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November 30, 2023
Michael Mullins
Office of the Commissioner
Department for Environmental Protection
300 Sower Boulevard, 2nd Floor
Frankfort, Kentucky 40601
By email only: Michael.Mullins@ky.gov

Re: 401 KAR 45:010. Definitions for 401 KAR Chapter 45.
401 KAR 45:020. Types of special waste permits.
401 KAR 45:025. Permit review and determination timetables.
401 KAR 45:030. Obtaining a special waste site or facility permit.
401 KAR 45:040. Modification, transfer, or revocation of special waste permits.
401 KAR 45:050. Public information procedures for special waste site or facility permits.
401 KAR 45:080. Financial requirements and bonds for special waste facilities.
401 KAR 45:100. Landfarming and composting of special waste.
401 KAR 45:105. Land application of biosolids.
401 KAR 45:140. Conditions applicable to all special waste permits.
401 KAR 45:160. Surface and groundwater monitoring and corrective action for special waste site or facilities.
401 KAR 45:250. Special waste permit fees.

Dear Mr. Mullins:

Pursuant to the public notice issued by the Energy and Environment Cabinet (Cabinet) announcing the filing of the above-referenced proposed administrative regulations, and in accordance with applicable law, these comments are submitted

on behalf of the Kentucky Resources Council, Inc., and its membership, concerning the proposed administrative regulations and material incorporated by reference.

Introduction

The land application of sewage sludges from cities has been subject to regulation by the Energy and Environment Cabinet for many years. In addition to the permitting requirements of the Cabinet, the land application of certain wastewater sludges has been subject to a set of self-implementing federal regulations known as the 503 Regulations, which were promulgated by the U.S. Environmental Protection Agency in 1992 and are located at 40 Code of Federal Regulations Part 503.

Complaints from certain consultants for some cities seeking permits to land apply sewage sludges led to enactment of SB 213 during the 2023 General Assembly Regular Session.

The Cabinet's proposed administrative regulations, ostensibly proposed to satisfy that law, go much further than necessary, and both weaken accountability for land applying this category of special wastes, and with respect to that subset of municipal sewage treatment plant wastes that fall within 40 CFR Part 503, fail to include the flexibility explicitly provided in Part 503 to impose additional requirements above those in the regulations promulgated in 1992, to address emerging contaminants such as PFCs (PFAs and PFOAs) known to be present in such sludges.

The results of the Cabinet's regulations, if finalized without significant improvement, will be:

- Less accountability for municipalities with respect to their wastewater treatment plant sludges that are land applied;
- More contamination of farmland and potentially of crops and livestock with adverse environmental and economic impacts on farmers and farmland;
- Creation of a new generation of state superfund sites where future remedial costs will be imposed on landowners, applicators, municipalities, and others involved in generating, transporting, arranging for and disposing of contaminated sludges in and on the land.

The Cabinet, and all parties, are aware of the literature suggesting that so-called "forever chemicals," PFAs and PFOAs, are likely to be present in the sewage treatment plant sludges of municipalities, particularly where those municipal wastewater treatment plants (MWWTPs) accept industrial and commercial wastewaters in addition to residential and institutional wastewaters.

All parties, including the Cabinet, are aware that the Environmental Protection Agency is moving forward to establish standards for various environmental media, and for public drinking water suppliers, designed to limit exposure to such chemicals due to known and suspected adverse health outcomes from exposure.

Yet despite this knowledge, the Cabinet is poised to finalize a set of regulations that fail to adequately characterize the wastes and fail to limit the land application of such wastes, so as to avoid the creation of catastrophic situations that have occurred in other states from such land applications.

The proposal is one of the most irresponsible that commenter has encountered, sacrificing as it does sound science and sound regulatory policy to accommodate the short-term interests of the municipalities in disposal of MWWTP wastes.

KRC has these concerns regarding the proposed regulations:

- **Lack of input from affected public stakeholders in reg package development**

  The complete lack of communication with interested and affected stakeholders prior to proposal of the draft regulations is itself of concern, since we have all known for some time that the proposed regulations would be required to be promulgated within sixty days of the effective date of the Act, yet no outreach appears to have occurred, and certainly none with those organizations that assist landowners with environmental issues created by the land application and other management of wastes by other parties.

