DOE'S MOUNTING CLEANUP COSTS: BILLIONS IN ENVIRONMENTAL LIABILITY AND GROWING

HEARING

BEFORE THE

SUBCOMMITTEE ON OVERSIGHT AND INVESTIGATIONS

OF THE

COMMITTEE ON ENERGY AND COMMERCE

HOUSE OF REPRESENTATIVES

ONE HUNDRED SIXTEENTH CONGRESS

FIRST SESSION

MAY 1, 2019

Serial No. 116–29

Printed for the use of the Committee on Energy and Commerce
govinfo.gov/committee/house-energy
energycommerce.house.gov

U.S. GOVERNMENT PUBLISHING OFFICE
39–903 PDF WASHINGTON : 2020

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WITNESSES

DOE'S MOUNTING CLEANUP COSTS: BILLIONS IN ENVIRONMENTAL LIABILITY AND GROWING

WEDNESDAY, MAY 1, 2019

HOUSE OF REPRESENTATIVES,
SUBCOMMITTEE ON OVERSIGHT AND INVESTIGATIONS,
COMMITTEE ON ENERGY AND COMMERCE,
Washington, DC.

The subcommittee met, pursuant to call, at 10:29 a.m., in room 2322, Rayburn House Office Building, Hon. Diana DeGette (chair of the subcommittee) presiding.

Members present: Representatives DeGette, Schakowsky, Kennedy, Ruiz, Kuster, Castor, Clarke, Pallone (ex officio), Guthrie (subcommittee ranking member), Burgess, Griffith, Brooks, Mullin, Duncan, and Walden (ex officio).

Staff present: Mohammad Aslami, Counsel; Kevin Barstow, Chief Oversight Counsel; Chris Knauer, Oversight Staff Director; Jourdan Lewis, Policy Analyst; Perry Lusk, GAO Detailee; Jon Monger, Counsel; Elysa Montfort, Press Secretary; Meghan Mullon, Staff Assistant; Kaitlyn Peel, Digital Director; Nikki Roy, Policy Coordinator; Jen Barblan, Minority Chief Counsel, Oversight and Investigations; Margaret Tucker Fogarty, Minority Staff Assistant; Brittany Havens, Minority Professional Staff Member, Oversight and Investigations; Peter Kielty, Minority General Counsel; and Alan Slobodin, Minority Chief Investigative Counsel, Oversight and Investigations.

Ms. DEGETTE. The Subcommittee on Oversight and Investigations will now come to order. Today, the Subcommittee on Oversight and Investigations is holding a hearing entitled, "DOE's Mounting Cleanup Costs: Billions in Environmental Liability and Growing."

The purpose of the hearing is to discuss the DOE's management of its environmental cleanup program and significant increases in environmental liabilities over the years.

And I will note before we start that there is another hearing going on downstairs in the Energy and Commerce Committee. There is also a full committee markup going on in Natural Resources.

So people will be coming in and out, but it doesn't mean that they are not paying attention. The Chair now recognizes herself for purposes of an opening statement.

OPENING STATEMENT OF HON. DIANA DEGETTE, A REPRESENTATIVE IN CONGRESS FROM THE STATE OF COLORADO

Today, we continue the Subcommittee on Oversight and Investigations' longstanding efforts to oversee the Department of Energy's management of its environmental cleanup programs.

Over the course of the Cold War, the United States developed an industrial complex to research, test, and produce nuclear power reactors and weapons. This effort left behind thousands of tons of radioactive waste, and contaminated soil and water at sites nationwide, and the United States Government is financially liable for cleaning it up.

It now estimated that it will cost hundreds of billions of dollars to do so. The Department of Energy's Office of Environmental Management, or EM, is largely responsible for this difficult task.

It does this by managing contractors and complex cleanup operations at sites across the United States. I know how important this work is because there is just one of these sites up the road from my district, the Rocky Flats Plant in Colorado.

The good news is that over the prior decades, EM has successfully cleaned up Rocky Flats and many other sites. The bad news is that they have—there are 16 remaining sites which still need major work and are, arguably, the most challenging and costly to clean up.

On top of that, the estimated cost to address these remaining sites is large and quickly growing. For example, according to GAO, EM's environmental liability grew by a total of $214 billion since just 2011 and, as of 2018, this figure had climbed to a staggering $377 billion.

During this same period, EM spent $48 billion on cleanup efforts, which means that environmental liability is growing at a faster rate than DOE's spending and, possibly, even its ability to clean up these sites.

The GAO has told the committee that this growing liability poses not only a financial risk to the taxpayer, but possibly to cleanup operations if corners are cut or important tasks are deferred to future dates due to costs.

Over the last few decades, this committee, the GAO, and others have raised numerous concerns about DOE's management of these cleanups. Unfortunately, many of the same concerns and questions continue to this day.

In 2017, and again this year, GAO included the Federal Government's environmental liabilities in its "high risk" list, which are those Federal programs that are most at risk to fraud, waste, or mismanagement.

But this should come as no surprise. Over the years, GAO has raised numerous concerns about DOE's EM office. Even today, GAO will testify that DOE has not conducted a formal analysis to fully understand the root causes of why these environmental liabilities are growing each year by tens of billions of dollars.

If they don't understand what is driving costs, it is difficult to believe how they can fully control them. The GAO will also report that EM is still failing to follow best program and best project practices, like having a regularly updated management plan and road-

map, having reliable life-cycle cost estimates and master schedules that are updated on a regular basis, and conducting risk management throughout the life of the program.

Now, I appreciate that many of the challenges facing EM span several administrations and, further, that DOE has begun to make changes in how it is attempting to manage these sites.

I also appreciate that Assistant Secretary White—and thank you for being here—will tell us today that she intends to implement many of the recommendations GAO and others have made in recent reports.

But, you know, I have been on this committee a long time. We have many seen DOE make these promises before with regards to cleanup operations. And here we are talking again about a program that needs major management attention.

So, Secretary White, we look forward to working with you to make sure that it actually happens this time.

And finally, beyond the promises, I remain concerned that EM lacks sufficient staff, expertise, and resources—most importantly, resources—to accomplish the tasks that we will talk about today, including implementing the GAO's recommendation.

To that end, the Trump administration's proposed budget cuts to EM will not make things any better, particularly when it comes to implementing some of the best practices that are being proposed.

So, in conclusion, I am hoping EM can fully explain to Congress and the American people what is driving the continued increase in DOE's environmental liability but also whether the GAO believes any new DOE proposals will reverse this trend.

Cleanup of these sites is critically important. We need to have it happen, and we can't be sitting here again in 5, 10, or 20 years hoping that it will.

[The prepared statement of Ms. DeGette follows:]

PREPARED STATEMENT OF HON. DIANA DEGETTE

Today, we continue the Subcommittee on Oversight and Investigations' longstanding efforts to oversee the Department of Energy's management of its environmental cleanup programs.

Over the course of the Cold War, the United States developed an industrial complex to research, test, and produce nuclear power reactors and weapons.

This effort left behind thousands of tons of radioactive waste, and contaminated soil and water at sites nationwide, and the United States Government is financially liable for cleaning it up.

It now estimated that it will cost hundreds of billions of dollars to do so.

The Department of Energy's Office of Environmental Management-or "EM"-is largely responsible for this difficulttask. It does this by managing contractors and complex cleanup operations at sites across the United States.

I know how important this work is because one site, the Rocky Flats Plant in Colorado, is just up the road from my district.

The good news is that, over the prior decades, EM has successfully cleaned up Rocky Flats and many other sites.

The bad news is that the remaining 16 sites-which still need major work-are arguably the most challenging and costly to cleanup.

On top of that, the estimated cost to address these remaining sites is large and is quickly growing.

For example, according to GAO, EM's environmental liability grew by a total of $214 billion since just 2011. And, as of 2018, this figure had climbed to a staggering $377 billion.

During this same period, EM spent $48 billion on cleanup efforts, which means environmental liability is growing at a level that is outpacing DOE's spending and, possibly, its ability to cleanup these sites.

GAO has told the committee that this growing liability poses not only a financial risk to the taxpayer, but possibly to cleanup operations if corners are cut or important tasks are deferred to future dates due to costs.

Over the past several decades, this committee, GAO, and others have raised numerous concerns about DOE's management of these cleanups. Unfortunately, many of those same concerns and questions continue to this day.

In 2017, and again this year, GAO included the Federal Government's environmental liabilities to its "High-Risk" list which are those Federal programs that are most at risk to fraud, waste, or mismanagement.

But this should come as no surprise.

Over the years, GAO has raised numerous concerns about DOE's EM office.

Even today, GAO will testify that DOE has not conducted a formal analysis to fully understand the root causes of why these environmental liabilities are growing each year by tens of billions of dollars. If they don't understand what is driving costs, it's difficult to believe they can fully control them.

GAO will also report that EM is still failing to follow best program and best project practices, like having a regularly updated management plan and roadmap; having reliable lifecycle cost estimates and master schedules that are updated on a regular basis; and conducting risk management throughout the life of the program.

I appreciate that many of the challenges facing EM span several administrations and further that DOE has begun to make changes to how it is attempting to manage these sites.

I also appreciate that Assistant Secretary White will tell us today that she intends to implement many of the recommendations GAO and others have made in recent reports.

But many on this committee have seen DOE make these promises before with regards to cleanup operations. And yet we are again in this room talking about a program that again needs major management attention.

Finally, beyond the promises, I remain concerned that EM lacks sufficient staff, expertise, and resources to accomplish some of the tasks it will talk about today including implementing the many recommendations GAO has made to improve this program.

To that end, the Trump administration's proposed budget cuts to EM will not make things any better, particularly when it comes to implementing some of the best practices that are being proposed.

So, in conclusion, I hope EM can fully explain to Congress and the American people what is driving the continued increase in DOE's environmental liability but also, whether GAO believes any new DOE proposals will reverse this trend.

Cleaning up these sites is a critically important task of the Federal Government. Hundreds of billions of tax dollars are at stake. So too is the health and environment of the communities that surround these sites.

This is an area we must get right, and I intend to have this committee continue paying attention to this important area.

With that, I yield back.

Ms. DEGETTE. And so with that, I yield back. I want to thank the witnesses for appearing, and I want to recognize the ranking member, Mr. Guthrie from Kentucky, for 5 minutes.

OPENING STATEMENT OF HON. BRETT GUTHRIE, A REPRESENTATIVE IN CONGRESS FROM THE COMMONWEALTH OF KENTUCKY

Mr. GUTHRIE. Thank you. Thank you, Chair DeGette, for holding this important hearing. Thanks to our witnesses for being here.

The U.S. Department of Energy's Office of Environmental Management, which I will refer to as EM, was created in 1989 to clean up the radioactive legacy of the Cold War and was tasked with cleaning up 107 sites across the country.

As part of this effort, EM is responsible for completing the safe cleanup of environmental legacy resulting from five decades of nuclear weapons development and Government-sponsored nuclear energy research.

To date, DOE has completed a cleanup of 91 of its 107 sites with 16 sites remaining. While 85 percent of the original 107 sites have been cleaned up, the remaining 16 sites has been described to the committee as the most challenging sites.

The EM still has a lot of work to do. This work has been ongoing for decades and will continue for decades to come with some of the current sites not estimated to be cleaned up until 2070 or 2075.

One of the ways that EM's work is measured and estimated is through the amount of environmental liabilities, which is estimated cost to clean up areas where Federal activities have contaminated the environment.

To develop its environmental liability estimates, EM uses the approved life cycle cost for all cleanup projects at each of its sites and adds any adjustments and accounts for any potential cost decreases.

The United States Government's liability was $577 billion in fiscal year 2018 and was the third highest liability listed in the financial report of the United States Government.

DOE is the driver of most of this liability, accounting for $494 billion due to its nuclear cleanup responsibilities. Most of DOE's liability, $377 billion out of $494 billion, lies with the cleanup costs associated with sites under the responsibility of EM.

DOE's financial statement for the year 2018 showed a sharp increase in environmental liability, more than $110 billion. EM's environmental liability has grown annually and outpaced the agency's annual spending on cleanup activities. For example, fiscal year 2011 and fiscal year 2017's environmental liability grew almost $105 billion—between 2011 and 2017 grew almost $105 billion, from $163 billion to $268 billion.

In the same period, EM spent approximately $40 billion. Similarly, in the past two fiscal years, environmental liability grew by $122 billion with DOE spending only $12 billion on cleanup activities.

In 2017, GAO added the Federal Government's environmental liability to its high risk list and it remained on GAO's high risk list for 2019.

Further, GAO has conducted additional work surrounding DOE's environmental liability including a report that was released in February as a result of what became a bipartisan request by this committee to examine the performance of EM's operational activities and the role of performance assessments in informing those activities.

GAO's concern stems from the fact that while the number of sites to be cleaned up have decreased, the cleanup costs have increased and the timetable for completion keeps getting delayed.

And as the timetable for cleanup completion is delayed, costs continue to go up, especially since about 40 percent of the money EM spends on cleanup costs goes toward minimum safe operations, or "min-safe," costs to maintain the sites, including costs of power, staffing, and security.

Additionally, according to GAO, DOE should conduct a root cause analysis to determine why the cleanup costs, especially the $110 billion increase, went up so much.

GAO has also found that EM does not follow program management leading practices or project management best practices. GAO's concern is that DOE could be wasting billions of dollars and not implementing the cleanup program efficiently and effectively.

Lastly, GAO reported that DOE does not have a strategy on how to make the cleanup program more efficient and effective. DOE recognizes the need to strengthen program management oversight accountability to ensure value for the American taxpayer.

DOE and EM are working towards completion and closure of the mission. But we still have decades to go. In the meantime, it is critical that we understand what EM is doing and changing in order to clean up the remaining sites in a timely cost-effective manner.

This mission is an important one, not just for the sake of completing cleanup but also to ensure that the environment and public health in the communities where the sites are located are protected.

I look forward to hearing from Assistant Secretary White on ways DOE and EM plan to evaluate, strengthen, and clean up the mission and how EM plans to address GAO's concerns.

I thank the witnesses for being here today, and I yield back.

[The prepared statement of Mr. Guthrie follows:]

PREPARED STATEMENT OF HON. BRETT GUTHRIE

Thank you, Chair DeGette, for holding this important hearing.

The U.S. Department of Energy's Office of Environmental Management (EM) was created in 1989 to clean up the radioactive legacy of the Cold War and was tasked with cleaning up 107 sites across the country. As part of this effort, EM is responsible for completing the safe cleanup of environmental legacy resulting from five decades of nuclear weapons development and Government-sponsored nuclear energy research.

To date, DOE has completed cleanup at 91 of its 107 sites, with 16 sites remaining. While 85 percent of the original 107 sites have been cleaned up, the remaining 16 sites have been described to the committee as the most challenging sites.

EM still has a lot of work to do. This work has been ongoing for decades and will continue for decades to come, with some of the current sites not estimated to be cleaned up until 2070 or 2075.

One of the ways that EM's work is measured and estimated is through the amount of environmental liabilities, which is the estimated cost to cleanup areas where Federal activities have contaminated the environment. To develop its environmental liability estimates, EM uses the approved life cycle costs for all cleanup projects at each of its sites and adds any adjustments and accounts for any potential cost decreases.

The United States Government's environmental liability was $577 billion in Fiscal Year (FY) 2018 and was the third highest liability listed in the Financial Report of the United States Government. DOE is the driver of most of this liability, accounting for $494 billion, due to its nuclear cleanup responsibilities. Most of DOE's liability—$377 billion out of the $494 billion—lies with the cleanup costs associated with sites under the responsibility of the EM. DOE's financial statement for fiscal year 2018 showed a sharp increase in environmental liability—more than $110 billion.

EM's environmental liability has grown annually and outpaced the agency's annual spending on cleanup activities. For example, between FY 2011 and FY 2017 EM's environmental liability grew almost $105 billion-from $163 billion to $268 billion. In that same period, EM spent approximately $40 billion. Similarly, in the past two fiscal years, the environmental liability grew by $122 billion, with DOE spending only $12 billion on cleanup activities.

In 2017, GAO added the Federal Government's environmental liability to its high risk list, and it remained on GAO's high risk list for 2019. Further, GAO has conducted additional work surrounding DOE's environmental liability, including a report that was released in February as a result of what became a bipartisan request

by this committee, which examined the performance of EM's operational activities and the role of performance assessments in informing those activities.

GAO's concerns stem from the fact that while the number of sites to be cleaned up have decreased, the cleanup costs have increased and the timetable for completion keeps getting delayed. And, as the timetable for cleanup completion is delayed, costs continue to go up, especially since about 40 percent of the money EM spends on cleanup costs goes toward minimum safe operations, or "min-safe" costs to maintain the sites, including costs for power, staffing, and security.

Additionally, according to GAO, DOE should conduct a root cause analysis to determine why the cleanup costs, especially the $110 billion increase, went up so much. GAO also found that EM does not follow program management leading practices or project management best practices. GAO's concern is that DOE could be wasting billions of dollars, and not implementing the cleanup program efficiently and effectively. Lastly, GAO reported that DOE does not have a strategy on how to make the cleanup program more efficient and effective.

DOE recognizes the need to strengthen program management, oversight, and accountability to ensure value for the American taxpayer. DOE and EM are working towards completion and closure of the mission, but we still have decades to go. In the meantime, it is critical that we understand what EM is doing-and changing-in order to clean up the remaining sites in a timely and cost-effective manner.

This mission is an important one, not just for the sake of completing cleanup, but also to ensure that the environment and public health in the communities where these sites are located are protected. I look forward to hearing from Assistant Secretary White on ways DOE and EM plan to evaluate and strengthen the cleanup mission and how EM plans to address GAO's concerns.I thank our witnesses for being here today. I yield back.

Ms. DEGETTE. I thank the gentleman.

The Chair now recognizes the chair of the full committee, Mr. Pallone, for 5 minutes for purposes of an opening statement.

OPENING STATEMENT OF HON. FRANK PALLONE, JR., A REPRESENTATIVE IN CONGRESS FROM THE STATE OF NEW JERSEY

Mr. PALLONE. Thank you, Madam Chair.

Today, the committee continues its oversight of the DOE and the Office of Environmental Management's efforts to clean up the legacy nuclear waste sites remaining from the Cold War.

Decades of producing materials for our country's nuclear weapons program has led to a massive and ongoing cleanup of nuclear and hazardous waste and these sites contain some of the most dangerous materials on earth and some of the costliest and technically challenging to clean up.

Waste at these sites consists of millions of gallons of radioactive waste, thousands of tons of spent nuclear fuel and other nuclear material, as well as contaminated soil and water.

And the consequences for not getting this right are enormous to the environment, to human health, and to the taxpayer.

The U.S. Government is responsible for costs associated with cleaning up these contaminants at Federal sites and facilities, and the estimated cost of future environmental cleanup is referred to as "environmental liability."

DOE is currently responsible for over 80 percent of the Federal Government's total environmental liability, which includes ongoing DOE cleanup efforts at 16 sites around the country, and the costs associated with this effort are vast and rapidly growing.

As of this year, it has climbed to a staggering $377 billion. And while one would expect that, over time, as more money is spent, that DOE's environmental liability would be decreasing.

But just the opposite is occurring. Since 2011, DOE has seen environmental liabilities grow by over $200 billion while spending in the same period was $48 billion.

So even though we are spending billions each year, environmental liabilities are growing at a level that is outpacing DOE's spending.

In 2017 and again in 2019, the GAO included the Federal Government's environmental liabilities on its high risk list. GAO continues to find numerous management challenges with how DOE is managing the cleanup effort.

For example, according to GAO, DOE has not conducted a root cause analysis to learn why the runaway growth in environmental liabilities has occurred, and that means DOE does not know with certainty why this number keeps climbing.

And GAO has also found that the Department of Energy fails to follow program and project management leading practices, and this is all extremely concerning considering that the Department of Energy has also inconsistently reported on its cleanup status to Congress, and information that has been reported has often been incomplete or misleading.

So the Department's recent budget materials for EM also do not reflect the funding EM anticipates is needed to meet its future cleanup responsibilities and I appreciate that Assistant Secretary White is taking positive steps which appear to reflect her understanding of the significant challenges facing the Department of Energy.

But DOE needs to answer some key questions about how they are managing the cleanup program and this committee needs to know if EM is planning to make the changes that GAO says are necessary, what resources it needs to make these changes, and who is responsible for implementing these changes.

So, finally, I want to say that the Department needs the money to do these cleanups, obviously. I don't understand how the Trump administration's proposed budget cuts to this office would help DOE accomplish this enormous mission.

As we look forward to the difficult cleanup tasks ahead, this committee will continue to call on the Government Accounting Office to conduct its important work in this area and will continue to demand that the Department of Energy take tangible actions necessary to build a disciplined and effective cleanup program.

So, Madam Chair, these are some of the most costly, dangerous, and difficult sites in the world to clean up, and so I appreciate what you are doing in having this hearing because we really have to get this right.

I don't think anybody else wants my time so I will yield back, Madam Chair. Thank you.

[The prepared statement of Mr. Pallone follows:]

PREPARED STATEMENT OF HON. FRANK PALLONE, JR.

Today, the committee continues its oversight of the Department of Energy (DOE), and the Office of Environmental Management's (EM) efforts to clean up the legacy nuclear waste sites remaining from the Cold War.

Decades of producing materials for our country's nuclear weapons program has led to a massive and ongoing cleanup of nuclear and hazardous waste.

These sites contain some of the most dangerous materials on earth and some of the costliest and technically challenging to cleanup. Waste at these sites consists of millions of gallons of radioactive waste, thousands of tons of spent nuclear fuel and other nuclear material, as well as contaminated soil and water. The consequences for not getting this right are enormous-to the environment, human health, and the taxpayer.

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The costs associated with this effort are vast and rapidly growing. As of this year, it has climbed to a staggering $377 billion.

One would expect that over time, as more money is spent, DOE's environmental liability would be decreasing. But just the opposite is occurring. Since 2011, DOE has seen environmental liabilities grow by over $200 billion, while spending in the same period was $48 billion.

So, even though we are spending billions each year, environmental liabilities are growing at a level that is outpacing DOE's spending.

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For example, according to GAO, DOE has not conducted a root cause analysis to learn why the runaway growth in environmental liabilities has occurred. That means DOE does not know with certainty why this number keeps climbing.

GAO has also found that DOE fails to follow program and project management leading practices.

This is all extremely concerning considering that DOE has also inconsistently reported on its cleanup status to Congress, and information that has been reported has been incomplete or misleading. DOE's recent budget materials for EM also do not reflect the funding EM anticipates is needed to meet its future cleanup responsibilities.

I appreciate that Assistant Secretary White is taking positive steps which appear to reflect her understanding of the significant challenges facing DOE. But DOE needs to answer some key questions about how they are managing the cleanup program. This committee needs to know if EM is planning to make the changes GAO says are necessary, what resources it needs to make these changes, and who is responsible for implementing these changes.

Finally, DOE needs money to do these cleanups- and I don't understand how the Trump administration's proposed budget cuts to this office would help DOE accomplish this enormous mission.

As we look forward to the difficult cleanup tasks ahead, this committee will continue to call on GAO to conduct its important work in this area and will continue to demand the DOE take tangible actions necessary to build a disciplined and effective cleanup program.

Madam Chair, these are some of the most costly, dangerous, and difficult sites in the world to cleanup. We must get this right.

Ms. DEGETTE. The gentleman yields back.

The Chair now recognizes the ranking member of the full committee, Mr. Walden, for 5 minutes for purposes of an opening statement.

OPENING STATEMENT OF HON. GREG WALDEN, A REPRESENTATIVE IN CONGRESS FROM THE STATE OF OREGON

Mr. WALDEN. Well, thank you, Madam Chair, and I appreciate you holding this hearing about the growing environmental liabilities associated with the U.S. Department of Energy's nuclear waste cleanup and I can't help but—after my friend from New Jersey described the President's budget, and I disagree with it in some of these areas, at least the President put out a budget, unlike our Democrat majority that punted on the issue of a budget this time.

This subject is of enormous importance to the Nation, especially for local communities near contaminated sites such as those at Hanford.

We know all too well the issues that the Office of Environmental Management handles. The threat of potential environmental disaster and pollution persists in the minds of Oregonians and people throughout the Pacific Northwest.

As you all know, we have 56 million gallons of Cold War-era toxic nuclear waste sitting in corroding and leaking metal tanks, some of which were built to last a whopping 20 years. It has been more than 20 years since World War II.

Hanford is a worrisome neighbor for us and the Federal Government has not always been a trusted and reliable partner. It also presents a difficult and complex challenge with a scale that is difficult to appreciate on paper.

The Hanford site itself is nearly half the size of Rhode Island—half the size of Rhode Island. In August of 2017, Secretary Perry and I went out to Hanford to get a firsthand look and an evaluation of the work being done there to clean up that site. Indeed, there is a lot of work going on.

But there is plenty left to do, as you all know. But the end goal is to mobilize high-level nuclear waste into a glass material similar to this puck that they gave us out there. By the way, this is not actually nuclear waste. I would just point that out. It is not exactly radioactive.

This difficult work must be done as safely and efficiently as possible and in a cost-effective way. Cleaning up the waste at Hanford and at other sites across the Nation is a top priority and under my leadership last Congress on this committee we made a bipartisan request that the U.S. Government Accountability Office, known as the GAO, examine this issue of performance management at the cleanup sites under the control of DOE's Environmental Management, or EM.

EM is responsible for remediating the environmental contamination attributable to the Nation's nuclear weapons systems including the cleanup of liquid nuclear tank waste, stabilization, and packaging of nuclear materials and decommissioning—decontaminating closed nuclear facilities.

The financial costs of DOE's environmental liabilities are high and we all know that. In total, DOE's EM liabilities are $377 billion with DOE's total environmental liabilities reaching almost $500 billion.

These numbers increased by $110 billion between fiscal 2017 and 2018 due in large part to DOE recalculating the baseline costs for the Hanford site, and I understand that is the first time that's been done in basically a decade since 2009.

A few months ago, GAO issued our requested report and we appreciate your work on this matter, and found accountability to be lacking in key areas such as whether or not cleanup performance is cost-efficient and effective, and according to your report, DOE and EM have not established classification requirements such that most cleanup activities would be treated as projects subject to more stringent requirements instead of operational activities.

So as a result, there is greater risk to cost overruns and scheduled delays, and we have, obviously, seen both of those over the years at Hanford.

