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Hearing

"Perfluorinated Chemicals in the Environment: An Update on the Response to Contamination and Challenges Presented."

U.S. House of Representatives

Committee on Energy and Commerce

Subcommittee on the Environment

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Testimony of

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On behalf of the

Association of State and Territorial Solid Waste Management Officials

Main Points:

- Per- and polyfluoroalkyl substances (PFAS) are a family of manmade fluorinated organic chemicals that have been produced and commercially used for several decades. This family of chemicals, believed to number in the thousands, possess certain unique chemical and physical properties that have made them highly successful in commercial and industrial applications and products.
- These widely used chemicals are very persistent in the environment and can accumulate in the human body. There is evidence that exposure to PFAS can lead to adverse human health effects.
- Although PFAS have been manufactured and used for several decades, they could not be detected in the environment until the mid-2000s. This was due to the absence of suitable laboratory analytical methods.
- As sampling and analysis efforts have been developed, studies have now shown that PFAS are extremely widespread in the environment. They are detected in soils and sediments, surface and groundwater, wildlife, and human blood.
- Many ASTSWMO members (States and Territories) are reporting widespread impact and risks to public health and the environment from PFAS. States and Territories are struggling to deal with PFAS given many prevailing uncertainties. Some of the main problems the membership is grappling with are the ubiquitous prevalence of these chemicals, the uncertainty regarding being able to prioritize amongst the large number of chemicals in terms of human health risks, the lack of a regulatory framework (including standards) to manage usage, disposal or cleanup, the inability to provide certainty to the public in risk communications, and the limited remediation and treatment options currently available.
- Significant attention, resources, and coordination are needed to put in place on a priority basis a national regulatory framework, including standards, for environmental media such as soils, surface waters, groundwater, and drinking water.
- There is also a great need to coordinate efforts between federal and State agencies, researchers, industry, associations, etc., in researching and implementing analytical methods and remediation technologies. ASTSWMO has taken, and will continue to take, several steps to assist with this critically needed broad based national collaboration.

Good morning Chairman Shimkus, Ranking Member Tonko, and Members of the Subcommittee. Thank you for the opportunity to speak at today's hearing. My name is Sandeep Burman and I am the Manager of Site Remediation and Redevelopment for the Minnesota Pollution Control Agency. I am also a member of the Board of Directors of the Association of State and Territorial Solid Waste Management Officials (ASTSWMO). While Minnesota is a member of ASTSWMO, I am here today to testify on behalf of the association. ASTSWMO is an association representing the waste management and cleanup programs of the 50 States, 5 Territories and the District of Columbia (States). Our membership includes managers from the State environmental protection programs, including those responsible for overseeing the cleanup programs that are charged with responding to contamination from hazardous substances and wastes.

Per- and polyfluoroalkyl substances (PFAS) have emerged as one of the most complex and challenging environmental and public health issues to have confronted States in recent times. PFAS are a family of manmade fluorinated organic chemicals that have been produced and commercially used for several decades. This family of chemicals, believed to number in the thousands, possess certain unique chemical and physical properties that have made them highly successful in commercial and industrial applications and products. These widely used chemicals are very persistent in the environment and in the human body, meaning they do not break down and they can accumulate over time. There is growing evidence that exposure to PFAS can lead to adverse human health effects.

Although PFAS have been manufactured and used for several decades, they could not be detected in the environment until the mid-2000s. This was due to the absence of suitable laboratory analytical methods. As sampling and analysis efforts have been developed, studies have now shown that PFAS are extremely widespread in the environment. They are detected in soils and sediments, in surface and groundwater, in wildlife, and in humans.

States are finding PFAS at the numerous locations where they were, or are still being, manufactured and used. At these former and current industrial locations, PFAS appear to have been released into the environment in several ways, such as air emissions, spills, disposal of wastes, stormwater runoff, and discharges of process wastewater. Because of the mobility and persistence of many PFAS, the impacts to air, soil, surface water, stormwater, and groundwater are present not only at release areas but over the surrounding area, often even at considerable distances away from the source. [1]

PFAS are also increasingly being detected in the leachate from municipal solid waste landfills across the country, due to the disposal of wastes from PFAS manufacturing processes as well as from disposal of PFAS containing products.[2]

A type of firefighting foam, called Class B foam, has been extensively used for extinguishing flammable liquid fires since the 1960s. These firefighting foams are a complex mixture of both known and unidentified PFAS. These foams have been stored and used for fire suppression, fire training, and flammable vapor suppression at hundreds of military installations and civilian airports, as well as at petroleum refineries and storage facilities, and chemical manufacturing plants throughout the United States. Additionally, local fire departments across the country have used and stored Class B foams. Use of these firefighting foams constitute one of the most direct mechanisms of PFAS being released into the environment, with thousands of gallons often being released to fight fires and for training exercises. PFAS from these foams can contaminate soils, leach into groundwater, and run off into surface water.[3]

Wastewater treatment plants are another location where PFAS can be released into surface waters. PFAS from a variety of sources such as landfill leachate and industrial discharges make their way to these plants, which are not designed to adequately treat them and therefore discharge them in the effluent.

