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Supporting community health and economic well-being through education and advocacy

Public Comment 11/5/24

Draft Regulatory Impact Report (RIR)

10 CSR 20-6.015
No-Discharge Operations and Land Application Requirements

Missouri Department of Natural Resources
Water Protection Program
P.O. Box 176
Jefferson City, MO 65102
ATTN: Land Application Requirements RIR

TO: John Hoke, Heather Peters, Susan Mills

FROM: Moniteau County Neighbor Alliance, Susan Williams

RE: Comments on 9/6 Draft Regulatory Impact Report 10 CSR 20-6.015
No-Discharge Operations and Land Application Requirements

The Moniteau County Neighbors Alliance (MCNA) appreciates the opportunity to provide a public comment on the Missouri Department of Natural Resources' (DNR) 9/6 Draft Regulatory Impact Report regarding 10 CSR 20-6.015. No-Discharge Operations and Land Application Requirements. MCNA is a 501(c)(3) non-profit Missouri corporation that supports community health and economic well-being through education and advocacy in Moniteau County, and all of Missouri. As groundwater is a major source of drinking water supply for both people and livestock, we are concerned about possible contamination in public and private wells, waters of the state and soil. Groundwater contamination would have dire consequences for public health, livestock and Missouri's natural resources.

MCNA sees the development of the Regulatory Impact Report for 10 CSR 20-6.015 as a step forward in DNR's mission to protect Missouri's natural

resources. It is evident that DNR has spent a huge amount of time studying the issues and drafting the RIR. MCNA appreciates DNR's outreach efforts during the development of this draft regulation to include public and stakeholder participation during the summer of 2024. The regulation offers huge benefits to Missouri residents. The regulation in development will fill a void that has allowed unregulated application of industrial food processing waste and residuals to be spread on Missouri farmland. The emphasis on material testing, soil sampling and appropriate application of waste materials has the potential to prevent overapplication of materials that could cause pollution to the soil, waters of the state and health issues for the public. MCNA has a few comments and questions regarding the RIR. (comments in blue)

Page *2 #2. A description of persons who will most likely be affected by the proposed rule, including persons that will bear the costs of the proposed rule and persons that will benefit from the proposed rule.*

The proposed rule identifies the costs to industry for implementation of new regulations but is weak on benefits to the public and environment. Benefits/savings generated by the new regulation include:

1) Setbacks around residential property and private wells provide some protection from waste material being land applied. Serious health issues are caused by high levels of nitrogen and bacteria in drinking water. Adequate setback distance from well heads in land application areas is necessary to protect private drinking waste supplies and avoid the cost of remediation and/or drilling an expensive new well.
2) Setbacks of earthen basins and lagoons offer improved protection for groundwater supplies and the health of rural residents.
3) Nutrient land application limits for quantities that may be applied reduce the potential for overapplication and potential runoff into waters of the state that could cause eutrophication.
4) Setting PFAS limits for land application materials as well as the amount that can accumulate in the soil is a step in the right direction. The cost of PFAS cleanup in drinking water supplies and soil carries an astronomical cost and should be absolutely avoided.

Page 4 *#2. (a)3. Historically, when these materials were licensed as fertilizers, the companies land applying them submitted permit exemption requests based on the use of the material as a fertilizer and were issued exemptions on the understanding that the materials would be used on agricultural fields with application rates based on soil testing and nutrient requirements. If current soil tests show an excess of nutrients, it is likely because of historical land application practices of applying materials at rates that exceeded the agronomic needs of the field. The permit exemption clearly required agronomic land application rates and provided guidance on how to prevent overapplication of nutrients. This RIR does not include any analysis of these speculative or hypothetical costs that might be incurred as a result of historical overapplication of materials in excess of*

agronomic needs.

Due to historical land application practices of applying materials at rates that exceeded the agronomic needs of the field, **MCNA recommends that initial soil sampling be required prior to DNR approval of land application fields.** This will prevent further over application of nutrients that can damage the soil as well as discharge to the waters of the state

Page *5 #3. A description of the environmental and economic costs and benefits of the proposed rule.*

(a)1. New requirements that would be created by the proposed rule revisions include regular soil sampling to confirm proper land application rates based on agronomic needs for fields in which material is land applied, as well as fecal coliform pollutant loading rates. These loading rates are used to determine the field's capacity to treat pollutants which are applied, and the likelihood of runoff. Soil sampling is proposed to be required to be conducted yearly on each field where material will be land applied, with one soil sample required per 80 acres of field. Each soil sample will be a composite of equally distributed soil borings collected from each field. Fecal coliform sampling shall be conducted at least annually on each field. To calculate these costs, the department.

MCNA questions the underlined statement above regarding field size per soil sample. Allowing a field sample size of 80 acres is inadequate. MCNA urges DNR to use a 20-acre sample size recommended by the University of Missouri Extension Center resources referenced at the beginning of the RIR. The University of Missouri Extension Center states" **a composite sample should not represent more than 20 acres".**[1]

MCNA recommends that **initial soil sampling be completed prior to the approval of the land application fields** to prevent possible continued over application of phosphorus and nitrogen to land that may have been historically over-applied with organic waste. Once field approval is determined, a **follow up of twice annual soil testing should occur.** This will enhance protection of human health and the environment by minimizing the risk of excess nutrients reaching the waters of the state.