DOE spends, roughly, $6 billion a year on cleanup. But we don't always have a clear visibility into what that means in terms of completing the mission.

EM reports on the amount of nuclear cleanup completed each year but for that amount of money spent how many radioactive tanks should have been treated?

How much soil and water should have been remediated? We don't have clear answers to these questions because, according to GAO, EM's performance measures for operations activities do not always provide a clear and reliable picture.

Although EM has undertaken several studies to address the growing costs in its cleanup program, GAO found that EM had not conducted a formal root cause analysis to identify the causes for the growth in its environmental liability.

So these issues and others have been acknowledged by the Department and Environmental Management and has proposed or is exploring changes to allow for quicker and more cost-effective cleanup of the remaining sites. EM is pursuing an end-state contracting model for several sites and using a multifaceted approach to address liabilities including the use of current cleanup technologies for waste, composition, and risk, updating key project life cycle estimates, and providing transparency when it comes to liability data.

So I look forward to hearing more from the Department today on its actions and proposals and, ultimately, however to progress on the cleanup of the waste at Hanford and other sites requires a safe, secure, and permanent storage location for the waste.

And while this hearing should help get the cleanup efforts on a better track, Yucca Mountain is the cornerstone of the Nation's nuclear waste disposal and we need to move forward again, this time in this Congress, again in a bipartisan way, to improve the performance and effectiveness of cleanup and build a durable solution at Yucca.

This committee led on that effort under John Shimkus' leadership on the subcommittee and we passed the bill with 340 votes in the House. It is time to do it again and get the Senate to put it on the President's desk.

With that, Madam Chair, I yield back.

[The prepared statement of Mr. Walden follows:]

PREPARED STATEMENT OF HON. GREG WALDEN

Thank you, Chair DeGette. I appreciate you holding this hearing about the growing environmental liabilities associated with the U.S. Department of Energy's (DOE) nuclear waste cleanup.

This subject is of enormous importance to the Nation, and especially for local communities near contaminated sites, such as those at Hanford. We know all too well the issues that the Office of Environmental Management (EM) handles. The threat of potential environmental disaster and pollution persists in the minds of Oregonians and people throughout the Pacific Northwest. With 56 million gallons of Cold War era toxic nuclear waste sitting in corroding and leaking metal tanks, some of which were built to last just 20 years, Hanford is a worrisome neighbor and the Federal Government has not always been a trusted and reliable partner.

It also presents a difficult and complex challenge with a scale that's difficult to appreciate on paper. The Hanford site itself is nearly half the size of Rhode Island. In August of 2017, Secretary Perry and I went out to Hanford to get a firsthand look at the work being done to clean up the site. There is plenty left to do, but the end goal is to immobilize high-level nuclear waste into a glass material similar to this puck. This difficult work must be done as safely and efficiently as possible in a cost-effective way.

Cleaning up the waste at Hanford and at other sites across the Nation is a top priority. Under my leadership last Congress, we made a bipartisan request that the U.S. Government Accountability Office (GAO) examine the issue of performance management at the cleanup sites under the control of DOE Environmental Management-or EM.

EM is responsible for remediating the environmental contamination attributable to the Nation's nuclear weapons program, including the cleanup of liquid nuclear tank waste, stabilization, and packaging of nuclear materials, and decommissioning and decontaminating closed nuclear facilities. The financial costs of DOE's environmental liabilities are high—in total, DOE's EM liabilities are $377 billion, with DOE's total environmental liabilities reaching almost $500 billion. These numbers increased by $110 billion between fiscal year 2017 and 2018 due in large part to DOE recalculating the baseline costs for the Hanford site.

A few months ago, GAO issued our requested report, and found accountability to be lacking in key areas such as whether cleanup performance is cost-efficient and effective. According to the GAO, DOE and EM have not established classification requirements such that most cleanup activities would be treated as projects, subject to more stringent requirements, instead of operational activities. As a result, there are greater risks to cost overruns and schedule delays.

DOE spends roughly $6 billion a year on cleanup, but we don't always have clear visibility into what that means in terms of completing the mission. EM reports on the amount of nuclear cleanup completed each year, but for that amount of money spent, how many radioactive tanks should have been treated? How much soil and water should have been remediated? We don't have clear answers to these questions because, according to GAO, EM's performance measures for operations activities do not always provide a clear and reliable picture.

Although EM has undertaken several studies to address the growing costs in its cleanup program, GAO found that EM had not conducted a formal root cause analysis to identify the causes for the growth in its environmental liabilities.

These issues and others have been acknowledged by the Department, and EM has proposed or is exploring changes to allow for quicker and more cost-effective cleanup of the remaining sites. EM is pursuing an end-state contracting model for several sites, and using a multifaceted approach to addressing liabilities including the use of current cleanup technologies for waste composition and risk; updating key project lifecycle estimates; and providing transparency when it comes to liability data. I look forward to hearing more from the Department today on its actions and proposals.

Ultimately, however, true progress on the cleanup of the waste at Hanford and other sites requires a safe, secure, and permanent storage location for the waste. While this hearing should help get the cleanup efforts on a better track, Yucca Mountain is the cornerstone of the Nation's nuclear waste disposal. We need to move forward in a bipartisan way to greatly improve the performance and effectiveness of the cleanup and build a durable solution at Yucca.

I welcome today's witnesses and thank them for their attention to these important issues.

Ms. DEGETTE. The gentleman yields back, and I thank him.

And I agree. I think it is time for another trip out to look at Hanford and Yucca. I was there many, many years ago with Joe Barton when he was chair of this committee. So we should do it.

I ask unanimous consent that the Members' written opening statements be made part of the record, and without objection, so ordered.

I would now like to introduce our panel of witnesses for today's hearing: the Honorable Anne White, who is the Assistant Secretary, Office of Environmental Management, Department of Energy; David C. Trimble, Director, Natural Resources and Environ-

ment of the Government Accountability Office. Thank you both so much for being here today.

And you are aware that the committee is holding an investigative hearing and when doing so has the practice of taking testimony under oath.

Do either of you have any objections to testifying under oath?

Ms. WHITE. No.

Mr. TRIMBLE. No.

Ms. DEGETTE. Let the record reflect the witnesses have responded no. The Chair then advises you that under the rules of the House and the rules of the committee you are entitled to be accompanied by counsel.

Do either of you desire to be accompanied by counsel during your testimony today?

Ms. WHITE. No.

Mr. TRIMBLE. No.

Ms. DEGETTE. Let the record reflect the witnesses have responded no. If you would, please rise and raise your right hand so you may be sworn in.

[Witnesses sworn.]

Ms. DEGETTE. You may be seated. Let the record reflect that the witnesses have responded affirmatively, and you are now under oath and subject to the penalties set forth in Title 18, Section 1001 of the United States Code.

The Chair will now recognize the witnesses for a 5-minute summary of their written statements. In front of you is your microphone, that you have already found, and a series of lights.

The light will turn yellow when you have a minute left and then red to indicate your time has come to an end.

Ms. White, you are now recognized for 5 minutes.

STATEMENTS OF ANNE WHITE, ASSISTANT SECRETARY, OFFICE OF ENVIRONMENTAL MANAGEMENT, DEPARTMENT OF ENERGY, AND DAVID C. TRIMBLE, DIRECTOR, NATURAL RESOURCES AND ENVIRONMENT, GOVERNMENT ACCOUNTABILITY OFFICE

STATEMENT OF ANNE WHITE

Ms. WHITE. Thank you.

Chair DeGette, Ranking Member Guthrie, and members of the subcommittee, thank you for the opportunity to be here. I appreciate the time your staff has spent with me over the past few months.

We have had very constructive meetings. I look forward to discussing efforts underway to reduce the liabilities and enhance contracting approaches to propel the cleanup mission towards safe completion sooner and at a responsible cost to the American taxpayer.

Madam Chair, the Government's nuclear defense programs played an integral role in ending World War II and the Cold War. Our Nation was unified in its effort to end those wars.

That kind of resolve and unity of purpose is needed today as we address the resulting environmental legacy. From day one, Secretary Perry has made the cleanup mission a priority.

EM has completed cleanup at major sites over the past 20 years and made significant progress at the remaining 16 sites. Rocky Flats, Fernald, and Mound were completed. Six of the nine reactors along the Columbia River at Hanford were cocooned.

We treated 10 million gallons of tank waste and have poured 4,180 canisters of high-level waste glass at Savannah River Site. We remain committed to completing cleanup so that our host communities can envision a vibrant future with enduring and diverse economic opportunities.

The Department also acknowledges that EM is the largest program of its kind in the world and represents one of the Government's top financial liabilities.

The liability increases that are of concern to me and to this subcommittee did not accrue overnight. But understanding some of the causes enables EM to offer solutions now.

We can continue to live in the past or we can choose to understand the past, make course corrections, and move forward with collaborative solutions. It is time to choose the latter.

Our knowledge and technology have matured significantly over the years. We need to employ cleanup technologies that are reflective of the latest knowledge in the areas of waste composition and risks, lessons learned over decades of cleanup, and attainable end states to drive down costs of these liabilities.

Those efforts start with truly getting to the bottom of what we are dealing with using accurate up-to-date information. EM just underwent an independent review of the remaining cleanup of the entire Hanford site and it is providing a new level of transparency when it comes to liability data.

Having been on the contractor side of this program for 25 years I consider myself informed on the program's successes and its failures. I have become well acquainted with the numerous GAO reports that have provided EM with recommendations.

Implementing the changes recommended in those reports is part of the challenge I agreed to take on once confirmed and I reiterate my pledge to personally review GAO recommendations and continue with development and refinement of plans that address those recommendations.

I have established a team of experienced contract and project management experts across the DOE complex to undertake the transformational initiatives required to fulfil EM's mission.

EM is making real progress in implementing a number of GAO recommendations. We are implementing a 10-year strategic planning options analysis to evaluate current approaches and other recently identified opportunities that could reduce risk and life cycle costs.

With billions of dollars in procurements coming up at some of our largest sites over the next few years, EM has a significant opportunity to improve procurement processes, contract management, and oversight performance.

One of our most transformative initiatives is a new end-state contracting model that will greatly enhance contract management. It will provide for better requirements definition, reduce risk by reducing task order time horizons and improve contract incentives to drive performance.

Today, we face some important decisions about the trajectory of the cleanup mission. I view this as an opportunity to employ the most successful and sustainable EM program.

Madam Chair, EM's greatest successes have historically been achieved through hard work of our leaders determined to get things done. I appreciate the support Congress has shown for the cleanup mission and I look forward to working with the subcommittee to deliver cost-conscious site completions that protect the public, worker safety, and the environment.

Thank you.

[The prepared statement of Ms. White follows:]

Written Statement of Anne Marie White
Assistant Secretary for Environmental Management
Before the
Subcommittee on Oversight and Investigations
House Energy and Commerce
United States House of Representatives

May 1, 2019

Chairwoman DeGette, Ranking Member Guthrie, and members of the Subcommittee, thank you for the opportunity to discuss the Department of Energy's Environmental Management (EM) program. I am looking forward to discussing our efforts to reduce environmental liabilities, enhance our contracting approaches, and propel the cleanup mission towards safe completion sooner and at a responsible cost to the American taxpayer.

EM's greatest successes have historically been achieved through the hard work and dedication of leaders determined to get big things done. Thank you for extending your staff's time over the last two months to have productive meetings discussing challenges, solutions, and productive partnerships.

The government's nuclear weapons and nuclear energy research programs made significant contributions to our Nation's defense for decades and played an integral role in ending World War II and the Cold War. Our Nation was unified in seeing the resolution of those wars. We find ourselves today needing that same kind of unity to address the nuclear programs' resulting environmental legacy. That legacy includes challenges to complete the final disposition of radioactive wastes; the management of spent nuclear fuel and special nuclear material; the cleanup of contaminated soil and water; and the decontamination and decommissioning of thousands of excess facilities.

From day one, the Secretary of Energy has made the environmental cleanup mission a key priority for the Department of Energy. The Department recognizes the sacrifices the people and communities near these sites made and remains committed to cleaning up these sites to protect human health and the environment. Additionally, the Department acknowledges that EM is the largest program of its kind and represents one of the federal government's top financial liabilities. As such, we take seriously our commitment to Congress and to the American taxpayer to drive innovation and contractor performance to address these liabilities in a safe, efficient, and cost-conscious manner.

The increasing liabilities from EM are of concern to this Subcommittee and to the Department as well. These liabilities did not accrue overnight, but understanding some of the causes enables EM to offer solutions now. It is time to modernize our approach to EM's cleanup mission. The Department and EM's knowledge and technology have matured significantly over the years. I believe the key to addressing liabilities is multi-faceted: use current cleanup technologies for waste composition and risk; apply lessons learned over decades of cleanup; establish end states to reduce costs; and update key project lifecycle estimates and provide a new level of transparency when it comes to liability data.

EM directly employs over 20,000 Federal and contractor employees. Having been on the contractor side of this program for 25 years, I consider myself informed on the program's successes and its failures, and have become acquainted with the numerous GAO reports that have provided EM recommendations. Implementing the changes recommended in those reports is part of the challenge I agreed to take on once confirmed. I reiterate my pledge to personally review GAO recommendations and develop a plan to address the identified concerns.

As part of this plan, I have established a team of experienced contract and project management experts, both federal and contractor, from across the DOE complex to undertake the required transformational initiatives to fulfill EM's mission.

Additionally, EM is making real progress in implementing a number of GAO recommendations. For example, in their January 2019 report on the Department's growing environmental liabilities, as well as its High-Risk List Report, GAO cited the lack of a program-wide strategy that directs available resources to human health and environmental risks. EM is implementing a 10-year strategic planning options analysis. It will evaluate current approaches to cleanup and identify opportunities that could reduce risk and lifecycle costs using more efficient and innovative approaches. The analysis will consider alternative risk-based approaches across sites with the goal of reducing the environmental liability. It will also include a discussion of the internal and external factors affecting the cleanup program.

As part of efforts to improve cost estimates pertaining to cleanup, EM conducted an Independent Cost Review of the remaining cleanup of the entire Hanford Site in late 2018 to ensure that the cost estimates for the cleanup were bounding and include all potential risks of unknowns that could impact the costs and schedule.

With billions of dollars in procurements coming up at some of our largest sites over the next few years, EM has a significant opportunity to improve our procurement processes, contract management, and oversight performance. In these areas of contract reform, one of our most transformative initiatives is a new end-state contracting model that I expect will greatly enhance contract management. It will provide for better requirements definition, reduce risks by reducing task order (work) time-horizons, and improve contract incentives to drive cost and schedule performance. In March, the Department released Final Requests for Proposal for the first two contracts that are representative of this new EM contract model and proposals are currently being evaluated.

Madam Chairwoman, this new contract approach has the potential to yield meaningful results. Based on the experience and lessons learned in the last three decades of cleanup and advances in technology and approaches, there are opportunities to streamline and accelerate cleanup by pursuing strategies that are more efficient, cost-effective, and technically sound, while reducing risk to human health and the environment.

We have opportunities to utilize tools available to work together on removing barriers to efficient cleanup. These could include, aligning future land-use to cleanup standards and streamlining our regulatory frameworks for the cleanup of our sites. Moreover, the Department is in the process of evaluating the interpretation of the statutory definition of high-level radioactive waste,

consistent with, and informed by, a comprehensive understanding and experience in the safe and technically sound disposal of many types of radioactive wastes.

Today we face some uncomfortable facts regarding environmental liabilities that have been building up over time, and decisions about the trajectory of the EM program.

The Department views this as an opportunity. The most successful EM is a program reflective of the latest scientific knowledge about waste, using the most up-to-date cost and schedule estimates, and that incorporates lessons learned from the last 30 years of cleanup.

Madam Chairwoman, EM is focused on delivering cost-conscious site completions that protect the public, worker safety, and the environment. The Department appreciates the support Congress has shown for the cleanup mission and looks forward to working with the Committee as we cleanup our nuclear waste legacy and reduce the environmental liability for the American taxpayer.

Ms. DEGETTE. Thank you so much.

Now it is time for Mr. Trimble to testify, 5 minutes. You are recognized.

STATEMENT OF DAVID C. TRIMBLE

Mr. TRIMBLE. Chair DeGette, Ranking Member Guthrie, and members of the subcommittee, my testimony today will focus on DOE's large and growing environmental liability and GAO's recent work on longstanding management weaknesses at EM that have limited the effectiveness of the cleanup program.

What is environmental liability? It is the estimated cost to clean up contamination from Government activities. This is challenging for DOE and EM as they are responsible for cleaning up radioactive and hazardous waste at sites across the country generated during weapons production from the Manhattan Project through the Cold War.

This waste poses risks to both the public and the environment. EM must address contaminated soil and ground water, decommissioned contaminated buildings, and construct and operate facilities to treat millions of gallons of radioactive waste.

These contaminated sites are often located near large rivers and ground water sources for nearby communities. Why does this issue deserve your attention now?

In short, DOE's environmental liabilities are huge and have now reached a half a trillion dollars. Further, environmental liabilities are now the Federal Government's third-highest liability and DOE accounts for 85 percent of the total.

In addition, this problem is getting worse as the growth and the liability is vastly outpacing the EM's ability to reduce it. As has been noted, over the last 7 years, EM spent $48 billion on cleanup. But the liability did not decrease.

Instead, it increased by $214 billion. Further, we noted in our high risk report that DOE's liability numbers likely understate the true liability and will continue to grow.

EM receives about $7 billion a year in funding each year and actually has fewer sites to clean up than it did in 2011. So why the runaway cost growth?

Notably, over 40 percent of EM's budget does not go to cleanup activities but, rather, simply to maintain its sites. At several locations these overhead costs consume over half of the site's budget.

Most concerning, though, is that EM has not done a root cause analysis to understand the factors driving this cost growth. GAO's recent work has focused on management of the EM cleanup program. Here are some of our key findings.

EM does not have a nationwide cleanup strategy and relies primarily on individual sites to establish their own priorities, which do not always balance overall risks and costs.

EM does not manage its work as an integrated program. A recent work compared DOE's cleanup policy to nine leading program management practices and found EM did not meet any of them.

These practices include basic tools like having a program management plan, a schedule, and measuring program performance. We also found that EM does not follow most project management practices.

Specifically, EM's policy did not meet nine of 12 leading practices reexamined. These practices include such things as identifying root causes of problems and developing a corrective action plan to address cost overruns.

EM's shortcomings in project management are especially notable because of the project other parts of DOE have made in this area. Why the disconnect? EM does not classify the vast majority of its work as projects. This approach has allowed EM to avoid DOE's stricter requirements for project management.

Our work has also found that the data EM uses to track and report on its cleanup work has significant limitations. This is important because bad performance data is similar to driving a car without working gauges on your dashboard.

Notably, cleanup milestones for EM sites across the country are routinely changed when in danger of being missed. But these changes are not tracked or recorded.

So why have the problems of EM's cleanup mission not received more attention? One reason is that EM has not consistently reported to Congress on its cleanup efforts.

Under the 2011 defense bill, EM must annually report estimated cost and funding needs for future cleanup activities. EM's 2017 submission to Congress was only the second one since 2011, and it did not include a detailed list of planned cleanup actions or required funding.

GAO is encouraged by the actions EM is reportedly planning to address our recommendations. Let me note that three of the criteria GAO uses in assessing progress in Federal high risk are particularly relevant to EM at this time.

First, EM needs a comprehensive plan for the changes that need that be made. Second, EM needs to understand and address the staff skills needed to make and sustain these changes. And third, EM will need to monitor its progress against its plan to adapt and adjust as necessary.

In closing, the actions EM needs to take involve significant cultural change at DOE headquarters, the sites, and the contractors. The scope of this effort will require sustained support from senior DOE leadership, Congress, as well as key stakeholders.

Thank you again for the committee's commitment to oversight of this important issue.

[The prepared statement of Mr. Trimble follows:]

United States Government Accountability Office

GAO

Testimony

Before the Subcommittee on Oversight and Investigations, Committee on Energy and Commerce, House of Representatives

For Release on Delivery
Expected at 10:30 a.m. ET
Wednesday, May 1, 2019

DEPARTMENT OF ENERGY

Environmental Liability Continues to Grow, and Significant Management Challenges Remain for Cleanup Efforts

Statement of David C. Trimble, Director
Natural Resources and the Environment

GAO Highlights

[redacted]

Why GAO Did This Study

[redacted]

What GAO Recommends

[redacted]

[redacted]

May 1, 2019

DEPARTMENT OF ENERGY

Environmental Liability Continues to Grow, and Significant Management Challenges Remain for Cleanup Efforts

What GAO Found

In fiscal year 2018, the Department of Energy's (DOE) estimated environmental liability—that is, its estimated probable costs of future environmental cleanup—was $494 billion. Of this amount, DOE's Office of Environmental Management (EM)—which is responsible for most of DOE's cleanup activities—accounted for $377 billion. EM's portion of the liability reflects cleanup estimates for 16 sites across the United States. Two of these, the Hanford site in Washington and Savannah River site in South Carolina, have most of EM's nuclear waste stored in tanks, which is particularly costly and complicated to treat. EM's environmental liability grew by $214 billion in fiscal years 2011 through 2018, even though EM spent over $48 billion on cleanup. GAO found that this liability may continue to grow for several reasons:

- EM's environmental liability does not include the costs of all future cleanup responsibilities. For example, as of April 2018, DOE and its contractor had not negotiated a cost for completing a large waste treatment facility, called the Waste Treatment and Immobilization Plant, at the Hanford site.
- About 30 to 60 percent of EM's cleanup budget goes toward recurring activities necessary to maintain the sites—such as physical security and infrastructure maintenance—rather than toward reducing EM's environmental liability.
- EM officials have not analyzed the root causes of the cost growth.

GAO found that EM has not resolved long-standing management challenges. First, EM does not have a program-wide cleanup strategy and relies primarily on individual sites to locally negotiate cleanup activities and establish priorities, which does not always balance overall risks and costs. For example, the Hanford and Savannah River sites plan to treat similar radioactive tank waste differently, with Hanford's efforts possibly costing tens of billions more than Savannah River's. In addition, EM manages most of its cleanup work as operations activities, under less stringent requirements than other environmental remediation projects. For example, operations activities are not subject to independent oversight outside EM, and therefore DOE cannot hold EM accountable for its performance.

GAO also found that EM has not consistently reported to Congress on its cleanup efforts as required, and the information EM has reported has been incomplete or inaccurate. Under the National Defense Authorization Act for Fiscal Year 2011, EM must annually report estimated costs and detailed funding needs for future cleanup activities. EM's fiscal year 2017 submission to Congress was only the second one since fiscal year 2011, and it did not include a detailed list of upcoming activities or funding needed to meet those activities. Finally, GAO found that information provided in EM's fiscal year 2016 to 2018 budget requests did not reflect the funding some DOE officials said it needs to meet its milestones. Budget requests for those years were for at least $1.5 billion less than the $8 billion a senior EM official said EM anticipated was needed annually to meet milestones called for in legally enforceable agreements.

Chair DeGette, Ranking Member Guthrie, and Members of the Subcommittee:

I am pleased to be here today to discuss highlights of our recent work related to the Department of Energy's (DOE) cleanup mission. DOE has the difficult task of cleaning up hazardous and radioactive waste at sites across the country from energy research and nuclear weapons production dating back to World War II and the Cold War. DOE's cleanup mission includes remediating contaminated soil and groundwater; deactivating and decommissioning contaminated buildings; and designing, constructing, and operating facilities to treat millions of gallons of radioactive waste. DOE's Office of Environmental Management (EM) is responsible for most of the department's cleanup activities.[1] EM's estimate of the probable costs for the future cleanup of this waste is known as its environmental and disposal liability (or environmental liability).[2]

In February 2017, we added the federal government's environmental liabilities to our list of agencies and program areas that are at high risk for fraud, waste, abuse, and mismanagement or that are most in need of transformation.[3] In our 2017 High-Risk Series, we noted that DOE's fiscal year 2016 environmental liability constituted the largest share—over 80 percent—of the federal government's total environmental liability and was likely to increase. Further, we noted that DOE did not have complete information about its cleanup responsibilities and that inconsistent approaches to making cleanup decisions prevented DOE from fully and cost-effectively addressing its environmental liability in ways that reduce the risks to human health and the environment. We stated that future progress in addressing the federal government's environmental liability depends on, among other things, how effectively DOE and other federal

[1]In the fall of 1989, DOE established the Office of Environmental Restoration and Waste Management, which was later renamed the Office of Environmental Management.

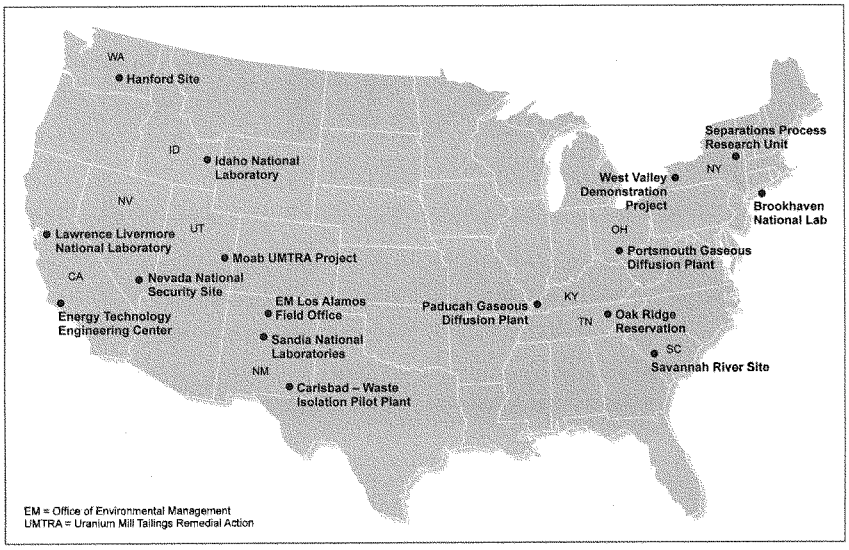
[2]The federal government is financially liable for cleaning up areas where federal activities have contaminated the environment. Various federal laws, agreements with states, and court decisions require the federal government to clean up environmental hazards at federal sites and facilities—such as nuclear weapons production facilities and military installations. Federal accounting standards require agencies responsible for cleaning up contamination to estimate future cleanup and waste disposal costs and to report such costs as environmental liabilities in their annual financial statements.

