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The Minnesota Landfill Coalition (LF Coalition) consists of Public, Private, and Utility-owned landfills in Minnesota. The LF Coalition greatly appreciates the opportunity to comment on the Minnesota Pollution Control Agency's (MPCA) draft Remediation Division PFAS Guidance document. Coalition members manage virtually all of Minnesota's remediation waste and have done so for decades at our environmentally responsible and protective disposal facilities. These state-of-the-art facilities are the only meaningfully viable disposal option for the vast majority of the PFAS remediation material envisioned in the guidance document, but due to the overall regulatory and liability uncertainty—most facilities in MN will opt not to widely accept this material until these concerns are addressed.

The guidance does not provide a balanced discussion of the highly-effective waste containment provided in modern Subtitle D landfills. The guidance should be revised to current these deficiencies. Modern engineered landfills have the ability to contain or sequester PFAS.

- Modern engineered composite-lined landfills have an excellent track record in preventing releases to the environment. (Caldwell, et al., 2006).
- Recent studies have shown that geomembrane liners are highly effective at restricting movement of PFOA/PFOS. (Di Battista et al., 2020).
- An increasing number of studies indicate that PFAS are sequestered in landfills - i.e., landfills are net PFAS sinks (Kremen, 2020; Zemba, 2022; Sanborn 2019).

Currently, sites sampling remediation material for PFAS are experiencing difficulties in finding disposal options because the landfills are not accepting the material due to the unknown regulatory and liability risks. The primary drivers of the industry's concerns are the following:

- Regulatory uncertainty at both a Federal & State level.
- Lack of "passive receiver" regulatory exclusion EPA/MPCA from CERCLA/MERLA.
- General Liability and Risk of 3rd party lawsuits under CERCLA/MERLA.
- Potential rejection of landfill leachate by WWTPs due to PFAS concerns

Until these issues are resolved, it is unlikely that landfills will accept PFAS remediation material for disposal, since the potential regulatory consequences and legal risks far outweigh what marginal revenue gained from tip fees. Again, we agree with the guidance document's conclusion that modern landfills appear to be the most viable management method for much of this material for the foreseeable future, but we feel it premature to roll out the guidance in actual practice until these issues are resolved.

Additionally, we are concerned about how this guidance will affect legacy or unlined facilities, since they are listed in the "Desktop Review" and "Annex 1" portions of the guidance document. PFAS is ubiquitous in the environment, as MPCA recognizes in the guidance, and it is a virtual certainty that there will be PFAS detected from sources other than our facilities. A recent study (Cousins et al., 2022) has documented that levels of PFOA and PFOS in rainwater often exceed lifetime drinking water standards. Even MPCA acknowledges on page 12 that, *"Due to the ubiquity of PFAS in the environment, atmospheric*

deposition directly impacts the occurrence of PFAS in what would be considered background, unpolluted areas. Background concentrations of PFAS therefore represent “ambient” conditions due to atmospheric deposition, even in the absence of a release. Atmospheric deposition may also have occurred from on-site releases as well which can result in several migration pathways to soil, surface water, and groundwater.”

We also know from the studies cited above that only a small fraction of PFAS that enters a landfill will end up escaping as leachate. Since these areas are capped (and in practice should be generating less impacts to groundwater with the passage of time) and since PFAS is still currently being introduced into the environment by sources other than our facilities, we are concerned that our facilities will be enforced upon or sued for problems we did not create.

Lastly, LF Coalition members do not support the lack of transparency and exclusive nature of the process the MPCA used in drafting this guidance document. LF Coalition members are essential stakeholders and valuable experts in this field, but we were not given any opportunity to provide our valuable feedback and expert advice in the process. In fact, our members requested to observe the stakeholder meetings and were denied by the MPCA. Additionally, MPCA did not release informal drafts to essential stakeholders for comment, which has been successful in the past by allowing stakeholder feedback to be incorporated into draft policy before it has been formally put on public notice (where making edits and modifications is more difficult). As always, our industry is eager to work collaboratively with the MPCA in all areas of policy to responsibly (and realistically) manage PFAS remediation materials in Minnesota.

Sincerely,

Roger Schroeder

Facilitator, Minnesota Landfill Coalition – PFAS group