

CLEANING UP OUR NATION'S COLD WAR LEGACY SITES

HEARING BEFORE THE COMMITTEE ON ENVIRONMENT AND PUBLIC WORKS UNITED STATES SENATE ONE HUNDRED FIFTEENTH CONGRESS FIRST SESSION MARCH 29, 2017

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CLEANING UP OUR NATION'S COLD WAR LEGACY SITES

WEDNESDAY, MARCH 29, 2017

U.S. SENATE,
COMMITTEE ON ENVIRONMENT AND PUBLIC WORKS,
Washington, DC.

The Committee met, pursuant to notice, at 10:06 a.m. in room 406, Dirksen Senate Office Building, Hon. John Barrasso (Chairman of the Committee) presiding.

Present: Senators Barrasso, Carper, Inhofe, Capito, Wicker, Fischer, Rounds, Ernst, Sullivan, Cardin, Merkley, Gillibrand, Booker, Markey, and Harris.

OPENING STATEMENT OF HON. JOHN BARRASSO, U.S. SENATOR FROM THE STATE OF WYOMING

Senator BARRASSO. Good morning. I call this hearing to order.

Today we are here to talk about the environmental legacy of the cold war.

For decades, the military took the steps needed to protect our nation's security against the threat of nuclear war with the Soviet Union. These steps were necessary and prudent to ensure the safety and security of our nation.

Just speaking from my home State of Wyoming, we are very proud of the role that our State has played in deterring the threat that the former Soviet Union posed.

This involved the development and deployment of Atlas nuclear missiles during the early days of the cold war. These missile sites were on high alert during the Cuban Missile Crisis. Our servicemen maintained these sites by using vast amounts of trichloroethylene, TCE, to clean rocket fuel lines. These soldiers had no idea that decades later that practice would create a serious negative environmental legacy.

Today there is groundwater contamination from the TCE. Seven of these Atlas Missile sites are around the city of Cheyenne area, and they have varying degrees of groundwater contamination. The city of Cheyenne officials approached me when they found traces of TCE in the city's water wells, and they told me that the Atlas Missile Site Number 4 was the reason.

The Army Corps disputed this claim, and despite their denials I forced the Army Corps to do testing that eventually proved that the TCE was coming from the Atlas site.

According to the Wyoming Department of Environmental Quality, Atlas Site 4's TCE concentrations in the groundwater exceed

240,000 parts per billion, well above a safe drinking limit of 5 parts per billion.

The Atlas site plume of TCE is around 12 miles long and 3 miles wide. According to the Wyoming Department of Environmental Quality, it is "one of, if not the largest TCE plume in all of the country."

The Corps has since constructed a water treatment plant that ensures that Cheyenne's water is clean and safe, and has provided granulated activated carbon systems for private landowners who use well water.

Atlas 4 is just one of these sites that has large plumes of this pollutant. Atlas 1 has a TCE plume that is a mile long and two-thirds of a mile wide. Atlas 3's plume is a mile long and a half-mile wide.

Over the years, I have heard concerns from my constituents about the attitude of regional Corps officials on the ground. Each time communities and impacted stakeholders try and engage with the Corps on these issues, they have historically been met with an unhelpful attitude. Communities want to have the proper testing done to know the size and the extent of the plumes, and to where the plumes are expanding. They want to know that the Corps will live up to their responsibilities and they want adequate funding to ensure their safety.

Now, I hear time and time again from my constituents that they feel the Corps just wants to do a quick fix or simply walk away from the sites. This needs to change, and I am hoping that this new Administration will bring a new attitude.

I know Wyoming isn't the only State that has cold war legacy environmental problems. Many States, especially in the West, have quite a few sites associated with the cold war. We must honor the legacy of our veterans who fought and won this war. The Department of Defense, though, has an obligation to leave States like Wyoming whole; to not only provide for our nation's safety, but also to restore the environment of the communities.

Senator Carper, I invite you to make an opening statement at this point.

**OPENING STATEMENT OF HON. THOMAS R. CARPER,
U.S. SENATOR FROM THE STATE OF DELAWARE**

Senator CARPER. Thank you, Mr. Chairman. Thanks so much for holding our hearing today.

I want to say a special thanks to our witnesses. General, thanks so much for spending the time to visit with us yesterday. It was just a real joy. We very much appreciate the partnership that we have with the Army Corps of Engineer folks mostly in the greater Philadelphia area regional office, but also in Baltimore, too.

Sitting right behind Barry Breen is a fellow who I think is going to ride off into the sunset, a colleague of 32 years of service to our country at EPA, and his name is Randy Deitz. Randy, would you just stand up? Thirty-two years. Nice round of applause for Randy Deitz. Thank you for your service.

[Applause.]

Senator CARPER. Well, today we are going to hear why simply sending barely adequate funding to the EPA and the Army Corps

of Engineers for cleanup of contaminated Department of Defense sites just doesn't cut it. Instead, we need to fund these agencies to the fullest extent possible.

Over the next 2 hours we are going to discuss the status of clean-up projects at coal or legacy sites under three different programs: the Formerly Used Defense Sites, known as FUDS, the FUDS program; the Formerly Utilized Sites Remedial Action Program (FUSRAP); and the Comprehensive Environmental Response, Compensation, and Liability Act, which we call CERCLA or Superfund.

Unlike some of the States represented here, our Chairman and others, we don't have the kind of contamination from sites that some of our sister States have. Having said that, my father and my uncle served in World War II. My wife's dad was involved in the Manhattan Project, which is sort of like related to a lot of what we are going to be talking about here today, at least indirectly. So we have more than just a passing interest in this.

During the past 200 years, a number of activities that support our country's military readiness have resulted, as we know, in the need for environmental cleanup. These sites, located in just about every State, were used for a variety of purposes: training and supporting soldiers, airmen, sailors and marines, as well as testing new weapons, warfare capabilities, and energy technologies. The people who worked at these facilities helped to develop the nuclear weapons that ended World War II, the missiles that kept the Soviets at bay for all those decades, and the rockets that sent men to the moon. They often toiled away in secret, on the cutting edge of chemistry, nuclear physics, and missile engineering. The legacy they left us, though, is one of technological might.

But it is also a legacy that came at a high environmental price. Many of these sites were operated at a time when awareness about environmental health and safety paled by comparison to what it is today. The Hanford Nuclear Reservation site in Washington State was contaminated not just by radioactive material, but as we know now, by toxic chemicals. The site was contaminated by substances like carbon tetrachloride, which caused liver, kidney, and nervous system damage; chromium compounds, which caused cancers and other serious health impacts; as well as other substances that were not well catalogued or properly disposed of. Contamination at the Atlas Missile site in Wyoming included, as the Chairman knows, levels of cancer causing trichloroethylene that were so high that nearby residents needed to be provided with bottled water and have special filters installed on their drinking water wells.

Thousands of sites across the country need some form of remediation before they are safe to be re-used, and we owe it to the patriots who worked at these sites, and to the communities of people who now live and work near them, to remove the health, environmental and safety risks that these sites pose to them.

I believe in Abraham Lincoln's philosophy. People used to say, Mr. Lincoln, what is the role of Government? And he would respond the role of Government is to do for the people what they cannot do for themselves. This philosophy, I think, is especially applicable to the cleanup of these sites since no cleanup would have been needed had our Government not needed the weapons and the technology that were developed at those sites.

There are thousands of Formerly Utilized Defense Sites and former Department of Energy sites whose cleanups the Army Corps funds, and there are a number of federally owned facilities that have been designated Superfund sites whose cleanups are overseen by EPA. The need for funding always exceeds the amount of money Congress provides because each cleanup poses unique challenges and takes anywhere from several years to several decades in some cases to complete. Cleaning up these sites has always been a challenge.

But these sites and the people who live and work near them face even greater challenges now because the President's 2018 skinny budget decimates the EPA with a 31 percent budget cut and cuts funding for the Army Corps by a billion dollars, almost 20 percent. And EPA's Superfund program I think has been cut by 30 percent under this so-called skinny budget, and although EPA Administrator Scott Pruitt told our Committee that the EPA needs to provide more assistance to the States, the President's fiscal year 2018 budget slashes State environmental grants by a staggering 45 percent, or \$482 million.

In closing, we look forward to hearing from our witnesses today about the impacts the so-called skinny budget will have on their abilities, your abilities to carry out your Federal responsibilities and what the proposed cuts could mean for contaminated sites in our home States. I honestly hope to work with our colleagues on both sides of the aisle to take a critical look at President Trump's budget proposal and to work with the Administration to ensure that these ill advised cuts are not ultimately agreed to.

Thanks again, Mr. Chairman. Let's get on with it. Thank you.

Senator BARRASSO. Thank you very much, Senator Carper.

Before proceeding with the witnesses, I would like to invite Senator Sullivan to make a very important introduction.

Senator SULLIVAN. Thank you very much, Mr. Chairman. I am going to have to leave a little bit early because I need to go preside, but I want to take the opportunity and really a privilege to introduce one of my constituents who is a witness today, a great Alaskan, Sarah Lukin. Sarah has been working to address legacy contamination and cleanup of former Federal sites throughout Alaska for many years, and I want to express my deep appreciation and the Committee's for your willingness to travel so far to provide insights and unique points of view coming from Alaska.

Sarah hails from Port Lions, Alaska, which is a remote native village on Kodiak Island. Now, for my colleagues who have never been to Alaska, I want to say, and I am sorry Senator Booker already left, Kodiak Island is about the size of New Jersey, and it is a magical place with salmon abundance and the biggest brown bears on the planet Earth. So we want to encourage you all to come out to that wonderful place and see our great State.

Sarah is a shareholder and member of the Board of Directors of Afognak Native Corporation and a shareholder of Koniag Incorporation. She is an enrolled tribal member of the Native Village of Afognak and Native Village of Port Lions, and she has spent years advocating for the cleanup of contaminated sites throughout Alaska, but the sites particularly on Alaska Native Corporation lands. She earned a bachelor's degree and master's degree from the Uni-

versity of Alaska, so, Mr. Chairman, we are, I am very excited to have her here, and I appreciate you and the Committee inviting her.

Again, Sarah, thank you for traveling literally thousands of miles to attend this hearing. I know we are going to learn a lot. Thank you.

Senator BARRASSO. Thank you very much, Senator Sullivan.

Welcome, Sarah.

As we turn to the witnesses, let me remind the witnesses that your entire written statement will be made part of the record. We ask you to try to keep your comments to within 5 minutes.

I would like to first welcome back to the Committee the Commanding General and Chief of the Army Corps of Engineers, Lt. General Todd Semonite. Thank you very much for being with us today.

**STATEMENT OF LIEUTENANT GENERAL TODD T. SEMONITE,
COMMANDING GENERAL AND CHIEF OF ENGINEERS, U.S.
ARMY CORPS OF ENGINEERS**

General SEMONITE. Chairman Barrasso, Ranking Member Carper, and distinguished members of the Committee, I am Lt. General Todd Semonite, Commanding General of the Corps of Engineers and the 54th Chief of Engineers. Thank you for the opportunity to be here today to discuss the role of the Army Corps of Engineers in support of the Department of Defense's commitment to protect the environment and restore contaminated sites from past military activities.

Throughout our nation's history the Department of Defense, or DOD, used land across the United States to manufacture and test new weapons to ensure the nation's military readiness. When these lands were no longer needed to support the war fighter, the Department cleaned up the properties using the best practices available at the time and returned them to private or public uses. Today DOD is responsible for the environmental restoration of these properties in accordance with current applicable laws and regulations.

The United States Army Corps of Engineers provides critical support to the execution of several programs addressing these activities, and I will quickly walk through all three.

First, Formerly Used Defense Sites, or FUDS. The Corps is working to clean up munitions dating to World War I and World War II eras. FUDS are defined as properties that were formerly owned or otherwise possessed by the United States and under the jurisdiction of the Secretary of Defense prior to October 1986.

The Corps holds the responsibility of executing the FUDS program under the regulatory framework that identifies mechanisms for funding and implementing the cleanup activities. The remediation program is generally comprised of several categories, including Installation Restoration Program, which addresses the cleanup of hazardous substances; the Military Munitions Response Program, which addresses unexploded ordnance; and finally, the Building Demolition and Debris Removal Program that removes unsafe buildings and structures.

The scope and magnitude of the FUDS program are significant. Over 10,000 formal DOD properties have been evaluated for the

FUDS program since its establishment. The Corps has identified 5,357 cleanup sites at 2,716 different properties where cleanup actions are required. Approximately \$7.1 billion have been appropriated to the FUDS program through fiscal year 2016. Through this investment, 3,513 sites—or more than 65 percent of the initial inventory—are now either closed out or in monitoring status.

Over the last several years, DOD has annually allocated between \$200 million and \$225 million to this program. Clearly, there is more work to do, with an estimated cost to complete the FUDS program currently projected at \$11.8 billion.

Second program, FUSRAP, another critical program that is executed by the Corps. In 1997, using the FUDS program as a model, Congress transferred the management and execution of FUSRAP from the Department of Energy directly to the Corps. The FUSRAP Program specifically addresses the environmental remediation of sites where Manhattan Engineer District or the Atomic Energy Commission activities were performed during the 1940s, 1950s, and 1960s.

Funded out of the Energy and Water appropriation, the Corps receives approximately \$100 million to \$110 million annually to execute the FUSRAP Program. Funding is prioritized to projects that best support the overall goal of eliminating demonstrable threats to public health, safety, or the environment.

The Corps has completed remediation of 9 sites since the program was transferred from the Department of Energy. Twenty-four sites are currently in the FUSRAP Program, representing a cost to complete of approximately \$1.55 billion.

Third, and finally, since 1982 the Corps has partnered with the United States Environmental Protection Agency for environmental cleanup support of large and complex Superfund sites. The EPA relies on the Corps for the environmental engineering expertise and access to state of the art environmental technology that is used throughout DOD. The Corps provides, on average, about \$200 million to \$300 million per year worth of remedial design and remedial construction support to EPA Superfund projects across the country.

In summary, the Department of Defense is committed to protect human health and the environment by investigating, and if required, cleaning up contamination and munitions hazards that may remain on these properties. As my written testimony documents in greater detail, the Corps has made significant progress in the cleaning up of FUDS and FUSRAP sites. I am proud of the work that the Corps has accomplished in delivering these programs to the nation, and we remain committed to achieving the cleanup program goals established by DOD and the Army.

Mr. Chairman, this concludes my statement. I appreciate the opportunity to testify today and look forward to answering any questions that you and the Committee may have.

[The prepared statement of General Semonite follows:]

DEPARTMENT OF THE ARMY

U.S. ARMY CORPS OF ENGINEERS

COMPLETE STATEMENT

OF

**LIEUTENANT GENERAL TODD T. SEMONITE
COMMANDING GENERAL AND CHIEF OF ENGINEERS**

BEFORE THE

COMMITTEE ON ENVIRONMENT AND PUBLIC WORKS

UNITED STATES SENATE

ON

CLEANING UP THE COLD WAR LEGACY

MARCH 29, 2017

Chairman Barrasso, Ranking Member Carper, and distinguished members of the Committee, I am Lieutenant General Todd Semonite, Commanding General and Chief of Engineers. I appreciate the opportunity to appear before you today to address the U.S. Army Corps of Engineers (Corps) activities in cleaning up the cold war legacy.

The Corps fully supports the Department of Defense's (DoD) stated commitment to protect the environment for several reasons: to ensure that our nation has the land, water, and airspace we need for military readiness; to protect the health of the military and civilian personnel and their families who live and work on our bases; to ensure our operations do not affect the health or environment of surrounding communities; and to preserve resources for future generations. Throughout the nation's history, DoD has used land across the United States to train Soldiers, Airmen, Sailors and Marines, and to manufacture and test new weapons to ensure the nation's military readiness. When this land was no longer needed for DoD activities, the Department cleaned up the properties using the best practices available at that time and returned it to private or public uses. Today, DoD is responsible for the environmental restoration (or cleanup) of these properties in accordance with the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA).

The Corps is involved in three programs addressing those past activities. First, as part of the Defense Environmental Restoration Program (DERP), DoD through the Army has delegated execution responsibility to the Corps for the Formerly Used Defense Sites (FUDS) Program. The second program executed by the Corps is the Formerly Utilized Sites Remedial Action Program (FUSRAP). In 1997, using the FUDS program as a model, Congress transferred the management and execution of FUSRAP from the Department of Energy (DOE) directly to the Corps to address the environmental remediation or control of sites where the Manhattan Engineer District or Atomic Energy Commission activities were performed during the 1940s, 1950s and 1960s. Third, the U.S. Environmental Protection Agency (EPA) has been partnering with the Corps for environmental cleanup support at large and complex Superfund sites since 1982. EPA relies on the Corps for its environmental engineering expertise and we provide about \$225-300 million per year in remedial design and remedial construction support to the EPA's Superfund projects across the country.

The theme of this hearing is "Cleaning Up Our Cold War Legacy," and I'm sure we will talk about specific projects tied to that era. It is important to also note that the cleanup programs the Corps has been entrusted to execute represent an even broader history of our Nation. In FUDS, we are cleaning up munitions from the World War I and World War II era, to include beaches in Hawaii where our Marines practiced storming the beach before Iwo Jima. In FUSRAP we are helping to clean up our atomic energy era that kept our Nation secure. And in our support to Superfund, we are helping to clean up from an industrial base that fueled our country's economy.

Through the FUDS and FUSRAP programs, the Corps is responsible for approximately 5,400 cleanup sites. In order to make the most impact, we continually reassess these cleanup programs to ensure we address the highest risk sites first. At the same time, we are committed to completing cleanup, or achieving "Response Complete" at all of our sites. Response Complete is when active cleanup actions are complete and only monitoring remains. In addition to this work, we also support the Army and Air Force in cleaning up sites on active installations, and we provide a wide variety of environmental remediation support and technical advice to a number of other Federal partners at sites across the country. The Corps and DoD are dedicated to protecting human health and the environment by investigating and, if required, cleaning up contamination and munitions hazards that may remain on these properties. The Corps has made significant progress in the cleanup of FUDS and FUSRAP sites, such that over 65 percent of our FUDS sites and approximately 20 percent of our FUSRAP sites have now reached Response Complete. I am proud of the work that the Corps has accomplished in delivering these programs to the nation and we remain committed to achieving the cleanup program goals established by DoD and the Army. None of our successes would have been possible without the expertise of our state, local, and Federal partners and through collaboration with the cleanup industry and the non-DoD landowners. Our success is also predicated on the investment in groundbreaking environmental technology that is used throughout DoD and shared with the EPA, DOE, other agencies and the private sector, saving taxpayer funding. Our focus remains on continuous improvement in these cleanup programs.

We execute the work for our DoD and EPA partners within the structure and framework of the budget, statutory authorities, and policies developed for these programs. The Corps supports our DoD and interagency partners in ensuring the health and safety of communities, reducing DoD's overall \$28 billion environmental cleanup liability as of the end of fiscal year 2015 so that funds can be invested back into readiness, and returning property back to communities so that they can put it back to use in growing their local economies.

I will now outline the Corps role in the FUDS and FUSRAP cleanup programs, report on our investments and progress, and describe the Federal, state, and local partnerships we have established to ensure we are able to execute our cleanup programs as efficiently and effectively as possible.

FUDS

As far back as the 1970s, DoD began identifying sites requiring environmental cleanup. Congress passed CERCLA in 1980, which provided a national framework for cleanup of contaminated sites. In 1986, the Superfund Amendments and Reauthorization Act (SARA) established DERP (Title 10 of the United States Code ~ 10 USC §§2700et. seq.). DERP identifies how DoD will

fund and implement cleanup using the CERCLA cleanup framework. Under the DERP statute, FUDS are generally defined as properties that were formerly owned by, leased to, or otherwise possessed by, the United States and under the jurisdiction of the Secretary of Defense prior to October 1986. Under the FUDS Program, DoD is responsible for addressing the release of contamination as a result of previous DoD activities.

Our cleanup sites are broken into three categories: the Installation Restoration Program (IRP) which addresses the cleanup of hazardous substances; the Military Munitions Response Program (MMRP) which addresses unexploded ordnance (UXO); and the Building Demolition and Debris Removal (BD/DR) program that removes unsafe buildings and structures.

The scope and magnitude of the FUDS Program are significant. A total of 10,103 former DoD properties have been evaluated for the FUDS program since the establishment of DERP. The Corps has identified 5,357 cleanup sites at 2,716 different properties where cleanup actions are required. The FUDS program has been funded by Congress through DERP with approximately \$7.1 billion through FY2016. The remaining cost to complete for the FUDS program is currently projected as \$11.8 billion. As of September 30, 2016, the Corps has achieved Response Complete at 2,512 of the 3,104 IRP and BD/DR sites (81 percent) and at 1,001 of the 2,253 MMRP sites (44 percent). During FY2016, the Corps achieved Response Complete at 103 cleanup sites. Of the total 5,357 cleanup sites, 3,513 are now either closed out or in monitoring status.

Cleanup at many of the remaining sites is more complex and requires additional time or a remedy based on more advanced technology. To that end, the Corps is supporting DoD investments in technology and partnering with fellow Federal agencies, state regulators, and industry stakeholders to cut costs and increase efficiency in our cleanup efforts. One example of this is the recent successes in fielding the Advanced Geophysical Classification technology at multiple MMRP sites to allow us to better discriminate between hazardous unexploded ordnance and harmless scrap metal without the need to dig up every object.

Although significant progress has been made, the large volume of work remaining means that the Corps cannot work at every site simultaneously. The Corps determines the priority of all remaining cleanup sites, nation-wide, on the basis of risk to human health and the environment in partnership with states and the regulators in accordance with the principles established by the Federal Facilities Environmental Restoration Dialogue Committee (FFERDC). Then, working together with our environmental regulatory partners and, in some circumstances the EPA, the Corps refines the sequence in which the cleanups will be conducted. By cleaning up the "worst first," we reduce the risks to human health and expedite the return of properties to productive use. Due to the large number of MMRP sites remaining, DoD, in partnership with state environmental regulators, established an interim risk management goal for FUDS which

requires well-planned, coordinated actions to increase awareness of the potential risk posed by these sites until cleanup activities can begin.

The Corps has implemented a program to notify landowners and other users of the property of potential hazards. Public notification and education about potential hazards are being carried out in a systematic and recurring process. Members of Congress are also notified when these notices are sent to their constituents. For example, if there is unexploded ordnance concerns at a site, the public is educated about how to report anything suspicious. The education program is known as the 3R's of explosives safety -- "Recognize, Retreat and Report." The public is also provided access to information about FUDS in their area through local information depositories and websites about the FUDS Program and for specific projects where work is currently underway. For FUDS program information see: www.FUDS.mil.

Another challenge we face for FUDS is in Alaska, where we currently have 176 remaining cleanup sites (140 IRP and 36 MMRP) with an estimated cost to complete of over \$1.7 billion. Alaskan FUDS work is logistically challenging. Many Alaska FUDS are isolated from the limited Alaskan road system. Equipment and workers are often flown and/or barged to the project locations with limited infrastructure available to support cleanup operations. Additionally, due to the arctic climate, the field season is limited. To maximize the field season, investigation work is often done concurrently with cleanup. Large sites under investigation are broken into smaller projects with achievable remediation solutions. Using these approaches the Corps has achieved Response Complete at 219 of the 395 cleanup sites (55 percent), representing an investment of \$948 million since 1984.

The Corps is committed to working with state regulators, the EPA, and other Federal Agencies on cleanup issues at FUDS. The Corps recognizes the benefit of these partnerships and participates in all three DoD established working groups to communicate and collaborate with Federal and State regulators on important issues at the national level. One of these working groups, called the FUDS Forum, is focused on DoD's partnership with State regulators on topics specifically related to the FUDS Program. Since FUDS properties are no longer under DoD control, many unique challenges can arise during the cleanup process. The FUDS Forum provides an opportunity to discuss and develop solutions in concert with our regulatory partners.

A recent example of these partnerships is at the FE Warren Atlas Missile Site 3 in Wyoming. In FY 2016, the Corps leadership was able to engage directly with the Director of the Wyoming Department of Environmental Quality, to negotiate the approval of the Decision Document for the site so that \$4 million could be expended for the treatment of groundwater contamination near the source area. This agreement will also make possible the investment of an additional \$8 million

in FY2017 for new work at the leading edge of the plume so that contamination will not continue to spread.

The Corps also values local community input and recognizes the importance of public involvement at FUDS that require environmental restoration. Restoration Advisory Boards (RABs) can be formed to provide the local communities with forums to discuss cleanup issues or concerns with the Corps and the State and Federal regulators. RABs include members from the local communities and reflect the diverse interests in the communities that are impacted by the cleanup activities.

To date, the Corps has made significant progress toward creating an inventory, assessing DoD responsibility, and addressing FUDS liabilities. While the mission was massive to begin with, through tremendous effort we are now within sight of having successfully addressed nearly 90% of the IRP and BD/DR sites and almost 50% of MMRP sites in the FUDS inventory in the next few years. For the work that remains, DoD and the Corps are committed to completing these efforts and ensuring that protective, permanent solutions address any remaining environmental restoration requirements.

FUSRAP

The Formerly Utilized Sites Remedial Action Program (FUSRAP) was initiated in 1974 to identify, investigate, and if necessary, clean up or control sites throughout the United States contaminated as a result of the Nation's early atomic weapons and energy programs. These activities were conducted by the Manhattan Engineer District (MED) or Atomic Energy Commission (AEC) who are both predecessors of the U.S. Department of Energy (DOE). Congress transferred responsibility for administration and execution of cleanup at eligible FUSRAP sites to the Corps in the Energy and Water Development Appropriations Act of 1998 [Public Law 105-62, 111 Stat.1320, 1326].

We continue to address these responsibilities, which include sites referred after 1998 under a Corps of Engineers/DOE Memorandum of Understanding, and sites added to the program by Congress. When executing FUSRAP, the Corps follows the investigation and response framework of the CERCLA, as amended, and the National Oil and Hazardous Substances Pollution Contingency Plan (NCP).

The FUSRAP Program prioritizes objectives and phases of work that best support the overall program goal of eliminating demonstrable threats to public health, safety, or the environment. Funding priority is generally given towards previously awarded contracts to continue design, removal, or remediation, especially for projects in the construction phase. There are 24 sites currently in the FUSRAP program and two other sites that have been determined as eligible for consideration and are awaiting a final determination as to whether

they will be included in FUSRAP. The Corps has completed remediation of nine sites since the program was transferred.

The Corps is committed to informing and involving the public as it progresses through the decision-making process for each site. Response actions are coordinated with the EPA and/or state environmental regulatory agencies on all sites. FUSRAP has two programmatic Memorandums of Understanding (MOU): one with DOE and one with the Nuclear Regulatory Commission (NRC).

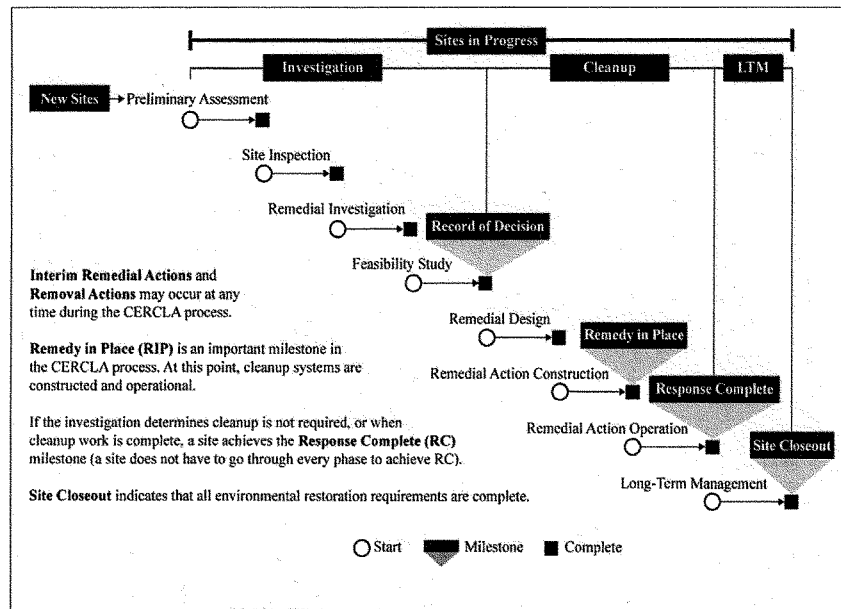
- The DOE MOU delineates the administration and execution responsibilities of each of the parties for FUSRAP. DOE determines if a site is eligible for FUSRAP and accepts long-term stewardship of the properties once the remedy is in place.
- The NRC MOU strives to minimize dual regulation and duplication of regulatory requirements at FUSRAP sites with NRC-licensed facilities and outlines coordination procedures and methods to suspend the NRC license while the Corps is cleaning up licensed material. The program currently has one site with an NRC license.