[3]GAO, *High-Risk Series: Progress on Many High-Risk Areas, While Substantial Efforts Needed on Others*, GAO-17-317 (Washington, D.C.: Feb. 15, 2017).

departments and agencies set priorities under increasingly restrictive budgets to balance risks and costs when selecting cleanup remedies.

According to EM documents, the agency's cleanup responsibilities generally include (1) storing and treating radioactive and hazardous waste; (2) treating contaminated soil and groundwater; (3) preparing and disposing of spent nuclear fuel and highly enriched uranium materials; and (4) deactivating and decommissioning excess facilities, some of which are highly contaminated. EM has spent about $177 billion on cleanup work since it began its cleanup program in 1989. It has completed cleanup at 91 DOE sites, but cleanup work remains at 16 sites (see fig. 1). Some of these remaining sites are the most challenging to address and involve designing, building, starting up, and operating complex nuclear facilities. These facilities include the Waste Treatment and Immobilization Plant (WTP) in Hanford, Washington; the Integrated Waste Treatment Unit at Idaho National Laboratory; and the Salt Waste Processing Facility at the Savannah River site in South Carolina—each of which is over budget and behind schedule.

Figure 1: Department of Energy Office of Environmental Management Sites Where Cleanup Work Remains



Sources: GAO analysis of Department of Energy information; Map Resources (map). | GAO-19-460T

This statement summarizes highlights of our recent work addressing (1) the status of DOE's environmental liability, (2) management challenges at EM, and (3) EM's reporting on its cleanup efforts.

My testimony is based on five reports issued from January to March 2019 related to EM's cleanup efforts.[4] For this body of work, we reviewed agency financial, program, and policy documents; visited cleanup sites; and interviewed DOE and industry officials, among other things. Our reports each include a detailed description of our scope and methodology. In addition, we updated information on EM's annual spending and reported environmental liability with information from DOE's fiscal year 2018 financial statement, which was published in December 2018, and DOE's fiscal year 2020 congressional budget request.[5] We provided a draft of the new information contained in this testimony to DOE for technical review and addressed its views in the body of our statement where appropriate. All work on which this testimony is based was performed in accordance with generally accepted government auditing standards. Those standards require that we plan and perform the audit to obtain sufficient, appropriate evidence to provide a reasonable basis for our findings and conclusions based on our audit objectives. We believe that the evidence obtained provides a reasonable basis for our findings and conclusions based on our audit objectives.

[4]GAO, *Department of Energy Contracting: Actions Needed to Strengthen Subcontract Oversight*, GAO-19-107 (Washington, D.C.: Mar. 12, 2019); *High-Risk Series: Substantial Efforts Needed to Achieve Greater Progress on High-Risk Areas*, GAO-19-157SP (Washington, D.C.: Mar. 6, 2019); *Nuclear Waste Cleanup: DOE Could Improve Program and Project Management by Better Classifying Work and Following Leading Practices*, GAO-19-223 (Washington, D.C.: Feb. 19, 2019); *Nuclear Waste: DOE Should Take Actions to Improve Oversight of Cleanup Milestones*, GAO-19-207 (Washington, D.C.: Feb. 14, 2019); and *Department of Energy: Program-Wide Strategy and Better Reporting Needed to Address Growing Environmental Cleanup Liability*, GAO-19-28 (Washington, D.C.: Jan. 29, 2019).

[5]Department of Energy, *Fiscal Year 2018 Agency Financial Report*, DOE/CF-0149 (Washington, D.C.: Dec. 2018); *Department of Energy FY 2020 Congressional Budget Request, Environmental Management*, DOE/CF-0155 (Washington, D.C.: Mar. 2019).

DOE's Estimated Environmental Liability Was $494 Billion in Fiscal Year 2018 and May Continue to Grow

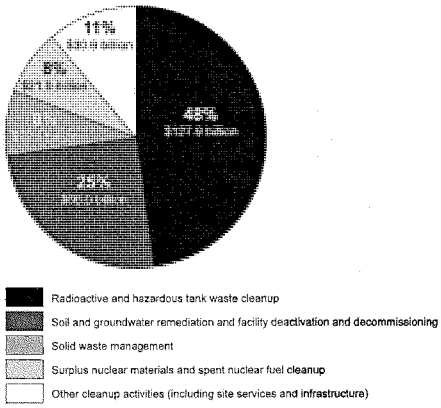
In its fiscal year 2018 financial statement, DOE reported an estimated environmental liability of $494 billion. The majority of this liability was for cleanup work overseen by EM. We reported in January 2019 that in recent years, EM's environmental liability has grown annually at a level that has outpaced the department's annual spending on cleanup activities, and its liability may continue to grow.[6]

DOE Estimated Its Environmental Liability Was $494 Billion in Fiscal Year 2018

In its fiscal year 2018 financial statement, DOE reported its estimated environmental liability at $494 billion. In the financial statement, EM accounted for $377 billion (over 75 percent) of DOE's total liability. In developing its environmental liability estimate, EM estimates the costs of storing, treating, or disposing of a variety of waste types. Storing and treating radioactive tank waste account for the largest portion of EM's costs. For example, in January 2019 we reported that, in fiscal year 2017 (the most recent year for which these data were available at the time of our review), EM's responsibilities to store and treat radioactive waste stored in underground tanks accounted for nearly half of EM's total environmental liability, and its responsibilities for addressing contaminated facilities and remediating soil and groundwater contamination accounted for about one-quarter. Figure 2 shows the percentage and dollar amount of EM's environmental liability by cleanup activity for fiscal year 2017.

[6]GAO-19-28.

Figure 2: Office of Environmental Management's Portion of the Department of Energy's Fiscal Year 2017 Estimated Environmental Liability by Cleanup Activity



Source: GAO analysis of Department of Energy information. | GAO-19-460T

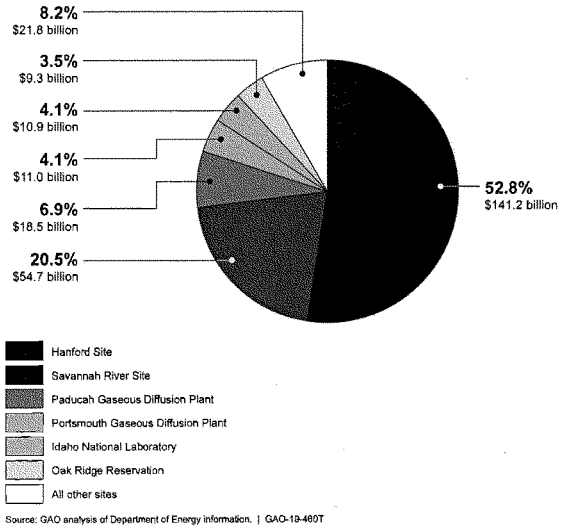
Note: Amounts are based on the Department of Energy's (DOE) fiscal year 2017 financial statement. Because not all of DOE's future cleanup costs are accounted for and because some of DOE's current estimates for cleanup work are likely understated, this estimated liability is likely an underestimate.

In January 2019, we also found that, of the 16 sites across the United States at which EM has cleanup responsibilities, two sites accounted for more than 70 percent of EM's environmental liability in fiscal year 2017: the Hanford site and the Savannah River site (see fig. 3).[7] These sites also include the majority of EM's radioactive tank waste and the majority of radioactive contamination, which is particularly costly and complicated to treat. The Hanford site has 177 tanks containing 55 million gallons of waste, and the Savannah River site has 43 tanks containing 36 million gallons of waste.[8]

[7]GAO-19-28.

[8]As we reported in January 2019, as of the end of 2017, the Savannah River site had treated about 7 million gallons of tank waste, and the Hanford site had treated 3 gallons under a demonstration project.

Figure 3: Department of Energy Office of Environmental Management's Fiscal Year 2017 Estimated Environmental Liability, by Cleanup Site



Source: GAO analysis of Department of Energy information. | GAO-19-460T

Note: Amounts are based on the Department of Energy's fiscal year 2017 financial statement.

EM's Environmental Liability May Continue to Grow

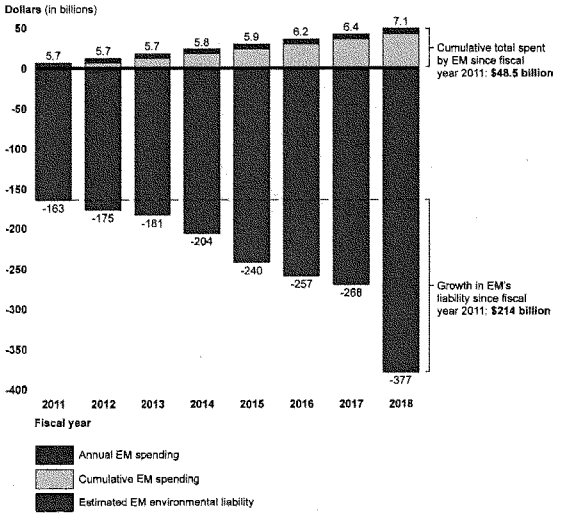
We reported in January 2019 that in recent years, EM's environmental liability has grown annually at a level that has outpaced the department's annual spending on cleanup activities.[9] This growth has occurred at the same time as the number of contaminated sites has decreased.[10] In fiscal years 2011 through 2018, EM spent over $48 billion, primarily to address radioactive tank waste as well as treat and dispose of other nuclear and

[9]GAO-19-28.

[10]According to DOE, EM last closed a site in 2014, and prior to that it had last closed a site in 2011.

hazardous materials.[11] Nonetheless, since 2011, EM's environmental liability grew by $214 billion, from $163 billion to $377 billion, according to our analysis of DOE financial data and documents (see fig. 4).

Figure 4: Department of Energy Office of Environmental Management's (EM) Annual Spending and Estimated Environmental Liability, Fiscal Years 2011 through 2018



Source: GAO analysis of Department of Energy financial and budget data. | GAO-19-460T

Note: We updated the amounts in GAO-19-28 to include data from the Department of Energy's fiscal year 2018 financial statement. For this report, "spending" refers to appropriations.

[11]This amount included construction of the WTP at the Hanford site, which DOE plans to use for treating Hanford's tank waste. The WTP includes several waste treatment facilities, including one to vitrify Hanford's high-level waste and a facility to vitrify its low-activity waste.

EM's environmental liability may continue to grow because its currently estimated environmental liability does not include the costs of all cleanup activities for which the agency will likely be responsible in the future and because the cost of addressing some of EM's largest projects is still underestimated. First, not all of the cleanup activities EM must undertake are captured in the current liability because, according to federal accounting standards, only work that is probable and reasonably estimable is required to be reported in an agency's liability.[12] For example, EM has not yet developed a cleanup plan or cost estimate for the Nevada National Security site and, as a result, the cost of future cleanup of this site was not included in EM's reported environmental liability. The nearly 1,400-square-mile site has been used for hundreds of nuclear weapons tests since 1951. These activities have resulted in more than 45 million cubic feet of radioactive waste at the site, but the costs for the cleanup of this waste are excluded from EM's annually reported environmental liability. Second, the current cost associated with some of EM's cleanup efforts may be underestimated. For example, as of April 2018, EM and its contractor had still not negotiated a cost for completing the WTP—DOE's largest and most complex construction project.

Further, although EM typically spends about $6 billion per year on cleanup activities, a large amount of its cleanup budget does not support actual cleanup activities. Instead, this funding goes toward recurring activities necessary to maintain the sites rather than toward reducing the environmental liability. EM refers to these activities as "minimum safety" work. According to EM officials, examples of such work include physical security, health and radiation protection, or critical facility and infrastructure maintenance for safe conditions. These officials said that minimum safety work constitutes 30 to 60 percent of individual sites' budgets, for a total of at least $2.7 billion of EM's fiscal year 2018 budget, as we reported in February 2019.[13] The Assistant Secretary for EM noted in September 2018 that much of DOE's environmental liability is

[12]According to the Financial Accounting Standards Board, where the federal government is not legally responsible for environmental cleanup but acknowledges that it will assume financial responsibility for the cleanup, a liability is recorded for unpaid amounts due, not necessarily the full cost of cleanup. Also, where the government is legally responsible for environmental cleanup but there is no known technology to clean up a particular site, then known costs for which the entity is responsible, such as a remedial investigation, feasibility studies, and costs to contain the contamination, are recorded as a liability. Further, federal agencies' environmental liability estimates do not include cost estimates for work for which reasonable estimates cannot currently be generated.

[13]GAO-19-223.

associated with managing minimum safety work and that significant potential cost savings could result from reducing minimum safety work. Accordingly, she stated that EM planned an initiative in fiscal year 2019 to examine how EM can reduce this work.

EM has undertaken several ad hoc studies and initiatives to address the growing costs in its cleanup program. However, EM has not conducted a formal root cause analysis to identify the causes for the growth in its environmental liabilities. Specifically, EM headquarters officials we interviewed said they were aware of the increases to the environmental liability from year to year, as well as the areas in which the liability changed; however, they said they had not done a detailed analysis of the root causes of the growth. A leading practice for program management is monitoring and controlling the program, which includes conducting root cause analyses and developing corrective action plans. However, in February 2019, we found that EM's cleanup policy does not follow this leading practice because it does not include any such requirements.[14] We recommended that EM review and revise its policy to include program management leading practices in its requirements, including for monitoring and controlling the program. DOE agreed with our recommendation and stated that it plans to revise its policy.

EM Has Not Resolved Management Challenges in Its Cleanup Program

EM has not resolved long standing management challenges that affect its cleanup program and contracts. In March 2019, we issued our 2019 High-Risk Series, which included updates related to DOE's environmental liability and its contract management.[15] While officials at EM have taken some steps toward management improvements aimed at reducing its environmental liabilities, we found that EM has not demonstrated progress toward resolving these challenges. We have identified several unresolved issues including the following:

- EM does not have a program-wide cleanup strategy. We reported in January 2019 that EM relies primarily on individual sites to locally negotiate cleanup activities and establish priorities.[16] Our analysis of DOE documents identified instances of decisions involving billions of dollars where such an approach did not always balance overall risks

[14]GAO-19-223.

[15]GAO-19-157SP.

[16]GAO-19-28.

and costs. For example, we reiterated what we found in May 2017 that two EM sites had plans to treat similar radioactive tank waste differently, and the estimated costs for treating the waste at one site—Hanford—may be tens of billions more than those at the other site—Savannah River.[17] In addition, EM sites generally do not consider other sites' risks and priorities when making cleanup decisions. We reported in January 2019 that this approach is not consistent with recommendations we and others have made over the last 2 decades that EM develop national priorities to balance risks and costs across and within its sites.[18] Moreover, EM has not developed a program-wide strategy that sets such priorities and describes how EM will address its greatest risks. Instead, according to agency officials, it continues to prioritize and fund cleanup activities by individual site. We recommended in January 2019 that EM develop a program-wide strategy that outlines how EM will direct available resources to address human health and environmental risks across and within sites. DOE agreed with our recommendation and has since said it is working toward this goal.

- EM manages most of its cleanup work as operations activities, under less stringent requirements than capital asset projects.[19] In February 2019, we reported that EM manages its cleanup work under different requirements, depending on whether it classifies the work as a capital asset project or an operations activity.[20] EM currently manages most of its work as operations activities. In its fiscal year 2019 budget, operations activities accounted for 77 percent of EM's budget (about

[17]GAO, *Nuclear Waste: Opportunities Exist to Reduce Risks and Costs by Evaluating Different Waste Treatment Approaches at Hanford*, GAO-17-306 (Washington, D.C.: May 3, 2017).

[18]GAO-19-28.

[19]EM divides its cleanup work into capital asset projects and operations activities. According to DOE's order governing the management of capital asset projects—DOE Order 413.3B—a capital asset project is a project with defined start and end points required in the acquisition of capital assets; capital asset projects can also include the environmental remediation of land to make it useful. Capital asset projects—which involve the acquisition of land and other assets, including through environmental remediation—must undergo a series of reviews by independent experts and DOE's senior leadership. Operations activities are reoccurring facility or environmental operations as well as activities that are project-like, with defined start and end dates, according to EM policy. According to EM officials, EM manages its operations activities based on requirements listed in a cleanup policy that it issued in July 2017, and they are not reviewed outside of EM.

[20]GAO-19-223.

$5.5 billion), and capital asset projects accounted for 18 percent (about $1.3 billion). Operations activities have less stringent requirements. For example, unlike capital asset projects, operations activities are not required to go through a thorough upfront planning process to determine the scope of work to be completed. In addition, under EM cleanup requirements, operations activities are not subject to independent oversight by entities outside EM. As a result, DOE management does not have information on how EM manages operations activities and cannot hold EM accountable for cost-effective and timely completion of this cleanup work. Since 2015, experts in DOE's Office of Project Management have raised concerns that some operations activities, such as cleanup of radioactive tank waste, should be classified as capital asset projects. In February 2019, we recommended that EM work with DOE's Office of Project Management—which is responsible for providing DOE-wide leadership and assistance pertaining to project management—to establish requirements for classifying cleanup work as capital asset projects or operations activities and then work together to asses EM's ongoing operations activities to determine if they should be reclassified as capital asset projects based on the newly established requirements.[21] DOE generally agreed with our recommendations and committed to review and revise its requirements as appropriate.

- EM's cleanup policy does not follow program and project management leading practices. In February 2019, we also found that EM's 2017 cleanup policy, which outlines procedures that govern the EM program and its operations activities, does not follow most selected leading practices for program and project management.[22] Specifically, we found that EM's 2017 cleanup policy does not follow any of 9 selected program management leading practices related to scope, cost, schedule performance, and independent reviews. For example, the policy does not require the program management

[21]GAO-19-223.

[22]See GAO-19-223. We identified nine program management leading practices based on Project Management Institute's (PMI) standards related to a program's management of scope, cost, schedule performance, and to independent review of performance. The Program Management Institute, Inc., is a not-for-profit association that provides global standards for, among other things, project and program management. In addition, we identified 12 project management leading practices by first identifying leading practices listed in DOE's project management order—DOE's Order 413.3B—related to management of scope, cost, schedule performance, and to independent review of performance for projects, and then comparing these practices with PMI's standards for project management.

leading practice of monitoring and controlling the program, including conducting root cause analyses and developing corrective action plans. Further, EM's 2017 cleanup policy follows only 3 of 12 selected project management leading practices related to these areas. For example, EM's 2017 cleanup policy does not require any independent reviews of its operations activities by anybody outside of EM. We recommended that DOE review and revise EM's cleanup policy to include program and project management leading practices related to scope, cost, schedule performance, and independent reviews. DOE agreed with our recommendations.

In addition, broader DOE management challenges affect EM and have implications for EM's ability to effectively manage its cleanup work and begin reducing its environmental liability. EM, like DOE, executes its program activities primarily through the use of contracts. We have reported that about 90 percent of DOE's budget is spent on contractors that manage the laboratories and carry out DOE's programs. DOE's contract management, however, is one of the areas we have identified as posing a high-risk of fraud, waste, abuse, and mismanagement because of DOE's record of inadequate management and oversight of contractors. As a result, DOE's contract and project management has been on our High Risk List since 1990. Most recently, we found in March 2019 that DOE did not always ensure that contractors audited subcontractors' incurred costs as required in their contracts.[23] We identified more than $3.4 billion in subcontract costs incurred over a 10-year period that had not been audited as required, and some subcontracts remained unaudited or unassessed for more than 6 years. Completing audits in a timely manner is important because of a 6-year statute of limitations to recover unallowable costs that could be identified through such audits. We recommended that DOE develop procedures that require local offices to monitor contractors to ensure timely completion of required subcontract audits. DOE partially concurred with this recommendation and stated that it plans to review existing requirements and guidance and to consider the extent to which it requires monitoring of contractors' progress in

[23]See GAO-19-107. We looked at DOE's 24 largest prime contracts, which totaled $23.6 billion of DOE's fiscal year 2016 obligations, including contractors from the Office of Environmental Management. We also found in March 2017 that DOE did not have a department-wide invoice review policy or well-documented invoice review procedures at sites we examined. Consequently, DOE had no assurance that control activities at these sites were operating as intended. We recommended that DOE establish invoice review policies and procedures, and DOE generally agreed with this recommendation. See also GAO, *Department of Energy: Use of Leading Practices Could Help Manage the Risk of Fraud and Other Improper Payments*, GAO-17-235 (Washington, D.C.: Mar. 30, 2017).

completing required subcontract audits. As we noted in the March 2019 report, we believe that DOE's plans to further examine the issues raised in our report is a positive step toward resolving the issues; however, we continue to believe that the actions called for in our recommendations remain valid and that DOE could more efficiently resolve the issues by proceeding to implement those actions.

EM Has Not Reported Required Information about the Status of Its Cleanup

Accurate and reliable information on the status and progress in a program is essential for effective management and to ensure key stakeholders are provided the information they need to fulfill their oversight, advisory, and other essential roles. However, EM's performance measures for operations activities do not provide a clear picture of overall performance, and EM has not followed best practices in implementing its performance reporting systems. In addition, EM has historically not provided all of the statutorily required information about the status of its cleanup effort, and the information EM has reported has been incomplete or inaccurate. Finally, in its recent budget materials, EM did not include the funding it says it needs to meet its schedule cleanup milestones.

EM's Cleanup Performance Measures Do Not Provide a Clear Picture of Overall Performance

In February 2019, we found that EM's performance measures for operations activities—which constitute most of its cleanup activities—do not provide a clear picture of overall performance.[24] According to EM documentation and officials, EM uses three tools to measure the overall performance of operations activities: earned value management (EVM),[25] performance metrics,[26] and cleanup milestones.[27] We found problems with EM's use of each of these tools. Figure 5 summarizes our findings on these three performance measures and how they affect EM's ability to effectively manage the cleanup effort.

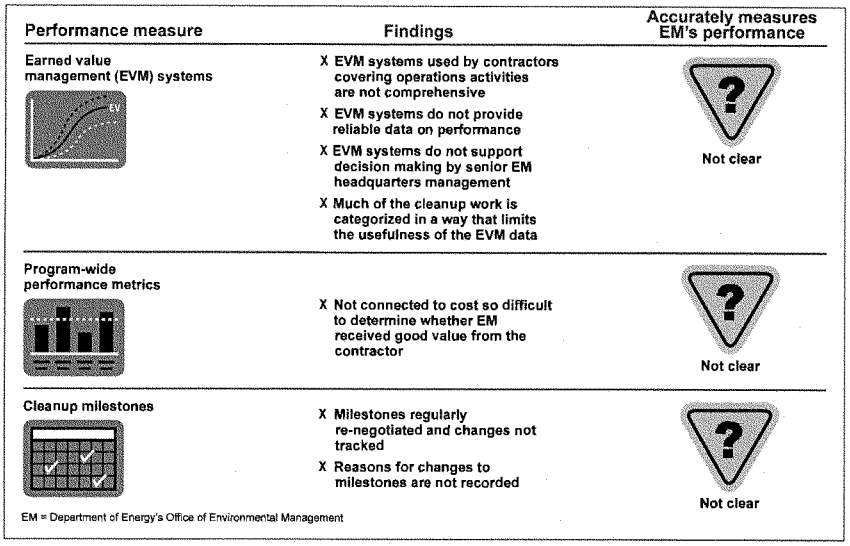
[24]GAO-19-223.

[25]EVM is an industry standard and is considered a best practice for conducting cost and schedule performance analysis for projects. It measures the value of work accomplished in a given period and compares it with the planned value of work scheduled for the period and with the actual cost of the work accomplished.

[26]EM developed 17 program-wide performance metrics for its cleanup work. The goal of these metrics is to measure progress toward completing the scope of work for the contract and the entire life of an operations activity. EM headquarters collects information from the sites monthly to measure how each activity has performed against a goal set at the beginning of each year. Examples of EM's performance metrics include (1) the cubic meters of transuranic waste being disposed of; (2) the number of containers of high-level waste packaged for final disposition, and (3) the number of closed radioactive liquid waste tanks.

[27]Cleanup milestones represent deadlines for various cleanup-related activities derived from agreements DOE enters into with its regulators, including the Environmental Protection Agency and states. EM also uses its commitment to meet site milestones as justification to request annual cleanup funding from Congress.

Figure 5: Summary of Findings on EM's Three Performance Measures



Source: GAO analysis of Department of Energy information. | GAO-19-460T

First, we found in February 2019 that EM does not always ensure that its EVM data are comprehensive or reliable.[28] EVM measures the value of work accomplished in a given period and compares it with the planned value of work scheduled for the period and with the actual cost of the work accomplished. EM relies primarily on EVM data to measure the overall performance of its operations activities. EM relies on contractors' EVM systems to measure the performance of its contractors' operations activities. We reviewed all 20 EM contracts covering operations activities

[28]GAO-19-223.

and found that EM requires its contractors to maintain EVM systems for 17 of all 20 contracts. We also found that EM paid its contractors to maintain these systems and provide EVM reports to EM. However, we found that EM has not followed best practices to ensure that these systems are (1) comprehensive, (2) provide reliable data, and (3) are used by EM leadership for decision-making—which are the three characteristics of a reliable EVM system. For example, only about half of the EVM systems met the best practices for conducting integrated baseline reviews and performing ongoing surveillance. Among those, many of the reviews were not rigorous enough to ensure that the performance measurement baseline captured all of the work. We found that EM officials were not performing thorough surveillance reviews to ensure that EVM systems were in alignment with EVM guidelines and that the data being reported by the EVM systems were reliable. In addition, the EVM data for contracts covering operations activities contained numerous, unexplained anomalies in all the months we reviewed, including missing or negative values for some of the completed work to date.[29] Even though EM requires most of its contractors for operations activities to maintain EVM systems and pays them for doing so, EM's 2017 cleanup policy generally does not require that EVM systems be maintained and used in a way that follow EVM best practices. The use of EVM as a management tool is considered an industry standard and a best practice for conducting cost and schedule performance analysis for projects. EVM data can alert project managers to potential problems sooner than expenditures alone can. Because EM does not follow best practices in administering its EVM systems, EM leadership may not have access to reliable performance data to make informed decisions in managing billions of dollars' worth of cleanup work every year and to provide to Congress and other stakeholders. We recommended that EM update its cleanup policy to require that EVM systems be maintained and used in a way that follows EVM best practices. DOE agreed with this recommendation, and said it would implement it.

