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Good morning, Chairman Carper, Ranking Member Capito, and Members of the Committee. I am Radhika Fox, Assistant Administrator for Water at the U.S. Environmental Protection Agency. I appreciate the opportunity to testify before this Committee today on the very important topic of per- and polyfluoroalkyl substances—also known as PFAS. In addition to my role as Assistant Administrator for Water, I co-chair EPA's Council on PFAS and I look forward to our discussion today.

Addressing PFAS is a bipartisan issue and I want to recognize the leadership of this committee and its members on this important subject. Chairman Carper, your leadership in identifying the many ways that PFAS enter the environment, affect public health, and impact the livelihoods of Americans, has been vital to advancing progress. Ranking Member Capito, your leadership on PFAS, including provisions that were passed as part of the 2020 National Defense Authorization Act, has helped the EPA and other agencies take critical steps to better protect our communities. Others on this committee have sponsored or voted for actions to address PFAS and for that, I thank you.

The Biden Administration, with EPA Administrator Michael S. Regan's leadership, is taking bold action to protect communities from PFAS contamination. In January 2021, the

Administration hit the ground running and has made significant progress in just nine months. In addition to several important actions taken since January, on Monday, October 18, 2021, the Agency released its PFAS Roadmap, which lays out the EPA's whole-of-agency approach to use every available tool to safeguard communities from PFAS contamination. The cumulative impact of actions the EPA has already taken, and the actions we intend to take in the coming years, will help ensure that the Agency makes rapid progress to protect public health and the environment.

The last time I testified in front of this committee, at my confirmation hearing, I talked about the Flint water crisis. I shared my belief that no community should suffer from environmental contamination. I also committed to ensuring that all people—regardless of their income, zip code, or color of their skin—have environmental protections to keep them safe, and help their communities thrive. Today, we will discuss the complex and very serious challenges that PFAS pose to public health and the environment.

PFAS have been manufactured and used in a variety of industries in the United States and around the globe since the 1940s. Because we have used them for so long, because of the diversity of their uses, and because of their durability in the environment, PFAS can now be found in surface water, groundwater, soil, and air—from remote rural areas to densely populated urban centers. They can be found in the tissue of fish caught in our rivers and lakes and streams. Despite evidence suggesting that some PFAS are toxic, they are still used in a wide range of consumer products and industrial applications.

Human exposure to PFAS can occur in a number of ways, such as through consuming PFAS in drinking water or food Exposure also occurs through contact in the handling or use of PFAS in manufacturing, chemical processing, firefighting, and other applications. Some levels of

exposure may also occur by using products that contain PFAS. And exposure can even be passed on from mother to child during pregnancy and breastfeeding.

A growing body of scientific evidence shows that exposure at certain levels to specific PFAS can adversely impact human and ecological health. Studies indicate that two common PFAS—perfluorooctanoic acid (PFOA) and perfluorooctane sulfonate (PFOS)—can cause reproductive and developmental, liver and kidney, and immunological effects in laboratory animals. Both chemicals have caused tumors in animal studies. The most consistent findings from human epidemiology studies are increased cholesterol levels among exposed populations, with more limited findings related to infant birth weights, effects on the immune system, cancer (for PFOA), and thyroid hormone disruption (for PFOS).

Every level of government—federal, state, and local—needs to exercise increased and sustained leadership to accelerate progress to clean up PFAS contamination, prevent new contamination, and make game-changing breakthroughs in the scientific understanding of PFAS.

Even before his inauguration, President Biden recognized the importance of addressing PFAS and laid out four commitments to the American people:

1. Accelerating research and toxicity studies;
2. Designating PFAS as a hazardous substance;
3. Setting enforceable limits on PFAS in the Safe Drinking Water Act; and
4. Identifying opportunities to reduce PFAS use through procurement.

The President also illustrated his commitment to tackling PFAS contamination by appointing Michael S. Regan as the EPA Administrator. Administrator Regan has seen this problem up close. In North Carolina, he tackled PFAS in the Cape Fear River. He followed the

science. He followed the law. And he made significant progress. But he also learned first-hand that there is a desperate need for federal leadership on this issue, and that is what he is bringing to the EPA.

One of Administrator Regan's earliest actions was to establish the EPA Council on PFAS. The Council is comprised of senior Agency leaders who are charged with developing a whole-of-agency plan to accelerate progress on PFAS. Administrator Regan also charged the Council with prioritizing partnerships and collaboration within the EPA and with the EPA's partners, and with continuing to engage with the public about the risk associated with these chemicals. As I mentioned earlier, I co-chair this Council along with EPA Region 1 Acting Administrator Deb Szaro.

