

**Calendar No. 55**

117TH CONGRESS }  
*1st Session* }

SENATE

{ REPORT  
117-21

PROTECTING FIREFIGHTERS FROM ADVERSE  
SUBSTANCES ACT

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R E P O R T

OF THE

COMMITTEE ON HOMELAND SECURITY AND  
GOVERNMENTAL AFFAIRS  
UNITED STATES SENATE

TO ACCOMPANY

S. 231

TO DIRECT THE ADMINISTRATOR OF THE FEDERAL  
EMERGENCY MANAGEMENT AGENCY TO DEVELOP GUIDANCE  
FOR FIREFIGHTERS AND OTHER EMERGENCY RESPONSE  
PERSONNEL ON BEST PRACTICES TO PROTECT THEM FROM  
EXPOSURE TO PFAS AND TO LIMIT AND PREVENT THE RELEASE  
OF PFAS INTO THE ENVIRONMENT, AND FOR OTHER PURPOSES



MAY 10, 2021.—Ordered to be printed

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## PROTECTING FIREFIGHTERS FROM ADVERSE SUBSTANCES ACT

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Mr. PETERS, from the Committee on Homeland Security and  
Governmental Affairs, submitted the following

### R E P O R T

[To accompany S. 231]

[Including cost estimate of the Congressional Budget Office]

The Committee on Homeland Security and Governmental Affairs, to which was referred the bill (S. 231) to direct the Administrator of the Federal Emergency Management Agency to develop guidance for firefighters and other emergency response personnel on best practices to protect them from exposure to PFAS and to limit and prevent the release of PFAS into the environment, and for other purposes, having considered the same, reports favorably thereon with an amendment in the nature of a substitute and recommends that the bill, as amended, do pass.

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#### I. PURPOSE AND SUMMARY

S. 231, the Protecting Firefighters from Adverse Substances Act, or the “PFAS Act,” directs the Federal Emergency Management Agency (FEMA), in consultation with the United States Fire Administration (USFA), Environmental Protection Agency (EPA), and the National Institute for Occupational Safety and Health (NIOSH), to develop and publish guidance for firefighters, first re-

sponders, and other emergency response personnel on training, education programs, and best practices to protect them and their communities from exposure to per- and polyfluoroalkyl substances, commonly referred to as PFAS.<sup>1</sup>

Specifically, this guidance is to include information on ways to reduce and eliminate exposure to PFAS from firefighting foam and personal protective equipment, and prevent and eliminate the release of PFAS into the environment. The bill also requires the development and issuance of guidance to identify safer foam and non-foam alternatives, personal protective equipment, and other firefighting gear and tools that do not contain PFAS. In addition, the bill requires the creation of a regularly-updated online repository that includes resources for firefighters, first responders, and emergency response personnel on tools and best practices to help protect themselves and their communities from the release of, and exposure to, PFAS. When developing these resources, FEMA is also required to consult with firefighters, communities affected by PFAS contamination, scientists, voluntary standards organizations, state fire training academies, state fire marshals, manufacturers of firefighter tools and equipment, and other relevant parties. FEMA, in consultation with the aforementioned Federal agencies, is required to review the guidance three years from the date of the bill's enactment and not less frequently than once every two years thereafter. The requirements set forth in this bill are exempt from the Federal Advisory Committee Act.

## II. BACKGROUND AND THE NEED FOR LEGISLATION

PFAS are a large class of man-made chemicals that are widely used in everyday products, such as waterproof clothing, stain resistant fabrics and carpets, non-stick cookware, cosmetics, and firefighting foams.<sup>2</sup> PFAS have been in use since the 1950s and are commonly detected at low levels in the environment, including in people and wildlife, because of their extensive use.<sup>3</sup> Contamination of ground and surface waters, including drinking water, is found at higher concentrations near locations where PFAS firefighting foams have been used, and around industrial sites that have used the fluorinated chemicals in manufacturing and in commercial products.<sup>4</sup> Studies indicate that high-level exposure to specific PFAS may lead to adverse health effects in humans, including increased risks of cancer, increased risk of high blood pressure or pre-eclampsia in pregnant women, small decreases in infant birth weights, decreased vaccine response in children, changes in liver enzymes, and increased cholesterol levels.<sup>5</sup>

The adverse health effects of human exposure to PFAS were first discovered as far back as 1950 when 3M, a major manufacturer of products containing PFAS, demonstrated that PFAS could pollute

<sup>1</sup> On February 3, 2020, the Committee approved S. 2353, the Protecting Firefighters from Adverse Substances Act of 2019, which is substantially similar to S. 231.

