

ENCOURAGING RESPONSIBLE DEVELOPMENT TODAY ~ FOR TOMORROW

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April 29, 2020

Gina Thompson
 Water Quality Division
 Department of Environmental Quality
 200 W. 17th Street
 Cheyenne, WY 82002

Re: Proposed Revisions to Chapter 28 Water Quality Rules and Regulations

Dear Ms. Thompson:

On behalf of Powder River Basin Resource Council and our members, thank you for accepting our additional comments to proposed revisions to Chapter 28 Water Quality Rules and Regulations. We appreciate the diligence with which the Department of Environmental Quality reviewed our prior comments on Commercial Oilfield Waste Disposal Facilities (COWDF), and we value your reasoning. We continue to applaud the new and improved requirements for public notice and participation and improving measures that will prevent harm to migratory birds and wildlife. As the division moves into a second round of revisions, we have some additional recommendations to address concerns about radioactivity in COWDF waste that is not currently classified as hazardous or included in water analysis processes.

Radioactive waste can manifest from a variety of oil and gas operation stages and equipment; for instance, radium can be found in brine, filter socks, drill cuttings, sludge from tanks, or crud left over in pipelines. Radium can spread to any surface that it comes into contact with and attaches easily to dust which can be inhaled. This waste endangers workers who transport oil and gas waste products and across the nation, there have been worker reports of cancer, sores, skin lesions, numbness, joint pain, headaches, and nausea due to radium exposure in exploration and production settings.

Wyoming's lack of regulatory measures on radioactive waste from oil and gas operations leaves its citizens vulnerable to life-changing health ailments at their everyday workplace and are subjecting their homes and families to particles brought home on work clothes. It is Wyoming's responsibility to track and regulate this harmful waste as no federal agency has the authority to regulate it. The Nuclear Regulatory commission cannot regulate radioactive waste from naturally occurring material, and under the 1980s Resource Conservation and Recovery Act, the Environmental Protection Agency exempts waste from oil and gas exploration and production from the definition of hazardous. Due to these inconsistencies of national and statewide regulations, individual oil and gas waste generators tend to test and track radioactive waste upon their own discretion and company policies. In areas such as the Bakken Formation in North Dakota, regulators have begun drafting rules to require oil producers to track low level radioactive waste from its creation to landfill. Industry groups have supported this change as it will level the playing field for companies that already track this type of waste.

In the past, Wyoming Department of Environmental Quality has stated that Wyoming does not have a comparable radioactivity problem to other oil-producing states like North Dakota

and Texas, and therefore strict action is not necessary. However, the last study completed on Wyoming's widespread radioactivity, a 1989 report called "A national survey of naturally occurring radioactive Materials (NORM) in petroleum producing and gas processing facilities," showed that Wyoming could be on par with other states in terms of background radioactivity. A new report has not been conducted since the combination of horizontal drilling and hydraulic fracturing became a common practice and increased the amount of waste that will need to be disposed.

Radionuclides should be added to the water analysis process.

We are requesting that radionuclides, particularly Radium-226 and Radium-228, be added to the water analysis performed on samples taken during baseline and operational monitoring of COWDF facilities. We understand that some Wyoming COWDF operators do require radioactive monitoring, but this monitoring is not required across the board, thus large problems could be created. For example, a COWDF that does not monitor for radioactivity could receive more of it than those that do.

It is our understanding that Wyoming does not currently regulate radioactive waste outside unenforceable guidelines that set the upper limit of 50 picocuries per gram of Radium-226. Within a recent investigation by the Rolling Stone magazine, oil and gas waste has much more radium than was believed. The Center for Environmental Research and Education at Duquesne University tested samples from Ohio oil producing regions at University of Pittsburgh found staggering results. Radium, typically, the most prevalent radionuclide in brine and oil field waste was found to have levels above 3,500 picocuries per liter, and one sample was more than 8,500 picocuries per liter. Marcellus shale underlying Ohio, Pennsylvania, West Virginia and New York usually tests around 9,300 picocuries per liter and has been recorded as high as 28,500 picocuries per liter.

Without adequate study of Wyoming's radioactive potential, we should not forego testing of this dangerous substance. Once this waste is released, there is very little that can be done to remediate a substance such as Radium-226 which has a half-life of 1,600 years. Widespread analysis of whether radium is present in Commercial Oilfield Waste Disposal Facilities will offer a more accurate picture of how we are exposing working Wyoming citizens to a substance in which does not have a "safe" level of exposure as well as provide data that could assist in future rulemaking.

Thank you for your time and consideration of our request,

Sincerely,



Jill Morrison, Executive Director
Powder River Basin Resource Council