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nebra
North East Biosolids & Residuals Association

Cooperatively promoting the environmentally sound recycling of biosolids and other residuals

Senator Thomas Saviello, Chair
Rep. Ralph Tucker, Chair
Joint Standing Committee on Environment & Natural Resources
c/o Legislative Information
100 State House Station
Augusta, ME 04333

Delivered in hearing and to Committee assistant: Dylan.Sinclair@legislature.maine.gov.

February 14, 2018

Re: (L.D. 1797) Bill "Resolve, Regarding Legislative Review of Portions of Ch. 418…"

Dear Chairmen Saviello and Tucker and Members of the Committee,

Thank you for the opportunity provided by this hearing regarding adoption of the provisional Chapter 418 as final regulations of the Department of Environmental Protection (DEP).

NEBRA is a membership association of water quality professionals and managers of wastewater biosolids and other residuals. Our Maine members include the water resource recovery facilities of Portland Water District, South Portland, Bangor, Brewer, Lewiston-Auburn, Waterville, Saco, Falmouth, Yarmouth, Mechanic Falls, Sanford, and Boothbay, as well as engineering firms and various supporting contractors. They are the expertise in wastewater treatment and biosolids & residuals management in Maine.

For decades, one of the most successful recycling programs in Maine has been the recycling of biosolids – treated and tested and regulated wastewater solids. Every year, 70% or more of the state's wastewater solids have been put to use in bulk on farms and in composts and other soil amendment products. Paper mill residuals have also been recycled, also helping build soils and putting to use materials that would otherwise end up in landfills, generating the potent greenhouse gas methane. While Maine has long been the biosolids recycling leader in New England, all other states in the nation also recycle significant amounts of biosolids to land for agriculture, silviculture, horticulture, and land reclamation (agronomic uses).

Maine DEP regulates the *agronomic* use of biosolids and residuals under Chapter 419. While Chapter 418, the subject of today's hearing, does not directly apply to *agronomic* uses of recycled materials, Chapter 419 (2015) references Appendix A of Chapter 418. Specifically, for example, Paragraph 5(A)(6) of Chapter 419 requires that agronomic use of a residual be suspended if sampling and testing determine that a soil concentration of any contaminant exceeds the levels listed in Chapter 418, Appendix A. There are other references from Chapter 419 to Chapter 418 Appendix A; see:

- Paragraph 7(A)(4)(a) screening standards,
- Paragraph 7(A)(4)(b) loading rate,
- Paragraph 8(A)(note), and
- Paragraph 8(B)(4) hazardous substances.

What we are concerned about is the inclusion, for the first time ever, of per- and polyfluorinated alkyl substances (PFAS) in Appendix A – specifically PFBS, PFOA, and PFOS. The inclusion of these three compounds implies a high level of scientific certainty regarding the behavior and impacts of these compounds of emerging concern. Such an impression is inaccurate. PFBS, PFOA, and PFOS are ubiquitous in society and the environment, and the science on their public health implications is still developing. More importantly, how they behave when placed on land in biosolids, residuals, and/or soil is not well researched, and attempting to place a concentration limit in Appendix A, based on the potential for leaching to groundwater or other fate and transport, cannot be justified at this time. We have talked with DEP staff and understand that levels for PFAS included in the provisional regulation were developed through generic risk modeling involving assumptions and inclusion of uncertainty factors that we believe are indefensible.

Since biosolids and other residuals reflect the chemistry of our daily lives, they contain measurable trace levels of PFAS. For PFOA and PFOS, many typical biosolids and residuals without any industrial inputs contain levels above the levels proposed for inclusion in Appendix A.[1]

Therefore, we urge the Committee to strike from Appendix A the three PFAS compounds PFBS, PFOA, and PFOS. We would urge the DEP to wait until more data becomes available to run appropriate, accurate risk modeling. The science is just not there yet. And including PFAS now risks disrupting important, ongoing recycling programs that Maine communities depend on.