Under the Biden-Harris Administration, the EPA has worked tirelessly from day one to restore scientific integrity and accelerate the research and policies needed to systematically shift and accelerate the Agency's approach to protecting the public from PFAS. Since January 20, 2021, the Agency has taken bold actions, including:

- The EPA is moving forward to propose national primary drinking water regulations for PFOA and PFOS under the Safe Drinking Water Act. Later this year, we expect to consult with the EPA's Science Advisory Board on the science behind the impacts of PFOA and PFOS in drinking water. The Agency is also continuing the process to collect information and data on additional PFAS chemicals, as outlined in the Safe Drinking Water Act;
- Last month, following a multi-industry study, the EPA announced an aggressive multi-pronged approach to restrict PFAS discharges through our Effluent Limitation Guidelines (ELG) program;

- In early September, the EPA published a single-laboratory validated analytical method for detecting 40 PFAS compounds in wastewater, surface water, groundwater, and soils. This method can be used in various applications, including National Pollutant Discharge Elimination System (NPDES) compliance monitoring;
- The Agency proposed a rule to require all manufacturers (including importers) of PFAS in any year since 2011 to report information related to chemical identity, categories of use, volumes manufactured and processed, byproducts, environmental and health effects, worker exposure, and disposal. Once finalized, this rule would provide the EPA with the most comprehensive dataset on PFAS manufactured in the United States. EPA plans to publish a final rule by January 2023, consistent with the Fiscal Year 2020 National Defense Authorization Act;
- Because the EPA needs to evaluate a large number of PFAS for potential human and ecological effects while most PFAS have limited or no toxicity data, the EPA is developing a national PFAS testing strategy to deepen understanding of the impacts of PFAS, including potential hazards to human health and the environment. This will help the EPA identify and select PFAS for which the Agency will require testing using the Toxic Substances Control Act (TSCA) authorities;
- Under TSCA, the EPA is working to protect communities by limiting new PFAS from entering the market by ensuring that new PFAS are subject to rigorous reviews and appropriate safeguards. The EPA has previously allowed some new PFAS to enter the market through expedited low-volume exemptions (LVEs). In April 2021, the EPA announced that it would generally expect to deny pending and future LVE submissions for PFAS based on the complexity of PFAS chemistry, potential health effects, and their longevity and persistence in

the environment. Moving forward, the EPA will apply a rigorous premanufacture notice review process for new PFAS to ensure these substances are safe before they enter commerce;

- In July 2021, the EPA released preliminary data collected for 170 newly added PFAS under the Toxics Release Inventory (TRI), which helps the EPA compile data and information on releases of certain chemicals and supports informed decision making by companies, government agencies, nongovernmental organizations, and the public; and
- Earlier this year, the EPA pulled down and called for a review under the Agency's Scientific Integrity Policy of the toxicity assessment for the PFAS compound PFBS (Perfluorobutanesulfonic acid). Earlier this year, the Agency issued an updated toxicity assessment for PFBS that reflects the best available science; involved extensive federal, state, and public engagement; and is critical to the EPA's efforts to help communities impacted by PFAS.

While the actions the EPA has taken since January 20, 2021, have spurred essential progress, we know that there is more to be done. The risks posed by PFAS demand that the Agency attack the problem on multiple fronts at the same time and leverage the full range of statutory authorities to confront the human health and ecological risks of PFAS. On Monday, the EPA released its PFAS Strategic Roadmap for enacting bold actions to address PFAS under President Biden's first term.

To deliver needed protections for the American people, the roadmap sets timelines by which the Agency will take specific actions during the first term of the Biden Administration. The strategic roadmap builds on and accelerates implementation of policy actions identified in the Agency's 2019 action plan and commits to bolder new policies to safeguard public health,

protect the environment, and hold polluters accountable. The EPA Council on PFAS developed the roadmap, which lays out EPA's whole-of-agency approach, and is guided by the following goals:

- **Research.** Invest in research, development, and innovation to increase the understanding of PFAS exposures and toxicities, human health and ecological effects, and effective interventions that incorporate the best available science;
- **Restrict.** Pursue a comprehensive approach to proactively prevent PFAS from entering air, land, and water at levels that can adversely impact human health and the environment; and
- **Remediate**. Broaden and accelerate the cleanup of PFAS contamination to protect human health and ecological systems.

These touchstones will guide all of the EPA's work as the Agency advances progress to apply a lifecycle approach to PFAS and works to prevent PFAS from entering the environment in the first place. The Agency will also seek to hold polluters and other responsible parties accountable for their actions and for PFAS remediation. The EPA will also invest in a surge of scientific research to fill gaps in understanding of PFAS, to identify which additional PFAS may pose human health and ecological risks at which exposure levels, and to develop methods to test, measure, remove, and destroy them. The Agency will also ensure that disadvantaged communities have equitable access to solutions. The actions described in this document each represent important and meaningful steps to safeguard communities from PFAS contamination, including:

- The EPA's Office of Chemical Safety and Pollution Prevention will enhance the quality and quantity of PFAS information collected through TRI. The Agency intends to propose a

rulemaking in spring 2022 to categorize the PFAS on the TRI list as "Chemicals of Special Concern" and to remove the de minimis eligibility from supplier notification requirements for all "Chemicals of Special Concern." The EPA will also continue to update the list of PFAS subject to TRI and expects to announce an additional rulemaking to add more PFAS to TRI in 2022, as required by the NDAA. And, critically, the EPA announced this week a national testing strategy that breaks the large number of PFAS into smaller categories, a major part of our effort to accelerate research and regulatory actions;

