

Congressional Testimony

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Senate Committee on Environment and Public Works

**Status of Cleanup of Cold War Legacy Sites under the FUDS Program, FUSRAP and CERCLA
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I. INTRODUCTION

Mr. Chairman, members of the Committee, thank you for inviting me here today to speak on behalf of Washington State to this important topic. Washington State has historically played an important role in national defense through two World Wars, wars in East Asia and in the Cold War. Our deep-water ports, strategically located airports, proximity to the Pacific Rim and integrated rail system make Washington an ideal place to site strategic national defense resources. Indeed, today we are home to six active military installations, a major homeland security installation, two U.S. Department of Energy facilities, and defense research facilities.

However, Washington's contributions to national defense and security have come at a cost to our resources and citizens. To this day, contamination at these defense facilities has significantly impacted land, water and groundwater, posing very real threats to human health and Washington's environment. The Hanford Nuclear Reservation is the most significant example of this, as the more than 40 years of nuclear weapons production there left the largest and most complex environmental cleanup site in the country. In addition to Hanford, Washington is home to approximately 500 Formerly Used Defense Sites (FUDs) in need of environmental remediation, as well as active military installations that are ranked on the National Priorities List as some of the nation's highest priority sites to be addressed under the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA).

As further set forth below, the State and an array of federal agencies play vital roles in cleaning up the environmental legacy of the Cold War. The federal agencies include the Environmental Protection Agency (EPA), the Army Corps of Engineers, the Department of Defense, and the Department of Energy (DOE), among others. These agencies provide, either through direct spending on cleanup or pass-through funds to the State, essential resources for moving these cleanups forward and ensuring they are adequately protective of the State's citizens and natural resources. Proposals for significant cuts to these agencies is of serious concern to Washington State. Such cuts could slow or stop progress on cleanups in communities that have been waiting decades for the risks associated with these sites to be abated. Further, Washington State does not have the capacity or resources to fill the void if federal agencies are unable to fulfill their obligations under CERCLA or the FUDS Program.

A. The Hanford Nuclear Reservation

1. Site Background

The Hanford Nuclear Reservation was established as part of the Manhattan Project in 1943 for the production of weapons-grade plutonium. Hanford was home to the first full-scale plutonium reactor in the world, and during the Cold War grew to include nine nuclear reactors and five large plutonium processing complexes that produced 65 percent of the country's weapons-grade plutonium. The Site's operations also included chemical processing plants, "canyon" buildings where chemicals were used to dissolve uranium, and waste processing facilities, among other facilities. Hanford was chosen as the location for this effort due to its relative isolation from populated areas, and for its proximity to the Columbia River, which provided abundant water to cool reactors and cheap hydroelectric power from nearby dams.

The environmental legacy left by Hanford's Cold War mission is striking. In approximately 40 years of plutonium processing, more than 470 billion gallons of liquid wastes were discharged directly to the ground, and solid wastes contaminated with radioactivity and/or chemicals were buried on site in unlined trenches. Hanford's weapons production also left more than 130 million cubic yards of contaminated soil and debris, 1,000 contaminated buildings, and 72 square miles of groundwater contamination, which flows toward one of the State's most valuable resources, the Columbia River. In addition, a byproduct of the plutonium production was more than 56 million gallons of high-level mixed radioactive and chemical waste, that are, to this day, stored in 177 aging underground single- and double-shell tanks on Site. More than 67 of the 149 single-shell tanks have leaked, releasing upwards of one million gallons of high level waste to the ground. In 2012, one of the 28 newer double-shell tanks was also found to have leaked. Overall, Hanford represents roughly two-thirds of the nation's high-level nuclear waste by volume, is the most contaminated nuclear site in the country, and is the nation's largest environmental cleanup. Recent estimates have put total cleanup costs over \$120 billion in an effort expected to run through 2070.

2. Cleanup at Hanford

In 1987 weapons production at Hanford stopped, and the focus shifted to cleanup. A year later, EPA divided Hanford into four sites that it placed on the National Priorities List (NPL) for cleanup under CERCLA: the 100 Area, the 200 Area, the 300 Area, and the 1100 Area.¹ The DOE, EPA and the State of Washington subsequently signed the Hanford Federal Facility Agreement and Consent Order (known as the "Tri-Party Agreement") to set out the three parties' relative responsibilities at Hanford. Cleanup activities are the joint responsibility of EPA and the State under CERCLA and the Resource Conservation and Recovery Act (RCRA), and the respective implementing regulations, with the specific division of labor laid out in the Tri-Party Agreement. The State of Washington's primary role under the Tri-Party Agreement is to implement RCRA at the Site,² with oversight by EPA. EPA is the lead regulatory authority under CERCLA at the Site, and has final authority over remedial decisions made under CERCLA. Because of the hundreds of CERCLA

¹ A map showing the Hanford NPL Sites is provided at the end of these materials.

