ENERGY AND WATER DEVELOPMENT APPROPRIATIONS FOR 2019

HEARINGS

BEFORE A

SUBCOMMITTEE OF THE

COMMITTEE ON APPROPRIATIONS

HOUSE OF REPRESENTATIVES

ONE HUNDRED FIFTEENTH CONGRESS

SECOND SESSION

SUBCOMMITTEE ON ENERGY AND WATER DEVELOPMENT, AND RELATED AGENCIES

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PART 5

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ENERGY AND WATER DEVELOPMENT AND RELATED AGENCIES APPROPRIATIONS FOR 2019

WEDNESDAY, MARCH 14, 2018.

ARMY CORPS OF ENGINEERS AND BUREAU OF RECLAMATION

WITNESSES

R.D. JAMES, ASSISTANT SECRETARY OF THE ARMY FOR CIVIL WORKS
TIMOTHY PETTY, ASSISTANT SECRETARY FOR WATER AND SCIENCE, DEPARTMENT OF THE INTERIOR
LIEUTENANT GENERAL TODD SEMONITE, COMMANDING GENERAL AND CHIEF OF ENGINEERS
BRENDA BURMAN, COMMISSIONER, BUREAU OF RECLAMATION

Mr. SIMPSON. Good morning. I would like to call this hearing to order. And welcome to our first hearing of the fiscal year 2019 budget season.

It seems a little strange doing the 2019 hearings, when we haven't finished 2018 yet, but I don't know if any of your testimony today would change depending on what happens in 2018.

Anyway, today's hearing will review the budget request for the Civil Works Program for the U.S. Army Corps of Engineers and the Bureau of Reclamation.

Before we turn to the Budget request, though, I would like to take a moment to congratulate our ranking member, Ms. Kaptur. On Sunday she will become the longest-serving female Member of the House of Representatives.

As we have worked on this committee, I have come to see that she is a passionate advocate for her constituents in her home State of Ohio. They have been lucky to have her in Congress, these many years.

So, Marcy, congratulations on a remarkable accomplishment, and I look forward to continue our work together, as you extend your record-setting tenure here in the House.

(Applause.)

Ms. KAPTUR. Thank you.

Mr. SIMPSON. I would like to welcome our witnesses, most of whom are appearing before our subcommittee for the first time. Mr. R.D. James is the Assistant Secretary for the Army, for Civil Works; Lieutenant General Todd Semonite, is the Commanding General and Chief of Engineers; Dr. Timothy Petty is the Assistant Secretary for Water and Science at the Department of Interior, and knows something about Idaho, having worked for Senator Risch.

And Ms. Brenda Burman is the Commissioner for the Bureau of Reclamation.

I look forward to hearing from each of you on this budget request, and learning more about the priorities included in this proposal and how it will address the nation's water resource needs.

The Bureau of Reclamation and the Corps of Civil Works Programs, include a wide variety of water resources and power activities essential to the public's safety, economic and environmental goals of our nation.

That is why it is disappointing to see such limited budget requests for these agencies year after year. It doesn't matter whether it is a Republican or Democratic administration, OMB cuts these budgets knowing Congress will provide additional funds, and I think it is safe to say, we will provide additional funds again this year from the budget recommendations.

The Corps and Reclamation would be much better positioned to advance projects and studies quickly and at a lower cost if there was an ability to plan ahead. OMB's unrealistic budget restrictions, however, force the agencies to focus on smaller increments of work, with no assurances of future funding.

Congress on the other hand, clearly recognizes the importance of both these programs as evidenced by funding levels provided in recent fiscal years, I expect this committee will once again work to develop an appropriations bill that provides strong support for these programs, that strikes a good balance across mission areas, including navigation, flood and storm damage reductions, environmental restoration, hydropower and water supply delivery.

Again, I would like to welcome our witnesses to the subcommittee. I would ask all of you to please ensure that the hearing record, questions for the record, and any supporting information requested by the subcommittee are delivered in the final form to us no later than four weeks from the time you receive them.

Members who have additional questions for the record, will have until the close of business on Monday to provide them to the subcommittee office.

And with that, I will turn to my ranking member, Ms. Kaptur for any opening remarks that she may have.

Ms. KAPTUR. Thank you, Mr. Chairman. Thank you for your kind remarks. And chairman of our full committee, Congressman Frelinghuysen, a dear, dear friend, it is a great pleasure to serve with you, and to steward this country during our tenure here.

We welcome our witnesses this morning; Assistant Secretary James, General Semonite, Assistant Secretary Petty, and Commissioner Burman. Thank you so much for being here today to discuss the administration's fiscal year 2019 budget request. We appreciate your appearing before our subcommittee.

You collectively represent the water part of our Energy and Water bill. What an important piece it is.

As the administration ponders investing in infrastructure, I believe you have an extraordinary opportunity to lead the way for the nation, and hopefully you will be able to address the $96 billion construction backlog over 454 authorized active construction projects, which include $20 billion in dam safety. Personally, I be-

lieve the President should start there, with his infrastructure initiative.

For any new infrastructure bill, I believe we must prioritize resilient infrastructure, and find innovative solutions that incorporate environmental components of a new age.

Adequate maintenance of existing projects and new investments in green infrastructure, when combined with strategic regional and urban planning and policies to allow us to stay ahead of the water challenges that lay before our nation as we experience more extreme precipitation events, both droughts and inundations.

In Ohio, my part of our country, we are experiencing surges of excess rainfall, which are exacerbating our nutrient runoff problem at historic levels, and causing massive algal blooms. At the blooms' peak this past summer, over 1,000 square miles of Lake Erie were covered in the green slime, threatening our maritime industry.

In the West, water flow into the Colorado River this year is forecast to be just 54 percent of the typically expected amount.

Today, Lake Mead is at 40 percent of capacity, and if the water drops just 13 more feet, it will trigger Federal rules that cut the amount of water supply to Nevada, Arizona and California. Yet, in 2016, the most recent data, those states combined increase their population by 431,000 persons.

Texas dealt with rain in a class of its own during Hurricane Harvey where 60 inches of rain, a trillion gallons of water, enough to fill the Houston Astrodome more than 3,300 times over, fell in just a few short days.

The Corps was forced into a terrible situation, released water from the Addicks and Barker dams near Houston, or risk catastrophic dam failure. What a terrible choice.

In Florida, Hurricane Irma brought catastrophic destructions in Everglades City, in the form of an 8-foot storm surge. Hurricane Maria devastated the lives of 3.5 million Americans in Puerto Rico, and families are still dealing with the aftermath of that category 4 storm.

Ten percent of the population still will not have electricity at the conclusion of this month. And many have fled the island for the U.S. mainland with Puerto Rico's Government estimating that 200,000 citizens, more than 5 percent of its population will leave by end of this year.

Perhaps most startling, Puerto Rico saw 29 percent increase in suicides in 2017.

As we watch these terrifying events occur in our country, around water, I am reminded of the crisis the citizens of Cape Town, South Africa, are facing at the moment. In order to stave off the total disaster of no water services, residents are currently being rationed to only 13 gallons of water per person per day.

It is up to your agencies, to weigh these developments and determine how to avoid getting into a situation like the one in Cape Town.

But it also means that we here in Congress, must think strategically about how to invest intelligently in long-term solutions, that will be resilient in the face of changing precipitation patterns.

Unfortunately, your budget is woefully inadequate to address the issues that we face in these domains. I cannot pretend to be ter-

ribly surprised or upset though, because it seems that it does not matter which party controls the executive branch, this story remains the same, year to year, and administration to administration.

The story in this legislative branch, I imagine, will continue as well, as we will continue to work to increase funding to support these important water resource projects, but it will be inadequate.

And as we have seen, your work provides a great opportunity for job creation and community investment, as these projects created construction jobs and encourage locals to become stakeholders in their surroundings, from supporting agriculture to encouraging international commerce, the Corps and Reclamation provide critical underpinnings to our country.

Yet, too often we increasingly struggle in the active balancing our local economies, our infrastructure needs, and preserving our fragile ecosystems.

We as a nation, we were once pushing the boundaries of what was achievable in infrastructure, and yet now we are known for failing to maintain and modernize those very networks.

Before us is a budget that is scarce, and unable to fund the robust infrastructure revitalization that our water system so desperately need.

Toxic algal blooms, Great Lake's dredging needs, the invasion of the Asian carp, and an overall improved policy of environmental care and awareness cannot be carelessly pushed to the back burner yet again.

And I urge you to address each of these issues with our fragile Great Lakes and ports in mind. We must keep our ports and our water projects open for business, however, this come at the expense of our water security, the safety and quality of our drinking water, or the environmental integrity of our precious ecosystems.

I expect you will speak to these concerns today, and I look forward to our discussion. Thank you.

Mr. SIMPSON. It is now my honor to recognize my boss, Chairman of the full committee, Mr. Frelinghuysen.

The CHAIRMAN. I can assure you, Mr. Simpson has no boss.

Mr. SIMPSON. Yeah, my wife. (Laughter)

The CHAIRMAN. I don't have any prepared remarks but I did want to take an opportunity to thank Chairman Simpson and his staff for the good work that they do. It is a very bipartisan committee.

And let me give a shout out to Ms. Kaptur, she has been on the committee for a long time. And I will be finishing my 24th year. So I do want to take this opportunity to obviously thank Mr. Simpson and his staff for the remarkable things they have done, to put together the 2018 budget which we did about six months ago, and hope we will get it across the finish line in the next couple of days. But it has been done, and I think in a very amicable way. And obviously the chairman's good humor contributes to a process that has worked pretty well.

I did want to take the opportunity, to you Mr. Secretary, and you General Semonite, to thank the Corps for the remarkable things that I have seen over 20-plus years. I mean, time has passed, but

we look at the Vulcans, and the horrendous genocide that occurred there.

Often it was the Army Corps, some of your comrades, civilians and those in uniform who, sort of, laid the groundwork for our efforts over there. Maybe it was an imperfect piece, but in reality, the army often is responsible for the deliveries, and the Corps.

And may I say, if you look across the Middle East, and many of those associated with your operation, Mr. Secretary, obviously doing remarkable things back here at home, but oftentimes volunteered, in some really difficult, dangerous locations. That continues today throughout the world, but particularly in the Middle East.

And I just wanted to pay tribute. And coming from my neck of the woods, we don't forget the role of the Army Corps, and after September 11, 2001, on the pile, and off the pile, the things that were done on behalf of the citizens of 80 countries but certainly the residents of New York and New Jersey. And I am sure I would share our gratitude for all the activities that you are responsible for.

We know that people like to damn the Corps, no pun intended, and you don't get enough praise, but I would like to say that, as we look across the devastation of the last year, in Texas, Florida, the Virgin Islands and Puerto Rico, you know from time to time there have been some severe criticisms of Federal support, but I would like to say that, I think we have given you some money, even though we had a rather disjointed appropriations process, through continuing resolutions we intensely dislike.

But I think you have performed admirably, and we are counting on you to fulfill a lot of obligations because all of those, the residents of those states are for all American citizens, and they anticipate that you will continue at a very level, and high standards.

So, on behalf of, you know, 20-plus years on this committee, and I am sure on behalf of all of us, we thank you for the good work you are doing, and we really count on you doing even a better job in the future.

Thank you, Mr. Chairman.

Mr. SIMPSON. Thank you, Mr. Chairman. And I would echo the comments of Mr. Frelinghuysen, and thank you for the work that you do.

I understand that Mr. James, you are going to be first.

Mr. JAMES. Thank you, Mr. Chairman, and members of this committee. Thank you very much. I thank you for the opportunity to discuss the President's Budget today for the Civil Works Program of the Army Corps of Engineers for Fiscal Year 2019.

As I am sure you are all aware, I was recently sworn in as Assistant Secretary of the Army for Civil Works, and this is my first opportunity to appear before this subcommittee.

I look forward to the opportunity to share my thoughts with you, and emphasize my commitment to results rather than process. To ensure that the Corps is moving dirt, and putting projects in the ground.

I am honored to be joined by Lieutenant General Semonite, our 54th Chief of Engineers.

The fiscal year 2019 Budget reflects the administration's priorities and is focused on investments that will yield high economic

and environmental returns, or address a significant risk to public safety.

The budget provides $4.8 billion in gross discretionary funding for the Army Civil Works program. This investment will enable communities to reduce their flood risks, facilitate water-borne transportation, restore significant aquatic ecosystems, and generate low cost, renewable hydropower.

The budget focuses on the highest-performing work within the three main missions of the Corps, commercial navigation, flood and storm damage reduction and aquatic ecosystem restoration.

The budget also focuses on maintaining the vast water resources infrastructure that the Corps owns and manages and on finding innovative ways to help rehabilitate or hand it over to others. It gives priority to coastal harbors and inland waterways with the most commercial traffic, but also funds the maintenance of channels at small ports that support significant commercial fishing, subsistence, or public transportation benefits. Similarly, the budget invests in safety improvements at Corps dams based on an assessment of risk.

The Civil Works Program relies on a foundation of strong relationships between the Corps and local communities that enable us to work together to help meet their water resource needs. The Corps program uses a diverse set of tools and approaches to working with local communities, whether this means funding projects where they pay a share of the cost or providing planning assistance and technical expertise to help them make better informed decisions.

The Flood and Coastal Storm Damage Reduction Program is a collaborative effort that integrates and synchronizes the flood risk management projects, programs, and authorities of the Corps with those of other Federal, State, regional, and local agencies. It helps to reduce the risk of loss of life and property damage from river and coastal flooding. It increases the resilience of local communities through structural and nonstructural measures.

Funding for the Aquatic Ecosystem Restoration Program will be used to restore several large ecosystems. Activities include restoring aquatic habitat in ecosystems where ecosystem structure, function, and processes have been degraded; work needed to comply with biological opinions, operation and maintenance of the Chicago sanitary and ship canal fish barrier.

The budget prioritizes funding to operate and maintain water resources infrastructure and the funding allocations for the maintenance of commercial navigation, flood and storm damage reduction, and hydropower projects that are informed by risk-based assessments that consider both project and project component conditions and the consequences in the event of failure. For example, funding levels will enable continued reduction in the number of extended lock closures per year to preventable mechanical breakdowns and a reduced risk of failure at our flood risk management projects.

Funding for the construction program uses objective performance-based guidelines to fund the projects with highest net economic, environmental, or public safety returns to the Nation. For example, the budget funds the Olmsted Lock and Dam Project to completion. The budget also funds the Dam Safety Program to en-

able the Corps to evaluate and implement effective risk reduction strategies at its dams where needed.

The budget funds six feasibility studies to completion and also includes funding for floodplain management services and for the Planning Assistance to States Program to assist local communities with technical and planning assistance and specifically to help them develop and implement nonstructural approaches that will enable them to reduce their flood risk. All ongoing feasibility studies funded in the budget have signed feasibility cost-sharing agreements and have developed a plan that outlines their scope and scheduling costs, which has been agreed upon by the district, division, Corps headquarters, and the local sponsor.

Lastly, the budget also makes important investments to promote sustainable management of the lands around Corps facilities by providing funds to update the plans that govern how we manage our facilities in helping to combat invasive species.

Thank you all for inviting me today and I look forward to your questions. Thank you.

[The information follows:]

DEPARTMENT OF THE ARMY

WRITTEN STATEMENT
OF

MR R.D. JAMES
ASSISTANT SECRETARY OF THE ARMY
FOR CIVIL WORKS

BEFORE

COMMITTEE ON APPROPRIATIONS

SUBCOMMITTEE ON ENERGY AND WATER DEVELOPMENT

UNITED STATES HOUSE OF REPRESENTATIVES

ON

THE FISCAL YEAR 2019 BUDGET
FOR THE ARMY CORPS OF ENGINEERS, CIVIL WORKS

March 14, 2018

Thank you Chairman Simpson and distinguished members of the subcommittee for the opportunity to present the President's Budget for the Civil Works program of the Army Corps of Engineers for Fiscal Year (FY) 2019. The Budget funds the development, management, restoration, and protection of the Nation's water, wetlands, and related resources, through studies, the construction, operation and maintenance of projects, the Corps' regulatory program, the cleanup of certain sites contaminated as a result of the Nation's early atomic weapons development, and emergency response preparedness.

The FY 2019 Army Civil Works Budget reflects the Administration's priorities. It provides $4.785 billion for this program, focusing on investments that will yield high economic and environmental returns or address a significant risk to public safety. These investments will enable communities to reduce their flood risk, facilitate waterborne transportation, restore significant aquatic ecosystems, and generate low-cost renewable hydropower. The Budget focuses on the highest performing work within the three main missions of the Corps: commercial navigation, flood and storm damage reduction, and aquatic ecosystem restoration.

The Civil Works Program, which this Budget supports, relies on a foundation of strong relationships between the Corps and local communities, that enable us to work together to help meet their water resources needs. The Budget supports a Corps program that uses a diverse set of tools and approaches to working with local communities, whether this means funding projects where they pay a share of the costs, or providing planning assistance and technical expertise to help them make better informed decisions. The Budget funds Corps participation in national and international conversations on how to best address our water resources challenges and helps us maintain and improve our efforts on resiliency and sustainability – one of the challenges associated with the ways that we have used our water resources.

The Budget also focuses on maintaining the vast water resources infrastructure that the Corps owns and manages, and on finding innovative ways to rehabilitate it or hand it over to others. These goals will be met, for example, by funding capital investment in the inland waterways, and by establishing – as proposed in the Budget – an annual fee to support this infrastructure investment and economic growth. This proposal will help finance the users' share of future capital investment, as well as 10 percent of the operation and maintenance cost, associated with these waterways. The Budget also proposes to divest the Washington Aqueduct, which is the wholesale water supply system for Washington, D.C.; Arlington County, Virginia; the City of Falls Church, Virginia; and parts of Fairfax County, Virginia.