The continued presence of radioactive materials presents the potential for chronic health exposure to sensitive populations (very young, seniors and impaired health). Every year remedy completion is delayed, funding still must be spent on maintaining the site controls regardless of whether any remedial activities are taking place. For the work that remains, the Corps is committed to completing these efforts and returning these properties to DOE with protective and effective solutions that address any remaining environmental restoration requirements.

THE CLEANUP PROCESS

DoD's environmental cleanup program follows the long-established and well-documented process under CERCLA and the National Contingency Plan, as shown in the figure below. While some phases may overlap or occur concurrently, environmental activities at FUDS and FUSRAP sites are generally conducted in the order shown. In addition, FUDS actions under the DERP comply with DoD Directives, Instructions, policies, and guidance.

Figure. Environmental Restoration Process Phases and Milestones



The Corps has a unique capability to deliver these cleanup programs due to the extensive knowledge and experience of the environmental engineers and scientists residing within our Divisions, Districts, Centers, and Labs. With over 4,000 environmental professionals, the Corps has the technical capabilities to complete the most challenging and complex environmental programs for our nation. The Corps uses competitively procured contracts with industry to assist in the performance of studies and investigations and the implementation of response actions to address the environmental response requirements at cleanup sites. This process provides for collaboration with the private sector while maintaining an arm's length, professional relationship with industry. This ensures that the best interests of the taxpayers are protected and Federal appropriations are expended effectively while making use of the expertise and resources in the private sector.

In closing, I sincerely thank the Committee for this opportunity to discuss the Corps' environmental cleanup activities for our cold war legacy. We are committed to addressing contamination resulting from past activities as we

rigorously comply with current laws and regulations to minimize new contamination.

Senate Environment and Public Works Committee
Hearing entitled, "Cleaning Up Our Nation's Cold War Legacy Sites"
March 29, 2017
Questions for the Record for Lieutenant General Todd T. Semonite

Ranking Member Carper:

1. During the hearing, you noted that cuts to the Corps budget could lead to a) slower cleanups or b) some sites not being prioritized or being prioritized differently for clean-up efforts. Please list the sites that you would expect each outcome for if Congress adopts the President's "skinny budget".

Answer: At the Fiscal Year (FY) 2018 President's Budget level for FUSRAP Program, the Corps would anticipate slower cleanups at the following four locations: Maywood Site (NY), St. Louis Airport Site Vicinity Properties Site (MO), Iowa Army Ammunition Plant (IA), and Luckey Site (OH). The amount of available funding each fiscal year will affect how quickly a site can be cleaned up and when the next site can start the clean-up process. Sites that have an approved remedy selected (signed Record of Decision) generally do not start until a site that is currently being cleaned up is finished. For example, in FY 2017, the Seaway Site (NY) has an approved remedy and could technically be started. However, under our current policies this site will not start until either one of the sites in active cleanup finishes or additional funding is allocated to the FUSRAP program.

Senator Gillibrand:

2. New York State has a large number of FUSRAP sites. Ensuring that the program is adequately funded is critically important to getting these projects completed, and several projects have been on hold for years due to a lack of overall funding.

a. What is the estimated cost of achieving "response complete" for all of the FUSRAP sites in New York?

Answer: The estimated cost to achieve "response complete" for the seven FUSRAP sites in New York State is over \$600 million. The Niagara Falls Storage Sites Interim Waste Containment Site remedy cost accounts for \$550 million of the current estimate. However, four of the seven sites in New York do not yet have a selected remedy with associated costs. It should be expected that the \$600 million total cost estimate for New York FUSRAP sites will increase as each of these sites reach the selected remedy phase (signed Record of Decision).

b. At current Fiscal Year 2017 levels of funding, what is the current timeline for Corps will complete the cleanup of all FUSRAP sites?

Answer: If FUSRAP Program funding continues into the out years at FY 2017 levels, and no additional sites are added to the Program, the estimated date for cleanup of all sites would be approximately 2040.

c. What impact would a reduction in Army Corps funding will have an impact on the established or anticipated timelines for cleaning up sites in New York?

Answer: Reducing the current level of funding for the FUSRAP Program (which is funded in the Energy & Water Development Appropriations Acts), would significantly slow the rate of cleanup for the entire Program, including the New York FUSRAP sites.

3. Just over two years ago I visited Culebra, which is an island off the coast of Puerto Rico where, between 1901 and 1975, our military conducted artillery and small arms firing exercises. The result is that there are still munitions on the island and in the water that pose a major safety risk and limit the ability of the public to use the natural resources of parts of the island. The Army Corps is undertaking work through the Formerly Used Defense Sites program to address this issue and provide remediation.

a. What is the Corps' timeline complete the remediation of Culebra, and are sufficient resources budgeted to meet that timeline?

Answer: The Corps has dedicated sufficient resources and funds to Culebra, and much has been accomplished subsequent to your visit in January 2015. The Corps is currently conducting investigations at 13 of the 14 Munitions Response Sites (MRSs) on the island and is scheduled to complete most of these investigations by FY 2019. The Corps will determine the future remedial action sequencing and timelines, based on the results of these investigations and in coordination with Puerto Rico Environmental Quality Board (PREQB). While the investigations are underway, the Corps initiated three removal actions that have removed almost 1,300 munitions items from Culebra within the last year. The Corps also completed the response for the remaining munitions site in FY 2009 and is scheduled to complete the one Installation Restoration Program (IRP) site in FY 2020.

Additionally, to further protect the public, the Corps has executed a robust education program on Culebra. This program was comprised of community meetings, mailings to box holders on Culebra, and teams on the ground during high visitor times like Holy Week/Spring Break to distribute safety and education materials to hundreds of visitors at arrival points and businesses frequented by tourists.

Senator Harris:

4. In Oxnard, California, there is a site listed on the National Priorities List where the Army Corps of Engineers sent the polluter a cease and desist letter in 1977, but it took until 2007 for the EPA to list the site on the NPL. What processes have the EPA and the Army Corps of Engineers put in place to avoid similar delays, so that investigations, enforcement, and clean up can begin as soon as federal agencies are aware of pollution?

Answer: The Halaco site was regulated by several agencies. The Corps and EPA are involved with actions relating to the Clean Water Act. The State has authority to oversee the proper

management of hazardous and non-hazardous solid waste through the Resource Conservation and Recovery Act (RCRA) at actively operating sites. The Environmental Protection Agency (EPA) oversees cleanup of contamination involving inactive or closed sites through the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA). The Halaco site has a long history of environmental issues. The Corps was involved at the very early stages with actions impacting the Clean Water Act. The Corps would not have been involved with the cleanup of RCRA sites or the process to list the Halaco site on the National Priorities List.

Over the years the Corps and EPA have developed Memoranda of Understanding to help strengthen the roles and communication for the enforcement of the Clean Water Act. In 1986 and 1989 the Corps and EPA signed two memoranda of agreement (MOAs) to clarify each agency's roles for regulating discharges of solid waste into waters of the United States and federal enforcement of the Clean Water Act. In 1986, the EPA and Army signed the "Memorandum of Agreement Between the Assistant Administrator for External Affairs and Water U.S. Environmental Protection Agency and the Assistant Secretary of the Army for Civil Works Concerning Regulation of Discharges of Solid Waste Under the Clean Water Act." The text of this MOA is available at: <https://www.epa.gov/cwa-404/memorandum-agreement-between-assistant-administrator-external-affairs-and-water>

Under the 1986 solid waste MOA, the EPA and Corps will coordinate to determine whether the unpermitted discharge is subject to regulation under section 402 or section 404 of the Clean Water Act.

In 1989, the EPA and Army signed the "Memorandum of Agreement Between the Department of the Army and the Environmental Protection Agency Concerning Federal Enforcement for the Section 404 Program of the Clean Water Act." The text of this MOA is available at: <https://www.epa.gov/cwa-404/federal-enforcement-section-404-program-clean-water-act>

Under the 1989 Enforcement MOA, Corps district offices and EPA regional offices will coordinate to determine the lead enforcement agency. The Corps will be the lead enforcement agency for all violations of permits issued by the Corps. The EPA will be the lead enforcement agency for unpermitted discharges that involve repeat violator(s), flagrant violation(s), where EPA requested a class of cases or a particular case, or in cases where the Corps recommends that an EPA administrative penalty action may be warranted. The Corps will be the lead federal agency for unpermitted discharges that do not fall into any of the categories in the previous sentence where the EPA is the lead.

Through the policies and procedures established in these MOAs, the agencies will avoid delays and resolve enforcement cases more efficiently. If a discharge into waters of the United States is subject to CERCLA, EPA is the lead agency because activities undertaken under EPA's CERCLA authorities are not required to obtain Corps permits under Section 404 of the Clean Water Act or Section 10 of the Rivers and Harbors Act of 1899.

5. Please provide a list and description of the eight FUDS sites that you mentioned as on “the scale of two,” and what you mean by that scale. Would work on any of these sites be curtailed by the proposed FY 2018 so-called “skinny budget?”

Answer: Provisions of 10 U.S.C. 2710(b) require that the Department of Defense (DoD) assign to each defense site in the inventory required by 10 U.S.C. 2710(a) a relative priority for response activities based on the overall conditions at each location and taking into consideration various factors related to safety and environmental hazards. As mandated by 32 CFR Part 179, DoD has adopted the Munitions Response Site Prioritization Protocol (MRSP) under the authority of 10 U.S.C. 2710(b) to prioritize response actions at MRSs. The protocol evaluates and scores risk based on three models: Explosive Hazard, Chemical Warfare Materiel Hazard, and Human Health Hazard. The MRSP score ranges from 1 to 8 with 1 being the highest priority sites. California regulators and stakeholders are engaged in the application of the MRSP for California MRSs. California regulators and stakeholders are also consulted in assigning funding priorities.

Please see the Table below for a list of eight FUDS sites in California with MRSP score of 2. Of the eight sites, five sites will be funded in FY 2018.

FUDS Projects in California with a MRSP Score of 2		
	Property--Project Name	Funded in FY 2018
1	BORREGO SPRINGS--Area E-1 Naval Impact Area	No
2	BORREGO SPRINGS--Borrego Target #64	No
3	CAMP ELLIOT-- East Elliot	Yes
4	CAMP SAN LUIS OBISPO--Grenade Courts 25 and 26	Yes
5	CAMP SAN LUIS OBISPO--Multi-Use Range Complex	Yes
6	CAMP SAN LUIS OBISPO--Rifle Grenade Range (1952)	No
7	DRY CANYON ARTILLERY RANGE--Artillery Range	Yes
8	UCSD (CAMP MATTHEWS)--Range Complex No. 1	Yes

Senator Sullivan:

6. We have a Cold War era site in the City of Whittier in my State that has significant environmental clean-up issues. The Buckner Building is an old Army Barracks built just after WW II that was transferred to the City in 1973. There have been discussions over the years over what the building could be used for, ideas from a hotel to a jail to public housing. At one point the City transferred title for a period of time to a private developer. But for a variety of reasons mostly having to do with the lack of resources in such a small community, none of those ideas got beyond the conceptual phase. The Buckner Building now sits unused in a dilapidated and degraded condition back under City ownership. A recent Alaska DEC site study found the presence of PCBs, mercury, Freon, asbestos, and lead-based paint left from Army ownership, with a clean-up cost of \$13 million. On a more positive note, the City has performed a structural analysis that shows the building's framework and foundation are structurally sound. A little over a year ago

Congressman Young and I wrote the Army Corps to encourage the Corps to examine the possibility of including the building in the FUDS program for clean-up. The Corps informed us that given the building was in a safe condition with no hazards present when it was transferred, and under FUDS program guidance, it is not eligible for FUDS clean up and funding. So the future of the building is caught in something of a Catch-22.

What are your thoughts on options for the building given these circumstances?

Answer: The Corps has evaluated the eligibility of the Buckner Building (Building) for inclusion in the FUDS program several times. The Port of Whittier property (4,479.18 acres) was declared eligible for the FUDS program; however, a Building Demolition/Debris Removal (BD/DR) project was specifically excluded because the DoD's Defense Environmental Restoration Program (DERP) Manual (DoDM 4715.20) requires building demolition activities to demonstrate that the DoD left the building in an unsafe condition at the time of disposal. There is no evidence that the Building was in an unsafe condition at the time of disposal. The current condition of the Building is believed to be the result of neglect by owners subsequent to DoD's possession.

Senator Whitehouse:

7. In 2009, a number of properties formerly used as part of Naval Station Newport were listed as excess by the Department of the Navy. In 2010, the former Naval hospital, Navy Lodge, Tank Farms 1 and 2 in Portsmouth, and other parcels and roads were listed in the federal register as surplus property. So far, in the time since these properties were listed, only three acres from the Navy Lodge site in Middletown are in the process of being successfully transferred under the Defense Base Closure and Realignment (BRAC) program. As you may know, the Aquidneck Island Reuse Planning Authority was unable to pursue a single redevelopment project, so Middletown, Newport, and Portsmouth are each developing their own projects. The Portsmouth properties were reported to contain over 20 empty fuel tanks and require significant cleanup. Though the other properties are expected to become available later this year, the Portsmouth areas still require significant remediation before they can be transferred for redevelopment.

a. What is the EPA's/Corps' role in the Defense Base Closure and Realignment Commission (BRAC) process?

Answer: The Corps provides BRAC process real estate and environmental cleanup support to the Army. The Corps also provides limited support to the Air Force and Defense Logistics Agency. It does not provide any BRAC process support to the Navy or Marine Corps.

What is the EPA's/Corps' role in supporting the Navy's efforts to cleanup Tank Farms 1 and 2?

Answer: The Corps is not providing support to the Navy BRAC cleanup efforts. Question(s) on the Navy's efforts to cleanup Tank Farms 1 and 2 can be directed to CDR Jeanine Womble at jeanine.womble@navy.mil or 703-697-5946.

Is the EPA/Corps coordinating with the Portsmouth Tank Farm Development Advisory Committee?

Answer: The Corps is not providing support to the Navy BRAC cleanup efforts. Question(s) on the Navy's efforts to cleanup Tank Farms 1 and 2 can be directed to CDR Jeanine Womble at jeanine.womble@navy.mil or 703-697-5946.

8. Please provide the current cleanup status of all Formerly Used Defense Sites (FUDS) in Rhode Island.

Answer: As of September 30, 2016, the Corps has identified 89 FUDS projects in Rhode Island. Of the 89 projects, 68 (76%) sites have been completed with no anticipated future financial liability. For the remaining 21 sites listed below, the total cost to complete cleanup activities is estimated at \$59 million. Fourteen (14) of these sites are scheduled to receive funding in FY17 and/or FY18.

Former Property Name	Project Name	Project Category	Funded in FY17 and/or FY18
BLUE BEACH	D01RI048801 HTRW	IRP	Yes
FORT GREBLE DUTCH ISL	Elimination of Safety Hazard	BD/DR	Yes
FORT GREBLE DUTCH ISL	UST & AST Tank Removal	IRP	Yes
FORT NATHANIEL GREENE	Artillery Range Complex - Water	MMRP	No
GOULD ISLAND NUSC	Site Wide HTRW	IRP	Yes
NAVAL AUX AIR FAC	Burial Pits	MMRP	No
NAVAL AUX LANDING FIELD	Shoot-in-Butt & Island Dump Area	MMRP	No
NAVAL AUX LANDING FIELD	Inland Toxic Waste Dump & Dump Area	MMRP	No
NAVAL AUX LANDING FIELD	Skeet Range Complex	MMRP	No
NAVAL AUX LANDING FIELD	CNALF Site 8	IRP	Yes
NETC(MELVILLE IND FAC)	NETC Melville North Area	IRP	Yes
NETC(MELVILLE IND FAC)	NETC Melville Marine	IRP	Yes
NIKE PR-79	Nike Pr-79	IRP	Yes
QUARRY DISPOSAL SITE	Site Wide HTRW	IRP	Yes
QUONSET POINT NAS	NIKE PR-58 and Disaster Training Area	IRP	Yes
QUONSET POINT NAS	KEIFER PARK	IRP	Yes
QUONSET POINT NAS	CAMP AVE DUMP	IRP	Yes
QUONSET POINT NAS	ATLANTIC SHELLFISH	IRP	Yes
QUONSET POINT NAS	GD, ELECTRIC BOAT AREA	IRP	Yes
ROSE ISL	Ranges and Explosive Transfer Area	MMRP	No
SACHUEST PT-NPORT NCM	Small Arms Range Complex - Land	MMRP	No

9. The Army Corps' FUDS "Frequently Asked Questions" webpage indicates that total cleanup of the sites in the program could total almost \$14 billion, with some sites "tak[ing] until 2085 and beyond" to cleanup. What are the major roadblocks to cleaning up these sites in a more timely manner?

Answer: As of September 30, 2016, the Corps has addressed 3,391 sites or 63.3% of 5,357 eligible sites. Although significant progress has been made, 1,966 sites remain for current and future cleanup actions. Given the volume of work remaining, DoD cannot work at every site

simultaneously and thus has prioritized remaining FUDS clean-up efforts. Major program challenges include:

- **Long Term Requirements.** Certain sites have cleanup requirements that will exist in perpetuity, for example; maintenance of fencing, replacement of signage, groundwater monitoring, or notification/education requirements.
- **Property Access.** As FUDS are properties no longer owned by DoD, permission to access these sites must be granted by the current property owner. Current property owners may choose not to allow DoD to enter their property.
- **Legal Issues.** Some sites have contamination that is not of DoD origin and are in a stage of litigation to assess who is financially responsible for cleanup.
- **Complexity.** Munitions response is complex and typically takes longer than other types of cleanup. The Corps is implementing improved technologies to better identify explosive hazards. The new technology reduces the amount of time it takes to clear explosive hazards, reduces the amount of time UXO technicians spend in the field removing hazards, and thus, is expected to accelerate the pace of cleanup in future years. A component of the technology also better defines the risk which should lead to reduced long term management requirements.

Senator BARRASSO. Thank you very much for your thoughtful testimony. We appreciate you returning to the Committee today. Thank you.

We will now turn to Mr. Barry Breen, who is the Acting Assistant Administrator, Office of Land and Emergency Management, of the United States Environmental Protection Agency.

Thank you for joining us today. We look forward to your testimony.

STATEMENT OF BARRY BREEN, ACTING ASSISTANT ADMINISTRATOR, OFFICE OF LAND AND EMERGENCY MANAGEMENT, U.S. ENVIRONMENTAL PROTECTION AGENCY

Mr. BREEN. Thank you, Mr. Chairman, Ranking Member Carper, and members of the Committee. At the outset, let me just thank you for recognizing my colleague, Randy Deitz, at the outset of the hearing. We will have a reception for him later today recognizing his 32 years of Federal service, and I can't wait to brag that the Senate Environment and Public Works Committee recognized him this morning. Thank you very much.

At the EPA, focusing on the Superfund program is one of Administrator Pruitt's top priorities. Extensive data suggests that the Superfund program is a premier example of how EPA can accomplish one of its core missions of protecting human health and the environment while simultaneously promoting jobs and growth.

A 2012 peer reviewed study by the National Bureau of Economic Research shows that Superfund cleanups reduce congenital abnormalities by as much as 25 percent to families living within 5,000 meters of a site. Birth defects mean improved health for the whole next generation.

Additionally, we have data on 454 Superfund sites in reuse, where about 3,900 businesses are generating \$29 billion in sale and employing more than 108,000 people earning a combined income of \$7.8 billion.

And we improve property values, as well. A 2013 study by researchers at Duke University and the University of Pittsburgh, now peer reviewed, analyzed census tract data and found that deletion of sites from the National Priorities List after cleanup raises the value of owner occupied housing 3 miles from the site by between 18 percent and 24 percent. Those increased property values means that local governments have a more full tax base, and that means that they can provide more fire protection, police protection, libraries, and schools. So many things that local governments do for us can be done better thanks to the Superfund program. Superfund, indeed, can provide tremendous improvements to both human health and the economy.

Since enactment of Superfund, EPA, other Federal agencies, and States and tribes have made significant progress. We have assessed more than 50,000 sites. The removal program has conducted 15,000 removals at more than 9,000 sites, and 1,782 sites have been proposed on, listed on, or now deleted from the Superfund National Priorities List. More than 90 percent of those have undergone construction activity, or the activity has been completed, or they have now been deleted from the NPL.

Turning to the Federal facilities program, in particular, within the larger Superfund, Congress provided for EPA to use the Federal Agency Hazardous Waste Compliance Docket to identify Federal facilities that need to be evaluated. EPA updates the Docket every 6 months. So far, a little over 2,300 sites are reflected on the Docket, and of those 2,300 174 have been listed on the National Priorities List among Federal facilities; 140 are DOD, 21 are Department of Energy, and 13 are others. In the last 5 years alone, we have completed construction, along with our partners, at 8 of these sites; 7 from the DOD, 1 from the Coast Guard. Completing construction means that all of the actual construction of the cleanup is accomplished, even though more work is needing to be done.

Credit for this progress is shared among EPA, States, and the Federal agencies themselves. Federal departments and agencies pay for the assessment and cleanup of facilities under their jurisdiction; EPA provides assistance and oversight. In the end, the Administrator of the EPA makes the final selection of the cleanup action if the two agencies are unable to agree. We have agreements with nearly all sites, and in many cases, States are indispensable partners. Tribal governments can also be involved and participate in decisionmaking with the other Federal agency responsible for the tribal consultation.

At most Federal facility sites field staff relationships are strong. The CERCLA framework has worked effectively for more than 25 years. It has a proven track record and provided a consistent foundation. Because States are most often parties, States are able to participate as well.

In conclusion, protecting human health and the environment through continuing, and perhaps expanding on, the cleanup and reuse activities remains among Administrator Pruitt's top priorities.

Thank you again for the invitation to join you today.

[The prepared statement of Mr. Breen follows:]

**TESTIMONY OF
BARRY BREEN
ACTING ASSISTANT ADMINISTRATOR
OFFICE OF LAND AND EMERGENCY MANAGEMENT
U.S. ENVIRONMENTAL PROTECTION AGENCY
BEFORE THE
COMMITTEE ON ENVIRONMENT AND PUBLIC WORKS
UNITED STATES SENATE**

MARCH 29, 2017

Chairman Barrasso, Ranking Member Carper, and members of the Committee, thank you for inviting me to appear today to discuss the EPA's role in the cleanup and restoration of contaminated federal facilities under the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA or "Superfund").

CLEAN UP PROGRESS UNDER CERCLA

At EPA, focusing on the Superfund program is one of Administrator Pruitt's top priorities. Extensive data suggests that the Superfund program is a premier example of how EPA can accomplish one of its core missions of protecting human health and the environment, while simultaneously promoting jobs and growth.

A 2011 National Bureau of Economic Research study entitled "Superfund Cleanups and Infant Health" shows that Superfund cleanups reduce congenital abnormalities in infants by as much as 25 percent for those living within 2,000 meters of a site.¹ Birth defects avoided, means improved human health for an entire future generation. Additionally,

¹ Currie, Janet, Michael Greenstone, and Enrico Moretti. 2011. "Superfund Cleanups and Infant Health". *American Economic Review*, 101(3): 435-441

data shows that at 454 reuse sites, approximately 3,900 businesses are generating \$29 billion in sales and these businesses employed more than 108,000 people who earned a combined income of \$7.8 billion.² Work under the Superfund Program improves property values as well. A 2013 study by researchers at Duke University and the University of Pittsburgh analyzed census tract data and found that deletion of sites from the NPL after cleanup raises the value of owner-occupied housing within three miles of the site by 18.6 - 24.5 percent.³ Increased property values mean a healthier tax base for local communities that support so many other benefits, such as public schools, libraries, police and fire departments and other local services. This data clearly demonstrates how the Superfund program can provide tremendous improvements to both human health and the economy.

Since enactment of CERCLA, the EPA, other federal agencies, and states and tribes have made significant progress. Under the Superfund program, the EPA and its state, tribal, and federal partners have assessed more than 50,000 sites; the removal program has conducted more than 15,000 removals at over 9,000 sites; and 1,782 sites have either been proposed to, listed on, or deleted from the Superfund National Priorities List (NPL). Of the 1,729 final or deleted sites, more than 90 percent have undergone construction activity, have been completed, or have been deleted from the NPL.

² For more information on Redevelopment Economics and in depth case studies please use the link below.
<https://www.epa.gov/superfund-redevelopment-initiative/redevelopment-economics>

³ Gamper-Rabindran, Shanti and Christopher Timmons. 2013. "Does cleanup of hazardous waste sites raise housing values? Evidence of spatially localized benefits," *Journal of Environmental Economics and Management* 65(3): 345-360

FEDERAL FACILITY CLEANUP AND REUSE

CERCLA Section 120 provides a framework for identifying contaminated federal facility sites, assessing actual or potential environmental risks from these sites, and assuring cleanup and other actions to protect human health and the environment. Under CERCLA, the EPA and its federal and state partners address releases of hazardous substances that pose or may pose current or future threats to human health and the environment. The federal facility restoration and reuse program is an important component of the broader Superfund program. Under CERCLA Section 120, federal facilities are required to comply with CERCLA in the same manner and to the same extent, both substantively and procedurally, as private entities.

Section 120 includes some unique provisions and timetables that apply to federal facilities only, including requiring the EPA to establish a federal agency hazardous waste docket, requiring completion of a preliminary assessment by a federal facility after docket listing, requiring a federal agency to commence a remedial investigation and feasibility study of a facility it owns or operates within six months of that facility being placed on the NPL, and requiring the EPA and the federal facility enter into an Interagency Agreement (IAG) (commonly referred to as a “Federal Facility Agreement” or FFA) at NPL sites. Also, specific provisions govern the transfer of federal property to private entities. Finally, CERCLA restricts the use of Superfund Trust Fund monies to carry out remedial actions at federal facilities. Instead, federal departments and agencies pay for the assessment and cleanup of facilities under their jurisdiction, custody or

control, while the EPA uses its Superfund resources to provide technical assistance and oversight.

Under Executive Order 12580, federal agencies are designated as the “lead agency” for carrying out many CERCLA statutory requirements at their facilities. CERCLA Section 120(e)(4) specifies that an IAG must include the review of alternative remedial actions, with the selection of remedial action by the head of the federal agency *and* the EPA. The Administrator of the EPA makes the final selection of the remedial action if the federal agency/department and the EPA are unable to reach agreement on the selection of a remedial action. Thus, in some respects, other federal agencies such as the Department of Defense (DoD) and the Department of Energy (DOE) are the EPA’s partners, as well as regulated entities, under the CERCLA framework.

At federal facilities on the NPL, unlike non-federal Superfund sites, the federal agencies responsible for cleanup generally write Records of Decision (RODs), with EPA review and concurrence. In addition, federal agencies assume the lead responsibility for carrying out CERCLA section 121(c) five-year reviews to determine if the remedy remains protective at federal facility NPL sites, again with EPA review and concurrence.

At most federal facility NPL sites, field staff relationships are strong. Currently there are 157 federal facility sites on the NPL. Another 17 federal sites were on the NPL, but have been deleted. Of the 174 total NPL sites, 140 are DOD sites. The FFAs negotiated with DoD, DOE and other agencies are enforceable agreements that govern the cleanup at federal Superfund sites, and are comparable to EPA’s cleanup agreements with private

parties at non-federal sites. A majority of the FFAs include a state as a signatory, and provide a formal mechanism for state involvement in the oversight of response actions. Tribal governments may also be involved in the cleanup process and participate in the decision making with the other federal agency as the lead for tribal consultation.

Often, the EPA and the other federal agencies implementing the remedies face unique challenges due to the types of contamination present, the size of the facility, the extent of contamination, ongoing facility operation needs, and complexities related to the redevelopment plans for the facilities.