<sup>2</sup> Centers for Disease Control, Agency for Toxic Substances and Disease Registry, Per- and Polyfluoroalkyl Substances (PFAS) and Your Health, PFAS FAQs (<https://www.atsdr.cdc.gov/pfas/resources/pfas-faqs.html>) (accessed Apr. 19, 2021).

<sup>3</sup> *Id.*

<sup>4</sup> U.S. Environmental Protection Agency, PFOA, PFOS, and Other PFAS, Basic Information on PFAS, How are people exposed to PFAS? (<https://www.epa.gov/pfas/basic-information-pfas#exposed>) (accessed Apr. 19, 2021).

<sup>5</sup> Per- and Polyfluoroalkyl Substances (PFAS) and Your Health, PFAS FAQs, *supra* note 2.

people's blood.<sup>6</sup> In the 1980s, both 3M and DuPont identified links between PFAS and cancer, including finding elevated cancer rates among their own workers.<sup>7</sup> In 2000, 3M announced a phase-out of certain PFAS,<sup>8</sup> but other countries may still manufacture and use them. Moreover, because most PFAS do not break down, they remain persistent in the environment after being released.<sup>9</sup> Research on the health risks of PFAS is ongoing, led by government entities such as the EPA, Food and Drug Administration, Department of Agriculture, National Institutes of Health, Centers for Disease Control and Prevention, Department of Defense (DoD), as well as local and state governments and national organizations.<sup>10</sup>

In 2009, EPA included PFAS for monitoring under the Safe Drinking Water Act and issued a provisional health advisory for two PFAS compounds, perfluorooctanoic acid (PFOA) and perfluorooctanesulfonic acid (PFOS).<sup>11</sup> In 2014, EPA published draft health assessments aimed in part at identifying safe drinking water levels for these compounds,<sup>12</sup> and in 2016, it established a non-enforceable Lifetime Health Advisory of 70 parts per trillion in drinking water.<sup>13</sup> In 2021, EPA reissued a final regulatory determination to regulate these two types of PFAS in drinking water.<sup>14</sup>

In 2010, The Michigan Department of Environment, Great Lakes, and Energy (EGLE) became aware of PFAS contamination at a former fire training area at the decommissioned Wurtsmith Air Force Base in Oscoda, Michigan.<sup>15</sup> Similar contamination has been detected at many other DoD installations, both active and decommissioned, including at Pease Air Force Base in New Hampshire.<sup>16</sup> This contamination spread to neighboring civilians and caused the city of Portsmouth, New Hampshire to close the Haven well in 2014.<sup>17</sup> Pease Air Force Base water became contaminated with PFAS through the use of Aqueous Film Forming Foam

<sup>6</sup>Environmental Working Group, What are PFAS Chemicals? (<https://www.ewg.org/pfaschemicals/what-are-forever-chemicals.html>) (accessed Apr. 19, 2021).

<sup>7</sup>*Id.*

<sup>8</sup>3M *Knew About the Dangers of PFOA And PFOS Decades Ago, Internal Documents Show*, The Intercept (July 31, 2018) (<https://theintercept.com/2018/07/31/3m-pfas-minnesota-pfoa-pfos/>) (accessed Apr. 19, 2021).

<sup>9</sup>Centers for Disease Control, Agency for Toxic Substances and Disease Registry, Per- and Polyfluoroalkyl Substances (PFAS) and Your Health, What are PFAS? (<https://www.atsdr.cdc.gov/pfas/health-effects/overview.html>) (accessed Apr. 19, 2021).

<sup>10</sup>U.S. Food and Drug Administration, Per and Polyfluoroalkyl Substances (PFAS). (<https://www.fda.gov/food/chemicals-and-polyfluoroalkyl-substances-pfas>) (accessed Apr. 19, 2021).