In addition, the Budget proposes needed revisions to the appropriations language for the Construction, Operation and Maintenance, and Mississippi River and Tributaries accounts and the Harbor Maintenance and Inland Waterways Trust Funds to enable greater transparency in how these funds are budgeted and spent.

The Budget provides $4.8 billion in discretionary funding for the Civil Works program, including approximately $1.9 billion to support commercial navigation; $1.5 billion for flood and storm damage reduction; and $224 million for aquatic ecosystem restoration.

The Budget allocates these funds based on performance. For example, it gives priority to coastal harbors and inland waterways with the most commercial traffic, but also funds the maintenance of channels at small ports that support significant commercial fishing, subsistence, or public transportation benefits. Similarly, the Budget invests in safety improvements at Corps dams based on an assessment of the risk, considering the consequences of the most likely failure modes.

Under its navigation program, the Corps maintains approximately 12,000 miles of inland waterways with 218 locks at 176 sites; approximately 300 deep-draft and 600 shallow-draft Great Lakes and coastal ports extending 13,000 miles and include 23 locks at 19 sites; and more than 900 coastal navigation structures.

The flood and coastal storm damage reduction program is a collaborative effort that integrates and synchronizes the flood risk management projects, programs, and authorities of USACE with those of other federal, state, regional and local agencies. It helps to reduce the risk of loss of life and property damage from riverine and coastal flooding, and increase the resilience of local communities through structural and non-structural measures.

Funding for the aquatic ecosystem restoration program will be used to restore several large ecosystems. Activities include restoring aquatic habitat in ecosystems where ecosystem structure, function, and processes have been degraded; work needed to comply with biological opinions; and operation and maintenance of the Chicago Sanitary and Ship Canal fish barrier.

The Budget prioritizes funding to operate and maintain water resources infrastructure. It provides $3.1 billion for the operation and maintenance program, consisting of approximately $2.1 billion in the Operation and Maintenance account, $933 million in the Harbor Maintenance Trust Fund account, and $135 million in the Mississippi River and Tributaries account. The funding allocations for the maintenance of commercial navigation, flood and storm damage reduction, and hydropower projects are informed by risk-based assessments that consider both project and project component conditions and the consequences in the event of a failure. For example, funding levels will enable continued reduction in the number of extended lock closures per year due to preventable mechanical breakdowns and a reduced risk of failure at our flood risk management projects.

The Budget provides $965 million to be derived from the Harbor Maintenance Trust Fund to maintain coastal channels and related work – the highest amount ever budgeted. The Budget also proposes to reduce the Harbor Maintenance Tax rate to better align estimated annual receipts with recent appropriations levels for eligible expenditures from the Harbor Maintenance Trust Fund.

The Budget provides $1 billion for the construction program, consisting of $872 million in the Construction account, $109 million in the Mississippi River and Tributaries account, $33 million in the Harbor Maintenance Trust Fund account, and $5 million in the Inland Waterways Trust Fund account. The Budget uses objective, performance-based guidelines to fund the projects with the highest net economic, environmental, or public safety return to the Nation. For example, the Budget funds the Olmsted Locks and Dam project to completion.

The Budget also includes $452 million for dam safety, consisting of $431 million for dam safety assurance, seepage control, and static instability correction actions and related work in the Construction account, $10 million for seven new dam safety modification studies in the Investigations account, and $11 million for interim risk reduction measures at Corps dams in the O&M account. When coupled with anticipated unobligated carryover balances, this funding will enable the Corps to evaluate and implement effective risk reduction strategies at our dams where needed.

The Budget provides $82 million in the Investigations account and $600 thousand in the Mississippi River and Tributaries account for studies and related remaining items. The Budget funds six feasibility studies to completion and also includes $15 million for Floodplain Management Services and $5 million for the Planning Assistance to States program to assist local communities with technical and planning assistance, and specifically to help them develop and implement non-structural approaches that will enable them to reduce their flood risk. All ongoing feasibility studies funded in the Budget have signed Feasibility Cost-Sharing Agreements, and have developed a plan that outlines their scope, schedule, and cost, which has been agreed upon by the District, Division, Corps Headquarters, and the local sponsor.

The FY 2019 regulatory program is funded at $200 million to protect the Nation's waters and wetlands and provide efficiency in permit processing.

The Budget provides $33 million for the emergency management program, a robust level of funding to help ensure that our people are properly trained and equipped to help communities respond to all types of disasters.

Lastly, the Budget also makes important investments to promote the sustainable management of the lands around Corps facilities, by providing funds to update the plans that govern how we manage our facilities and helping to combat invasive species.

Thank you all for inviting me to attend today.

General Semonite will provide further remarks on the Army Civil Works 2019 Budget.

Mr. SIMPSON. Thank you.

General SEMONITE. Chairman Simpson, Ranking Member Kaptur, and distinguished members of the subcommittee, thank you for the opportunity to testify today. We are glad to have Secretary James on the Civil Works team, and I look forward to working with him in the years ahead. I have been in command of the Corps for almost 2 years and I want to briefly update you on where we are going. As I said last year, the Corps' credibility is measured by our ability to deliver results that are on time, on budget, and of exceptional quality.

Since Congress first authorized our navigation mission in 1824, the Corps has worked hard to develop and implement solutions to the Nation's water resource challenges. We are able to do this because we have a world-class workforce of talented and dedicated professionals who are absolutely passionate about what we do. None of our work is done alone, but with the full participation and the hard work of many others. We appreciate, value, and depend upon the support of the administration and Congress and all of our partners to succeed in our mission.

I am very proud of the work that the Corps accomplishes, but I am also equally aware that the organization can improve. I have been, and remain committed to, instituting changes to the Corps delivery processes in order to become a more efficient and effective organization.

The Corps faces a multitude of challenges, some old and some new. Much of our infrastructure is well beyond its design life, yet the requirements have never been greater. The demands on the Federal budget continue to grow and as our infrastructure ages, we find more and more annual appropriations going to operation and maintenance at the expense of both investigations and construction.

Today we have over $96 billion in construction requirements, representing the Federal share on a multitude of projects. We have close to a hundred ongoing feasibility studies, which, if authorized, would simply add to the Federal budget requirement. Our feasibility studies are formulated with the assumption of efficient funding and most all of our multiple-year projects are budgeted on an annual basis with no assurances that adequate funding will be available from year to year. This creates uncertainty for our non-Federal sponsors, it drives up project costs and it delays the realization of benefits. At the current rate, it will take us over a hundred years to address the backlog and this is simply unacceptable.

Together we must remove barriers to the development and improvement of our water resource infrastructure. We must encourage and incentivize alternative project financing, streamline Federal procedures for delivering projects, and reduce unnecessary Federal oversight to facilitate timely delivery of projects.

The Corps has been working with the administration and was instrumental in the development of 20 legislative proposals which are a part of the President's infrastructure package presented to Congress. We recognize the Corps' role in the future may be different than it has been in the past and that our level of involvement in project delivery may vary from project to project, location to loca-

tion, and sponsor to sponsor. Whatever works best to deliver the project faster and cheaper is our goal.

The Corps continues to work on policy and administrative changes that can improve infrastructure delivery. Over the last year I have assembled all my General Officers, our SESes, our Colonels, and our senior leaders to relook internally our organization, our authorities, policies, regulations, and procedures in order to identify opportunities for increased efficiency and effectiveness.

The Corps is fully engaged in support of five administration efforts aimed at streamlining the regulatory processes. The Corps is addressing topics such as implementing the One Federal Decision that establishes discipline and accountability in the environmental review and permitting process for infrastructure projects. We are reviewing the nationwide permit program to identify modifications that will increase the efficiency of decision-making.

We also are continuing to work with the EPA in reviewing the 2015 Waters of the United States Rule. Our goal is intended to simplify for the process for gaining infrastructure permits while protecting the environment in accordance with the law.

We are working to delegate more decisions to the lowest appropriate level, encouraging our leadership to take more prudent risks. Our technical experts close to the issues can make decisions based on their experience, their knowledge, and their competence in a specific area. Risk-informed or professional judgment decisions should be made and documented without being subject to numerous time-consuming reviews.

We are looking at how we can best capture the total value of our projects. Most communities have a master plan that was developed based on an analysis to determine best value for the community or region. This may consider life risk reductions, economic value, resilience of the community, et cetera. We want to make sure that our project reports reflect the total value of our projects. This may increase the opportunities for non-Federal investment in the projects. We are reviewing existing authorities that may help leverage non-Federal financing such as WRDA 2086, section 203 for Investigations and section 204 for Construction, that allow sponsors to take ownership of the project delivery process.

Finally, I will mention the Corps is implementing multiple improvements to the section 408 review process. We have delegated decisions to the lowest level possible and are further clarifying when section 408 permission is or is not required. Additionally, we are looking for opportunities where section 408 requirements may be met by other Corps processes or authorities in order to eliminate redundancies and have eliminated the requirement for a 60 percent design.

The Corps wants to be part of the solution, not part of the problem. We recognize the need to address internal policies, regulations, processes, and cultural impediments in order to remain relevant into the feature. We want to be value added to delivering solutions, whatever role we may have in that endeavor. But we can't conduct all these reforms in isolation by ourselves. We need the help of OMB and Congress to unleash the power of the Corps by acting on our numerous recommendations.

Thank you, Mr. Chairman and members of the subcommittee. This concludes my testimony and I look forward to answering any questions you might have. Thank you.

[The information follows:]

DEPARTMENT OF THE ARMY CORPS OF ENGINEERS

COMPLETE STATEMENT OF

LIEUTENANT GENERAL TODD T. SEMONITE
CHIEF OF ENGINEERS
U.S. ARMY CORPS OF ENGINEERS

BEFORE

COMMITTEE ON APPROPRIATIONS
SUBCOMMITTEE ON ENERGY AND WATER DEVELOPMENT
UNITED STATES HOUSE OF REPRESENTATIVES

ON

THE FISCAL YEAR 2019 BUDGET
FOR THE ARMY CORPS OF ENGINEERS, CIVIL WORKS

MARCH 14, 2018

Mr. Chairman and Members of the Subcommittee:

I am honored to testify before your committee today, along with The Honorable R.D. James, the Assistant Secretary of the Army for Civil Works, on the President's Fiscal Year 2019 (FY 2019) Budget for the United States Army Corps of Engineers (Corps) Civil Works Program.

I have been in command of the Corps for close to two years, and I want to briefly update you on where are are going. As I said last year, the Corps' credibility is measured by our ability to deliver results that are on time, on budget, and of exceptional quality.

The Corps continues to work on policy and administrative changes that can improve infrastructure delivery. More specifically, we are looking internally at our organization, authorities, policies, regulations and procedures in order to identify opportunities for increased efficiency and effectiveness. This will include efforts to reduce redundancy and delegate authority for decision making to the most practical and appropriate level.

For example, section 1007 of WRRDA 2014 requires the Secretary to establish a process for reviewing requests submitted under Section 14 of the Rivers and Harbors Appropriation Act of 1899, as amended, in a timely and consistent manner. These requests (commonly referred to as Section 408 requests because the provision from the 1899 Act is codified at 33 USC 408) involve proposals for the permanent or temporary alteration by others of any completed Civil Works project. The Budget includes significant funding to support Section 408 reviews. Beginning in 2017, the majority of all Section 408 decisions can be rendered at the district level. Further efforts to eliminate duplication of public interest and environmental reviews and establish timelines for decisions are ongoing. The Corps has also clarified when Section 408 permission is required, or not required, and when the requirements of Section 408 may be met by another Corps process and/or authority, thus resulting in the elimination of redundancies.

Similarly, the Corps continues to make significant progress in the Regulatory program. Section 1134 of the WIIN 2016 amended Section 2040 of the Water Resources Development Act of 2007 and directed the Corps to research, develop, and implement an electronic system to allow for the electronic preparation and submission of applications for permits and requests for jurisdictional determinations. The Corps has accepted electronic submission of permit applications or jurisdictional determination requests via email for several years and the application form is a fillable PDF available on Corps District websites. The information received helps the Corps track the number and type of applications, as well as status and completion of reviews. The Corps will continue to explore additional automation advances to make the process more efficient for the public and cost effective for the government.

The Corps focuses on work that provides the highest economic, environmental, and public safety returns to the Nation. The Corps also operates and maintains water resources infrastructure that may no longer meet its authorized purposes or for which

the needs of the Nation have changed. As such, the Corps is conducting studies – there are currently seven ongoing studies - to ascertain the viability of deauthorizing projects and removing them from the Corps inventory.

The Corps also continues our work across the globe with presence in more than 110 countries supporting national security and our Combatant Commanders with civil works, military missions, and water resources research and development expertise. We are proud to serve this great Nation and our fellow citizens and we are proud of the work the Corps does to support America's foreign policy. Corps civilian employees nationwide have volunteered – and continue to volunteer – to support our Nation's missions and vital interests abroad, often in harm's way. Many have served on multiple deployments.

SUMMARY OF FY 2019 BUDGET

The FY 2019 Civil Works Budget is a performance-based budget, which will reduce flood risk in communities across the Nation, facilitate commercial navigation, restore aquatic ecosystems, and generate low-cost renewable hydropower. The Budget uses a targeted approach to investment in our water resources, which will benefit the Nation's economy, environment, and public safety – now and in the future.

The Budget focuses on high-performing projects and programs within the three main water resources missions of the Corps: commercial navigation, flood and storm damage reduction, and aquatic ecosystem restoration. The Budget includes $4.785 billion in gross discretionary funding for Civil Works activities throughout the Nation.

The Budget also proposes the necessary level of funding for the Regulatory program to protect and preserve water-related resources of the Nation.

INVESTIGATIONS PROGRAM

The FY 2019 Budget provides $82 million in the Investigations account, and $600,000 in the Mississippi River and Tributaries account to evaluate and design projects within the Corps three main mission areas and for related work, including research and development. The Budget also supports the Corps planning and technical assistance programs, including using its expertise to help local communities increase their resilience to, and preparedness for, flood risks.

CONSTRUCTION PROGRAM

The Budget provides $1.019 billion for the construction program, including $872 million in the Construction account, $109 million in the Mississippi River and Tributaries account, $5.25 million in the Inland Waterways Trust Fund account and $32.6 million in the Harbor Maintenance Trust Fund account.

The goal of the construction program is to produce as much value as possible for the Nation from the available funds. The Corps uses objective performance measures to allocate this funding. Projects funded primarily due to their economic return, require a

benefit-to-cost ratio of 2.5-to-1 or higher, calculated at a 7-percent discount rate. Projects funded on the basis of their environmental return must demonstrate that they will restore degraded ecosystem structure, function and/or process to a more natural condition. Funding is also prioritized for mitigation work at ongoing construction projects, and work needed to comply with treaties or biological opinions. The selection process also prioritizes investments, on a risk informed basis, in dam safety assurance, seepage control, and static instability correction work at dams that the Corps owns and operates, and work to address significant risk to human safety, as well as construction of dredged material disposal facilities for high and moderate use segments of commercial deep-draft, shallow-draft, and inland waterways projects.

OPERATION AND MAINTENANCE (O&M) PROGRAM

All structures age and can deteriorate over time, causing a potential decline in reliability. As stewards of a large portfolio of water resources infrastructure, we are working to ensure that its key features continue to provide the benefits assumed with project construction.

The Corps continues to improve the efficiency and effectiveness of its operation and maintenance program. The Budget focuses on investments that address infrastructure maintenance needs on a risk informed basis. It supports the Corps asset management program, by investing in the highest priority needs among the infrastructure that the Corps owns and operates, and in work that will reduce long-term O&M costs in real terms.

The Budget for the operation and maintenance program provides approximately $2.1 billion in the O&M account, $135 million in the Mississippi River and Tributaries account, and approximately $932.5 million in the Harbor Maintenance account. The focus is on the operation and maintenance of commercial navigation, flood risk management, and hydropower projects and other facilities. For example, the Budget gives priority to maintenance work at the coastal ports and inland waterways with high levels of commercial traffic. However, the Budget also funds small ports, with an emphasis on those that support significant commercial fishing, subsistence, or public transportation benefits. The allocation of funding for maintenance among projects reflects a risk-informed assessment that considers both project and project component conditions as well as the consequences in the event of a failure.

The concerns that lead to dam modifications and/or interim risk reduction measures so that they can continue to serve their authorized purposes generally first become apparent through inspections and monitoring that the O&M program funds. Additional measures are considered and evaluated as new and existing issues are identified. Generally, the O&M program supports completed works owned or operated by the Corps, including administrative buildings and laboratories. Work to be accomplished includes: operation of locks and dams along the inland waterways; dredging of inland and coastal Federal channels; operating multi-purpose dams and reservoirs for flood risk reduction, hydropower, recreation, and related purposes; maintenance and repair of

facilities; monitoring of completed projects; and general management of Corps facilities and the land associated with these purposes including work to serve as a responsible steward of the resources on Corps lands.

The FY 2019 Budget provides $213 million in the O&M account for hydropower activities to maintain power components such as generators, turbines, transformers and circuit breakers at Corps hydropower facilities and keep them operating efficiently and effectively. The Corps also receives approximately $275 million each year derived from Department of Energy revenues related to power sales, and from contributed funds. The Corps is the largest hydropower producer in the U.S., operating 24 percent of the Nation's hydropower capacity.