Even as we argue against creating standards or screening levels of PFAS compounds applicable to residuals and biosolids, we in the water quality field have been proactively gathering data and facilitating research to better understand the implications of the broad PFAS concern with regard to modern-day biosolids & residuals management programs. We are glad to share what we have learned. We are developing guidance and best practices to further reduce any potential PFAS-related risks, even as we track the developing science.

Further details:

- In an earlier draft of Chapter 418, Appendix A, Maine DEP switched to use of EPA Regional Screening Levels (RSLs) for most of the chemicals listed, but modeled PFBS, PFOA, & PFOS with Maine's SESOIL model, resulting in absurdly low – and, frankly, unmeasurable – concentrations. They had no idea that these numbers might affect residuals and biosolids management.
  PFOA: 0.000438 ppb
  PFOS: 0.000908 ppb
  Reminder: a ppb is one second in ~32 years.
- Comments from NEBRA and others led DEP to turn to use of the RSL process for the three PFAS. The published provisional rule of January, 2018, which you have before you, includes these screening levels:
  PFOA: 2.5 ppb
  PFOS: 5.2 ppb
- These numbers are still exceptionally and indefensibly low, and many typical recycled Maine biosolids and residuals products will not be able to meet them, if and when DEP decides to require that biosolids and

[1] The Department's proposed value for PFBS is 1.9 mg/kg (parts per million); tests of biosolids we have seen have PFBS in the range of 0.005 mg/kg. This means the proposed Appendix A value for PFBS would likely not be an issue for management of today's biosolids and residuals products. However, we still question the ability to set such a risk-based value, because of a paucity of PFAS-related data to support risk modeling. We urge all three PFAS compounds be stricken from Appendix A.

residuals managers test for them at some time in the future. For example, here are data from our limited Northeast 2017 data on PFAS levels in today's biosolids products:

- biosolids composts:
  PFOA 3.7 – 15 ppb
  PFOS 9.9 – 21 ppb
- dewatered solids/biosolids: PFOS
  PFOA <1 – 8 ppb
  PFOS: <1 – 26 ppb (and higher)
- These are typical biosolids that do not have any industrial inputs or contamination. PFOA and PFOS are just so ubiquitous in our daily lives that they inevitably show up in wastewater and biosolids.

- There is currently no EPA-approved or consensus method for analyzing PFAS in any matrix other than drinking water! Thus, while past and current testing for PFAS is useful for *screening* purposes and advancing understanding, the results are not defensible and cannot be used for regulatory compliance. How can DEP establish levels, even for screening purposes, for which compliance cannot be demonstrated? U. S. EPA says it is currently developing an analytical method for solids and soils, but when it will be complete and defensible is uncertain.
- There is no pressing public health need to include the three PFAS in Appendix A. PFBS is less bioaccumulative and does not persist in the human body and is of low concern. PFOA and PFOS have been mostly phased out in the U. S., the EU, and Canada. Already, over the past 15 years, PFOA and PFOS levels in human blood have declined 60% (CDC NHANES, 2015). In other words, U.S. human exposure is already way down. That alone is improving public health protection dramatically.
- No other state has set this kind of standard for materials placed on land. They recognize the limitations in the science. One state that was considering (but may well decide against) setting a screening level for land applied residuals feels confident that a level of ~70 ppb in one particular situation would be protective – more than 10 times higher than what DEP has proposed in Appendix A. Their risk modeling – with uncertainty factors – is at least as good as DEP's risk modeling.
- The potential cost implications to municipalities of including PFAS in Appendix A could be significant and need to be considered. This has not been done.

We urge the Committee to require DEP to remove PFBS, PFOA, and PFOS from Chapter 418, Appendix A. When the science catches up, and if it warrants inclusion, it can be done at a future date.

Thank you for the opportunity to provide input on this small, but significant, detail.

Sincerely,

Ned Beecher

cc. Paula Clark, Maine DEP
David Burns, Maine DEP
Carla Hopkins, Maine DEP