October 15, 2024

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U.S. Environmental Protection Agency
EPA Docket Center, OLEM Docket
Mail Code 28221T
1200 Pennsylvania Avenue, NW
Washington, DC 20460

Re: Interim PFAS Destruction and Disposal Guidance; Docket ID No. EPA-HQ—OLEM—2020-0527

Dear Assistant Administrator Breen:

The American Petroleum Institute (API) and the American Fuel & Petrochemical Manufacturers (AFPM) respectfully submit these comments on the U.S. Environmental Protection Agency's (EPA's) Notice of Availability for Public Comment, Interim PFAS Destruction and Disposal Guidance (89 Federal Register 26879, April 16, 2024, Docket ID No. EPA-HQ-OLEM-2020-0527). API member companies are leaders of a technology-driven industry that supplies most of America's energy. They support more than 10.3 million jobs and nearly 8 percent of the U.S. economy, and since 2000, has invested more than $3 trillion in U.S. capital projects. API's members are involved in all major points of the chemical supply chain—from natural gas and crude oil production to refinery production of fuels and other products, to service companies using chemicals. AFPM represents America's petrochemical refining and manufacturers, with facilities across the United States producing gasoline, diesel, jet fuel, and other products that keep America's transportation running. AFPM members support more than three million quality jobs, which contribute to our economic and national security while enabling the production of thousands of vital products used by families and businesses throughout the United States.

The members of our associations have a strong interest in this rulemaking. Our members and the public have relied on perfluoroalkyl substance (PFAS)-containing aqueous film-forming foams (AFFF), i.e., Class B fluorinated firefighting foams, for essential life-saving firefighting, community mutual aid, and fire prevention training activities. Our members are significantly engaged in the identification of suitable replacements for AFFF-containing long-chain perfluorooctanoic acid/perfluorooctane sulfonate (PFOA/PFOS) compounds. We support the ongoing transition to such replacements, though that will require additional years of development and testing.

We recognize our responsibility to work with the public, the government, and others to use natural resources in an environmentally sound manner while protecting the health and safety of our employees and the public. API and AFPM members are committed to the safe management and disposal of PFAS wastes. We support balanced approaches to manage these substances that are grounded in sound science, appropriately consider risk, and use efficient, proven technologies.

API previously signed on to comments on the 2021 draft of the Interim Guidance prepared by the U.S. Chamber of Commerce and the PFAS Regulatory Coalition. Several comments below on the current draft mirror the comments on the 2021 draft.

Summary of Comments

API/AFPM's comments address the following five topics:

1. EPA should update the Interim Guidance on an ongoing basis as additional information becomes available.

2. The Interim Guidance continues to lack information on waste characterization and associated testing.

3. The Interim Guidance should not specify preferred temperatures for thermal treatment until it can support such a recommendation with sufficient research.

4. EPA must rigorously assess the current and future waste management capacity for PFAS waste.

5. The discussion of underground injection control (UIC) in the Interim Guidance highlights the need to ensure that PFAS wastes can be disposed in both hazardous and non-hazardous Class I wells.

Detailed Comments

1. EPA should update the Interim Guidance on an ongoing basis as additional information becomes available.

Throughout the Interim Guidance, EPA acknowledges the significant gaps in knowledge regarding the effectiveness of various treatment and disposal technologies for PFAS-containing materials. With regard to thermal treatment, the guidance notes that "further research is needed to gain a better understanding of what may be possible in practice."[1] For landfills, EPA notes that research is needed "to understand the effects of PFAS on liner integrity, gaseous emissions from landfills, the effectiveness of leachate treatment for PFAS removal, and the levels and types of PFAS in landfill leachate."[2] EPA also describes in detail the full range of research needed to "inform future guidance updates" in Section 5 of the Interim Guidance.

These data gaps present real challenges and uncertainties to entities that generate PFAS wastes and seek environmentally protective approaches for the management of these materials. These challenges are heightened due to significantly increased liability associated with PFAS releases to the environment imposed under both CERCLA and RCRA and their state equivalents.

Therefore, it is vital that as new information becomes available regarding proven and commercially available treatment and disposal technologies, this information is made available to the regulated community as soon as feasible. The National Defense Authorization Act requires EPA to revise the guidance "as the Administrator determines to be appropriate, but not less frequently than once every 3 years."[3] We urge EPA to provide updates as soon as any new information becomes available that would aid in a better understanding of the viability or protectiveness of a treatment or

[1] Interim Guidance, p. 59.

[2] Interim Guidance, p. 66.

[3] Public Law No. 116-92.

disposal technology or that changes the information presented in the current guidance and not wait for the maximum three years.

2. The Interim Guidance continues to lack information on waste characterization and associated testing.

The PFAS Regulatory Coalition's comments on the 2021 Interim Guidance (to which API was a signatory) recommended that EPA include a section on waste characterization and associated testing of potential waste materials. Unfortunately, the revised guidance does not include such a section. While the revised guidance addresses testing and monitoring for the various treatment technologies reviewed, EPA does not include a discussion of how to characterize the waste stream inputs or how such information could affect each technology's efficacy and potential environmental impacts.