REIMBURSABLE PROGRAM

Through the Interagency and International Services (IIS) Reimbursable Program, the Corps assists other Federal agencies, state, local, tribal governments, and those of other countries with timely, cost-effective solutions. These agencies can turn to the Corps, which already has these capabilities, rather than develop their own internal workforce and expertise to act as their design and construction agent. Such intergovernmental cooperation is effective for agencies and the taxpayer, and uses the skills and talents that we bring from our Civil Works and Military Missions programs. The work is principally technical oversight and management of engineering, environmental, and construction projects. The work itself is typically performed by private sector firms and is financed by the agencies we service. We only accept agency requests that are consistent with our core technical expertise, in the national interest, and that can be executed without impacting our primary mission areas.

EMERGENCY MANAGEMENT

The FY 2019 Budget provides $27 million in funding for the Flood Control and Coastal Emergencies account to enable the Corps to prepare for emergency operations in response to natural disasters. The Budget for the emergency management program also includes $5.5 million for the National Emergency Preparedness Program.

APPROACHES TO FLOOD RISK MANAGEMENT

The Investigations account also includes $25 million for Corps efforts, in conjunction with state floodplain management authorities, to provide technical and planning assistance to enable local communities to reduce their flood risk, with emphasis on non-structural approaches. The Budget continues to invest in the development of interagency teams known as Silver Jackets to help coordinate federal assistance in enabling communities to understand their flood risks and implement non-structural flood risk management solutions.

The Silver Jackets program is an innovative program, which provides a national forum to address State and local flood risk management priorities. The Corps participates in

these efforts, along with FEMA and other Federal agencies. The Budget for the Civil Works program funds the Corps staff work on these teams. Each team is developed at the state level. The teams share lessons learned at the state level with each other, and each team works to apply the available Federal and State resources effectively to meet its State's flood risk management priorities. Through these collaborative interagency partnerships, we are able to target and allocate our Floodplain Management Services and other technical assistance programs to support State and local priorities with a focus on non-structural flood risk reduction measures. These intergovernmental flood risk management teams are now active in nearly every State.

CONCLUSION

The FY 2019 Budget represents a continuing, fiscally prudent investment in the Nation's water resources infrastructure and restoration of aquatic ecosystems. The U.S. Army Corps of Engineers is committed to a performance-based Civil Works Program, based on innovative, resilient, and sustainable risk-informed solutions.

Thank you, Mr. Chairman and Members of Subcommittee. This concludes my statement. I look forward to answering any questions you or other Members of the Subcommittee may have.

Mr. SIMPSON. Mr. Petty.

Mr. PETTY. Good morning. Thank you, Chairman Simpson and Ranking Member Kaptur. Again, congratulations on your long and great service so far and I continue to looking forward to working with you for the opportunity to discuss not only the President's budget, but the specifics of Bureau of Reclamation and the Central Utah Project Completion Act Office.

My name is Tim Petty. I am at the Department of Interior. I am the Assistant Secretary for Water and Science. The water is the Bureau of Reclamation and the science is the U.S. Geological Survey. I appreciate your ongoing support of our programs.

The overall Department of the Interior's 2019 budget request is $11.7 billion, which emphasizes Interior's role in protecting the Nation's natural resources, advancing America's natural energy, providing vital scientific information for responsibly managing our resources and energy development, and honoring our trust responsibilities to the Native Americans as well. The Bureau of Reclamation's activities, including recreation, contribute more than $48 billion in economic resources and support over 388,000 jobs each year. Reclamation's 37 billion kilowatt hours of electricity provides for more than $1 billion in gross power revenue alone for the Federal Government.

The Bureau of Reclamation works with both States, Tribes, local governments, and nongovernmental organizations to provide reliable water and power supplies to the West. The 2019 budget continues our efforts to address the challenges of water availability. Interior's $1 billion budget request for Reclamation is to invest in our water and power infrastructure, facilitating the delivery of water to 31 million people in the West. In addition, our programs invest in ecosystem protection and restoration so that we can continue to supply water and power reliability as we have historically.

This budget also continues to strengthen our Tribal Nations by implementing Indian water rights settlements as well. We are proposing that Reclamation invest $127.4 million in fiscal year 2019 toward fulfillment of those responsibilities.

Interior's budget furthers our commitment to developing domestic energy resources to make America stronger and energy independent. Hydropower is a renewable, reliable resource providing clean energy to the western United States. It is the Nation's largest renewable energy resource and the Bureau of Reclamation is the second largest producer of hydropower in the United States.

We support the President's efforts to create a leaner, more efficient government, and the Bureau of Reclamation will be actively involved in bringing forward the most promising ideas to improve government effectiveness and efficiency and to spur economic growth. For example, Reclamation has developed a proposal to facilitate the transfer of title of certain Reclamation projects when such certain transfers are beneficial to all parties. This will allow irrigation districts and water managers to make their own decisions to improve water management at the local level.

Finally, Interior's budget request includes resources for the Central Utah Project Completion Act Office, which falls under the jurisdiction of the Assistant Secretary for Water and Science. The 2019 budget for this office specifically is $8 million. Of this amount

$3.4 million will be available for planning and construction activities administered by the Central Utah Water Conservation District, continuing our partnership in the ongoing construction of the Utah Lake Systems Facility.

The budget also continues Interior's required program oversight activity of the Endangered Species Recovery Program implementation through the Department's office. The Central Utah Project annually provides 62,000 acre feet of water for irrigation and over a 100,000 acre feet for municipal and industrial purposes, supplying water to nearly 400,000 people.

In keeping my opening comments brief, I would like to submit my whole testimony into the record. Thank you again for your support of our programs. I'm happy to answer any questions that you might have for us today. Thank you.

[The information follows:]

Statement of Timothy R. Petty, Ph.D.
Assistant Secretary for Water and Science
U.S. Department of the Interior
Before the
Subcommittee on Energy and Water Development, and Related Agencies
Committee on Appropriations
U.S. House of Representatives
On The President's Fiscal Year 2019 Budget

Wednesday, March 14, 2018

Thank you Chairman Simpson, Ranking Member Kaptur, and members of this Subcommittee for the opportunity to discuss with you the President's Fiscal Year 2019 budget for the Department of the Interior's Bureau of Reclamation and Central Utah Project Completion Act office. I am Tim Petty, Interior's Assistant Secretary for Water and Science, and I appreciate your ongoing support of our programs.

The 2019 budget request is $11.7 billion for Department of the Interior's programs. This budget features targeted investments to advance American energy dominance, enhance public access to public lands, and strengthen the economy through infrastructure investment, regulatory relief, and fiscal responsibility. The Department's 2019 budget reflects the Administration's commitment to strike the right balance of development and conservation of America's resources to advance important national objectives.

Generating Revenue And Utilizing Natural Resources

The Department of the Interior 2019 budget emphasizes the crucial contributions the Department's diverse missions make to the Nation's economy. According to Interior's latest economic report, Interior supports $254 billion in estimated economic benefit, while direct grants and payments to States, Tribes, and local communities provide an estimated $10 billion in economic benefit. The Bureau of Reclamation's activities, including recreation, contribute over $48 billion in economic activity and support over 388,000 jobs each year. The availability of water is vitally important to communities and to growing healthy economies across the West. To ensure that millions of customers continue to receive essential water supplies and hydroelectric power, the 2019 budget includes $1.0 billion for Reclamation's water resource programs.

Interior's budget request for Reclamation invests in our water and power infrastructure, facilitating the delivery of water to 31 million people in the West. This budget also continues to strengthen our tribal nations by implementing Indian water rights settlements and furthering the construction of water delivery systems that support Tribes and rural communities. Interior's request includes $127.4 million for Reclamation in 2019 towards fulfillment of this responsibility.

Interior's budget furthers our commitment to developing domestic energy resources in order to make America stronger and boost the Nation's economy. Hydropower is the Nation's largest

renewable energy resource and the Bureau of Reclamation is the second largest producer of hydropower in the United States.

Finally, Interior's budget request includes the Central Utah Project Completion Act Office, which falls under the jurisdiction of the Assistant Secretary for Water and Science. The Central Utah Project annually provides 62,000 acre-feet of water for irrigation of over 30,000 acres and over 100,000 acre-feet for municipal and industrial purposes, supplying water to nearly 400,000 people. This water will help address the water demands of the growing population in the Wasatch Front, one of the fastest growing areas in the Nation.

Advancing Energy Dominance

The Department has a significant role to play in securing an energy future for our Nation that achieves America's energy dominance. Through increasing access to public lands and alleviating unnecessary regulatory burdens while balancing conservation objectives, the Department is working to ensure that the Nation's "all-of-the-above" energy development strategy includes not only conventional sources, but also hydropower and other renewable sources.

Reclamation's 2019 request includes $1.1 million to support hydropower development initiatives. These initiatives include activities designed to achieve operational efficiencies at Reclamation hydropower facilities and to promote the development of new, non-Federal hydropower on existing, non-powered Reclamation infrastructure. Funding will provide for technological and operational innovation, as well as the policy execution and oversight of non-Federal hydropower development at existing Reclamation facilities through Lease of Power privilege or Federal Energy Regulatory Commission licensing.

The 2019 budget also supports innovation by using prize competitions to target difficult scientific and technological problems related to infrastructure, water availability and hydropower generation.

Conserving Our Land And Water And Expanding Outdoor Access

As the largest wholesaler of water in the country, Reclamation has a leading role – in coordination with other Federal agencies, State officials, local water users, and interested stakeholders – in developing strategies to help ensure water supplies for future generations. As managers of critical water resources, Reclamation ensures millions of customers receive the water and power supplies that support a healthy economy. To help address the many challenges faced by water managers, Interior continues the implementation of the WaterSMART Program. The funding proposed in Reclamation's 2019 WaterSMART budget supports collaboration with the US Geological Survey and our non-Federal partners in efforts to address emerging water demands and water shortage issues in the West, to promote water conservation and improved water management, and to support local innovation efforts to stretch water supplies.

The WaterSMART funding request for Reclamation in 2019 is $19.9 million. This investment includes $10.0 million to continue WaterSMART conservation grants and $3.0 million for Title

XVI water recycling and reuse research grants, and is highly leveraged through partner cost-share funding.

In addition, Interior's budget request includes $164.9 million for US Geological Survey Water Resource programs. These programs collect and deliver hydrologic data, model and analyze hydrologic systems, and conduct research and development leading to new understanding of and methods for gathering water data. The budget includes $69.7 million for National Water Quality Program activities, and $64.9 million for the Groundwater and Streamflow Information Program, which will maintain the national streamgage networks to provide long-term data collection and development of analysis tools. The budget also includes $30.4 million to assess water availability and use in support of the National Water Census.

Reclamation projects play a major role in meeting the increasing public demand for water-based outdoor recreation opportunities. Reclamation projects include approximately 6.5 million acres of land and water and over 200 recreation areas available to the public. This includes 12 designated National Recreation Areas that are managed by the National Park Service or United States Forest Service. Through non-Federal partnerships, Reclamation assists local communities in attracting recreation-related investments and involves local citizens in the decision making process.

Invasive Mussels: With increased use of Reclamation reservoirs for recreation comes the increased need for monitoring and early detection of invasive quagga and zebra mussels, and for outreach and education to prevent infestation. The 2019 Reclamation budget includes $7.6 million for prevention, early detection and monitoring, containment and control at existing facilities, outreach and education, and research focused on these issues. This funding will support Reclamation's efforts to proactively stop the spread of invasive mussels in the West, including preventing the spread of zebra and quagga mussels into the Columbia River Basin.

The US Geological Survey is also actively working to detect and respond to invasive species, including invasive mussels. Interior's budget provides $19.3 million across several USGS programs in support of invasive species detection and response efforts and research.

Modernizing Our Organization And Infrastructure For The Next 100 Years

Reclamation's dams, water conveyances, and power generating facilities are integral components of our Nation's infrastructure that provide basic water and power services to millions of customers in hundreds of basins throughout the Western United States. Effectively managing the benefits that these structures provide is among the significant challenges facing Reclamation over the coming years. Reclamation manages 492 dams throughout the 17 Western States. Reclamation's budget request includes funding for specific Extraordinary Maintenance activities that are central to mission objectives of operating and maintaining projects to ensure delivery of water and power. Through constant monitoring and assessment, Reclamation strives to most effectively use its limited resources to ensure dam safety and to maintain the ability to store and divert water and to generate hydropower. Reclamation's 2019 budget includes $45.0 million for extraordinary maintenance, repairs and replacements.

The Dam Safety Program continues to be one of Reclamation's highest priorities, utilizing the latest information and technology to evaluate and address the most pressing safety risks in order to ensure reliability and protect the downstream public. The Dam Safety Program has identified 363 high and significant hazard dams. Reclamation evaluates dams and monitors performance to ensure that risks do not exceed current Reclamation public protection guidelines. The 2019 budget request includes $88.1 million for Reclamation's Dam Safety Program.

Fulfilling Our Trust Responsibilities

The Department of the Interior upholds the Federal government's unique trust responsibilities to federally recognized Tribes, American Indians and Alaskan Natives. Interior's 2019 budget continues to support Federal responsibilities and tribal needs related to education, social services, infrastructure, and stewardship of land, water, and other natural resources.

The 2019 budget includes $173.0 million across the Department to honor Indian land and water Settlement commitments. This includes $127.4 million in Reclamation and $45.6 million in BIA. The budget continues to meet Federal responsibilities outlined in enacted land and water rights claim settlements with Indian Tribes to ensure they have access to land and water to meet domestic, economic, and cultural needs. Also within the Reclamation request, $10.6 million will support Reclamation's Native American Affairs program to work with and support Tribes in the resolution of their water rights claims, which also strengthens the Department's capabilities to achieve an integrated and systematic approach to Indian water rights negotiations.

Management And Reforms

Interior is taking bold steps to better position itself for the next 100 years. In response to the President's *Executive Order on a Comprehensive Plan for Reorganizing the Executive Branch*, Interior is working to reorganize its operating structure to establish unified regional boundaries to provide better coordination across the Department to improve mission delivery and focus resources in the field. The Department's 2019 budget includes a total of $17.5 million for this effort.

In addition, the Department is pursuing ideas to improve government effectiveness and efficiency, and to spur economic growth. For example, Reclamation has developed a proposal to facilitate the transfer of title of certain Reclamation projects and facilities when such transfers are beneficial. While Reclamation has engaged in efforts related to title transfer in the past on a case by case basis, this broader initiative will go further to facilitate greater local control of water infrastructures to allow local water managers to make their own decisions to improve water management at the local level, while allowing Reclamation to focus management efforts on larger projects with a greater Federal nexus.

Central Utah Project

The Central Utah Project Completion Act (CUPCA), Titles II - VI of P.L. 102-575, provides for completion of the Central Utah Project (CUP) by the Central Utah Water Conservancy District (District). The Act also authorized funding for fish, wildlife, and recreation mitigation and conservation; established an account in the Treasury for deposit of these funds and other

contributions; established the Utah Reclamation Mitigation and Conservation Commission to coordinate mitigation and conservation activities; and provided for the Ute Indian Rights Settlement.

The 2019 budget for the CUPCA program is $8.0 million. Of this amount, $3.4 million will be available for planning and construction activities administered by the Central Utah Water Conservancy District, continuing our partnership in the ongoing construction of the Utah Lake System facilities. In addition, $898,000 will be transferred to the Utah Reclamation Mitigation and Conservation Account for use by the Utah Reclamation Mitigation and Conservation Commission. The 2019 budget also continues Interior's required program oversight activities and endangered species recovery program implementation through the Department's CUPCA Office.

Conclusion

Thank you for the opportunity to testify on behalf of the President's 2019 budget for the Department of the Interior's Bureau of Reclamation and Central Utah Project Completion Act. I look forward to working with the Committee to implement this budget. This concludes my testimony and I am happy to answer questions.

Mr. SIMPSON. Thank you, and your full testimony will be in the record.

Mr. PETTY. Thank you.

Mr. SIMPSON. Ms. Burman.

Ms. BURMAN. Thank you, Chairman Simpson, Ranking Member Kaptur, members of the subcommittee, for the opportunity to discuss with you the President's requested budget for the Bureau of Reclamation. Reclamation's 2019 budget continues to address water supply challenges in the West, to ensure water reliability, the efficient generation of energy, celebration of America's recreation opportunities, commitments to Tribal Nations, and environmental responsibilities. The 2019 budget prioritizes funding for Reclamation's management responsibilities to provide water and generate power in the West.

I have included at your desk a map of the hydrology in 2018, this year, the most recent hydrology in the West. And in listening to your comments about too much rain and storm and damage, I would just say that much of the West is facing the opposite right now. The pattern this year has been wet in the north, average to above average in the north. But as you work your way south, they are very below average with extremely dry years that we are facing so far. It is still March. The hydrology can change somewhat, but California and Nevada, the Colorado River system, New Mexico, Arizona, Oklahoma, all are facing very dry areas this year and that is the backdrop that we have worked in.

Our budget in 2019 emphasizes the following principles. First, water reliability and increased storage capacity. We cannot deliver reliable water supplies in the West without strong and safe infrastructure. And additional storage will be necessary to meet our current and future challenges.

Second, efficient energy generation. As the Nation's second largest producer of hydroelectric power, Reclamation's projects and programs constitute an important driver of economic growth. Maintaining and modernizing hydropower infrastructure at the Columbia River Power System. 2019 promises to be an exciting year. I again thank the committee and am prepared to answer any questions you have on our fiscal year 2019 budget.