Second, we found that EM's performance metrics do not link performance to cost. EM collects performance metrics from the sites monthly to measure progress toward completing the scope of work for the contract and against a goal set at the beginning of each year. We found in February 2019 that EM's performance metrics do not link that work to the

[29]We analyzed EM headquarters' EVM data on operations activities from October 2016 through September 2017 (the most recent data available at the time of our review).

cost of completing it.[30] For example, EM reported that it eliminated 72,000 gallons of radioactive liquid waste out of a target of 342,000 gallons for fiscal year 2017 at the Savannah River site and disposed of 1,734 cubic meters of low-level waste out of a target of 360 cubic meters at the Idaho site. However, in neither case did EM indicate how much that work cost to accomplish, such as whether those costs were above or below what had been planned. Because EM's metrics do not link performance to cost, the performance information EM has provided to Congress does not indicate whether EM received good value from the contractor since it does not show how much that work cost to accomplish. We recommended that EM integrate EVM data into EM's performance metrics for operations activities. DOE agreed with this recommendation and said it would implement it.

Finally, we found in February 2019 that sites regularly renegotiate cleanup milestones they are at risk of missing, and EM does not track data on the history of postponed milestones or the reasons why milestones were postponed.[31] As a result, milestones have limited value as a means of tracking cleanup progress since EM does not track the original (or any previously revised) milestone dates, which could provide some data to measure the progress of cleanup activities. We recommended that EM track and report original milestones dates as well as changes to its cleanup milestones. DOE agreed with our recommendation and said it is already tracking this information at the site level. In response, we reiterated the importance of tracking these changes and reporting that information at the headquarters level to help inform Congress.

EM Has Inconsistently Reported on Cleanup Status and Its Information May Be Misleading

We reported in January 2019 that EM has not submitted congressionally mandated reports on its cleanup program and the information EM has reported has been incomplete or inaccurate.[32] These reports are intended to provide Congress with information on the progress, challenges, and expected future costs of the EM cleanup program. Under the fiscal year 2011 National Defense Authorization Act, EM must annually develop and report to Congress a Future-Years Defense Environmental Management

[30]GAO-19-223.

[31]GAO-19-207.

[32]GAO-19-28.

Plan that reflects estimated expenditures and proposed appropriations included in the DOE budget for defense environmental cleanup activities.[33] It must do so at or about the same time that it submits its budget request. The plan is to cover the fiscal year for which the budget is submitted and at least the 4 succeeding fiscal years. The plan is required to describe the cleanup activities to be carried out during the period specified by the plan, estimated expenditures and proposed appropriations necessary to support them, and each milestone in an enforceable agreement governing the cleanup activity. For each milestone, EM is to identify whether the milestone will be met and, if not, explain why not and provide the date by which EM expects to meet it.

EM submitted the required plan in fiscal year 2012 but did not submit plans from fiscal year 2013 through fiscal year 2016, as we found in January 2019, or in fiscal year 2018.[34] EM's most recent Future-Years Defense Environmental Management Plan, which DOE submitted to Congress in August 2017, included little of the information required by the fiscal year 2011 National Defense Authorization Act .[35] Table 1 shows our assessment of the information EM provided in its 2017 Future-Years Defense Environmental Management Plan against the reporting requirements.

[33]50 U.S.C. § 2582a.

[34]DOE submitted its first plan in September 2012, but according to EM officials, did not submit another plan until 2017. EM officials told us that they provided oral briefings to Congress for fiscal years 2013 through 2016 to fulfill this requirement. See GAO-19-28.

[35]Department of Energy, *Future-Years Defense Environmental Management Plan, FY2018 to FY2070* (Washington, D.C.: August 2017).

Table 1: GAO Analysis of Office of Environmental Management's (EM) Fiscal Year 2017 Future-Years Defense Environmental Management Plan

Reporting requirement	Extent to which the plan met requirement	Summary of GAO analysis
Timeliness: Submit annually at or around President's budget submission	Did not meet	The plan was first mandated in 2011, but EM submitted it only twice since then—once in 2012 and most recently in August 2017, 3 months after the fiscal year 2018 budget was submitted.
Expenditures/estimated future costs: Estimated expenditures and proposed appropriations in budget year and at least 4 succeeding fiscal years.	Did not meet	Plan provides general life-cycle cost estimates that are lower than the costs reflected in EM's environmental liability estimate, rather than specifying estimated expenditures and proposed appropriations for the budget year plus 4 succeeding fiscal years.
List of cleanup activities and projects: Provide a detailed list of activities planned for the budget year and 4 succeeding fiscal years	Partially met	Budget year activities are explained at a high level in a "highlights" section for each site. Although activities for fiscal year 2018 are discussed, activities for fiscal years 2019 through 2021 are outlined at a high level but not detailed.
Milestones: List all milestones for budget submission year and 4 succeeding years, due date, and statement of whether milestones will be met and, if not, why not.	Partially met	Plan shows milestones by site. However, out of 154 milestones listed, the plan shows only one milestone that may be missed; yet the Department of Energy has noted publicly that there is a high risk of missing another milestone (at Hanford).

Source: GAO analysis of the Department of Energy's Office of Environmental Management's (EM) 2017 Future-Years Defense Environmental Management Plan. | GAO-19-460T

Note: Reporting requirements are from the National Defense Authorization Act for Fiscal Year 2011.

We also found in February 2019 that the forecast completion dates for milestones listed in the 2012 and 2017 plans may not present an accurate picture of the status of the milestones and EM's cleanup efforts.[36] For example, in the 2012 plan, DOE reported that only four out of 218 milestones were at risk of missing their planned completion date, while the rest were on schedule. When comparing these milestones to the 2017 plan, we found that at least 14 of them had been postponed. Similarly, the 2017 plan listed only one milestone out of 154 as forecast to miss its due date. However, because EM does not have a historical record of the changes made to the milestones, it is unclear how many of these milestones were recently revised or actually represented their original due dates because the report does not include this information.

Because DOE is not consistently and comprehensively submitting complete information about the status of its cleanup, Congress and other stakeholders may not have access to reliable information to make

[36]GAO-19-207.

informed decisions about billions of dollars of cleanup work. We recommended that DOE submit in EM's annually required Future-Years Defense Environmental Management Plan all mandated requirements, as well as information on annual growth in environmental liability estimates by site, the key factors causing that growth, and an explanation of significant differences between environmental liability estimates and life cycle cost estimates.[37] DOE agreed with our recommendation and has since said it is working toward this goal.

EM's Recent Budget Materials Have Not Reflected the Funding EM Anticipates Is Needed to Meet Its Future Cleanup Responsibilities

In addition to the Future-Years Defense Environmental Management Plan, DOE is to submit a budget request each fiscal year to Congress along with an explanation of what EM cleanup activities the funding will accomplish. However, in January 2019 we found that the information EM provided to Congress in its fiscal years 2016, 2017, and 2018 budget requests did not reflect the funding some senior DOE officials said EM needs to meet its scheduled cleanup milestones.[38] We reported that in a 2015 presentation on cleanup priorities, EM's Deputy Assistant Secretary noted that EM's anticipated long-term funding needs for the full costs of cleanup far exceeded the office's annual budget requests and noted that in fiscal years 2016, 2017, and 2018, EM anticipated that it needed nearly $8 billion annually to meet scheduled milestones called for in compliance agreements. However, DOE's budget requests for those fiscal years were $5.8 billion, $6.1 billion, and $6.5 billion, respectively—a shortfall of at least $1.5 billion per year.[39] The Deputy Assistant Secretary also noted that if EM continued to receive about $6 billion per year in the coming 2 decades, it would face a funding shortfall of about $28 billion. He also said that the time frame for EM's cleanup mission would likely be extended for years, thereby increasing cleanup costs and raising the environmental liability. Similarly, we reported that in a 2017 site cleanup meeting, EM's Associate Principle Deputy Assistant Secretary for Field Operations said that in order for EM to meet all of the cleanup requirements reflected in agreements with federal and state regulators, EM would need a much larger budget than was requested in fiscal year 2018. For example, this official said that EM's Hanford site, which

[37]GAO-19-28.

[38]GAO-19-28.

[39]According to DOE's fiscal year 2017 budget justification, EM's fiscal year 2016 enacted appropriation was $6.2 billion. DOE's fiscal year 2018 budget justification noted that EM's fiscal year 2017 appropriation, under a continuing resolution, was $6.3 billion.

received about $2.5 billion in fiscal year 2018, needed more than $4 billion per year to meet scheduled milestones to construct and operate the WTP—one of many cleanup activities at the site—for the duration of its planned mission. The official added that EM's annual budget will not cover all needs, particularly because infrastructure maintenance, repair, and replacement needs are growing and extending the completion of cleanup further into the future. We recommended that DOE disclose the funding EM needs to meet all of its scheduled milestones. DOE agreed with this recommendation and said it plans to request the funding needed to meet its cleanup agreements.

Chair DeGette, Ranking Member Guthrie, and Members of the Subcommittee, this concludes my prepared remarks. I would be happy to respond to any questions that you may have at this time.

GAO Contact and Staff Acknowledgments

If you or your staff have any questions about this testimony, please contact David C. Trimble, Director, Natural Resources and Environment, at (202) 512-3841 or trimbled@gao.gov. Contact points for our Offices of Congressional Relations and Public Affairs may be found on the last page of this testimony. GAO staff who made key contributions to this testimony are Amanda Kolling (Assistant Director), Chad Clady, Kelly Friedman, Cristian Ion, Jeff Larson, Cynthia Norris, Dan Royer, and Kiki Theodoropoulos.

Related GAO Products

Department of Energy Contracting: Actions Needed to Strengthen Subcontract Oversight. GAO-19-107. Washington, D.C.: March 12, 2019.

High-Risk Series: Substantial Efforts Needed to Achieve Greater Progress on High-Risk Areas. GAO-19-157SP. Washington, D.C.: March 6, 2019.

Nuclear Waste Cleanup: DOE Could Improve Program and Project Management by Better Classifying Work and Following Leading Practices. GAO-19-223. Washington, D.C.: February 19, 2019.

Nuclear Waste: DOE Should Take Actions to Improve Oversight of Cleanup Milestones. GAO-19-207. Washington, D.C.: February 14, 2019.

Department of Energy: Program-Wide Strategy and Better Reporting Needed to Address Growing Environmental Cleanup Liability. GAO-19-28. Washington, D.C.: January 29, 2019.

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Ms. DEGETTE. Thank you, Mr. Trimble. It is now time for Members to ask you questions. The Chair recognizes herself for 5 minutes.

I want to begin by getting a greater understanding of the challenges facing DOE's Environmental Management office in cleaning up these sites.

Mr. Trimble, is it fair to say that the remaining sites where cleanup work remains are some of the most complex to clean up and will be the most costly?

Mr. TRIMBLE. Absolutely. The sites that are left are some of the biggest and scariest. Hanford and Savannah River, of course, pop to mind.

Ms. DEGETTE. Yes. OK.

You testified that in fiscal year 2011 the environmental liability facing EM was estimated to be $163 billion. Since then, that number has climbed each year and now the liability is estimated to be $377 billion. That's a $214 billion increase in just 7 years.

Now, it is my understanding that EM has been unable to articulate to GAO why the environmental liability keeps growing at a rapid pace like that. Is that true?

Mr. TRIMBLE. Yes, that is true.

Ms. DEGETTE. And it is also my understanding that EM's environmental liability could keep growing, and if that happens I was just saying to Mr. Guthrie increasing liability not only poses a threat to the taxpayer but to the environment because operations might need to be delayed or even deferred.

So, very briefly, I just would like you to tell me would delaying work on the projects increase the risk to both the taxpayer and the environment?

Mr. TRIMBLE. Absolutely. Delays increase the overall cost of the work and when you delay the work it means those communities face the environmental risks for that much longer.

Ms. DEGETTE. Now, in your testimony, Mr. Trimble, you describe how EM is facing a number of challenges about how it manages its environmental cleanup programs.

For example, GAO found that EM is not following a number of best program and management practices. Is that correct?

Mr. TRIMBLE. Yes, that is correct.

Ms. DEGETTE. And GAO also found that EM has not resolved longstanding management challenges and doesn't have a programwide cleanup strategy to this day to address increased cleanup costs. Is that right?

Mr. TRIMBLE. That is correct.

Ms. DEGETTE. Now, I think you testified in your—in your statement that they really need to develop three things: a comprehensive plan, staff skills, and a way to monitor the progress and they also need cultural change over there.

Is that, in essence, what needs to happen?

Mr. TRIMBLE. Yes. The scope of these changes are brought and significant, and when you make those kind of changes it invariably involves cultural change in the organization.

Ms. DEGETTE. And so I turn to you, obviously, Secretary White, and want to ask you what is your position on those recommendations that GAO has made?

Ms. WHITE. So during my confirmation hearing I talked specifically about the recommendations and that I am looking forward to implementing them.

Having been in the field for quite some time, there were cases where I said wow, GAO really has that right. So——

Ms. DEGETTE. Uh-huh. But what about in particular what Mr. Trimble says, the comprehensive plan, the staff skills, monitoring the progress and the cultural change?

Ms. WHITE. Absolutely. We are moving out on all of those recommendations. They are—we will respond to those with all concur and we have already begun to revise our program and project management policy—the cleanup policy to ensure it incorporates the best management practices pointed out by GAO.

For the first time in the history of the program we have all of the sites' life cycle baselines loaded into one centralized system in headquarters so that we will be able to monitor progress and track changes and look at milestones and have meaningful metrics that are going to all us to more carefully monitor performance, very consistent with the GAO recommendations.

Ms. DEGETTE. Thank you, and I guess I want to ask you, because—and I know more people are going to ask about this, but the budget constraints—are those going to impact your ability to implement these changes?

Ms. WHITE. So I don't believe so because the changes that we are making are going to be at headquarters mainly and it is going to involve, as we say, new kind of communication with the sites, and right now that is called program direction funding. We have plenty of funding to do so.

Ms. DEGETTE. And what is your opinion about that, Mr. Trimble?

Mr. TRIMBLE. Well, we have not looked directly at the budget. My——

Ms. DEGETTE. Well, what about the other structural changes at the——

Mr. TRIMBLE. Yes. What I would say is that I think part of the effort, given the scope of the changes that we are talking about, that the EM would benefit from a thorough analysis of the resources it needs to carry out these changes because if you implement program and project management best practices you need staff with different skills. Or the staff may be there. I am not sure. But you have to do that assessment and you either have to train or hire additional skills who are expert in these areas to actually successfully execute the change in direction.

Ms. DEGETTE. Thank you, and thanks to both of you.

The Chair now recognizes Mr. Guthrie for 5 minutes.

Mr. GUTHRIE. Thank you. Thank you, Chair, for the recognition, and these are to Secretary White.

Did the taxpayer get good value for the $6 billion EM, roughly, spent last fiscal year on nuclear waste cleanup?

Ms. WHITE. I think by and large, yes. We do struggle at Hanford because of the complexity and some of the costs associated with carrying out our work there. But I believe the taxpayer got good value for their money.

Mr. GUTHRIE. OK. It leads——

Ms. WHITE. We can do better, though.

Mr. GUTHRIE. OK. This leads to my next question. So I think you might answer, but I was going to—are you implementing reforms to ensure that the taxpayer is getting good value for cleanup procedures and how will those reforms help better account for EM's performance for dollars spent?

Ms. WHITE. Yes. So one of the major things we are doing is our end-state contracting approach and very similar to Rocky Flats is—it takes that same kind of process but applies it to a smaller time period and not necessarily closure.

And what that is going to allow us to do is that we have our preaward, we select and we are selecting based on personnel first because in my experience in the field it is having the right personnel, not necessarily the right company or group of companies.

So that is our first criteria. Once we make the award then we are sitting down with the contractor and partnering to figure out, OK, what is the first task order going to look like. It could be 2 years of work. It could be 3 years of work. It will depend on the site.

But what that does is, as one of my predecessors said, it allows us to chunk the work so that we can better manage it rather than having these 10-year periods of performance that can be very difficult to monitor and measure and look after.

So this is going to put us on a much shorter time horizon which will allow us to better understand what exactly it is it we are buying and have the scope very well understood, and once that happens that is what allows us to really monitor progress and ensure that we are spending money effectively.

So that is one of the biggest things. The other thing we are moving out on and have been looking at for a while is our existing contracts have performance evaluation measurements plans and they are developed at the site level. We have put together—these are called PEMPs—we have put together a PEMP review board and we are going to be looking very carefully at the PEMPs as they roll out, again, to ensure we are not just paying fee for contractors to show up and do their base work. We want to be paying contractors to really exceed and excel.

So that is one of the things we are doing. Same thing with a fee determination board. We stood one up at headquarters so that we can be reviewing how a fee is getting paid to contractors and ensure some consistency because some fee determination officials are easier graders than others and so we want to just try and drive some consistency there about what our expectations are at the programmatic level.

Mr. GUTHRIE. OK. Thank you.

And while DOE's most recent financial statements have shown a sharp increase in environmental liability over the last fiscal year, DOE's liability has been increasing for years.

For example, between 2011 and 2017, EM's liability grew $105 billion. Why does DOE's environmental liability keep going up?

Ms. WHITE. We are going to find that out.

Mr. GUTHRIE. OK.

Ms. WHITE. We are in the process of doing a detailed root cause analysis to have a look. Most what we know intuitively, though, is that it is time. Time is money. So as the life cycle baselines kick

out, the liability goes up. But we are going to do a much more detailed analysis than my spidey senses.

Mr. GUTHRIE. OK. And, similarly, why do timetables for—estimated timetables for cleanup keep getting delayed?

Ms. WHITE. So there are a lot of factors involved there, some of which is the regulatory agreements we have at these sites by and large are pretty old and we have learned a lot since we entered into these agreements, and industry commercial disposal options have opened up that were not necessarily accounted for previously.

So that is some of it. Some of it is just not really being effective in holding the contractors accountable to complete the work scope. There are a number of factors. But putting together our program and project management policy I believe is going to address a lot of these concerns.

Mr. GUTHRIE. I am going to switch to my last questions because I only have about 20 seconds. What can Congress do to support or assist?

Ms. WHITE. Just—you have been very supportive in terms of funding traditionally. So that would be good.

Mr. GUTHRIE. OK. Thank you. Well, that completes my questions and I will yield back.

Mr. KENNEDY [presiding]. Chair thanks the gentleman.

The gentlelady from Florida, Ms. Castor, is recognized for 5 minutes.

Ms. CASTOR. Thank you, Mr. Chairman.

The Office of Environmental Management, referred to as EM, is responsible for cleaning up our Nation's legacy nuclear weapons sites.

Today, EM has completed cleanup at a number of sites. Sixteen sites, however, still need cleanup and these are probably the most challenging to address.

GAO has published several reports that express serious concerns about EM's management of its nuclear waste sites.

Mr. Trimble, you have testified that EM does not have a programwide strategy to appropriately address its vast and growing environmental liability, correct? Why not?

Mr. TRIMBLE. That—I mean, I think that is the key question. I think the answer is that for the longest time, and we are talking decades here, the EM program has largely been managed through a delegation of key decisions to the sites.

In many ways, the EM program has operated as a confederation of sites rather than as a coherent program with a plan and clear direction.

Ms. CASTOR. In fact, in a January 2019 report GAO discussed EM's lack of a programwide strategy, and here is what you said: "Without a strategy that sets national priorities and describes how DOE will address its greatest risks, EM lacks assurance that it is making the most cost-effective cleanup decisions across its site."

Will you put that in simple layman's terms? What does it mean that EM does not have a strategy and how is this affecting cleanup efforts?

Mr. TRIMBLE. Well, it means that key decisions regarding resources and how to address risk are made at the micro level at each site. So that collectively when you look at the EM budget their

risk benefit analysis isn't being done. You will get inconsistent decisions regarding priorities and the deployment of resources across sites. You may be spending money at one site where there is a greater risk at another site.

The other issues are you just—you end up being very inefficient in terms of tackling your most pressing environmental tasks.

Ms. CASTOR. All right. GAO reported that EM, quote, "does not collect or maintain reliable cost, schedule, or milestone data on its projects.

Ms. White, without reliable cost, schedule, or milestone data, how can EM have a clear picture of whether it is effectively managing its environmental liabilities?

Ms. WHITE. That is a great point and that is, again, why we have moved out with a number of initiatives to incorporate GAO recommendations and that includes the program and project management policy which is going to gather the data, ensure that we have good sound cost estimating. That is going to be extremely important on our end-state contracting model because——

Ms. CASTOR. And I know you said don't go back and look at the past. But, I mean, that is irresponsible. A lack of reliable data makes it difficult to effectively manage——

Ms. WHITE. And it has been—it has been that case for decades. So we are trying to change it.

Ms. CASTOR. Yes. In fact, in your testimony you say the Department views this as an opportunity. The most successful EM is a program reflective of the latest scientific knowledge about ways to using the most up-to-date cost and schedule estimates and that incorporates lessons learned from the last 30 years of cleanup.

But for decades EM has tried to develop overall strategies to better manage and prioritize risks. Those strategies have come and gone. But as we have heard today the problems persist.

So I am going to ask this as simply as I possibly can. Do you have a plan and is your plan supported by the right staff and resources so that it will succeed in addressing these problems?

Ms. WHITE. Yes, we do have a plan. As I said, we are going to improve our program management and project management.

Ms. CASTOR. And I hope getting a handle on the liabilities. For you to admit that you don't even have an understanding of the liabilities is very serious.

Ms. WHITE. And, again, at the recommendation of GAO we are doing a very detailed root cause analysis of what is driving that. Some of it is that scope gets added. Some of it is that we learn more about the work at hand.

So it is a number of factors. But we are going to get to the bottom of that and as soon as we do I would love to come brief your staff.

Ms. CASTOR. Well, if DOE is serious about cleaning up environmental hazards, the Department needs to manage its efforts professionally and effectively.

It is long past time for DOE to get its act together and I look forward to hearing from the Department on the progress.

Thank you, and I yield back.

Mr. KENNEDY. The Chair thanks the gentlelady.

The Chair recognizes the ranking member of the full committee, Mr. Walden.

Mr. WALDEN. Thank you very much, Mr. Chairman, and again I want to thank the work of the GAO and Secretary White. Thank you for stepping into this and trying to clean up this mess.

As you say, it has been going on a long time, and we are making progress, but we know there is a lot more work to be done.

It has been mentioned there was a sharp increase in environmental liability over the last fiscal year of more than $110 billion, growing from $384 billion to $494 billion.

As I understand it, this was primarily due to an increase in the estimated costs of the cleanup at the Hanford site in Washington for which the life cycle costs had not been updated since 2009.

Is that correct?

Ms. WHITE. That is correct.

Mr. WALDEN. OK. And does DOE know what specifically made Hanford's life cycle costs increase so much over a 10-year period?

Ms. WHITE. It was largely due to expanded time that it is going to take, and as Mr. Trimble noted, there is a very high hotel cost that is associated with our sites—just keeping the lights on, if you will.

So when you increase the time that costs drags along with you. So it is almost all driven by time.

Mr. WALDEN. OK. So during the Obama administration they never updated this baseline cost is how I would look at this.

According to information provided to the committee by DOE, Hanford accounts for about 64 percent of the Office of Environmental Management's fiscal year 2018 liability. What about Hanford makes it account for over half of EM's liability?

Ms. WHITE. It is one of our more complex sites.

Mr. WALDEN. Sure is.

Ms. WHITE. Again, we entered into an agreement in 1989. That is a little bit cumbersome right now because things have changed.

The other part of it is though we have made really good progress out there. PFP, for example, is moving forward. The K–Basin sludges are going to remove the radioactive material from one of the last reactors and many other things. The whole river corridor cleanup project was fairly successful.

So progress is being made. Our real challenge there is the tank waste.

Mr. WALDEN. Yes, it is, and I know when Secretary Perry made a commitment early on to go out and see it and I toured, as I said, the site with him and the National Lab, which does amazing work as well.

It looked like they were finally getting the new equipment in place and installed where they could begin to deal with this cleanup and so I applaud the work that Secretary Perry and you are doing here to kind of finally get this in the right direction.

The question I have too is how many other sites need to have their life cycle costs updated and should we expect cost increases when those are updated?

Ms. WHITE. So we have, as I said, loaded all the life cycle baselines into a centralized system for the first time in the history of the program. We are analyzing that data now.

I would not expect to see anything like the increase that we saw on Hanford.

Mr. WALDEN. OK. So this mission has been going on for decades. It will continue for decades, unfortunately, for sites like Hanford that are not estimated to be cleaned up until 2070 to 2075, I believe, is the latest estimate.

While I want to ensure that this mission is completed safely there are environmental and safety concerns about the length of time it is estimated to take to clean up some of these sites.

For example, it is my understanding some of the tanks at Hanford have already started to leak because the tanks weren't made to hold waste for this length of time.

Isn't that correct?

Ms. WHITE. That is correct.

Mr. WALDEN. We had leakers there, I know. What are—what are some of the risks of the mission taking longer than expected and what is EM doing to prevent these risks from harming the public or the environment?

Ms. WHITE. Yes. So some of the risks involve, of course, worker safety, first and foremost. The other part of the risk is, you know, for example, PUREX Tunnel 2—those kind of things. So——

Mr. WALDEN. And that is the one where the rail cars are underneath and——

Ms. WHITE. Correct.

Mr. WALDEN [continuing]. The roof collapsed and opened them up?

Ms. WHITE. Correct. And the other tunnel we just finished grouting that tunnel completely. So that was a big success and it takes some risk off the table.

So there are things we can do to remediate risks as they arise.

Mr. WALDEN. I know that the little piece of glass I have here that was what—eventually these will be long tubes of glassified nuclear waste. But I notice when recently they announced they had finished turning three gallons of this toxic sludge into glass, I believe, which meant only 56 million gallons left to go.

So I mean, this—they are just starting up but I think that is correct, isn't it?

Ms. WHITE. Yes. The three gallons actually was sent offsite as part of the test bed initiative and disposed of in Texas. So we actually removed waste from the State of Washington.

Mr. WALDEN. Well, that is good. For my friends in Texas, we are glad to send you some of our byproduct of saving the world.

[Laughter.]

Mr. WALDEN. Yes, so this is a message, and finally it is 10 seconds. I don't know if they can throw this slide up. But for those uninitiated, when you see the site of Hanford you see right next to it the Columbia River.

Ms. WHITE. Yes.

Mr. WALDEN. The mighty Columbia River, and this is—and I know some of the geology tilts the other way. So they told us, you know, the odds of it ever leaking into the river are pretty slim. But, you know, we really don't want our salmon to glow at night and so we need to keep after this and I am glad you are on it and I am glad GAO is keeping an eye over your shoulder as well.