FEDERAL AGENCY HAZARDOUS WASTE COMPLIANCE DOCKET

Since 1988, EPA has maintained the Federal Agency Hazardous Waste Compliance Docket (Docket) required under Section 120(c) of CERCLA. The Docket contains information on federal facilities that manage hazardous waste or from which hazardous substances, pollutants or contaminants have been or may be released. The Docket is developed from information submitted by the federal facility under the following authorities: Resource Conservation and Recovery Act Sections 3005, 3010, 3016 and CERCLA Section 103. The Docket serves three major purposes: (1) to identify all federal facilities that must be evaluated to determine whether they pose a threat to human health and the environment sufficient to warrant inclusion on the NPL; (2) to compile and maintain the information submitted to EPA on these facilities; and (3) to provide a mechanism to make the information available to the public. EPA updates the Docket every six months with the last update occurring in October, 2016. The total number currently on the Docket is 2,318.

PROGRESS THROUGH EFFECTIVE PARTNERSHIPS

The CERCLA Section 120 framework has worked effectively for helping to ensure appropriate oversight of clean ups for more than 25 years, with a proven track record for achieving consistent, protective cleanups at the nation's federal facility sites. CERCLA has provided a consistent foundation for the EPA and federal agencies to cooperate in the field. Moreover, because states are most often parties to the FFA's and state Applicable or Relevant and Appropriate Requirements apply to site cleanups, states and the EPA work together to help ensure NPL cleanups meet statutory requirements and are protective of human health and the environment.

In the last five years, construction completion has been reached at eight federal sites, including seven DoD sites and one U.S. Coast Guard site. Construction completion of a site is an important milestone as it means the construction of all cleanup actions is finished at a site, including actions to address all immediate threats and to bring all long-term threats under control. Since the Superfund program's inception, construction completion has been reached at 78 of the 174 federal sites on the NPL, including 62 (out of 140) DoD sites, and 10 (out of 21) DOE sites.

The EPA is engaging with other federal departments and agencies on a range of activities to maintain and accelerate cleanup progress at federal facilities. For example, we are working collaboratively with DoD on tools for advanced geophysical classification to allow for more accurate and efficient cleanup of munitions sites, improving site level data quality, and resolving technical issues associated with emerging contaminants. We are continuing to modernize the Federal Agency Hazardous Waste Compliance Docket and

have implemented ways to make the federal facilityff program data more accessible to communities and other stakeholders as required by CERCLA.

Contaminated sites and cleanup activities have a significant impact on the surrounding communities. EPA's federal facilityff program has been working collaboratively with DoD, DOE, and Department of the Interior through a federal workgroup to improve the technical quality and timeliness, and reduce the cost of five-year review reports; and to ensure that the community is aware of whether the remedy in place at the NPL site continues to be protective of human health and the environment. These long-standing partnerships are successful at exchanging information and training on remediation technologies, monitoring and chemical methods and data quality practices.

CONCLUSION

I appreciate the Committee's interest in the cleanup of NPL federal facility sites. As previously stated, protecting human health and the environment through continuing, and perhaps expanding upon, ongoing cleanup and reuse activities remains among Administrator Pruitt's top priorities. Such efforts will always be done so in a manner that continues to protect human health and the environment and in partnership with other federal departments and agencies, states, tribes and local communities.

**U.S. Environmental Protection Agency
Responses to Questions for the Record
Senate Environment and Public Works Committee
Hearing on “Cleaning Up Our Nation’s Cold War Legacy Sites”
March 29, 2017**

Ranking Member Carper:

1. **During the hearing, you noted that cuts to the EPA Superfund budget could lead to a) slower cleanups or b) some sites not being prioritized or being prioritized differently for clean-up efforts. Please list the sites that you would expect each outcome for if Congress adopts the President’s “skinny budget”.**

RESPONSE: A definitive list of sites where cleanup work may be delayed is not available at this time, aside from the 12 sites with projects that were not started in Fiscal Year 2016. At the end of Fiscal Year 2016, EPA was unable to fund new construction work at 12 National Priorities List sites. Information on these 12 sites can be found at <https://www.epa.gov/superfund/remedial-annual-accomplishments-fact-sheets#tab-10>. EPA is still in the process of determining what additional sites may be ready to initiate new construction work in fiscal years 2017 and 2018. EPA’s current estimate is that there could be approximately 15-20 National Priorities List sites with construction projects still awaiting funding at the end of Fiscal Year 2017. This estimate is subject to change. If enacted, the Fiscal Year 2018 President’s Budget request and site-specific technical reasons may result in modifying site schedules, making it difficult to confirm specific sites at this time.

2. **Please provide a list that includes the following information:**
 - a. **Each proposed regulation or other proposed final agency action relating to the clean-up of toxic chemicals or the regulation or restriction of a chemical substance or a pesticide that was proposed after January 1, 2016 but not yet finalized, along with a timeline and expected date each such regulation or action will be finalized. If any such regulation or action is not expected to be finalized, please explain why not?**

RESPONSE: Regarding Superfund’s National Priorities List, EPA’s Office of Land and Emergency Management has two proposed regulations that fall under this category:

Action Title: National Priorities List

Action: Proposed Rule; 81 FR 20277, April 07, 2016

Purpose: Proposing to add 8 sites; one each in CA, CO, IN OH, NY, PR, TX, and WV.

Background: The Comprehensive Environmental Response, Compensation, and Liability Act (“CERCLA” or “the Act”), as amended, requires that the National Oil

and Hazardous Substances Pollution Contingency Plan ("NCP") include a list of national priorities among the known releases or threatened releases of hazardous substances, pollutants or contaminants throughout the United States. The National Priorities List ("NPL") constitutes this list. The NPL is intended primarily to guide the Environmental Protection Agency ("EPA" or "the agency") in determining which sites warrant further investigation. These further investigations will allow the EPA to assess the nature and extent of public health and environmental risks associated with the site and to determine what CERCLA-financed remedial action(s), if any, may be appropriate.

Timing: The EPA finalized this rule on September 9, 2016 (81 FR 62397). With the exception of the site located in Indiana, for which EPA has not yet made a final decision, all remaining sites in this proposed rule were made final and added to the NPL.

Action Title: National Priorities List

Action: Proposed Rule; 81 FR 62428, September 09, 2016

Purpose: Proposing to add 8 sites; one each in FL, MA, NE, NV, NY, PR, TN, and TX.

Background: (See first action listed for NPL Listings.)

Timing: With the exception of the site located in Nevada, which has been paused at the request of the state in order to continue evaluations at the site, EPA expects to consider the remaining sites by September 30, 2017.

The Office of Chemical Safety and Pollution Prevention rulemaking activity that fall within this category are included in Enclosure 1.

- b. Each proposed regulation or other proposed final agency action relating to the clean-up of toxic chemicals or the regulation or restriction of a chemical substance or a pesticide that was submitted to OMB after January 1, 2016 but not yet formally proposed, along with a timeline and expected date each such regulation or action will be formally proposed. If any such regulation or action is not expected to be formally proposed, please explain why not?**

RESPONSE: Regarding Superfund's National Priorities List, EPA's Office of Land and Emergency Management has one proposed regulation that falls under this category:

Action Title: National Priorities List

Action: Proposed Rule

Purpose: Proposing to add and withdraw sites to the General Superfund section of the NPL.

Background: (See first action listed for NPL Listings.)

Timing: EPA expects this package to be formally proposed by September 30, 2017.

The Office of Chemical Safety and Pollution Prevention rulemaking activity that fall within this category are included in Enclosure 1.

Senator Gillibrand:

3. **Based on my understanding of the Atlantic Fleet Weapons Training Area Site in Vieques, it sounds like there has been significant done work investigating and removing munitions, removing solid wastes piles/debris, while also striving to ensure protection of human health and the environment.**
 - a. **Due to the size of the site and the complexity and logistics of ensuring safe removal - including personnel safety, access to supplies, and protection of the endangered species in the area - how will a reduction in EPA's funding impact the schedule to complete the cleanup for this community of 9,100 residents and a growing tourism industry?**

RESPONSE: The Navy funds the cleanup work at Vieques. EPA provides direct oversight and technical expertise to assure that the work performed by the Navy is consistent with CERCLA requirements. EPA oversight is funded through EPA's budget and is not reimbursed by the Navy. It is too early in the budget process to know what impacts reductions would have on work performed for a specific site. EPA currently has three EPA project managers, various EPA technical experts, and a contractor providing support on this site. More information on this site can be found on EPA's website: <https://cumulis.epa.gov/supercpad/cursites/csitinfo.cfm?id=0204694>

4. **What steps is the EPA taking to work with the local community to address their concerns about the impacts of the project on air quality in the surrounding community?**

RESPONSE: EPA staff met with members of the community to discuss their concerns regarding air quality related to the Navy's work in late 2016. EPA and the Commonwealth of Puerto Rico advised the Navy that air monitoring of their vegetation clearance through the use of controlled burns is necessary. Air monitoring was not included in the Navy's original work plan. EPA is working with the Navy to ensure that the air monitoring continues and that the data is made available to the community, in order to address the community's concerns.

5. **I have heard concerns from local stakeholders that the information provided by the EPA and the Navy is not always accessible to them in a format that can be easily understood by the general public. Can you commit that the EPA will work with the community to ensure that written communications with the public are in the most accessible and understandable format possible?**

RESPONSE: EPA has a field office in Vieques where members of the community can speak directly with one of the project managers to discuss the work or ask any questions. This project manager also lives on the island, is well known in the

community, and is readily available to discuss concerns with the community. In addition, EPA has simultaneous translation services at public meetings to ensure that all attendees can understand the information being presented.

Senator Harris:

6. On average, how long does it take to clean up a Superfund site?

RESPONSE: Cleanup actions can last from a few months for relatively straightforward soil excavation or capping remedies to several decades for complex, large area-wide groundwater, sediment, or mining remedies. The length of time it takes to clean up a hazardous waste site depends upon many factors, including the:

- risk it poses to human health and the environment;
- volume, extent, type and location of the contamination;
- selected cleanup alternative;
- search for and settlement with potentially responsible parties; and
- availability of funding.

7. In Oxnard, California, there is a site listed on the National Priorities List where the Army Corps of Engineers sent the polluter a cease and desist letter in 1977, but it took until 2007 for the EPA to list the site on the NPL. What processes have the EPA and the Army Corps of Engineers put in place to avoid similar delays, so that investigations, enforcement, and clean up can begin as soon as federal agencies are aware of pollution?

RESPONSE: The site referred to in the question is the Halaco Engineering Company site in Oxnard, CA. Halaco Engineering Company operated a metal recovery facility in Oxnard from about 1965 to 2004. During its 40 years of operation as an operating facility, Halaco was regulated primarily by several State agencies, including the California Regional Water Quality Control Board, the California Department of Toxic Substances Control, and the California Radiologic Health Branch. Because Superfund focuses on the cleanup of inactive hazardous waste sites, EPA took primary responsibility for environmental issues at the site after Halaco declared bankruptcy and ceased operations in 2006, and the State of California asked EPA to address immediate health risks at the site. EPA took steps to stabilize the site in mid-2006, overseeing work by the site owners to remove drums and other hazardous substances, fence the large waste pile, and install a silt curtain and straw wattles. In 2007, EPA and its contractors implemented additional measures to stabilize and secure the site, and concurrently proposed adding the site to the National Priorities List. More information on the site can be found here: <https://cumulis.epa.gov/supercpad/cursites/csinfo.cfm?id=0901242>

8. Please update the status of progress on and an expected timeline for completion of the cleanup of the Sulphur Bank Mercury Mine site in Clear Lake, California?

RESPONSE: EPA is currently working with California state agencies and the Elem Tribe to evaluate long-term cleanup actions to prevent mine waste from continuing to

contaminate Clear Lake, address existing Clear Lake sediment contamination, and consolidate and cap mine waste onsite. A Feasibility Study comparing cleanup options for the main mine site was completed in 2006. A revised study comparing additional cleanup options is currently under review by the State, the Elem Tribe, and other stakeholders. The cleanup will be constructed in phases and is dependent on many factors, such as receiving cleanup funding. EPA's investigation into the extent and impact of the mine site on Clear Lake and adjacent communities continues, with a comprehensive Human Health Risk Assessment slated for completion in early 2018. A Record of Decision (ROD) detailing the cleanup plan for the site is expected to be finalized in 2020. The ROD cleanup actions are anticipated to take ten years.

The Sulphur Bank Mercury Mine was listed on the National Priorities List in 1990. The Superfund Program prioritizes cleanup work by addressing urgent risks to human health first. Accordingly, EPA conducted early response actions to protect residents of the Elem Indian Colony living adjacent to the mine site:

- **Soil removal from residential yards.** In 1997, EPA removed up to 18 inches of the mercury and arsenic-contaminated mine wastes from 17 residential yards at the Elem Tribal Colony, which is located adjacent to the mine property.
- **Surface water diversion.** In 1999-2000, EPA constructed surface water diversions on the mine site to prevent contaminated sediments and water from flowing into Clear Lake.
- **Well closure emergency response.** EPA conducted an emergency action in late 2000 and early 2001 to investigate the closure of all of the historic wells, and took action to properly close three wells that had not been properly abandoned.
- **Soil removal from Elem Indian Colony.** In June 2006, EPA began work to remove 28,000 cubic yards of mercury and arsenic contaminated mine waste from the Elem Indian Colony residential area. EPA removed mine wastes from 14 residential yards, several inactive gravel roadways, and from beneath the entire paved roadway system.
- **Mine waste removal from Sulphur Bank Mine Road.** In 2008, EPA removed mercury and arsenic contaminated mine waste from the gravel roadways and adjacent areas in a residential area located to the south of Sulphur Bank Mercury Mine along Sulphur Bank Mine Road.
- **Mine waste capping on BIA Route 120.** In late 2010, EPA completed a removal action to rebuild Route 120, the main access road to the residential area of the Elem Colony. The re-construction eliminated potential human exposure to mine waste by containing the waste used to construct the original road.

More information on this site can be found on EPA's website:

<https://cumulis.epa.gov/supercpad/cursites/csitinfo.cfm?id=0902228>

Senator Whitehouse:

9. **For how many Formerly Used Defense Sites (FUDS) in Rhode Island does the EPA serve as the lead regulator of the FUDS property? Please provide the cleanup status and compliance with EPA regulations for those sites.**

RESPONSE: EPA does not serve as the lead regulator at any FUDS properties in Rhode Island. However, the Navy's Davisville-NCBC NPL site (Davisville) is adjacent to the FUDS property Army Nike PR-58 in Rhode Island. The majority of groundwater contamination at the Davisville NPL site is from the adjacent Army Nike PR-58 FUDS. EPA is continuing to work with the Navy, Army, and Rhode Island to ensure the sites are addressed. More information on this site can be found here: <https://cumulis.epa.gov/supercpad/cursites/csitinfo.cfm?id=0101430>

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Question 2a. Office of Chemical Safety and Pollution Prevention Rulemaking Activity – Proposed After January 1, 2016 and Not Yet Final						
RIN	Full Title	Stage	Pub. Date(s)	FR Citation	FR Publication URL	Effective Date
2070-AJ94	Significant New Uses of Chemical Substances; Updates to the Hazard Communication Program and Regulatory Framework; Minor Amendments to Reporting Requirements for Premanufacture Notices	NPRM	07/28/2016	81 FR 49598	https://www.regulations.gov/document?D=EPA-HQ-OPPT-2014-0650-0001	
	<p>About this action: EPA issued regulations in 1989 for the 'Protection in the Workplace' (40 CFR 721.63) and 'Hazard Communication Program' (40 CFR 721.72) components of the Significant New Uses of Chemical Substances regulations at 40 CFR 721. Where possible, these regulations are closely aligned with Occupational Safety and Health Administration (OSHA) regulations at 29 CFR 1910.1200. OSHA issued a final rule on March 26, 2012 that aligns OSHA's Hazard Communication Standards with the Globally Harmonized System of Classification and Labeling of Chemicals (GHS). On July 28, 2016, EPA issued a proposed rule on proposing changes to the Globally Harmonized System of Chemical Substances regulations at 40 CFR 721 to align the EPA regulations, where possible, with the final revisions to the OSHA Hazard Communications Standards (81 FR 49598). EPA reopened the comment period on October 21, 2016 (81 FR 72759), allowing the public until November 21, 2016 to submit comments.</p> <p>When does EPA Expect to Promulgate a Final Rule? EPA presently anticipates final rule promulgation in Summer 2018.</p>	NPRM Extension	10/21/2016	81 FR 72759	https://www.regulations.gov/document?D=EPA-HQ-OPPT-2014-0650-0039	
2070-AK15	Toxics Release Inventory; Addition of Nonylphenol Ethoxylates	NPRM	11/16/2016	81 FR 80624	https://www.regulations.gov/document?D=EPA-HQ-TRI-2016-0222-0001	
	<p>About this action: On November 16, 2016, EPA proposed to add a nonylphenol ethoxylates (NPEs) category to the list of toxic chemicals subject to reporting under section 313 of the Emergency Planning and Community Right-to-Know Act (EPCRA) and section 6607 of the Pollution Prevention Act (PPA) (81 FR 80624). EPA believes NPEs meet the EPCRA section 313(d)(2)(C) toxicity criteria. Specifically, EPA believes that longer chain NPEs can break down in the environment to short-chain NPEs and nonylphenol, both of which are highly toxic to aquatic organisms. Based on a review of the available production and use information, members of the NPEs category are expected to be manufactured, processed, or otherwise used in quantities that would exceed EPCRA section 313 reporting thresholds.</p> <p>When does EPA Expect to Promulgate a Final Rule? EPA presently anticipates final rule promulgation in Fall 2017.</p>					

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2070-AK09	Significant New Use Rule; Alkylpyrrolidone Products	NPRM	11/28/2016	81 FR 85472	https://www.regulations.gov/document?D=EPA-HQ-OPPT-2015-0387-0001	
	<p>About this action: On November 28, 2016, EPA proposed to designate as a significant new use any use of N-isopropylpyrrolidone (NIPP) and any use of N-ethylpyrrolidone (NEP) under section 5(a)(2) of the Toxic Substances Control Act (TSCA) except for the ongoing uses as a reactant, in silicone seal remover, coatings, consumer and commercial paint primer, and adhesives. The SNUR would require persons who intend to manufacture (including import) or process these chemical substances for an activity that is designated as a significant new use to notify the EPA at least 90 days before commencing that activity. The required notification would initiate EPA's evaluation of the intended use within the applicable review period. Manufacture and processing for the significant new use would be unable to commence until EPA has conducted a review of the notice, made an appropriate determination on the notice, and taken such actions as are required in association with that determination.</p>					
2070-AK03	Trichloroethylene (TCE); Regulation of Certain Uses Under TSCA Section 6(a)	NPRM	12/16/2016	81 FR 91592	https://www.regulations.gov/document?D=EPA-HQ-OPPT-2016-0163-0001	
		NPRM Extension	02/15/2017	82 FR 10732	https://www.regulations.gov/document?D=EPA-HQ-OPPT-2016-0163-0156	
	<p>About this action: Section 6(a) of the Toxic Substances Control Act (TSCA) provides authority for EPA to ban or restrict the manufacture (including import), processing, distribution in commerce, and use of chemical substances, as well as any manner or method of disposal. In the June 2014 TSCA Work Plan Chemical Risk Assessment for TCE, EPA identified risks associated with commercial degreasing and some consumer uses. EPA determined that these are unreasonable risks. On December 16, 2016, EPA proposed to prohibit the manufacture, processing, distribution in commerce, or use of TCE as a spotting agent in dry cleaning and in commercial and consumer aerosol spray degreasers. A separate Regulatory Agenda entry (RIN 2070-AK11), published on January 19, 2017, proposes to address the unreasonable risks from TCE in vapor degreasing operations.</p>					
2070-AK11	Trichloroethylene (TCE); Rulemaking Under TSCA Section 6(a), Vapor Degreasing	NPRM	01/19/2017	82 FR 7432	https://www.regulations.gov/document?D=EPA-HQ-OPPT-2016-0387-0001	
	<p>When does EPA Expect to Promulgate a Final Rule? To be determined. EPA is evaluating public comments and will consider a schedule for the final rule.</p>					

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2070-AK07	<p>About this action: Section 6(a) of the Toxic Substances Control Act (TSCA) provides authority for EPA to ban or restrict the manufacture (including import), processing, distribution in commerce, and use of chemical substances, as well as any manner or method of disposal. In the June 2014 TSCA Work Plan Chemical Risk Assessment for TCE, EPA identified risks associated with commercial degreasing and some consumer uses. EPA determined that these are unreasonable risks. On January 19, 2017, EPA proposed to prohibit the manufacture, processing, distribution in commerce, or commercial use of TCE in vapor degreasing. A separate Regulatory Agenda entry (RIN 2070-AK03), published on December 16, 2016, proposes to address the unreasonable risks from TCE when as a spotting agent in dry cleaning and in commercial and consumer aerosol spray degreasers.</p>						
	<p>When does EPA expect to promulgate a final rule? To be determined. EPA is evaluating public comments and will consider a schedule for the final rule.</p>						
	<p>About this action: Section 6 of the Toxic Substances Control Act provides authority for EPA to ban or restrict the manufacture (including import), processing, distribution in commerce, and use of chemical, as well as any manner or method of disposal of chemicals. Methylene chloride and N-methylpyrrolidone (NMP) are used in paint and coating removal in commercial processes, consumer products, and residential settings. In the August 2014 TSCA Work Plan Chemical Risk Assessment for methylene chloride and the March 2015 TSCA Work Plan Chemical Risk Assessment for NMP, EPA identified risks from use of these chemicals in paint and coating removal. EPA determined that these are unreasonable risks. On January 19, 2017, EPA proposed under section 6 prohibitions and restrictions on the use of methylene chloride and in consumer and most types of commercial paint and coating removal. In that proposal, EPA identified commercial furniture refinishing as an industry for which EPA would like more information before proposing additional to address the risks presented by methylene chloride in such a setting.</p>						
2070-AK07	N-Methylpyrrolidone (NMP) and Methylene Chloride; Rulemaking Under TSCA Section 6(a)		NPRM	01/19/2017	82 FR 7464	https://www.regulations.gov/document?D=EPA-HQ-OPPT-2016-0231-0001	
			NPRM Extension	05/01/2017	82 FR 20310	https://www.regulations.gov/document?D=EPA-HQ-OPPT-2016-0231-0325	
			<p>About this action: Section 6(a) of the Toxic Substances Control Act (TSCA) provides authority for EPA to ban or restrict the manufacture (including import), processing, distribution in commerce, and use of chemical substances, as well as any manner or method of disposal. In the June 2014 TSCA Work Plan Chemical Risk Assessment for TCE, EPA identified risks associated with commercial degreasing and some consumer uses. EPA determined that these are unreasonable risks. On January 19, 2017, EPA proposed to prohibit the manufacture, processing, distribution in commerce, or commercial use of TCE in vapor degreasing. A separate Regulatory Agenda entry (RIN 2070-AK03), published on December 16, 2016, proposes to address the unreasonable risks from TCE when as a spotting agent in dry cleaning and in commercial and consumer aerosol spray degreasers.</p>				

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	<i>When does EPA Expect to Promulgate a Final Rule?</i> To be determined. EPA is evaluating public comments and will consider a schedule for the final rule.			
2070-AK16	Toxics Release Inventory (TRI); Addition of Natural Gas Processing Facilities	NPRM NPRM Extension	01/06/2017 03/08/2017	82 FR 1651 82 FR 12924 https://www.regulations.gov/document?D=EPA-HQ-TRI-2016-0390-0001 https://www.regulations.gov/document?D=EPA-HQ-TRI-2016-0390-0128
	<p>About this action: On October 22, 2015, EPA issued a response to a petition by the Environmental Integrity Project and 18 other organizations to add the Oil and Gas Extraction sector to the scope of industries subject to Toxics Release Inventory (TRI) reporting requirements. EPA granted the petition in part, committing to commence the rulemaking process to propose adding natural gas processing facilities to the TRI. The addition of natural gas processing facilities to TRI would meaningfully increase the information available to the public and further the purposes of section 313 of the Emergency Planning and Community Right-to-Know Act. EPA estimates that more than half of the 517 natural gas processing plants in the U.S. would meet the TRI employee threshold (10 full-time employees or equivalent) and manufacture, process, or otherwise use (threshold activities) at least one TRI-listed chemical in excess of applicable threshold quantities. Natural gas processing facilities in the U.S. manufacture, process, or otherwise use more than 25 different TRI-listed chemicals, including hydrogen sulfide, benzene, toluene, ethylbenzene, and xylene. Based upon information submitted to Canada's National Pollution Release Inventory and the U.S. Energy Information Administration's 2012 survey of natural gas processors, EPA expects that TRI reporting by U.S. natural gas processing facilities would provide significant release and waste management data.</p>			
	<i>When does EPA Expect to Promulgate a Final Rule?</i> To be determined. EPA is evaluating public comments but has not made a final determination on whether to finalize.			
2070-AK23	Procedures for Prioritization of Chemicals for Risk Evaluation under the Toxic Substances Control Act	NPRM	01/17/2017	82 FR 4825 https://www.regulations.gov/document?D=EPA-HQ-OPPT-2016-0636-0001

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	<p>About this action: As part of EPA's continuing efforts to implement the Frank R. Lautenberg Chemical Safety for the 21st Century Act, which amended the Toxic Substances Control Act (TSCA) with immediate effect upon its enactment on June 22, 2016, EPA is developing a final rule to implement TSCA section 6(b)(1). TSCA section 6(b)(1), as amended, requires that EPA promulgate a final rule within 1 year of enactment to establish a risk-based screening process, including criteria for designating chemical substances as high-priority substances for risk evaluations or low-priority substances for which risk evaluations are not warranted at the time. As required by TSCA, the process to designate the priority of chemical substances must include a consideration of the hazard and exposure potential of a chemical substance or a category of chemical substances (including consideration of persistence and bioaccumulation, potentially exposed or susceptible subpopulations and storage near significant sources of drinking water), the conditions of use or significant changes in the conditions of use of the chemical substance, and the volume or significant changes in the volume of the chemical substance manufactured or processed.</p>					
2070-AK20	<p>When does EPA Expect to Promulgate a Final Rule? EPA presently anticipates final rule promulgation in Spring 2017. This action is subject to a June 22, 2017 statutory deadline (15 USC 2605(b)(1)).</p> <table><tr><td>Procedures for Evaluating Existing Chemical Risks under the Toxic Substances Control Act</td><td>NPRM</td><td>01/19/2017</td><td>82 FR 7562</td><td>https://www.regulations.gov/document?D=EPA-HQ-OPPT-2016-0654-0001</td></tr></table>	Procedures for Evaluating Existing Chemical Risks under the Toxic Substances Control Act	NPRM	01/19/2017	82 FR 7562	https://www.regulations.gov/document?D=EPA-HQ-OPPT-2016-0654-0001
Procedures for Evaluating Existing Chemical Risks under the Toxic Substances Control Act	NPRM	01/19/2017	82 FR 7562	https://www.regulations.gov/document?D=EPA-HQ-OPPT-2016-0654-0001		
	<p>About this action: As part of EPA's ongoing efforts to implement the Frank R. Lautenberg Chemical Safety for the 21st Century Act, which amended the Toxic Substances Control Act (TSCA) with immediate effect upon its enactment on June 22, 2016, EPA is developing a final rule to implement TSCA section 6(b)(4). TSCA section 6(b)(4), as amended, requires that EPA promulgate a final rule within 1 year of enactment to establish EPA's process for evaluating the risk of existing chemical substances and determining whether they present an unreasonable risk of injury to health or the environment, without consideration of costs or other non-risk factors, including an unreasonable risk to a potentially exposed or susceptible subpopulation identified as relevant to the risk evaluation by the Administrator, under the conditions of use.</p>					
	<p>When does EPA Expect to Promulgate a Final Rule? EPA presently anticipates final rule promulgation in Spring 2017. This action is subject to a June 22, 2017 statutory deadline (15 USC 2605(b)(4)).</p>					

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2070-AK35	Compliance Date Extension; Formaldehyde Emission Standards for Composite Wood Products	Direct Final	05/24/2017	82 FR 23735	https://www.regulations.gov/document?D=EPA-HQ-OPPT-2017-0244-0002	[N/A. To be withdrawn]
		NPRM	05/24/2017	82 FR 23769	https://www.regulations.gov/document?D=EPA-HQ-OPPT-2017-0244-0001	
		About this action: On December 12, 2016, EPA published the final rule 'Formaldehyde Emission Standards for Composite Wood Products' to implement the Formaldehyde Standards for Composite Wood Products Act, which added Title VI to the Toxic Substances Control Act (TSCA). On May 24, 2017, EPA issued a direct final rule and parallel proposed rule that would extend the TSCA Title VI final rule compliance dates; including the December 12, 2017, date for emission standards, recordkeeping, and labeling provisions; and the December 12, 2018 date for import certification provisions. The direct final rule and parallel proposed would extend the California Air Resources Board (CARB) Third Party Certifiers (TPC) transitional period under 40 CFR 770.7(d) which is currently set to end December 12, 2018.				
When does EPA Expect to Promulgate a Final Rule? EPA presently anticipates final rule promulgation in Summer 2017. EPA received adverse comments in response to the rulemaking and will withdraw the direct final rule in June 2017, then respond to public comments and promulgate a final rule.						