- **The proposed regulations significantly and unnecessarily weaken current requirements for land application of municipal sewage sludges – weakening of existing state law protections not mandated by SB 213.**

KRC is extremely concerned with the approach taken by the Cabinet in the implementation of the 2023 bill, SB 213, which defined "biosolids," and provided that where biosolids are generated from wastewater treatment at a publicly owned treatment works, the biosolids shall be designated a special waste; and "[r]egulated in conformance with the most recent version of 40 C.F.R. pt. 503." The bill also provided that "[w]ithin sixty (60) days of the effective date of this Act, the cabinet shall promulgate administrative regulations pursuant to KRS Chapter 13A that are in conformance with 40 C.F.R. pt. 503, regarding siting criteria and permitting conditions necessary to regulate the disposal of biosolids."

All that would have been required in order to comply with that statutory mandate and to address the concerns raised regarding the current regulatory process for permitting landfarming operations would have been to consider adjusting *where appropriate* the numerical limits for those contaminants that are covered both under the 503 regulations as well as the Cabinet's current landfarming regulations; to revise vector and pathogen standards in light of 503; and to retain all of the siting and permitting conditions necessary to responsibly regulate the subset of sewage sludges defined as "biosolids" by the 2023 law.

The new mandate of SB 213 did not mandate elimination of any of the current permitting requirements of state law, because the Part 503 regulations do not have permitting requirements, but instead are self-implementing between the facility and the EPA. The Cabinet had and has full authority to establish or retain all permitting conditions it deemed necessary to regulate these sewage sludges. **And it has a legal obligation to explain and justify** in the Affirmative Consideration document, why, having previously determined that all of the current permitting requirements of 401 KAR 45 should apply to wastes now defined as biosolids, it has now proposed to exempt biosolids land spreading from many of these permitting requirements.

The new mandate of SB 213 did not mandate that the Cabinet eliminate or modify the siting criteria of existing regulations, except to modify those setbacks and other siting restrictions to conform to any contained in the Part 503 regulations *as the Cabinet deemed necessary.* For the Part 503 regulations themselves recognize that those siting criteria may need to be adjusted in order to address site-specific geologic, soil, and hydrologic conditions.

Yet rather than maintaining the current siting and other procedural and substantive regulatory requirements, such as public notice and comment, general permitting conditions, a clear requirement to comply with 401 KAR 30:031 environmental performance standards, and groundwater monitoring and corrective action, while addressing the differences in standards for that subcategory of municipal wastewater treatment plant sludges that fall within the definition of "biosolids" and are subject to the federal 503 standards, the proposed regulations have exempted biosolids from the substantive standards and the regulatory process to the point that the contamination of farmland through the land application of wastewater sludges is much more possible.

And when that contamination of farmland occurs, it will be only by happenstance that the contamination is discovered, and there will be no obligation under these proposed regulations short of state superfund law, to remedy the contamination. And the burden of the contamination of land and groundwater resources will fall on the farmer, and not the cities whose systems generated the sludges.

The interests of the farming community in assuring that the sludges that they obtain are not contaminated with PFAs and other persistent and bioaccumulative chemicals that have no agronomic utility or value, but which have a real and proven potential for contamination of land, crops, and livestock, is being sacrificed in order to accommodate the short-term interests of the cities in inexpensive disposal of their wastewater treatment sludges. The long-term interests of the cities and of the Commonwealth, in the protection of agricultural land, public health, and avoidance of future superfund liability, militates against the inadequate management of municipal sludges such as is allowed under this regulatory proposal.

- **Proposed 401 KAR 45:105 Is Overbroad Since 40 CFR Part 503 Regulations Do Not Govern MWWTP Wastes Containing Industrial Or Commercial Wastewater Sludges – 401 KAR 45:105 Should Be Limited In Scope and Application To Wastes Generated By Facilities Treating Only Domestic Sewage And Not Industrial or Commercial Wastewaters**

  The proposal is extremely overbroad and is inconsistent with the 2023 legislative mandate. It defines "biosolids" as certain materials resulting from

the treatment of domestic sewage or sewage sludge in a treatment facility and provides that when biosolids are "generated from wastewater treatment at a publicly owned treatment works" they shall be "regulated in conformance with the most recent version of 40 C.F.R. pt. 503."