Page *6 # 3. (a)2. The draft rule revision would require permittees to sample for PFHxS, PFNA, PFOS, and PFOA prior to land application of industrial wastewater or industrial wastewater treatment residuals….*

Why did DNR choose to sample for only *PFHxS, PFNA, PFOS, and PFOA?* The EPA has set limits for five individual PFAS: PFOA, PFOS, PFNA, PFHxS, and HFPO-DA (also known as "GenX Chemicals"). The EPA rule also sets a limit for mixtures of any two or more of four PFAS: PFNA, PFHxS, PFBS, and "GenX chemicals." **DNR should sample for all six PFAS compounds with EPA limits and**

[1] https://extension.missouri.edu/programs/soil-and-plant-testing-laboratory/spl-soil-analysis/spl-field-crops-soil-test

mixtures of the identified PFAS compounds.

Page *7 #3(a)2. Due to the chemical structure of PFAS compounds, these man-made "forever chemicals" do not break down readily in the environment, has high mobility in soils leading to the possibility of groundwater contamination, and has the potential to be taken up by plants leading to contamination of crops. Due to Missouri's unique karst topography, Missouri's aquifers contain an estimated 500 trillion gallons of potable groundwater. This groundwater supplies over 80% of Missouri's public water supplies and a majority of private water supplies in rural Missouri. PFAS monitoring and in-soil limits will ensure land application procedures do not result in the buildup of PFAS compounds which may increase the potential of PFAS compounds leaching into groundwater. Additionally, plants growing in areas where PFAS has been land applied can uptake PFAS compounds through their root systems. This uptake poses health risks to humans and animals that consume contaminated plants and crops. Health risks can include detrimental impacts to reproductive and developmental health and the formation of cancers.*

MCNA is concerned with the underlined statements regarding the uptake of PFAS compounds by plants through their root systems and the risks to animals and humans that consume contaminated plants. Land application of materials containing PFAS creates a risk of PFAS getting into the food chain. Maine Inland Fisheries and Wildlife recently issued "***PFAS Do Not Eat Advisory of deer and turkey from specified areas"***[2] Advisories have also been issued in New Hampshire, Michigan and Wisconsin relating to PFAS in deer [3] These are very concerning developments. Many of the land application sites listed in the RIR Appendix A are pastureland where livestock graze or where forage is harvested. If deer are susceptible to accumulating PFAS from grazing, livestock would be at the same risk. **Due the risk of PFAS compounds entering the food chain, MCNA recommends that material containing PFAS components not be land applied.**

Page *7 #3 …Currently, there are three open storage basins in Missouri that meet this definition: Denali Water Solutions LLC-Callao, Denali Water Solutions LLC-Evans, and Denali Water Solutions LLC-Gideon. The proposed rule amendments require a minimum of annual sampling, with increased frequency based on material variability in accordance with the INMTS, of the material from these basins and vessels to be land applied, specifically for arsenic, aluminum, barium, cadmium, chromium, copper, lead, mercury, selenium, silver, thallium, E. coli, fecal coliform, and salmonella. For conservative cost estimation purposes, it was assumed that facilities would have monthly sampling frequencies due to variability of land applied material.*

The requirement of a "minimum of annual sampling" of material in storage basins is inadequate and causes confusion when in the same paragraph it states "sampling with increased frequency based on material variability". **MCNA recommends the more stringent monthly sampling schedule be established as**

[2] https://www.maine.gov/ifw/hunting-trapping/hunting/laws-rules/pfas-related-consumption-advisory.html
[3] https://www.wmur.com/article/maine-hunters-avoid-eating-deer-turkey-pfas-new-hampshire-chemicals/62746934

the minimum standard and language for sampling procedures throughout the regulation documents be standardized. In addition, add PFAS to the list of materials to be sampled with increased frequency.

Page 12 #*4a. The new requirements discussed in section 3 of this report will require department permit writers and inspectors to review the applications, permit requirements, sampling data, and land application practices for each large facility contained in* ***Table D****. At the time of this RIR, these large land application facilities have consumed significant staff time (permit writers and inspectors) as facilities have already submitted permit applications for review. As such, the actual additional costs of permitting these facilities are likely to be negligible. However, the time anticipated to be expended by the department to review these permits applications and associated materials has been estimated to be approximately 20 hours per facility per year (with permits and inspections on a 5-year rotation) after initial permitting.* ....

MCNA believes that the number of monitoring hours needed by DNR staff to adequately ensure compliance with this regulation is underestimated. All land application fields need monitoring to ensure sensitive features are flagged, and haulers adhere to land application procedures. Minimal oversight and a 5-year rotation for inspections is insufficient monitoring for facilities with high potential to pollute soil, waters of the state and impact human health. Ongoing monitoring is necessary to ensure appropriate nutrient management plan development and soil sampling for each land application field. Regular onsite monitoring of facility operations is necessary for compliance with setbacks, application procedures and other land application requirements relating to weather, etc.

Page 14 #9. (a)…. *Sampling and groundwater monitoring requirements established in the proposed rule amendment ensure the storage basins and vessels are being sampled, at a minimum, monthly for arsenic, aluminum, barium, fecal coliform, salmonella, and any other pollutant as determined by the department. These requirements allow the department and general public to understand what is contained in the storage basins or vessels and to ensure proper land application of the material to prevent harm to human health and the environment*.

MCNA noticed inconsistencies in sampling requirements throughout the RIR. The sampling requirements for storage basins, section #3 page 7, has the minimum sampling requirement listed as "annual with increased frequency depending on materials". In section #9(a) page 14, storage basins and vessels are sampled at a "minimum of monthly". There must be consistency of language throughout the regulation documents to provide the clarity DNR is trying to achieve. **MCNA believes that PFAS should be added to the more frequent sampling schedule for waste materials**

DNR's work developing the Regulatory Impact Report is a positive step in protecting Missouri's water quality and environment. MCNA appreciates DNR's consideration of our comments and asks that the RIR be revised accordingly.