² In 1987, EPA authorized the State of Washington to implement the State's hazardous waste management program in lieu of RCRA, pursuant to 42 U.S.C. § 6926. However, EPA retains an oversight role of the State's program to ensure the State is maintaining and implementing a program that is substantially equivalent to RCRA. At Hanford, Washington State is responsible for issuing and maintaining the Hanford Site-wide RCRA permit, which sets hazardous waste management and corrective action requirements for the Site.

operable units in need of cleanup at Hanford and the desire to expedite cleanup, the Tri-Party Agreement divides the “lead regulator” role for CERCLA operable units and RCRA units at Hanford between Washington State and EPA.³ Though Washington State acts as “lead regulator” on a number of CERCLA operable units, the State does not have the authority to make final remedial decisions; those are exclusively within EPA’s authority. DOE, as the owner and operator of the Site, is responsible for conducting the cleanup, and also has regulatory authority over radiological materials at the Site under the Atomic Energy Act.

Since 1989, cleanup at Hanford has been characterized overall by slow progress and many stops and starts. In particular, the effort to remove and treat the 56 million gallons of tank waste has been hampered for decades by project mismanagement and budget shortfalls. The tank waste was initially scheduled to be treated and turned into a stable glass form (vitrified) as early as the mid-1990s. When that did not happen, the date shifted to 2001, then 2007, then 2011. The State lost patience with the ever-changing deadlines and entered into negotiations with DOE for a consent decree with judicially enforceable tank waste treatment milestones. In 2010, an agreement was reached and a consent decree entered that required DOE to be capable of treating the tank waste by 2019. Within a year of signing the consent decree, DOE notified the State that it could not meet the 2019 deadline. The parties went back to court, and in 2016 the court set new deadlines: 2023 for DOE to start treating low-activity tank waste, and 2036 to start treating high-level tank waste.

Washington State remains concerned that the single-shell tanks that hold this highly radioactive chemical waste are decades past their design lives and have already leaked more than a million gallons. In addition, the “newer” double-shell tanks are at the end of, or beyond, their design lives. Every delay in removing and treating the waste increases the likelihood that these aging and degrading tanks will release their contents into the surrounding environment. If it meets the latest consent decree schedule, DOE will finally begin treating tank waste in just 6 years, after more than 20 years of failed attempts.

Washington State’s highest priority at the Hanford Site remains keeping the Department of Energy on track to meet this schedule of low activity tank waste treatment by 2023 and high level tank waste treatment by 2036. DOE needs adequate funding to meet these obligations and the State supports all efforts to ensure that funding is made available. Indeed, our estimates indicate DOE needs increased funds (over the amounts in the current Continuing Resolution) over at least the next 5 years to meet its short-term consent decree obligations.

Despite the lack of progress when it comes to tank wastes, there has been good progress in other areas of Hanford cleanup. For example, the 1100 Area has been remediated and removed from the National Priorities List. Other successes include cleaning up the majority of contamination along the River Corridor, which reduces risks of contamination migrating to the Columbia River. Because the Columbia River remains a source of drinking water for local municipalities, a source of irrigation water for the surrounding agricultural community, and habitat for salmon and other aquatic species, cleaning up the area adjacent to the river has been a priority.

³ See, e.g., Article XXIV of the Tri-Party Agreement. Appendix C of the TPA Action Plan identifies the hundreds of CERCLA operable units at the Site and designates either EPA or the State as lead regulator for each.

Additional cleanup progress came with the installation of groundwater pump and treat systems installed in the 100 and 200 areas at the Site. A source of groundwater contamination, soil contaminated with the potent carcinogen, hexavalent chromium, was removed from an area an acre wide and 85 feet deep. In addition, more than 241,000 pounds of another carcinogen, carbon tetrachloride, have been removed from remaining soil and the groundwater through other means, along with more than 500 pounds of uranium. The success of the groundwater treatment systems has reduced the footprint of groundwater contamination from 72 square miles to 56 square miles, and brought the levels of contamination close to drinking water standards by the time it reaches the Columbia River.