<sup>11</sup>U.S. Environmental Protection Agency, *Provisional Health Advisories for Perfluorooctanoic Acid (PFOA) and Perfluorooctane Sulfonate (PFOS)* (Jan. 8, 2009) (<https://www.epa.gov/sites/production/files/2015-09/documents/pfoa-pfos-provisional.pdf>) (accessed Apr. 19, 2021).

<sup>12</sup>U.S. Environmental Protection Agency, *Health Effects Document for Perfluorooctanoic Acid (PFOA) and Health Effects Document for Perfluorooctane Sulfonate (PFOS)* (Feb. 28, 2014) (<https://www.regulations.gov/document/EPA-HQ-OW-2014-0138-0002> and <https://www.regulations.gov/document/EPA-HQ-OW-2014-0138-0003>) (accessed Apr. 19, 2021).

<sup>13</sup>U.S. Environmental Protection Agency, Supporting Documents for Drinking Water Health Advisories for PFOA and PFOS (<https://www.epa.gov/ground-water-and-drinking-water/supporting-documents-drinking-water-health-advisories-pfoa-and-pfos>) (accessed Apr. 19, 2021).

<sup>14</sup>U.S. Environmental Protection Agency, *Announcement of Final Regulatory Determinations for Contaminants on the Fourth Drinking Water Contaminant Candidate List* (Mar. 3, 2021). (<https://www.federalregister.gov/documents/2021/03/03/2021-04184/announcement-of-final-regulatory-determinations-for-contaminants-on-the-fourth-drinking-water>) (accessed Apr. 19, 2021).

<sup>15</sup>Former Wurtsmith Air Force Base, Iosco County, Michigan PFAS Action Response Team, Michigan Dept. of Environment, Great Lakes, and Energy ([https://www.michigan.gov/pfasresponse/0,9038,7-365-86511\\_82704\\_83952---,00.html](https://www.michigan.gov/pfasresponse/0,9038,7-365-86511_82704_83952---,00.html)) (accessed Apr. 19, 2021).

<sup>16</sup>New Hampshire Department of Health and Human Services, Poly- and Per-fluoroalkyl Substances, Pease Tradeport Water System Investigation (<https://www.dhhs.nh.gov/dphs/investigation-pease.htm>) (accessed Apr. 19, 2021).

<sup>17</sup>*Id.*

(AFFF),<sup>18</sup> which had been used by the U.S. Air Force since the 1970s.<sup>19</sup>

In a November 2018 hearing held by the Subcommittee on Federal Spending Oversight and Emergency Management entitled, *The Federal Role in the Toxic PFAS Chemical Crisis*, Brian Lepore, Director, Defense Capabilities and Management, Government Accountability Office, testified that there are 401 active or closed military bases with known or suspected PFAS groundwater contamination.<sup>20</sup> To address PFAS contamination issues across its military bases and installations, Mr. Lepore stated that DoD spent \$200 million for PFAS cleanup efforts as of December 2016, but added that it would take several more years to determine full environmental remediation costs.<sup>21</sup> A 2020 DoD report found that the number of military installations potentially affected by PFAS has risen to 651.<sup>22</sup> At the same hearing, Lieutenant Timothy Putnam, Vice President of the Tidewater Federal Firefighters, explained that firefighters and emergency response personnel face disproportionately high levels of PFAS exposure because the chemicals are key ingredients in AFFF and personal protective equipment.<sup>23</sup> Firefighters are routinely exposed to PFAS during emergency responses and training activities.

This bill addresses a gap in Federal efforts and measures to reduce, prevent, and eliminate the disproportionate level of PFAS exposure to firefighters, first responders, and other emergency response personnel. As noted above, most PFAS regulation has been focused on environmental safety, and mainly related to drinking water. This bill helps fill a critical information gap that currently exists in addressing PFAS contamination by providing firefighters, first responders, and other emergency response personnel with important information on health impacts and the steps necessary to protect themselves and their communities from PFAS exposure. FEMA's partnership with relevant Federal experts to develop consensus, guidance, and a repository of information on best practices to reduce, prevent, and eliminate PFAS exposure and contamination will help safeguard the health and safety of firefighters, first responders, emergency response personnel, and the communities they serve. This information will help firefighters, first responders, and other emergency response personnel reduce their exposures to PFAS and minimize or eliminate its environmental release.