- The EPA's Office of Water will protect drinking water through a range of actions. The Office of Water published the proposed fifth unregulated contaminant monitoring rule in March 2021, and as proposed it would provide new data critically needed to improve our understanding of the frequency that 29 PFAS are found in the nation's drinking water. We are also quickly moving to establish a national primary drinking water regulation for PFOA and PFOS, and also evaluating additional PFAS and regulatory actions to address groups of PFAS. The EPA plans to publish the toxicity assessments for two PFAS, hexafluoropropylene oxide dimer acid and its ammonium salt, known as "GenX chemicals," in fall 2021. The EPA is also currently developing toxicity assessments for five other PFAS—PFBA, PFHxA, PFHxS, PFNA, and PFDA. Going forward, the EPA will develop health advisories as the Agency completes toxicity assessments for additional PFAS. The EPA will also act boldly to restrict PFAS discharges from industrial sources through a multifaceted ELG program under the Clean Water Act. The Agency anticipates proposing ELGs for two significant dischargers—PFAS manufacturing facilities and chromium electro plating facilities – while we continue to examine whether other ELGs may be appropriate. The EPA will propose revisions to the Organic Chemicals, Plastics and Synthetic Fibers

ELGs to address PFAS discharges from facilities manufacturing PFAS (expected Summer 2023) and revisions to the Metal Finishing ELGs to address PFAS discharges from chromium electroplating facilities (expected Summer 2024). The Agency will also initiate mandatory data collection for three PFAS industrial dischargers—formulator facilities, textile manufactures, and residential landfills;

- The EPA's Office of Land and Emergency Management will develop a Notice of Proposed Rulemaking to designate PFOA and PFOS as Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) hazardous substances. Such designations would require facilities across the country to report on PFOA and PFOS releases that meet or exceed the reportable quantity assigned to these substances. The hazardous substance designations would also enhance the ability of federal, state, Tribal, and local authorities to obtain information regarding the location and extent of releases. The EPA or other agencies could also seek cost recovery or contributions for costs incurred for the cleanup;
- The EPA's Office of Air and Radiation will build the technical foundation to address PFAS air emissions. The Clean Air Act requires the EPA to regulate emissions of hazardous air pollutants (HAPs), which are pollutants that are known or suspected to cause cancer or other serious health effects. At present, the EPA actively works with Tribal, state, and local governments to reduce air emissions of 187 HAPS to the environment. While PFAS are not currently listed as HAPs under the Clean Air Act, the EPA is building the technical foundation of PFAS air emissions to inform future decisions;
- The EPA's Office of Research and Development will develop and validate methods to detect and measure PFAS in the environment; advance the science to assess human health and

environmental risks from PFAS; and evaluate and develop technologies for reducing PFAS in the environment;

- As an agency, the EPA is prepared to use its enforcement tools, as appropriate, to better identify and address PFAS releases at facilities. The EPA is using multiple environmental authorities— the Resource Conservation and Recovery Act (RCRA), TSCA, the Clean Water Act, the Safe Drinking Water Act, the Clean Air Act, and CERCLA—to identify past and ongoing releases of PFAS into the environment at facilities where PFAS has been used, manufactured, discharged, disposed of, released, or spilled. The EPA is conducting inspections, issuing information requests, and collecting data to understand the level of contamination and current risks posed by PFAS to surrounding communities and will address threats to human health with all its available tools; and
- The EPA will also follow the recommendation of the National Environmental Justice Advisory Committee (NEJAC) to meet with affected communities in each EPA region to develop a holistic understanding of the many and distinct health impacts, concerns, and ways that PFAS contamination impacts their lives and livelihoods. The EPA will use the input and knowledge from these engagements to develop and share information to reduce potential health risks in the near term and help communities begin the path to remediation and recovery.

Cumulatively, these actions will build upon one another and lead to more enduring and protective solutions. They will also bolster our knowledgebase. As the Agency does more, it will learn more. And as the EPA learns more, it will do more. The EPA looks forward to working closely with this committee, and all of Congress, to forge progress together.

Thanks to the dedicated work of researchers, the leadership of community activists, and the experience of federal, state, and local partners—the Agency knows more today and can take bold and comprehensive actions to better protect people from PFAS.

However, to truly deliver the protections that communities deserve—to be able to tell people across the country that their air, land, and water are safe—all of the Agency's partners must work together. Our collective ability to achieve needed health and ecological protections as quickly as possible will be determined by our partnership with Congress, other federal agencies, Tribal governments, state health and environmental agencies, community organizations, local officials, public health professionals, industry, and academia. As the EPA acts to research, restrict, and remediate PFAS, it invites all interested and impacted stakeholders to join the Agency on this road to a healthier, safer future.

Thank you for the opportunity to testify before you today, and I look forward to our discussion.