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Question 2b. Office of Chemical Safety and Pollution Prevention Rulemaking Activity- submitted to OMB after January 1, 2016 but not yet formally proposed						
RIN	Full Title	Stage	Submitted to OMB	Date OMB Acted	Result of OMB Review	Additional Information
2070-AJ94	Polychlorinated Biphenyls (PCBs); Reassessment of Use Authorizations for PCBs in Small Capacitors in Fluorescent Light Ballasts in Schools and Daycares	NPRM	11/17/2016	1/23/2017	Withdrawn by EPA	https://www.reginfo.gov/public/Forward?SearchTarget=RegReview&textfield=2070-AJ94
<p>About this action: EPA's regulations governing the use of Polychlorinated Biphenyls (PCBs) in electrical equipment and other applications were first issued in the late 1970s and have not been updated since 1998. EPA initiated a rulemaking to reassess the ongoing authorized use of PCBs in small capacitors. In particular, the reassessment of the use authorization will focus on the use of liquid PCBs in small capacitors in fluorescent light ballasts.</p> <p>When does EPA Expect to Issue a Proposed Rule? To be determined. EPA withdrew the NPRM package from Executive Order 12866 review on January 23, 2017, in order to provide the new administration with the opportunity to evaluate the action and make decisions about whether/how to proceed.</p>						

Senator BARRASSO. Well, thank you very much, Mr. Breen. We appreciate your time here today and your testimony, so thank you.

I am next going to turn to Mr. Kevin Frederick, who is the Water Quality Administrator for the Wyoming Department of Environmental Quality.

I would like to let folks know that Mr. Frederick previously managed the groundwater section for the Water Quality Division in Cheyenne. He oversaw the day to day permitting, compliance, inspection, and monitoring activities involving the Underground Injection Control Program, the Groundwater Pollution Control Program, and the Federal Facilities Corrective Action Program.

Prior to joining the Wyoming Department of Environmental Quality, he has worked in the energy, minerals, and oil and gas industry. In 2007 Mr. Frederick received an EPA Region 8 Environmental Achievement Award for leadership in groundwater management. So this is a man who clearly knows from which he speaks. He currently serves on the Board of Directors for the Groundwater Protection Council and the Groundwater Research and Education foundation; degrees in geology and geophysics from the University of Wisconsin at Madison and is a Wyoming licensed professional geologist.

Thank you so much for traveling from Wyoming to Washington to testify to be with us today. Please proceed.

STATEMENT OF KEVIN FREDERICK, WATER QUALITY ADMINISTRATOR, WYOMING DEPARTMENT OF ENVIRONMENTAL QUALITY

Mr. FREDERICK. Thank you, Mr. Chairman. Good morning.

Good morning, Ranking Member Carper and honorable members of the Committee. My name is Kevin Frederick. I am the Water Quality Administrator for the Wyoming Department of Environmental Quality, and I thank the Committee for inviting the State of Wyoming to share its perspective on environmental cleanup of cold war legacy sites.

Wyoming is home to 38 Formerly Used Defense Sites. My comments today focus on those that have had the most significant environmental impact, which are the 7 former Atlas Missile sites in southeast Wyoming.

The Atlas Missile was the first fully operational strategic missile developed by the U.S. and was designed for deployment of nuclear warheads during the cold war era of the late 1950s and early 1960s. Missile sites were used for the housing, readiness, and potential launch of nuclear missiles. The Atlas Missile sites played a crucial role in protecting the safety and security of the American people and ensured the military readiness of the United States armed forces. However, some of the sites have, and continue to cause serious environmental problems.

The Atlas used liquid rocket fuel propellant for fuel and liquid oxygen as the oxidizer. Trichloroethylene, or TCE, a known carcinogen, was used to clean the rocket fuel tanks, engines, and lines to prevent accidental explosions. Spent TCE drained into a series of unlined pits and channels, and into the subsurface. The amount of TCE that may have been released into the subsurface and into groundwater ranges from hundreds to thousands of gallons at each

site. It takes as little as two teaspoons of TCE to contaminate an Olympic size swimming pool full of water, more than 660,000 gallons. A number of factors make TCE very difficult, expensive, and time consuming to clean up.

Groundwater within the Ogallala aquifer underlying some missile sites has been impacted with TCE at levels far above the safe drinking limit of 5 parts per billion. The Ogallala, as you know, is one of the most important of the nation's aquifers, supplying the agricultural and drinking water needs of the bread basket States in the Midwest. All of the missile sites are located within 75 miles of Cheyenne, the most densely populated area in the State and the home of F.E. Warren Air Force Base. Residents rely heavily upon high quality groundwater, much from the Ogallala, for municipal drinking water supplies.

Wyoming's missile sites have some of the largest and deepest TCE plumes in the U.S. The largest, at Missile Site 4, 16 miles west of Cheyenne, is roughly 12 miles long and 3 miles wide in places. At Site 4, concentrations of TCE in groundwater are greater than 240,000 parts per billion, or 48,000 times the safe drinking water limit. Some of the city of Cheyenne's municipal drinking water supply wells, as well as two water wells owned by private landowners, have already been impacted by TCE from Atlas 4.

Each of the seven Atlas Missile sites in Wyoming will require significant human and capital resources to complete cleanup, and each presents unique challenges and difficulties. Overall costs expended to date at the seven missile sites exceeds \$45 million, and much work remains to be done. As of 2015 the Department of Defense estimated that the cost to complete the investigation and remediation of Formerly Used Defense Sites in Wyoming at more than \$285 million.

The Department of Defense is ultimately responsible for contamination at the Atlas Missile sites. As the State's lead environmental oversight agency, the Wyoming Department of Environmental Quality coordinates with the Corps of Engineers to investigate, characterize, and remediate contaminated soils and groundwater at these sites. Of the seven sites in Wyoming, only two are in the remediation phase to treat contaminant plumes.

Collaboration between our respective agencies, together with public involvement, allows cleanup of these sites in a way that works and that is cost effective. Up front planning and communication, including a clear understanding of the roles and responsibilities of the agencies involved, and a mutual understanding of the Federal and State regulations at work are essential to the success of this endeavor. Adhering to these basic tenets makes the process work best for all parties involved.

Further details on each of the Wyoming missile sites, as well as observations and recommendations that may help improve the overall cleanup process at these sites, are provided in the appendix to my written testimony.

Mr. Chairman, Mr. Ranking Member, and members of the Committee, I thank you for your time and remain available to answer any questions.

[The prepared statement of Mr. Frederick follows:]

**Testimony of Kevin Frederick, Administrator
Water Quality Division
Wyoming Department of Environmental Quality**

Before

U.S. Senate Committee on Environment and Public Works

**Hearing to receive testimony on
“Cleaning up Our Nation's Cold War Legacy Sites”**

**March 29, 2017 at 10:00 AM
Room 406 Dirksen Senate Office Building**

Good morning Chairman Barrasso, Ranking Member Carper, and honorable Members of the Committee. My name is Kevin Frederick. I am the Water Quality Administrator for the Wyoming Department of Environmental Quality, and I thank the Committee for inviting the State of Wyoming to share its perspective on environmental cleanup of Cold War legacy sites.

Wyoming is home to 38 formerly used defense sites. My comments today focus on those that have had the most significant environmental impact, which are the seven former Atlas Missile sites in southeast Wyoming. The Atlas Missile was the first fully operational strategic missile developed by the U.S. and was designed for deployment of nuclear warheads during the Cold War era of the late 1950's and early 60's. Missile sites were used for the housing, readiness, and potential launch of nuclear missiles. The Atlas Missile sites played a crucial role in protecting the

safety and security of the American people and ensured the military readiness of the United States armed forces. However, some of the sites have, and continue to cause serious environmental problems.

The Atlas used liquid rocket propellant for fuel and liquid oxygen as the oxidizer. Trichloroethylene, or TCE, a known carcinogen, was used to clean the rocket fuel tanks, engines, and lines to prevent accidental explosions. Spent TCE drained into a series of unlined pits and channels. The amount of TCE that may have been released ranges from hundreds to thousands of gallons at each site. It's been said that as little as one teaspoon of TCE can contaminate one million gallons of water.

Groundwater within the Ogallala aquifer underlying some missile sites has been impacted with TCE at levels far above the safe drinking water limit of 5 parts per billion. The Ogallala is one of the most important of the nation's aquifers, supplying the agricultural and drinking water needs of the bread-basket states in the Midwest. All of the missile sites are located within 75 miles of Cheyenne, the most densely populated area in the state and the home of F.E. Warren Air Force Base, one of the country's nuclear missile command and control launch centers. Residents rely heavily upon high quality groundwater, much from the Ogallala, for municipal drinking water supplies.

Wyoming's missile sites have some of the largest and deepest TCE plumes in the U.S. The largest, at Missile Site 4 eighteen miles west of Cheyenne, is roughly 12 miles long and 3 miles wide in places. At Missile Site 4, concentrations of TCE in groundwater are greater than 240,000 ppb, or 48,000 times the safe drinking water limit. Some of the City of Cheyenne's municipal drinking water supply wells, as well as two water wells owned by private landowners, have already been impacted by TCE from Atlas 4.

Plumes at three other sites are roughly 1 mile long by one-quarter to one-half mile wide, and the remaining two are a few hundred feet in length and width. All sites have TCE in groundwater ranging from hundreds to thousands of parts per billion. TCE plumes at three of the sites have migrated beneath adjacent private properties, and many of the people who live near the missile sites depend on private wells that are not equipped to remove TCE.

TCE is a dense non-aqueous phase liquid, which means that it tends to adhere to materials it comes into contact with—that is, it is sticky—and it sinks to the bottom of aquifers. Managing TCE contamination at missile sites in Wyoming is further complicated by highly variable and unpredictable geology, short fieldwork seasons, large volumes of TCE, and long time frames of more than 50 years since the releases occurred. Adding to that complexity, TCE typically cannot

be excavated and removed, and it is difficult to remediate. In short, these are not your garden variety contaminated sites.

Taken together, these factors make TCE very difficult, expensive, and time-consuming to clean up once it reaches groundwater, and costs quickly reach into the millions of dollars. Each of the seven Atlas Missile sites in Wyoming will require significant human and capital resources to complete cleanup, and each presents unique challenges and difficulties. Overall costs expended to date at the seven missile sites exceed \$45,000,000, and much work remains to be done. As of 2015, the Department of Defense estimated that the cost to complete the investigation and remediation of formerly used defense sites in Wyoming at \$285,134,000.

The Department of Defense is ultimately responsible for contamination at Atlas Missile sites. As the state's lead environmental oversight agency, the Wyoming Department of Environmental Quality coordinates with the Corps of Engineers to investigate, characterize, and remediate contaminated soils and groundwater at these sites. Of the seven sites in Wyoming, two are in the remediation phase to treat contaminant plumes; one is in pilot stage remedial testing; one is in the site characterization phase; two are awaiting DoD funding for site characterization; and one, Missile Site 7, is under evaluation for closure. Cleaning up the contamination from these Cold War era sites will require ongoing

cooperation between the Army Corps of Engineers and the Wyoming Department of Environmental Quality. While at times frustrating, the Wyoming Department of Environmental Quality is fortunate to have a relatively good and constructive working relationship with the Corps of Engineers. Collaboration between our respective agencies, together with public involvement, allows cleanup of these sites in a way that works, and that is cost effective. Upfront planning and communication, including a clear understanding of the roles and responsibilities of the agencies involved, and mutual understanding of the federal and state regulations at work are essential to the success of this endeavor. Adhering to these basic tenets makes the process work best for all parties involved.

Further details on each of the Wyoming missile sites, as well as observations and recommendations that may help improve the overall cleanup process at these sites, are provided in the Appendix to my written testimony.

Mr. Chairman, Mr. Ranking Member, and Members of the Committee, I thank you for your time and remain available to answer any questions you may have.

Appendix

**To Testimony of Kevin Frederick, Administrator
Water Quality Division
Wyoming Department of Environmental Quality**

Before

U.S. Senate Committee on Environment and Public Works

**Hearing to receive testimony on
“Cleaning up Our Nation's Cold War Legacy Sites”**

**March 29, 2017 at 10:00 AM
Room 406 Dirksen Senate Office Building**

By some estimates, there are over 300,000 sites in the United States where soil or water are contaminated. The United States Environmental Protection Agency estimates that expenditures for soil and groundwater cleanup at these sites through 2033 may exceed \$200,000,000,000 (not adjusted for inflation).¹ At the formerly used Atlas Missile sites in Wyoming, groundwater impacts are particularly severe and will require significant effort to investigate and remediate. As of 2015, the Department of Defense estimated that the cost to complete the investigation and remediation of formerly used defense sites (FUDS) in Wyoming through 2060 at \$285,134,000.

Several factors are expected to make cleanup of FUDS in Wyoming expensive. At the seven former Atlas Missile sites, trichloroethylene (TCE) has contaminated groundwater and threatened drinking water supplies in an already arid area where water is scarce. Wyoming sites are considered complex. Attributes that add to the complexity of cleaning up the former Atlas Missile sites include extensive groundwater contamination at depth, large releases and/or source zones, multiple and/or recalcitrant contaminants, widespread contaminant distribution in the subsurface, long timeframes since releases occurred, and heterogeneous geology. Complexity is also directly tied to the contaminants present. Some of the most challenging contaminants to remediate are dense non-aqueous phase liquids like TCE. Additionally, Wyoming has some of the largest and deepest TCE plumes in the US, rivaled only by TCE-contaminated Superfund sites.

The following table presents a status update on each missile site in Wyoming, including the corrective action period funded and Wyoming Department of Environmental Quality (WDEQ) oversight costs for each of those timeframes.

¹ *Alternatives for Managing the Nation's Complex Contaminated Groundwater Sites*, by Committee on Future Options for Management in the Nation's Subsurface Remediation Effort; Water Science and Technology Board; Division on Earth and Life Studies; National Research Council (2013).

Former F.E. Warren Atlas Missile Sites 1 through 7 Corrective Action (CA) Funding				
Missile Site 1				
CA Period	Installation	Total Approved	Total Pending	CA Year
2010-2012	FE WARREN AFB FAC SITE 1 (B08WY0464)	\$2,951.51	\$0.00	2009
2012-2014	FE WARREN AFB FAC SITE 1 (B08WY0464)	\$1,177.81	\$0.00	2011
<p>Missile Site 1 is located 20 miles north of Cheyenne, immediately west of Interstate 25. This site has a TCE plume that measures 5,600 feet in length and 3,500 feet in width. Groundwater is flowing east and slightly northeast. Depth to water varies but is approximately 200 feet below ground surface (BGS). This site is currently unfunded by the U.S. Army Corps of Engineers (USACE) under the Defense and State Memorandum of Agreement (DSMOA) and not under active investigation or remediation. Groundwater monitoring was last conducted at this site in 2012. USACE investigation costs to date are \$386,600. WDEQ oversight funds have been \$4,129.32.</p>				
Missile Site 2				
CA Period	Installation	Total Approved	Total Pending	CA Year
2010-2012	FE WARREN AFB FAC SITE 2 (B08WY0465)	\$6,723.31	\$0.00	2009
2012-2014	FE WARREN AFB FAC SITE 2 (B08WY0465)	\$10,703.22	\$0.00	2011
2014-2016	FE WARREN AFB FAC SITE 2 (B08WY0465)	\$1,495.44	\$0.00	2013
2016-2018	FE WARREN AFB FAC SITE 2 (B08WY0465)	\$897.41	\$0.00	2015
<p>Missile Site 2 is located 16 miles northeast of Cheyenne, on the north side of State Highway 85. This site has a TCE plume that measures 4,500 feet in length and 3,000 feet in width. Concentrations range from 13 ppb to 14,000 ppb within the plume. Pilot studies are currently being conducted to determine the most appropriate way to perform in-situ bioremediation. USACE investigation costs to date are \$4,102,200. WDEQ oversight between 2010 and 2016 is \$18,921.97.</p>				

Missile Site 3				
CA Period	Installation	Total Approved	Total Pending	CA Year
2010-2012	FE WARREN AFB FAC SITE 3 (B08WY0466)	\$17,371.78	\$0.00	2009
2012-2014	FE WARREN AFB FAC SITE 3 (B08WY0466)	\$17,329.94	\$0.00	2011
2014-2016	FE WARREN AFB FAC SITE 3 (B08WY0466)	\$53,467.57	\$0.00	2013
2016-2018	FE WARREN AFB FAC SITE 3 (B08WY0466)	\$3,224.78	\$2,144.70	2015
<p>Missile Site 3 is located 20 miles southeast of Cheyenne near Carpenter, WY. This site has a TCE plume that measures 6,400 feet in length and 2,400 feet in width. Concentrations range from 920 ppb to 21,000 ppb within the plume. The horizontal and vertical extent of contamination has not been defined. The vertical extent could be greater than or equal to 174 vertical feet of saturated thickness of the aquifer. The deepest well is 290 feet deep. The 2016 signed Decision Document identifies in-situ bioremediation as the groundwater remedy for the site. However, the expected timeframe to remedy complete is expected to occur in approximately 200 years. Additional work is expected to further evaluate the source zone (missile launchers) and define the leading edge of the plume. USACE investigation costs to date are \$15,225,400. WDEQ oversight between 2010 and 2016 is \$91,394.07.</p>				
Missile Site 4				
CA Period	Installation	Total Approved	Total Pending	CA Year
2010-2012	FE WARREN AFB FAC SITE 4 (B08WY0467)	\$81,019.49	\$0.00	2009
2012-2014	FE WARREN AFB FAC SITE 4 (B08WY0467)	\$121,718.10	\$0.00	2011
2014-2016	FE WARREN AFB FAC SITE 4 (B08WY0467)	\$45,311.50	\$0.00	2013
2016-2018	FE WARREN AFB FAC SITE 4 (B08WY0467)	\$2,391.50	\$1,220.55	2015
<p>Missile Site 4 is located 16 miles west of Cheyenne, immediately south of Interstate 80. This site has a TCE plume that measures approximately 12 miles in length and 3 miles in width. TCE contamination in groundwater exceeds 240,000 parts per billion (ppb), well above the safe drinking water limit of 5 ppb. Atlas 4 also has the largest TCE contaminant plume (roughly 12 miles long by 3 miles wide) in Wyoming, and likely one of, if not the largest TCE plume in all of the country. The City of Cheyenne municipal water supply, as well as a two (2) private landowners' water wells, are currently or have been impacted by TCE from Atlas 4. The USACE has installed a water treatment system for the impacted municipal water wells and granulated activated carbon systems for private landowners; these systems are currently in operation and tested on an annual basis for effectiveness.</p> <p>Vertical and horizontal depths are under investigation, but TCE is believed to have migrated down to the White River Formation, which is a tight claystone with lenticular arkosic conglomerate. USACE Investigation costs to date are \$8,067,400. The City of Cheyenne municipal water supply treatment system for the TCE impacts cost \$4.56 million with an annual operation and maintenance cost of \$205,000. WDEQ oversight between 2010 and 2016 is \$248,049.09.</p>				

Missile Site 5				
CA Period	Installation	Total Approved	Total Pending	CA Year
2010-2012	FE WAR AFB AF FAC SITE 5 (B08WY0468)	\$3,332.97	\$0.00	2009
2012-2014	FE WAR AFB AF FAC SITE 5 (B08WY0468)	\$4,319.40	\$0.00	2011
2014-2016	FE WAR AFB AF FAC SITE 5 (B08WY0468)	\$5,619.41	\$0.00	2013
2016-2018	FE WAR AFB AF FAC SITE 5 (B08WY0468)	\$751.23	\$244.45	2015
<p>Missile Site 5 is located east of the town of Chugwater, approximately 45 miles North of Cheyenne. This site has a TCE plume that measures 1,000 feet wide by 3,600 feet in length. The highest TCE concentration detected at this site is 370 ppb. Groundwater flow is northeast. The depth to water ranges from 93 to 130 feet BGS. The greatest depth at which TCE was detected above the MCL was at 138 feet BGS. However, because the adjacent deep well was 240 feet total depth, TCE could be above cleanup levels at greater depth. The separation between the 138 foot deep well and the 240 foot deep well is 102 feet. In-situ bioremediation is identified in the Decision Document as the remedy. Injection wells were constructed and bioremediation substrate injected in 2016. Effectiveness is still being evaluated. USACE investigation costs to date are \$10,410,100. WDEQ oversight between 2010 and 2016 is \$13,271.78.</p>				
Missile Site 6				
CA Period	Installation	Total Approved	Total Pending	CA Year
2010-2012	FE WAR AFB AF FAC S-6 (B08WY0656)	\$976.61	\$0.00	2009
2012-2014	FE WAR AFB AF FAC S-6 (B08WY0656)	\$1,014.55	\$0.00	2011
2014-2016	FE WAR AFB AF FAC S-6 (B08WY0656)	\$1,239.50	\$0.00	2013
<p>Missile Site 6 is located northeast of Cheyenne near Meriden, WY and west of State Highway 85. This site has a TCE plume that measures 500 feet by 800 feet. The maximum concentration of TCE in groundwater detected at the site to date is 101 ppb. PBC's have also been detected up to 1000 ug/kg in soils. Groundwater flow is east-southeast. The depth to water is approximately 100 feet. The greatest depth at which TCE was detected was 124 feet BGS. Additional monitoring well installation and groundwater field sampling was conducted in May 2015. DSMoA funding was not included in the original 2016-2018 Cooperative Plan. However, an addendum is under negotiation to include this site. USACE investigation costs to date are \$1,228,400. WDEQ oversight between 2010 and 2016 is \$3,230.66.</p>				

Missile Site 7				
CA Period	Installation	Total Approved	Total Pending	CA Year
2010-2012	FE WARREN AFB FAC SITE 7 (B08WY0657)	\$1,104.98	\$0.00	2009
2012-2014	FE WARREN AFB FAC SITE 7 (B08WY0657)	\$1,831.64	\$0.00	2011
2014-2016	FE WARREN AFB FAC SITE 7 (B08WY0657)	\$1,837.74	\$0.00	2013
Missile Site 7 is located in Pine Bluffs, close to and north of Interstate 80. Groundwater flows generally southeast and the depth to water varies but is generally 80 feet below ground surface. TCE has been detected at a maximum concentration of 134 ppb. At its maximum extent the TCE apparently extended horizontally less than or equal to 150 feet by 300 feet. The fracture flow in the area makes a determination of the horizontal extent of contamination somewhat ambiguous. The USACE has proposed No Further Action for Atlas 7, however, the WDEQ has not concurred and believes further investigation is necessary in order to support that determination. USACE investigation costs to date are \$504,600. WDEQ oversight between 2010 and 2016 is \$4,774.36.				

Under the Defense State Memorandum of Agreement, WDEQ receives funding bi-annually to conduct state regulatory oversight activities at various federal facilities. WDEQ oversight includes review of corrective action investigation work plans, remedy evaluations, and monitoring results. WDEQ's oversight funding for the six-year period between 2010 and 2016 was \$766,241.93. The majority of oversight activities during this timeframe focused on Missile Sites 3 and 4, where groundwater contamination presents the most serious and immediate threats. WDEQ has received funding from the FUDS Installation Restoration Program as follows:

CA Period	Component Approved Amount	Obligated Amount	Total Spent	Total Spent on Missile Sites
2010-2012	\$302,007.00	\$125,396.00	\$125,396.00	\$113,480.65
2012-2014	\$179,100.00	\$171,494.63	\$171,494.63	\$155,157.66
2014-2016	\$208,622.00	\$117,755.25	\$117,755.25*	\$108,971.16
2016-2018	\$163,132.00	\$80,000.00	\$15,430.87	\$7,264.92

*Staff retirement and hiring resulted in less staff to work on projects under the federal program.

According to the most recent annual report to Congress, the United States Department of Defense has almost 26,000 active sites under its Installation Restoration Program where soil and groundwater remediation is either planned or underway. Of these, approximately 13,000 sites are the responsibility of the Army. The estimated cost to complete cleanup at all Department of Defense sites is approximately \$12.8 billion.² (Note that these estimates do not include sites containing unexploded ordnance.).

We offer the following observations and recommendations in hopes of improving the overall success and efficient cleanup of these formerly used defense sites not only within Wyoming, but within other states as well:

² Defense Environmental Programs Annual Report to Congress - Fiscal Year 2015.

Cooperation between state and federal agencies plays a very important part in determining how quickly and effectively sites are remediated. Strong and ongoing collaboration, as well as early incorporation of state requirements and expectations significantly helps to minimize delays in implementing successful remedies. WDEQ has found that effective components of any missile site cleanup strategy emphasize real results for the money spent, incorporate state requirements early on, adequately fund state involvement, clearly define federal and state roles in the cleanup, and include opportunities for public involvement.

Consistent application of both state and federal regulations and guidance regarding investigation and cleanup is highly important.

Adequate funding can significantly improve the remediation process in terms of both time and overall project cost. Lack of federal funding may lead to technically inadequate and incomplete site characterizations; source areas may not be adequately investigated and defined, and ineffective, costly remedies may be determined from incomplete information. For example, in 2016 an investigation of the Burn Pits at Missile Site 4 identified significant groundwater contamination in this area. Limited investigations at this site had been ongoing for the previous 10 years. With adequate funding and complete investigation, the source of TCE contamination in groundwater beneath Missile Site 4 would likely have been discovered much earlier, and plans and funding for remediation implemented much sooner than is now the case.

States play an important role in the process. State agencies are often the lead regulatory agency, often have a great deal of institutional knowledge and familiarity with the sites, and understand state requirements that apply to the cleanup process. Their knowledge and experience are valuable assets in determining investigation and remediation approaches that can save both time and money and lead to successful cleanups.

State and federal agencies should collaborate closely in the development and awarding of Performance-based Contracts (PBCs) for investigation and remediation work. The Association of State and Territorial Solid Waste Management Officials (ASTSWMO), of which WDEQ is a member, has recently published a Position Paper (attached) on performance-based contracting at federal facilities. The paper identifies challenges States continue to face regarding the use of PBCs, and highlights areas still needing attention. It also provides recommendations, including a checklist to assist all parties involved in the development and implementation of PBCs in order to improve the process at federal facility cleanups.



ASTSWMO POSITION PAPER ON PERFORMANCE-BASED CONTRACTING AT FEDERAL FACILITIES

I. INTRODUCTION

Performance-based contracting (PBC) is frequently used for implementing environmental cleanup work at federal facilities under the Defense Environmental Restoration Program (DERP). The Association of State and Territorial Solid Waste Management Officials (ASTSWMO) has produced two white papers on the subject: *"Performance Based Remediation Contracts and Compendium of State Lessons Learned – A Guide to Performance Based Environmental Remediation, November 2004,"* and *"State Perspectives on the Use of Performance-Based Contracting at Federal Facilities Cleanups, August 2010."* Both papers provide recommendations for improving the PBC process.

Department of Defense (DoD) guidance and direction have been helpful in addressing issues associated with PBC, but these efforts have not always translated into effective and consistent implementation of PBC. In the development of this paper, ASTSWMO received information and cases from 12 States within six different U.S. Environmental Protection (EPA) Regions concerning the use of these contracts in their States. Mixed comments were received: most States have both positive and negative experiences with PBC, often depending on the contractor hired; while other States indicated that regulator participation in the PBC process, oversight by the DoD Components, and utilizing PBC at appropriate sites are important in improving the contracts.