Yet the proposed regulations appear to apply 40 CFR Part 503 to MWWTP wastes from facilities that are outside of the scope of Part 503. 40 CFR Part 503 applies **only** to "sewage sludge generated during the treatment of **domestic sewage** in a treatment works." 503.1(a)(1). (Emphasis added). The sludge is that generated by treatment of domestic sewage. *Id.* "Domestic sewage" is defined in 40 CFR 503.9(g) as "waste and wastewater from humans or household operations that is discharged to or otherwise enters a treatment works." Thus, 40 CFR Part 503 does not apply to municipal treatment sludges that accept industrial or commercial wastes. Yet the Cabinet's regulatory changes appear to apply 40 CFR Part 503 more broadly, which is inconsistent with the limited reach of the federal regulations.

Application of 40 CFR Part 503 should be limited by state regulation to those waste sludges generated where domestic sewage is treated without introduction of industrial or commercial wastes, in order to be consistent with the exclusion in 40 CFR 503.6(d) for sludges from industrial treatment works commingled with domestic sewage. More broadly applying 40 CFR 503 standards or setbacks to mixed domestic, industrial, and/or commercial sludges would not be consistent with or in accordance with the limited reach of 40 CFR Part 503.

- **No requirement for testing of sludges prior to land application for all known contaminants of concern, including emerging contaminants such as PFAs and PFOAs**

  The proposed regulations fail to require that the cities test the sludges for the presence and concentrations of heavy metals of concern, PFAs, and other contaminants that have no agronomic value, yet are present in the sludges. Absent such a complete characterization of the composition of the sludges, the Cabinet cannot assure that the cities are complying with the requirements of either 40 CFR Part 503 or of Kentucky law. Land application of contaminated sludge containing materials that are neither organic nor of agronomic value is a release of a contaminant into the environment, nothing more or less.

Biosolids are defined in the new law as being "nutrient-rich, organic residual material" that can be applied "to improve and maintain productive soils." This means two things – first, the presence of contaminants in sewage sludge that neither improve soils nor maintain their productivity, and which are not "organic" or "nutrient-rich" renders that sludge something *other than* biosolids and makes that sludge ineligible for land application either under the 503 standards or as a "biosolid."

Second, the presence of such contaminants in the sewage sludge threatens the long-term contamination of the land, since without knowing the levels of such contaminants, and applying the sludges based solely on the presence and concentration of the nutrients relative to the agricultural use of the land, overapplication of such contaminants can occur resulting in contamination of the land both for agricultural and other future uses. Conversion of the land, for example, to residential use in the future might require additional remediation of the property to meet applicable soil or groundwater screening limits.

40 CFR 503.5(a) specifically provides that the permitting authority "may impose requirements for the use or disposal of sewage sludge in addition to or more stringent than the requirements in this part when necessary to protect public health and the environment from any adverse effect of a pollutant in the sewage sludge."

The Cabinet is aware of the existence both of circumstances in other states where land application of PFA-contaminated sewage sludge has caused significant environmental disruption, and of literature documenting the presence and leaching of PFAs into the environment from land application of MWWTP sludges. *See:* Sepulveda et al., *Occurrence and Fate of Perfluorochemicals in Soil Following the Land Application of Municipal Biosolids,* Environmental Science and Technology (2011).

The Cabinet is also presumed to be aware that research has identified PFAs and other contaminants of emerging concern (CECs) in the leachate from municipal waste landfills, and that MWWTPs that receive leachate from MSW landfills may have elevated levels of these CECs in both their discharges and the resulting solids collected by the NWWTPs. *See:* Propp et al., *Organic*

contaminants of emerging concern in leachate of historic municipal landfills, Environmental Pollution (2020); *Minnesota, a birthplace of PFAS, tackles contaminated waste sites on multiple fronts,* Waste Dive (2023). These articles and papers are incorporated herein by reference as if fully set forth below, and are submitted in conjunction with these comments.

Yet knowing that PFAs are likely to be present and to pose such a health concern, the agency has notably failed to categorically require testing for such contaminants. Such a characterization requirement should be imposed categorically, and to the extent that a source believes that it can justify a variance based on a demonstration of a lack of such contaminants in representative sampling, it can seek such a variance.