Additionally, PFAS is often concentrated in the sewage sludge. Across the country, large quantities of these sludges, often referred to as biosolids, are applied as soil amendments to agricultural lands.[4]

Many of ASTSWMO's member States are reporting widespread impacts and risks from PFAS. Alabama has reported that contamination resulting from the manufacturing and use of PFAS compounds has resulted in current fish consumption advisories and impacts to public drinking water supplies, as well as impacts to major surface water, groundwater and soil resources, including segments of the Tennessee and Coosa Rivers. Some of the sources of this contamination are from within Alabama, while others appear to be from manufacturing operations in surrounding States.

In Colorado, PFAS contamination has been found in three communities. In one particular community south of Colorado Springs, PFAS has contaminated both municipal and private water supply wells, affecting over 60,000 residents.

In Vermont, PFAS have been detected in drinking water supplies, groundwater, rivers and lakes and in air emissions from industries. PFAS have been found at landfills, locations where firefighting foam was used, at schools, in biosolids and even in soils at the top of the Green Mountains. In Bennington County, one community has PFAS contamination affecting over 500 private drinking water wells and another community has PFAS contaminated water in a public water supply affecting over 400 users.

[1,2,3,4] ITRC (Interstate Technology & Regulatory Council). 2018. PFAS Fact Sheets PFAS-1. Washington, D.C.: Interstate Technology & Regulatory Council, PFAS Team. *http://www.itrcweb.org/pfas-1*

In New Jersey, PFAS have been detected throughout the State in drinking water supplies, groundwater, rivers and lakes. Known sources include industrial discharges and locations where firefighting foam was used, primarily at military installations. A comingled plume of PFAS-contaminated groundwater exists in the southwestern part of the State, spanning three counties and encompassing an area of roughly 100 square miles. In this impact area alone, public supply wells from 13 public water systems have been affected and, to date, the New Jersey Department of Environmental Protection (NJDEP) and responsible parties have provided treatment or an alternate water supply for more than 200 residences with PFAS-contaminated drinking water wells. Concentrations of perfluorononanoic acid (PFNA) in the hundreds of parts per trillion (ppt) have been detected in the waters of the Delaware River extending over more than 50 river miles.

In the absence of federal standards or regulatory authority, NJDEP has designated PFNA as a hazardous substance and adopted a 13 ppt drinking water Maximum Contaminant Level (MCL). These actions enable NJDEP to more effectively protect the public, respond to discharges, pursue those responsible and provide financial assistance to water purveyors impacted by PFNA. New Jersey's Drinking Water Quality Institute, an advisory body responsible for developing MCLs and for recommending those standards to the NJDEP, has recommended MCLs of 14 ppt for PFOA and 13 ppt for PFOS, which NJDEP is currently evaluating.

The NJDEP expanded testing of fish in selected water bodies of the State to include several PFAS. These analyses have resulted in the DEP's first consumption advisories for these chemicals.

In Minnesota, PFAS have been found in soils, stormwater, groundwater and surface water near manufacturing and disposal sites, in leachate from landfills, at firefighting foam use locations, in sludge

and effluent from wastewater plants, and in the runoff from composting facilities. PFAS has also been found in the fish, water and sediments of rivers and lakes, in drinking water supplies, and in the blood of residents. Fish consumption advisories and outright fishing bans have had to be put in place for lakes and rivers to protect the public. In the Twin Cities Metropolitan area, a 150 square mile plume of groundwater contaminated with multiple PFAS has polluted the drinking water for 140,000 people.

As States conduct additional sampling in response to the continually evolving understanding of PFAS sources and transport pathways, it is expected that more releases and impacts will be discovered from both historical and current sources. The problem is therefore likely going to assume even greater magnitude and even more serious implications for public health and the environment. Public concerns and the risk communication challenge in regards to PFAS are therefore only likely to increase.

The current absence of established federal regulatory standards for these compounds is creating uncertainty as public drinking water and wastewater treatment systems, regulatory agencies, responsible parties, and others are responding to put in place appropriate measures to ensure that public health is protected. There is an urgent need for federal standards including reference doses, drinking water protection standards, surface water quality standards, and remediation standards that can be used to reliably address on-going public health concerns. A comprehensive system of national standards will provide a level of certainty and consistency for environmental compliance, permitting and cleanups. Such a national framework will also serve as a consistent foundation for the development of other related environmental standards which individual States may discover the need to establish in the future.

For instance, when it comes to drinking water, Perfluorooctane sulfonate (PFOS) and Perfluorooctanoic acid (PFOA) are the only two chemicals from the PFAS family that currently have a federal guidance value.

