

USEPA Drills Down on Industry-Specific PFAS Issues and Progresses to Broader PFAS Regulation

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For some time now, the U.S. Environmental Protection Agency (USEPA) has been evaluating several industrial point sources for discharges of per- and polyfluoroalkyl substances (PFAS) in wastewater and leachate. On January 31, 2023, USEPA published in the *Federal Register* its *Effluent Guidelines Program Plan 15* (Plan 15), which presents preliminary conclusions from the agency's ongoing Multi-Industry PFAS Study. Among other things, Plan 15 aggregates USEPA's PFAS data and analyses, proposes additional PFAS studies, and presents ongoing rulemakings on PFAS effluent limitations guidelines and pretreatment standards (ELGs). The agency also offers strategies to reduce PFAS discharges from industrial sources and in landfill leachate. Members of the industries addressed in Plan 15 should closely monitor the progress of USEPA's PFAS studies and rulemakings, as future regulation is all but guaranteed.

Background

Under the federal Clean Water Act, USEPA publishes ELGs, which are national, industry-specific, technology-based regulations¹ that limit permitted industrial wastewater discharges to surface waters and publicly owned treatment works. USEPA is required to annually review the ELGs and biennially publish a plan that, among other things, evaluates potential guidelines for previously unregulated industries and/or contaminants (such as PFAS). In line with those obligations and through Plan 15, USEPA presents the results of its ongoing, industry-specific evaluation of PFAS point sources, also known as the Multi-Industry PFAS Study. The agency is focused on six industries: (1) airports; (2) textile mills; (3) pulp, paper, and paperboard producers; (4) landfills; (5) organic chemicals, plastics, and synthetic fibers (OCPSF) manufacturers; and (6)

the metal finishing industry (specifically, chrome finishing). We present below a brief overview of the USEPA's industry-specific findings.

Airports²

Aqueous film-forming foam (AFFF)—a firefighting substance—is a classic source of PFAS discharges. Through the Multi-Industry PFAS Study, USEPA determined that AFFF is still used by many airports across the country, as it is currently the most suitable product on the market to meet strict extinguishing-performance regulatory requirements. Thus, airports will continue to use PFAS-based AFFF until a viable alternative is available. In Plan 15, USEPA documents its efforts to understand the potential for PFAS discharges through airport wastewater and to monitor the phaseout of AFFF. USEPA makes several recommendations to minimize AFFF releases during mandatory testing. It also documents the amendment of airport regulations to require that AFFF with the lowest demonstrable levels of PFAS be used until a PFAS-free replacement is available. Airports, USEPA, the Department of Defense (DOD), and the Federal Aviation Administration (FAA) are actively researching PFAS-free foam alternatives, but at this time, no alternative has met the extinguishing performance of AFFF. Once a PFAS-free alternative is identified, the FAA and the DOD will determine whether to allow airports to use existing AFFF stockpiles or to require an immediate shift to the PFAS-free alternative.

Textile Mills³

PFAS are still used by textile mills to, among other things, apply water-, oil-, soil-, and heat-resistant coatings to clothing, fabrics, and carpets and

¹ USEPA defines "technology-based" regulations as those that address the performance and cost of wastewater treatment and control technologies. See <https://www.epa.gov/eg/effluent-guidelines-plan>.

² See Plan 15 at pdf. pages 40-42.

³ See Plan 15 at pdf. pages 43-48.

improve cleanability of textile products. However, most textile mills do not currently monitor PFAS in wastewater. Because the limited available data suggested that PFAS may exist in wastewater, USEPA began a study of textile mill wastewater discharges. The ongoing study included outreach to six state agencies and wastewater treatment coordinators and data collection from textile mills that use PFAS. In Plan 15, USEPA presents preliminary results of that data collection, including average PFAS-compound concentrations. As the data has not yet matured to the point of supporting revisions to existing textile mill point source category ELGs, USEPA will expand the study to include a mandatory, nationally representative textile mill questionnaire. Although no time frame was given, textile mills that use PFAS should watch for this questionnaire in the coming year.