[The information follows:]

United States Department of the Interior

BUREAU OF RECLAMATION
Washington, D.C. 20240

IN REPLY REFER TO:

Statement of Brenda Burman, Commissioner
U.S. Bureau of Reclamation
Before the
Subcommittee on Energy and Water Development, and Related Agencies
Committee on Appropriations
U.S. House of Representatives
on the President's Fiscal Year 2019 Budget
March 14th, 2018

Thank you, Chairman Simpson, Ranking Member Kaptur, and members of the Subcommittee for the opportunity to discuss with you the President's Fiscal Year (FY) 2019 Budget for the Bureau of Reclamation. I am Brenda Burman, Commissioner of the Bureau of Reclamation.

The Bureau of Reclamation's fiscal year (FY) 2019 Budget provides the foundation for Reclamation's efforts to deliver water and generate hydropower, consistent with applicable State and Federal law, in a cost-effective and environmentally responsible manner in the interest of the American public. It also supports the Administration's and Department of the Interior's (Department) goals of ensuring the efficient generation of energy to meet our economic needs; provision of secure water supplies for irrigation, people, and the environment; ensuring outdoor recreation opportunities; and fulfilling our commitments to tribal nations. To be successful in achieving these results, Reclamation will continue to work with a wide range of stakeholders, including water and power customers, Tribes, state and local officials, conservation organizations, and others.

This budget focuses on meeting the Department's priorities, including that of ensuring that the Nation's natural resources we steward are used for multiple purposes. Working with States, Tribes, customers, and local entities, Reclamation will maintain secure and reliable water supplies and power generation and fulfill Indian water rights obligations, while meeting our environmental responsibilities.

Reclamation plans to focus on opportunities to increase water resources and supply reliability by expanding cost-effective water storage opportunities, paying attention to local water conflicts, making investments in modernizing existing infrastructure, and providing support for water development benefiting Native Americans in order to meet Reclamation's core mission goals.

The 2019 budget prioritizes funding where it most effectively implements Reclamation's management responsibilities for providing water and generating power in the West with a priority on water reliability, efficient energy generation, recreation, and conservation. As the nation's largest producer of hydroelectric power, Reclamation's projects and programs constitute an important driver of economic growth. Modernizing hydropower infrastructure to improve generation efficiency and reliability and improve cost effectiveness is a high priority. Many

Reclamation projects provide multi-purpose water resource development benefits, including recreation. Reclamation's recreation areas represent some of the most popular areas for water-based outdoor recreation activities in the nation. Theodore Roosevelt, sometimes referred to as the "conservationist president", established a legacy through land and wildlife conservation. By endorsing those principles, Reclamation will strive to ensure future water delivery and power generation through the responsible use and conservation of its resources.

Reclamation is requesting a gross total of $1,049,025 in Federal appropriations, which is anticipated to be augmented by over $800 million in other Federal and non-Federal funds for FY 2019. Of the total, $891,017,000 is for the Water and Related Resources account, which is Reclamation's largest account, $61,000,000 is for the Policy and Administration account, and $35,000,000 is for the California Bay Delta account. A total of $62,008,000 is budgeted for the Central Valley Project Restoration Fund, to be offset by expected discretionary receipts in the same amount. We will continue to seek to optimize non-Federal contributions to accomplish more with limited federal dollars.

Reclamation's budget includes a substantial request for Indian water rights settlements, continuing the high prioritization of this program to meet trust and treaty obligations. The FY 2019 Budget includes second year funding to support the Blackfeet Water Rights Settlement, which was authorized by Water Infrastructure Improvements for the Nation Act (Public Law 114-322) (WIIN) in December 2016. The WIIN Act requires full funding for the Blackfeet Settlement by the enforcement date of January 21, 2025. The FY 2019 Budget also continues funding to keep implementation of other water settlements on track. These include the Navajo-Gallup Water Supply Project as part of the Navajo-San Juan settlement and the Aamodt Litigation, Crow, Ak-Chin, San Carlos Apache, Colorado Ute, and Nez Perce settlements.

Reclamation's mission is to manage, develop, and protect water and related resources in an economically and environmentally sound manner in the interest of the American public. As a result, it has designed the infrastructure it manages to account for significant variability in hydrology and other weather conditions from year to year. The robustness of the water system has been tested in recent years through extreme droughts as well as floods. During the winter of 2017, above average precipitation in much of the Western United States improved water supplies after many years of drought. But the long-term impacts from droughts, such as those in the Colorado River Basin, are not recovered in a single wet year. Many portions of the West remain abnormally dry or in moderate to extreme drought according to the most recent U.S. Drought Monitor. Reclamation must ensure that its infrastructure is sized and maintained appropriately to handle wet periods and floods to cost-effectively capture water supplies for drier times. The investments described in Reclamation's FY 2019 budget will further these efforts so that Reclamation can continue to provide reliable water and power to the American West.

Reclamation's dams and reservoirs, water conveyances systems, and power generating facilities are integral components of the Nation's infrastructure. Effectively managing the benefits provided by these structures are among the many significant challenges that Reclamation faces that extend over the next five years and beyond in its ability to achieve progress on its mission objectives. Changing demographics and competing demands are increasingly impacting already strained systems. Reclamation's water and power projects and activities throughout the western United States are not only foundational for essential and safe water supplies for both agricultural, municipal and industrial purposes, but also provide energy in the form of hydropower, and

maintain ecosystems that support fish and wildlife, hunting and recreation, as well as rural economies.

This budget addresses priorities by allocating funds based on objective and performance-based criteria to most effectively implement Reclamation's programs and its management responsibilities for its water and power infrastructure in the West. Water management, improving and modernizing infrastructure, using sound science to support critical decision-making, finding opportunities to expand capacity, reducing conflict, and meeting environmental responsibilities were all addressed in the formulation of the FY 2019 budget. Reclamation continues to use appropriated resources to address challenges faced in water resources management and to improve the way it does business. Additionally, to help address these needs, in FY 2019 and beyond, Reclamation will continue to explore alternative types of financing, to include all forms of public-public and public-private partnerships, and non-federal cost-sharing.

As the largest supplier and manager of water in the nation and the second largest producer of hydroelectric power, Reclamation's projects and programs are foundational to driving and maintaining economic growth in hundreds of watershed basins throughout the United States. Reclamation manages water for agricultural, municipal and industrial use, and provides flood control and recreation for millions of people. According to the FY 2016 Department of the Interior Economic Report FY 2016, Reclamation's activities, including recreation benefits, provide an economic contribution of $48.1 billion, and support approximately 388,000 jobs.

Reclamation operates 53 hydroelectric power plants that account for 15 percent of the hydroelectric capacity and generation in the United States. Annually, Reclamation generates on average 37 billion kilowatt hours of electricity, enough to meet the annual needs of over 3.5 million households, and collects over $1.0 billion in gross power revenues for the Federal government.

Department Wide Reorganization Plan

The Department of the Interior is taking bold steps to better position itself for the next 100 years. In response to President Trump's Executive Order on a Comprehensive Plan for Reorganizing the Executive Branch, Secretary Zinke laid out a vision for a reorganized Department of the Interior which aligns regional boundaries within Interior to provide better coordination across the Department to improve mission delivery and focuses resources in the field. Across the Department, the 2019 budget includes a total of $17.5 million to start this effort. The Reclamation budget includes $3.4 million to support the Department's migration to common regional boundaries to improve service and efficiency and to ensure that Reclamation staff are in positions where they can most effectively carryout Reclamation's mission and serve the American public.

Account Level Details

The FY 2019 budget allocates funds to projects and programs based on objective, performance-based criteria to most effectively implement Reclamation's programs and its management responsibilities for its water and power infrastructure in the West.

The FY 2019 budget emphasizes the following principles:

1) *Shared Responsibility* - Securing non-Federal cost-share partners to meet project or program funding needs, and leverage funding through these collaborative partnerships.
2) *Merit-Based Funding* - Utilizing competitive processes for the awarding of grants, contracts, or other government services based on published criteria that reflect Departmental and Administrative priorities. The selection of awards is, wherever possible, guided by high quality evidenced based research and performance measures.
3) *Core Mission in Framework of Department of the Interior Priorities* - Performing the core management responsibilities of providing water and power in alignment with Department priorities and the goals in the Strategic Plan of 2018-2022.

The FY 2019 budget for Reclamation totals $1.049 billion in gross budget authority. The budget is partially offset by discretionary receipts in the Central Valley Project Restoration Fund ($62 million) resulting in net discretionary budget authority of $987 million.

Water and Related Resources - $891,071,000

The FY 2019 Water and Related Resources budget provides funding for five major program activities – Water and Energy Management and Development ($252.9 million), Land Management and Development ($44.3 million), Fish and Wildlife Management and Development ($149.7 million), Facility Operations ($295.8 million), and Facility Maintenance and Rehabilitation ($148.3 million). The funding proposed in Reclamation's FY 2019 Budget supports key programs important to the Department and in line with Administration objectives.

By far, the greatest portion of Reclamation's Water and Related Resources budget is dedicated to our core mission—managing water resources. This is accomplished within over 300 Congressionally authorized projects, each of which has its own authorization. Ensuring a safe and sound infrastructure plays a critical role in this mission delivery. In order to modernize our infrastructure, over $88 million is requested for the Dam Safety program, an additional $45 million is requested to address extraordinary maintenance items, and over $26 million is requested for site security to protect our infrastructure investments.

Reclamation's efforts to support water supplies for tribal nations are long standing and include certain rural water projects and implementation of water rights settlement actions. Funding to support tribal nations is included within a number of projects. For example, the Ak Chin Water Rights Settlement Act Project budget of $16.2 million facilitates delivery of Colorado River water through the Central Arizona Project to 16,000 acres of irrigated lands on the Ak-Chin Indian Reservation. The FY 2019 budget continues the implementation of the Blackfeet Indian Water Rights Settlement enacted in December 2016, two settlements enacted in December 2010 (Crow and the Aamodt Litigation) and the 2009 authorized Navajo-Gallup Water Supply. Additionally, the Columbia/Snake River Salmon Recovery; Animas-La Plata, San Carlos, Klamath, Trinity River Restoration Program within the Central Valley Project, Yakima River Basin Water Enhancement Project, and three of the five authorized rural water projects (discussed below) benefit tribal nations.

The Native American Affairs Program budget of $10.6 million continues support for Reclamation activities with Indian Tribes. These activities include providing technical support for Indian water rights settlements, and to assist tribal governments to develop, manage and protect their water and related resources. The office also provides policy guidance for Reclamation's work with Tribes throughout the organization in such areas as the Indian trust responsibility, government-to-government consultation, and Indian self-governance and self-determination.

More generally, Reclamation's budget supports its role in implementing Indian water rights settlements; this includes $6.3 million to improve coordination and application of expertise to analyze Indian water settlements more effectively and expediently to strengthen Department-wide capabilities in the Secretary's Indian Water Rights Office, and achieve an integrated and systematic approach to Indian water rights negotiations.

Reclamation has identified several key areas for investment where coordination with other Department bureaus will leverage results to more effectively achieve mission outcomes. Reclamation's FY 2019 budget for research and development (R&D) programs include both Science and Technology, and Desalination and Water Purification—both of which focus on Reclamation's mission of water and power deliveries.

The Science and Technology program supports engineering innovation that promotes economic growth, supports maintaining and improving our water and power infrastructure, and spurs continued generation of energy. Program outcomes also enable reliable water and power delivery to our customers, improve safety, limit the impacts of invasive species, and ensure that Reclamation can meet its environmental compliance responsibilities. These activities support the Administration's priorities for the FY 2019 Budget, including job creation by supporting technology transfer activities that may lead to new business opportunities for private industry. The program also supports Administration priorities related to maintaining and improving our water and power infrastructure by partnering with the U.S. Army Corps of Engineers to foster research projects to develop technologies that extend the operating life and reduce maintenance costs of Reclamation's structures. The Administration priority related to energy from all sources is supported by hydropower research that ensures that Reclamation is maximizing reliability, reducing maintenance costs, and exploring new energy development opportunities. Research on safety is ensuring our workers can perform their jobs safely and securely.

The Desalination and Water Purification program priorities include development of improved and innovative methods of desalination and reducing costs to develop new water supplies. The research and testing funded out of this program supports the Administration's priorities for the FY 2019 Budget—including job creation—by supporting innovative new solutions that spur the creation of new businesses by entrepreneurs and by advancing Reclamation's competitive edge in the area of water treatment and desalination.

Reclamation's mission to ensure continued water delivery and power generation cannot be accomplished without meeting our legal environmental responsibilities. Reclamation meets these responsibilities on its individual projects through a large number of activities, including Reclamation's Endangered Species Act recovery programs, and other programs that contribute towards these efforts, such as the Columbia/Snake River Salmon Recovery Program, the Middle Rio Grande Project Collaborative Program, the San Juan River Recovery Implementation Program, the Upper Colorado Recovery Implementation Program, and the Multi-Species

Conservation Program within the Lower Colorado River Operations Program, among many others.

Among other efforts, Reclamation helps address the West's water challenges through the WaterSMART competitive grant program. This program helps local water stakeholders address current and future water shortages, including drought; degraded water quality; increased demands for water and energy from growing populations; environmental water requirements; and the potential for decreased water supply availability due to drought, population growth, and increased water requirements for environmental purposes.

Central Valley Project Restoration Fund (CVPRF) - $62,008,000

This fund was established by the Central Valley Project Improvement Act, Title XXXIV of P.L. 102-575, October 30, 1992. The budget of $62.0 million is expected to be offset fully by discretionary receipts to the maximum extent possible based on what can be collected from project beneficiaries under provisions of Section 3407(d) of the Act. The discretionary receipts are adjusted on an annual basis to maintain payments totaling $30.0 million (October 1992 price levels) on a three-year rolling average basis. The budget of $62.0 million for the CVPRF was developed after considering the effects of the San Joaquin River Restoration Settlement Act (P.L. 111-11, March 30, 2009), which redirects certain fees, estimated at $2.0 million in FY 2019, collected from the Friant Division water users to the San Joaquin Restoration Fund.

California Bay-Delta Restoration Fund - $35,000,000

The CALFED Bay-Delta Restoration Act (P.L. 108-361), as amended, authorized multiple federal agencies to participate in the implementation of the CALFED Bay-Delta Program as outlined in the August 28, 2000, Record of Decision (ROD) for the CALFED Bay-Delta Program Programmatic Environmental Impact Statement and Environmental Impact Report. The legislation directed the implementing agencies to undertake a set of broadly described programmatic actions identified in the ROD to the extent authorized under existing law. In addition, the Act authorized $389.0 million in Federal appropriations for new and expanded authorities. The Water Infrastructure Improvement for the Nation Act (P.L. 114-322) dated December 16, 2016 reauthorized the CALFED Bay Delta Authorization Act through FY 2019.

The FY 2019 Budget of $35.0 million implements priority activities pursuant to P.L. 108-361. Six Federal agencies – the Department of the Interior, Department of Commerce, Department of Agriculture, Department of the Army, Environmental Protection Agency, and the Council on Environmental Quality — work together to ensure that the Federal actions and investments the Administration is undertaking are coordinated in a fashion to help address California's current water supply and ecological challenges.

Policy and Administration - $61,000,000

The $61.0 million budget will be used to: 1) develop, evaluate, and directly implement Reclamation-wide policy, rules, and regulations, including actions under the Government Performance and Results Act; and 2) manage and perform functions that are not properly chargeable to specific projects or program activities covered by separate funding authority.

This completes my statement. I would be happy to answer any questions.

Mr. SIMPSON. Thank you. Thank you all for your testimony. First question is to you, Mr. James. The budget request includes new accounts for the Harbor Maintenance Trust Fund and the Inland Waterway Trust Fund. What was the reasoning behind these budget structure changes?

Mr. JAMES. I think the administration's goal, sir, is to more clearly present the funding in both of those accounts as individual accounts so that they can be more easily understood and correctly interpreted. It does not change cost sharing or application, either one. It is just a way the administration thinks we should go forward with those accounts.

Mr. SIMPSON. And General Semonite, a number of the projects are proposed for funding in both the newly proposed Harbor Maintenance Trust Fund account and the regular Operations and Maintenance account. I am concerned that this could result in delays or other problems with project implementation, for example. Under the existing budget structure, if bids for maintenance dredging come in higher than expected, the Corps has the flexibility to use an unobligated project fund and to defer other lower priority activities at the project. The proposed budget structure, on the other hand, seems to reduce the Corps' flexibility to address the projects of highest priority. Is that a concern?

General SEMONITE. Mr. Chairman, I share your concern. We have lost some flexibility on our ability to be able to portion different amounts you have given us in the past to be able to best take care of the requirement.

Mr. SIMPSON. I was very interested in your testimony in terms of trying to improve our ability to do projects by streamlining and other types of things, looking at the total rule and regulations that we impose on everything. One of the things that has come up during this discussion of infrastructure is public/private partnerships and financing P3's or whatever you want to call them. We have had concerns, while I support that and I think it is a good thing to look at. It may be appropriate in some places and not in other places.

One of the concerns we have is that projects that are able to be financed privately move up on the Army Corps project and those that do not have access to those resources move down in priority. I would hate to see those that have the ability to raise money privately put the others down at the bottom of the list all the time. Is that a concern of yours?

General SEMONITE. Sir, I think what the committee has asked us to do is to come up with some policy. We do not have that right now. You know there was one project that we got authority to be able to do, Fargo Moorhead, there are some unbelievable advantages to that. But I do concur that we cannot just pick different projects to try individual outcomes. We need some government policy on how would we go about this for exactly the concerns you have.