So thank you, Mr. Chair, for your indulgence and thanks for the work you're doing.

Ms. WHITE. Absolutely. Thanks.

Mr. KENNEDY. The Chair thanks the ranking member, and I am grateful that you have that disc in your pocket.

The Chair recognizes the gentlelady from Illinois, Ms. Schakowsky, for 5 minutes.

Jan?

Ms. SCHAKOWSKY. Thank you. Thank you, Mr. Acting Chair. I appreciate that.

Ms. White, you have been there a short time. But you have been in the business and in the field as a contractor for a long time, right?

Ms. WHITE. That is correct. Twenty-five—over 25 years.

Ms. SCHAKOWSKY. So you know that we are talking about a problem that has existed for the last 50 years, really, and I think there is good reason, including river contamination potentially, that we need to do more and that this is really long, long overdue—50 years of nuclear weapons production and energy research.

I am glad we are having this hearing because I think a lot of people are not aware of this and yet we are talking about billions of dollars. Three hundred and seventy-seven billion dollars is what was spent.

Is that the budget or the increase? That is the whole budget, right, for last year?

Ms. WHITE. That's the liability. Yes.

Ms. SCHAKOWSKY. That is the liability?

Ms. WHITE. Right.

Ms. SCHAKOWSKY. And it is the third greatest of the liabilities that we have in our agencies, right?

Ms. WHITE. That is right.

Ms. SCHAKOWSKY. Yes. And it has been growing, even though the number of sites hasn't increased and so, really, the GAO has helped us try and figure out why, and let me first turn to Mr. Trimble here.

Where is all that money going? I understand that half, sometimes 60 percent, is just going to keep the lights on at these places—not to remediate but to keep the lights on.

Mr. TRIMBLE. That is correct. There is a large amount of money that is basically called min safe—keep the facility operating if you have a closed facility. Make sure the roof doesn't collapse, to protect the workers.

So about half of the money or 40 percent of the money is going to that work. I think the challenge in terms of seeing what you're getting for your money is without operating it as a program with a clear direction of where you want to be and where you expect to be, and without using project management skills to help you get there and measure your progress it is hard to tell what you are getting for the rest of your money.

There is stuff being done. You are hearing buildings being closed or being remediated. But you don't know necessarily whether it should have been twice as much as they got done or they are getting great results and they are getting twice as much done with the same dollars, right, because they are not evaluating it against best

practices. You don't know what you should be doing with the dollars you are spending.

So it is hard to tell whether you are getting value and whether you are getting to where you need to go at the end of the day.

Ms. SCHAKOWSKY. So the 2070 time line is that something that you projected? Who projected that it would be done by—that seems unreasonable to me.

Ms. WHITE. That was a result of an independent review we had one. It was part of our TPA milestone. A tri-party agreement milestone requires us to update the life cycle baseline and we did that, and what some of it has to do with long time lines is maintenance on the facilities and having to have, as you say, the hotel load to keep the lights on as part of the funding profile.

So there are a number of factors there, and we are actively looking at alternatives because of the life cycle baseline cost increase. Our project management order requires us to do an analysis of alternatives, which is underway now.

Ms. SCHAKOWSKY. So you agree with the GAO findings, do you?

Ms. WHITE. I do. I do.

We need to do better in program and project management and I think we can do better. In terms of the priorities across the various sites, unfortunately, CERCLA has a national priorities list and the sites are treated separately.

However, in 2015, there was a omnibus risk report that came out that was actually required. It was a congressional report and it pointed out a number of opportunities to look at our work scope more in the way that Mr. Trimble would like us to.

Ms. SCHAKOWSKY. When you were working as a contractor did you see these kinds of problems, inefficiencies, things that needed to be changed?

Ms. WHITE. There were times I did. There were times, though, when I also saw really absolutely amazing work get done by absolutely amazing people who were ready to innovate and roll up their sleeves and go.

It has been more that than the inefficiencies and less than stellar cost behavior.

Ms. SCHAKOWSKY. How do you explain to the taxpayers that while the number of sites has not changed that there has been this astonishing increase in the cost?

Ms. WHITE. Again, the latest increase is driven almost completely by Hanford. We are doing good work at our other sites and we are doing good work at Hanford, too. We are coalesced around the direct feed low-activity waste mission. It is going very well. So we are starting to pick up some speed and momentum and a little velocity.

Ms. SCHAKOWSKY. So you are saying—am I out of time?

Oh, I am sorry. I am out of time. That goes so fast.

Ms. WHITE. It does.

Ms. SCHAKOWSKY. Doesn't it?

Ms. WHITE. It does.

Ms. SCHAKOWSKY. OK.

Ms. WHITE. I will come and brief you——

Ms. SCHAKOWSKY. I hope you will start going real fast, too.

[Laughter.]

Ms. SCHAKOWSKY. I yield back. Sorry.

Mr. KENNEDY. Thank you. The Chair thanks the gentlelady. The Chair will recognize the gentlelady from Indiana, Mrs. Brooks, for 5 minutes.

Mrs. BROOKS. Thank you very much and I agree, our 5 minutes goes really fast.

I want to talk—I want to start out with you, Mr. Trimble, with respect to the report from February of 2019 where GAO made seven recommendations and focused on the project contract management piece.

Should most of the cleanup work be classified as operations activities or as projects? And that seems to be what part of your report talks about is a huge problem and difference.

Mr. TRIMBLE. Yes. I think what we say in that report is that large chunk of the work currently managed as operations activities are projects and what we noted in there is that other people, the experts—some of the project management experts in DOE headquarters felt the same way and raised these concerns to EM in 2015 and EM at that time did not yield there.

Mrs. BROOKS. And why does the classification as to what work they are doing make a difference between operations activities versus the project?

Mr. TRIMBLE. The main—the main reason is over the last 10 years DOE's management of contracts and projects has been on GAO's high risk list since 1990. It is another high risk area.

For the last 10, 15 years we have done a lot of work in that area and DOE, to its credit, has made significant improvements to how it manages projects and what that means is they tighten up their requirements in something called Order 413.

So on the weapons side, NNSA, where they are building large projects, they have tightened up those requirements and they have seen significant meaningful results as a result of those tighter requirements.

By classifying it as an operations activity, you avoid those tighter requirements. They are not subject to all the improvements we have worked so hard over the last 10 years to make.

Mrs. BROOKS. Is there any cleanup activity or work that you think should still be classified as operational activity versus moving the cleanup over to the other category?

Mr. TRIMBLE. No. These decisions really need to be left to experts at DOE. What our recommendation is that EM needs to work with the project management experts at DOE headquarters to come up with a way of classifying this work appropriately.

Mrs. BROOKS. So, Assistant Secretary White, is that happening?

Ms. WHITE. Yes. So what we are doing is in our program and project management policy is all work is going to be covered by a strict gated process and it fits in nicely with our end-state contracting model because we will treat—say we have a 2- or 3-year task order. We are going to treat that as a gated process as a project that we are going to monitor and oversee.

Mrs. BROOKS. So it will be reclassified then as a project rather than operation activity?

Ms. WHITE. We—what we are going to do, again, is our program and project management policy follows all the GAO best management practices and we are going to use that.

Within and underneath that we will also use 413.3.

Mrs. BROOKS. And does that satisfy you, Mr. Trimble, as to how the work will be classified?

Mr. TRIMBLE. Proof is in the pudding. We have not seen that. I think there is—our concern would still be the role for DOE headquarters and their office of project management and understanding those distinctions.

One of the key areas of—that is involved in doing best practices for project management is having independent oversight meaning independent of the people either running that project or running the program.

Mrs. BROOKS. Right.

Mr. TRIMBLE. So that will be a key element of that.

Mrs. BROOKS. Has EM ever classified a cleanup work as a capital asset project?

Ms. WHITE. Yes. Yes.

Mrs. BROOKS. And which one was that?

Ms. WHITE. That I know off the top of my head was Main Plant demo out in New York.

Mrs. BROOKS. And why was that classification not continued for other cleanup projects?

Ms. WHITE. So 413 is a project management order that, to me, is most amenable to when you are building something. What our program and project management policy does, again, it incorporates all the best practices pointed out.

It also includes a gated process which means we would work with the project management office—the overall DOE project management office—on all of these things.

Mrs. BROOKS. So are you—so are you now working with DOE project management office at the highest levels in a different way than you have been working than EM has been working with them for decades?

Ms. WHITE. Not—yes. So we have been—we work with them very routinely. So with our, again, a revised policy we are going to be working very closely with them. We have been working closely with a number of people in the building. We have some very good program and project management experts involved in helping us develop this policy. So I think we are in very good stead.

Mrs. BROOKS. Is EM operating under any kind of constraints to change the way these projects are managed as to whether or not they are projects versus operational activities?

Ms. WHITE. No. We don't have any constraints. The policy will be an EM policy. So I don't feel constrained.

Mrs. BROOKS. OK. Thank you. I yield.

Mr. KENNEDY. The Chair thanks the gentlelady. The Chair will recognize the gentlelady from New York, Ms. Clarke, for 5 minutes.

Ms. CLARKE. Thank you very much, Mr. Chairman. I thank you both for appearing before us today.

Over many years, GAO has identified management concerns which encompass nearly all aspects of DOE's Office of Environmental Management called EM including its direction management

ability to make effective decisions and to address the legacy of nuclear contamination from the Cold War. This we all know.

So I want to drill down on this a bit, Mr. Trimble. What exactly does it mean that DOE's Environmental Management Office does not follow leading management practices?

Mr. TRIMBLE. Well, I think the easiest way to understand that is the leading practices both in program and project management are there to help you deliver your project or your deliverable on time and on budget.

So when you are not following these practices, and these are practices that—these come from industry. They come from government. These aren't things GAO comes up with. These are standard things people do to succeed.

So if you are not following any of these, it means your chance of success is probably none. You have to follow these if you want to deliver on time and on budget.

Ms. CLARKE. Mr. Trimble, you noted in a report just a few months ago that until EM reviews and revises its cleanup policy to include program management leading practices related to scope, cost, scheduled performance, and independent review, the EM program is at risk of continued uncontrolled changes to the program scope, exceeding its cost estimate and schedule, failing to meet its programmatic goals, and increasing DOE's environmental liabilities.

Why is it important that EM change or revise its cleanup policy to follow best practices in addressing cleanup activities and why is it not doing it?

Mr. TRIMBLE. It is critical because without doing so you are never going to get a handle on that liability growth. To achieve the mission, to protect these communities, to protect the taxpayers' interests, you have to change course and embrace these best practices.

I think the challenge in the past has been, as I mentioned, DOE writ large has been on our high risk for project and contract management since 1990 when we started that list and this has not been something culturally that comes naturally to DOE.

Ms. CLARKE. Mm-hmm. So would it be fair to say that EM's operations activities are still at risk of uncontrolled changes which could further balloon costs and add time to the already long schedules for cleaning up these sites?

Mr. TRIMBLE. I am encouraged by the changes we hear DOE is talking about. But until those are fully implemented, yes, absolutely.

Ms. CLARKE. Ms. White, I would think that if EM followed these best practices for program management and project management we might experience better outcomes.

I understand that you are in the process of trying to adopt many of the recommendations made by GAO to implement these best practices. But what is your plan for adopting these recommended practices? What are your time lines for implementing them and do you have the resources to take on this challenge?

Ms. WHITE. So our program and project management policy is in the last throes of internal review. It'll then go out to the sites for

their review and get reviewed by a number of stakeholders really because what this is it is a bit of a culture change.

So we want to make sure we engage all of our stakeholders, if you will, and when I say that I mean the PM organization within DOE—project management organization—and, again, the sites.

So that should be rolling out fairly shortly. The other thing I want——

Ms. CLARKE. What does fairly shortly—I mean, has this process already begun?

Ms. WHITE. Oh, yes. We started revising the cleanup policy well before we even got the——

Ms. CLARKE. But you are saying creating this culture of buy-in, essentially, right?

Ms. WHITE. Yes. So——

Ms. CLARKE. What is that like?

Ms. WHITE. So basically because the sites are CERCLA sites by and large, they are on a national priority list and they are on a path. So by doing this program management policy it is going to be a bit of a change for kind of the relationship between the sites and headquarters. So that is one factor.

The other thing——

Ms. CLARKE. Yes. So the question I have is it is a change in culture, right, and oftentimes change is very difficult when people are hardwired on the way things used to be.

How are you working at changing that culture and where are you in that process? Are you getting the buy-in that is required to expedite this? That is the important thing right now, right?

Ms. WHITE. I am getting the buy-in to expedite and get this rolling. The other thing is we got really good buy-in and a lot of excitement around our end-state contracting model, which is a huge change to the way we have been doing business. But, again, we have got a lot of really good energy around that and a lot of good cooperation. So I feel very pleased with the progress.

Ms. CLARKE. Mr. Trimble, what are your reactions to some of the ideas that Ms. White is laying out here today?

Mr. TRIMBLE. I am encouraged by their acceptance of our recommendations and some of the ideas I would—you know, my mother who, God bless her, is 97 now—always told me, "I didn't raise you to be an optimist."

[Laughter.]

Mr. TRIMBLE. Why I am at GAO, I suppose. But, you know, if you look back over these issues going back to—you know, GAO has been reporting on this—these—the challenges in the cleanup program since the 1970s.

As I have said, the changes we are talking about are fundamental. The areas that I would caution or have questions in terms of some of the proposals is their end-state contracting. I don't know enough about what that actually means in practice of judge.

It sounds great. Contracting has been a challenge for DOE so that is good. But contracting is not project management. Contracting supports management. And so you have to have management set up and then use contracting.

Ms. CLARKE. Thank you very much. I yield back, Mr. Chairman.

Mr. KENNEDY. The Chair thanks the gentlelady.

The gentleman from Oklahoma is recognized. Mr. Mullin for 5 minutes.

Mr. MULLIN. Thank you, Mr. Chairman, and thanks for being here.

Ms. White, I just want to talk a little bit more about the project management. It is something that I do and have done my whole life. I understand job sites. I understand the culture to which you're talking about. But I don't understand implementing best practices.

As a general contractor, if I want to make changes on my job site, it is my job site. I am going to make changes because it is for the best of the project. It is not allowed—it is not even open for discussion. We are going to implement them because it is the way we move the project forward. Those that don't want to get on board they can find another job.

It is just the way that it works. Construction works certain ways. And so when you're talking about cleanup sites, you're working off $377 billion and rising. Would that be fair?

Ms. WHITE. We hope not it is rising.

Mr. MULLIN. Well, it is. Mr. Trimble, $377 billion and rising. Would you agree?

Mr. TRIMBLE. Absolutely. Yes.

Mr. MULLIN. OK. So $377 billion and rising. Are you working off any type of budget?

Ms. WHITE. So we get usually around $6 billion plus per year.

Mr. MULLIN. So are these—are they going out to bid? Are you bidding these projects?

Ms. WHITE. Yes. So the way we are doing our——

Mr. MULLIN. So if you're working off bids——

Ms. WHITE. Yes.

Mr. MULLIN [continuing]. You have got a project. We know what needs to be accomplished on the project. We are bidding it out. How are we not working off a budget?

Ms. WHITE. So the way we have been doing contracting previously is it was a 10-year ordering period and, quite frankly——

Mr. MULLIN. What do you mean 10-year ordering period?

Ms. WHITE. So it is a 10-year period of performance. So we——

Mr. MULLIN. So they bid to work for 10 years?

Ms. WHITE. They bid—yes, 10 years.

Mr. MULLIN. Are they open bid? Are they bid a dollar amount? How is that bid out?

Ms. WHITE. They are open competition.

Mr. MULLIN. No, I mean—I mean, do they bid it saying, I am going to work for 10 years for X amount of dollars and I am going to have X amount of employees on there and this is equipment is going to be brought on?

Ms. WHITE. So, basically. But——

Mr. MULLIN. What do you mean—and just help me understand. I am not trying to badger you. I am just saying, basically, it sounds like to me if you're doing a $377 bid and rising that you're not really bidding it out. You're getting a start price and there's a thousand change orders that's coming behind it each day.

Ms. WHITE. Yes. Yes, and that was——

Mr. MULLIN. So why are we allowing change orders? Did they know the job? Did they know the scope of it before they went in?

Ms. WHITE. Not in many cases?

Mr. MULLIN. How did they not? We knew what needed to be done. And how long have we been on the site now?

Ms. WHITE. So, traditionally——

Mr. MULLIN. Not traditionally.

Ms. WHITE. OK.

Mr. MULLIN. We know what needs to be done. I am not talking about the past. You're—we are looking forward.

Ms. WHITE. Yes. So looking—looking——

Mr. MULLIN. The past are mistakes we can learn from.

Ms. WHITE. Looking forward, that's our end-state contracting model exactly, so that we will know exactly what——

Mr. MULLIN. So why isn't that already implemented them?

Ms. WHITE. We are. We have RFPs on the street right now.

Mr. MULLIN. So we are going to go to project. We are not going to allow change orders because this happens all the time. The change orders was the sneaky way that you came into a job late at a low price and you used up——

Ms. WHITE. We call it buy-in the job.

Mr. MULLIN. Right. And then so now you get jobs all the time and change orders aren't allowed. They will tell you right off the bat. Change orders are not allowed until the—unless the GC instructs change orders because, you know, every change order comes with another change order from everybody downstream.

Ms. WHITE. Right.

Mr. MULLIN. So that's how you get out of hand. So are these—are these bid by Federal contractors? Who are these bid by?

Ms. WHITE. So usually it is—a LLC is set up by a group of large contractors—Jacobs, Fluor, Bechtel.

Mr. MULLIN. So were they—that are Federal employees that's out there working on it?

Ms. WHITE. So we have oversight responsibility but we don't do the field work.

Mr. MULLIN. So who is the general contractor on the job sites?

Ms. WHITE. So the general contractor on the job site would be considered probably the president of the LLC.

Mr. MULLIN. And the LLC bids the project and then moves forward?

Ms. WHITE. Yes, under our end-state contracting model how it is going to work is we select people based on personnel first because, based on my experience in the field, that's the most important factor for a successful project.

Mr. MULLIN. Personnel—explain that one to me.

Ms. WHITE. So that's their key personnel. Who the company is bidding to be the president——

Mr. MULLIN. Well, to me, anybody that's been on this job site should be fired. They are not doing their job right. So how are you basing it personnel? I am just giving you the facts of the matter. I am a business man and this is what I do for a living so I get it. I would keep no one there.

If I am taking over a company that's failing, which these projects are failing because they are going way over budget and no end in sight, why would I keep the management intact?

Ms. WHITE. I am not saying we are. I am just telling you the way we are rolling out this contracting model and how it is different and how it is going to improve performance.

Mr. MULLIN. But I have questions when you're saying you're basing it on personnel. What personnel are you looking for? Because the model to which is being used isn't successful. It is kind of difficult for me to say that I am going to bid a job based on the personnel to which is coming forward.

Ms. WHITE. There's a number of factors. It is not the only factor.

Mr. MULLIN. It should be based on the—on the work that needs to be done and is the company capable of delivering it or not.

Ms. WHITE. Yes, and all of those factors are involved as well.

Mr. MULLIN. But you are saying you are—and I am not—I will wrap up in just a second. I just want to clarify what you're saying on here. You are saying you're basing the bid on personnel.

Ms. WHITE. No, I am not.

Mr. MULLIN. But that's what you said.

Ms. WHITE. There's three factors. It is personnel, it is work scope, and it is their organization. So there's a number of factors involved in the bidding process and the most important thing that is going to improve performance is the postaward negotiations which will limit or eliminate change orders.

Mr. MULLIN. Everything you said is why Federal contracts cost so much. When you're bidding a job, double it. You're still not going to come in on it.

Thank you. I yield back.

Mr. KENNEDY. Chair thanks the gentleman. The Chair recognizes the gentlelady from New Hampshire, Ms. Kuster, for 5 minutes.

Ms. KUSTER. Thank you very much and thank you for being with us today.

You know, I think the frustration you hear in a bipartisan way is that we are hired by the constituents to protect public safety and to protect the public dollars. These are hard-earned tax dollars, and it is our role to find that balance, and we want to work with you.

But when you're talking hundreds of billions of dollars, I think it is important for us to have a plan and have a strategy and not just continue to come back and pour more money after—good money after bad. And so I think that's what you are hearing from us.

I noted in the GAO report that the Office of Environmental Management—and I am just going to quote here—lacks the information needed to evaluate overall project performance and assess whether it has sufficient staff or the right staff with the rights skills to carry out the cleanup mission.

Now, you didn't create the problem and I appreciate you coming on to do your part to clean this up. Let me start, Mr. Trimble, with you.

Does the Office of Environmental Management have sufficient capacity to appropriately handle the cleanup of our Nation's most hazardous sites at this time?

Mr. TRIMBLE. I think that is a key question and I would encourage Anne to—as they embark on these new initiatives to do an assessment of that.

One, you know, we have talked about DOE headquarters having a project management office. You know, they can avail themselves of that office. But I would note that there is a robbing-Peter-to-pay-Paul aspect of what is going on, because in fact there was a Paul Bosco who moved from that office over to EM to support EM in this transformation. But that just tells you how thin the bench is, right——

Ms. KUSTER. Right.

Mr. TRIMBLE [continuing]. Both at DOE headquarters and in the EM. So as they assess this, you know, Assistant Secretary—you know, the efforts by the assistant secretary is great but you need the horses on your bench to carry out because there are a hundred other issues the assistant secretary has to manage and you need the resources to do that, and I think an assessment of that in terms of the skilled staff and the level of staffing is important.

Ms. KUSTER. And then let me ask you, Ms. White, the same question. Does your office have sufficient capacity to appropriately handle cleanup of our Nation's most hazardous sites and my understanding is we are down to a dozen or so but these are the most challenging sites.

Ms. WHITE. Yes. So we are having a look at that, especially within the context of some of our new approaches and innovations. So we are having a close look at that and that is something that is in process as we speak, and I also—we are required, EM, to have an advisory board. So ours is creatively called EM Advisory Board and we are also having them take a look at this issue for us.

Ms. KUSTER. And can I just ask, as the Oversight Subcommittee of our Energy and Commerce Committee if we can be considered part of your advisory board if you could report back to us on that assessment of staff and personnel whether you have the right people with the right skills.

So here is my—another concern that I have. In March, DOE released its fiscal 2020 budget request. But this administration has proposed reducing the Office of Environmental Management budget to $6.5 billion, which is about 10 percent reduction below last year, 2019. This seems to me like we are headed in the wrong direction. How will cutting your budget by 10 percent help bring down the program's substantial environmental liability and help clean up these sites?

Ms. WHITE. So the budget request is adequate for what we need to get done for 2020 and I feel confident that the work scope we have planned will get accomplished within the current budget.

Ms. KUSTER. But how do we work through the backlog of sites and—look, I am not a nuclear engineer but I am a mom and a citizen and I can tell you that leaving it out there longer waiting for some type of sabotage, some type of accident, is not making our constituents across this country safer. So how is cutting your budget helping you to deal with the backlog of these sites?

Ms. WHITE. Again, the budget we requested is adequate for the scope we have planned. Is the scope we have planned going to bring down liabilities? Maybe it is not the right scope.

So we are working very diligently, as I said, with our end-state contracting model to ensure we have a great understanding of our work scope and then stick to the plan. Have a plan, stick to the plan.

Ms. KUSTER. My time is up. But with your indulgence, Mr. Chair, could I ask Mr. Trimble's comment on that?

Mr. KENNEDY. Please.

Mr. TRIMBLE. Yes. The budget—I mean, I think the danger without trying to get a handle on the backlog of liability is important because at some point this growth and dynamic we are seeing starts to resemble an interest-only loan on your house, right, and you can't——

Ms. KUSTER. Just what I was thinking of. We are not making progress.

Mr. TRIMBLE. You're not bringing down the principal. One observation regarding the budget and the—sort of connecting that to the lack of a sort of strategic plan here is if you have a longer-term plan you realize this mission continues to 2070, 2080, you will look out over that time and realize we have a challenge with cesium removal or a challenge with this.

I need technology to answer that to lower our cost. You do that through technology development. What I noted in the budget is I think their—the amount for technology development was zeroed out, and this is important because there is currently a National Academy of Sciences that has been helping EM on the issue of technology development to help EM achieve its mission. So I think——

Ms. KUSTER. But we are not going to move into the future with zero research and development.

Mr. TRIMBLE. It is a question.

Ms. KUSTER. Great. Thank you very much, and I yield back.

Mr. KENNEDY. Thank you. The Chair thanks the gentlelady and recognizes Mr. Duncan from South Carolina for 5 minutes.

Mr. DUNCAN. Thank you. Thank you both for being here.

And I am sitting here listening to the testimony and listening to the questions today, and I wonder how many Members of Congress—how many members of this committee—have actually been to Hanford, Washington, or to Savannah River Site or Idaho Flats or Oak Ridge, Tennessee.

How many have actually taken the time to understand what we are talking about today? Because in the production of the Nation's atomic arsenal we use chemical separation facilities and there's only one chemical separation facility left in the Nation and that is H Canyon at Savannah River Site.

Now, Savannah River Site is different than Hanford. Hanford is a closure site. That means we are going to close it down. We are going—we are going to clean up the property and, ultimately, it is going to be just a cleaned up site. Savannah River Site has continuing emissions for this Nation and H Canyon is vital.

But when H Canyon is operating, there will be waste created that'll ultimately have to be taken out of these tank farms. What we are talking about are tank farms. Huge 800,000 gallon tanks and usually there are, what, 12, 15 in a tank farm? Fifteen 800,000

gallon tanks. Those tanks are bigger than the room we are sitting in right now.

And so when the plutonium is created for our Nation's arsenal, when the stuff separated away to find the plutonium and use it, this stuff settles out in the tank farms, much like a septic tank where liquids flow, solids settle down, then the next set, more solids settle down.

And so you've got all this stuff underground in carbon fiber—carbon steel tanks, rather. Some of these at Hanford are single-wall carbon steel tanks, which are starting to leak.

Where does Hanford sit? It sits on the Columbia River. Where does Savannah River Site sit? It sits on the Savannah River. Where does Oak Ridge sit? On the Tennessee River.

These are areas that are environmentally sensitive that could affect a lot of people and our Nation's environment had this waste leaked into the soil and ultimately got into the river system in the Columbia River with regard to Hanford.

And so Savannah River Site, we have 35 million gallons came out of 43 tanks. That waste has been vitrified. That means it has been turned into glass. While it was still molten, it actually filled up ten-foot stainless steel canisters.