This paper identifies challenges States continue to face and highlights areas still needing attention. It also recommends the use of a checklist to assist all parties involved in the development and implementation of performance-based contracts and improve the PBC process at federal facility cleanups.

II. SUMMARY OF PREVIOUS ASTSWMO RECOMMENDATIONS

Though ASTSWMO previously developed two separate papers on PBC implementation (referenced above), several of the recommendations in the two papers are consistent with the recommendations contained within this position paper. In general, both the 2004 and 2010 papers stress the need for early and increased State involvement when sites will be investigated and remediated using the PBC process. These two papers also recommend that DoD coordinate with States to both ensure that there is adequate DSMOA funding for State involvement and that the State has adequate resources to meet the accelerated schedules usually associated with contracts. Lastly, these papers emphasize the need for DoD contractor oversight, including ensuring that the contractors are consistently following DoD guidance specific to PBC.

III. CHALLENGES REMAINING

Since 2010, PBC has become the norm for response actions under DERP, and DoD has had guidance in place since 2007 clarifying both State and DoD roles in PBC. However, the inconsistent application of DoD guidance on PBC creates ongoing challenges for States. The most common challenges States continue to encounter include: (1) lack of early regulator involvement, (2) use of PBC for all sites, regardless if appropriate for the project, (3) lack of contractor oversight, and (4) project delays due to contract modifications.

Lack of Early Regulator Involvement. One of ASTSWMO's recommendations in both 2004 and 2010 is early State participation in the PBC process (e.g., pre-scoping, development of the PWS, pre-bid meetings, and kick-off meetings). In addition, both DoD and Air Force guidance documents recommend that the States be included early in the PBC process to communicate expectations, and to have input on schedules and site selection. Since 2010, States have reported being invited by the DoD Components to participate early on in the PBC process; however, the amount of regulator involvement reported varies from DoD component to component, and even installation to installation. Some States are only invited to the pre-bid meetings, others are invited to comment on the PWS, and others have spent time answering questions from each contractor bidding on the project. Many issues directly related to inadequate planning are encountered during contract implementation in States that are not invited to participate early in the PBC contract. The resulting inefficiencies and delays can be attributed to:

- *Contractors not familiar with State requirements and/or expectations.* DoD and Air Force guidance documents consistently recommend that the expectations of each party (DoD Component, contractor, and regulator) involved be communicated clearly in meetings and in writing. PBC is more successful with contractors who have had experience or who are familiar with working with the State, but regardless, expectations should be communicated.
- *Contract schedule does not include enough time for regulator reviews.* The regulator's ability to handle the anticipated workload is paramount to the success of the contracts. Some States cite document quality as a problem for performance-based contracts. Under rigid performance-based contract schedules, many States have been inundated with substandard documents requiring more review time, thus, becoming a bottleneck for contractors trying to meet milestones and making progress in delineating and investigating sites.
- *Underestimating the amount of characterization needed for each site.* States report that if the contractor's bid does not provide for adequate characterization, regulators are often engaged in lengthy discussions with the contractor on how much data is needed.

Inappropriate Site Selection for PBC. States are concerned that sites without any characterization are being included in performance-based contracts. Mandates from the Air Force and others that a certain percentage of all sites must be handled under PBC do not help to ensure that only appropriate sites use this contracting mechanism. PBC is more successful when there is less uncertainty. Without knowing the extent and type of contamination at a site, the contractor takes on risks and may not be willing to perform more work than what they planned for if that means cutting into their profit. This predicament places a burden on the regulator to argue its case for full characterization.

Lack of Contractor Oversight. Strong oversight of the contract by DoD is key to ensuring that the contract is successful. States report that some contractors tend to skip steps or cut corners by: (1) selecting the cheapest remedy, which may not be effective in remediating the contamination; (2) choosing not to completely delineate contamination; and (3) choosing to spend minimal time on preparation of documents and not perform quality assurance review of documents. States have also reported that some contractors send documents directly to the regulator and DoD Component at the same time, and therefore, the Component cannot review the document prior to submittal to the regulator.

Delays Due to Modifications of Contracts. States report that contracts lack the flexibility to deal with unexpected work. When unexpected work is required, the contractor may ask the DoD Component to modify the contract. Many contract modifications take an extended period to draft, negotiate, and finalize, thus delaying important work.

IV. POSITION AND RECOMMENDATIONS

It is ASTSWMO's position that PBC has great potential for moving sites through the environmental restoration process efficiently for all stakeholders, both with respect to time and money. The success of the PBC process depends heavily on regulator involvement during the contract scoping process and throughout the implementation of the contract. To overcome some of the challenges referenced above, ASTSWMO recommends that:

- States be given an opportunity to present bidding contractors with their requirements and expectations to ensure that documents meet with their concurrence.
- Draft schedule of document submittals be provided to the regulator for review so that the regulator can (1) have input on whether the timeframes in the schedule are reasonable; (2) evaluate whether document reviews can be accomplished within a reasonable timeframe with current available resources, and if not, can plan to have the resources available; and (3) determine whether the time periods for review are appropriate for the complexity and size of the document (the same timeframe may not be appropriate for every document).
- States be given the opportunity to provide input during the bidding process on each site included in the PBC process. This input should include any data gaps in characterization or expected work to meet requirements.
- DoD or the contractor provide thorough site characterization to ensure that PBC is the appropriate contracting mechanism for remediating each site.
- DoD provide strong oversight of contractor performance, including reviewing each document prior to submittal to the regulator to ensure that quality documents are submitted.
- Contracts be written to provide for a certain amount of flexibility should unexpected circumstances arise, so that investigations and remediation can continue expeditiously.

- DoD scrutinize each contractor during the selection process to determine whether they have the technical, planning, and communication skills to carry a performance-based contract to success.

ASTSWMO created a template PBC checklist provided in Appendix A. ASTSWMO recommends that States and DoD adopt and use the checklist at each site under consideration for PBC, which will help ensure that PBC is implemented consistently according to DoD guidance and help resolve the challenges encountered during the PBC process.

V. RESOURCES

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Approved by the ASTSWMO Board of Directors on March 9, 2017.

APPENDIX A: PBC CHECKLIST

Federal Facilities Performance-Based Contracting Checklist¹

- ___ 1. **Pre-contract development meeting with the regulator(s)**
 - Ensure all site information is obtained and shared with the regulator.
 - Identify the desired site close-out condition, including an understanding of the future intended use.
 - Discuss anticipated workloads and amend DSMOA Joint Execution Plan as needed.
- ___ 2. **Develop the Performance Work Statement with consideration of the views and requirements from the regulator(s)**
 - Identify project objectives for the contract work to be executed (i.e., investigation, remediation, site closeout, etc.).
 - Establish a clear understanding of clean-up requirements (i.e., ARARs).
- ___ 3. **Performance-Based Kick-Off Meeting with the regulator(s)**
 - Go over project schedules for field work and deliverables.
 - Achieve a mutual understanding of expected review times.
 - Identify standards, criteria, and guidance to be used during site characterization and remediation.
 - Identify potential points of compliance.
 - Identify regulatory processes and other applicable state agency programs (i.e., Water Protection, Department of Health, Air Pollution, etc.).
 - Identify site constraints and dependencies (i.e., site access, right of entry, security, on-going site activities, topography, slope stability, etc.).
 - Determine potential community interests.
- ___ 4. **Performance-Based Technical Project Planning Meeting with the regulator(s)**
 - Identify a Preliminary Site Conceptual Model as a simple model of the relationships between chemicals detected at a site and potential exposure pathways to site receptors.
 - Identify media of potential concern affected by site contaminants.
 - Reach agreement on Site/Operable Unit prioritization for investigation and remediation.
 - Determine data needs.
 - Develop data collection options (soil, groundwater, surface water, indoor air).
- ___ 5. **Ensure that deliverables are of quality and NCP compliant before being submitted for regulator review**

¹ This checklist is not intended to be comprehensive but to emphasize key points in the PBC process for regulator involvement consistent with DoD Guidance.

Senator BARRASSO. Well, thanks so much for your thoughtful testimony. We are grateful that you have come to be with us today.

Also traveling quite a distance, our next witness has already been introduced by Senator Sullivan, Sarah Lukin, the Board of Director of the Native Corporation, Alaska Native Village Corporation Association.

Thanks for being with us.

**STATEMENT OF SARAH L. LUKIN, MEMBER, BOARD OF
DIRECTORS, AFOGNAK NATIVE CORPORATION**

Ms. LUKIN. Cama'i, hello, Chairman Barrasso, Ranking Member Carper, and distinguished members of this Committee. My name is Sarah Lukin. Quyanaa, thank you, for allowing me the opportunity to discuss federally contaminated sites on land conveyed to Alaska Native Corporations. I am here before your Committee as a board member of Afognak Native Corporation and a member of the Alaska Native Village Corporation Association.

World War II, Japan's invasion of the Aleutians, and the cold war had profound impacts in Alaska. If Alaska's expansive forests and tundra could talk, what stories would they tell? We would hear of 55 gallon drums full of toxic materials dumped in lakes, of unexploded ordnances on the tundra, a stream with lead batteries in it, cold war legacies often hidden from view, but slowly decaying, leaching into the ground and water.

Forty-five years ago, Congress settled aboriginal land claims with Alaska native people through the Alaska Native Claim Settlement Act, or ANCSA. Under ANCSA, the Federal Government created Alaska Native Corporations and agreed to convey to our Alaska native people 44 million acres of land.

During the 1990s the Alaska native community raised significant concerns that the Federal Government was conveying contaminated lands to Alaska Native Corporations to meet our end of the bargain. In response, a 1998 Department of Interior report explained Alaska Native Corporations had been conveyed approximately 650 contaminated sites under ANCSA with various types of hazardous waste and toxic materials that posed significant health risk to humans, animals, and the environment, including arsenic and PCBs, among others. One hundred eighty-nine of the contaminated sites identified were Formerly Used Defense Sites, or FUDS, and many included petroleum contamination.

Sadly, under CERCLA, Alaska Native Corporations may be held responsible for the cleanup of this preexisting contamination. Let me be clear. Under ANCSA, Alaska Native people gave up 88 percent of our traditional lands, and in exchange, we received, in part, contaminated sites that we may be legally liable for.

An updated report to Congress last year confirmed that there are still 537 sites that require remediation on ANCSA lands. Of the sites identified, the majority are Department of Defense; 120 of them are FUDS.

Nearly 100 additional contaminated sites are not in a cleanup program currently. Almost all of these sites are within 2 miles of Alaska native villages. These are places where our native people engage in subsistence activities, obtain our drinking water, and let our children play.

The Natives of Kodiak have spent the last 25 years advocating for the cleanup of an old Army site on their ANCSA land. The Army Corps of Engineers attempted to remediate the site through FUDS and the Native American Lands Environmental Mitigation Program, or NALEMP. The Natives of Kodiak refuses to accept “institutional controls” and “long-term monitoring” of the site as a solution, and instead, continues to seek clean drinking water and land. This painfully slow cleanup has stalled all economic development for the Natives of Kodiak for the last 2 and a half decades.

The Afognak Lake and River area has been used by my people for over 7,000 years for subsistence hunting and fishing. In 2003 my tribe and Alaska Native Corporation partnered to clean up an old Navy base located on the shores of our lake and river. In partnership with FUDS and NALEMP, we spent 6 years cleaning up the site. In addition to removing toxic materials, the project built the business capacity of our organizations and offered our local native people training and much needed jobs.

With 537 sites still needing cleanup, we need fewer failures like the Natives of Kodiak experience and more successes like Afognak’s.

Congress can help move this critical issue forward. I urge you to consider legislation to prioritize the cleanup of ANCSA land. Currently, there is no such priority under FUDS to protect Alaska Native Corporations from legal liability under CERCLA and to address petroleum cleanup, which is currently not covered.

Quyanaasinaq, thank you very much, and I would be happy to answer any questions that you may have.

[The prepared statement of Ms. Lukin follows:]

**STATEMENT OF
SARAH LUKIN
MEMBER OF BOARD OF DIRECTORS
AFOGNAK NATIVE CORPORATION
MEMBER
ALASKA NATIVE VILLAGE CORPORATION ASSOCIATION**

**COMMITTEE ON ENVIRONMENT AND PUBLIC WORKS
UNITED STATES SENATE
MARCH 29, 2017**

SARAH LUKIN TESTIMONY

Cama'i (hello) Chairman Barrasso and Ranking Member Carper, and distinguished Members of this Committee. My name is Sarah Lukin. *Quyanaa* (thank you) for allowing me the opportunity to provide an Alaska Native Corporation perspective on the status of contaminated sites on land conveyed to Alaska Native Corporations. I have a short statement to read and would like to submit my longer, written testimony for the record.

I. INTRODUCTION

I am Alutiiq from the Native Village of Port Lions on Kodiak Island, a remote community of 200 people in the Gulf of Alaska. I am a shareholder and member of the Board of Directors of Afognak Native Corporation, my Alaska Native village corporation, and a shareholder of Koniag Incorporated, my Alaska Native regional corporation, each of which were created and mandated by Congress through the passage of the Alaska Native Claims Settlement Act in 1971. I am an enrolled Tribal Member of the Native Village of Afognak and Native Village of Port Lions.

I am here before your Committee on behalf of Afognak Native Corporation and Alaska Native Village Corporation Association.

Afognak Native Corporation is a member of the Alaska Native Village Corporation Association (ANVCA). ANVCA is a statewide non-profit organization dedicated to furthering the collective interests of Alaska Native village corporations through sharing best practices and advocating on policy and regulatory issues affecting village corporations and rural Alaska.

II. ALASKA NATIVE CORPORATIONS

In 1971, Congress passed the Alaska Native Claims Settlement Act (ANCSA). ANCSA, P.L. 92-203, was signed into law by President Richard Nixon on December 18, 1971. Through ANCSA, the Federal government agreed to convey to 12 Alaska Native regional corporations and more than 200 village corporations 44 million acres of land and \$962.5 million in settlement of aboriginal land claims of Alaska Native people. Alaska Native people gave up 88 percent of our traditional lands through this settlement. Congress directed the Department of the Interior (DOI) to oversee the transfer of Federal lands to Alaska Native Corporations. The congressionally-created Alaska Native Corporations hold fee simple title to surface and subsurface ANCSA land across Alaska and today are the largest private landowners in the State.

Alaska Native people became "shareholders" in a regional corporation and village corporation, based on cultural and family ties. Under the terms of ANCSA, Alaska Native Corporations are mandated to provide for the economic, social, and cultural well-being of our shareholders in perpetuity. Today, Alaska Native Corporations serve over 130,000 Alaska Native shareholders.

III. STATUS OF ANCSA CONTAMINATED LANDS

During the 1990s, the Alaska Native community raised significant concerns that the DOI was conveying contaminated land to Alaska Native Corporations. Congress heard the community's concerns and took action through Section 326 of Public Law 101-512 *Department of the Interior and Related Agencies Appropriations Act, 1991*, which required the Secretary of Interior to report to Congress on contaminated lands conveyed through ANCSA. The Bureau of Land Management (BLM) conducted a mail-out survey of ANCs and other interested parties, and documented 22 responses.¹ It is unclear what, if anything, was done with this information.

Later, in 1995, Congress directed the Secretary of the Interior to prepare a report on the extent of contamination on lands conveyed pursuant to ANCSA. In December of 1998, the DOI submitted a report to Congress entitled *Hazardous Substance Contamination of Alaska Native Claims Settlement Act Lands in Alaska*. In that report, the DOI provided a summary of military land uses in Alaska, noting:

World War II, the Japanese invasion of the Aleutians, and the Cold War had profound influence on military activities in Alaska...The Federal government spent over \$1.25 billion in Alaska between 1941 and 1945 in military activities and the construction of installations and facilities for the defense of the nation and in support of offensive operations...The end of the Cold War and the accompanying military drawdown has resulted in an increase in the number of closed and abandoned Alaskan military facilities.²

The DOI report acknowledged conveying approximately 650 contaminated sites to Alaska Native Corporations with various types of hazardous waste and toxic materials that pose significant health risk to humans, animals and the environment, including arsenic, unexploded ordnances, and PCBs, among others. 189 of the contaminated sites identified in the report were classified as Formerly Used Defense Sites (FUDS).³ Many of these sites also include petroleum contamination.

Importantly, the DOI report discussed ANCs concerns that they may be held responsible for the cleanup of prior contamination of ANCSA lands as the current landowners under existing Federal and State environmental laws. Under Section 107(a) of the Comprehensive Environmental Response, Compensation, and Liability Act, 1980 (CERCLA), the current owner may be held liable for response costs or natural resource damages without regard to fault. The DOI report asserted that ANCs would not be held liable under the Environmental Protection Agency's (EPAs) "Policy Towards Landowners and Transferees of Federal Facilities" (published June 13, 1997), which states EPA does not intend to enforce Section 107(a) of CERCLA. The DOI report emphasized:

¹ U.S. Department of the Interior, *Hazardous Substance Contamination of Alaska Native Claims Settlement Act*
² Ibid, page 11.

³ See Table 2 Summary of Potentially Contaminated ANCSA lands. Ibid, page 18. NOTE: data represents estimates of known and potential sites are based on an analysis of the inventory databases discussed herein. Duplicate sites may exist.

...EPA will not take enforcement action against a person or entity, or its transferees or successors to require the performance of response action or payment of response costs incurred to respond to contamination existing as of the date that person or entity acquires the property from the United States. EPA is also aware that even preliminary assessment and evaluation can be burdensome and expensive to a landowner, and will not seek to impose these costs against ANCSA landowners relative to contamination or potential contamination that was on their property at the time of conveyance....Many land transfers under ANCSA were finalized before CERCLA was enacted and the statutory covenants were required. However, EPA applies this policy to transferees and successors that acquired property from the United States in this type of situation in which the property transferred before CERCLA was enacted.⁴

Recognizing the unjustness of conveying contaminated lands to ANCs in settlement of aboriginal rights to land, the DOI recommended "...an approach to fully identify contaminated sites and cleanup needs on ANCSA lands,"⁵ with six specific recommendations in their 1998 report. The recommendations included:

1. establish a forum of ANCSA landowners and Federal, State, local and Tribal agencies to exchange information and set priorities
2. create and maintain a comprehensive inventory of contaminated sites
3. apply EPA policies not to impose landowner liability to ANCs for prior contamination
4. within 30 months DOI to report back to Congress on sites that were identified but not covered by existing cleanup programs
5. revise relevant policies covering existing cleanup programs to address the remediation of petroleum, asbestos, and the removal of unsafe structures and debris, among others
6. develop a process to train and enable local residents to better participate in cleanup efforts⁶

The DOI stated it would "coordinate the implementation of these recommendations, although other agencies such as the EPA and the Corps of Engineers may take the lead in certain aspects of the recommendations."⁷ Largely, nothing happened.

More than a decade later, in 2012, ANVCA selected the contamination of ANCSA lands issue as a top priority. ANVCA began educating members of Congress, the State Legislature, and Federal agencies about this issue, urging the cleanup of ANCSA contaminated sites. Today, ANVCA enjoys broad support to address cleanup of ANCSA lands, including from the Alaska Federation

⁴ Ibid, page 26. See also Appendix B of this testimony, EPAs "Policy Towards Landowners and Transferees of Federal Facilities" (June 13, 1997).

⁵ Ibid, page 2.

⁶ See Section 7.0 Recommended Remedies for more information. Ibid, page 35-38.

⁷ Ibid, page 2.

Sarah Lukin Testimony
Committee on Environment and Public Works
United States Senate
March 29, 2017

of Natives, ANCSA Regional Association, Alaska State Legislature and Alaska Governor William Walker.⁸

In December 2014, Congress through Public Law 113-235 requested the following information from the BLM:

1. A comprehensive inventory of contaminated sites conveyed through ANCSA, including sites identified subsequent to the 1998 report
2. An updated status on the six recommendations listed in the 1998 report
3. A detailed plan on how the DOI intends to complete cleanup of each contaminated site

In June 2016, the BLM submitted the 2016 Update to the DOI 1998 Report to Congress. The 2016 update discussed the contaminated sites inventory prepared by the BLM (with input from Federal, State and local entities and Alaska Native stakeholders). The inventory identified 537 sites that require remediation.⁹ Of the identified sites, the majority are Department of Defense sites (162 sites, 120 of which are FUDS).¹⁰ 94 of the contaminated sites are not in a cleanup program and are classified by the BLM as “orphan” sites (notably the report states an additional 104 sites still require further verification and may be added later to the Orphan Site Database).¹¹ 92.5 percent of the 94 “orphan” sites are within 2 miles of Alaska villages, places where our Native people engage in subsistence activities, obtain our drinking water, and let our children play. An additional 242 sites identified in the report have land use controls in place,¹² limiting use and development of the land.¹³

The 2016 report acknowledged that because BLM lacks authority to compel cleanup of contaminated ANCSA lands subsequent to transfer, no action has been taken on the following three steps identified in the 1998 report:

1. applying EPA policies on liability of landowners to ANCSA landowners
2. modifying policies, where needed, to address contaminants and structures that may affect public health and safety on ANCSA lands
3. developing a process to train and enable local residents to better participate in cleanup efforts¹⁴

⁸ See Appendix A of this testimony, *ANCSA Contaminated Lands Timeline*.

⁹ See Figure 4: Total number of active contaminated sites conveyed to an ANCSA corporation identified from 4 State and Federal databases. Bureau of Land Management, *2016 Update to the U.S. Department of Interior 1998 Report to Congress on Hazardous Substance Contamination of Alaska Native Claims Settlement Act Lands in Alaska*, Report to Congress (Anchorage, Alaska, 2016), page 18.

¹⁰ Ibid, page 18 and 44.

¹¹ Ibid, page 20.

¹² See Figure 2: Current clean-up status of conveyed contaminated sites, as of September 9, 2015 from ADEC data. Ibid, page 14.

¹³ NOTE: the 2016 report defines Land Use Controls as “Administrative or legal controls established to limit land use activities to prevent exposure to contaminants remaining at a site and/or to protect the integrity of a response action.” Ibid, page 4.

¹⁴ Ibid, page 8.

The 2016 report included three recommended next steps:

1. the Alaska Department of Environmental Conservation (ADEC) should finalize the comprehensive inventory and implement a remedial action process;
2. establishment of a formal contaminated lands working group; and
3. initiation of a site cleanup process.

In stark contrast to the DOI's willingness in 1998 to take a leadership role to facilitate the cleanup of ANCSA contaminated lands, the 2016 update proposes that ADEC and EPA oversee cleanup of the sites. It also states that:

The BLM does not have the authority to provide liability relief under CERCLA for potentially responsible parties at sites not under the BLM's jurisdiction, custody, or control; that authority rests with EPA or Federal courts in accordance with the provisions of Section 107 of CERCLA, 42 U.S.C. 9607.¹⁵

This represents an ongoing struggle for ANCs – a lack of a lead coordinating agency that will effectively coordinate other agencies and assist ANCs with significant issues including protection from legal liability issues under CERCLA.

IV. THE SUCCESSES AND FAILURES OF ANCSA FUDS CLEANUP

The Afognak Lake and River area on Afognak Island have been used by the *Ag'uanermiut* (People of Afognak) for thousands of years. The lake and river are a critical spawning area for salmon, which serves as a primary subsistence resource for the *Ag'uanermiut*. In 2003 my Tribe, Native Village of Afognak (NVA), and my village corporation, Afognak Native Corporation, joined forces to clean up an old World War II-era Navy base located beside Afognak Lake and River. The Afognak Island Coastal Defense Site had been used in the 1940s by the U.S. Navy as a radio transmission site, emergency seaplane site, administration offices and recreation center for Navy personnel.

Through funding from the Department of Defense's FUDS Native American Lands Environmental Mitigation Program (NALEMP), Afognak Native Corporation and NVA spent six years and \$3.3 million cleaning up the contaminated site. In addition to providing my Tribe and village corporation with business capacity building, the project offered our tribal members and Native shareholders job training and much needed employment opportunities. The project to remove toxic materials included five large buildings, seven small structures, two additional building foundations, two affiliated landfills, drums, asbestos, debris, contaminated soil, and other materials. In 2009, the remediation was successfully completed.

¹⁵ Ibid, page 23.

In stark contrast, the Natives of Kodiak, Inc. (NOK) have spent the last twenty-five (25) years advocating for the proper cleanup of a contaminated site “Buskin Beach property” on their ANCSA land. The Buskin Beach property was the central headquarters of the U.S. Army’s Fort Greely during World War II and was used as an asphalt and metal disposal area, underground storage tank site and grease pit. In 1992, the U.S. Army Corps of Engineers (USACOE) began cleanup of the site. By 2005, after years of a cleanup effort under FUDS and the Native American Lands Environmental Mitigation Program (NALEMP), the USACOE stopped all remediation efforts, focusing instead on “long-term monitoring” of the contamination and recommending institutional controls.

Since the early 1990s NOK has attempted, and failed, to develop the property because millions of dollars in utilities infrastructure must be installed to make the land useable and provide drinking water. In fact, beginning in the late 1990s, NOK sent several letters to the USACOE contending the slow cleanup efforts were stalling all development on their property and financially impacting their corporation.

Today, twenty-five (25) years after beginning cleanup efforts, NOK refuses to accept “institutional controls” and “long-term monitoring” of the contamination and continues to advocate for their right to drinkable water and land free of contamination.

V. RECOMMENDATIONS

There are 537 sites with pre-existing contamination on land conveyed to ANCs and additional sites on land pending conveyance. These sites were contaminated under ownership and/or responsibility of the Federal government and then transferred to Native ownership. ANVCA urges Congress and Federal agencies to:

A. Prioritize cleanup of ANCSA land

Forty-five (45) years after our aboriginal land settlement with the Federal government, it is time for the cleanup of ANCSA contaminated sites to be prioritized by the Federal government.

B. Protect ANCs from legal liability

Provide ANCs protection from legal liability for the prior contamination of ANCSA lands under Section 107(a) of CERCLA.

C. Address US sovereign immunity and petroleum cleanup

Many ANCSA contaminated sites include significant petroleum contamination, which is not covered under CERCLA. Other laws must therefore be used to compel cleanup of petroleum contamination.¹⁶ State of Alaska statutes extend to petroleum; however, the Federal government

¹⁶ See 42 U.S.C. § 9601(14).

generally can assert sovereign immunity against the application of State laws. A waiver of sovereign immunity is necessary to cover petroleum products and, potentially, to encompass debris and other solid wastes disposed of on ANCSA lands during the period of federal agency ownership.

D. Identify a lead coordinating agency

ANVCA believes that identifying a lead agency responsible for coordinating ANCSA cleanup efforts would expedite cleanup efforts. This recommendation is generally consistent with the BLM 2016 Report recommendation. The lead coordinating agency would be responsible for organizing a formal ANCSA contaminated lands working group, made up of applicable Federal and State agencies and ANCs. The working group would identify the responsible party, assess the contaminated lands, and develop plans for cleanup of the 94 orphan sites on ANCSA land. The working group would also identify the sites posing the greatest health risks for humans and expedite the remediation of those sites. We recommend the ANC community have a significant role in determining which agency would be best suited in this role. We further recommend Congress require the lead coordinating agency to submit an annual report on the status of ANCSA cleanup efforts to Congress to ensure progress is consistently made in ANCSA remediation efforts so this effort maintains Congressional visibility/priority of ANCSA contaminated land cleanup.

E. Provide ANCs and Tribes a preference for cleanup of ANCSA lands

With 537 contaminated sites on ANCSA land, and 92.5 percent of orphan sites located within 2 miles of Alaska villages, ANVCA recommends providing ANCs a preference in contracting with the Federal government to cleanup their lands. This would offer ANCs the opportunity to build business capacity and provide much needed jobs in their local communities while reducing expenses required to house contractors and convey a workforce into and out of the sites.

VI. CONCLUSION

The Federal government conveyed contaminated land to ANCs in return for the extinguishment of certain aboriginal rights to land. Under Federal and State law, ANCs face potential legal exposure for the remediation of those lands. In addition, some of those contaminated lands pose significant health risk to humans, animals and the environment. It is unacceptable that forty-five (45) years after the passage of ANCSA and the extinguishment of certain aboriginal land claims, Alaska Native Corporations continue to face legal exposure for contaminated lands conveyed to them by the Federal government and that many of those sites still do not have a clearly identified responsible party, assessment, or plan for cleanup.