How do we somehow entice people to incentivize certain projects, but if there is an area of the nation that does not have the ability to be able to do that, we do not want to disadvantage them. So there is a sweet spot somewhere that we have got to be able to find. My guys are working on that policy right now, I would love to tell you I am going to have it to you in a couple of weeks but

it is probably going to be June until we are able to give you a draft. I have got to send it to the Secretary, let him take a look at it. But we have got to be able to have some overarching methodology of how we can do this so we do not have what you said.

Mr. SIMPSON. I appreciate that. When you guys get that policy, I would love to sit down and talk to you about it and how we are going to try to implement. We want to work with you on trying to solve a lot of these problems, I hate to call them problems but smoothing out some things so that we can get things done quicker and cheaper and so forth for the taxpayer.

Let me ask a question to the Bureau. Whichever one of you would like to answer this. The Department of Interior recently proposed reorganizing all of its agencies in the Department including the Bureau of Reclamation. Under common regional boundaries, can you please explain what the current proposal is and the need for this effort and in that, there are several questions. What is the process being followed for the development of this proposed common boundaries, has reclamation been involved, what is the plan for ensuring meaningful congressional input? What is the schedule for implementation, does the current proposal change where regional offices of the Bureau of Reclamation will be located? What is the cost to Reclamation of this reorganization and does Reclamation expect any impacts to the operations or management of any projects due to this reorganization? So broadly, just everything that is going on with this reorganization.

Mr. PETTY. Mr. Chairman, I will go ahead and start off that conversation. Actually, in front of you, each member has two maps. So we are going to talk about the reorg, so if you dig a little bit with the two maps, one looks like what is the existing organization within the Department of Interior. The other one is the latest, this is the seventh rendition. It has draft written across the front. We have gone through seven reiterations already to date. It is still in draft because the highest priority, even Secretary Zinke yesterday on the Senate side, specifically said we know that it is a high priority that we interact with you as members up here to know exactly what we are working with.

So as this continues to be drafted through, what I really want to highlight is just the convolutedness of how Interior with all of its bureaus work in almost silo organizations. What the Secretary and what the goal is, is to put these regions together so that all the different communities within the bureaus can actually start working more efficiently together. What we have found is it takes forever and ever going from one bureau to another bureau to another bureau in everything from the areas of policy interaction, permitting and so forth that takes place.

So again, what I want to be able to, Mr. Chairman, and to the whole committee, is just be able to say, we really want to work with Interior, but also with your staff as we continue through this reiteration. We are working with our senior executive service staff within Interior. We are working with the governors offices as well very closely. Again, the idea is in the seventh rendition, it has gone through quite a few changes and there have been significant components that really actually specifically highlight even Reclamation's component on really looking at the watershed. So if you can

compare and look how the later part, the Upper Colorado, the Lower Colorado, the California, they have gone through significant changes. So I will stop there and see if the Commissioner has any thoughts or comments on top of that.

Ms. BURMAN. I would just add that I think this draft has tried to look at not only sensitivity to State borders, which folks who work with BLM find very important, but also looking at watershed. So the Colorado River watersheds are kept together, the Columbia River has gone from being within several regions into largely one except for the very head of the Snake. The California system is no longer cut in half, the California system is now together, the San Joaquin and Sacramento systems. So I think this draft has gone a long way. In many ways, it follows Reclamation's borders and we have significant input into it.

Mr. SIMPSON. I appreciate that and I am supportive of what he is trying to do and I look forward to working with the Secretary on this. I do hear from stakeholders out there that States borders are really important. I keep saying to them, I realize that but watersheds do not recognize State borders very well. When we are trying to—it has been a pain in the rear end when we have had the Columbia Basin divided between different States and different regions of Interior's departments. It always creates a challenge when north Idaho is treated differently than south Idaho or the decisions made do not apply in both places and that kind of stuff. I appreciate what the Secretary is trying to do. Ms. Kaptur.

Ms. KAPTUR. Thank you, Mr. Chairman, and thank you again for your testimony. I want to support what the chairman is saying. As a land planner myself, and having had some experience with the Department of Interior in the past, the difficulty of coordinating, even between the Parks Service and the Wildlife Refuge System. What you said, Secretary Petty, about the silos within Interior, I completely agree. Our region of the country faced a problem that will require binational cooperation with Canada and with Michigan, Indiana and Ohio, to deal with the algal bloom issue, the largest watershed in the entire Great Lakes with this massive problem. It is very difficult to even assemble the information properly to begin to address the problem. There is no political structure that, and we may have to put it in a couple of our bills to make it happen but to really address the gravity of this in real time. So anyway, keep going, you are on the right track.

The question I have but I will give a little background. What are each of you doing to raise the profile of your Agency within the administration to help the President and his staff realize that a focus on infrastructure means also focusing on the Corps and the Bureau of Reclamation? We hear a lot of talk about infrastructure and then we get this half-baked proposal where 80 percent of whatever funding they are talking about they say has to come from private funding and then everything goes to a halt.

I remember I had the privilege of working for a former President of the United States and how hard it was to fight the internal battles with OMB to do what the country needed. So because the President has just appointed a military man to be head of the Department of State and because his Chief of Staff is a tried and tested Marine, there is default in the administration to the military

side of the equation. So I am saying to you, that there may—having worked for a President who was thwarted by his own staff, including OMB, what are you doing to go around that blockade and really move the infrastructure issue up through the agencies over which you have jurisdiction?

I would be very interested in hearing how you intend to raise the profile of the backlog infrastructure, $94 billion, and how important that could be in this administration to actually crafting an infrastructure proposal that could be funded. By the way, I am old enough to remember General Eisenhower, when he became President and we created the interstate highway system. It never existed before. It was a defense industrial highway system for this country. You are going to be vising the Soo Locks, thank you very much, Mr. Secretary, very shortly. An extraordinarily important place that the Corps is managing but I just think you should not be shy. You should find a way to go around these blockades that are purely staff driven and help us meet a national need. What are you doing to raise your profile?

Mr. JAMES. Madam, I will give you the best answer I can on that. When I came to Washington as an appointee, the only reason I came to Washington and accepted the offer that I had was to move more dirt, take less dollars and do more with it. That is what I am focused on, that is what I will be focused on. Right now, we have a taskforce where we are working together, it is not ready yet. We are going to be working from my office with all agencies, all secretariats including Interior, AG, OMB, all of them, in order to try to parallel projects as they come through what is known as the pipeline. Because right now the Department of Agriculture delineates wetlands in this country in every county. Well, the Corps is given a project to work an EIS on, they go through the entire project of EIS and guess what, EPA also has delineation rights on wetlands. So those two agencies get together, sometimes they see eye to eye, sometimes they do not and it can slow down the Corps process of an EIS by several months, maybe more.

We are going to try and work with the Corps and all the other agencies to see if we cannot streamline the entire process, not just the Corps but from the other people as well. I met Secretary Perdue yesterday and discussed this. He is very willing to work toward this. I am still waiting on an appointment with the other secretaries.

We recognize the problem and we are working toward it. Oh by the way, we are also looking at maybe if over time we have created some legislation that works against itself. If in 1990 we did one thing and 1999 we did something—we are looking at that internally. If I find something along that line, I have no authority but I would like to discuss it with Congress to see if we can help along that line as well so that we can all take some responsibility. We are just limited on funds. We cannot do enough with the limited funding that we have.

Ms. KAPTUR. Mr. Secretary, I apologize for interrupting but my time is short. To cut your agencies by 20 percent, I know what happens when you sort of U-turn into OMB and then all of the sudden some clerk over there cancels something out. I am just trying to make the point, you have power and I think if the other infrastruc-

ture bill, whatever that is, is stalled, you have one too. I just would encourage you to think hard together about how to influence the administration. I have actually talked to Vice President Pence about this. There are individuals inside that administration that want to do something on infrastructure regardless of whatever the Budget Agency is doing and we can find ways around their intransigence. But the country needs this, we cannot wait.

General SEMONITE. Ma'am, I will keep my answer short. I am more than willing to follow up. We have been very, very aggressive in the last year of being inside the White House to be able to work with President Trump's advisor on infrastructure and to be able to help make sure that as we think about railroads, roads and other capabilities, that rivers get added into that. We have not only advised him on how we can help streamline some of the permitting, but to be able to bring that $95 billion bill into the White House to be able to make sure that they are being recognized. Mainly with the risk that happens to things like Soo Locks that if, in fact, you do not invest in that then there is going to be significant ramifications.

Secretary James and I were in the White House yesterday morning talking about the same exact things to be able to make sure that those requirements are on the table so when Congress makes decisions, if you cannot afford all of that, you at least understand the risk of not putting money into those projects.

Ms. KAPTUR. If I might add, the President carried the State of Michigan. He is well aware of the Flint water crisis. I do not know what he knows about the Soo Lock but that should be an absolute must for this administration. Thank you and I will wait for the second round, Mr. Chair.

Mr. SIMPSON. Mr. Fleischmann.

Mr. FLEISCHMANN. Thank you, Mr. Chairman. Secretary James, General Semonite, Secretary Petty, Commission Burman, thank you all very much for appearing before our subcommittee today. I represent the third district of Tennessee. That is East Tennessee, Chattanooga, Oak Ridge. The Corps does substantial work in my part of the world and I thank you. General, I want to personally thank you for coming and visiting with me and I appreciate that personal touch.

A brief history about the Chickamauga Lock. When I came to Congress, the Inland Waterway Trust Fund was broken, it was broken in several ways. All the money was going to the Olmsted Lock, virtually all the money. It was underfunded and the future was uncertain. With members of this subcommittee on both sides of the aisle and with our colleagues in the Senate, we worked very hard to reform the Inland Waterway Trust Fund, to take the overriding burden of Olmsted out so that other locks, Lower Monongahela Kentucky and Chickamauga, could receive funds and we did that.

At the request of industry, we increased the revenue on the user fee, on the diesel tax, so we are very proud of that. New construction on Chickamauga Lock has reresumed. I think this is the fourth year we have had construction. There has been a new contract awarded. I have met with the contractor, I have met with the Corps. The National Corps does a very good job as well and obvi-

ously I am very concerned and I want to make sure that that progress considers that we move forward.

In that regard, I have a few questions. I will let whomever wishes to answer, answer the questions. The President's budget recommends the imposition of a decal fee on commercial operators on the Inland Transportation System of $1.782 billion over 10 years or $178 million per year. My first question is, is this decal fee in addition to or in lieu of the current 29 cents per gallon fuel tax paid by barge carriers.

Mr. JAMES. Yes sir, it is.

Mr. FLEISCHMANN. It is in addition sir?

Mr. JAMES. Yes.

Mr. FLEISCHMANN. OK, thank you. I am informed that in 2016, the fuel tax which I previously alluded to, raised $114 million for the Inland Waterway Trust Fund. So, it's my understanding that you're here today advocating for additional revenue to the trust fund of $178.2 million plus the $114 million from the fuel tax for a total annual fee of $292.2 million per year.

Mr. JAMES. Yes, sir.

Mr. FLEISCHMANN. In that light I have one question. Why, then, is the budget proposing to spend only $5 million from the Inland Waterway Trust Fund and for only one project going back to Olmsted, I believe, when four other projects are currently under construction, specifically, and including, the Chickamauga Lock?

Mr. JAMES. That one's harder to answer than the first question.

Mr. FLEISCHMANN. Yes, sir.

Mr. JAMES. My understanding of that is the fact that due to the cap of the entire budget that we use, even if money's coming out of the trust fund, it goes against the cap, and the prioritizing of the entire budget and the funds that we get out of the budget that that's where that fell. The way I understand it for the additional fee is the fact that it's realized that there's more money going to be needed as we move forward in the critical repairs of other locks and, therefore, the feeling that that's building up, it shouldn't be worrisome because it's felt that we're going to need that within the next ten years.

Mr. FLEISCHMANN. Thank you, Mr. Secretary. A follow-up question to that then. It looks like there's going to be an abundance of revenue for the projects, that the priority language that Senator Alexander and I put in place in our respective bills to keep Chickamauga Lock forth, Olmsted should be completed this year. My question would be, are you still planning on having a new Chickamauga Lock completed by about 2023 or 2024?

Mr. JAMES. Sir, I don't know about the Chief, I can't answer that right this instant.

Mr. FLEISCHMANN. Yes, sir. General Semonite?

General SEMONITE. Sir, that depends on future funding, of course. Right now to be able to meet that milestone the number that has to be lifted in 2021 and 2022 is about $90 million. That's a lot more than Chickamauga's gotten in the last couple years. So, I won't try to guess whether that funding is going to come or not, that's your decision, but right now, if, in fact, that funding cash flow is not maintained, there's no way 2024's going to be met.

Mr. FLEISCHMANN. OK. Now, it's my understanding, though, General Semonite, that I think in fiscal 2019 we're looking at maybe $99.5 million, because we've got $78 million, I believe, in 2018, and I was just under the assumption that the number for 2019 was $99.5 million or thereabouts.

General SEMONITE. You're talking Chickamauga, sir?

Mr. FLEISCHMANN. Yes, sir.

General SEMONITE. That's not the number I'm tracking, sir.

Mr. FLEISCHMANN. OK.

General SEMONITE. I think it goes to add, though, and for the Chairman and the rest of the members of the committee, and I'm only talking on what I see when I look at concrete in the ground, when you build something over 15 or 20 years it's a very inefficient way of building a project.

Mr. FLEISCHMANN. Yes, sir. Thank you, Mr. Chairman, I yield back.

Mr. SIMPSON. Ms. Wasserman Schultz.

Ms. WASSERMAN SCHULTZ. Thank you, Mr. Chairman. And, General Semonite, that's a perfect segue into my question about the 30-year timeline for restoration of the Florida Everglades. You mentioned, in your testimony, the inconsistency of funding being an obstacle to completion, which, I think, is self-evident, but is important to say out loud because we're costing ourselves more and more money making projects more expensive the longer the timeline. President Obama's fiscal year 2017 budget request for the Everglades restoration was $106 million. Fiscal year 2018's request for the same project, only from the Trump administration, is only $77 million. Fiscal year 2019, less than $70 million. The Florida legislature, and as most of you, I assume, know, the restoration of the Florida Everglades is a 50/50 partnership with the State of Florida. They passed the Florida Legacy Act committing to invest up to $200 million a year of State funding in support of CERP. And this year's proposal is less than $70 million. Why is the administration not taking advantage of the State of Florida's commitment by proposing a match if you are committed to speeding up projects and making sure that that's not an obstacle? We should, at least, be meeting our end of the bargain, which I will say has consistently been a problem over many years, but there are some years in which we have more of a commitment from the Federal Government than others. So, it's just baffling to me why the administration, Mr. Secretary, would be proposing less than $70 million. We have, as you will hear my colleagues ask questions about their own projects, many projects that are on-line behind the Everglades or that will come up at some point. You know, what is the administration willing to sacrifice in the next phase of Everglades restoration given the extremely paltry request in funding? And that's for the General Semonite and Secretary James.

Mr. JAMES. I really can't answer for the President's budget overall, but our part of that budget that we receive and help identify in the development of the budget. It just goes along with the prioritization of other projects. That is—we are——

Ms. WASSERMAN SCHULTZ. I'm sorry. Don't you represent the President? I mean, why are you not able to answer for the President's budget?

Mr. JAMES. I said as we help implement and identify the President's budget, he develops the budget. I misspoke originally. But, the way I understand it, there is work to be done and we're looking at the possibility of reprogramming funds toward the Everglades in order to make up what wasn't originally identified in that project. And other than that, do you know more about this, sir? At this point in time in my early stage of this career I couldn't answer you any further, ma'am. I'll be happy to visit with you about it or I'll be happy for the staff to——

Ms. WASSERMAN SCHULTZ. I enjoyed a strong relationship with your predecessor and spoke to her regularly, and look forward to doing the same with you.

Mr. JAMES. Thank you very much.

Ms. WASSERMAN SCHULTZ. General Semonite, if you have a more detailed response that would be wonderful.

General SEMONITE. I think probably the best thing is for the Secretary to come and lay out where we see the budget happening. I will continue to tell you, though, that the money that Congress does give us, we want to be very, very committed to make sure those projects are done expeditiously and wherever we can find savings in those to continue to be able to make sure we're putting those, as the Secretary said, moving dirt and making things happen, we're committed to do that.

Ms. WASSERMAN SCHULTZ. I'm trying to squeeze blood from a stone. And, Mr. Chairman, you have been excellent about stepping up and making sure that we provide the kind of funding we need. My last question relates to Port Everglades rather than the Florida Everglades, and the dredging project which is stuck while we await additional environmental assessment work to be completed by the Corps, which is understandable. But the reconfiguration of the Coast Guard Station in Fort Lauderdale, that could proceed at 100 percent non-federal expense. Broward County, Port Everglades is willing to frontload the funding with reimbursement and future cost-share when the larger project moves forward. General Semonite, you mentioned delivery projects faster and cheaper is our goal, but right now the Corps is refusing to accept the willingness of frontloading those funds from Broward County and Port Everglades, and none of this dredging project can move forward until the Coast Guard Station is moved. So, my question is, you know, and I'm going to continue to work with my colleagues here and, hopefully, we'll be able to get that language inserted in the budget, but what is the obstacle if we're trying to make that projects are funded and faster, and cheaper? It is money that you can take, and it has nothing to do with the environmental assessments.