<sup>18</sup>Testing for Pease, *The PFAS Contamination at Pease: A Community Perspective* (Nov. 8, 2017) (<https://www.healthandenvironment.org/docs/CHE-Alaska-Andrea-Amico-presentation-11-08-2017.pdf>) (accessed Apr. 19, 2021).

<sup>19</sup>Air Force Civil Engineer Center, Air Force Response to PFOS and PFOA (<https://www.afcec.af.mil/WhatWeDo/Environment/Perfluorinated-Compounds/>) (accessed Apr. 19, 2021).

<sup>20</sup>Senate Committee on Homeland Security and Governmental Affairs, Subcommittee on Federal Spending and Emergency Management, Testimony Submitted for the Record of Brian J. Lepore, Director, Defense Capabilities and Management, U.S. Government Accountability Office, *The Federal Role in the Toxic PFAS Chemical Crisis*, 115th Cong. (Sep. 26, 2018) (<https://www.hsgac.senate.gov/imo/media/doc/Lepore%20Testimony.pdf>) (accessed Apr. 19, 2021).

<sup>21</sup>*Id.*

<sup>22</sup>U.S. Department of Defense, Per- and Polyfluoroalkyl Substances (PFAS) Task Force, *Progress Report* (March 2020) ([https://media.defense.gov/2020/Mar/13/2002264440/-1/-1/1/PFAS\\_Task\\_Force\\_Progress\\_Report\\_March\\_2020.pdf](https://media.defense.gov/2020/Mar/13/2002264440/-1/-1/1/PFAS_Task_Force_Progress_Report_March_2020.pdf)) (accessed Apr. 19, 2021).

<sup>23</sup>*The Federal Role in the Toxic PFAS Chemical Crisis*, *supra* note 20, Testimony Submitted for the Record of Lieutenant Timothy Putnam, Vice President, Tidewater Federal Firefighters (<https://www.hsgac.senate.gov/imo/media/doc/Putnam%20Testimony.pdf>) (accessed Apr. 19, 2021).

### III. LEGISLATIVE HISTORY

Chairman Gary Peters (D–MI) introduced S. 231, the Protecting Firefighters from Adverse Substances Act, on February 4, 2021, with Senators Sullivan (R–AK), Hassan (D–NH), Tillis (R–NC), Carper (D–DE), Murkowski (R–AK), and Collins (R–ME). Senator Sinema (D–AZ) joined as a cosponsor on March 17, 2021. The bill was referred to the Committee on Homeland Security and Governmental Affairs.

The Committee considered S. 231 at a business meeting on March 17, 2021. During the business meeting, a substitute amendment was offered by Chairman Peters and adopted *en bloc* by voice vote. The bill, as amended, was ordered reported favorably *en bloc* by voice vote with Senators Peters, Rosen, Padilla, Portman, Johnson, Lankford, Romney, Scott, and Hawley present. Consistent with Committee Rule 11, the Committee reports the bill with a technical amendment by mutual agreement of the Chairman and Ranking Member.

### IV. SECTION-BY-SECTION ANALYSIS OF THE BILL, AS REPORTED

#### *Section 1. Short Title.*

This section establishes the short title of the bill as the “Protecting Firefighters from Adverse Substances Act.”

#### *Section 2. Guidance on How to Prevent Exposure to and Release of PFAS.*

Subsection (a) directs FEMA, in consultation with the USFA, EPA, NIOSH, and other relevant Federal agencies to, within 180 days of enactment, develop and publish guidance for firefighters, first responders, and other emergency response personnel on training, best practices, and education programs to reduce and eliminate exposure to and prevent the release of PFAS into the environment, as well as alternative tools and equipment that do not contain PFAS. FEMA is also required to create a regularly updated online public repository on methods for firefighters, first responders, and other emergency response personnel to reduce and prevent the release of, and exposure to, PFAS.