These canisters still sit at Savannah River Site but they were destined to go to Yucca Mountain. But when we decided we were going to not use Yucca Mountain for its intended purposes, which was the law of the land, that waste—defense waste still sits at Savannah River Site along with plutonium that's got to go somewhere that came out of the nonproliferation.

And so we have got all this waste. Let us go back to Hanford. Hanford is a cleanup site. They not only had tank farms, they also found a bunch of radioactive material all over the site that had to be taken care of. That waste has to go somewhere.

And so there are challenges when you have an 800,000 gallon tank underground to get into that tank to get the waste out. When I was in Hanford in 2008 they were worried about the lid collapsing on the tank so they were going through 12- and 14-inch pipes into those tanks to try to clean it up.

Now, we are talking about solids in there. We are talking about peanut butter paste like semi-solids. We are talking about salt waste. We are talking about liquids. Liquids are easy to pump out. But how are you going to—peanut butter type waste out from inside that tank? They were sticking robots into that tank operating to push that solid up—that semi-solid up to get it out of that tank. It was a challenge.

That's where some of the costs comes from. Finally, they discovered they could cut into the tank and it has made it much easier to get into those 800,000 gallon tanks to get that waste out.

But once that waste has come out at Hanford, it has got to be vitrified. It has got to be solidified so that it doesn't leak into the soil and, whatever capacity we decide to store it in as a nation, we can't have it continuing to leak into the ground.

So they turn it to glass. Glass doesn't go anywhere. It doesn't leak into the ground. But these are costs. I am a fiscal hawk. I really believe we ought to look at every dollar this Nation spends.

But I believe my constituents and people around the Nation would be OK with spending money to get the waste out of these tanks to keep it from leaking in the Savannah River, to keep it from leaking into the Columbia River or the Tennessee River or wherever it may be, versus a lot of money our Government spends on other things.

Environmental Management, they spent $48.5 billion since 2011. If you go back, pass that for decades, you had stimulus money, ARA money trying to build vitrification facilities, high waste—liquid disposal sites at Hanford to deal with this waste.

The liability is $377 billion. I will guarantee the liability will go up if that waste makes it to the river. It is already in the ground at Hanford in some places and having to be cleaned up.

So this is a great hearing to talk about the environmental management of this waste that came out of our weapons programs in sites all over this country that are being cleaned up but also a reminder that we are going to continue making waste at Savannah River Site because it has ongoing missions and how we deal with that waste is something that we ought to continue talking about and I want to challenge every member of this committee—subcommittee and full committee—to take it upon yourselves to go to Hanford and understand what they are dealing with with 800,000 gallon underground tanks and tank farms. Multiple tanks, not just one.

Go to Savannah River Site and understand what they are dealing with with underground tanks, what they are dealing with in H Canyon, its ongoing missions, and the waste that will be created then, because this isn't going away as our Nation continues to try to be safe in a global environment that we have.

And so I thank the Department for what they do, and I am standing in your corner as a member of the Cleanup Caucus to try to help clean up this Nation, and I yield back.

Ms. WHITE. Thank you.

Mr. KENNEDY. The Chair thanks the gentleman and the Chair recognizes himself for 5 minutes for questions.

I want to thank the witnesses for being here, for the work that you do, and for coming to try to address, as Mr. Duncan put it, some critical issues that our Government needs to address, and I think the question being how do we do so as expeditiously and as efficiently as we possibly can.

So building off of a little bit of what Mr. Duncan indicated, since 2011 EM has spent over $45 billion to try to address the cleanup responsibilities. And yet, we seem no closer to cleaning up these sites or reducing the department's environmental liabilities.

In fact, DOE reported that the environment liabilities managed by EM grew to $377 billion last year—$100 billion increase from the year before and more than double what it was in 2011.

So I want take a few minutes to try to figure out what we have bought with all the money we are spending and how we can try to start to buy down some of that liability.

Mr. Trimble, to begin with, how have the cleanup activities at—that EM has spent money on in recent years gotten us closer to actually cleaning up the sites and why are we spending more and yet seeing that liability continue to grow?

Mr. TRIMBLE. Well, there has been accomplishments with the money spent. I think there—you know, you can't deny the commitment and the professionalism of the folks in the field doing this work.

I think the challenge, from our perspective, is should we have gotten more done with the same amount of money, and to answer that question you need to have used program and project management best practices because that is how you are able to measure and manage your work to achieve results and that is what we haven't seen.

Mr. KENNEDY. And do you expect that those will be adopted, going forward?

Mr. TRIMBLE. I am encouraged by the direction Assistant Secretary White is taking. I think, obviously, the proof is in the pudding. Ultimately, we will have to see how those get implemented.

My concern, again, being sort of the doubting Thomas, is the scope of the changes we are talking about are fundamental. They involve more than just EM. They involve all of DOE and the commitment of senior leadership there.

The changes we are talking about, you know, EM has had, what, I think about seven assistant secretaries since 2010 or so. You know, I am hoping Assistant Secretary White is there for another 10 years. I mean, it would be great to have that kind of continuity and commitment to this mission.

But the danger has always been you have transition. The other thing is the EM as a mission within DOE has sort of been the neglected child that has been moved around multiple times within the organization. Even though its budget is bigger than—science has its own under sector. EM's budget, just its budget is bigger than science. You add in the liability, I don't know what—maybe NNSA is bigger but nobody's bigger. And yet, they are only at the assistant secretary level.

Mr. KENNEDY. And so I wanted to build off of a little bit of what you said. A significant portion of those cleanup dollars, some 30 to 60 percent for individual sites' budgets, according to testimony, is going to what's called minimum safety, or min-safe, work.

What is min-safe work referring to and why should we be concerned about it?

Mr. TRIMBLE. Min-safe is—it is overhead. I don't mean to be dismissive of the need to do that overhead. You're talking about keeping the water running, the electricity, the guard force, keeping buildings from collapsing.

The challenge there is that the percentage of min-safe is huge. As a total of the budget, it is 42 percent. Some—several sites it is over 50 percent. At one site, it is over 70 percent. So that means the dollars actually going to cleanup are a fraction of what is appropriate.

Mr. KENNEDY. So, Ms. White, kind of using that as—turn to you, how can we continue to make progress on the underlying—building off of the testimony of Ms. Kuster as well about the interest-only mortgage—how can you continue to or how can we make progress on the underlying liabilities if such a large percentage of this is just simply going to min-safe work?

Ms. WHITE. Right. So that is actually kind of a pet peeve of mine. Some of my people could share that with you. So we are actually launching on a major initiative where we are looking at, OK, how are we defining min-safe, how are we looking at landlord services, and are we mixing some of those things up, which will allow us, I believe, to mine some money out of that min-safe bucket but still be absolutely and completely safe ops. So we are actually very excited about it.

Mr. KENNEDY. And GAO, I understand, has also reported that the department's estimates of environmental liabilities is likely to continue to grow as we have discussed. Recently, DOE issued a life cycle cost report for the Hanford site which said that cleanup could take until the year 2078, as we heard earlier, and cost as much as $677 billion, a figure that the secretary of energy called shocking.

That is just one site and doesn't include the cleanup costs of the other 15 sites. So I think we can all agree that $677 billion is a big number. Do you believe that that estimate for the Hanford site is accurate and, if so, how much will EM liabilities grow next year as a result?

Ms. WHITE. So I believe it is accurate. I don't expect to see it to grow. One thing I do want to state is we are actually—EM is doing well on most of our sites. Our big challenge is the tank waste at Hanford and that's really what's been driving the liability increases all along.

Mr. KENNEDY. All right. One moment.

I want to thank our witnesses for their participation at the hearing. I want to thank our colleagues as well for their questions. Clearly, it is an important area that we need to get right. And I remind Members that, pursuant to committee rules, they have 10 business days to submit additional questions for the record to be answered by witnesses who have appeared before the subcommittee. I ask the witnesses to agree to promptly respond to any such questions you should receive.

And with that, the subcommittee is adjourned. Thank you very much.

[Whereupon, at 12:03 p.m., the committee was adjourned.]

[Material submitted for inclusion in the record follows:]

U.S. House of Representatives House Energy and Commerce Committee
Subcommittee on Oversight and Investigations
"DOE's Mounting Cleanup Costs: Billions in Environmental Liability and Growing"
Questions for the Record Submitted to the Honorable Anne White

May 1, 2019

QUESTIONS FROM REPRESENTATIVE FRANK PALLONE, JR. (D-NJ)

Q1. Your testimony indicated that the Office of Environmental Management (EM) is working on a root cause analysis. What steps or process did the Department of Energy's (DOE) root cause analysis involve?

Q1a. When will this analysis be completed?

A1a. An initial analysis and plan was completed in May 2019; final analysis is expected by September 2020.

Q1b. What steps or process did DOE's root cause analysis involve?

A1b. EM is following root cause analysis protocols from DOE Order 414.1D, Quality Assurance, and EM-QA-001, the EM Quality Assurance Program directive, which requires an authoritative methodology for root cause identification and personnel trained in root cause analysis techniques. EM reviewed GAO Financial Audit Manual (GAO-18-626G) and Government Auditing Standards (GAO-18-568G) were reviewed. EM developed system process flow charts to understand and analyze potential barriers, and to identify administrative and procedural controls that should have prevented the occurrence.

Q1c. Who in EM is responsible for overseeing the completion of EM's root cause analysis?

A1c. The EM Office of Budget and Planning is responsible for overseeing EM's root cause analysis, which is being conducted by the EM Consolidated Business Center Office of Cost Estimating.

Q2. To what extent does EM have the capacity to do its work, including resources such as having sufficient staff and staff with the right skill sets? What additional resources, if any, does EM need to address these management challenges?

A2. EM has a highly technical and qualified workforce. EM uses DOE training programs to ensure its staff maintains the required competencies to do this work. EM is exploring reinstituting an intern program to bring in recent graduates in our Mission Critical

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Occupations to ensure staff is available and continue the mission in the future. EM is also currently working on a workforce staffing analysis to determine what, if any, additional resources may be necessary.

Q3. Your testimony referred to "end-state contracting" as important initiative for EM.

Q3a. What does "end state contracting" mean?

A3a. In the summer of 2018, EM shifted to the End State Contracting Model (ESCM) with the objective of reinvigorating the completion mindset and reforming the way EM does business in the management of environmental cleanup. The ESCM utilizes a single award Indefinite Delivery Indefinite Quantity (IDIQ) contract structure, which provides EM the needed flexibility to task its contractors using a risk-based approach to better define discrete scopes of work for site closure or end states for more realistic, reliable pricing and appropriate incentive structures to yield significant reductions in EM's environmental financial liability. The ESCM employs a two-step process using a competitive qualifications-based Request for Proposal (RFP) to select the offeror representing the best value and subsequent single source, Task Order(s) negotiations through effective partnering. The selection process utilizes a streamlined evaluation of representative sample scopes of work typically consisting of a year or less in duration instead of previously used detailed proposal evaluation of up to 10 years of scope. Additionally, EM is moving back towards Cost Plus Incentive Fee (CPIF) contracts with greater fee earning potential than that of recently awarded Cost Plus Award Fee (CPAF) contracts. While the fee potential is higher, the contractor assumes more risk under the CPIF contract. The ESCM IDIQ approach also provides EM with an off-ramp earlier in the Period of Performance without contract termination liability if contractor performance is subpar. While this number is subject to change, EM currently has seven (7) active acquisitions that will use some form of this approach: Hanford Central Plateau Cleanup Contract (CPCC), Hanford Tank Closure Contract (TCC), Oak Ridge Reservation Cleanup Contract (ORRCC), Nevada Environmental Program Services Contract (NEPSC), Idaho Cleanup Project Contract (ICPC), Savannah River Integrated Mission

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Completion Contract (SRIMCC), and Portsmouth Decontamination and Decommissioning (Ports D&D).

Q3b. How will "end state contracting" differ from EM's current approach to contracting?

A3b. The ESCM will primarily utilize Cost Plus Incentive Fee (CPIF) versus Cost Plus Award Fee as the contract type. The CPIF has a greater fee potential while the contractor assumes more risk. The additional fee earning potential is expected to motivate cost efficiencies and accelerate end state completion or closure which will reduce or eliminate hotel costs/liabilities. The source selection process is much more streamlined with the ESCM. The size of proposals has been significantly reduced and the selection process utilizes representative sample scopes of work typically consisting of a year or less in duration instead of a detailed proposal evaluation of up to 10 years of scope. The approach utilized by ESCM should be shorter in duration and less costly to industry. Finally, the previous contracting approach required contractors to propose the cost for 10 years of scope which included many unknown variables. The ESCM shifts to IDIQ, where the majority of the cost will be negotiated after contract award through Task Orders which will be for discrete scopes of work that eliminate most if not all of the unknown variables over a longer time horizon. A key component of the negotiation will be a partnering approach which was effectively utilized at other DOE clean-up sites such as Rocky Flats, Oak Ridge, Mound, and Fernald.

Q3c. How will "end state contracting" address DOE's growing environmental liability?

A3c. The emphasis of ESCM will be on end states that measurably reduce environmental risk and financial liability. The IDIQ model allows for better contract management and tasking of discrete scopes of work for more realistic, reliable pricing and appropriate incentive structures to yield significant reductions in EM's Environmental Financial Liability. The ESCM enables industry to be more innovative in approaches to cleanup and additional fee earning potential should motivate cost efficiencies and accelerate end state completion or closure, which will reduce or eliminate hotel costs/liabilities.

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Q4. The department created a few years ago the position of Chief Risk Officer, who is supposed to oversee and mitigate high risks throughout DOE.

Q4a. What is the role of the Chief Risk Officer in overseeing EM activities especially given the size and significant growth in EM's environmental liabilities?

A4a. The Chief Risk Officer works with the Department's Program Offices in providing assistance with how risks are identified and mitigated.

Q4b. What specific steps has the Chief Risk Officer taken in this area?

A4b. For the EM program specifically, the Chief Risk Officer has suggested that EM use its life-cycle cost information reported annually in the Congressional Budget Request over the past 15 years to identify lifecycle cost changes that have occurred over time and provide a description of the reasons that EM sites had decreases and increases in their reported environmental liabilities. The Chief Risk Officer also recommended that EM develop alternatives which can potentially mitigate the increases with an emphasis on the Hanford Site, EM's highest liability.

Q5. Under the *National Defense Authorization Act for fiscal year 2011*, EM must annually report estimated costs and detailed funding needs for future cleanup activities. However, in January 2019, the Government Accountability Office (GAO) reported that EM's 2017 submission to Congress was only the second one since 2011, and it did not include a detailed list of upcoming activities or funding needed to meet those activities.

Q5a. Why hasn't EM submitted the required reports to Congress?

A5a. EM successfully released the FY 2012 and FY 2017 "Future Years Report" to address the NDAA requirement. However, due to the extensive information required for this report, and the timing of the budget request and associated Hill hearings, EM has faced challenges in submitting subsequent reports to Congress in a timely manner. Often, the information is overtaken by more current congressional budgetary information, therefore rendering the report out of date before it can be released.

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Q5b. Why haven't these reports included accurate information, such as estimated future costs for the next four years?

A5b. All EM reports include publically available information based on the most current data at that point in time. The reports have not covered the next four years because EM is required by the Office of Management and Budget to submit an annual, not multiyear, budget.

Q5c. What does EM plan to do to provide such information to Congress in the future in a timely and accurate manner?

A5c. EM appreciates working with Congress as it exercises its oversight role of our important mission. We will continue to provide regular and proactive communications with this committee on our activities, needed funding, and other resources.

Q6. We understand that DOE has yet to a make decision on how it will treat Hanford's supplemental low-activity waste. GAO reported in 2016 that DOE may be able to reduce certain risks and save tens of billions of dollars by adopting alternative approaches to treat a portion of its low-activity radioactive waste at the Hanford Site.

Q6a. What options, if any, is Hanford considering for treating Hanford's supplemental low-activity waste, and what are the expected costs for these options?

A6a. The Department has not made a decision for treating supplemental low-activity waste and has not yet completed an options analysis for the treatment and disposal of these wastes.

Q6b. When does DOE expect to decide on how it will treat supplemental low-activity waste?

A6b. There is no specific date for making the decision on the supplemental treatment of low-activity waste. Section 3134 of *the National Defense Authorization Act for 2017* tasked the Federal Facility Research and Development Centers (FFRDC) with providing an assessment of treatment options for supplemental low-activity waste. In this case, the FFRDC consists of several DOE National Laboratories working together to include Savannah River National Laboratory, Oak Ridge National Laboratory, Sandia National Laboratories, and Pacific Northwest National Laboratory; they provided the results of

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their review in July 2019. Using the results of their report, the National Academies will make a recommendation for treating supplemental low-activity waste following a public comment period and in consultation with the State of Washington.

Q6c. To what extent, if any, has DOE analyzed alternatives to vitrification for treating supplemental low-activity waste, as GAO recommended in May 2017, and what are the results of the analyses?

A6c. DOE has not conducted an analysis of treatment options but is awaiting the results of the FFRDC report and NAS recommendations.

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QUESTIONS FROM CHAIRWOMAN DIANA DEGETTE (D-CO)

Q1. The U.S. Government's environmental liabilities are included on GAO's High Risk List. In particular, GAO notes that DOE has not met criteria for capacity, having an action plan, monitoring, or demonstrating progress. What steps is the Office of Environmental Management (EM) taking in each of these areas?

A1. EM has taken a number of steps to address GAO recommendations including: performing an options analysis to evaluate the current approaches to cleanup and other recently identified opportunities across the complex that could reduce risk and life-cycle costs through more efficient and innovative approaches; conducting independent cost analysis of the remaining cleanup of the Hanford Site to ensure that the cost estimates for the cleanup were bounded; implementing a new end state contracting model that will provide EM the needed flexibility to task its contractors using a risk-based approach to better define discrete scopes of work for site closure or end states for more realistic, reliable pricing and appropriate incentive structures to yield reductions in EM's environmental liability; developing an integrated schedule using an enterprise system to allow for more informed decision-making across the EM complex; and analyzing high-level waste case-by-case in a risk-based, rather than source-based manner.

Q2. In your written statement you said that EM is preparing a "10-year strategic planning options analysis."

Q2a. What will this strategic planning options analysis entail?

A2a. The Alternatives Analysis will identify opportunities for accelerating site closure and potential means for reducing the EM environmental liability. Three alternatives are analyzed, including the current baseline, the Optimized Alternative, and the Unconstrained Alternative. The analysis is performed for EM sites, with a focus on sites that have the potential for acceleration by Fiscal Year 2028. The analysis considers the following key factors: completion date of legacy waste cleanup; remaining costs, technical and project risks; regulatory and stakeholder acceptance; transuranic waste disposal at WIPP; and spent nuclear fuel and nuclear material management.

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Q2b. How can EM do an "options analysis" when it has not yet prepared a strategic plan?

A2b. As mentioned above, the Alternatives Analysis is conducted to identify opportunities for accelerating site closure and potential means for reducing the EM environmental liability. The information developed from the Alternatives Analysis will be used to inform the EM strategic planning for Fiscal Year 2021 and beyond.

Q3. Over the last 2 decades, several organizations—including the National Academies, the DOE Office of Inspector General, the Consortium for Risk Evaluation and Stakeholder Participation, and GAO—have recommended that DOE adopt a risk-informed approach to decision-making.

Q3a. How does DOE define risk-informed decision-making?

A3a. First and foremost, EM always seeks to address any issues posing an immediate risk to human health or the environment. The rationale for cleanup prioritization is based on achieving the highest risk reduction benefit while also recognizing EM's regulatory compliance commitments.

Q3b. What steps has DOE taken to take a risk-informed approach to decision-making?

A3b. Much of the cleanup of the EM complex is governed by multiple federal and state laws, such as the *Comprehensive Environmental, Compensation and Liability Act* (CERCLA), which uses a risk-based approach to decision making. EM pursues its cleanup objectives within a framework of regulatory compliance commitments. Taking many variables into account, EM has generally prioritized its cleanup activities as follows:

- Activities to maintain a safe, secure, and compliant posture;
- Radioactive tank waste stabilization, treatment, and disposition;
- Spent (used) nuclear fuel receipt and storage;
- Special nuclear material consolidation, stabilization, and disposition;
- Transuranic and mixed/low-level waste disposition;
- Soil and groundwater remediation; and
- Excess facilities deactivation and decommissioning.

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EM is looking to identify the barriers to success and how they can be mitigated to drive to completion faster in a manner that is protective of human health and the environment by considering a range of possibilities in terms of what could be achieved at sites across the complex, assumptions that need reassessed, and consider new approaches and disposal options. This includes a focus on risk reduction.

Q3c. To what extent does DOE have a framework for sites to follow to ensure that decisions are risk-informed?

A3c. Sites prioritize work using the framework described above and maintain a site-level Integrated Priority List (IPL). The site-level IPLs are assessed and integrated into an EM program IPL for program planning and formulating the annual budget request. Thereby, funding is focused on projects that offer the highest returns in terms of risk reduction, which is why retrieval, treatment and disposition of tank waste receives the largest share of cleanup funding.

Q3d. What challenges, if any, prevent DOE from taking a risk-informed approach to decision-making?

A3d. EM does use a risk-informed approach in decision-making as described above. Like any program of this size and complexity, executing a risk-informed approach considers uncertainty and most significantly, the complexity of the regulatory and legal framework associated with each site.

Cleanup of the EM complex is governed by multiple federal and state regulatory agreements. Collectively, there are approximately 40 such agreements in place throughout the EM program, some of which have been in place for decades and cover decades into the future.

Q4. GAO reported recently that EM does not manage its work as a program, does not have a strategic plan, does not follow program or project management best practices, does not track changes to cleanup milestones, and the data it uses to monitor its performance is not reliable.

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Q4a. What is EM's plan to require that its work conform to program and project management best practices?

A4a. EM is reviewing the July 2017 EM Cleanup Program policy to include program and project management requirements to determine appropriate changes. Cleanup activities with specific scopes and start and completion dates will follow best management practices. EM will review and revise EM's 2017 cleanup policy to include program and project management leading practices by January 31, 2020.

Q4b. What is EM's plan to fix its performance monitoring data, including its earned value, performance metrics and milestone data, as recommended by GAO?

A4b. EM has conducted a study of its internal Integrated Planning, Accountability, and Budgeting System (IPABS) database, and senior EM leadership is evaluating the study's recommendations for implementation and continuous improvement. Additionally, EM plans to roll out a plan for contractors to submit their earned value management (EVM) and cost data directly into the DOE databases such as IPABS and the Project Assessment and Report System (PARS) to eliminate input errors.

Q4c. The data that GAO has found unclear and unreliable is also the data EM has presented regularly to Congress. What is EM doing to ensure that the data it provides to Congress is accurate and provides the information Congress needs to do its job?

A4c. As stated earlier, EM has commenced an initiative to evaluate its current database systems such as IPABS and PARS to determine best options and methods to ensure data accuracy. This study is ongoing and is expected to be completed in early FY 20. EM submits Corporate Performance Measures reports to Congress annually. These reports include progress in cleaning up sites measured against targets. EM has directed a data validation study to determine revised methodologies to track cleanup progress against the annual targets included in budget requests. This report is expected in FY 20, and will include recommended actions to provide for direct upload of data from contractor's

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systems into a database, as well as standardizing the data templates to ensure uniformity of information across EM site reporting.

Q5. In 2019, GAO found that the data EM uses to monitor its performance is not reliable. What is EM's plan to fix its performance monitoring data, including its earned value performance metrics and milestone data, as recommended by GAO?

A5. EM has conducted a study of its internal financial management and project tracking tool, Integrated Planning, Accountability, and Budgeting System (IPABS). The study resulted in several recommendations that are being evaluated by senior leadership in EM's budget and planning team for implementation and continuous improvement. Additionally, there are actions in development for contractors to submit their earned value management (EVM) and cost data directly into the DOE databases such as IPABS and PARS to eliminate input errors.

Q6. In 2017, DOE undertook a 45-day review, which was intended to identify opportunities to improve its mission operations.

Q6a. What is the status of the 45-day review, and how, if at all, were the findings from that review used by EM?

A6a. The review enabled EM to evaluate opportunities to advance work that had been in progress, and in some instances to make decisions that were supportive of advancing cleanup. Some examples of decisions made include a decision to complete Waste Incidental to Reprocessing Evaluation for C-Tank Farm at Hanford and begin the NRC consultation process; a decision to develop a business case analysis for the Advanced Mixed Waste Treatment Facility that informed a decision on the future use of the facility; and a decision to initiate a Hanford Tribal Forum with the tribal nations to consult on interests for tribal access to the Hanford Site. These decisions included, when appropriate, notifications to Congress, tribal nations, state and local officials and other stakeholders.

Q6b. Does DOE plan to make the 45-day review public, and if so, when?

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A6b. The decisions resulting from the review were made a part of the public record.

Q7. In fall 2018, DOE put forth a proposal to reconsider its interpretation of high-level radioactive waste under the Atomic Energy Act, as amended, and the Nuclear Waste Policy Act of 1982, as amended. Under this interpretation, reprocessing waste would be non-HLW if, among other things, the waste does not exceed certain concentration limits or does not require disposal in a deep repository.

Q7a. What is the status of DOE's consideration of this new interpretation?

A7a. On June 10, 2019, DOE published a Supplemental Federal Register Notice (FRN) describing the high-level radioactive waste interpretation and providing DOE's response to public comments. On June 10, DOE also published its intent to prepare National Environmental Policy Act (NEPA) documents to analyze the potential treatment and commercial disposal of up to 10,000 gallons of Defense Waste Processing Facility recycle wastewater at the Savannah River Site. Further decisions about how this interpretation will apply to other existing wastes will require subsequent NEPA analysis.

Q7b. How would DOE's proposed reinterpretation of HLW address DOE's growing environmental liability?

A7b. DOE expects that some benefits of the HLW interpretation will include:

- Reducing the length of time that radioactive waste is stored on-site at DOE facilities, increasing safety for workers, the public, and the environment;
- Removing reprocessing waste from the states where it has been stored for decades and providing for the disposal of these wastes in facilities constructed and regulated for such purposes;
- Enhancing safety at DOE sites by using lower-complexity waste treatment and immobilization approaches; and
- Utilizing mature and available commercial facilities and capabilities to shorten mission completion schedules and reduce taxpayer financial liability.