3. Outlook for Cleanup Progress at Hanford

Cleanup progress at Hanford is directly correlated to funds available for cleanup activities. For example, the successes in cleaning up sites along the River Corridor and the groundwater pump and treat systems were made possible due to an influx of money from the 2009 American Recovery and Reinvestment Act (ARRA) stimulus. These additional funds gave the parties the resources they needed to make fast and efficient progress at the Site. Washington State is concerned that proposed federal budget cuts could negatively impact the Hanford cleanup, a cleanup our Congressional delegation has called the federal government's legal and moral obligation.

DOE's budget has historically fallen well short of what it needs to comply with its cleanup obligations across the country and at Hanford, and the recent budget proposals we have seen are similarly inadequate. As indicated above, funding at current levels (under the Continuing Resolution) may not be enough to ensure DOE can meet its consent decree obligations. Any cuts to DOE's Hanford budget below the current Continuing Resolution levels would virtually guarantee DOE will be unable to meet its consent decree obligations. The longer it takes for cleanup to happen, the higher the percentage of DOE's budget that goes to simply maintaining the Site's aging infrastructure in a safe and secure condition, leaving increasingly less of DOE's Hanford budget for cleanup.

If EPA's budget for Hanford work is reduced, there is a similar risk that progress on the remaining CERCLA cleanups at the Site will slow or stop. This is because at sites listed on the NPL (like the 4 Hanford sites), the State of Washington has no authority to require cleanup under the State's cleanup laws, and EPA retains the exclusive authority to make remedial decisions under CERCLA. Further, at Hanford the parties have historically used CERCLA as the regulatory mechanism to address radiological contamination, and the State is constrained in its ability to independently address radiological contamination, in addition to being unable to make CERCLA remedial decisions to address chemical contamination. If EPA does not have resources to dedicate to Hanford cleanup (and they only have 3 full time staff available to work on it now), there would be little the State could do to fill that void. A slowing of CERCLA cleanup at Hanford could also impede progress on cleaning up sites under RCRA, as many RCRA cleanup units are within the footprint of larger CERCLA operable units. To efficiently cleanup these RCRA units, the EPA and the State plan to use the larger CERCLA operable unit cleanups to address smaller RCRA sites within them. Delays in these CERCLA cleanups would necessarily delay the RCRA ones as well.

In addition to its role at the Site under CERCLA, EPA provides oversight and technical advice to the State for RCRA cleanups. If EPA loses resources in the RCRA program, the State will lose a source of technical expertise and assistance, as well as a backstop if the State were ever unable to fulfill its RCRA role at the Site. EPA has also historically played an important role in enforcement at the Hanford Site, especially for large and/or technically complex actions needed to ensure timely compliance and/or cleanup. If EPA

budget cuts of the magnitude that have been proposed⁴ impaired EPA's enforcement role at the Site, the State's already limited resources would be strained to fill that important function. In short, Hanford's already slow progress towards cleanup by 2070 would be slowed further still if funding for activities at the Site were reduced.

B. Other Cold War Legacy Sites in Washington

Approximately 500 Formerly Used Defense Sites (FUDs) are located in Washington State, many in urban areas. There is a State Management Action Plan (SMAP) that prioritizes these sites for remedial action, developed by the Corps of Engineers (Corps), Washington State and EPA. The Corps is responsible for implementing and funding the SMAP using CERCLA as its guide, with the State acting in an oversight capacity as the primary state regulator. EPA plays a role to ensure CERCLA consistency, and also provides some federal regulatory oversight.

These FUDs cover a full range of sites, from high risk military munitions sites, to medium and lower risk sites comprised of carcinogenic contaminants such as solvents, petroleum, pesticides, paint, asbestos, metals, low level radioactive material, and other varieties of contaminants. Washington is also home to active military installations that are ranked on the National Priorities List as some of the nation's highest priority cleanup sites. Examples of these sites include the Bremerton Naval Complex, Joint Base Lewis McChord, Fairchild Air Force Base, and Whidbey Naval Air Station. These sites receive funding through the Installation Restoration Program, or the Defense Environmental Restoration Program, separate from FUDs funding. Additional Base Realignment and Closure (BRAC) sites, like Camp Bonneville and Sandpoint Naval Station receive funding through the BRAC program. Many of these sites have some type of legal agreement in place (federal or state) that provides a structure and schedule for the cleanup(s). EPA and the State are signatories to most of these agreements.