The lack of such a section highlights the fact that EPA has not finalized any validated analytical test methods for measuring PFAS compounds in any environmental media other than drinking water. The lack of any validated analytical methods from EPA for the full range of matrices creates major challenges for identifying what waste stream materials contain PFAS and at what levels. This is a fundamental problem in any effort to properly evaluate treatment technologies, and EPA must work to promulgate reliable, scientifically defensible analytical methods.

3. The Interim Guidance should not specify preferred temperatures for thermal treatment until it can support such a recommendation with sufficient research.

The Interim Guidance provides an overview of thermal treatment options, the status of research related to these options, and the important need for additional research on effective thermal treatment conditions for treating PFAS-containing materials. Despite articulating the clear need for additional research, this version of the Interim Guidance implies a recommended minimum temperature for thermal treatment: "[t]he preliminary research on thermal treatment of PFAS suggests that the minimum conditions for PFAS destruction include well mixed environments with temperatures greater than 1,100ºC . . .[4] This statement is based on a single EPA Office of Research and Development study, which concluded that destruction efficiency (DE) alone may not be the best indication of total PFAS destruction and that "additional PIC characterization may be warranted."[5]

Presenting the results of this single study is certainly important in communicating the most recent research regarding thermal treatment. However, specifying that this preliminary research provides the "minimum conditions" for thermal treatment and that those minimum conditions include temperatures at 1,100ºC or above is premature. Both the study and the guidance do not provide justification for concluding that lower temperatures would <u>not</u> be suitable for disposal. Until the additional research on thermal treatment as specified in the Interim Guidance is completed, EPA should refrain from characterizing the results of this study as establishing minimum conditions for thermal treatment.

[4] Interim Guidance, p. 53.

[5] Shields, E. P., Krug, J. D., Roberson, W. R., Jackson, S. R., Smeltz, M. G., Allen, M. R., Burnette, P., Nash, J. T., Virtaranta, L., Preston, W., Liberatore, H. K., Wallace, M. A. G., Ryan, J. V., Kariher, P. H., Lemieux, P. M., and Linak, W. P. (2023). Pilot-scale thermal destruction of per- and polyfluoroalkyl substances in a legacy aqueous film forming foam. ACS ES&T Engineering.

4. EPA must rigorously assess the current and future waste management capacity for PFAS waste.

Waste management capacity is a crucial issue that will require significant attention. Capacity to accept PFAS wastes is affected by a variety of factors, including state and local regulations, uncertainties and concerns waste management facilities may have about future liabilities, competition with other types of waste generation (i.e., hazardous waste), and the future regulation of PFAS wastes. The existence of protective waste management technologies is of no use if the capacity does not exist for generators in all regions of the United States to use these technologies.

Yet, the revised Interim Guidance includes only a minimal discussion of the capacity of existing waste management facilities to accept PFAS waste both now and into the future (*see* Section 1.c.ii of the Interim Guidance). It is incumbent upon EPA to thoroughly analyze these capacity issues in a structured manner beyond the short discussion in the current guidance. If such an analysis is not incorporated into future revisions of the Interim Guidance, it should be conducted as a stand-alone evaluation. At a minimum, EPA must include an evaluation of PFAS wastes in its Capacity Assurance planning as required under 104(c)(9) of CERCLA. While that analysis addresses hazardous waste treatment and disposal facility capacity only, it is important to consider the impact of PFAS wastes even though they are not classified as hazardous wastes. Generators of PFAS waste are and will continue to manage at least some portion of PFAS wastes in permitted hazardous waste facilities, therefore regardless of waste classification, PFAS wastes will have an impact on hazardous waste capacity and therefore must be considered in EPA's 104(c)(9) capacity assurance planning.

5. The discussion of underground injection control (UIC) in the Interim Guidance highlights the need to ensure that PFAS wastes can be disposed in both hazardous and non-hazardous Class I wells.

Of the treatment and disposal methods reviewed, EPA is most definitive on the protectiveness of underground injection in Class I hazardous waste and non-hazardous industrial wells, noting that such disposal "reduces the potential risks of human exposure to injected materials, avoiding discharge to surface and shallow groundwater and generating little or no air emissions.[6] API and AFPM concur with EPA's conclusions regarding the protectiveness of Class I wells.

As noted in the Interim Guidance, there are far more Class I non-hazardous UIC wells than Class I hazardous wells. If PFAS-containing wastes are classified as RCRA Subtitle C hazardous wastes at some point in the future, it would preclude the use of most Class I wells, despite EPA recognizing that these wells offer one of the more protective methods for disposal. Ensuring that Class I non-hazardous UIC wells are available for PFAS-containing liquids should be an important priority if EPA considers whether PFAS wastes warrant regulation under Subtitle C.

[6] Interim Guidance, p. 94.

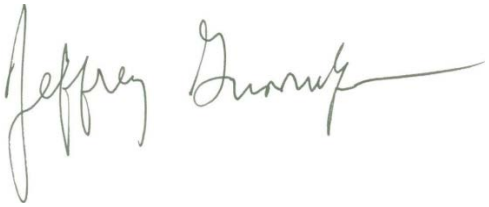
6. Conclusion

API and AFPM appreciate the opportunity to submit these comments. We look forward to working closely with EPA as it collects more information that will reduce the uncertainty related to the management of PFAS-containing materials.

Please contact us if you have any questions or request additional information related to the issues raised in these comments.

Sincerely,

Roger Claff
Senior Policy Advisor



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