Complete characterization of MWWTP wastes intended for land application must be required in order to fully protect farmland, farmers, the economic stability of the municipalities with respect to creation of open-ended environmental liabilities, and the environment.

- **Complete Lack Of Public And Nearby Property Owner Notice**

Also missing from 401 KAR 45:105 is any public notice or notice to adjoining landowners and farm owners whose properties might be adversely affected by the land application authorized under that regulation.

45 KAR 1:05 Section 3(5) provides that the person who prepares the biosolids is obligated to notify the persons applying the biosolids **or** the owner of the site that the biosolids may contain "constituents from an industrial pretreatment program." (6) requires that those notifications be given to adjoining landowners.

No indication of when that notice is required to be given, so it may be long after the neighbor can do anything about it. No public notice of application for a permit is required, depriving nearby landowners of the opportunity to protect their lands and environmental health and quality interests where such application is proposed.

The lack of public notice in application form and in proposed regulation 401 KAR 45:105 with respect to land application of biosolids is arbitrary,

capricious, and otherwise inconsistent with law. There is nothing in the nature of the MWWTPs proposed to be regulated under the new 401 KAR 45:105, that justifies any weakening of public and nearby landowner notice and opportunity to be heard on proposed land application of biosolids. The public notice issue is further addressed below.

Attachment 15 appears to require a list of adjacent property owners, but it is unclear what cabinet will do with that information. Notice should be required to be given to all first- and second-tier landowners in order to assure both that the Cabinet has all pertinent local environmental information needed to make a reasoned decision, and so that nearby landowners can avail themselves of administrative review processes in order to address any concerns relative to the proposed land application and the waste proposed to be land applied. The Cabinet should be aware that, lacking any notice of a proposed or issued permit for land application of biosolids, the administrative and judicial review mechanisms available to an aggrieved party under KRS 224.10-420 and 224.10-470 may not be triggered until after actual land application commences, thus exposing the landowner and MWTTP owner/operator, as well as the Cabinet, to challenges regarding the issuance of permits, at a much later time than would be the case under an orderly notice and comment process.

- **Lack Of Sufficient Standards For On-Site Management And Application Of "Biosolid" Sludges**

  Allowing indefinite storage of biosolids with no requirement for land application is an invitation to environmental runoff and nuisance problems. 401 KAR 45:105 should require that biosolids received on a site be land-applied and incorporated into the soil within two days. No open-air storage of biosolids should be allowed in order to prevent nuisance conditions and runoff from solid piles.

  Limiting buffer zones to 30 feet for adjoining properties, and failing to address the timing, manner, and limitations on the incorporation of the sludges into the soils, is a recipe for creation of nuisance conditions. Given that the statutory authorization for development of this program specifically protected the ability of the Cabinet to impose such siting criteria as it deemed necessary to protect public health and the environment, the Cabinet is specifically requested to provide affirmative consideration as to the basis for distinguishing between

those setbacks and environmental performance standards applicable under 401 KAR Chapter 45 to non-biosolid MWWTP wastes that are land applied under a landfarming permit, and those which will be land applied under the new regulation under far lesser setbacks and siting restrictions. Lacking a basis in sound science, or in the composition or fate and transport characteristics of the new waste category, such distinctions are quintessentially arbitrary.

- **Lack Of Requirement For Landowner Informed Consent**

  There does not appear to be any requirement for an acknowledgment based on informed consent by the landowner receiving potentially contaminated municipal sewage sludge. If the cities want to contaminate their own land by applying municipal wastewater sludges containing PFAs and other contaminants to city-owned lands of no agricultural value, that is one thing. But to allow potentially (or actually) contaminated city waste sludges to be applied to the lands of another, without requiring that the individual be informed of the composition of the sludges and the presence (or lack of testing for the presence) of potentially harmful and bioaccumulative toxins such as PFAs, is wholly inappropriate. The lack of any requirement to inform landowners about possible negative implications of accepting the sludges, particularly since those sludges will not be appropriately characterized for the full range of potential contaminants, is of significant concern. A signed, notarized statement indicating knowledge of, and acceptance of the risks associated with land application of MWWTP sludges that have been but partially characterized and may contain contaminants of concern, should be required.

