The Deputy Secretary of Energy
Washington, DC 20585

September 16, 2021

MEMORANDUM FOR HEADS OF DEPARTMENTAL ELEMENTS

FROM: DAVID M. TURK

SUBJECT: Addressing Per-and Polyfluoroalkyl Substances at the Department of Energy

The release of per-and polyfluoroalkyl substances (PFAS) into the environment is a topic of growing national concern. The U.S. Environmental Protection Agency (EPA) has said that the scope of PFAS contamination in the United States and the potential threat to the public health makes the Federal Government's task to address this contamination particularly challenging and urgent. PFAS are a class of man-made chemicals that have been manufactured and used in a variety of industries since the 1940s. PFAS were first produced on an industrial scale for use in uranium separation activities during the Manhattan Project, and thousands of chemical formulations have since been developed. PFAS substances have been widely used due to their resistance to grease, water, oil, and heat and are often found in stain-resistant carpeting, water-resistant clothing, non-stick and grease-resistant food contact materials (e.g., cookware and food packaging), and firefighting foam.

These chemicals do not break down easily in the environment or the human body due to their strong carbon-fluorine bond, and certain PFAS substances have been found to be associated with adverse human health impacts. Addressing these substances is a complex environmental challenge due to the number of formulations that exist, their varying impacts on the human body, and their ubiquitous environmental presence due to their wide-spread uses.

EPA is pursuing a regulatory determination process for two PFAS chemicals [perfluorooctane sulfonate (PFOS) and perfluorooctanoic acid PFOA)] pursuant to the Safe Water Drinking Act, and has started to collect data for six PFAS chemicals. EPA is also studying the presence of 29 PFAS chemicals in drinking water, possibly leading to additional regulatory processes. EPA has also indicated it may choose to regulate certain PFAS chemicals (so far, including PFOS and PFOA) as hazardous substances pursuant to the Comprehensive Environmental Response, Compensation, and Liability Act. Additionally, many states have already begun to regulate PFAS in accordance with their authorities.

Several U.S. Department of Energy (DOE) Program Offices and sites are already working with key stakeholders to identify and address PFAS risks and liabilities, and an internal PFAS Working Group has been helping coordinate efforts on a voluntary basis. In recognition of the need for a comprehensive departmental approach to PFAS contamination and use, DOE has developed this policy, which is intended to aid DOE's

efforts to assess, contain, reduce and/or remove PFAS contamination and use at DOE sites, and leverage the expertise of the National Laboratories to advance knowledge about PFAS contamination, its fate and transport in the environment, and innovative research and technology approaches. DOE expects that its efforts will also inform EPA's regulatory approach and other strategic efforts.

This policy applies to all elements of the Department, including the National Nuclear Security Administration (NNSA) and references to DOE include the NNSA. Accordingly, DOE Program Offices and sites must implement the following actions:

Aqueous Film Forming Foam: Several DOE sites are known to have inventories of PFAS-containing Aqueous Film Forming Foam (AFFF). To minimize future liabilities and ongoing risks, DOE sites are directed to implement the following actions related to PFAS-containing AFFF:

- Discontinuation Except in Emergency: Effective immediately, DOE sites and Program Offices are directed to discontinue use of PFAS-containing AFFF for training purposes. Use of AFFF is permitted only in actual fire emergencies, until such time as an acceptable, effective replacement is identified. No new PFAS-containing AFFF systems may be installed at any DOE sites. Other than actual fire emergencies, exceptions for mission critical applications must be approved by the Head of Departmental Element, with notice provided to the Departmental lead for PFAS coordination identified below.

- Environment, Safety and Health: Effective immediately, fire protection personnel at DOE sites must wear appropriate personal protective equipment to minimize their exposure to PFAS-containing AFFF, and discharged PFAS-containing AFFF solution must be contained and collected, to the extent practicable, to avoid environmental release.

- Storage and Disposal: Sites may continue to store quantities of PFAS-containing AFFF onsite as required for lifesaving emergencies. However, disposal of PFAS is suspended until further notice unless approved pursuant to the terms of this paragraph. Any request for disposal will be considered on a case-by-case basis and will require approval from the Head of Departmental Element, with notice provided to the Departmental lead for PFAS coordination identified below. Unless and until such approval is granted, sites must store any PFAS-containing AFFF inventory in accordance with applicable DOE orders and directives, laws, and regulations. The Office of Environment, Health, Safety and Security (AU) will provide further guidance on storage and disposal approaches to reflect technological and regulatory developments, in coordination with the PFAS Coordinating Committee described below.

- Reporting: Effective immediately, sites will report any new PFAS-containing AFFF release or spills to DOE Headquarters. AU will modify the Departmental Occurrence Reporting and Processing System (ORPS) to accept PFAS release

entries, and AU will issue guidance on reporting PFAS releases to ORPS, within 90 days of this memorandum. Sites will report releases to the Departmental lead for PFAS coordination identified below until this guidance is issued.

Understanding PFAS at DOE: AU will work in coordination with Program Offices to appropriately characterize historic PFAS use and releases at DOE sites. Efforts will focus on the following:

- Understanding the Manhattan Project and Cold War era sources and volumes of PFAS used and disposed of, with initial focus on uranium processing operations;
- Assessing AFFF releases to the environment from fire suppression systems, fire-fighter training operations, and emergencies resulting in AFFF use;
- Identifying other uses and incidents of disposal of PFAS associated with research and operational maintenance of equipment; and,
- Conducting ongoing testing and monitoring for PFAS at levels exceeding established health advisory levels or regulatory limits.

PFAS Coordinating Committee: Each Program Office shall designate a representative to serve on a new PFAS Coordinating Committee, which will be chaired by a representative from AU. The PFAS Coordinating Committee will track progress in meeting the requirements identified in this memorandum, identify if changes are needed to Departmental orders and directives or regulations to achieve these objectives, and initiate coordination with the Directives Review Board to implement necessary changes to Departmental directives within six months.

The PFAS Coordinating Committee will also discuss opportunities for DOE laboratories to work with interagency and external partners to apply scientific, data analytic, chemical engineering, and other expertise to identify breakthroughs and high-value opportunities to advance PFAS knowledge, and clarify the additional resources needed to support research, testing, characterization, and possible remediation activities likely to soon be required as a result of Federal/State regulatory actions. The PFAS Coordinating Committee will serve as a management-level counterpart to the existing DOE PFAS Working Group, which will continue to support practitioners across the Department by sharing information on best practices, lessons learned, and emerging trends and technologies.

The Departmental lead for PFAS coordination is Dr. Josh Silverman, Director of AU's Office of Environmental Protection and ES&H Reporting. He can be reached at josh.silverman@hq.doe.gov or (202) 586-6535.