Qyanaasinaq (thank you very much) for the opportunity to bring awareness to this critical issue facing Alaska Native people, rural villages, and Alaska Native Corporations.

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SENATE ENVIRONMENT AND PUBLIC WORKS COMMITTEE

QUESTIONS FOR THE RECORD

Submitted by Sarah Lukin

Alaska Native Village Corporation Association
on June 8, 2017

follow-up from Hearing "Cleaning Up Our Nation's Cold War Legacy Sites"
held March 29, 2017

Senator Sullivan:

1. Ms. Lukin, in your written testimony you clearly lay out that the need to clean up former federal sites in Alaska goes well beyond former defense sites and raises significant issues for Alaska Native Corporations dealing with contamination from lands conveyed to them from DOI under ANCSA. One key issue you raised are concerns that there is not enough assurances legally that Native Corporations and Villages will be protected from liability under Section 107(a) of CERCLA.
 - a. Could you discuss further how this ambiguity impacts communities' abilities to develop and use their land productively?

The problem with the liability under Section 107(a) of CERCLA is that it makes the property untouchable. CERCLA potentially imposes joint and several liability on any party in the chain of title. No one is often willing to take on that potential exposure; including potential financiers of any project. It is like musical chairs when the music stops – the ANC land owner is left standing without a chair.

- b. What concrete steps could we take to make this exemptions clearer under CERCLA?

Given the role of the federal government and State of Alaska, a change to both federal and state law is required to address this issue. A federal law is required which states that a corporation organized under the Alaska Native Claims Settlement Act (ANCSA) (43 U.S.C. 1601 *et seq*) that acquired ownership of land by way of a transfer from the United States pursuant to ANCSA, is not an owner or operator of a facility for purposes of the hazardous substances releases, liability, compensation section of US Code on Public Health and Welfare (42 U.S.C. section 9607(a)).

In addition, a State law is required which provides that a corporation organized under 43 U.S.C. 1601 *et seq* (ANCSA) that acquired ownership by way of a transfer from the United States pursuant to ANCSA, is not an owner or operator of a facility for purposes of AS 46.03.822(a).

Note that the defense for both laws will likely need to be qualified to apply only in so far as the corporation has not contributed to the release of hazardous substances, which were solely the result of activities at the facility prior to transfer under ANCSA.

2. Ms. Lukin, you mention in your testimony the example of “Buskin Beach property” owned by the Natives of Kodiak. It has taken 25 years to address the clean-up of the Army property there and the Corps has still not completed clean up at the site and instead switched to a monitoring and control of the contamination.
 - a. Can you explain further, how better coordination, accountability, and prioritization could stop these sorts of delays and harms to Alaska natives?

The progress towards full remediation of ANCSA lands can be expedited through better coordination, accountability and prioritization. Federal legislation is necessary to clearly identify a lead coordinating agency for ANCSA cleanup. (See #4 below for further information on potential responsibilities/roles of the lead coordinating agency.) Possible lead agencies include the Denali Commission, BLM and EPA. Preliminary discussions with Denali Commission indicate their interest to assist with this. They recently committed to providing 100 hours of time to helping coordinate agencies under an existing mechanism called the “Statement of Cooperation.” While their contribution of time is greatly appreciated, we project that two or three full time employees will need to be dedicated to this issue to make any significant progress. BLM has recently been resistant to serving as the lead coordinating agency, arguing they lack the authority to compel other agencies that are the responsible parties to clean up contaminated sites. However, as the federal agency responsible for ANCSA land selections and transfers, and the 1998 and 2016 Congressional reports, and extensive coordination of various agencies from 2013-2016, BLM is the most natural agency to take the lead on this issue. EPA could also be an option, although we have received feedback from other parties this is generally not favored due to EPA’s complex regulations, high costs and difficulty working with other agencies.

The legislation establishing a lead coordinating agency should also include:

1. authorization for the lead coordinating agency to compel other agencies to remediate ANCSA lands; and
2. require the lead coordinating agency to submit a report to Congress annually on the status of ANCSA cleanup to:
 - a. ensure progress is consistently made in ANCSA remediation efforts; and
 - b. maintain Congressional visibility/priority of ANCSA contaminated land cleanup.

Importantly, annual appropriations would be required for the lead coordinating agency to cover costs associated with coordinating cleanup efforts, prioritizing ANCSA land remediation, and drafting an annual report to Congress.

Lastly, a natural way to expedite cleanup of ANCSA land, while infusing much needed capital and jobs in the rural Alaska economy, is to provide ANCs a preference to contract with the federal government to remediate these sites. This, coupled with the resolution of the legal liability issue, would empower ANCs to actively pursue cleanup of their sites. Currently, ANCs are afforded a preference under the Small Business Administration's 8(a) business development program. We suggest legislation and regulatory changes that define remediation of ANCSA land as specialized work, providing federal agencies the ability to provide a preference to ANCs for federal contracts for cleanup of ANCSA lands. There are four options for legislation/regulatory reform on this issue.

a. Current regulations allow for agencies to restrict work. The FAR states that the agency's notice to the SBA must include "any special restrictions or geographical limitations on the requirement" and "any special capabilities needed for contract performance" (FAR 19.804-2). However, beyond construction contracts, generally it is not permissible for contracting officers to restrict competitors to those within a specified geographical area. One approach may be to expand the definition of "construction contract" to include "remediation of ANCSA lands."

b. Mandating contract requirements for cultural expertise near areas with sensitive indigenous cultural sites (i.e. areas near Alaska Native villages would be defined as indigenous cultural sites).

c. It may be less burdensome to focus on legislation/regulations similar to the Robert T. Stafford Disaster Relief and Emergency Act of 2006, which addresses geographic set-asides in certain circumstances. It states, "In the expenditure of Federal funds for debris clearance, distribution of supplies, reconstruction, and other major disaster or emergency assistance activities which may be carried out by contract or agreement with private organizations, firms, and individuals residing or doing business primarily in the area affected by such major disaster or emergency." 42 U.S.C. section 5150; see also FAR 6.208 ("set-asides for local firms during a major disaster or emergency").

d. Alternatively, legislation could be pursued that provides a bid allowance within geographical boundaries (i.e. 10 or 15 percent). There does exist bill language focused on the allocation of federal highway dollars for in-state preference that could provide an example. This approach could be married with the indigenous cultural sites language if preferred.

3. Ms. Lukin, CERLCA does not cover contamination from petroleum.

- a. Given, as you have mentioned, petroleum is a significant portion of the contamination on many of these sites, how can Congress and the federal agencies responsible deal with this pervasive issue on ANCSA lands?

US Sovereign Immunity and the lack of a federal requirement to cleanup petroleum under CERCLA are significant limiting factors to cleaning up ANCSA contaminated sites. State of Alaska law does address petroleum cleanup. Therefore, it is recommended federal legislation be passed which addresses sovereign immunity and delegates authority to the State of Alaska specific to petroleum cleanup. Federal legislation could including language as follows to do this:

State laws concerning removal and remedial action, including State laws regarding enforcement, shall apply to removal and remedial action at facilities formerly owned or operated by a department, agency, or instrumentality of the United States but subsequently transferred to private ownership pursuant to the Alaska Native Claims Settlement Act, 43 U.S.C. § 1601 *et seq.*, and each department, agency, and instrumentality of the United States shall be subject to, and comply with, such State laws concerning removal and remedial action in the same manner and to the same extent, both procedurally and substantively, as any nongovernmental entity.

4. 45 years is a long time wait for the federal government to address contamination it caused.
 - a. You have talked about prioritizing ANCSA sites, how would we best go about doing this?

Not only did the Federal government cause the contamination; it conveyed the contaminated lands to ANCs in extinguishment of certain aboriginal rights to land. Forty-five (45) years after the passage of ANCSA and the prioritization of cleanup on ANCSA land continues to be piece meal, depending on whether or not state or federal regulators are overseeing the investigation and cleanup of a site.

The Alaska Department of Environmental Conservation ("ADEC") is responsible for the majority of cleanup actions in the state. Under state cleanup regulations, ADEC has an active oversight role in any cleanup, and must approve a responsible party's cleanup plans, oversee the cleanup, and ensure that cleanup goals are met.¹ ADEC regulations and guidance do not establish a formal system for ranking and prioritizing cleanups under its jurisdiction, but ADEC guidance recognizes that "the priority of site cleanup actions are based on the risk posed to human health and the environment. The more serious the risk, the faster the cleanup must occur."² If a

¹ Alaska Department of Environmental Conservation, How DEC Makes Cleanup Decisions (June 2009), available at https://dec.alaska.gov/spar/csp/guidance/decisions_cl.pdf.

² *id*

responsible party cannot be identified or fails to act, ADEC may take the lead role in a cleanup funded by legislative appropriations. Under the current ADEC system, ANC's do not have a role in contaminated site prioritization. As most cleanups impacting ANCSA lands are overseen by ADEC, prioritization at the state level is very likely to have the biggest impact on cleanups on any contaminated lands owned by ANCSA corporations. Unfortunately, while the state's prioritization policy is to set priorities based on the risk posed, there is no statutory or regulatory ranking system in place. Any system to compel ADEC to solicit and implement ANC input and participation as owners of impacted land would require crafting new legislation or regulations from scratch.

The US Army Corps of Engineers (ACOE) works closely with the ADEC on most ANCSA site remediation. The ACOE has a system that prioritizes sites based on the apparent potential risk that the contaminates may pose. Other considerations can also factor in, such as community concerns, land use changes, land transfers, coordinating work with other nearby sites, etc. Sadly, the ACOE does not have a policy in place to consult with ANCSA corporations on ANCSA contaminated lands under Executive Order 13175 (the agency only consults with Tribes), limiting the ANC's voice in the cleanup process.

The federal Environmental Protection Agency (EPA) is responsible for cleaning up very few sites in Alaska. Their focus is primarily with National Priorities List (NPL) sites, which EPA makes cleanup priority decisions based on risk, similar to ADEC, but also relies in part on the national Hazard Ranking System ("HRS") to prioritize cleanup efforts. EPA published guidance in 1992 to assist site assessors in using the HRS, and amended that guidance in 2007 to reflect and account for tribal cultural practices in assessing sites.³ The 2007 amendments made changes in HRS scoring to:

- Increase tribal involvement in the assessment process;
- Better take into account tribal resource use;
- Considering tribal recreation areas in assigning values for the soil pathway;
- Including tribal works and seasonal tribal populations in the evaluations of population factors in evaluations of all four pathways.

The HRS score alone does not determine the priority of funding EPA remedial response actions, which depends on a broader array of factors as determined by a remedial action/feasibility study that typically occurs after ranking.⁴ However, the 2007 HRS amendments are worth noting because, while they are specific to EPA sites and tribes, the amendments might serve as a model that can be built off of to create a system for prioritizing ANCSA contaminated sites and ANC inclusion in the process.

To most effectively prioritize the cleanup of sites, federal and state legislation or regulatory reform is necessary. A uniform process used across federal and state agencies would be

³ <https://semspub.epa.gov/src/document/11/175862>.

⁴ <https://www.epa.gov/superfund/introduction-hazard-ranking-system-hrs>.

preferred, as it would provide clarity and consistency for Alaska Native communities, ANCs and Tribes. In addition, Tribal communities and ANCSA corporation concerns over ANCSA contaminated lands, food security issues, proximity of contaminated sites to rural villages and cultural sites, should also be taken into account when prioritizing site cleanup. Federal agencies should be mandated to consult not only with environmental experts, but also with affected Tribes and ANCSA corporations when identifying priority sites for cleanup. Additionally, it is worth reviewing EPA's national Hazard Ranking System ("HRS") for potential examples of how to prioritize cleanup efforts, including the revisions from 2007 that address tribal cultural practices in assessing sites.

Federal legislation mandating the creation of a two-tiered working group which would be responsible for establishing the system for prioritizing sites as well as developing a work plan for cleaning up the sites should be considered. It is recommended the two-tiered working group include the following:

1. One tier is recommended at the National level in Washington, DC made of up top officials from relevant federal agencies (e.g. Department of Defense, Army Corps of Engineers, Environmental Protection Agency, etc.), State agencies (e.g. Alaska Department of Environmental Conservation), ANCSA Corporations and Alaska Native Tribes. This working group would elevate the visibility on this issue and focus on broader policy issues surrounding cleanup as well as monitor the success of cleanup efforts.
2. The second tier-working group would be done at the State level, with subgroups by region possible. The working group would be made up of representatives from federal and state agencies, ANCSA Corporations and Alaska Native Tribes and focus on the local detailed discussions on how to prioritize sites, etc.

It is also envisioned the working groups would be managed by the lead coordinating agency and have a role in the annual report to Congress mentioned in question 2 above.

Senator BARRASSO. Well, thank you very much, Ms. Lukin. We appreciate you being here and appreciate your thoughtful testimony.

Next I would like to turn to Alexandra Smith, who is the Nuclear Waste Program Manager of the Washington State Department of Ecology.

Thank you very much for joining us today.

STATEMENT OF ALEXANDRA K. SMITH, NUCLEAR WASTE PROGRAM MANAGER, WASHINGTON STATE DEPARTMENT OF ECOLOGY

Ms. SMITH. Thank you. Chairman Barrasso, Ranking Member Carper, honorable members of the Committee staff, thank you for inviting me here today to speak on behalf of Washington State to these important topics. My name is Alexandra Smith, and I am the Nuclear Waste Program Manager for the Washington State Department of Ecology. Our program fulfills the State's environmental regulatory role at the Hanford Nuclear Reservation and also the State's role under what is known as the Tri-Party Agreement, which is a Federal facility compliance order that sets out the respective roles of the Department of Energy, the Environmental Protection Agency, and the State in relation to the cleanup at Hanford.

I am also here today representing the other Washington State departments and programs that play a part in regulating and cleaning up former defense facilities, Federal facilities, and cold war legacy sites in our State.

Washington State has historically played an important role in our nation's defense. 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 Federal facilities has significantly impacted our land and groundwater, posing very real and ongoing 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 at this site left it the largest and most complex environmental cleanup in the country. In addition to Hanford, Washington is home to approximately 500 Formerly Used Defense Sites in need of remediation, as well as active military installations that are on the Superfund National Priorities List in need of remediation.

The State of Washington and Federal agencies like the Environmental Protection Agency, Department of Defense, Department of Energy, and the Corps of Engineers play vital roles in cleaning up this environmental legacy of the cold war. The Federal agencies have provided essential resources for moving these cleanups forward either through direct spending on cleanups or through pass through funds to the State.

However, proposals in the President's budget blueprint that call for significant cuts to these agencies' budgets could slow or stop cleanup progress altogether in communities that have been waiting decades for the risks associated with these sites to be abated, and could also impair the State's ability to fulfill its role at these sites. If Federal agencies are unable to fulfill their environmental obliga-

tions to our State, Washington does not have the resources to fill the void.

As an example of the challenges, Hanford's 40 years of weapons production during the cold war left more than 130 million cubic yards of contaminated soil and debris, 1,000 contaminated buildings, and more than 72 square miles of groundwater contamination under the site that flows toward the Columbia River, which is a source of drinking water for local communities as well as irrigation water for local agriculture.

In addition, more than 56 million gallons of high level nuclear wastes are to this day stored in 177 aging tanks onsite. More than 67 of those tanks have leaked, releasing upwards of 1 million gallons of high level radioactive and chemical waste to the ground. Overall, Hanford has two-thirds of the nation's high level nuclear waste by volume, is the most contaminated nuclear site in the country, and its 586 square mile site is the nation's largest environmental cleanup. Recent estimates have put total cleanup costs over the life cycle of the cleanup to over \$120 billion, and the cleanup effort is expected to run through 2070 under current estimates.

Cleanup activities at Hanford are the joint responsibility of EPA and the State. The State implements the Resource Conservation and Recovery Act at the site with oversight by EPA, and EPA is the lead regulatory authority under CERCLA. EPA has final authority over remedial decisions made under CERCLA at Hanford's four National Priorities List sites, while DOE is the owner and operator at the site responsible for implementing the cleanup.

Since 1989 cleanup progress at Hanford has been directly correlated to the availability of funds for cleanup. Washington State is very concerned that proposed Federal budget cuts could negatively impact the already slow progress on Hanford cleanup.

I did want to note that when it comes to the Department of Energy's budget, historically the Department of Energy's environmental management budget has fallen short of its obligations nationwide to fulfill its cleanup obligations, and under the current resolution funding, it virtually guarantees DOE is unable to meet its legal obligations at the site. Any reduction will slow cleanup progress further.

The longer it takes for cleanup to happen at these sites, the more money it takes for DOE to simply meet its obligation to maintain the sites' nuclear safety, which means maintaining its aging infrastructure in a safe and secure condition, and that means less money goes to clean up. Currently, 40 percent of DOE's Hanford budget goes to simply keeping the site safe, with the remaining 60 percent going to clean up. Any reduction in DOE's Hanford budget comes out of the funds available for cleanup, not the funds necessary to keep the site safe.

If EPA's budget for Hanford work is reduced, there is similar risk that progress on the remaining CERCLA cleanup at the site will slow or stop, because EPA has the exclusive authority to make remedial decisions under CERCLA. If EPA does not have the resources to dedicate to the cleanup, there is little the State can do to fill the void. A slowing of CERCLA cleanups at Hanford could also slow progress on cleaning sites up under RCRA because the State and EPA are trying to combine the RCRA and CERCLA

cleanups, allowing the CERCLA cleanups to lead the effort. Delays in the CERCLA cleanups necessarily means delay in the RCRA cleanups.

EPA also provides oversight and technical assistance for the State under RCRA. If EPA loses resources in the RCRA program, the State will lose that technical expertise as well as a backstop if the State is ever unable to fulfill its RCRA role at the site.

I apologize, I am going over time here.

In addition, EPA has historically taken on the large and technically complex enforcement actions at the site, and the State does not have the resources to fill that void if EPA is unable to do so.

In sum, on Hanford, it has historically stood out for the slow pace of cleanup. However, a 30 percent or larger cut to EPA's budget could mean this already progress toward cleanup by 2070 would go even more slowly, and the local communities would continue to face risks from the site well beyond our and even our children's lifetime.

I also wanted to touch briefly on the other cold war legacy sites in Washington. There are more than 500 Formerly Used Defense Sites there. EPA plays a role in oversight on those and the Corps of Engineers plays a role on the actual cleanup. Washington's concern that reduction in those funds will also lead to a deprioritization of the cleanup of those fund sites.

Finally, the State is concerned that its own work could be impacted by the reductions in the EPA funding. 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 cooperative agreements, and EPA funded cleanups are potentially impacted by proposed cuts, and the State's categorical grants that support air and water quality work would be significantly impacted.

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 a 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 cleanup obligation, Washington fears progress at these facilities will slow or stop, forcing Washington's citizens to continue to live with the environmental risks associates with these national defense sites.

Thank you very much for the opportunity to testify.

[The prepared statement of Ms. Smith follows:]

Congressional Testimony

**Alexandra K. Smith
Nuclear Waste Program Manager
Washington State Department of Ecology**

Senate Committee on Environment and Public Works

**Status of Cleanup of Cold War Legacy Sites under the FUDS Program, FUSRAP and CERCLA
March 29, 2017**

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.

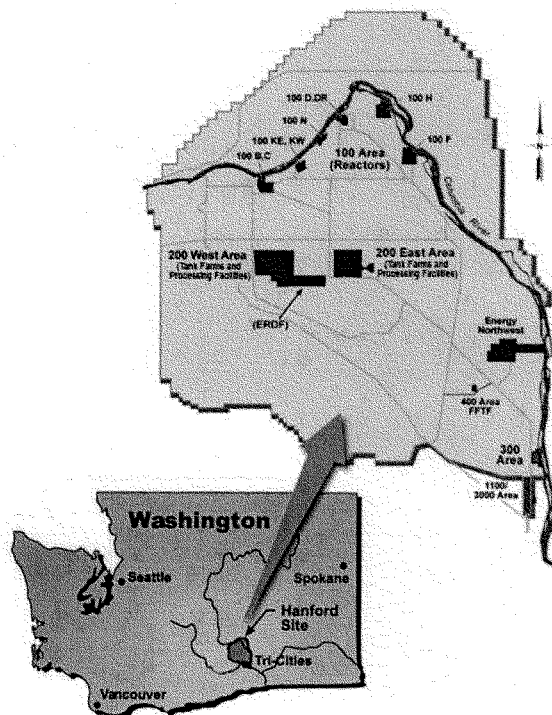
II. CONCLUSION

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



Senator BARRASSO. Well, thank you very much for your testimony.

We will turn to Senator Sullivan with questions.

Senator SULLIVAN. Thank you, Mr. Chairman, for allowing me to ask a few questions before I go to preside. I do want to associate my initial remarks with what Senator Carper mentioned at the outset of his remarks.

As this Committee knows, I was a strong supporter of Administrator Pruitt, and I am glad to see him in the position that he is in. He did make commitments to many of us during the confirmation process on certain issues that weren't reflected in the President's budget, and I think that is a bit of an issue from my perspective. If you make commitments in a private setting, meetings, or in a public hearing, it is an important deal when you are trying to get confirmed, and we expect those commitments to be kept. So I think that is a message I want to make sure the EPA hears loud and clearly.

Ms. Lukin, thank you very much for your testimony. I want to raise a couple issues that relate to your testimony and what you talked about. The one seems to be a very difficult kind of catch-22, where Alaska Native Corporations receive land from the Federal Government. It is contaminated, and then all of a sudden the Native Corporations who are trying to develop this land—it is very difficult to develop any land economically when it is contaminated—not only don't have the opportunity to develop the land for economic opportunity, but all of a sudden are looking like they are on the hook for CERCLA liability. So it is kind of a double whammy.

The land was supposed to be given—the part of the deal ANCSA was to enable Alaska natives to develop their land economically. You can't do that because it is contaminated. And B, now the Feds are telling you that you are liable. So it is almost like a lose-lose, as opposed to a win-win.

Can you talk about that a little bit more and how we in the Congress could fix that, which is clearly, from my perspective, a double unfair situation to you and the Alaska native people you are representing?

Ms. LUKIN. Senator, thank you very much for the question. So regarding CERCLA, there is a section called Section 107(a), and it basically says that we are on the hook to clean up any preexisting sites. And what we found, because ANCs are currently, under Federal law, legally liable to clean up this federally caused preexisting contamination, that some ANCs are unwilling to come forward and say we have a contaminated site on our lands, and it needs to be cleaned up. Instead, they are living with that contamination and not notifying the proper authorities, because basically they are afraid they are going to have to pay for this cleanup, and they can't afford to do so.

EPA does have a policy that says it won't pursue cleanup under Section 107(a). However, that policy does not create any legal rights for Alaska Native Corporations. And the EPA did reserve the right to depart from that policy on a case by case basis, so although the policy exists, it is not exclusively helpful.

Senator SULLIVAN. So you can't rely on it.

Ms. LUKIN. We cannot rely on that policy currently. So it is really my recommendation and the recommendation of Alaska Native Corporations that Congress provide Alaska Native Corporations protection under the law from Section 107(a) of CERCLA.

Senator SULLIVAN. Well, I think that would be something that would be very fair.

And Mr. Chairman, I would like to work with you and Senator Carper and other members of the Committee to try and work on something like that, where, again, it seems to me the point of ANCSA was to help promote the economic opportunities for Alaska native people, and this kind of loophole, I guess, undermines that.

Thank you very much, Mr. Chairman.

Senator BARRASSO. Thank you, Senator Sullivan.

Senator Carper.

Senator CARPER. This is gripping testimony. It is hard not to be affected by it. Not infrequently here in this Committee we talk about the Golden Rule; how would we want to be treated if we were in somebody else's shoes who is my neighbor. And boy, that is ringing in my ears as I listen to your testimony today.

Ms. Smith, there are, I believe, 500 Formerly Used Defense Sites and I think 51 or so Superfund sites in Washington State alone. Hanford Nuclear Reservation alone contains such a toxic stew of contamination that four separate Superfund sites were designated there, I think, if I am not incorrect.

The President's budget includes a \$1 billion cut to the Army Corps' budget. That is over 15 percent. The President's budget also proposes a 30 percent cut of \$330 million to the Superfund account.

I am looking for a yes or no answer here. Do you agree that there will be fewer and slower cleanups of toxic sites like Hanford if Congress goes along with these proposed Draconian cuts?

Ms. SMITH. Yes, Senator.

Senator CARPER. Thank you.

I have a question, if I could, for Ms. Lukin and Mr. Frederick. Do either of you disagree with Ms. Smith's response? Just keep it simple. Do you agree or disagree with her response?

Mr. FREDERICK. Mr. Chairman, with respect to the missile site cleanups funded under the Corps of Engineers, no, we wouldn't feel any effect.

Senator CARPER. Please.

Ms. LUKIN. No.

Senator CARPER. OK, thank you.

If I could, General Semonite and Mr. Breen, I would like to ask you to provide a list for the record indicating which site cleanups in which States would be slowed or cut if Congress agrees to the President's fiscal year 2018 budget proposal. If you would do that for us, we would appreciate it.

Back to Ms. Smith. In his confirmation hearing, and Senator Sullivan alluded to this, Mr. Pruitt said, "State regulators possess the resources and expertise to enforce our environmental laws" and said that he thinks that "EPA needs to provide more assistance to States." Surprisingly, though, the President's fiscal 2018 budget proposes to cut State grants by a remarkable—as I said earlier—45 percent, or some \$482 million.

And I just ask of you, Ms. Smith, do you agree that the State of Washington will be severely limited and may be unable to do the Superfund work it is doing if Congress agrees to these cuts?

Ms. SMITH. Yes, Senator.

Senator CARPER. Thank you.

You all are terrific to be here, and I just applaud the work that you do with your lives.

Let me start with you, General. Thinking about what you said and the other witnesses have said, give us one good takeaway where you think you agree. Like say we all agree on this. Just give me one really good takeaway where you think there is broad consensus.

General SEMONITE. Sir, I will go first. I think we all agree, or I certainly hear a consensus of the commitment of the Federal Government to continue to try to clean these up. I think it is going to be primarily limited by resources, not by a will of not wanting to do it. And the challenge is going to be where are those priorities, and where is the risk if we don't. But I think all of us are committed to continue to be able to put America's dollars back in to fix some of these things that just were not done properly in the earlier years.

Senator CARPER. Thank you, sir.

Mr. Breen, consensus. Just very briefly. Major point.

Mr. BREEN. I suspect there is broad agreement that these are programs, whether they are developed by States or tribes or the Federal Government, that can be both good for the environment and good for health and good for jobs and good for growth. It is a broad improvement in our well-being in many years.

Senator CARPER. Good. Thank you.

Mr. Frederick.

Mr. FREDERICK. Mr. Chairman, I would agree with the previous two speakers. It is absolutely something that we believe the Corps of Engineers, with respect to the Formerly Used Defense Sites, have committed to under the Department of Defense. We believe it holds essentially Government to the same level of accountability for cleaning up the environment that the rest of us are held to, including industry and the private sector.

Senator CARPER. All right, thanks.

My time has expired.

Ms. Lukin, just very briefly. Very briefly consensus, big point, major point.

Ms. LUKIN. Thank you for the question. I am absolutely thrilled to see the interest and desire to work with our organizations to clean up our lands. I would love to see the Army Corps of Engineers, the EPA, the BLM, and other Federal agencies better coordinate in cleanup efforts, and I would be happy to talk with them further about that. Thank you.

Senator CARPER. Thank you so much.

Ms. Smith.

Ms. SMITH. I think everybody agrees on the importance of these cleanups to the local communities not just in terms of environmental protection, but also to putting the contaminated lands back to productive use, and their economic importance as well.

Senator CARPER. Thank you so much.

Thank you all.

Senator BARRASSO. Thank you, Senator Carper.

Senator ROUNDS.

Senator ROUNDS. Thank you, Mr. Chairman.