Q8. Section 3139 of National Defense Authorization Act for Fiscal Year 2018 requires DOE to "conduct an evaluation of the feasibility, costs, and cost savings of classifying covered defense nuclear waste as other than high-level radioactive waste, without decreasing

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environmental, health, or public safety requirements." This report was due over a year ago.

Q8a. Why is this report delayed, and when will DOE issue the required report?

A8a. The report is undergoing review and will be issued when it's complete.

Q9. In 2019, the National Academies found that EM projections of nuclear weapons complex cleanup costs are "highly uncertain and probably low" due to uncertainties in lifecycle, costs, schedules, and risks.

Q9a. What steps does EM plan to take on implementing the National Academies' recommendation to obtain an independent assessment of the cleanup program's lifecycle costs and schedules from a government engineering organization?

A9a. EM greatly appreciates the National Academy of Sciences (NAS) findings and recommendations provided in their final report, issued in March 2019. NAS recommended an independent assessment of the cleanup program's lifecycle costs and schedules, and EM has tasked the Environmental Management Advisory Board (EMAB) to provide its thoughts and recommendations on what government engineering organization would be best to use. The NAS recommended the Army Corps of Engineers. In the interim, the Office of Technology Development is working with the sites to conduct an assessment of all currently sponsored technology development projects to confirm they are addressing a site's high priority needs and are scheduled to be implemented in the next two to three years.

Q9b. In 2019, the National Academies identified seven technologies and alternative approaches that could substantially reduce long-term cleanup costs; accelerate cleanup schedules; and mitigate uncertainties, vulnerabilities, or risks, or otherwise significantly improve the cleanup program. How, if at all, does EM plan to incorporate these technologies and approaches into its plans?

A9b. EM is currently evaluating the changes necessary to accommodate the seven technologies and alternative cleanup approaches that could substantially reduce long-term cleanup costs; accelerate cleanup schedules; and mitigate uncertainties, vulnerabilities, or risks. Although EM had been working on the technologies/approaches recommended,

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the NAS is challenging the organization to emphasize accelerated cleanup. EMAB will evaluate these seven technologies and approaches for its recommendations to achieve significant cost/schedule savings.

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QUESTIONS FROM REPRESENTATIVE BRETT GUTHRIE (R-KY)

Q1. How many gallons of waste has EM cleaned up to date and how many gallons of waste are remaining?

A1. The Department interprets this question as applying to tank waste from the reprocessing of DOE spent nuclear fuel generated from atomic energy defense activities. To date, EM has treated approximately 23 million gallons of waste from reprocessing activities, primarily from the Savannah River Site. Approximately 92 million gallons remain (56 million gallons at Hanford; 35 million gallons at Savannah River Site; and 850,000 gallons at Idaho).

Q1a. Of the waste that's remaining, what percentage of that is high-level waste and what percentage is low-level waste?

A1a. It is premature to speculate how much reprocessing waste could be classified as low-level radioactive waste and how much would remain high-level radioactive waste (HLW), as detailed technical assessments of waste stream characteristics and appropriate sampling have not been conducted. At this time, there are no proposals for actions involving the disposal of other reprocessing waste streams under DOE's HLW interpretation, except for the June 9, 2019, Federal Register notice on the NEPA analysis of the proposed use of commercial low-level radioactive waste disposal facilities for up to 10,000 gallons of Defense Waste Processing Facility recycle wastewater from the Savannah River Site to provide treatment and disposal options for completion of the tank closure program. Decisions about whether, and how, this interpretation of HLW will apply to existing wastes and whether such wastes may be managed as non-HLW will be the subject of subsequent actions. DOE will continue its current practice of managing reprocessing wastes as HLW.

Q2. Can you briefly describe the ways in which the low-level waste and high-level waste are cleaned up/treated?

A2. The ongoing liquid waste mission at the Savannah River Site (SRS) includes treatment of both low-level radioactive waste (LLW) and high-level radioactive waste (HLW). HLW

is treated in the Defense Waste Processing Facility (DWPF), where liquid tank waste is converted into a solid glass form suitable for long-term storage and disposal, in a process called "vitrification." The LLW portion of liquid waste at SRS is solidified in saltstone grout and disposed of on-site in Saltstone Disposal Units (SDU). Hanford is constructing a facility, the Waste Treatment and Immobilization Plant, to treat varying level of tank waste. Similar to SRS, the waste will be divided into high-level and low-level waste. The LLW will be vitrified at the low activity waste vitrification facility and the HLW will be vitrified at the HLW vitrification facility.

Individual waste stream treatment decisions are made on a case-by-case basis, and there is no one-size-fits-all treatment method for either LLW or HLW. Most of the Department's LLW from non-reprocessing activities is solid debris or soil and can be disposed without treatment; other LLW streams, such as liquid wastes or those containing hazardous chemicals, require stabilization/solidification or macroencapsulation. Treatment requirements depend on waste characteristics and disposal facility waste acceptance requirements.

Q2a. Is there a difference in cost and time between the two types of cleanup treatments? If so, what is the difference?

A2a. In general, LLW treatments are less complex and therefore, less costly than the more complex and very expensive treatments that may be required for HLW (e.g., the Waste Treatment and Immobilization Plant noted above). Some LLW does not require any treatment. HLW has been stored for decades at sites with no near-term path for disposal.

Q3. How, and for how long, do the different types of waste need to be stored once they are treated?

A3. HLW will be stored until a disposal path is available. LLW generally does not require extended storage as there are LLW disposal facilities available. DOE also has the responsibility for disposition of greater than Class-C (GTCC) LLW (commercial-owned) and GTCC-like waste (Federal-owned waste). There is currently no disposal path for

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GTCC waste. DOE continues to work with congressional staff on completing *the Energy Policy Act of 2005* (Public Law 109-58) requirement in Section 631 to "await action by Congress."

Q3a. How many locations do we have across the United States to store both low-level waste and high-level waste? Please provide the total capacity of each location.

A3a. HLW is currently stored at the sites where it was generated.

LLW is disposed of as soon as practical, either on-site or off-site. Off-site commercial disposal facilities operated by Energy*Solutions* of Utah and Waste Control Specialists, LLC in Texas dispose of LLW from the Department. The Waste Control Specialists (WCS) Federal Waste Facility accepts DOE Class A, B or C LLW. Energy*Solutions* in Utah receives commercial and DOE Class A LLW. These facilities have several million cubic meters of disposal capacity, with the possibility of increased capacity if license amendments are approved, that can be used for DOE's eligible radioactive wastes. The Department has on-site disposal facilities at the following sites:

- Two LLW disposal sites at the Hanford Site, the Integrated Disposal Facility (1 million cubic meters) and Environmental Restoration Disposal Facility (20 million tons);
- Idaho National Laboratory, the Comprehensive Environmental Response, Compensation, and Liability Act Disposal Facility (390,000 cubic meters);
- Los Alamos National Laboratory, the Material Disposal Area G (closing--36 pits, 200 shafts, and four trenches with depths ranging from 10 to 65 feet below the original ground surface, estimated to be 400,000 cubic meters);
- Oak Ridge Reservation, the EM Waste Management Facility (1.7 million cubic meters);
- Savannah River Site (each new Saltstone Disposal Unit (SDU) 110,000 cubic meters capacity, SDU #6 under construction, SDUs 7, 8, 9 planned);

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- Nevada National Security Site (815,000 cubic meters);
- A new disposal facility is under construction at the Portsmouth Gaseous Diffusion Plant; and
- DOE facilities not planned for closure may be expanded if the need arises, pending regulator approval.

Q4. Were the costs associated with the PUREX tunnel collapse at the Hanford site reflected in the environmental liability estimate? If not, why not?

A4. Yes, the costs of the work needed to stabilize the PUREX tunnels were reflected in the Department's environmental liability.

Q5. When there is a scheduling delay, who bears the cost of continued delay at a contaminated site?

A5. Scheduling delays can occur for many reasons. EM's cleanup work is very challenging, with many one-of-a-kind activities. Even decontamination and decommissioning of facilities is never the same since each facility has a unique history. Delays occur because of unexpected or changing conditions, a determination that technical solutions don't work as well as expected, or because of changing conditions that could impact safety and health. The cost impacts in these situations are usually borne by EM unless it is due to a contractor performance failure.

Q6. Please describe the efforts that EM has undertaken to improve its data collection so that it has complete visibility into the costs and timetables at all cleanup sites.

Q6a. Is there an expected timeframe in which this data collection and assembly will be complete?

A6a. Last summer, EM conducted an independent cost analysis of the remaining cleanup of the Hanford Site to ensure that the cost estimates for the cleanup were bounded. This information was provided in a software package that allows for more visibility into the basis of the costs and schedule dependencies. EM is currently evaluating that software along with an enterprise scheduling system to track site baselines and milestones. When

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EM completes the evaluation, it will proceed with development of the new system, which would likely be available next year for use at all EM Sites.

Q7. Approximately 40 percent of the money that EM spends on cleanup goes to "minsafe" or minimum safety costs. These costs go towards maintaining these sites to keep them running, safe, and secure until cleanup is complete. Can you provide examples of what types of expenses are included in minsafe costs at the cleanup sites?

A7. The types of activities are recurring activities necessary to maintain facilities, infrastructure, and nuclear materials in a safe and secure condition. These recurring activities include, safeguards and security, health and radiation protection, facility and infrastructure surveillance and maintenance, and roads and utilities upkeep.

Q7a. Is it correct that when the timetable for completing cleanup is delayed the liability increases? If so, to what extent is this due to the amount of money spent in minsafe costs?

A7a. Yes, as cleanup scope is delayed, the liability increases. The extent of the increase varies by site and activity depending on the age, type, and condition of facilities or the type and quantity of nuclear material being managed. For example, delaying demolition of a non-nuclear facility results in a much lower cost increase than a nuclear facility.

Q7b. What is EM doing to address the high minsafe cost at these facilities?

A7b. EM evaluates recurring activities to determine if the costs associated can be further optimized. The implementation of the end-state contracting approach incentivizes contractors to minimize costs.

Q8. Should nuclear waste sites be managed the same way as the U.S. Environmental Protection Agency's (EPA) Superfund sites?

Q8a. Are the cleanup situations comparable? If not, how are they different?

A8a. For abandoned industrial sites on which there is not current managed industrial activity, some DOE sites, that are currently managed by DOE, also have remediation obligations under CERCLA because of previous industrial activities at those locations and are

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therefore, remediated under the same regulatory scheme that EPA uses for Superfund sites. DOE sites on the national priorities list (NPL) being remediated under CERCLA may have many of the industrial contaminants typical of other Superfund sites managed by EPA, the ones managed by DOE frequently also contain contamination from nuclear materials regulated by DOE under the *Atomic Energy Act* (AEA), a task that invokes DOE's special expertise in the handling of nuclear materials pursuant to the AEA.

Q9. GAO reported that EM is not implementing program management leading practices. Is EM implementing program management leading practices?

Q9a. Who is responsible for implementing program management leading practices?

A9a. All EM sites and project offices are responsible for implementing program management practices, as delineated in the July 2017 cleanup program policy. In order to address GAO's findings and recommendations, EM is revising the EM Cleanup Program management policy to include leading industry program management best practices. All of the GAO recommendations will be incorporated into the revised policy which is expected to be implemented in early FY20.

Q9b. When will these practices be fully implemented?

A9b. The revised EM Cleanup Program Management policy is expected to be implemented in FY 2020.

Q10. GAO reported that EM has not largely implemented project management best practices. Is EM implementing project management best practices?

Q10a. Who is responsible for implementing project management best practices?

A10a. Every EM site has a responsibility to implement project management best practices.

Q10b. When will these best practices be fully implemented?

A10b. The revised EM Cleanup Program Management policy incorporating best practices is expected to be implemented in FY 2020.

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Q11. What is EM's working relationship with the DOE Office of Project Management, and how is EM overseen by this office?

A11. EM has a very good working relationship with the Office of Project Management. EM's Office of Project Management meets monthly with the DOE Office of Project Management Oversight and Assessment (PM) to review the status of EM projects, issues, and accomplishments, and plans for advancing projects to the next DOE Order 413.3B Critical Decision (CD) are discussed. The PM office is a member of the Project Management Risk Committee (PMRC) and participates in the review and approval of EM project actions and debriefs of Project Peer Review (PPR) results. The PM office participates in EM PPRs as team members.

Q12. Your written testimony noted how the EM cleanup mission is being modernized, and you believe this is the key to addressing liabilities. You mentioned using current cleanup technologies for waste composition and risk. What are these technologies, and will their use help reduce EM environmental liabilities?

A12. At Savannah River, tank waste is processed to separate long-lived radionuclides from low-activity waste and then vitrified using modern joule-heated melter technology developed by the Department. The glass waste form is protective of the environment and addresses the risk. Glass compositions are developed for optimal processing conditions for the particular waste constituents to achieve, among other things, throughput and waste loading targets. Improved glass formulation allows for safe disposal of more high-level waste in each glass canister. This is expected to save about $1.5B in lifecycle costs. The low activity waste is processed into saltstone, a grout or cement-based waste form whose composition is also developed to prevent release of radionuclides and other constituents into the environment.

The solvent extraction technology was selected for Savannah River as one of these operations, segregating radioactive cesium from low activity waste. EM improved this process with a next-generation solvent system that has been deployed for the processing of tank waste at SRS. The improvements in the process could save over $2B in lifecycle costs.

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Another example of a new technology at EM sites is the robotic Pipe Crawling Activity Measurement System (PCAMS). Carnegie Mellon University designed and manufactured this system. The system was successfully tested at the Portsmouth site within the actual gaseous diffusion system piping, and will improve the quality of the measurements of uranium within the system and improve worker safety as well. Two production units have been delivered to the site and are scheduled for deployment in the summer of 2019. The first generation/current system will improve the measurement approaches for both the Portsmouth and Paducah gaseous diffusion plants, and the technique could be modified and replicated at other sites throughout the DOE complex.

Q13. Your testimony mentioned that EM's multifaceted approach includes lessons learned over decades of cleanup. What are those lessons, and how are they being applied?

A13. As previously noted, much of EM's cleanup work is unique, with every aspect representing new challenges. EM continuously evaluates new technical approaches and technologies to putting waste into glass and concrete forms, new tools and techniques for assessing facilities and characterizing contamination; new contracting approaches; and new methods of training workers, planning jobs, fixing contamination, and managing contaminated debris.

Q14. Your testimony mentioned establishing end states to reduce costs.

Q14a. What is end-state contracting and how will this help reduce EM's liabilities?

A14a. In the summer of 2018, EM shifted to the End State Contracting Model (ESCM) with the objective of reinvigorating the completion mindset and reforming the way EM does business in the management of environmental cleanup. The ESCM utilizes a single award Indefinite Delivery Indefinite Quantity (IDIQ) contract structure, which provides the needed flexibility to task contractors using a risk-based approach to better define discrete scopes of work for site closure or end states for more realistic, reliable pricing and appropriate incentive structures to yield significant reductions in EM's environmental financial liability. The ESCM employs a two-step process using a competitive

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qualifications-based Request for Proposal (RFP) to select the offeror representing the best value and subsequent single source Task Order(s) negotiations through effective partnering. The selection process utilizes a streamlined evaluation of representative sample scopes of work typically consisting of a year or less in duration instead of previously used detailed proposal evaluation of up to 10 years of scope. Additionally, EM is moving back towards Cost Plus Incentive Fee (CPIF) contracts with greater fee earning potential than that of recently awarded Cost Plus Award Fee (CPAF) contracts. While the fee potential is higher, the contractor assumes more risk under the CPIF contract. The ESCM IDIQ approach also provides EM with an off-ramp earlier in the Period of Performance without contract termination liability if contractor performance is subpar. Currently, EM has seven (7) active end state acquisitions: Hanford Central Plateau Cleanup Contract (CPCC), Hanford Tank Closure Contract (TCC), Oak Ridge Reservation Cleanup Contract (ORRCC), Nevada Environmental Program Services Contract (NEPSC), Idaho Cleanup Project Contract (ICPC), Savannah River Integrated Mission Completion Contract (SRIMCC), and Portsmouth Decontamination and Decommissioning (Ports D&D).

Q14b. What is the status of this contracting reform?

A14b. The first two End State Contracting (ESC) RFPs for the CPCC and TCC were released in February 2019 and the acquisition teams are currently evaluating proposals with contract awards scheduled for later this year. While this number is subject to change, the remaining five ESC RFP's are in various stages of development with releases scheduled throughout the next 12 to 18 months.

Q15. Your testimony mentioned updating key project lifecycle estimates and provide a new level of transparency when it comes to liability data. Please describe the current status of this initiative and how this will reduce costs.

A15. Last summer, EM conducted an independent cost analysis of the remaining cleanup of the Hanford Site to ensure that the cost estimates for the cleanup were bounded. This information was provided in a software package that allows for more visibility into the

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basis of the costs and schedule dependencies. EM is currently evaluating that software along with an enterprise scheduling system to track site baselines and milestones. When EM completes the evaluation we will proceed with development of the new system, which would likely be available next year. Having more visibility in the cost and schedule drivers for the program will allow EM to better structure its contracting efforts to incentivize lifecycle cost reductions. In addition, it will allow EM to better understand the cost impacts of compliance agreements that are being negotiated.

Q16. Your testimony mentioned that EM is implementing a 10-year strategic planning options analysis. What is the goal of this analysis?

A16. The goal of the analysis is to identify opportunities for accelerating site closures and potential means for reducing the EM environmental liability. Results of the analysis will be used to inform EM's strategic planning for FY2021 and beyond.

Q16a. Who is in charge of this analysis?

A16a. The Associate Principal Deputy Assistant Secretary for Field Operations has the overall responsibility for the analysis.

Q16b. Has this been contracted out?

A16b. No, the analysis is conducted by Federal staff with support of some EM headquarters support contractors.

Q16c. What is the expected end date of this analysis?

A16c. The analysis is expected to be completed in time to inform the development of the FY2021 Budget Request. EM also plans to continue to refine the analysis with updated environmental liability and additional alternatives to inform strategic planning for the out years.

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Q17. EM began an Independent Cost Review of the remaining cleanup of the entire Hanford Site in late 2018. Which entity is responsible for the review, and when will this cost review be completed?

A17. The Richland Operations Office was responsible for completing the review, which was supported by the U.S. Army Corps of Engineer's contractor. The review was completed in January 2019.

Q18. DOE is currently evaluating the interpretation of the statutory definition of high-level radioactive waste. What is the issue with the definition?

A18. Historically, DOE has managed nearly all waste generated from the reprocessing of spent nuclear fuel as High-Level Waste (HLW), despite the fact that much of it is less radioactive. HLW requires a complex and costly process called vitrification, where the material is mixed with molten glass and then buried deep underground. This one-size-fits-all approach has led to decades of delay and billions of dollars in maintenance costs, and left the waste trapped at DOE facilities in Washington, South Carolina, and Idaho without a permanent disposal solution.

Q18a. How could it be reinterpreted?

A18a. On June 10, 2019, DOE published a Supplemental Federal Register Notice describing the HLW interpretation and providing DOE's response to public comments. DOE may determine that waste is not HLW if the waste:

> I. Does not exceed concentration limits for Class C low-level radioactive waste as set out in Section 61.55 of Title 10, Code of Federal Regulations, and meets the performance objectives of a disposal facility; or
>
> II. Does not require disposal in a deep geologic repository and meets the performance objectives of a disposal facility, as demonstrated through a performance assessment conducted in accordance with applicable requirements.

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Waste meeting either of these tests could be classified based on its radiological content and disposed of in accordance with disposal facility waste acceptance criteria, allowable radionuclide content, waste form and packaging requirements, and waste generator certifications and approvals.

Q18b. If the definition were reinterpreted this way, would this lead to a reduction in EM environmental liabilities? Why or why not?

A18b. DOE expects that benefits of the HLW interpretation could include:

- Reducing the length of time that radioactive waste is stored on-site at DOE facilities, increasing safety for workers, the public, and the environment.
- Removing reprocessing waste from the States where it has been stored for decades and providing for the disposal of these wastes in facilities constructed and regulated for such purposes.
- Enhancing safety at DOE sites by using lower-complexity waste treatment and immobilization approaches.
- Utilizing mature and available commercial facilities and capabilities to shorten mission completion schedules and reduce taxpayer financial liability.

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QUESTIONS FROM REPRESENTATIVE MICHAEL C. BURGESS (R-TX)

Q1. In 1983, the Nuclear Waste Policy Act was signed into law. Under this law Congress directed the Department of Energy to establish a permanent radioactive waste disposal program. Later, Congress designated Yucca Mountain as the site where this disposal program was to take place. Nearly four decades later, the Yucca Mountain facility is closed for political reasons. In today's hearing, we are considering the cost associated with storing high level radioactive materials in sites throughout the country.

Q1a. What impact does the lack of a permanent deep geological repository have on DOE's Office of Environmental Management environmental liabilities?

A1a. Due to the lack of a repository, DOE continues to manage and store high-level waste (HLW) and spent nuclear fuel at DOE sites. Reprocessing waste continues to be stored at DOE sites in Idaho, Washington, and South Carolina without a permanent disposal solution. The delay in opening a permanent geologic repository for spent fuel and HLW has significantly increased EM's environmental liability.

Q1b. What costs are incurred by storing high-level radioactive waste in temporary conditions?

A1b. Costs associated with safe and secure storage of waste include facility operations, infrastructure, maintenance, inspections and monitoring.

Q1c. When the Yucca facility closed in 2008, was there any change to the DOE's cleanup liability? If so, why?

A1c. The termination of the Yucca Mountain project has increased EM's cleanup liability. Further uncertainty regarding a permanent repository will extend cleanup schedules and prolong the costs associated with managing and storing HLW and spent nuclear fuel at DOE sites.

Q2. It's my understanding that contracts and contractors account for 90 percent of the Department of Energy's budget. Given the large number of dollars being paid to contractors, what type of oversight does EM conduct over the contractors who are operating the cleanup sites?

Q2a. Are there audit requirements? If so, please describe what they are.

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A2a. Pre-award audits are required based on the contract type, level of competition, and value of the contract, etc. required by the Federal Acquisition Regulation (FAR)/Department of Energy Acquisition Regulation (DEAR). These audits are usually obtained from the Defense Contracting Audit Agency (DCAA) or the Department's external audit contractor. For FAR based contractors, certified final indirect cost rate proposals are required and post-award audits are performed by the cognizant Government auditor or the contractor participates in the Cooperative Audit Strategy. Contract Change Proposals are audited as deemed necessary based on dollar amount and timing of most recent audit.

Q2b. Is there a statute of limitations regarding how long DOE has to reclaim or claw back funds that were given to a contractor if DOE finds that there was waste, fraud, or abuse of those funds? If so, what is that statute of limitations?

A2b. The statute of limitations to reclaim or claw back funds given to a contractor is six years. The Contract Disputes Act [41 USCA Section 7103(a)(4)(A)] states "Each claim by a contractor against the Federal Government relating to a contract and each claim by the Federal Government against a contractor relating to a contract shall be submitted within 6 years after the accrual of the claim." (However, there is an exception is cases involving fraud.)

FAR 33.201 states that an "Accrual of claim means the date when all events, that fix the alleged liability of either the Government or the contractor and permit assertion of the claim, were known or should have been known."

Q2c. Does Office of Environmental Management independently verify the financial numbers submitted by the contractors? If not, why not?

A2c. For those under the cooperative audit strategy, the contractor maintains an internal audit department, the OIG performs annual SCIC audits, and the cognizant field office does financial management systems reviews. For pre-award, either desk reviews are performed by cost/price analysts, or audits are requested to verify financial numbers submitted by contractors.

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Q2d. If the numbers are not verified, why should we trust the financial numbers reported by contractors?

A2d. Prior audit/review history would obviate the need for further verification.

Q2e. Does Office of Environmental Management believe that the cost numbers submitted by the contractors are accurate and reliable?

A2e. Yes, the Office of Environmental Management believes that the cost numbers submitted by contractors are accurate and reliable due to audit, evaluation, and negotiation of the final proposals.

Q2f. How does Office of Environmental Management measure the value of a contractor's cleanup work?

A2f. The value of a contractor's cleanup work is measured by the amount of remediation that is achieved and the amount of risk that is reduced. Each project is specifically tracked for cost, scope and schedule using EVMS.

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Mr. David Trimble, Director, Natural Resources and Environment
U.S. Government Accountability Office

The Honorable Frank Pallone, Jr. (D-NJ)

1. **In January 2019, the Government Accountability Office (GAO) found that the Office of Environmental Management (EM) relies primarily on its sites to select cleanup remedies. What steps should EM headquarters take to provide additional oversight over its sites?**

As we reported in January 2019, we and others have made several recommendations over the last 2 decades that EM develop national priorities to balance risks and costs across and within its sites.[1] For example, a 2015 report by the Consortium for Risk Evaluation with Stakeholder Participation recommended that DOE develop an approach to compare priorities across the complex based on risk and direct resources to better address higher-risk activities. In addition, in 2011 DOE's IG recommended that EM address its environmental responsibilities on a national, complex-wide basis and direct resources to high-risk activities that threaten human health and safety or the environment. In our January 2019 report, we recommended that EM develop a program-wide strategy that outlines how EM will direct available resources to address human health and environmental risks across and within sites. DOE concurred with this recommendation.

2. **EM conducts the majority of its work with limited independent oversight from the Department of Energy (DOE) or others. What steps should DOE take to improve independent oversight of EM and its operations activities?**

We have recommended that DOE establish criteria for classifying its work as operations activities—which use less stringent requirements than capital asset projects— and, consistent with leading practices, require independent reviews of its cleanup program. As we reported in February 2019, two DOE bodies play a role in the oversight of EM's capital asset projects: (1) DOE's Office of Project Management, which is responsible for providing DOE-wide leadership and assistance pertaining to project management, as well as validating project performance baselines for the department's capital asset projects; and (2) the Project Management Risk Committee, which reviews and provides advice on capital asset projects with a total project cost of $100 million or more.[2] However, EM manages most of its cleanup work as operations

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[1]GAO, *Department of Energy: Program-Wide Strategy and Better Reporting Needed to Address Growing Environmental Cleanup Liability,* GAO-19-28 (Washington, D.C.: Jan. 29, 2019).