Subsection (b) requires the FEMA Administrator to consult with interested entities when developing the guidance required under subsection (a), including firefighters and other emergency response personnel, communities impacted by PFAS contamination, and scientists who are studying PFAS or PFAS alternatives.

Subsection (c) requires the FEMA Administrator to review and issue updates to the guidance required under subsection (a) no later than three years after the guidance is issued, and no later than every two years thereafter.

Subsection (d) exempts the guidance development and consultation provisions outlined in this bill from the requirements established in the Federal Advisory Committee Act.

### V. EVALUATION OF REGULATORY IMPACT

Pursuant to the requirements of paragraph 11(b) of rule XXVI of the Standing Rules of the Senate, the Committee has considered the regulatory impact of this bill and determined that the bill will have no regulatory impact within the meaning of the rules. The

Committee agrees with the Congressional Budget Office's statement that the bill contains no intergovernmental or private-sector mandates as defined in the Unfunded Mandates Reform Act (UMRA) and would impose no costs on state, local, or tribal governments.

VI. CONGRESSIONAL BUDGET OFFICE COST ESTIMATE

U.S. CONGRESS,  
CONGRESSIONAL BUDGET OFFICE,  
*Washington, DC, April 1, 2021.*

Hon. GARY C. PETERS,  
*Chairman, Committee on Homeland Security and Governmental Affairs,*  
*U.S. Senate, Washington, DC.*

DEAR MR. CHAIRMAN: The Congressional Budget Office has prepared the enclosed cost estimate for S. 231, the PFAS Act.

If you wish further details on this estimate, we will be pleased to provide them. The CBO staff contact is Jon Sperl.

Sincerely,

PHILLIP L. SWAGEL

Enclosure.

<b>S. 231, PFAS Act</b>			
As ordered reported by the Senate Committee on Homeland Security and Governmental Affairs on March 17, 2021			
By Fiscal Year, Millions of Dollars	2021	2021-2026	2021-2031
Direct Spending (Outlays)	0	0	0
Revenues	0	0	0
Increase or Decrease (-) in the Deficit	0	0	0
Spending Subject to Appropriation (Outlays)	*	2	not estimated
Statutory pay-as-you-go procedures apply?	No	<b>Mandate Effects</b>	
Increases on-budget deficits in any of the four consecutive 10-year periods beginning in 2032?	No	Contains intergovernmental mandate?	No
		Contains private-sector mandate?	No
* = between zero and \$500,000.			

S. 231 would direct the Federal Emergency Management Agency (FEMA) to develop and publish guidance for firefighters and other emergency responders to reduce exposure to PFAS.<sup>1</sup> The guidance would include information on best practices, training, and education developed in consultation with scientists, firefighters, manufacturers, and staff at other federal agencies. The bill also would require FEMA to create and maintain an online repository for tools and best practices concerning PFAS.

For this estimate, CBO assumes that the bill will be enacted in fiscal year 2021. CBO expects that FEMA could incur some costs

<sup>1</sup> PFAS, perfluoroalkyl and polyfluoroalkyl substances, are chemical compounds used in certain fire suppressants.



in 2021 but that most of the costs would be incurred in 2022 and later. Any spending would be subject to the availability of appropriated funds.

Using information from FEMA about similar efforts, CBO estimates that creating the guidance and training materials related to PFAS and developing the online repository would cost about \$600,000 initially and about \$100,000 each year thereafter to update those materials and maintain the repository system. To oversee implementation, CBO expects that FEMA would need one staff member at an estimated annual cost of \$180,000. In total, CBO estimates, implementing the bill would cost about \$2 million over the 2021–2026 period.

The CBO staff contact for this estimate is Jon Sperl. The estimate was reviewed by H. Samuel Papenfuss, Deputy Director of Budget Analysis.

#### VII. CHANGES IN EXISTING LAW MADE BY THE BILL, AS REPORTED

Because S. 231 would not repeal or amend any provision of current law, it would make no changes in existing law within the meaning of clauses (a) and (b) of paragraph 12 of rule XXVI of the Standing Rules of the Senate.