Lt. General Semonite, I have heard concerns over the Black Hills Ordnance Depot. That is a site that is near Edgemont, South Dakota. In 2016 the Army Corps installed a barbed wire fence to protect the public from explosive hazards; however, many residents feel that these fences are not adequate to protect the public from explosives and toxic contamination that may be located on the site. Can you give me an update on the safety measures the Corps may be taking at this site, any public outreach that you have done or that you plan to do to make certain that the public feels secure with the safety measures taken by the Corps?

I recognize that you have a number of sites out there. If you are not prepared to provide that to me at this time, I would take that for the record as well, sir.

General SEMONITE. Thank you, Senator. South Dakota does have 58 different FUDS projects out there. We have about 25 remaining, so that means that the bill to be able to really remediate these in the right way is about a \$45 million bill.

Specifically on that one, we have had some protective measures put in place. We are concerned that if there are sites that we can't get to in time, we have to be able to make sure that not only do we have some type of a physical barrier, but also this is a training piece as well. So we invest a significant amount of money on to be able to make sure that we are doing community outreach and to let people know safety. The last thing we want to have is somebody to get hurt in one of these sites.

I don't know exactly whether that fence is to the standard that meets certainly the intent of South Dakota, but if not, I will certainly find out and get back to you and let you know where we are at on that.

Senator ROUNDS. Thank you, sir.

Lt. General Semonite and Mr. Breen, portions of Ellsworth Air Force Base, in Meade and Pennington Counties in South Dakota, are listed on the EPA's National Priorities List due to petroleum products and waste solvent contamination. Can you give me an update on the cleanup efforts at Ellsworth? And if you are not familiar with them, I would also take that report for the record as well.

Mr. BREEN. Thank you, Senator. I can start, and I will turn to the Lieutenant General to see if he would like to add.

The Ellsworth Air Force Base is indeed on the National Priorities List. Actually, the Air Force completed construction in 1999. As a Federal facility, the actual carrying out and paying for the work would be done by the Air Force, not by the EPA.

After construction was completed in 1999, we moved to partial de-listings at the site; that is, some parts are actually able to be taken off of the Superfund list, and we did partial de-listings in 2006 and 2012. What is the only remaining portion requiring focus is the groundwater, still very important, and the issue there is the TCE, trichloroethylene, and its breakdown products, together with one area mixed with petroleum. In addition, studies for perfluorinated compounds, a comparatively new, emerging contami-

nant, are underway as well as one for dioxane—I am doing chemistry now, sir—and munitions.

But the point is that this continuing work is in progress or awaiting funding for the Air Force's taking the next steps.

Senator ROUNDS. OK.

General Semonite.

General SEMONITE. Sir, I have nothing to add to that.

Senator ROUNDS. Thank you.

Mr. Breen, I also want to take just a step back from the specific sites and ask a more general question regarding the Superfund cleanup program itself.

I know that there is reprioritization going on at the EPA. We recognize that. We also know that in the President's budget there was a reduced amount which was being proposed to be funded at the EPA level. Can you give me and this Committee some insight as to the planning or the discussions that went into place and the priorities which the Department or the EPA is planning with regard to where you are putting your priorities now versus what it might have been under the previous Administration's budget proposal?

Mr. BREEN. Thank you. So, first, in the site by site prioritization we have a longstanding practice which is in place now for probably 20 years or more of funding those sites that have an imminent endangerment; making sure those are taken care of. Then we fund sites that are ongoing, where construction has been going on year to year. And then we take up new sites with what funding we have after that. And it is often the case that we can't take up as many new sites as we would like, and that has been the case for a very long time.

In terms of the broader picture, we are looking for efficiencies; we are looking for ways we can go deeper into using accounts that the Treasury Department has allowed us to set up. These are interest bearing savings accounts with the U.S. Treasury where we have put money that defendants have given us, and we have deposited there, and we can draw on. Looking for ways to draw on that. And because Congress has made Superfund no year money, we don't have to spend every year what is given to us in any particular year, so we can look to prior years' funding in order to fund needs in future needs. So we will be looking for efficiencies administratively, efficiencies in the way we move funding among accounts and more in order to get as much progress for the public as we can.

Senator ROUNDS. Thank you.

My time has expired. Thank you, Mr. Chairman.

Senator BARRASSO. Thank you, Senator Rounds.

Senator Booker.

Senator BOOKER. Mr. Chairman, I really appreciate this. This hearing I am deeply grateful for, just because of the reality in my State we have 91 FUDS sites, 7 FUSRAP sites. Nearly half are still awaiting cleanup. Every State has Superfund sites. I have 114 in New Jersey. And I have to say this is something that was astonishing, because I didn't know it before I came to become a Senator, that we as a nation had a bipartisan commitment. Ronald Reagan reauthorized Superfund monies to clean up these messes. It was voted on by members in the Senate here. But that has now lapsed. We don't even have the money. Superfund sites in America are

going up. And what makes these sort of more astonishing to me, Mr. Chairman, is that it is the mess that we made. The fundamental thing, all I need to know in life I learned in kindergarten: clean up the mess you made.

But this is what is even more stunning to me about the situation, is that we now have longitudinal evidence, data to know what happens to human beings that live adjacent to these sites. So just to look at the studies, right now, for Superfund sites, 11 million Americans and 3 million to 4 million kids live within 1 mile of a Superfund site. And I have families that are living close to these FUDS sites as well. And now we know that babies of mothers living within 1 mile of an unremediated Superfund site have a 20 percent greater rate, greater incident of being born with birth defects. Studies have shown they have substantially higher rates of autism as well.

So here we have sites that we made that have deeply hazardous, harmful substances to them, and we are missing an opportunity to do right by the children of America, pregnant women, elderly. And more than that, not only that moral urgency, but we could actually create jobs as well. As a former mayor, I know when you remediate these sites, then they actually create economic opportunity for communities. It is like a win-win-win for the economy and for the health of our families.

So it is beyond me that we don't have more urgency as a nation to clean up this mess that in many cases we ourselves made and now are inflicting on families and children. The autism rates in New Jersey, the children being born with defects, talk to those parents, and if any of us in Congress had families and had children living within a mile of a Superfund site or one of these sites, and unfortunately, I live within a mile or so of a Superfund site.

So this is a funding issue, and I would like to know, Lieutenant General, would funding for FUDS and FUSRAP immediately expedite the cleanup process? Yes or no.

General SEMONITE. Sir, I think that we certainly have capacity to do more. So additional funding would in fact have an impact on cleaning these up faster.

Senator BOOKER. So this is a matter of the U.S. Government, which made this mess, and we are not investing in cleaning up the mess we made, and there are people today who are pregnant, people today that are expecting kids living close to these sites facing this danger, and today there are people that desperately need work that could be going to work doing this.

You know, a GAO study found appropriations to Superfund sites declined by nearly 50 percent from 1999 to 2013, meaning fewer cleanups.

So, Mr. Breen, it is my understanding that the EPA has shovel ready sites that could be cleaned up if sufficient funds were available. So, again, in your opinion, is this a funding problem?

Mr. BREEN. Thank you, sir. And I will just point out with some pride that that statistic that you pointed out about the birth defects is actually in a review studied by Professor Janet Currie of Princeton University in your home State. So there is some connection to New Jersey.

Senator BOOKER. I will never look askance at Jersey pride statistics.

[Laughter.]

Senator BOOKER. Thank you very much, sir. But it is a funding issue, yes?

Mr. BREEN. Well, what we know is a number of things. One is that it has been true for some time that EPA will often get to the end of a fiscal year and have sites ready for funding that there is not funding to do those sites. That has been true for many years more often than not.

What we also know is that there is room to look for efficiencies and that Superfund is enforcement first. And we know that Superfund money is no-year money. So there are lot of ways we can look for ways to get more done, and we will be doing exactly that.

Senator BOOKER. OK, so my time has expired.

I just want to say for all of this talk in the executive branch and the legislative branch about investing in homeland security, this is about protecting our homeland from toxic threats to families and children.

Senator BARRASSO. Thank you, Senator Booker.

Senator Inhofe.

Senator INHOFE. You know, Mr. Chairman, I am reminded and have quoted Ronald Reagan before when he said there is nothing closer to life eternal on the face of this earth than a Government agency once formed. And he went on to talk about things that have to be done and can be done, and every time there is an effort to try to have efficiencies in Government, that that is they will pick out the one thing that is of greater concern to everyone and use that.

I want to say to you, Mr. Breen, I appreciate two things that you said in your opening statements, as well as responding to questions. I really appreciate it. First of all you are saying yes, we are, right now, looking for efficiencies, and for efficiencies knowing that there are, in any bureaucracy, areas where we can find efficiencies, we can find waste and abuse and all of that. I applaud you for it.

And the second thing is when Scott Pruitt was up for his nomination, he made the comment over and over again, he did so before this Committee and elsewhere, about the significance of the cleanups and his effort to really concentrate and get things done. I have to admit that I have only been over there once since he has been there, and that was yesterday. He took me into the long table room. I suspect there is a seat for you at that long table when he was talking about the priorities that he had and how quickly he is really getting into talking to you guys who know more about it than we do up here in establishing priorities.

So I appreciate the fact that you have made those comments.

I think also, I wrote this down when you said it, General, it sounds like you are doing a pretty good job. Correct me if I am wrong, if I got this down wrong, but 5,357 cleanup sites, and now 3,513 are either closed out or in the monitoring status. Is that accurate?

General SEMONITE. Yes, sir. And I think the other thing that goes back to the efficiency piece, we continue to try to find ways of continuing to get more value out of those funds that do come in;

also to be postured for year-end money. And there are several times when we have contracts that we can put money on so that if in fact it is unobligated somewhere else, we are able to go back in and be able to make sure we are optimizing the use of that money through the contract vehicle we have.

Senator INHOFE. Yes. Yes. And there are some other things, before I got distracted on that, that I was going to mention, but I do want to mention one, and that is Tar Creek. Nod if you have ever heard of Tar Creek.

One. All right.

Tar Creek was the No. 1 site in America at that time. Historically, it was a big mining area in northeastern Oklahoma, actually extended up into Kansas and over into Missouri. But it was a huge thing. And the mining that took place there took place back in the 1940s, and we didn't have any really good, accurate records as to what was underneath the ground. Later on we found there was an elementary school that any day could have caved in with all those kids there, and we were able to get into there. Well, that was a major thing.

I have to say that even though this was not a site, a former site that you would be dealing with, General, you still did. We had a lot of activity from the Corps and from all the agencies that worked together. It kind of reminds me a little bit of the disaster that we faced in Oklahoma just last week when we had this terrible fire, the worst in history, and everybody did come together and did a good job. That is exactly what happened to Tar Creek.

So I want to say to all of the players it really did work, and it worked successfully. And if we hadn't gotten on it, you don't know how many of those little kids at that elementary school might have sustained really serious problems.

So I think it is sometimes important to talk about the good job that is being done. I appreciate it, and I do think in this new Administration you are going to have a new concentration, less concentration on trying to build sciences and more concentration on getting things done. And I thank you for your testimony.

Thank you, Mr. Chairman.

Senator BARRASSO. Thank you, Senator Inhofe.

Senator Cardin.

Senator CARDIN. Mr. Chairman, I first want to thank you for holding this hearing. I think it is an extremely important subject. I was listening to the testimony from my office because I had an appointment, and I was here as we started the hearing. I wanted to thank all of our witnesses for their commitment to our country and to our environment.

I just really want to bring attention to two sites we have in Maryland. One is a site that qualifies for Formerly Utilized Sites Remediation Action Program, which is located in South Baltimore, 260-acre site that was formerly used by W. R. Grace. And we are working on that site, and I appreciate the work that is being done.

The other is a more recent identified problem and does not come under that program, and that is the site of Bainbridge, which I think received a great deal of attention. This is an issue I just want to bring to the Committee's attention because it is extremely frustrating, Mr. Chairman. I know the work that you have done to try

to have the right relationship between Government and the private sector.

Here is a situation in which the Navy used a 1,186-acre site in Cecil County, Maryland, from 1942 to 1976. The property is contaminated, badly contaminated by asbestos and lead, and there has been some cleanup done there. The Navy transferred the site to the Bainbridge Development Company in 2000. That is 17 years ago, Mr. Chairman. And as part of that transfer the deed made it clear that the Navy was responsible for the cleanup. There was no dispute about that. Of course, the Navy would also be responsible under Federal law. So there is no question that there is contractual responsibility as well as legislative responsibility for the cleanup.

The Bainbridge Development Corporation has made some efforts with developers to develop a mixed use property. It has been determined not suitable for that purpose because of the environmental contamination of asbestos and lead. And there has been negotiations going back and forth for these 17 years. Just last year there were some additional monies made available for soil investigation.

Mr. Chairman, this is very frustrating, that after 17 years we are still evaluating what the problem is on a property that has transferred. In Cecil County, to put this into economic development would be critically important for their economy. And everyone is together; local government is fine with what is trying to be done. The holdup is the environmental restoration and Navy carrying out its responsibility. And I know they have budget problems. I get that. But 2000, the transfer of property and still not have it ready for its appropriate use?

So our office is working very hard with the Department of Defense and with Cecil County to try to find a remedy here to move this along, but I just really wanted this Committee to be aware. It is not directly related to some of the subjects we are talking about, but I think it is related.

And I see our witnesses shaking their heads affirmatively, and I would just welcome any thoughts you may have as to how we can move these procedures more efficiently so that this type of property can be put back in use, as the community wants it put back in use, which was formerly used by the Department of Defense.

Mr. Breen, do you want to respond?

Mr. BREEN. Yes, sir. So you are exactly right. As a former Navy site, it is the Navy's responsibility to address it. EPA is able to offer some help, which we did at this site. There was a Brownfields Program which is not part of this hearing, but part of this Committee's jurisdiction. Pursuant to the Brownfields Program, in 2010, we performed an investigation of what are the issues at the site, and we found that there are both chemicals and heavy metals at the site as a result of that Brownfields review that did affect significant areas. So we were able to bring that technical assistance to bear. But as you said, it is not on the NPL, not on the National Priorities List, so not an EPA lead.

Senator CARDIN. And this is not an EPA area, I recognize that; it is more DOD.

General, do you have any suggestions here?

General SEMONITE. Sir, I don't have any specific knowledge of that site, but you have a great point, and that is that we cannot

afford, as a nation, for every one of us to work in a stovepipe based on some certain account and the authorities in that account; we have to share this body of knowledge of when we learn something. And if we are learning something on a FUDS or a FUSRAP site, and we can somehow make sure we export that knowledge across, and we can all work together, somewhere we are going to find better value. So we can certainly take a look at it. I don't know where the Navy is at on this one, but I think that if there are some things that we can learn from all the other 5,400 sites we are doing, and be able to make sure somehow those things can be wrapped in, the nation is going to benefit.

Senator CARDIN. Thank you. I appreciate that response. We will follow up.

Thank you, Mr. Chairman.

Senator BARRASSO. Thank you very much, Senator Cardin.

Senator CAPITO.

Senator CAPITO. Thank you, Mr. Chairman.

And thank all of you. I am sorry I missed your testimony. Probably Senator Inhofe told you that the Commerce Committee is meeting at the same exact time, so we are sort of jumping around here.

This is a bit off topic, but since I have General Semonite here, I am going to lodge the question, because I wanted to take the opportunity to talk about something important that we have been working with the Corps on, and that is the Appalachian Corridor H. This issue has to do with a Section 404 permit of that project between Kerens and Parsons, West Virginia. The subcontractor for West Virginia DOT is working on this section, submitted the application October 13, 2016, and is frustrated it hasn't heard. This morning, however, we did get notice, following an inquiry from my office, that the Huntington Corps District informed my staff that they will be opening a 15-day public comment period on the permit modification. So I want to thank the Huntington Corps for that. It is very important if you are trying to drive from here to the beautiful ski regions in West Virginia over to Canaan Valley or Snowshoe, Corridor H is extremely important.

So basically what I would like from you, General, really is that you would ensure to me that the public comment will in fact open when our local Corps told that it would, and pledge to kind of prioritize this project once that begins.

General SEMONITE. Senator, I don't know exactly that permit. We certainly are committed to continue to stay on these timelines. I think the whole nation is continuing to look at permitting. We need to do this in a right manner based on our authorities and our statutes. But on the other hand, we have to be able to make sure we are expeditious in this. So I will go back and double check with the Huntington commander and find out where we are at on it. But unless there is some reason that we can't do that because of a regulatory issue or something, we want to be aggressive and continue to do permitting in an efficient manner, but also to be able to make sure that we are being responsive back to the applicant.

Senator CAPITO. Thank you so much. I think, too, a yes is always what they want, but even a no is helpful, because you can either,

A, restart or abandon the project, whichever direction. But being held in limbo is costly. So I am very pleased to hear you say that.

Another question, again to you, General, is on the topic. On the list of one of the FUDS sites for West Virginia, almost 70 percent of the Corps work is focused on a project that I have actually toured. It is called West Virginia Ordnance Worksite. It is in Mason County. It was an old storage facility for all kinds of different weapons and chemicals and ammunitions. It would be a good history site, I think, for our younger people to see what was going on in World War II and how the whole country was pulling together.

But it mentions that one of the areas that is going on is long-term management. I was just wondering what does long-term management mean, and how does that unfold for a site such as this?

General SEMONITE. So, Senator, if in fact there are some lower priority sites, and I hate to use that word because they are all critical, but if there are some that we just can't get to it because of lack of funding, then we have to be able to make sure that we are addressing that from a life safety perspective, and also make sure that we are educating. Conversely, if there are sites that have actually been remediated to a given standard, it doesn't mean we just take our eye off the ball. So we have a 5-year renewal process where we go back out, we continue to look at that, we continue to do outreach back in there.

So I think on this one I have to get back with you and find out exactly where we are at on it, but what we say on long-term management is to be able to make sure we continue to be able to make sure there is not any new issues that come up with a site, and we continue to have some degree of accountability back in to watch what happens on that site.

Senator CAPITO. Well, one good thing about that particular site, too, is there are some contractors in and around that site where it has been cleaned, so that there is some economic activity in the local area; it is not just sitting there without any kind of a use. There are some folks that are repurposing that, because it is quite a vast site, and it has a primo spot because it is right on the Ohio River.

General SEMONITE. Yes, Senator. And I can add it looks like we are continuing to do a treatability study on one of the specific sites that is called OU-4 to be able to make sure that we are looking at the technology to be able to remediate there. We are doing the long-term modeling I talked about, and monitoring, and we are continuing to work with EPA 3 to be able to look at restoring groundwater to drinking water standards in the manufacturing area. So our guys are working very closely on that, and we will continue to monitor it closely.

Senator CAPITO. Right. I appreciate that.

Thank you, Mr. Chairman.

Senator BARRASSO. Thank you, Senator Capito.

Senator HARRIS. Good morning.

Mr. Breen, according to the GAO, it can take up to 10 years to clean up a Superfund site. Do you agree with that, or does it take longer?

Mr. BREEN. So I actually am not sure which GAO study you are talking about, but there are sites which would take longer than 10 years.

Senator HARRIS. And on average, is that how long it takes?

Mr. BREEN. I don't know.

Senator HARRIS. OK. If you could follow up with me, that would be great.

Mr. BREEN. Sure.

Senator HARRIS. And you probably know that California has the second largest number, second only to my friend, the Senator from New Jersey. I believe we have 98 active Superfund sites. I would like to ask you, and perhaps, General Semonite, you might have some information about some specific sites. In particular, starting with Oxnard, California, we have a site there where a company, Halaco, started dumping in 1965, and there was a 1997 cease and desist order from the Army Corps which was ignored for about three decades, so there was continuing pollution in the coastal wetlands. And then in 2007 the EPA finally listed the site as a Superfund site.

The cleanup is ongoing, but I think you would probably agree it should not take that long. So my question is, given this experience, what plans do the EPA and the Army Corps have to put in place a process so Superfund investigations can begin as soon as the Federal agency notices the contamination?

Mr. BREEN. Thank you, Senator. I can offer some, but I am going to suggest we also get you more detail for the record.

Senator HARRIS. Right.

Mr. BREEN. You are right that we listed the site in 2007, and one of the first things we did was to undertake what we call removal actions. These are short-term actions to deal with the most pressing things. So we undertook removal actions in 2007 and 2010. We demolished two buildings, and we stabilized the site, and we consolidated the waste so that it was less spread out.

While the site planning is undergoing, we made a Brownfields job training grant of \$200,000 to the city of Oxnard. This is a way in which, then, local residents can get the jobs that are being created in their communities. This is like a triple win, right, good for the EPA, we get people who know their communities the best; good for the residents; and of course, it is good for the site.

In terms of what immediate next steps are planned, I would best be getting those to you after the hearing.

Senator HARRIS. OK, that would be great. I would like an update on that.

And then, General Semonite, as has been mentioned, we have many sites that have been active for over 30 years in California. The USEPA and Cal/EPA have worked together to investigate and clean up the Sulphur Bank Mercury Mine Superfund site in Clear Lake, California—it is actually in Lake County—since 1990. My understanding is the EPA estimates that 2 million cubic yards of mine waste still pollute Clear Lake, and the EPA has not yet taken significant remedial action, I am told, to control the contamination in the surrounding groundwater.

So can you tell me, or Mr. Breen, what the progress is and the timeline for the cleanup of the Sulphur Bank Mercury Mine Superfund site?

Mr. BREEN. What limited I have on that, Senator, is that we are recognizing the prospect, the need to address the possibilities of rainfall, but that we also think steps are in place so that if that were to happen we are prepared for it. But I will get you more on that.

Senator HARRIS. OK, I appreciate that.

General, do you have any information about it?

General SEMONITE. Senator, I think the main thing we are focused on, you have an awful lot of FUDS sites, so we started out with 721; we have actually closed 476. So of the 245 left, your outstanding balance, we probably need about \$1.2 billion to clean those up. We have categorized 8 of those as what we call the scale of two. We re-rank everything through a risk management data base. So you have a couple that are our highest priorities. The ones that really I want to make sure to highlight is Elliott. That is one that has been significant. Several years ago, in 1983, we had two children that were killed out there, so we have gone back in and cleaned up Tierrasanta, it is called, and that one we think is very good and we are monitoring that.

We have cleaned up Mission Trails, so I think that one is also going well. And the last site we are continuing to work through right now in investigation, so I will certainly have my staff get with your staff to be able to make sure you know. And on any one of these sites we can go in unbelievably deep detail to show you exactly where it is at, where it is at on the priority list. Our intent is to never hold anything back. We want to be able to be as transparent as possible so you know what we are doing, what we are not doing, and where we see that coming through when it comes to potential funding and requirements.

Senator HARRIS. That is great. I appreciate that follow up. And then you mentioned \$1.2 billion you need to deal with the remaining. Do you see that coming to you, or what is the challenge there?

General SEMONITE. So clearly this is probably something of interest to all of them, but we are just like the other agencies; we have three different accounts, so the EPA obviously is the one that is working the Superfund, and I will let Mr. Breen address that. Clearly, the FUDS is a DOD requirement, so we continue to articulate our most important risk up through the DOD budget, and when we see the way the 2018 budget comes out, we will certainly be able to advise you on where that is at. But at any given point we want to continue to be able to get visibility of where the highest risk is, and some of these like Elliott is ones that we want to continue to be able to make sure that DOD leadership knows the risk that is out there.

And then, finally, the FUSRAP sites are back into really the civil works budget, another completely different pot of money, but that is where we have to continue to champion those as we go up through the civil works account and then see where the Committee and the Administration prioritizes FUSRAP with respect to the rest of the civil works account.

Senator HARRIS. So, Mr. Chairman, I just have one more.

Senator BARRASSO. Yes, please.

Senator HARRIS. So what I would also appreciate by way of follow up is, given the skinny budget that has been proposed, which sites in California you believe would not be addressed if that budget is actually the budget that we have to work with.

General SEMONITE. And I will definitely give you that, but the real short answer is if we go from worst is number 1 down to number 8, right now we are really keying on the sites that are number 2. You have eight of those. Those are the ones that we continue to try to champion, and then we want to continue to work our way down that list.

Senator HARRIS. Thank you.

Thank you.

Senator BARRASSO. Thank you, Senator Harris.

Mr. Frederick, the Army Corps has proposed no further action for the Atlas Missile Site 7. It is my understanding that Wyoming DEQ has not concurred, and it believes that further investigation is necessary in order to support that determination. Can you comment on that?

Mr. FREDERICK. Thank you, Mr. Chairman. Yes. There are some questions that we have that deal on the technical side of things, technical interpretations that have been made by the Corps with respect to what is going on at that particular missile site. There is a little bit of an unusual geologic condition that exists at that site in particular. There is actually what is referred to as piping in the formation that contains the groundwater, and this piping is more than likely a result of animal burrowing, wormholes, things like that. It is a fairly unique situation. But in that type of condition groundwater really behaves a little bit differently than what you would see it behave in when you are dealing with just a typical sand and gravel aquifer with forced flow. So the piping essentially directs where the groundwater is going to go, and thus any contamination with it as well.

So what we have seen is, in this particular case, where you would think you would not find any TCE, that is up-gradient from the missile site, we are actually finding TCE, and we have asked the Corps to try and help us understand why we would be seeing it up there. And if we are seeing it there, what does that mean and where else should we be looking?

Senator BARRASSO. Thank you.

So, to that, General Semonite, will the Corps do further investigation, as requested by the State?

General SEMONITE. So, sir, two points. First of all, in your opening statement I think you mentioned that there was a perception of an unhealthy attitude with respect to Atlas, and that for some reason maybe the Corps was trying to do a quick fix. I have 34,000 employees, and I would put my engineers against some of the best in the world, and not just because of technical competence, but because of compassion to do the right thing for this nation. So if I ever find somebody who I think is unhealthy, please notify me personally. The only reason that we should not be able to do something is just lack of resources or for some reason we are technically challenged, but it is not because of an attitude. And I will certainly rectify that if that is out there.

Now, specifically on No. 7, and I have all 7 here we can talk about, 3 is a great example. We have some challenges at Site No. 3. We work side by side, and Mr. Frederick has been there for several years, much smarter than I on a lot of these things. But 3 we found a compromise where we all could come together. We moved on, and I think we have a successful solution with 3 after \$12 million. We are dealing with the same thing on 4, and we can talk about that.

Seven is a good example where we had eight rounds of sampling performed from 2011 to 2013, and the wells were below that minimum level for the contaminants concerned. Decision document to close the site was signed in September 2014; EPA Region 8 supported that closeout decision. But again, we want to go back in, and we don't want to just close the door. If there is something we need to do to work with Mr. Frederick and team, we certainly want to do that to try to find out how to get the resolution.

I think the bottom line is these are all not simple cookie cutter solutions, so we have to take the best science out there with the best authorities, see what Mr. Frederick's concerns are and try to find a consensus.

Senator BARRASSO. Mr. Frederick, do you believe that the Corps is doing what it is doing to help with some specific sites? Has that been helpful? And where should we proceed from here?

Mr. FREDERICK. Mr. Chairman, certainly the issues with respect to some of the sites that we have had in the past I think the Corps has made some good efforts to try and address our concerns. The Lieutenant General mentioned Site 3, for instance, as an example. Nevertheless, we still have a long way to go. We have a lot of work to be done in front of us. It is going to be challenging, and I am sure we will still see situations where we don't necessarily agree on the approaches for delineating sites, characterizing sites, and so forth, but we will be working hard to make the best of those situations.

Senator BARRASSO. OK.

So, General, you would agree that Wyoming should be treated as a peer in this process, and its expertise should be given considerable weight as you make these decisions?

General SEMONITE. Yes, sir. And I am more than willing to offer that at some point, if we can't let the technical staff work this out, then leaders like Mr. Frederick and I can certainly come see you with our division commanders, I have one of the best districts working this particular site, and certainly lay out where we see it is. And again, we lean heavily on EPA's opinion in all this. It really is the entire community coming together to figure out what is the right thing to do for the nation.

Senator BARRASSO. Mr. Frederick, so what would happen if the Corps doesn't do the cleanup for missile sites, as you suggested that they make sure get done?

Mr. FREDERICK. Mr. Chairman, what will happen is that the TCE is going to continue to leach into groundwater. As it continues to leach into groundwater, plumes are going to continue to expand. Ultimately, what we are looking at is a far more expensive cleanup when we get around to it at some point in time because the contamination has actually gotten much worse in size.

Senator BARRASSO. So, General, then I can count on you to make sure that this does not happen?