- **Lack Of Clear Requirement in 401 KAR 45:105 To Comply With Environmental Performance Standards Of 401 KAR 30:031**

  The lack of obligation to meet the environmental performance standards of 401 KAR 30:031, as noted above, is troubling, and must be restored to any package of regulations governing biosolids. If it is the intent of the Cabinet to exempt this category of land application operations from compliance with 401 KAR 30:031, the Cabinet is requested to provide affirmative consideration as to the scientific and legal justification for such an exemption.

- **Indemnification For Claims**

  By creating a regulatory framework that allows cities to off-load their responsibility to properly manage and dispose of sewage sludges, onto unsuspecting rural landowners hungry for an inexpensive source of nutrients and kept in the dark concerning the presence of pollutants in the sludges that can harm their health, damage their soils, and contaminate their crops and livestock, the Cabinet invites the creation of a new generation of superfund sites that will require cleanup of soil and groundwater contamination, and expensive disposal of the contaminated soils, by current or future landowners.

  It is fundamentally unfair to allow the shifting of responsibility from the urban communities that create the waste problems, to rural landowners who are intentionally kept ignorant of the risks associated with the land application of these wastes.

  In order to incentivize the responsible management of sewage sludges that are contaminated with PFAs and other bioaccumulative and persistent wastes, a provision is needed to clearly impose ongoing responsibility on the generators of these sludges (i.e. the cities) for any environmental or public health harm caused, and for any remediation costs under state or federal law, and to indemnify and hold harmless any farmer who land applies their sewage sludges where the composition of those sludges is such that environmental harm occurs to the public or environment.

- **Other Concerns**

  40 CFR 503.5(b) also clearly provides that "Nothing in this part precludes a State or political subdivision thereof or interstate agency from imposing requirements for the use or disposal of sewage sludge more stringent than the requirements in this part or from imposing additional requirements for the use or disposal of sewage sludge."

  Yet the agency has failed abjectly to take advantage of this clear invitation to go beyond the minimum standards as needed to protect public health and the environment.

- 40 CFR Part 503 requires various certified statements from different parties, including the generator, the preparer, and the land applier, yet the Kentucky proposed regulation does not, instead having just one certification statement for the annual report. The regulations should be revised as necessary to impose certification requirements for 40 CFR Part 503-governed biosolids consistent with those currently required by federal regulation.

- There is uncertainty regarding which siting restrictions are intended to be applicable to land application of biosolids, particularly with regards to soil permeability, since what is in the 401 KAR 45:105 regulation is less clear than what was previously applicable in 401 KAR 45:100.

- The process for conversion of existing permits is unclear with respect to facilities operating under a registered permit by rule sludge giveaway authorization. 401 KAR 45:105 Section 6(2) could be construed as applicable to RPBRs that are managing biosolids as well.

- Renewal applications for permits should be required to be submitted with sufficient lead time to allow the agency to review the application and for public notice and comment on the proposed renewal.

- 401 KAR 45:105 Section 5 appears to allow geological determinations to be made using very limited data consisting of two maps which are not site-specific. This section could be interpreted to allow the public practice of geology pursuant to KRS 322A (as defined in KRS 322A.010) by a person who is not qualified pursuant to that statute. This section should be clarified so that the subject investigation and resulting determinations shall be performed by a qualified professional pursuant to KRS 322A.

- Under 401 KAR 45:100 the setback and buffer zone distances varied depending on whether the waste was surface applied or subsurface injected. The new regulation does not so differentiate. Surface application can increase the possibility of off-site odors, and of runoff affecting receptors. Setback distances should be expanded where surface application is proposed rather than immediate incorporation into soil, and strict limits should be imposed requiring incorporation of applied wastes into as soil as the rule in order to minimize off-

site odor and runoff, subject to waivers where no environmental or human receptors are present within a reasonable distance.

- 401 KAR 45:105 Section 6(1) unnecessarily handicaps the cabinet by specifying that it cannot ask for additional information not in the permit application even if necessary to protect human health and the environment. Such a limitation is inconsistent both with proper regulatory practice and is inconsistent with the governing statutes for the Cabinet. KRS 224.10-100.

- To close a land farm site under the proposed rule it appears that all a party has to do is to send a letter. Under 401 KAR 45:100, the Cabinet would have required a closure report showing the amount of waste and metals supplied in the final months and year of operation. A closure report should be required for any land application sites subject to the new regulatory framework.

