COMMITTEE ON
ENERGY & COMMERCE
CHAIRMAN FRANK PALLONE, JR.

MEMORANDUM

April 26, 2019

To: Subcommittee on Oversight and Investigations Members and Staff

Fr: Committee on Energy and Commerce Staff

Re: Hearing on "DOE's Mounting Cleanup Costs: Billions in Environmental Liability and Growing"

On **Wednesday, May 1, 2019, at 10:30 a.m. in room 2322 of the Rayburn House Office Building**, the Subcommittee on Oversight and Investigations will hold a hearing entitled, "DOE's Mounting Cleanup Costs: Billions in Environmental Liability and Growing." The hearing will examine the Department of Energy's (DOE) management of its environmental cleanup program and significant increases in environmental liabilities in recent years.

I. BACKGROUND

Over the course of the Cold War, the United States developed an industrial complex to research, test, and produce nuclear weapons and nuclear power reactors. Byproducts of the production of nuclear weapons and federal energy research include thousands of tons of spent nuclear fuel and special nuclear material,[1] millions of gallons of liquid radioactive waste, millions of cubic meters of solid radioactive waste, and large quantities of contaminated soil and water.[2] These materials were stored at 107 sites across the country whose total area is equal to the combined size of Rhode Island and Delaware.[3]

The federal government is financially liable for cleaning up areas where federal activities have contaminated the environment. This includes cleaning up environmental hazards at federal sites and facilities such as nuclear weapons production facilities. Federal accounting standards require agencies responsible for cleaning up contamination to estimate future cleanup and waste

[1] Special nuclear material is plutonium, uranium-233, or uranium enriched in the isotopes uranium-233 or uranium-235 that could be used as the primary ingredient in nuclear explosives. Nuclear Regulatory Commission, Special Nuclear Material (https://www.nrc.gov/materials/sp-nucmaterials.html).

[2] Government Accountability Office, *Nuclear Waste Cleanup: DOE Could Improve Program and Project Management by Better Classifying work and Following Leading Practices* (Feb. 2019) (GAO-19-223).

[3] Department of Energy, Office of Environmental Management About Us (https://www.energy.gov/em/about-us).

disposal costs and to report such costs as environmental liabilities in annual financial statements.[4] This includes the cost of cleaning up contaminated soil and water, decontaminating and decommissioning buildings and structures, treating and disposing of nuclear and hazardous waste, and post cleanup monitoring, among other activities.[5]

In 1989, DOE created the Office of Environmental Management (EM) to manage the cleanup of this Cold War legacy and to work to reduce associated risks and costs within the established regulatory framework.[6] EM is largely responsible for completing the cleanup of the 107 legacy sites and managing the remaining nuclear materials.[7] To date, EM has successfully completed cleanup at 91 of the 107 sites.[8] However, cleanup at the remaining 16 sites is among the most challenging to address.[9] The 16 remaining sites that EM manages are:

- Brookhaven National Laboratory (Connecticut);
- Carlsbad Waste Isolation Pilot Plant (New Mexico);
- Energy Technology Engineering Center (California);
- Hanford Site (Washington);
- Idaho National Laboratory (Idaho);
- Lawrence Livermore National Laboratory (California);
- Los Alamos Field Office (New Mexico);
- Moab Uranium Mill Tailings Remedial Action Project (Utah);
- Nevada National Security Site (Nevada);
- Oak Ridge Reservation (Tennessee);
- Paducah Gaseous Diffusion Plant (Kentucky);
- Portsmouth Gaseous Diffusion Plant (Ohio);
- Sandia National Laboratory (New Mexico);
- Savannah River Site (South Carolina);
- Separations Process Research Unit (New York); and
- West Valley Demonstration Project (New York).[10]

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[4] Government Accountability Office, *Nuclear Waste: DOE Should Take Action to Improve Oversight of Cleanup Milestones* (Feb. 2019) (GAO-19-207).

[5] Department of Energy, Accounting for Environmental Liabilities (https://www.energy.gov/sites/prod/files/2017/04/f34/EnvironmentalLiability0417.pdf)

[6] See note 2.

[7] See note 3.

[8] Government Accountability Office, *Department of Energy: Program-Wide Strategy and Better Reporting Needed to Address Growing Environmental Cleanup Liability* (Jan. 2019) (GAO-19-28).