General SEMONITE. Sir, we will take the available science and make sure we work through an acceptable solution. A good example is 3. We went down through with a lot of different, very innovative techniques to be able to make sure we could contain that plume. We do not want this to leach into the groundwater. I think we have the same end state here; we just have to make sure that the science all puts us in the same direction.

Senator BARRASSO. Mr. Frederick, in your written testimony you included some recommendations that you said could help improve things with regard to the cleanup of cold war legacy sites such as the Atlas Missile sites. Could you take a few moments to just elaborate on those?

Mr. FREDERICK. Thank you, Mr. Chairman. Certainly, cooperation between State and Federal agencies plays a very important part in determining how quickly and effectively sites are remediated. We have found that effective components of any missile site cleanup strategy emphasized real results for the money spent. They incorporate State requirements early on, they adequately fund State involvement, and clearly define Federal and State roles in the cleanup and include opportunities for public comment, as well.

In addition, consistent application of both State and Federal regulations and guidance regarding investigation and cleanup is highly important. We don't like to see situations where we are seeing guidance applied differently in one site or one State as opposed to another. There needs to be consistency in the application so we are all on the same page.

Adequate funding can significantly improve the remediation process in terms of both time and overall cost. Lack of Federal funding in particular may lead to technically inadequate and incomplete site characterizations. Source areas may not be adequately investigated and defined, and ineffective costly remedies may be determined from incomplete information.

States play an important role in this process and often have a great deal of institutional knowledge and familiarity with the sites and understand State requirements that apply to the cleanup process. We would encourage those to take advantage of those opportunities that States can provide to help the process along.

Finally, the Association of State and Territorial Solid Waste Management Officials, or ASTSWMO, of which the Wyoming Department of Environmental Quality is a member, has recently published a position paper, that I have attached to my written testimony, on performance based contracting at Federal facilities. It also includes a checklist that is intended to help improve the efficiency and the ultimate performance based contracting process. And we would certainly encourage everyone, especially the Corps of Engineers, to take a look at that position paper and give it serious consideration, and involving States early on in performance based contracting. We believe that would also be one way, at least, to make the whole process more cost effective and efficient.

Senator BARRASSO. Thank you very much.

Senator Markey.

Senator MARKEY. Thank you, Mr. Chairman, very much.

Massachusetts has 47 former military sites that need some form of investigation and potential remediation; potential cost of \$126 million. We have at least 10 Superfund sites that will lose access to critical cleanup services. And we have a Trump administration which is proposing a \$1 billion cut in the Corps of Engineers' budget and slashing the entire EPA budget by nearly a third. So that is just so irresponsible, because these individual communities, they are left with a legacy that they didn't create. Irresponsible kind of management ultimately created these problems, both in Superfund and in the problems that the Army Corps looks at, and they don't have enough money to deal with it.

We ran into the same thing in the Reagan administration. What they did was they really harbored an animus toward the Superfund program, and they just began defunding. They named Anne Gorsuch as the head of the EPA, Rita Lavelle as the head of the Superfund program, and one of the top five sites in America was the Woburn site that I represented, which ultimately became the subject of a movie and a book called *A Civil Action*. And in 1986 I had to release a report called *Deadly Delay*; that the EPA was doing deliberately in Woburn, kind of slowing it down; notwithstanding the number of children who had contracted leukemia, the number of families that had been totally irreparably harmed. And all we are seeing here is just a repetition, this whole idea that you can attack an agency in general without ultimately impacting the lives of ordinary people.

So, Ms. Smith, let me begin with you. What do you think the impact is going to be of ultimately extending the deadlines that it will take in order to clean up these sites and what the impact is on the public health and safety of people who live in those neighborhoods?

Ms. SMITH. Thank you, Senator, for the question. As I indicated before, in Washington State in particular, and at the Hanford site in particular, delays in cleanup progress mean just unacceptable lengths of cleanup. Hanford is currently scheduled to be cleaned up by 2070, and we have seen some budget indicators that that could go beyond and well into the year 3000, which seems unfathomable. And it does place unacceptable risks on both the local community and the local resources.

Senator MARKEY. It absolutely does not seem unfathomable to me. I issued a report in 1987 on the Hanford Reservation and on the lack of progress that was being made. That was denial. That was deadly delay right there. They knew what was going on; they knew what they had left behind. The military didn't want to deal with it; they didn't want it to come out of their budget. They need more bombs over here that Hanford had been producing, but they don't want to then deal with the consequences left behind for the public.

So how devastating will this be to you, General, in terms of your ability to be able to deal with all of these sites that are under the Army Corps jurisdiction?

General SEMONITE. So, sir, we do deal with three different types of accounts. Clearly, there is Superfund, FUSRAP, and FUDS, so all of those are different funding streams.

Senator MARKEY. What does FUDS stand for?

General SEMONITE. So, sir, FUDS is Formerly Used Defense Sites.

Senator MARKEY. Formerly used, now abused, military sites, meaning the military just walking away from it. Formerly. That is nice, FUDS. And what is the middle one?

General SEMONITE. FUSRAP, sir.

Senator MARKEY. What does that stand for?

General SEMONITE. I have it here. It is a long acronym.

Senator MARKEY. But the name of what you describe will tell us what it is.

General SEMONITE. Formerly Used Sites Remedial Action Program.

Senator MARKEY. There it is. Yes. But the remedial action program is now going to be just push-back, push-back, push-back, because you need money. You know, a vision without funding is a hallucination. So you can't pretend that without money, without the personnel, you are going to be able to solve this problem. So you will have to triage this, then; right, General?

General SEMONITE. So, sir, we do a risk informed decision process on every one of these sites. We take a look at the complexity of the site and the danger of the site.

Senator MARKEY. No, I appreciate that. So you are going to have to leave behind sites that you have determined to be dangerous, but not as dangerous as the ones that need more help immediately.

General SEMONITE. They will not be able to get attention as fast as others, yes.

Senator MARKEY. Right. Exactly. So you just say to those people, sorry, not enough room on the lifeboat, and you are just going to have to stay onboard here.

Yes, ma'am.

Ms. LUKIN. If I may, I am so glad you asked this question, Senator Markey, because Ranking Member Carper asked a question earlier about funding and issues around sites, and I misheard him and misspoke. So I want to correct that answer, because in Alaska we would take cuts to funding for Army Corps of Engineers, for DOD FUDS programs, for EPA. It would have an extremely detrimental impact on the cleanup of sites across the State of Alaska. We absolutely need increased efficiencies and better coordinating between Federal agencies.

But if we saw an even further decline in cleanup of our contaminated sites, our native people are very concerned about food security, about things leaching into our rivers, into our lakes where our fish are, into our land where we hunt and fish. We have concerns over significantly high rates of cancer among our native people. Some very strongly believe that this is linked to the contamination that we are experiencing throughout our native communities. And we are also concerned about drinkable water, because we do have locations near our Alaska native villages where you can't drink the water.

So thank you very much for the opportunity to say that.

Senator MARKEY. No, thank you. And let me just say this. I had a mother, Ann Anderson her name was, come into my office in Congress 1979, and she brought her little boy with her, Jimmy. And she just sat in my office and told me that Jimmy had leukemia and

that she had actually gone door to door and found other mothers who also had little girls and boys with leukemia in one area that was only like a tenth of the size of the whole city, but it was where all the contaminated wells were, where all this residue had just been left behind, the arsenic, the mercury, whatever, in the water and in the land. And she went door to door and she found all these kids, and every mother and father felt that they had just been unlucky. Oh, my God, and then they figured out that it wasn't. So that is really, along with Love Canal, where the Superfund program began, with Woburn and with Love Canal.

And it was a tough fight. The city was in denial because it would ruin property values if they made all this public, you know, and you have all these issues. And the EPA was not that enthusiastic about coming in, especially after Reagan took over and named Ann Gorsuch and Rita Lavelle. But eventually, it took a long time, we cleaned up the site, and on that site now is a huge industrial site and a huge transportation center, which we then named the Jimmy Anderson Transportation Center, which now creates thousands and thousands of jobs.

So it does work. When you clean it up, you can reuse it for community purposes. But as long as you are in denial, more children die across the country, more families are exposed to this, more property is never used because the Army walked away from that, because the defense industry walked away from it, because Monsanto and other companies walked away from it and left the community to figure it out. They can't do it alone; they need the Federal Government to help them. There is just no capacity in an individual community. And that just transformed the whole way this community views itself, and it now can see, in retrospect, that it was wrong to kind of get mad at the mother and saying, oh my goodness, you can't talk about this; it is going to ruin property values.

So I just hope we don't have to repeat history again, because there are too many people depending upon us, because we know that the Army needs the resources. The private sector companies have walked away, and unless we have a comprehensive way of looking at it, families are going to suffer.

So I thank you, Mr. Chairman, very much.

Senator BARRASSO. Thank you, Senator Markey.

Senator Ernst.

Senator ERNST. Thank you, Mr. Chairman.

Senator Markey, thank you for bringing up the budget. I think this is going to be an area that we really do need to work through. So my line of questioning will be a little bit different, but it does focus very much on budget and funding issues.

General, thank you for appearing for the second time in a month in front of this Committee. I am greatly appreciative. And I am sure you know where my questioning will go this morning. It is really good to have you here. We have had many discussions over the course of the past several months.

But I wanted to take the time today to just reemphasize the flood mitigation projects that we have hanging out there. One of those is in Iowa, in Cedar Rapids. And thank you again for participating in those discussions with me.

On Monday I met with OMB Director Mulvaney, alongside Senator Grassley and Congressman Blum, to talk about the Cedar Rapids flood mitigation project and how important that is for our State, and I know that you are aware of it. I appreciate your work on this with me. And it is my understanding, when we visited with Director Mulvaney, it is my understanding that the Corps, as of Monday, had not yet submitted their budget to the OMB for fiscal year 2018. Is that correct?

General SEMONITE. So, ma'am, we got guidance about 3 weeks ago. We have been cranking hard all the way through that, and then we provided our update to the Assistant Secretary to the Army on Monday. That budget is being worked right now at the senior levels of the Army and then will go to OMB on this Friday. That is the current timeline.

Senator ERNST. Excellent. Thanks, General.

General SEMONITE. So the short answer is we have submitted it to our higher level, but it has not been submitted to the OMB.

Senator ERNST. To the OMB. OK, thank you very much for that.

The Cedar Rapids project was authorized in 2014 and WRDA 2016 directed the Corps to prioritize funding and expedite completion of the Cedar Rapids project. I also received a handwritten note from you on January 30th that said you and the Corps agree in the risk to Iowa citizens and that you will pursue all possible options to support this critical project. And I do ask that you carefully consider all of these provisions when making your determinations going forward in the budget. Will you do that?

General SEMONITE. Yes, ma'am. Unfortunately, though, as you are probably aware and some of the people have already highlighted this year, there could be potential cuts to the civil works account based on what was in the President's initial proposal. So we will have to see how that plays out and our ability to be able to then fund all of those critical priorities.

Senator ERNST. Thank you. And will you commit to work to solve this particular issue expeditiously and to work with myself and the OMB to modify the metrics that the Corps utilizes so we can stop discounting the rural areas such as Iowa and other Midwestern areas that have lower property values?

General SEMONITE. Senator, you and I have talked about that in the past, and you have some very good points on property values and economic values. I think we want to continue to try to make sure that the processes that are used to be able to support the priorities of the Corps budget are the same things that come back out of the budget on the other end. I can't guarantee you, though, that what I put in in the budget is necessarily what is going to ultimately be approved.

Senator ERNST. Well, we will continue working on this issue. Again, it is very important not just for the Cedar Rapids flood mitigation project, but for so many of those other projects that are authorized but continue to hang out there. So, General, I thank you for your work.

Thank you, Mr. Chair.

Senator BARRASSO. Thank you very much, Senator Ernst. I appreciate it.

I do ask unanimous consent that the testimony from the FUSRAP Coalition be placed in the record for this hearing. Hearing no objection, that will so be done.

[The referenced information follows:]

Testimony provided by
The FUSRAP Coalition for
Senate Environment and Public Works Committee
Cleaning Up the Cold War Legacy
March 29, 2017

INTRODUCTION

The FUSRAP Coalition is pleased to provide this testimony for the Senate Environment and Public Works Committee hearing entitled “Cleaning up the Cold War Legacy.” Formed in 2015, our coalition is a group of interested parties comprised of state and local governments, concerned citizen groups, and remediation firms. Our main concern is to highlight, protect and increase FUSRAP funding in order to meet significantly increased requirements due to **additional, more expensive cleanup actions across the program.**

We believe the Corps of Engineers has done a commendable job of managing this program. In fact, we consider FUSRAP to be one of the most efficient and productive environmental management programs in the entire Federal government. The program actively demonstrates value for taxpayer dollars, and inefficiencies are kept to a minimum. In terms of performance against measurable outcomes, FUSRAP is a highly effective government program that is achieving real results. In fact, stakeholder groups in St. Louis and around the country have lobbied for other contaminated project sites to join the FUSRAP program because of its efficiency and effectiveness. We applaud the management of FUSRAP by the Army Corps of Engineers.

REQUIREMENTS FAR EXCEED FUNDING

However, the FUSRAP Coalition has grave concerns regarding funding. FUSRAP funding has experienced a flat-to-declining budget over recent years. Higher appropriations are necessary to adequately address cleanup requirements and hazardous risks—especially because of the current number of larger, more complicated sites entering the costly remediation phase. Higher appropriations will help assist all sites and stakeholders during this difficult stage for the FUSRAP program.

Program funding was relatively level between \$130 million and \$140 million from 1997-2009 but in the past several years it has decreased to an average level of approximately \$102-\$110 million. This is unfortunate since the number of cleanups ahead is now bigger than ever.

FUSRAP is facing a crisis because Cleanup requirements now far exceed the \$100M annual budget. A number of complex sites facing significant challenges are entering the remedial action phase of the FUSRAP pipeline. These include Shallow Lands Disposal Area (SLDA) in Pennsylvania, Maywood in New Jersey, Luckey and Harshaw in Ohio, Seaway and Niagara Falls Storage Site in New York. The lifecycle costs of these sites alone is estimated between \$1.5 billion - \$2 billion.

The FUSRAP program currently manages 24 active cleanup sites in 10 states, but each site includes multiple operable units in various phases of investigation, characterization, remediation, closure, and

monitoring. By contrast, the Department of Energy's Environmental Management program has only 17 sites under cleanup, but benefits from an operating budget that is 60 times larger. Moreover, there are numerous, expensive sites entering the high-dollar, cleanup phase—as opposed to the early, less-expensive, investigation stage of the FUSRAP program.

In addition to requirements vastly exceeding budgets, there are two other important reasons its annual budget must be increased.

A \$100M budget prolongs cleanup. FUSRAP actually retrieves, treats, packages, and ships off site the various contaminants, low-level, and mixed low level waste. The current level of funding does not provide for a robust project management approach of retrieval, processing, transportation and disposal; funding levels at sites in the midst of remediation average \$4M-\$5M of remedial activity, which does not permit an efficient level of cleanup work. We recommend boosting FUSRAP to at least \$150M in annual appropriations to tangibly accelerated cleanup that would efficiently move more FUSRAP sites to completion.

Health and safety risk to the public & environment increases with inadequate funding. Every year waste remains in unlined trenches, the risk of exposure to the public and the environment increases. The backlog of untreated stored waste poses a threat to the public and workers, and creates risks of uncontrolled releases. Furthermore, the relative risk to human populations in dense, urban environments is significantly higher than other Manhattan Project sites that are situated in remote, isolated areas.

Roughly half of the FUSRAP sites are still in the investigation stage. Therefore, significant unknowns exist regarding the scope, magnitude, and quantity of contamination in these neighborhoods. Because the Corps does not control the sites' land use and these sites are not on Federal land, the unknown potential for public exposure from hazardous and radioactive waste is significant. There is real potential for contamination yet to be discovered under buildings, on playgrounds, ballfields, and other residential areas. Below is a table with estimates of cost to complete:

State	Site	Phase of Cleanup	Total Estimated Cost
Indiana	Jocelyn	Pre-Investigation	Unknown
Iowa	Iowa Army Ammunition Plant	Remediation	<\$100M
Maryland	WR Grace	Legal Settlement	<\$100M
Missouri	St Louis Airport	Remediation	<\$100M
Missouri	St Louis Airport Vicinity Properties	Remediation	<\$200M
Missouri	St Louis Downtown	Remediation	<\$100M
New Jersey	Dupont Chamber Works	Remediation	<\$100M
New Jersey	Maywood	Remediation	>\$300M
New Jersey	Middlesex Sampling Plant	Investigation	Unknown
New Jersey	Middlesex Municipal Landfill	Investigation	Unknown

New York	Guterl	Feasibility Study	>\$300M
New York	Niagara Falls Storage Site	Feasibility Study	~\$500M
New York	Seaway Industrial Park	Remedial Design	~\$400M
New York	Tonawanda Landfill	Remedial Design	~\$100M
Ohio	Harshaw Chemical	Record of Decision	~\$150M
Ohio	Luckey	Pre-Remediation	>\$300M
Pennsylvania	Shallow Lands Disposal Area	Pre-Remediation	~\$500M
Pennsylvania	Superior Steel	Investigation	Unknown
Total			>\$3.2 B

It is critical to note that 4 of these sites are listed as “Unknown” costs to complete!

NEED FOR BASELINE ASSESSMENT

Because the FUSRAP program is severely underfunded, the need for a lifecycle baseline assessment is even more critical. The Corps has never established a bottoms-up, thorough and comprehensive programmatic assessment of the total costs and schedule to clean up all the FUSRAP sites. We estimate it to be well over \$3.2 Billion. At \$100M annual funding, this pace of cleanup is not acceptable to communities who live in close proximity to sites with radioactive and hazardous wastes. Therefore, we are calling upon the Corps to immediately and thoroughly conduct a lifecycle baseline assessment for the program. This report should consist of a bottoms-up, site-by-site, project-by-project projection of what is required to complete the 24 sites’ cleanup. It should provide critical information on technical activities, budgets, worker health and safety, and risk to inform regulators, state and local officials, and the Corps itself. The process of establishing specific projects and baselines with defined scope, schedule and cost projections will yield essential management decision-making tools and policy tradeoffs.

Such a baseline assessment would give clarity and credibility of the scale to complete cleanup; it would focus attention on end-state objectives, and provide a policy framework of achievable priorities. Such a report could also highlight historical costs and remaining costs. In the 1990s the Department of Energy performed select cost estimates of some FUSRAP sites, and the reporting of those numbers, juxtaposed against what the actual costs were, would provide valuable project management and policy insights.

A lifecycle baseline assessment would yield tremendous analytical benefits in helping execute the FUSRAP program itself. Cost drivers, cost variables, options, and strategic analyses would be identified. A focus on integrated life-cycle planning perhaps might emerge. Incentives for reducing life-cycle costs could be implemented and new, innovative contract structures could be procured. New ways of thinking may emerge, such as the possibilities of coordinating cleanup with other Corps functions, or other Federal agency missions, or other public priorities. Perhaps most importantly, it will permit policy and program options that are more cost-effective than the status quo.

CONCLUSION

The Corps should submit a budget and Congress should appropriate annual funding of at least \$150 million. This level of funding will meet significantly increased requirements due to additional, more expensive cleanup actions across the program. Given the Federal government's direct role in contaminating these sites, it is imperative that adequate funding be provided to the Army Corps to address the public health and environmental risks these sites pose. Leaving these sites unaddressed not only poses a health risk to communities near these sites, but also ignores the Federal government's responsibility for address the lasting impacts of the Manhattan Engineer District and the Atomic Energy Commission activities. At roughly \$100M per year, cleanup progress at the FUSRAP sites will be unnecessarily slow. An increase of \$50M per year will significantly accelerate cleanup, reduce risk to people and the environment, and save lifecycle costs for the U.S. taxpayer. Congress should fund the FUSRAP cleanup program at \$150M per year.

Senator BARRASSO. I know that Senator Carper is meeting with some constituents. I know he wanted to make one or two little final wrap up, so we are waiting for him.

I will just, if I could, run down the panel and start with you, General. Any summary thoughts that you might have to share briefly with us?

General SEMONITE. Senator, I want to just thank you and the Committee for taking this opportunity to hear some of the challenges that we all have. Clearly, we are all very committed to try to clean up these areas. I think, though, that we are also are very realistic that understanding the size of this problem is immense, and I think we have to be transparent to stakeholders that some of these projects are just not going to be funded as fast as other ones. So this is where we have to figure out how can we continue to keep the momentum there, but in a deliberate manner that is putting priorities that are really life safety and risk to the environment. We have to be able to make sure that we are putting the best value out to where it needs to be.

Senator BARRASSO. Mr. Breen, any thoughts in summary?

Mr. BREEN. Thank you, Mr. Chairman. I think this is an area where the Committee's jurisdiction can do both environmental and economic good at the same time. Thank you for holding the hearing.

Senator BARRASSO. Mr. Frederick, any final thoughts?

Mr. FREDERICK. Mr. Chairman, thank you. Yes, I am sure you have heard as well as I have that residents in the Cheyenne area affected by missile site contamination are concerned about it, and they are concerned about when it is going to be cleaned up. And for too many sites we just haven't heard when that is going to happen. I am hopeful that today's testimony will help bring some attention to the funding projects that the Corps faces, and I appreciate the opportunity to talk to you today.

Senator BARRASSO. Thanks for being here.

Ms. Lukin.

Ms. LUKIN. Quyanaa. Thank you so much for inviting me to come today. We urge Federal agencies to work together. We look to leadership and guidance from Congress, and we would be happy to work with you to continue to resolve this important issue for Alaska native villages.

Senator BARRASSO. Thank you for being with us.

Ms. Smith.

Ms. SMITH. Thank you, Mr. Chairman. These sites are really the moral and legal obligation of the Federal Government, and history in Washington State has shown that funding is really the primary thing that drives cleanup faster. So we appreciate you holding this hearing, and we will do all we can in Washington State to help support funding.

Senator BARRASSO. Thank you.

Senator Carper, some final thoughts.

Senator CARPER. Quyanaa. How's that? All right. We learn something every day in this job.

Thanks so much for what you do with your lives. Thanks so much for being with us here today.

One of the things I focus on not only in this Committee, but in the other work that the Chairman and I and others do across the board is I focus on root causes. I focus on root causes of problems. And a lot of times we spend our resources and we focus on symptoms of problems, addressing the symptom, like cleanup. We have these cleanups, we clean them up. We spend a lot of money; it takes a long time.

And I just want to make sure what are we doing to make sure that we are not creating, unwittingly, future cleanup sites. Are we going to have to do this more and spend more money and more time and disadvantage more people, harm more people? Anything that we are doing to make sure this kind of thing doesn't happen again and again and again?

General.

General SEMONITE. Senator, from a construction perspective, when we are out working on military installations and building new ranges, or trying to figure out what are impact areas, we have come generations ahead of where we were at 30 or 40 years ago. I think the Americans that were here back in 1930 and 1940 were just as committed to this country; they just didn't have the ramifications to understand the second and third order effects from that. So you have a very good point. We have to make sure that 30 or 40 years from now, even the fact that we might not know what is going on, we have to think through the depth of some of these actions to make sure that our grandchildren don't have the same burden that, unfortunately, we have inherited here.

So I can get into more technical, but some of the things that we are doing environmentally and to be able to make sure we are thinking through what about rounds that are left in the ground. What are the ramifications of that? How do you get a bullet now that can basically be biodegradable and you don't have any ramifications? Some of those kind of things is what we are doing.

Senator CARPER. All right, thanks.

Anybody have a differing view? Anybody want to add to what the General has said? Do you all agree?

Mr. BREEN. I certainly agree, Senator. It is the case that Superfund is one of the nation's safety nets. It is what is there to stand in when other things have not worked. In some cases that is things that have been put into place decades ago. I think the Congress took an important step with the amendments to the Toxic Substances Control Act, the new TSCA, in making improvements in the way we deal with chemicals at the outset. But that doesn't mean Superfund doesn't need to be there for many years to come to deal with problems that are already entrained.

Senator CARPER. Anyone else want to say anything? OK.

You mentioned TSCA. That is something that Senator Inhofe and myself, others on this Committee worked literally for years, David Vitter worked for years, Tom Udall, Frank Lautenberg, and I am very proud of that. Very proud of the work that was done. But in the last Congress this Committee played a lead role in reauthorizing TSCA, I think maybe rewriting it in a way that will actually work and be effective. It turns out that the very first chemical safety rules proposed last fall under the new rule were rules to ban some uses of TCE. I know we talked a little about TCE today, but

let me just follow through on this. But the rules have not yet been finalized.

Ms. Smith, Mr. Frederick, Ms. Lukin, do any of you disagree that EPA should act to finalize these rules just as quickly as possible in order to prevent future exposure to TCE like the exposures that people near the Wyoming Atlas Missile site are at risk of? Go ahead and speak.

Ms. SMITH. We do not, I do not disagree.

Senator CARPER. All right.

Ms. SMITH. Thank you, Senator.

Senator CARPER. Thank you.

Mr. FREDERICK. Mr. Chairman, Senator, I am not familiar with the rule.

Senator CARPER. OK.

Ms. Lukin.

Ms. LUKIN. I am also not familiar with the rule.

Senator CARPER. All right.

If you were familiar with the rule, what would—

[Laughter.]

Ms. LUKIN. I would suggest that I would not disagree with the rule, but I would have to read it to give you a for sure answer on that. Thank you, sir.

Senator CARPER. Last word. Ms. Lukin, I may have misunderstood what you said in your earlier testimony, although I thought you were all brilliant, just exceptional. But I think I understood you to say that there was a land swap that occurred involving native Americans and that in the land swap that occurred I think between maybe the Federal Government and the native Americans, the native Americans ended up with land that had been contaminated with toxic materials or whatever, and now that needs to be cleaned up. And I don't think you said that the native Americans were left holding the bag in the cleanup, but it sounds like that might be what has happened. Is that what you said?

Ms. LUKIN. In a sense, sir. There is a section within CERCLA which basically says that the current landowner could be liable for the cleanup of preexisting contamination. So under the situation with Alaska Native Corporations, although this contamination occurred during the cold war and World War II, these are events that happened prior to conveyance of the land to Alaska Native Corporations. Under CERCLA, we are legally liable to clean up that land, which we feel is extremely unjust given that we received the land under our aboriginal land claim settlement with the Federal Government.

The EPA does have a longstanding policy that says that it won't pursue legal action against parties under this particular provision of CERCLA, but it doesn't provide us any legal rights under the law, and EPA reserved the right to depart from it on a case by case basis. So essentially this has a situation where Alaska Native Corporations in some cases are unwilling to bring forward and notify agencies of prior contamination on their lands simply because they don't want to be held legally liable for the cleanup. So we are asking Congress to consider providing Alaska Native Corporations protection under the law from this particular section in CERCLA.

And sir, you stepped out a moment ago, and I misspoke and misanswered your earlier question about budget funding for agencies.

Senator CARPER. Oh, that's too bad.

Ms. LUKIN. No, sir, so I wanted you to know I absolutely do not support cut funding to Federal agencies for cleanup of these lands. We have already been delayed over 45 years in the cleanup of these sites across Alaska. We need more funding, not less, to make this right. Thank you.

Senator CARPER. Would you say that just one more time?

[Laughter.]

Senator CARPER. It's on the record twice. That's good. Thank you.

Just in closing, Mr. Chairman, what I opened up with, Golden Rule, treat other people the way we want to be treated, who is my neighbor. And you are neighbors, and the folks that you are trying to help, they are our neighbors as well. And we have an obligation, I think, a moral obligation to do our part. And also, while we clean up these messes, toxic messes that have been created, that we work really hard to make sure we are not unknowingly creating more of them.

This was a wonderful hearing and appreciate very much all of you being here and enlightening us today. Thank you.

Senator BARRASSO. Well, thank you, Senator Carper.

I just want to thank all the witnesses again for your testimony, for your thoughtfulness.

If there are no more questions, members may also submit follow up written questions for the record. The hearing record will, therefore, stay open for 2 weeks.

I want to thank all the witnesses for their time, testimony, and congratulate our friend who is retiring after 32 years of service to our nation; not just to the agency, but to our nation. Thank you.

With that, the hearing is adjourned.

[Whereupon, at 12:02 p.m. the Committee was adjourned.]