General SEMONITE. This is a great place where this dialogue is beneficial. I was not aware that there was a contribution offer by Broward County. We—the State of Florida has done many, many different times, as you're aware of, offered funds available. So, let me work this, find out what's going on. Clearly, we are trying to support the deepening of Port Everglades PPA signature, and then we were thinking somewhere, 2018 or 2019, but the Coast Guard Station is a challenge, but I was not aware that there was an offer on the table to provide additional funds. What I'll do, ma'am, is I

will figure this out and I will either come see you or make sure that Jason Kirk comes to see you and briefs you, my Colonel.

Ms. WASSERMAN SCHULTZ. Wonderful. Thank you so much. Mr. Chairman, thank you for your indulgence. I yield back.

Mr. SIMPSON. Mr. Newhouse.

Mr. NEWHOUSE. Well, thank you, Mr. Chairman. I want to thank our panelists today, General Semonite, Secretary James, Secretary Petty, and certainly Commissioner Burman. Thank you for being here with us. I'd like to take my time and start off with just a simple statement. My constituents and I need your help. Actually, we need the help of everybody sitting on this subcommittee, everybody on this panel. We need the help of every one of my colleagues in the House and the Senate. We certainly need the help of our two senators. I think you know this, but starting in less than three weeks your agencies are being forced to spill water over our dams in the Federal Columbia River Power System, and that is due to a single judge's decision to disregard the science and the collaboration conducted during the Obama administration between the scientists and engineers at our Federal Agencies. The four states, the sovereign northwest tribes, local and regional stakeholders, and experts who have worked together in an unprecedented fashion to develop the 2014 biological opinion. Your agencies recently informed us that the estimated cost of this forced spill will be an additional $40 million per year, every year, on the backs of our rate payers in the Pacific Northwest. And over the past many months I've been working painstakingly hard alongside Congresswoman McMorris Rodgers, Congresswoman Herrera Beutler to develop larger legislation and also more targeted language for this year's fiscal 2018 appropriations bill that will simply put a pause on this forced spill while all your agencies continue to work on the new biological opinion as well as the updated NEPA analysis. Now, Mr. Chairman, if you'll indulge me in our panelists, I appreciate this. I know it's not an easy thing, but I would ask that you'd answer succinctly, perhaps a one-word answer, and to facilitate that, Commission Burman and General Semonite, I believe, if you could represent your respective agencies. If I'm wrong on that I'd ask Secretary Petty as well Mr. James to assist. But could I ask you, isn't it true that through Ms. Jennifer Greer, who is the Army Corps' Chief of Future Directions Branch as well as Amanda Coster who is the Department of Interiors' Congressional Affairs Officer, through those individuals, your respective agencies, the Bureau of Reclamation as well as the Army Corps provided us technical assistance with the fiscal year 2018 appropriations language that we've developed that puts a pause on this bill, and have your agencies approved that language? General Semonite, Commissioner.

General SEMONITE. Congressman, this is where, basically, there are—you asked one word, it would be balance. Our job is to balance all the different requirements we have on a river system. This particular one is where there has been a Federal judge's decision to be able to execute that in a certain way. We are now following that decision. And so, if there are other things that we can do to be able to help facilitate that, but I think right now we're continuing to try to follow the order of the judge.

Mr. NEWHOUSE. Ms. Burman.

Mr. PETTY. If you do not mind, Congressman, let me just give a big picture, that is cooperation. We need to really work with you specifically as well as all the members in the Northwest on how we can go and focus back in and rework that 2014 biological opinion and get back to, obviously, the one that's making that final decision that we all here at this table need to specifically follow. So, my one word is we need to come back and specifically work with you in cooperation, so that we can move this forward and get these to a solution so that we know where we can head into the future.

Mr. NEWHOUSE. Mr. Chairman, I'd like to ask unanimous consent to submit the language for the record, of that language for the appropriations bill.

Mr. SIMPSON. OK.

Mr. NEWHOUSE. Can I ask, again, will the language that we are talking about in any way prevent the new biological opinion from being developed or in any way prevent your agencies from conducting the NEPA or EIS process?

General SEMONITE. I'm not aware of that particular instance. I'll have to get back with you, sir, on exactly whether that language will have any impact on our ability to be able to do that.

Mr. NEWHOUSE. Mr. Petty.

Mr. PETTY. Yeah, Congressman, the same. What we need to do is just come back and circle back around with you on the specifics so that we can be working together in how we can move forward.

Mr. NEWHOUSE. Can I ask, then, can any of you definitively say that—or can you point to any scientific information that says this forced bill will not hurt the very fish that the 2014 biological opinion was developed to protect?

Mr. PETTY. From my past review and working specifically, I was very encouraged that we had the science supporting what we were needing. So, we look forward to seeing how we can continue not only what we had in the past, but to build on that so that we can move forward with the legislation and/or with any of the court order aspects of revisiting that again and build out what we need.

Mr. NEWHOUSE. Thank you. Well, certainly, Mr. Chairman, I've gone over my time, and I appreciate your indulgence. Thank you. Thank you, all.

Mr. SIMPSON. Mr. Aguilar.

Mr. AGUILAR. Thank you, Mr. Chairman. Mr. Secretary and General Semonite, the President's fiscal year 2019 request included a total of $534 million for construction associated with all Corps flood and coastal storm damage projects across the nation. Under the President's request no flood-related construction projects would be funded to completion and no new flood-related studies or construction projects are initiated. One of those projects is in my region as well as Mr. Calvert's fiscal year 2019 funding for Santa Ana River Main Stem Project. The request proposed $15 million for the project. In fiscal year 2017 the project received $49 million. In fiscal year 2018 the President's request was for $40 million. Also, the request did not fund various the Corps' Continuing Authorities Programs, including section 14 CAP to address steam bank and shoreline erosion affecting public works. I won't ask you specifically about the $15 million requested for the Santa Ana River Main Stem, but of the projects funded for construction, generally, in the

fiscal year 2019 request, how many are receiving full capability level of funding?

General SEMONITE. Sir, I think right now I know that Olmsted is. I need to go and have my staff do a better detail and come back out. I don't think that—I'm not aware of any other ones right now that have, but there very easily could be. We have a lot of projects, obviously, on the table. I owe an answer back to you.

Mr. AGUILAR. OK. Can you talk to me a little bit about the justification for not funding section 14 in the CAPs programs? What happens to CAPs projects that are in development if congress does not choose to fund these programs? How many of these have been identified, and what's the remaining federal balance to complete those? Have we done any deep dives on those?

General SEMONITE. I haven't, but, we are more than willing to come and lay out the CAP program. We think there is great value in the CAP program, but obviously there have been some of those subcategories in CAP get funded, some don't. We can certainly walk through exactly where we're at on that.

Mr. AGUILAR. Right. We can submit it for the record and get a detailed response and maybe meet with you folks to get a little bit more information. A local issue, if you'll indulge me, will the Corps be funding 408 Permitting Process and making that a priority? The county in which I represent has forty 408 permits in the process. They also have WRDA section 214 agreements to reimburse the Corps, but have been told staffing issues could delay those reviews being done. This affects local infrastructure projects, this affects projects that our local communities are trying to deliver and, as we see in many cases, they're putting money on the table in order to do that, and are being told that they'll be facing delays.

General SEMONITE. Well, Congressman, great question. There was some time when we didn't have adequate 408 money. We had only $4 million in 2016. Last year we only had about $3 million. This year we have $8.5 million. So, we appreciate Congress taking care of us. I think we are going to be OK when it comes to staffing, but what is more important with 408s is over the last several years, I hate to say it, 408s migrated to Washington, DC, and I'm not convinced you need to be signing 408s in Washington, DC. Trust our Generals, trust our Colonels. We delegated that all back down to the lower level. Regions are signing these or the actual districts are signing them, and if there are 40 there now, then I will make sure that we continue to work that backlog down. I had a discussion last night on a 408 that took way too long, and I as a 3-star called the Colonel in charge and said, "Figure out how to be able to make sure that we can do this." I don't need seven decimal points to be able to approve a 408, we are committed to do that."

Mr. AGUILAR. Great, I appreciate that commitment. General, one last for you. In February of 2017, $17 billion was appropriated to the Corps in response to hurricanes Harvey, Irma, and Maria, and other flood-related disasters. Of that amount $1.8 billion was to repair damages to existing projects. I've got less than a minute here, so I'm not going to give you the due time, but can you describe the status of the work accomplished with this repair funding?

General SEMONITE. First of all, I can't thank the Congress enough for the $17.4 billion; there is significant damage out there.

We think some time in June we'll have a layout of where that $17.4 billion is going. We received very, very specific guidance as to how much goes to certain areas in Irma, Maria, and Harvey; and then other areas that were affected by other storms in a certain frequency. Once we get that portfolio all figured out, it will work its way back through. Now, what we really want to do is come back and brief the committees, as well as brief all of you, how much of that $17.4 billion is going out to each of your individual projects that are out there. It is a very, very large portfolio, and if I don't get a chance, Mr. Chairman, to tell you this, right now capacity is one of my biggest single concerns. I need to make sure we can put that money in the ground. We're looking at how do I expand the capacity of the Corps to be able to make sure we can expedite that because you want to be able to make sure that we have this in the ground before some other storm comes back and causes harm to our people.

Mr. AGUILAR. Thanks, Mr. Chairman.

Mr. SIMPSON. I want to turn to Mr. Joyce.

Mr. JOYCE. Thank you, Mr. Chairman, and thank you all for being here. General Semonite, I know some times you don't hear it enough in your job, but I want to thank you. Last year, we had a nice discussion about the dredging issue in the Port of Cleveland; and I understand that you collaborated with the other partners there and have now resolved that issue; and I certainly appreciate your efforts to doing so. Hopefully, we have cured the open-water dredging issue now, but the one thing I would like to know is for the fiscal year 2019 civil works budget calls for $6.789 million for dredging the Cleveland Harbor. Based on the information that you have, is that amount going to be sufficient to dredging complete upland placement in 2019?

General SEMONITE. Congressman, we don't see a problem with that number. The other thing is we are committed to continue to have, first of all, a strong relationship with all of the players that are out there. We know that your state has a goal of no open lake placement by 2020. We are committed to continue to do that. There are challenges, of course, where if, in fact, we end up having to dispose of things in a more expensive way; and I am talking about as the country now, then that means there is going to be some ramifications somewhere in the budget; but, right now, we think that we are OK for fiscal year 2019, and we are committed to try to make sure that we grow this relationship. And it really has gotten much, much better in the last year.

Mr. JOYCE. Great; and I'm glad that it is working out for you. On to another question, and I'm going to cut through all of background on it and we will get right down to it—the Brandon Road Report. I know my distinguished colleague here on the panel also has an interest in this; but the fact that—we have received as a draft—when will we have the final report, and when will the work begin to actually implement the structures or barriers that will affect keeping the Asian carp out of the Great Lakes?

General SEMONITE. Great question. I am going to sign a chief's report by August 2019. All my chief reports I am trying to push left, wherever we can. How can I continue to accelerate? This is something I think is very, very critical to be able to make sure we

address this issue, and then that way we will give you a formal recommendation as to what we think is going to happen in Brandon Road. I think the other thing that we might need help with here—there is currently not a non-Federal sponsor. I do not want to slow this down because somebody says you can't move forward if, in fact, you don't have a non-Federal sponsor. So this is where the dialogue where the committees are figuring out, how do we go forward with this approach. I don't want us to get caught in a bureaucratic loophole somewhere because we don't have a sponsor, we are not able to continue to drive forward; our guidance right now says you basically need a non-Federal sponsor for everything we do. This is where I think we might need some help with the committee. Obviously, the Secretary and our team continues to push, but this is what we might end up hitting an arbitrary roadblock.

Mr. JOYCE. Fair enough, point taken. Mr. James, you say in the budget "makes important investments by providing funds that combat invasive species, among other priorities." Do you know of any other ongoing or past initiative the court has undertaken to combat other invasive species across the United States, and were those efforts successful?

Mr. JAMES. I know of other areas where they are being combatted. I don't know whether they were successful, ultimately or not. General Semonite's been around the Corps a lot longer than I have and he might be able to answer that, but I know there are—somewhere in one of the western rivers—Columbia, I think—they are fighting some kind of invasive mussel that they are working on right now, as we speak; I know of that one. Of course, you know, historically, most of these things are brought into our country from other areas, and usually for a purpose; and it has worked out very well for us. So, success stories I can't tell you sir, I don't know. I can get some answers for you if the General doesn't know either, and we will get right back to you on it.

Mr. JOYCE. Congresswoman Kaptur, I believe, is here for the fight with the zebra mussels and some of those other things in the past. I don't know if we won that war or lost it, or just gave up; but we certainly want to know if, in fact, things are working and how we can translate those practices into effect in Great Lakes because we can't afford to have the Asian carp in there because it's game, set, match.

Mr. JAMES. Well, that's absolutely a priority. There are too many states located by these waters up there in the Great Lakes that will be affected by those things. I'm from down river from there in Missouri, right on the Mississippi River. I see what they have done in that area. There is an area in Tennessee known as Reelfoot Lake. It has definitely hurt fresh-water fishing there. So, this is a priority to stop them. It's also a priority to keep navigation open in that area so that we can continue to move commerce. I think the plans moving forward as quickly as we can push it to get to an answer of exactly how do we do it; and I am looking forward to completing that plan; getting with Congress; and try to get it moving forward at Brandon Road.

Mr. JOYCE. Well, you know, I have been here 5 years and we have made no movement; so, I would like see something happen be-

cause time is not on our side when it comes to the Asian carp. I am out of time. Thank you very much, Mr. Chairman.

Mr. SIMPSON. Mr. Fortenberry.

Mr. FORTENBERRY. Thank you, Mr. Chairman. I want to follow up on what Congressman Aguilar has talked about regarding the 408 permitting process. Generally, you got pretty animated during that discussion. Do you want me to re-animate you?

General SEMONITE. I am more than willing to talk about 408, sir.

Mr. FORTENBERRY. OK. So, here is an example. Back where I live, you know we have natural resource districts. It's been an amazing political subdivision that works with environmental and flood control projects, a taxing authority with political representations, one of the more unique types of municipal constructs in the country. So, we are trying to build some levees to protect a major national military asset, Strategic Command at Offutt Air Force Base. The Omaha district informed the NRD who is coordinating the project, that on a regular levee inspection, that the levees were unsatisfactory. The irony of this point is that they have been in a 408 permitting process for 8 years, which has cost them about $5 million added onto about the $25 million of costs; and the Corps of Engineers is what's at issue here. So, on one side of the building, they are unsatisfactory; on the other side of the building, the permitting process has dragged on and on, adding cost and creating the conditions in which this base and personnel are potentially at risk. We've had this conversation before. You've been kind enough to continue it in my office—like Congressman Joyce said—you have to take on a lot of difficult problems and you don't get enough thanks, but at the same time this still churns out there as a harsh reality, and I would like your response.

General SEMONITE. So Congressman, we will lay this out for you; but the bottom line is that Papio, Missouri River NRD ended up having a FEMA map certification issue in 2011. They hired a subcontractor that did not do proper geotechnical analysis. It's been about 5 years for us to be able to get the standard that we needed to be able to do this. This is the Colonel I talked to last night. The bottom line is that both General Spellmon, the Division Commander, and Colonel Hudson have both committed that they will have this 408 done by the May 15 of this year. Now, the challenge is how do we make sure that if we have a 408 that is lagging, not necessarily because of a Corps approval because of the lack of technical analysis, how do we somehow make sure that everybody is informed of what is out there, and to be able to make sure that we can try to somehow coach and mentor the subcontractors are to get it through. So, this is something that is not indicative of normal 408 problems. This is a subcontractor performance issue.

Mr. FORTENBERRY. So, it is the NRD's fault, that you are saying?

General SEMONITE. I think the NRD needed to hire somebody that had the technical capability to be able to do this in a timely manner; yes, sir.

Mr. FORTENBERRY. What is a normal 408 permitting process timeline, or what should it be on a project of this magnitude?

General SEMONITE. I think all 408s are very complicated. We just approved a pipeline in for the DAPL—you know that one? That is very, very contentious, a lot of issues with the entire inner-agency

team. That was actually a 408 permit as well. There are some other permits in there. I think that we want to try to do these things in a relatively timely manner, 60 days, 100 days, 120 days; but if it has got a lot of—especially if I need fish and wildlife capability, if there are other type of variables in this, then some of these are going to be much more contentious. And we need to be able to give the stakeholders an understanding going into the 408 how complicated we think it is going to be, and some expectation of when those things will be approved.

Mr. FORTENBERRY. Well, I think the core of the issue is to ensure that the internal culture—which I think you are indicating—is highly sensitive to the realities that maybe there isn't expertise on the ground as robust as it should be or where you are and, yet, when we are in a unique circumstances like in Nebraska where we have got monies ready, full-state participation, and something is being held up, and the expectation on the local people to have the full range of expertise in the manner that you are talking about is unrealistic. That we actually do have a cultural collaboration and cooperation rather than no, you did not meet the standards, and it's finished.

General SEMONITE. I agree, Congressman. I think also we have a lot of matrix in the Corps of Engineers; we need flags to go up. When something looks like it is going to take too long, have the appropriate leaders get back in there. I don't need to come in as a 3-star figuring out how to get a 408 back up and running; but at some point, that flag didn't go up early enough, sir.

Mr. FORTENBERRY. Yeah, but you're the one in front of me now. So, I think this is not only a specific—I didn't want to bring it up just because of the specific concern; although it is a harsh one, it is generalizable to the bigger principle here—to this more collaborative-type of culture that I think you are creating.