Federal facilities are required by law and Executive Order 12580 to be the lead implementing agencies for cleanups and to act consistent with CERCLA. They are also required to seek state involvement and concurrence on cleanups. EPA may act as the primary regulator at federal facilities and negotiate federal legal agreements that provide structure and schedules for the cleanups. States are involved in this type of EPA lead site to ensure that any state laws that apply to the cleanup are included in the remedial requirements as Applicable, Relevant and Appropriate requirements (ARARs). For sites not listed on the NPL, states may take the lead role as a regulator under state environmental laws.

An approximate 30 percent or greater reduction in the EPA budget would likely reduce EPA staffing levels and project oversight at these federal facility cleanups. This would in turn slow the rate of the cleanup schedule and reduce the consistent application of CERCLA at these cleanups. Because EPA also can assist the State with ensuring consistent application of state laws as ARARs during these cleanups, this process could also become more time consuming and lead to inconsistent standards being applied at cleanup sites. Federal facilities are responsible for requesting money to pay for their own cleanups, so although a reduction in the EPA budget would probably not directly affect these other federal cleanups, a reduction in the specific federal facility's budget could.

⁴ Pages 41-42 of the "Budget Blueprint" for the Federal Fiscal Year (FFY) 2018 (October 1, 2017 – September 30, 2018) (the "Blueprint") proposal provides that it funding for EPA's Office of Enforcement and Compliance would be cut by 30.7% compared to the 2017 annualized Continuing Resolution level. Link to Blueprint: https://whitehouse.gov/sites/whitehouse.gov/files/omb/budget/fy2018/2018_blueprint.pdf.

The State is also concerned that its own work at these sites and elsewhere would be impacted by the reductions in EPA funding proposed in the President's Budget Blueprint. Currently, federal funding accounts for approximately 34 percent of Washington's Department of Ecology budget, with 80 percent of that funding coming from EPA. Superfund grants, State/EPA cooperative agreements and EPA-funded cleanups are potentially impacted by the proposed cuts, and the State's Categorical Grants that support air and water quality would be significantly impacted.⁵ The exact reduction areas and amount are not yet clear, but potential impacts for cleanups at FUDs and federal facilities are detailed below.

1. Washington's Toxic Cleanup Program

A reduction in EPA's budget could reduce the amount of Superfund grants and cooperative agreement funding to the State. Washington State's Superfund grants and cooperative agreements currently total \$1.4 million per year, which supports approximately 9.5 full time State employees working on high-priority and complex cleanup sites. A 30 percent reduction could result in a reduction to the State's budget of roughly \$425,000, and reduce EPA's cleanup investment in Washington State by one-third.

In addition, CERCLA cleanups that are funded by EPA are potentially impacted. There are a number of cleanups in Washington that are being paid for out of the federal Superfund Trust fund. For sites entirely funded by the Superfund, a 30 percent reduction in funds would not allow the remedial actions to meet the State and EPA's performance expectations. At some sites, the burden would fall to the State to make sure the remedial actions implemented at the Site were maintained, up to and including operating a groundwater treatment plant, indefinitely, at a cost of \$1 million a year. Overall, these potential cuts would likely slow the rate of cleanups and place additional burdens on already strained state regulatory resources, but exactly how is not clear until more details on the cuts are provided.

2. Formerly Used Defense Sites (FUDs)

The FUDs Program uses a national priority setting approach to funding projects. Funding for Washington FUDs projects therefore depends on how those projects align with priorities on a national level. For example, work at Port Angeles Combat Range, a military munitions site of high priority for Washington State, is of a lower priority on a national level and may not be funded if budgets are tight.

A \$1 billion cut to the Corps budget would likely have a direct effect on the pace of FUDS cleanups in Washington State, as any of our sites that are lower on the priority list would not get funded, and funds could be diverted to Corps priorities other than cleanup. A budget reduction could also affect military munitions cleanups and safety notifications. However, we cannot be certain about any such impacts until additional details on the budget cuts are provided.

II. CONCLUSION

In conclusion, Washington has long played host to vital national defense facilities, doing our part to ensure the Country's safety and security. Yet, our citizens and resources have been left with the harmful environmental legacy of those sites. The pace of their cleanups has rarely been quick, but to date it has been steady. Without adequate funding from the federal government to fulfill this moral and legal

⁵ Page 41 of the Blueprint provides that it would reduce Superfund funding by \$330 M compared to the 2017 annualized Continuing Resolution level.

cleanup obligation, Washington fears progress at these federal facilities will slow or stop, forcing Washington citizens to bear more than their fair share of harm from these national defense sites.

HANFORD NATIONAL PRIORITIES LIST SITES

