



MEMORANDUM

SUBJECT: Notes from Meeting with the American Forest and Paper Association

FROM: Engineering and Analysis Division
Office of Water
United States Environmental Protection Agency

FOR: Effluent Limitations Guidelines and Standards Planning Record

DATE: August 10, 2022

On April 28 and May 23, 2022, the United States Environmental Protection Agency (EPA) met with representatives from the American Forest and Paper Association (AF&PA) to discuss per- and polyfluoroalkyl substances (PFAS) use and discharge from pulp and paper mills. AF&PA is a national trade association for the United States pulp, paper, packaging, tissue and wood products manufacturing industry whose 39 member companies represent about 87 percent of pulp, paper, and paper-based packaging and tissue production capacity in the United States.¹ Information EPA has collected indicates that, over a decade ago, the pulp and paper industry ceased using long-chain PFAS for applications in grease- and moisture-resistant packaging and shifted to short-chain PFAS, authorized by the United States Food and Drug Administration (FDA) as safe for food contact paper and packaging. In recent years, the industry has voluntarily been transitioning from FDA-authorized short-chain PFAS to PFAS-free alternative chemistries. Currently, FDA-authorized PFAS is used in less than 0.1 percent of AF&PA member companies' total production. AF&PA anticipates that the transition out of all PFAS will be complete by the end of calendar year 2023, if not sooner.

PFAS have been used primarily by pulp and paper mills that manufacture food contact papers and packaging (e.g., fast food wrappers, take-out containers, bakery bags, popcorn bags, pizza box liners), but also have had limited applications for specialty paper products (e.g., carbonless forms). Chemicals used in food contact applications must be authorized by the FDA prior to entering the market because of their potential to migrate to food.

In September 2021, EPA published its [Preliminary Effluent Guidelines Program Plan 15](#), announcing intent to continue studying the Pulp, Paper, and Paperboard point source category to further understand the potential for wastewater discharges of PFAS from facilities that historically or currently use PFAS and to monitor the industry's anticipated phase out of PFAS. EPA is meeting with industry representatives and stakeholders to discuss efforts to reduce PFAS use and discharges from pulp and paper mills. See Table 1 for a list of meeting attendees, along with professional affiliation and contact information.

¹ The number of AF&PA company members and associated production reflects July 2022. A current list of AF&PA company members, association members, and associate members is available online at <https://www.afandpa.org/our-members>.

Table 1. Meeting Attendees

Name	Affiliation	Email
Jesse Levine	AF&PA, Senior Director – Energy and Environmental Policy	Jesse_Levine@afandpa.org
Paul Noe	AF&PA, Vice President – Public Policy	Paul_Noe@afandpa.org
Stewart Holm	AF&PA, Chief Scientist	Stewart_Holm@afandpa.org
Terry Webber	AF&PA, Vice President – Industry Affairs	Terry_Webber@afandpa.org
Brian D’amico	EPA, EAD Branch Chief	Brian.Damico@epa.gov
Doruntinë Rexhepi	EPA, ELG Planning Lead	Rexhepi.Doruntine@epa.gov
Ryan Novak	ERG (EPA contractor)	Ryan.Novak@erg.com

Below is a summary of the topics discussed during the meeting.

Meeting Background

In September 2021, EPA published its [Preliminary Effluent Guidelines Program Plan 15](#), announcing several efforts to address industrial discharges of PFAS, including rulemakings for the Organic Chemicals, Plastics, Synthetics, and Fibers (OCPFS) and Metal Finishing point source categories and detailed studies for the Landfills and Textile Mills point source categories. Preliminary Effluent Guidelines Program Plan 15 and a supporting report, [Multi-Industry PFAS Study – 2021 Preliminary Report](#), also summarize EPA’s collection and review of available information and data concerning PFAS discharges from the Pulp, Paper, and Paperboard point source category. While EPA announced it was not prioritizing a rulemaking for the Pulp, Paper, and Paperboard category at this time, the Agency stated it would continue to study pulp and paper mill PFAS use and potential for PFAS wastewater discharges.

As part of the Multi-Industry PFAS Study, EPA collected information and data from AF&PA and eight major companies indicating that only a small subset of facilities was actively applying FDA-authorized short-chain PFAS, the production of paper products containing PFAS at these facilities was a small percentage of the industry’s overall production, and that the industry was planning to eliminate use of PFAS by the end of 2023. EPA requested this meeting with AF&PA to discuss status of its member companies to phase-out PFAS use, potential for recycling of PFAS-treated paper products to transfer PFAS to process wastewater, and available information on type and quantity of PFAS in pulp and paper mill discharges.

AF&PA Member Companies’ Reduction of PFAS Use

In March 2022, AF&PA requested its member companies that EPA identified were using PFAS in pulp, paper, and paperboard manufacture during calendar year 2020 to provide an update on their current use of PFAS. On April 25, 2022, AF&PA submitted to EPA a spreadsheet summarizing member company responses on their ongoing PFAS use and transition to PFAS-free chemistries in pulp, paper, and paperboard manufacture. This spreadsheet is included as Attachment 1 to these meeting notes. Table 2 presents the eleven facilities EPA identified during the Multi-Industry PFAS Study as using PFAS in the production of pulp, paper, or paperboard in calendar year 2020 and summarizes new information collected on PFAS use at these facilities. As of August 2022, EPA has identified only five pulp and paper mills actively using FDA-authorized PFAS; these facilities are expected to complete phase-out of all PFAS-based production by end of 2023.