General SEMONITE. Well, and again, this goes back to my opening statement. It all goes back to how do we make sure the culture in the Corps is to be able to have good science, good engineering, but also to be aggressive and to be able to make sure we are doing the right thing. That culture is not going to change overnight, but I think we are making a big move to get it to where it needs to be; and, specifically, on 408s, delegating that back down and empowering those people and make sure they are accountable is the biggest single way I can improve the culture.

Mr. FORTENBERRY. Thank you, Mr. Chairman.

Mr. SIMPSON. Mr. Rogers.

Mr. ROGERS. Thank you, Mr. Chairman. Secretary James, we are glad to have you here along with your colleagues. You are a native Kentuckian?

Mr. JAMES. Yes, sir, I am.

Mr. ROGERS. And Big Blue Nation is going out west, as you know.

Mr. JAMES. I see that.

Mr. ROGERS. We are going to the south regional in Idaho.

Mr. JAMES. The south regional?

Mr. ROGERS. Yeah, help me out here.

Mr. JAMES. Thought that would be like the west regional.

Mr. ROGERS. It is the south regional.

Mr. JAMES. But they are going to be very welcomed in Idaho, in Boise.

Mr. ROGERS. Well, at least it is in southern Idaho.

Mr. SIMPSON. That's right.

Mr. ROGERS. I was confused there for a while. But, anyway, Mr. Secretary, we are proud of you, and we congratulate you on this chore that you have undertaken. Let me ask you about something that I have been asking the Corps about for years with no good results. It is the Flannagan Dam, just across the Virginia line from Kentucky in my district. After the earmark moratorium went into effect, the House Transportation Infrastructure Committee created a new process in the WRDA Bill for communities to request projects from the Corps—as you know, the so-called section 7001 process. It requires extensive community engagement, as well as coordination with all levels of governments—state, federal, and local. The Flannagan Dam Project is pretty simple. The dam is in Virginia, but the water that goes through the dam flows directly into Kentucky, and my district in Pike County. The white water rafting season on the Russell Fork River, which is the discharge river, is great for tourism for a very short span of time. They want to see if there is a way to sort of stretch out the discharge so that there are several weeks, months even, of white water rafting on the river; and yet, there is no money requested for the study that's required in the budget request. For years, we have mandated that this study take place and the Corps says have a nice day. But can we get an answer on this? I mean, it's a fairly small amount of money—probably a million or so; but the principle is involved, and the success of that project is involved; and I am so frustrated because the Corps just simply will not pay attention. What do you think?

Mr. JAMES. Let me ask you one question, sir. This dam, is it a flood-control dam or water supply, do you know off hand?

Mr. ROGERS. It's all of the above.

Mr. JAMES. That's unusual. Some of the kickback might be fear of loss of flood control if that pool isn't pulled down quickly enough for flood season. I don't know that; I am not familiar with the dam, and I have not been out there in the white water yet, but I would like to go. Let me see what the General knows about it. If we don't fully answer you, I will get back with you, sir.

Mr. ROGERS. The study only cost $1 million, and half of that cost will be borne by the State governments. So, the Corps only needs $500,000.

General SEMONITE. Congressman, I am sure there is a way ahead. We do this in other places. I am from Vermont, and there are certain times when we are able to let that go for white water. Obviously, recreation is something that is an authorized purpose in a lot of our facilities. So, I am not convinced that we have to necessarily do a full study to be able to figure out in the water control manual where are there some times to be able to optimize that and do the recreation? What I will do is have the Colonel in charge come report to you, and make sure that he lays out what our options are; and if there is absolutely no way possible to be able to do that release without a study, then we owe you that, and we'll go back in and then lay that requirement back on the Secretary;

but most of the time, we have enough flexibility in our water control manuals to do this unless there is some very abnormal endangered species thing or some other kind of an issue. Let us go out and find out exactly where we are at on this particular issue, and we owe you an answer back.

Mr. ROGERS. I take that very seriously, so, thank you. This is a fairly small amount of money; it is a fairly small item in your agenda, but it's big for the people of Pike County who are suffering from the tens of thousands of mine layoffs that are there. They are looking for a way to make a living; and tourism is the best thing we have got going in those mountains and great streams, but we can't get the Corps engaged, and I've been after this for years. In fact, I have rode the river. I'll do anything to try to get help. We have paddled the river; and it is a great river. It needs water, as all rivers do; but this one needs some white water. Thank you, Mr. Secretary.

Mr. JAMES. Yes, sir. We have got that, and we'll be back with you very soon.

Mr. ROGERS. Thank you.

Mr. SIMPSON. Ms. Herrera Beutler.

Ms. HERRERA BEUTLER. Thank you, Mr. Chairman. And I am going to try and move quickly because I have several questions and I want to fit as much in as possible, and whatever I don't get to, we will just submit for the record. Thank you all for being here. It is interesting. So, my first one is mostly about permitting; and I am going to submit most of that piece—but it was following along with what Mr. Fortenberry brought up—and the answers that I am hearing are mostly—where it is not complicated, or there are not endangered species, or fish and wildlife is not involved, we can move pretty quickly. Well, welcome to the west, where all of those things are always involved, right. And shout out to General Spellmon. He's done a great job. He's got a lot on his plate. You mentioned a small little pipeline that he has had on his plate, right. Well, almost every permit in my district involves all of those things, whether it is for a small project with, you know, oyster growers, right, aquaculture, who have been given permits and then had those taken away, or it is a big issue like the Columbia River. So, it is all complicated where we are at, and we desperately need your help. We don't have the good fortune of having—some of the—or activist governors who are not necessarily interested in seeing just commerce. We have an amazing hydro system, right. It is a carbonless energy system that produces—if we were to pull it out like some people want, we would see—it is like 15—I have heard 15 or so coal-fired plants would be needed to replace that load-bearing generation, which is just ridiculous to me. So, we at Wright Parish spent a lot of money and a lot of time trying mitigate—to protect our wild salmon runs, but we need your help and so some of the questions I am going to submit for the record are in that vein, but I guess more than anything we need to impress upon you as we move forward we are going to be calling on your office and your office and we are willing as a delegation, as a region to do whatever we need to do, but we are going to protect this resource, we are going to protect our fish runs and we are going to fight whoever we need to fight, but this is a big one and it is not going away.

So having said that, let me move really quickly and hopefully, General, you know, previous Army Corps leadership has been clear about how they felt about Waters Of The U.S. and I know that that has been rescinded but it is taking a while for us to see the right EPA finalize how they are going to move forward with regard to the Court action and I just wanted to hear from you what is the current status, what is the current thoughts about WOTUS, Waters of the United States, by this current Corps leadership?

General SEMONITE. Well, Congresswoman, I will defer to the Secretary on that. His office is working that a little bit more closely with the EPA than I am.

Mr. JAMES. Working very hard, ma'am, to get the Waters Of The United States back in line with where it came from and there is nothing established at this time, but it is being worked as rapidly as possible. We are having input on that and if our office gets its way it will be more common sense than it was last year.

And let me mention right quickly on the hydropower part, I am a great believer in hydropower. I think we ought to have hydropower dams in a lot more places than we do and on the permitting process I think General Semonite and I both are committed on all permits to speeding those up with a little less pain where it will not be like the dentist maybe.

Ms. HERRERA BEUTLER. Well I appreciate that. You know, some of our challenges were split between Seattle and Portland and we see dramatic differences in times of similar permits between the two offices, which tells me it is not always just the complication of the issue. It is the complication of the staff and you talked about empowering staff to hold them accountable. I agree. We need to do that and which is why I have also looked at whether or not we could transfer my region into the Portland leadership and if we need to we will continue that direction. One more piece just because I am running out of time. Judge Boyles, on Puget Island. So you all, we worked very hard to deepen the channel of the Columbia River, had tremendous success. Our ports have enjoyed and the people along with it, tremendous benefit. I have a small group of folks who have taken kind of the brunt of the dredging. The Army Corps dredges, does maintenance dredging now, takes the spoils and then drops it at a preapproved site where it just sits. Well we see the beach actually eroding where these bigger ships are going through and there is probably going to be a disagreement about what is causing the beach to be eroded, but what I do know is it needs re-nourishment and these folks watch as the dredge is taking the spoils out and then take it up river. If they could just put it back on the beach and we are in a process, we had a permit to do this. It expired. We are in like year 3 of trying to get it renegotiated. I think we are going to get there. The question is how long and painful is it going to be in the interim. This is an issue where, and I do not have any more time left, but I am going to follow up on that as well. And let's see, I think that it is. I am going to have to submit everything else for the record. You all are just some of my favorite audience. That is what it is. Thank you.

Mr. CALVERT. Thank you, Mr. Chairman and Mr. James, General Semonite and let us see, fiscal year 2018 Appropriations Bill moves forward. I am actually still awaiting the 2018 Work Plan for the

Corps to make sure it includes the requested 6.2 million to complete phase 2A project, Phase 1 environmental and the side by side comparison for the validation report for the Marietta Flood Control Ecosystem Restoration Project, which is in my district, and I brought this up to you a number of times, General, as you well know and Marietta Creek is, we intend to keep moving through to completion. We are currently working to complete the side by side comparison for the validation report. The report is expected to capture the cost reductions identified in the Value Engineering Exercise conducted by the Corps district and the local sponsor. We believe these updates will result in a more accurate benefit cost ratio and reinforce the appropriateness of and the critical need for federal participation in this project. So my question as I bring this up every hearing and I hope to one day find a different topic to talk about, though I do have something that was Reclamation, but until that day happens the last significant flood project in my district and the last flood was back in 1993. It caused significant amount of damage in the local community, about $21 million but also people forget it caused a lot of damage at Camp Pendleton. Remember all those helicopters were on the tarmac there and they, I think we destroyed about $75 million worth of helicopters at that time. They would probably cost a lot more today. Please understand the population in this area is quadrupled since the project's feasibility study. Today the economic impact of those projects would be much greater, not to mention the significant number of businesses infrastructure which remain vulnerable to flooding and we need to address it. Can you comment to me that you will include this fiscal year 2018 funding in your work plan, send the reprogramming request forward quickly, provide the necessary funds to advance this project from fiscal year 2018 Emergency Supplemental to keep the Marietta Creek Project moving forward towards completion?

General SEMONITE. Congressman, first of all the work plan will go through the Secretary and OMB so I will certainly tell you about what my position is, but as to what comes out will be obviously up to others. I had a meeting in the last 24 hours with Colonel Gibbs and General Helminger about this. This is a 4 phase project. They walked me through this. You definitely need 3 different buckets of money. You need about $5.5 million to be able to do one part of it, you need about another million to be able to NEPA and you need $3.5 million to clean out the sediment down in Phase 1. I think this would compete very, very well in the fiscal year 2018 Work Plan because we have done the majority of this work. We just need to get this thing across the finish line. This is something I would go to the Secretary to say let us continue to push and I am mainly talking Phase 1 and Phase 2. Anything that happens on Phase 3 and beyond is going to be the committee's decision as to what would happen on how you fund the additional phases, but I think the ability to be able to see closure on those first ones is something that we would be very excited about.

Mr. CALVERT. Well, Secretary, I do not know you yet, but I hope you paid good attention here to the good General because——

Mr. JAMES. I heard him, Sir.

Mr. CALVERT. OK. I hope you listen, too, Mike.

Mr. SIMPSON. I heard it.

Mr. CALVERT. So I thank you for your consideration. We would like to get this project done and thank you for all the work you have done on the River Plan. I think maybe in my congressional career, I only been here 26 years, I may actually see that come to completion as long as the voters agree that I need to be around here for a little bit longer. One quick question for the Commissioner. Thank you for being here today. As you know, in California we have our fair share of water issues and then some and some recent reforms are working better, but there is always more that can be done and should be done. We have two major waterways that provide California water that people need, the Colorado River and the Bay Delta. Tell me about the difference in these projects. Why is it that Colorado River provides water year after year and the Delta is so pragmatic? There is no listed species, are there no listed species in the Colorado River? Is it strictly a storage issue?

Ms. BURMAN. Thank you, Congressman, for that question. The Colorado River is on its 18th year of drought and counting and the extraordinary difference on that system, which does have endangered species and has habitat conservation plans and other plans to address those is that they have 60 million acre feet of storage, meaning an overwhelming amount of storage to cover dry years to wet years. So after 18 years of drought that system is still about half full overall.

Mr. CALVERT. That is exactly what I wanted you to say. So does that mean we do not have enough storage in the Bay Delta?

Ms. BURMAN. So you can just look at 2017, which is the wettest year on record for California on the Sacramento System and this year, which is very dry so far, and the Central Valley Project, which is a federal project, we are having to reduce allocations for water this year, so after the wettest year on record we do not have the storage in the system to be able to carry over supplies into the next year.

Mr. CALVERT. So what is the Bureau doing to make sure that California gets the storage it needs?

Ms. BURMAN. What are we doing to work on California storage?

Mr. CALVERT. Yes.

Ms. BURMAN. A number of things. So with the urging of the California delegation and others, we have been studying storage in California for 2 decades and the WIIN Act passed in 2016 called for new storage opportunities. In 2017 Congress said that they were going to put $67 million towards new storage and then our job at Interior was to send you a list of what projects would be most useful for that.

Mr. CALVERT. That would be great. I would like to see a timeline where we can finally maybe build something rather than study it.

Ms. BURMAN. I absolutely agree. I think Shasta Reservoir is able to move to construction with support from Congress by the end of 2019.

Mr. CALVERT. That would be wonderful. Yeah, I know, yeah, doing great, Brenda. Thank you.

Mr. SIMPSON. Mr. Serrano.

Mr. SERRANO. Chairman, first of all, I am sorry about my voice. The worst thing that could happen to a politician, lose your voice. It was cold outside with the high school students who were making

their voices heard outside just now. General Semonite and Mr. James, first of all, thank you, all of you for the work you do and for being here today. As you may know, the Corps of Engineers was instrumental in cleaning the Bronx River and bringing it back to life. For that, my constituents and I will be forever grateful. Can you give us some information regarding the Bronx River Project as well as the New York Harbor Projects included in your requested budget and their estimated time of completion?

General SEMONITE. Congressman, good to see you again. I remember in 2007 when you and I went to the Bronx River and you told me the story about the beaver down in the River and so we continue to be committed to that.

Mr. SERRANO. Well, sir, he is still there.

General SEMONITE. Yes, sir. As you know, we have been working hard on continuing to work the study of a lot of this and then right now we are doing an interim decision memorandum in the next month and a half. The Feasibility Report will be done by January 2019, that is the Feasibility Report and the Environmental Assessment and then I plan on signing a Chief's Report in October 2019. If I can try to cheat that to the left we will try to do that, but we are committed to continue to be able to tee this up for the Secretary and the Congress to be able to make additional decisions on the Bronx River and we want to put the best economic analysis and engineering analysis we can in to take care of this great capability.

Mr. SERRANO. That would be, so you say by June 19th is key, one of the key dates.

General SEMONITE. I sign the document——

Mr. SERRANO. June 2019.

General SEMONITE. I'm sorry, October 2019 is when I sign the Chief's Report and we do not think right now we can do a lot more on time, but we certainly want to try to continue to work with you and the staff to try to, whatever we can move to the left, we want to move to the left.

Mr. SERRANO. Well moving to the left is always a good thing. I had to say that. Thank you. On another subject, gentlemen and ladies, Caño Martín Peña in Puerto Rico, you know, which continues to be a problem, involves the dredging of approximately 2.2 miles of the eastern end of the canal which will provide significant ecosystem restoration benefits and make the adjoining communities more resilient to the effects of climate change. I wanted to commend the Army Corps of Engineers for the hard work as done in Puerto Rico. Can you give us an update with regard to the Caño Martín Peña Project and why it was not included in the budget request? Is this project in your rebuilding plans for Puerto Rico as you know the need for this project has become even more urgent since Hurricane Maria, which resulted in additional flooding and debris material in the canal?

General SEMONITE. Let me take a start at it and then the Secretary can jump in. I have been to Caño Martín Peña 3 times in my career. I have been down, walking through there, I understand that project very well and as you had said, there is a lot of importance on continuing to not only take care of the flood control capability, but the people. This is a very devastated area and the people deserve something better than this. As you know, right now we

continue to be very, very committed in the Corps of Engineers of rebuilding Puerto Rico. We have had over 3000 people, $4 billion of our taxpayers' money going in to do that and we are at 92 percent of the grid today up and running by rebuilding the Puerto Rico grid along with a lot of other things. The supplemental that I talked about earlier before you came in, Sir, the $17.4 billion that the Corps got for disaster response, that is mainly going to the 4 big areas impacted by the 3 storms, Harvey, Maria and Irma and so we now are making a portfolio of where we see those projects eligible for certain parts of that particular money. This is one that we will look at to see if Caño Martín Peña is able to be wrapped underneath that disaster supplemental. I do not know right now the analysis. My staff is working on it, but we are not sure if that is going to be able to be qualified for that supplemental or not. There are portions of this which is also ecosystem restoration and ecosystem restoration is not underneath the disaster supplemental, so I think what we owe you is probably come back in, let you understand what our analysis is and if, in fact, we do not have good news with respect to the supplemental, how do we continue to be able to champion that under ecosystem restoration.

Mr. SERRANO. Well I appreciate that because if we could include it in the supplemental that would be fabulous. I mean it is a project that was a problem before. This disaster in Puerto Rico now has added to it and once again, I know that you have taken some criticism. We all do in public life or agencies, but I am very happy with the work you have done in the Bronx and I am very happy with the effort you put in Puerto Rico and I know that effort will continue. Thank you.