[2]GAO, *Nuclear Waste Cleanup: DOE Could Improve Program and Project Management by Better Classifying Work and Following Leading Practices,* GAO-19-223 (Washington, D.C.: Feb. 19, 2019).

activities and site managers have the discretion to classify cleanup work as operations activities even if the work has characteristics of capital asset projects, because DOE and EM have not established requirements for classifying EM's cleanup work. In that February 2019 report, we recommended that EM work with DOE's Office of Project Management to establish requirements for classifying cleanup work as capital asset projects or operations activities and then work together to assess EM's ongoing operations activities to determine if they should be reclassified as capital asset projects based on the newly established requirements. DOE partially concurred with these recommendations.

In addition, in the same February 2019 report, we found that EM's policy does not follow program management leading practices. One of these practices—which we found EM's policy "minimally meets"—is having an independent oversight body that conducts periodic reviews of the progress of the program in delivering its expected benefits. Specifically, we found that EM's 2017 cleanup policy does not require any independent entity outside EM to review the performance of the EM program as a whole in delivering its expected benefits. EM's policy requires EM's Office of Project Management to conduct a periodic Programmatic Peer Review of cleanup work at each site, but this review is not independent of EM. We recommended that EM revise its 2017 cleanup policy to include program management leading practices, including relating to independent reviews. DOE concurred with this recommendation.

3. EM has been subject to reorganization within DOE and leadership turnover. What measures should EM take to help ensure successful long-term continuity of operations through reorganization and staff and leadership changes?

EM will be in a better position to withstand organizational changes if it meets the first three criteria listed in our High Risk Series, namely: (1) a demonstrated commitment from leadership; (2) the capacity (i.e., people and resources) to resolve risks; and (3) a corrective action plan that defines the root cause, solutions, and provides for substantially completing corrective measures, including steps necessary to implement solutions.[3] Since the early 1990s, our high-risk program has focused attention on government operations with greater vulnerabilities to fraud, waste, abuse, and mismanagement, or that are in need of transformation.

In addition, EM would be in a better position to withstand organizational changes if it incorporates leading program management practices into its cleanup policy. In February 2019, we recommended that EM include program management leading practices in its cleanup policy to help ensure the EM program achieves its goals and intended benefits.[4] These practices include (1) having a program management plan and roadmap that are updated regularly; (2) having a reliable, integrated master schedule that is updated on a regular basis; and (3) having a lessons learned database.

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[3]GAO, *High-Risk Series: Substantial Efforts Needed to Achieve Greater Progress on High-Risk Areas,* GAO-19-157SP (Washington, D.C.: Mar. 6, 2019).

[4]GAO-19-223.

The Honorable Diana DeGette (D-CO)

1. **To what extent does the Office of Environmental Management (EM) have the capacity to do its work, including resources such as having sufficient staff and staff with the right skill sets? What additional resources, if any, does EM need to address these management challenges?**

As we reported in our 2019 update to the High Risk List issue area on the U.S. government's environmental liabilities, EM lacks the information needed to evaluate overall project and program performance and assess whether it has sufficient staff—or the staff with the right skills—to carry out its cleanup mission.[5] Similarly, in our 2019 update to the High Risk issue on DOE's contract and project management, we found that, although DOE revised its program and project management guidance in May 2016 to direct that capital asset acquisitions have adequate oversight staff, EM has not benefitted from this change. This is because EM does not follow DOE's program and project management requirements for the majority of its cleanup activities. In addition, EM's July 2017 cleanup policy does not sufficiently address the need for EM to have adequate staff for its work.

It is also unclear what additional resources EM may need because EM has historically not provided all of the statutorily required information about the status of its cleanup effort, and the information EM has reported has been incomplete or inaccurate. Specifically, under the Atomic Energy Defense Act, EM must annually develop and report to Congress a Future-Years Defense Environmental Management Plan that reflects estimated expenditures and proposed appropriations included in the DOE budget for defense environmental cleanup activities.[6] EM did not submit plans from fiscal year 2013 through fiscal year 2016, and the plan submitted in August 2017 included little of the information required. For example, the costs EM included were less than those reflected in EM's environmental liability, and EM did not provide estimated expenditures and proposed appropriations in the budget year and no less than 4 succeeding fiscal years. In January 2019, we recommended that EM submit annual plans with all mandated requirements, as well as information on annual growth in environmental liability estimates by site, the key factors causing that growth, and an explanation of significant differences between environmental liability estimates and life cycle cost estimates. DOE concurred with this recommendation. By taking steps to regularly and more accurately report information to Congress on its projected resource needs over the coming years, DOE and congressional decision-makers will be in a better position to understand what resources EM needs to address management changes.

2. **What are the most pressing issues for current and future DOE leadership to address when it comes to EM?**

    a. **What advice would you offer to EM's new acting Assistant Secretary?**

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[5]GAO-19-157SP.

[6]50 U.S.C. § 2582a.

b. What advice would you offer to future EM leadership?

DOE and EM leadership may turn to GAO's priority recommendations for DOE, which were highlighted in an April 2019 letter to DOE, urging leadership to continue focusing on these priority issues.[7] As of January 2019, DOE had 135 open recommendations, and in our letter we noted that 18 of these are considered priority recommendations. They fall into 7 major areas: (1) improve project and program management; (2) improve contract management; (3) improve financial and cost information; (4) strengthen planning for the future of the strategic petroleum reserve; (5) address nuclear modernization challenges; (6) address DOE's environmental liability; and (7) address aging legacy information technology systems and cybersecurity.

Several of these priority recommendations pertain directly to EM. For example, in the letter we highlighted an April 2018 recommendation pertaining to Hanford's Waste Treatment and Immobilization Plant project—that DOE revise the Office of River Protection's organizational structure so that the quality assurance function is independent of the office's upper management.[8] In addition, we highlighted a recommendation that we made in May 2017, that DOE develop updated information on the effectiveness of treating and disposing of all the different portions of Hanford's supplemental low-activity waste with alternate methods or at alternate disposal sites.[9] Fully implementing these open recommendations could significantly improve agency operations.

Implementing these recommendations would also allow DOE and EM to make progress in addressing the issues that have caused them to be included on GAO's High Risk List. These two areas are DOE's contract and project management for the Office of Environmental Management, and the U.S. government's environmental liability.[10]

3. According to federal accounting standards, environmental liability estimates are to include probable and estimable costs of cleanup work. What costs are excluded from DOE's environmental liability estimates? What do these costs represent, and what are the implications of excluding them from DOE's environmental liability estimates?

According to federal accounting standards, only work that is probable and reasonably estimable is required to be reported in an agency's liability.[11] DOE is responsible for developing its

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[7]GAO, *Priority Open Recommendations: Department of Energy*, GAO-19-311SP (Washington, D.C.: Apr. 10, 2019).

[8]GAO, *Hanford Waste Treatment Plant: DOE Needs to Take Further Actions to Address Weaknesses in Its Quality Assurance Program*, GAO-18-241 (Washington, D.C.: Apr. 24, 2018).

[9]GAO, *Nuclear Waste: Opportunities Exist to Reduce Risks and Costs by Evaluating Different Waste Treatment Approaches at Hanford*, GAO-17-306 (Washington, D.C.: May 3, 2017).

[10]GAO-19-157SP.

[11]According to the Financial Accounting Standards Board, where the federal government is not legally responsible for environmental cleanup but acknowledges that it will assume financial responsibility for the cleanup, a liability is recorded for unpaid amounts due, not necessarily the full cost of cleanup. Also, where the government is legally responsible for environmental cleanup but there is no known technology to clean up a particular site, then known costs for which the entity is responsible, such as a remedial investigation, feasibility studies, and costs to contain the contamination, are recorded as a liability. Further, federal

environmental liability in accordance with these federal accounting standards. Therefore, DOE's environmental liability does not include the cleanup activities for which DOE may be responsible in the future but that are not yet probable, not yet reasonably estimable, or both. For example, DOE's EM has not yet developed a cleanup plan or cost estimate for the Nevada National Security Site and, as a result, the cost of future cleanup of this site was not included in the reported environmental liability. In addition, because the cost of addressing some of EM's largest projects is underestimated, EM's (and therefore DOE's) environmental liability may continue to grow. For example, as of April 2018, EM and its contractor had still not negotiated an updated estimated cost for completing the Waste Treatment and Immobilization Plant, which is DOE's largest and most complex construction project. As a result of not including these various costs, DOE's currently estimated environmental liability may be understated.

The Honorable Brett Guthrie (R-KY)

1. Is the Office of Environmental Management (EM) environmental liability estimate understated? If so, why?

As we reported in our 2019 High Risk Series update, we believe that DOE's cleanup responsibilities may be underestimated. DOE is responsible for developing its environmental liability in accordance with federal accounting standards, under which agencies' environmental liability estimates do not include cost estimates for work which reasonable estimates cannot currently be generated. Therefore, DOE's environmental liability does not include the cleanup activities for which DOE may be responsible in the future but that are not yet probable, not yet reasonably estimable, or both. Within DOE, EM is responsible for most of the department's cleanup activities—accounting for over 75 percent of DOE's total environmental liability. GAO has found that EM's environmental liability also does not include the cleanup activities for which it may be responsible in the future but that are not yet probable, not yet reasonably estimable, or both. For example, EM has not yet developed a cleanup plan or cost estimate for the Nevada National Security site and, as a result, the cost of future cleanup of this site was not included in EM's reported environmental liability. The nearly 1,400-square-mile site has been used for hundreds of nuclear weapons tests since 1951. These activities have resulted in more than 45 million cubic feet of radioactive waste at the site, but the costs for the cleanup of this waste are excluded from EM's annually reported environmental liability. In addition, the current cost associated with some of EM's cleanup efforts may be underestimated. For example, as of April 2018, EM and its contractor had still not negotiated an updated estimated cost for completing the Waste Treatment and Immobilization Plant—DOE's largest and most complex construction project.

2. What costs are not included in EM's environmental liability estimate?

a. Is there a way to account for these costs?

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agencies' environmental liability estimates do not include cost estimates for work for which reasonable estimates cannot currently be generated.

As described above, DOE is responsible for developing its environmental liability in accordance with federal accounting standards. Federal accounting standards state that agencies' environmental liability estimates are to include probable and reasonably estimable costs of cleanup work. Therefore, EM's environmental liability does not include the cleanup activities for which EM may be responsible in the future but that are not yet probable, not yet reasonably estimable, or both. In addition, EM is only required to report on its program's environmental liability, not the environmental liabilities of other programs.

EM would have better assurance that it provides policymakers the information necessary to assess the full costs of long-term cleanup by disclosing the funding it needs to meet all of its schedule milestones called for in compliance agreements in, for example, supplemental reporting or the annual Future-Years Defense Environmental Management Plan. Although DOE provides budget materials to help Congress understand the long-term costs of the cleanup program, EM's recent submissions did not include sufficient details about the agency's long-term cleanup plans or future funding requirements necessary to fulfill its cleanup mission, and did not account for realistic, future budget scenarios. By including information on annual growth in its environmental liability estimates by site, the key factors that caused that growth, and an explanation of significant differences between life cycle cost estimates in its annually required Future-Years Defense Environmental Management Plan, EM would provide Congress with a more complete picture of long-term cleanup costs. In January 2019, we recommended that EM disclose the funding it needs to meet all of its schedule milestones called for in compliance agreements. DOE agreed with our recommendation.

3. Do the recent EM budget materials provide the required or complete information on the funding needed to meet its future cleanup responsibilities?

We reported in January 2019 that EM has not submitted congressionally mandated reports on its cleanup program and the information EM has reported has been incomplete or inaccurate.[12] These reports are intended to provide Congress with information on the progress, challenges, and expected future costs of the EM cleanup program. Under the fiscal year 2011 National Defense Authorization Act, EM must annually develop and report to Congress a Future-Years Defense Environmental Management Plan that reflects estimated expenditures and proposed appropriations included in the DOE budget for defense environmental cleanup activities.[13]

However, we found that EM did not submit the required plans from fiscal year 2013 through fiscal year 2016, or in fiscal year 2018—it had only submitted the plans in 2012 and 2017. Moreover, we found that EM's most recent Future-Years Defense Environmental Management Plan, which DOE submitted to Congress in August 2017, included little of the information required by the fiscal year 2011 National Defense Authorization Act. We also found that the forecast completion dates for milestones listed in the 2012 and 2017 plans may not present an accurate picture of the status of the milestones and EM's cleanup efforts. For example, the 2017 plan listed only one milestone out of 154 as forecast to miss its due date. However, because EM

[12]GAO-19-28.

[13]50 U.S.C. § 2582a.

does not have a historical record of the changes made to the milestones, it is unclear how many of these milestones were recently revised or actually represented their original due dates because the report does not include this information.

Because DOE is not consistently and comprehensively submitting complete information about the status of its cleanup, Congress and other stakeholders may not have access to reliable information to make informed decisions about billions of dollars of cleanup work. We recommended that DOE submit in EM's annually required Future-Years Defense Environmental Management Plan all mandated requirements, as well as information on annual growth in environmental liability estimates by site, the key factors causing that growth, and an explanation of significant differences between environmental liability estimates and life cycle cost estimates. DOE agreed with our recommendation and has since said it is working toward this goal.

4. Is there any cleanup work that should still be classified as operational activities? If so, what type of activities, and why?

DOE project management experts on the Project Management Risk Committee and in DOE's Office of Project Management have raised concerns related to EM's 2017 cleanup policy and the classification of cleanup work since 2015. These officials have stated that some current operations activities should be classified as capital asset projects.

As we reported in February 2019, neither DOE nor EM has a policy on how to classify cleanup work as either operations activities or capital asset projects.[14] According to DOE Office of Project Management officials, DOE does not have a department-wide policy on how to classify cleanup work. Instead, these officials stated that DOE's general management approach is to let its individual programs, such as EM, decide how to classify their work. EM officials explained that EM allows each site manager to determine independently how to classify cleanup work because according to EM's 2017 cleanup policy, the site manager is responsible and accountable for the planning and execution of all site-level activities.

EM currently manages most of its work as operations activities. EM's work is divided into 77 operations activities and 20 capital asset projects. In the fiscal year 2019 budget, operations activities accounted for 77 percent of EM's approximately $7.2 billion budget—about $5.5 billion—while capital asset projects accounted for 18 percent of EM's budget—about $1.3 billion.[15]

We reported in February 2019 that until EM works together with DOE's Office of Project management (1) to establish requirements for classifying cleanup work as capital asset projects or operations activities and (2) to assess EM's ongoing operations activities to determine if they should be reclassified as capital asset projects based on the newly established requirements, the department may incur more project management risk of cost increases and schedule delays than it should for hundreds of billions of dollars of remaining work.

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[14]GAO-19-223.

[15]EM used the remaining $347 million to fund its operations at headquarters for program direction and support.

5. Has the Government Accountability Office (GAO) done work to determine how much of the money that has gone to EM contractors has been audited by the DOE?

We reported in March 2019 that DOE and NNSA did not always ensure that contractors audited subcontractors' incurred costs as required in their contracts.[16] GAO's review of 43 incurred-cost assessment and audit reports identified more than $3.4 billion in subcontract costs incurred over a 10-year period that had not been audited as required, and some subcontracts remained unaudited or unassessed for more than 6 years. Completing audits in a timely manner is important because of a 6-year statute of limitations to recover unallowable costs that could be identified through such audits. DOE headquarters has not issued procedures or guidance that requires local offices to monitor contractors to ensure that required subcontract audits are completed in a timely manner, consistent with federal standards for internal control. Without such procedures or guidance, unallowable costs may go unidentified beyond the 6-year limitation period of the Contract Disputes Act, preventing DOE from recovering those costs.

DOE's headquarters and local offices have taken some steps to ensure that contractors comply with their subcontracting requirements. However, differences in how contractors, local DOE offices, and DOE headquarters offices interpret subcontract audit requirements and perform subcontract audits persist because DOE has not clearly defined—in guidance or other documents—how these requirements should be met. Until DOE clarifies which subcontracts should be audited, how an audit is defined, and how to meet subcontract requirements, contractors may not perform subcontract audits as intended and unallowable costs may not be identified or recouped. We recommended that DOE clearly define how these audits should be done. DOE partially concurred with this recommendation.

6. Does GAO consider the numbers used in EM's financial statement to be reliable?

DOE's Office of Inspector General engaged the independent public accounting firm KPMG LLP to perform an audit of DOE's Fiscal Year 2018 Consolidated Financial Statements, which includes EM.[17] KPMG issued an unmodified opinion based on its audits and the reports of other auditors. The firm concluded that DOE's consolidated financial statements are presented fairly, in all material respects, in conformity with United States generally accepted accounting principles.

GAO has not independently audited DOE's financial statements; rather, we audit the U.S. government's consolidated financial statements, which are made up of agencies' already audited financial statements, including that of DOE. As reported in March 2019, GAO was unable to provide an opinion on the fiscal year 2018 U.S. government consolidated financial statements, primarily due to limitations related to certain material weaknesses in internal control over financial reporting and other limitations affecting the reliability of these financial statements and

[16]GAO, *Department of Energy Contracting: Actions Needed to Strengthen Subcontract Oversight,* GAO-19-107 (Washington, D.C.: Mar. 12, 2019).

[17]Department of Energy, Office of Inspector General, *Audit Report: The Department of Energy's Fiscal Year 2018 Consolidated Financial Statements,* DOE-OIG-10 (Washington, D.C.: Dec. 19, 2018).

the scope of our work.[18] For example, these weaknesses concerned the federal government's inability to: (1) reasonably estimate or adequately support amounts reported for certain liabilities, such as environmental and disposal liabilities, or determine whether commitments and contingencies were complete and properly reported; and (2) reasonably assure that the consolidated financial statements are (a) consistent with the underlying audited entities' financial statements, (b) properly balanced, and (c) in accordance with U.S. generally accepted accounting principles.

In addition, as we have previously reported, EM's reported environmental liability is not required to include the costs of all cleanup activities for which EM may be responsible in the future.[19] EM's management is responsible for developing its environmental liability in accordance with federal accounting standards. Federal accounting standards state that agencies' environmental liability estimates are to include probable and reasonably estimable costs of cleanup work. Therefore, the EM environmental liability does not include the cleanup activities for which EM may be responsible in the future but that are not yet probable, not yet reasonably estimable, or both.

7. What is a formal root cause analysis, and why does it matter that EM has not conducted one since it is conducting ad hoc root cause studies into cost increases anyway?

Leading practices and DOE requirements for program management laid out in DOE's Order 413.3B call for a root cause analysis when officials realize a capital asset project can no longer meet its established scope, cost or schedule baseline. According to EM headquarters officials we interviewed for a January 2019 report, they are aware of the increases to the environmental liability from year to year, as well as the areas in which the liability changed, but acknowledged that they have not done a detailed analysis of the root causes of the growth.[20] In addition, EM officials at both headquarters and selected sites told us that they had not analyzed the reasons why its schedule cleanup milestones are missed or postponed.[21]

As we reported in February 2019, one leading practice for program management is "monitoring and controlling the program, including conducting root cause analyses and developing corrective action plans."[22] Furthermore, according to best practices identified in GAO's cost estimating guide, agencies should identify root causes of problems that lead to schedule delays and renegotiated milestones.[23] Specifically, when risks materialize (i.e., when milestones are missed or delayed), risk management should provide a structure for identifying and analyzing root

[18]GAO, *Financial Audit: Fiscal Years 2018 and 2017 Consolidated Financial Statements of the U.S. Government*, GAO-19-294R (Washington, D.C.: Mar. 28, 2019).
[19]GAO-19-28.

[20]GAO-19-28.

[21]GAO-19-223.

[22]GAO-19-223.

[23]GAO, *Cost Estimating and Assessment Guide: Best Practices for Developing and Managing Capital Program Costs*, GAO-09-3SP (Washington, D.C.: Mar. 2, 2009).

causes. The benefits of doing so include developing a better understanding of the factors that caused milestones to be missed and providing agencies with information to more effectively address those factors in the future. In addition, DOE has recently emphasized the importance of doing this kind of analysis. In 2015, DOE issued a directive requiring sites to do a root cause analysis when the project team, program office, or independent oversight offices determine that a project has breached its cost or schedule thresholds.[24] This directive, which applies to all programs and projects within DOE, calls for "an independent and objective root cause analysis to determine the underlying contributing causes of cost overruns, schedule delays, and performance shortcomings," such as missed or postponed milestones.

Until DOE conducts a formal root cause analysis of its growth in environmental liabilities, decision-makers will not have a comprehensive understanding of the causes of the growth in liabilities. In addition, because EM has not analyzed why it has missed or postponed milestones, EM cannot address these systemic problems and consider those problems when renegotiating milestones with regulators.[25] Without such analysis, EM and its cleanup regulators lack information to set more realistic and achievable milestones and, as a result, future milestones are likely to continue to be pushed back, further delaying the cleanup work, and these delays will continue to lead to increases in the overall cost of the cleanup work.[26]

The Honorable Michael C. Burgess (R-TX)

1. **Last year, Texas regulators proposed $10,000-a-day fine on a company in Denton, Texas due to its failure to clean medically related low-level radioactive waste. The main driver for this failure to clean up the waste was financial hardship and a lack of capital to reopen the plant in which the waste was produced. Now, taxpayers in Texas may be on the hook for millions of dollars. Although this matter is being handled at the state level and is separate to the role of DOE's cleanup mission, it suggests questions about liabilities pertaining to the cleanup and disposal of radioactive waste throughout the country.**

    a. **How prevalent is it for the environmental liability of radioactive waste cleanup to be transferred to taxpayers at the state level? What about the federal level?**

    b. **Does any environmental liability from World War II and Cold War era sites fall onto the states?**

[24]Department of Energy, *Memorandum for Heads of All Department Elements: Project Management Policies and Principles* (Washington, D.C.: June 8, 2015). This language is mirrored in DOE's order that outlines guidance for managing capital asset projects. See Department of Energy, *Program and Project Management for the Acquisition of Capital Assets*, Order 413.3B, Chg. 5 (Washington, D.C.: Apr. 12, 2018).

[25]EM issued standard operating procedures for negotiating milestones in 2013. This document specifies such things as which milestone changes require headquarters approval and when sites must prepare a negotiating strategy before meeting with regulators to make changes. See Department of Energy, *Review and Approval of Regulatory Agreements, Milestones and Decision Document: U.S. Department of Energy Office of Environmental Management Standing Operating Policies and Procedures (SOPP)* (Washington, D.C.: Apr. 2013).

[26]GAO, *Nuclear Waste: DOE Should Take Actions to Improve Oversight of Cleanup Milestones*, GAO-19-207 (Washington, D.C.: Feb. 14, 2019).

c. What role do state and local governments play in these cleanup efforts?

i. Are there any instances of states aiding or hindering the DOE's environmental management cleanup mission?

d. What lessons have been learned at the federal level that might be applicable to the state level?

GAO has not specifically evaluated these questions; however, several GAO reports have examined various aspects of managing low level radioactive waste:

- In 2019, as part of an engagement examining Superfund sites that affect Indian tribes, GAO provided a status report on numerous sites, some of which had radioactive contamination, in Appendices I and III.[27]
- In 2007, GAO reported on the extent to which other countries have (1) low-level radio-active waste (LLRW) inventory databases, (2) timely removal of higher-activity LLRW from waste generator sites, (3) disposition options for all LLRW, and (4) requirements that LLRW generators have financial reserves to cover waste disposition costs, as well as any other approaches that might improve U.S. LLRW management.[28] Among other things, we found that most countries surveyed use national radioactive waste plans to guide the management of their radioactive wastes. Many representatives from LLRW generators, disposal operators, regulators, and others told GAO that the application of similar approaches to those used by other countries might improve the management of U.S. radioactive waste.
- In 2005, GAO determined whether (1) DOE sites use life-cycle cost analysis to evaluate LLRW management alternatives and (2) DOE has a strategy for cost-effectively managing LLRW department wide, including state actions that may affect this strategy.[29] Among other things, we concluded that, although DOE has been disposing of LLRW for decades, it still lacks an integrated national strategy for doing so. Such a department wide strategy is crucial for ensuring that LLRW management needs throughout DOE are identified and addressed in a cost-effective manner that also meets other departmental goals, such as timely site cleanup. Specifically, an integrated approach could help consolidate similar types of LLRW to obtain economies of scale and lower per-unit disposal costs across the complex.

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[27]GAO, *Superfund: EPA Should Improve the Reliability of Data on National Priorities List Sites Affecting Indian Tribes*, GAO-19-123 (Washington, D.C.: Jan. 23, 2019).

[28]GAO, *Low-Level Radioactive Waste Management: Approaches Used by Foreign Countries May Provide Useful Lessons for Managing U.S. Radioactive Waste*, GAO-07-221 (Washington, DC: Mar. 21, 2007).

[29] GAO, *Department of Energy: Improved Guidance, Oversight, and Planning Are Needed to Better Identify Cost-Saving Alternatives for Managing Low-Level Radioactive Waste*, GAO-06-94 (Washington, D.C.: Oct. 31, 2005).

- In 2004, GAO examined (1) changes in LLRW conditions since 1999, (2) recent annual LLRW disposal volumes and potential future volumes, (3) any current or anticipated shortfalls in disposal availability, and (4) potential effects of any such shortfall.[30] Among other things, we concluded that DOE and NRC have reduced their oversight of LLRW management by the states. As a result of this decreased federal oversight and a national LLRW database with known deficiencies, there is no central collection of information to monitor disposal availability and the conditions of stored LLRW.

- In 1999, GAO examined the Formerly Utilized Sites Remedial Action Program (FUSRAP), which was created in the mid-1970s to clean up radiological contamination resulting from the early development of nuclear weapons.[31] DOE was responsible for FUSRAP until October 1997, when responsibility for the program was transferred to the U.S. Army Corps of Engineers (the Corps). Our report discussed (1) the Corps' cost and schedule estimates for cleaning up the FUSRAP sites; (2) the Corps' progress in meeting milestones for site cleanups, FUSRAP staffing levels, and environmental document preparation; and (3) the transition of the program from DOE to the Corps. Among other things, we found that DOE's initial cost estimate for cleaning up the 22 sites covered by the program was too low, and that the Corps had experienced mixed success in achieving its cleanup milestones.

[30]GAO, *Low-Level Radioactive Waste: Disposal Availability Adequate in the Short Term, but Oversight Needed to Identify Any Future Shortfalls*, GAO-04-604 (Washington, D.C.: June 9, 2004).

[31]GAO, *Nuclear Waste: Corps of Engineers' Progress in Cleaning Up 22 Nuclear Sites*, GAO/RCED-99-48 (Washington, D.C.: Feb. 26, 1999).