This was issued in 2016 by the United States Environmental Protection Agency (EPA) in the form of a non-enforceable lifetime health advisory (LHA) of 70 parts per trillion (ppt), for each chemical or for both combined. However, many States that are investigating PFAS impacts in drinking water cannot limit their efforts to just PFOS and PFOA, as they are detecting a suite of co-existing related chemicals. As a result, several States have developed their own standards and guidance values for the various PFAS being detected in drinking water and groundwater. Other States have adopted the EPA LHAs for PFOA and PFOS. There are differences between the various State PFAS standards, and many of the State standards for PFOS and PFOA also differ from the EPA LHAs for those two chemicals. This causes questions and confusion for the public as well as for regulators and regulated parties. National groundwater standards are therefore urgently needed for the PFAS family to promote consistent and comprehensive response actions across the country. This will assist States that do not have promulgated standards, and may in fact lack the resources to develop the necessary standards within a reasonable period, in assessing and responding to impacted drinking water supplies. At the same time, there will be the need to recognize the PFAS standards that are promulgated in select States, especially if they are stricter than the corresponding national ones.

States are also unclear on how responsible parties can be required to remediate PFAS contamination. Therefore, a national regulatory framework – not just guidance or recommendations – is needed for the cleanup of PFAS in groundwater and drinking water.

In May 2018, EPA hosted a National Leadership Summit in Washington, D.C. to take action on Per- and Polyfluoroalkyl Substances (PFAS) in the environment. At the Summit, EPA announced several significant actions the Agency would take on PFAS, primarily focused on PFOS and PFOA. ASTSWMO acknowledges these EPA proposed actions as being important first steps and appreciates the collaborative approach EPA

has adopted for these activities following the Summit. ASTSWMO is committed to assisting EPA in accomplishing the objectives announced at the National Summit in a timely manner. In addition to the action plan outlined at the Summit, ASTSWMO continues to recommend that EPA should examine an approach that will treat the multiple PFAS as a class or mixture of chemicals for the purpose of designating them as Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) Hazardous Substances and as Resource Conservation and Recovery Act (RCRA) Hazardous Wastes. This will ensure that there is clear regulatory authority to require responsible parties to investigate and remediate contamination from the multiple PFAS which are already contaminants of concern at sites across the country, beyond just PFOS and PFOA. This approach will also:

- Be a consistent national approach that will ensure comprehensive protection and restoration of groundwater resources from multiple co-occurring PFAS contamination;
- Allow PFAS compounds that do not yet have toxicity values to be addressed in a similar manner in the future as toxicity values are developed; and,
- Allow State promulgated regulations to be used in developing remediation goals.

An added advantage of developing such an approach is that the same model could be considered with other potential emerging contaminants, especially those that may be detected in drinking water in the future and could pose a public health concern. With increases and enhancements in scientific understanding and technical methods, other contaminants, or contaminant classes, may emerge and rise to the same level of concern as PFAS have done at present. In order to be proactive, the development of a nationally consistent framework of both regulations and standards for dealing with PFAS combinations in groundwater and drinking water that can also serve as a model for future emerging contaminants needs to be a priority.

There is also a great need to coordinate efforts between federal and State agencies, researchers, industry groups, associations, etc., in researching and implementing analytical methods and remediation technologies. ASTSWMO has taken, and will continue to take, several steps to assist with this critically needed national collaboration.

Close coordination with the Environmental Council of the States (ECOS), the Interstate Technology and Regulatory Council (ITRC), the Association of Clean Water Administrators (ACWA), and the Association of State Drinking Water Administrators (ASDWA) are also important objectives for ASTSWMO. These associations are partners with ASTSWMO and are playing major roles in representing the States in the national efforts pertaining to PFAS.

Additionally, in 2016, the ASTSWMO Board of Directors formed a PFAS Workgroup, which includes representatives from our Board of Directors, Subcommittees, and Staff. The Workgroup's primary focus since its inception has been to share information for discussion and distribution to ASTSWMO's members through ASTSWMO meetings, web postings, and email distributions. The Workgroup will continue these activities with a focus on specific PFAS issues identified in responses to a survey sent to the ASTSWMO Voting Members in May 2018 that impact the State solid waste, hazardous waste, and cleanup programs. In the survey, ASTSWMO asked Voting Members what role the association should take in the national PFAS dialogue. The most common responses were:

- Information sharing, including facilitating dialogue between EPA and States, sharing State information (case studies, regulations, policies, resources);
- Advocate for national cleanup standards and other federal regulations; and
- Work closely with other State associations to share information among all State media programs (waste, water, air, health) and avoid duplication of efforts.

ASTSWMO's PFAS Workgroup and Staff will continue to focus our efforts in monitoring these activities, ensuring State involvement in the development of any planned regulations and policy documents, participating in current and planned dialogues, and sharing updates with our membership.

I thank you again on behalf of ASTSWMO for this opportunity to offer testimony. I would be pleased to answer any questions you may have.