does New Mexico Have Water Quality Standards for All Contaminants?

- 2020 peer-reviewed study identified 1,198 unique constituents
- Produced water from Permian and San Juan Basins is not fully characterized
 - More research needed
- A 2020 EDF analysis found there are 180 constituents that can be tested for and have toxicity data that do not have New Mexico numeric water quality standards



Is Treated Produced Water Ready for Discharge at Scale?

- **“Currently, there exists a notable deficit in defensible and reliable data to underpin the development of a mature treatment chain to attain a consistent and protective water quality for discharges of [produced water] in New Mexico.”**



Industrial Use

- Non-discharging; however spills, accidents, and unintentional discharges occur, and there are risks to worker safety
- No qualitative or quantitative risk analysis

Industrial Use

- **NMED RFI:**
 - Please describe the nature and extent of any impediments to the development and utilization of treated brackish and/or produced water resources related to insufficient information, data availability, and monitoring capabilities.

- **Select Water Solutions Response:**
 - “Lastly, the State of New Mexico is going to have to establish water quality monitoring requirements for any treated produced water that is intended to be used outside of the oil and gas industry.”

State Agency and Legislative Considerations

- **Prior to authorizing industrial use in rule, authorizing bonding for hundreds of millions of dollars, and entering into contracts as part of Strategic Water Supply, what additional research and work should be carried out to ensure protection of human health and the environment?**
 - **Adequate characterization of produced water**
 - **Proven and effective treatment at scale**
 - **Development of water quality standards for contaminants**

Colorado Approach: HB 23-1242

https://leg.colorado.gov/sites/default/files/2023a_1242_signed.pdf

- **“One way to conserve water is by increasing the recycling of produced water in oil and gas operations.”**
- **The Colorado Oil and Gas Conservation Commission must adopt rules “to require a rapid and substantial reduction of the use of fresh water and the increase in the recycling of produced water in oil and gas operations.”**
- **The present focus in Colorado is on conservation of fresh water resources in oil and gas operations and reuse of produced water within the oil field, not reuse outside the oil field**

Water Use in the Oil Field in New Mexico

January 1, 2021 - July 31, 2024

- Produced water: 58.75%
- Fresh water*: 31.66%
- Water > 10,000 mg/L TDS: 9.59%

*10,000 mg/L TDS or less

➤ 2023-24 legislative reform effort to limit use of fresh water in oil field failed

Produced Water Consortia

- Colorado by statute:
 - 32 members: from state and federal agencies, research institutions, state institutions of higher education, nongovernmental organizations, local governments, industries, environmental justice organizations, and disproportionately impacted community members
 - 4 from industry
- New Mexico:
 - 75% membership from industry

Considerations for Framework for Industrial Use of Produced Water

- Focus on research and science (vs. reuse outside oil field)
- Greater emphasis on produced water reuse and freshwater conservation in oil field
- Diversify composition New Mexico Produced Water Research Consortium



Thank you!

Questions?

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