[9] *Id.*

[10] *Id.*

II. DOE'S ENVIRONMENTAL LIABILITY

According to DOE's fiscal year 2018 financial report, DOE's environmental liabilities, totaled nearly $494 billion.[11] Of this figure, EM faces an environmental liability of $377 billion.[12] This amount largely reflects estimates of future costs to cleanup legacy radioactive tank waste and contaminated facilities and soil.[13] According to the Government Accountability Office (GAO), EM's environmental liability grew by about $214 billion from fiscal years 2011 through 2018, more than doubling its cleanup liability in just six years.[14] This dramatically outpaced the roughly $45 billion EM spent on cleanup activities during that period.[15]

According to DOE, approximately half of its environmental liability is associated with just two sites, the Hanford site in Washington State and the Savannah River site in South Carolina.[16] The Hanford site was established in 1943, and produced plutonium for the world's first nuclear device and continued producing nuclear materials for decades, generating millions of gallons of radioactive and hazardous chemical waste.[17] According to GAO, most of the 177 underground storage tanks where this waste is stored are operating decades past their original design life, and DOE estimates that 62 of these tanks may have already leaked over one million gallons of radioactive waste into the ground.[18]

The Savannah River site was established in the 1950s to produce nuclear materials, such as tritium and plutonium, needed to manufacture nuclear weapons.[19] Nuclear materials production at the site from 1954 to the present have resulted in about 160 million gallons of waste, of which about 42 million gallons of waste has been stored in 51 underground tanks.[20]

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[11] Department of Energy, *Fiscal Year 2018 Agency Financial Report* (DOE/CF-0149) (Dec. 2018).

[12] *Id.*

[13] See note 8.

[14] *Id.*

[15] *Id.*

[16] See note 11.

[17] Government Accountability Office, *Nuclear Waste: Opportunities Exist to Reduce Risks and Costs by Evaluating Different Waste Treatment Options at Hanford* (May 2017) (GAO-17-306).

[18] *Id.*

[19] *Id.*

[20] *Id.*

III. GAO REPORTS

Reports by GAO have raised serious concerns about almost all aspects of EM, including its management, direction, and ability to make effective decisions to address legacy nuclear contamination. GAO has expressed concerns about both the size and rapid growth of DOE's environmental liabilities, placing the issue on its High-Risk list of program and agency areas that are vulnerable to fraud, waste, and mismanagement or that are in most need of transformation in 2017 and 2019.[21]

GAO found that EM does not have a program-wide strategy to set cleanup priorities, and instead prioritizes and funds cleanup activities by individual sites.[22] Additionally, the tools EM uses to measure program performance do not provide a clear picture for overall performance. Furthermore, EM's recent budget materials to Congress do not reflect the funding the agency says it needs to meet future cleanup responsibilities.[23] For example, EM has not consistently reported to Congress on the status of milestones each year, as required by the National Defense Authorization Act of 2011.[24] According to GAO, neither EM headquarters nor sites track renegotiated milestones and their baseline dates at sites, and EM cannot use these milestones as a reliable measure of program performance.[25]

GAO also found that EM's systems for tracking cleanup do not follow project management best practices and do not link a contractor's overall performance to the cost and schedule of the cleanup effort.[26] For instance, a recent GAO report found that DOE does not follow any of nine leading practices related to scope, cost, schedule performance, and independent reviews for managing the EM program as a whole, and only follows three of 12 standards for managing individual projects under the program, such as cleanup of tanks of radioactive liquid waste.[27]

Finally, GAO has reported that DOE's environmental liability is growing faster than DOE's spending on cleanup.[28] Despite these challenges, according to GAO, DOE has not conducted a comprehensive effort to assess the root causes of why these liabilities have grown

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[21] Government Accountability Office, *High-Risk Series: Substantial Efforts Needed to Achieve Greater Progress on High-Risk Areas* (Mar. 2019) (GAO-19-157SP).

[22] See note 8.

[23] *Id.*

[24] See note 4.

[25] *Id.*

[26] See note 21.

[27] See note 2.

[28] See note 8

across the enterprise[29] Without this root cause analysis, it is not clear that DOE will have the information to develop a plan to effectively address its environmental liabilities.[30]

IV. WITNESSES

The following witnesses have been invited to testify:

The Honorable Anne White
Assistant Secretary
Office of Environmental Management
Department of Energy

Mr. David C. Trimble
Director
Natural Resources and Environment
Government Accountability Office

[29] See note 21.

[30] *Id.*