Pulp, Paper, and Paperboard Producers⁴

Pulp, paper, and paperboard producers are another potential source of PFAS discharges being evaluated by the USEPA. This industry uses PFAS as a coating or additive to provide water, oil, and grease resistance to, among other things, food contact papers. Through the Multi-Industry PFAS Study, USEPA learned that only a small subset of facilities is actively applying PFAS, and the paper products generated by those facilities were less than 0.1 percent of the industry's overall production. It also learned that this industry has plans to phase out PFAS use by the end of 2023. Despite those findings, Plan 15 presents data suggesting that some facilities are still discharging PFAS in wastewater. Therefore, while USEPA is not prioritizing this industry for rulemaking, it will continue to monitor the potential for legacy discharges after the PFAS-free transition is complete.

Landfills⁵

In 2021, USEPA began studying PFAS in landfill leachate, i.e., landfill-generated wastewater. It looked at discharge data from more than 200 landfills across the country and found PFAS in leachate in over 95 percent of the landfills. It detected 63 different PFAS compounds and an individual PFAS compound concentration⁶ as high as 14,000 parts per trillion (ppt) (for reference, New Jersey's maximum contaminant levels for three regulated PFAS compounds range from 13 to 14 ppt). USEPA estimates that nearly 13.2 million people live within one mile of a landfill.

Based on that data, USEPA has deemed it necessary to develop landfill ELGs and pretreatment standards designed to regulate PFAS discharges in leachate. USEPA will revise the existing landfill point source

category ELGs to address those discharges, though it currently has no timetable for that rulemaking.

OCPSF Manufacturers and the Metal-Finishing Industry⁷

Within the broader OCPSF category, PFAS manufacturing facilities are an obvious source of PFAS discharges in wastewater. Through the Multi-Industry PFAS Study, USEPA collected data sufficient to show that revisions to existing ELGs are necessary for this point source category. Based on that data, and using information generated from site visits and questionnaires, USEPA intends to publish a rule by spring 2024 that will regulate PFAS in wastewater from PFAS manufacturing facilities. It will also continue to evaluate the need for additional regulation of PFAS manufacturers.

For the metal finishing industry, USEPA determined that the most significant source of PFAS in wastewater is linked to the use of hexavalent chromium for electroplating, anodizing, conversion coating, and acid etching. At those chrome finishing facilities, PFAS enter the wastewater stream through a PFAS-containing suppressant that is used to mitigate exposure to hexavalent chromium fumes. Through its study, USEPA found, among other things, that (a) hexavalent chromium emissions can be mitigated using PFAS-free fume suppressants and (b) there are several technologies that can be used to treat PFAS in wastewater from chrome-finishing facilities. With that information in hand, USEPA intends to collect the data necessary to revise the chrome-finishing ELGs and is targeting the end of 2024 for publication of a proposed rule. It did not say how it would collect the necessary data.

Conclusion

USEPA's ongoing evaluation of each of these six industries illuminates the steady progression to general PFAS regulation in the United States. Members of the regulated industries must pay close attention to these developments, particularly the revisions to ELGs, as those will have a direct impact on facility operations. Facilities in industries that have known issues with PFAS in wastewater, such as landfills, PFAS manufacturing, and chrome finishing, should, to the extent they have not already done so, consider proactively evaluating and addressing PFAS in their wastewater.

If you have any questions about Plan 15, wastewater and point source regulation, or PFAS in general, please contact the authors of this article.

⁴ See Plan 15 at pdf. pages 49-52.

⁵ See Plan 15 at pdf. pages 48-49.

⁶ PFAS are a "class" of chemicals made up of individual chemical compounds. For example, perfluorooctanoic acid is an individual chemical compound within the PFAS class of chemicals. This signifies the greatest concentration the USEPA found for a single PFAS compound.

⁷ See Plan 15 at pdf. pages 58-59.

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