AF&PA also inquired new members joining the trade association since September 2021. AF&PA confirmed all companies that recently joined do not intentionally add perfluorooctanoic acid (PFOA), perfluorooctane sulfonic acid (PFOS), hexafluoropropylene oxide dimer acid (HFPO-DA, one chemical used in the GenX fluoropolymer processing aid technology), or any other PFAS to pulp, paper, or paperboard products.

AF&PA reiterated that in recent years, many member companies have transitioned from use of FDA-authorized PFAS to PFAS-free alternatives. As of July 2022, AF&PA estimates that FDA-authorized PFAS are intentionally used in less than 0.1 percent of AF&PA member companies' total paper and paperboard production.

Table 2. AF&PA Member Company Efforts to Reduce or Eliminate PFAS Use

Company Name	Pulp, Paper, or Paperboard Facilities Identified Using PFAS in 2020	EPA Understanding of PFAS Use and Transition to PFAS-Free Chemistries (September 2021)	AF&PA Member Company Update on PFAS Use and Transition to PFAS-Free Chemistries (March 2022)
Ahlstrom-Munksjö	1) Rhinelander Mill (Rhinelander, WI) 2) Mosinee Mill (Mosinee, WI) 3) Nicolet Mill (De Pere, WI) 4) Thilmany Mill (Kaukuana, WI) 5) Ahlstrom-Munksjö Nonwovens LLC (Windsor Locks, CN)	All 5 facilities plan to eliminate PFAS use by end of 2023.	Ahlstrom-Munksjö is ahead of schedule and has continued proactive transitioning of customers and marketplace to the company's proprietary FluoroFree® solution.
Domtar	Port Huron Mill (Port Huron, MI)	Facility permanently ceased operations in March 2021.	<i>No update. Facility closed prior to September 2021.</i>
Georgia-Pacific	Packerland Mill (Green Bay, WI)	Facility discontinued PFAS use in 2020 and purchase of PFAS-treated paper in April 2021.	<i>No update. Facility ceased PFAS use prior to September 2021.</i>
Graphic Packaging International	Texarkana Mill (Queen City, TX)	Facility plans to discontinue PFAS use by January 1, 2022 and distribute remaining inventory of PFAS-treated products by end of March 2022.	Graphic Packaging International states that, due to a priority customer market need, production will be completed and all inventory will be shipped through June 2022. Graphic Packaging also stated that qualifications of alternatives are taking more time than anticipated.
Sappi North America	Somerset Mill (Skowhegan, ME)	Facility plans to discontinue PFAS use by end of 2023.	Sappi states the use of PFAS at Somerset Mill ceased as of February 7, 2022.
WestRock Company	<i>Unspecified Facility</i>	Facility discontinued use of PFAS by end of 2020.	<i>No update. Facility ceased PFAS use prior to September 2021.</i>
<i>Unknown Prior AF&PA Member Company</i>	<i>Unspecified Facility</i>	Facility plans to eliminate PFAS use by end of 2023.	The facility closed prior to August 2022. The company that previously operated the facility is no longer a member of AF&PA.

Potential for PFAS in Process Wastewater at Pulp and Paper Facilities Using Recovered Fiber

Prior to the April 28 meeting, EPA submitted a list of questions to AF&PA regarding whether the recycle of PFAS-treated paper products may result in the transfer, and ultimately discharge, of PFAS in wastewater. EPA and AF&PA discussed these topics during the April 28 and May 23 meetings, and AF&PA submitted written response to EPA's questions on May 25. AF&PA's response are included in Attachment 2.

AF&PA estimates that 78 percent of the 340 pulp and paper mill facilities operating in the United States use recovered fiber in the manufacture of pulp, paper, and paperboard products. Approximately 32 percent of mills use only recovered fiber while 46 percent use some recovered fiber in addition to virgin fiber.

AF&PA explained that the service life of PFAS-treated food paper and packaging is brief and the recycle rate for these products is low. Based on AF&PA's *2021 Access to Recycling Study* (Attachment 3), less than 15 percent of the United States population had access to recycling for direct contact foodservice paper and packaging in 2021 and, therefore, most food contact paper and packaging is thrown in the trash at the point-of-use. Further, most member companies are targeting to recycle paper products that are as close to virgin material as possible (i.e., not products previously treated with PFAS). Some recovered fiber mills have zero tolerance for food contamination and will not accept any food contact papers and packaging for recycle. AF&PA states the extent that PFAS-treated paper products are recycled and incorporated into new products depends on the acceptance criteria of the recovered fiber mill, consumer behavior (tendency to recycle these goods), and community-specific recycling processes (including what types of materials are accepted and effectiveness of sorting). Because the production of PFAS-treated paper products is low (and continues to decrease) and most recovered fiber is not generated from PFAS-treated paper products, AF&PA does not believe that recovered fiber facilities would be a significant source of PFAS discharges.

Based on pulp and paper mill effluent data collected by the National Council for Air and Stream Improvement (NCASI) and submitted to EPA in July 2020, AF&PA asserts that PFAS concentrations in effluent from mills using virgin pulp and mills using recovered fiber are low. AF&PA also asserts that these data, included as Attachment 4, show no significant difference in type or quantity of PFAS between the two types of facilities.