- The proposed regulation at 401 KAR 45:105 does not address which, if any, of the restrictions in the regulation are subject to a variance, and what standards would be applicable in consideration of such a variance.
- The proposed amendments to the regulations in 401 KAR Chapter 45 that exempt the land application of "biosolids" from the regulations otherwise applicable to sludge landfarming operations, created a number of regulatory gaps where the new regulation at 401 KAR 45:105 has not picked up and incorporated the requirements formerly applicable to that subcategory of sewage sludges. For example, the requirement that permit applicants submit complete applications appears to have been removed. Similarly, the new subcategory of land application operations appears to have been exempted from groundwater monitoring, assessment, and remediation, as well as financial responsibility obligations that previously applied to landfarming operations. To the extent that such requirements are no longer applicable to this subcategory of sludge land application activities, the Cabinet is requested to provide specific affirmative consideration to the basis in law and science for such distinctions.

  Specifically, and without limitation, the formerly applicable requirements of 401 KAR 45:160 regarding surface and groundwater monitoring appear to have been eliminated and should be reinstated in their entirety by eliminating the proposed amendment to 401 KAR 45:160. The previous application of these requirements, and the continued application of these requirements to *other*

categories of land-applied wastes, reflect a Cabinet determination that such requirements were necessary to protect public health and the environment. To the extent that this subcategory of waste sludges is to be exempted from complying with surface and ground water monitoring, the Cabinet is requested to provide specific Affirmative Consideration of the scientific and legal justification for exempting this subcategory of wastes and their land application from such obligations. The Cabinet is also requested to square the amendment to 401 KAR 45:160 eliminating land application of biosolids from that regulation, with the text in 401 KAR 45:105 Section 8(3) providing for modification of a biosolids permit in the event that a corrective action requirement has not resulted in compliance, or to impose a corrective action plan under 401 KAR 45:160. If 401 KAR 45:160 exempts biosolids land application, it is difficult to understand how 401 KAR 45:105 Section 8 could make the regulation applicable.

- 401 KAR 45:140 includes the general duties for any special waste permit, including the duty to apply, duty to mitigate, duty to reapply, duty to halt or reduce activity, duty to allow inspections, duty of proper maintenance and operation, and establishment of permit conditions as needed to protect health and the environment. The intent, according to the regulatory explanation, is to eliminate biosolids from this regulation, even though the actual language of the regulation doesn't do that. All of these requirements should be restored with respect to biosolids land application, or specific justification provided as to why the requirements are being removed with respect to this subcategory of wastes.

- Consideration should be given to incorporation of a prohibition on land application of biosolids similar to that recently enacted in Maine. Consideration should be given also to the testing requirements recently adopted by Michigan for PFAs.

- Several other states regulate and impose land application limits on phosphorus in addition to nitrogen, and Cabinet is aware that in cases where the soil concentration of phosphorus is already at the level meeting agronomic needs, excessive application can create on and off-site problems. Testing for phosphorus in both the waste and soil should be required to assure that the land application does not overwhelm the capacity of the land to and crop uptake.

Conclusion

In closing, the short-term interests of the cities in finding a way to inexpensively dispose of their municipal wastewater treatment sludges, by allowing land application of those sludges by third parties without proper controls, characterization, and accountability, appears in the proposed regulations to have trumped the protection of public health, the environment, and of agricultural land and of those who receive and land apply the wastes. If the cities cannot control or address the contamination of the sludges through pretreatment or other means, to assure that the sludges they sell or give to farmers for land application are **in fact <u>only</u>** "nutrient-rich," "organic," and which will "improve" or "maintain" productivity of the soils, rather than contaminate them and render them unusable, then the cities should utilize other and more responsible and accountable approaches to special waste management.

For the reasons stated above, KRC respectfully requests that the scope of 401 KAR 45:105 be narrowed to govern only those operations proposing to land apply biosolids generated from MWWTPs that treat domestic sewage rather than those commingling industrial or commercial wastewaters with domestic sewage, and that the other changes proposed herein be incorporated into the final administrative regulations.

Cordially,

/Tom FitzGerald/
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Of Counsel
Kentucky Resources Council, Inc.