General SEMONITE. Thank you, sir.

Mr. SERRANO. Thank you, Mr. Chairman.

Mr. SIMPSON. Where you are working operating under I guess you are into the 6th month now of a CR operating at slightly below 2017 levels as it works out. Assuming that the 2018 budget, while I will not release any information because it is tightly held, if your budget is substantially increased above 2017, do you have enough time to spend it? Is that a challenge?

General SEMONITE. I think from our perspective it is not a significant challenge mainly because most of that budget, sir, is able to be used in other years. It is not a 1-year budget like we are having. I also do all of the construction for the Army and a lot of DoD and so when it comes to other types of money, a good example is DoD OMA, that is going to be a significant problem of obligating that money, it is not Civil Works money, but it is other kind of money, but on this particular one, Chairman, I am not aware of any significant challenges when we come to the fiscal year end where any of that money is going to necessarily go away or have any ramifications. It just means we are going to have to carry over money and we need your consideration that that will allow this to be a factor when we do that. Sir, I do not know if I said anything incorrect. Do you want to add to?

Mr. JAMES. No, that is exactly what I was going to add to that is that out in the field, out on the ground in the districts and the divisions I have noticed that when it gets close to the end of the year, people start trying to spend money and my ask on that has

been in the past why are doing this, why are you doing this. They are afraid if they take that money over into the next fiscal year they will be cut by the amount that they take over, so they push and push and push and maybe not to the most effective methods in the fiscal year which they got the money and I would like to visit with you, sir, and to see how that is treated when you are considering your next process because I think at times we could make better use of the money if we are not rushing right at the end of the year.

Mr. SIMPSON. I think you are right. I have watched other Federal agencies that I am familiar with spend half of their budget in the first three quarters of the year and the other half in the last quarter for the exact same reason that you mentioned, that they are we got to get it out of here or we will be punished for having extra money or stuff and is the same challenge with the Bureau?

Mr. PETTY. Chairman, yes, with regard to the ability is I think Reclamation is incredibly flexible and so with this next year's budget, with any budget that goes above and beyond we have the ability to really utilize that in spaces that we are ready to facilitate and to keep moving.

Mr. SIMPSON. Well we just need to make sure that when we are doing the 2019 budget that we take into account that there have to be some rollover or whatever from some of these funds or whatever and we want to work with you on that. We have to make sure that the money that we're using is being used efficiently. I know that you're concerned about that also and stuff, so—anyway, I've got to go to another event that I've got to be at and Mr. Joyce is going to take over.

Ms. Kaptur.

Ms. KAPTUR. Thank you very much, Mr. Chairman.

Let me ask—General Semonite, I would like to go back to a comment you made in response to Congressman Joyce's discussion of the Great Lakes. You said that Ohio has a goal of no more open lake dumping, which is a goal that we both support.

I just do want to mention that that is not a goal, in fact, is a law in Ohio, and I wanted to thank Congressman Joyce for initially raising this issue.

I also wanted to go back to some earlier questioning on the Soo Lock. It is my understanding, Secretary James, that you will be visiting later this month. Thank you so very much for doing that.

I am not clear on what weight National security factors will have in determining the cost benefit ratio, which drives the ability to get the project into the President's budget.

As I understand it, the model being used currently results in a $2 billion input for the railroad cost, but the actual cost to build it would be $4 to $10 billion. This really doesn't make any sense to those of us who have looked at this and our view is that the input should be based on the actual cost of building the railroad.

We hope you will agree with that, and I would very much appreciate a briefing from the appropriate folks in your office so the experts from the Corps on this issue could provide us with a clear sense of where you are headed.

Mr. JAMES. Absolutely, Congresswoman, and I agree with you. To me, this is a priority. When 95 percent of the iron ore of our nation

comes through that one lock that we have now, without any redundancy on an aging lock, it is a very dangerous situation for National security reasons.

I'm not sure—I have not seen how the benefits versus the cost have been calculated. If would give me a week to digest that myself, we will gladly come over and visit with you about that.

Ms. KAPTUR. Thank you so very much, I think your idea of going with dispatch, being mindful of all these different factors would really help us with something like the Soo Lock, which is so vital to this country and located at such a critical point in our infrastructure.

So the information that your staff has and the way they're thinking about this would be very beneficial and we thank you very much for your attention.

General SEMONITE. I'll get that to you just as soon as possible, ma'am.

Ms. KAPTUR. Thank you very much. I wanted to just say to both Secretary James and General Semonite, I don't know which of you could discuss this, but in terms of the beneficial use of dredge material, I really sense a bit of a seachange, a tectonic shift slowly, by the Corps, which is welcome, related to the beneficial use of dredge material. There are many areas, including in my own district, that are writing proposals for submission.

Secretary James, or, General Semonite, could you please explain a little bit about how that pilot program might work? For example, how do you plan to fund these activities and what kind of visibility will you provide to this committee? Do you have any idea how you'll select individual projects, and how will you determine whether the pilots are successfully using Federal dollars?

I think this is so important. Back in my first term, which was a few years ago, actually a few decades ago, we sent samples down to Vicksburg back in those days from all of the sediment coming out of our ports and being deposited then and confined disposal facilities and I thought what a waste, what a waste.

Now looking at some of the phosphorus in there, the different elements that be withdrawn and reused and the material themselves, there really is in this 21st century a need to rethink how we use what could be an enormous organic for the world added to perhaps by the materials that our major sewage treatment plants have along the lake once material is processed and the heavy metal is withdrawn.

So I just wanted to get your thought about how you look at this beneficial reuse of these vast, vast amounts of organic material.

General SEMONITE. So, Congresswoman, you and I have talked a couple times in your office a couple times. I'm excited about where we're going with beneficial reuse. We look at sediment as a resource.

The more that we can continue to take advantage of that for a couple different reasons, first of all, if we don't find a better way of taking care of this sediment, then we're going to end up being more and more expensive on how we dispose of it and the United States can't afford that and there are some great opportunities out to be able to do it.

Now, on the pilots, you know very well that Congress gave us this authority to be able it look at pilots. We've had queries out for several months now. We just closed off those queries. We've got 86 different requests for pilots. We're going through those 86 right now.

We'll have our recommendation done on 4th of June and then we will go forward with at least ten to be able to continue to look at—we want a variety of how can we look at different ways of doing this.

Now, here's where I need help though, ma'am, and, Chairman Joyce, this is where we got a great recommendation from Congress to start a pilot program, but there is no money against it.

So I'm going to end up having to tell you that we've got the pilots and you're going to probably ask me what are you doing about it, and I need a venue or a vehicle of how we can then allocate funding—and I'd love to do it 2018.

The problem is if I can't find an innovative way of funding it in 2018, then 2019's already on the street. So that means I'm going to have to wait until 2020. So we're excited to do this, but I didn't get a vehicle of how to fund it.

Ms. KAPTUR. May I just say this for the record, Secretary James is really sort of providential in your selection being a farmer.

I just wanted to say with all of you in the room that in the watershed where we have the greatest difficulty right now, which is the Maumee, the Western Basin of Lake Erie, which drains the largest watershed in the Great Lakes, every year—of course, Toledo's the largest dredging harbor in the entire Great Lakes, so we have this vast amount of organic material.

But in that watershed every year, we have the residue of 43,500 box carloads of animal manure, because it is a giant agricultural platform. It is the old Black Swamp and related rivers and so forth that flow through.

Imagine if you could mix the two. Now, I know it is hard to get the Corps to corporate with the Department of Agriculture, but when the Department of Interior figures out that watersheds matter in this map, somehow we as a country have got to integrate across disciplines.

We have not been able to do that yet. We have been burying in confined disposal facilities, as the General well knows, all this material for decades. We have all of this matter, but in a country where we will have half a billion people before very long, five times as many living in this country as when I was born, there is some sort of water residue nexus that didn't exist when Native Americans populated the region that I am privileged to represent.

So somehow we have to put our thinking together. We could launch a gigantic organic's industry, but we haven't been able to get the respective parties around the table.

I've asked myself, Mr. Secretary, whether we need to have a separate title in the farm bill. I haven't talked to Secretary Perdue about it. I keep looking at they dig up the stuff, but then I have all this residue coming that is creating these giant algal blooms and we can't seem to get the departments together to help us.

And it really—it is a tristate binational issue in terms of what we face. The Canadians are also dumping a lot of agricultural res-

idue up there in Ontario. Mr. Ryan's river comes down into the northern—northwestern edge of Lake Erie, so it real is a test watershed.

If we can figure out to manage this, and we really need to because we're not making any more freshwater, and I think that Commissioner Burman reminded us very well of that today.

But we really have an opportunity, but how do we move this fast Federal bureaucracy to seize the opportunity to do something remarkable in this 21st century, that's really what our challenge is.

Secretary James.

Mr. JAMES. I actually had a meeting with Secretary Perdue yesterday about another matter. I will ask for a meeting with him again and discuss this matter with him.

I would like to get a little more information from your staff, a little more specifics of what we're talking about as far as the waste materials and so forth and be happy to visit with him, because he's a farmer too.

Ms. KAPTUR. Just to give you a perspective number, I hope I've got this number right, but Congressman Joyce and I are both privileged to represent parts of Northern Ohio, but we dig up enough dredge material every year through the Corps to fill the Cleveland Browns Stadium annually 400 feet high, every year.

So when you start thinking about it—have I got that number right? OK.

Every year, every year, every year and it just keeps coming down. So this a resource issue and we certainly have the brains. If we can build nuclear weapons in this subcommittee and maintain them, we can certainly figure out how to move dirt and to take elements out of it, but we haven't quite gotten there yet.

The private sector and a lot of our companies that deal in natural resources and are very, very inventive, you have a private sector interest. It is not that it isn't there, but we haven't found a way to deliver it. We haven't—so anyway.

I just wanted to raise that and I appreciate your interest. You are uniquely—what is different about this panel than anyone we've ever had before, we have an understanding that watersheds matter, we're trying to define them more clearly for the country, we have an expert in agriculture, and we have a General who also can spell environment.

We've never had that combination before. So I think you are uniquely suited to do something remarkable for the country that really needs it.

Mr. JOYCE. Thank you, Ms. Kaptur.

Congressman Newhouse.

Mr. NEWHOUSE. Thank you, Mr. Chairman.

Commissioner Burman, let me just say it is a pleasure to see you again and I appreciated the opportunity to spend a few minutes with you last week talking about some of the issues important to me and your assistance with the draft service request concerning the Yakima River Basin Water Enhancement Project, an interesting—YRBWEP is an acronym that many people don't murder every time they try.

I think you mentioned this in your opening comments about streamlining efforts and how we can get projects in rural regions, which most of the West is, like my district.

I'm sure you're aware of not only the Yakima Project, but the Columbia Basin Project, the Odessa Aquifer Groundwater Replacement Projects, the Banks Lake Pumped Storage Projects, these represent reliability in delivering water into the future.

I've been a very strong proponent of streamlining. I've introduced a bill that your, I guess you could say, predecessor, the acting commissioner, Mr. Mikkelson actually testified in favor of H.R. 4419.

So could you expand a little bit on how reclamation would work to streamline these hydropower projects moving on into the future?

Ms. BURMAN. Thank you, Congressman, and it was a pleasure to get to speak with you last week.

There are a number of ways that Reclamation is moving forward with streamlining projects. First I would bring up the Secretary's order on NEPA, that is Secretary Order 3355, and that said, "NEPA's getting out of hand." We need to be able to complete NEPA in one year and most projects within 150 pages for an EIS.

So we are moving forward with that direction. That direction has been given to our field offices and area offices, and we are very much looking to how do we streamline that NEPA process.

That also goes to recommendations that are out there in legislation as far as Reclamation being a lead agency, helping to pull together the many other agencies, whether it be the fish agencies, working with the Corps, trying to bring those all together to have a lead agency to move forward quicker.

I would also say program management. We're looking at what we can do program management-wise. We think it is taking too long to get projects done. So looking at how do we streamline that. How do we make sure that we start a project and we finish a project and we are being open and transparent about how we do it and that it is done on time.

Mr. NEWHOUSE. Thank you. I look forward to working with you on all those things. We can get some of these projects off the ground and done. We so desperately need the ability to have water into the future for growth and for our communities, so I look forward to that.

Ms. BURMAN. Thank you.

Mr. NEWHOUSE. General Semonite, going back to the Columbia River just for a second. I understand that the judge's decision in a way ties the Corps' arms behind your back for the running of the system, but I was interested to hear your phrasing that you are compelled to follow the decision.

As you well know, our agencies, the administration, we're working—we're fighting this decision in the courts, so I question the language I heard you use that you are compelled to follow this order. I'm working hard to stop this.

My question: Doesn't this order hurt your ability to do your job as it relates to the FCRPS?

General SEMONITE. I think, Congressman, there are a lot of opinions on this. I always like to try to stay in a balanced approach, so we're taking care of the needs of the environment, the needs of the habitat, while at the same point taking care of the needs of

navigation and hydropower, so I'm sure there are different opinions on this.

If I said that we're going to just follow the order, I believe my guys right now, our team, is working with DoJ to continue to work through the litigation of this with different appeals.

It doesn't mean that we're going to stop where we're at, it means that we will continue to be able to process that, but I'm not going to instruct our guys, my team, to do something different that's against the judge's current ruling.

Again, I don't know the specifics on that as far as litigation outcome, but we can certainly come and talk to you and lay out what our course of action is, but we want to try to work within the Government in the decisions that the judges have made.

Mr. NEWHOUSE. As do I. I want to process to move forward. I want to be as responsible as we possibly can for not only the environment and the fish that we've—as Mr. Herrera Beutler said, we've invested a lot of money into those fish runs, but we also want to be cognizant of the people that live in this area and the economic impact that we have to consider as well.

So I look forward to working with you on this. I think this is not a mutually exclusive thing. I think we can have the dams, we can coexist with the environment and work very hard to accomplish that, but I think we can do that without unnecessary economic harm to the people that live in the region, and that's my determination that I'm working very hard to make sure that we don't allow that to happen.

General SEMONITE. Congressman, this is so important to me. I directed my staff to get me up to the area. I like to walk around and be on the ground, muddy boots, and talking to the people.

I'm going up there in about the next two months to be able to understand some of the dynamics out there and certainly want to be more informed on what are those impacts back both to all different players in this equation.

Mr. NEWHOUSE. I'd appreciate that. If we coordinate, I'd be happy to be there during your visit if we can make that happen. There is a lot of things to understand. It is a complex system as you know.

Like I said, a lot of time and dollars—taxpayer dollars have been invested in this system to make it work. We're seeing salmon recovery rates in the the high 90 percentiles.

So to put at risk the economic future using, in my humble opinion, unscientific reasoning is just not the proper way to go, and I'll continue to fight this fight and look forward to working with you and to a successful conclusion.

Mr. JOYCE. Thank you, Congressman Newhouse.

Congressman Serrano is recognized.

Mr. SERRANO. I have a question. The minute the President has stated his intent to put forward a proposal on infrastructure investment in the near future. What extent have the corps and Reclamation been involved in any discussions within the administration.

Do you have any information for us on when we might see a proposal or what type of assistance might be included for your agencies—let me go back to an earlier state that I made and add something to it.

For a person who has spent as many have a career saying be careful about our military involvements, when the hurricanes hit Puerto Rico I said, why don't you send the military in, send in the military in full force. I said, because the military is always seen as a fighting machine, but it also builds communities, it builds ballparks, it builds churches, it builds whatever it needs to build to bring the people back. At that point, some people thought I was crazy and so on.

So I want to make sure you're well taken care of in the infrastructure that is set ahead, because I know the kind of work you can do and in spite of the criticisms you take every so often because we always want you to work faster than you can, but I don't know how to do any what you do, so I have to cool it down.

I want to know to what extent you can tell me your involvement, the Corps' involvement, Reclamation's involvement, and also what we expect to see your role to be when a project takes off, and I believe a project will take off.

General SEMONITE. I'll tell you about the Corps first and then the Secretary can jump in. I said this just a little bit earlier before you came in, sir, but a year ago we started a very aggressive engagement with the White House to talk to the senior leaders over there that are putting infrastructure package together, the layout—what is the $96 billion of backlog that the corps has to be able to make sure that they think through infrastructure.

They think through water infrastructure, which sometimes the average American has a hard time understanding the value of water infrastructure, even the point we have put a very, very senior engineer inside the White House to advise that infrastructure team on what are some of the risks there to the infrastructure.

I am not in a position to talk about when is the time we would think that the President is going to release more information on that, but I want to make sure you're aware that the Corps is very involved in proposing different projects that could be involved as well as the risk that could happen if in fact those projects are not considered.

The nice thing is most of these already have permits, a lot of these already have construction undergoing, it is just a matter of not getting a fund flow that would allow them to be done in a more efficient and expeditious manner.

I told the committee just a little bit earlier that the Secretary and I had breakfast in the White House yesterday morning talking with some of the senior leaders about the value of our water infrastructure and the importance of making sure that it is included in any analysis.

Sir, is there anything you would want to add to that?

Mr. JAMES. I would only say right now that the Secretary's office have also been very heavily engaged with the administration. I personally have not yet. This is my fourth week in office, but I have been—in order to move forward those funds and get the most bang for the buck, I am very interested and have been chosen to lead a task force to look in ways that we can expedite service and, as Ms. Burman said, speed up the NEPA process, discover policies, legislation, Executive Orders that might be actually hindering us

not helping us move forward with infrastructure, so that's my focus right now.

Mr. SERRANO. Let me ask just ask you—I said that was last, but one last question for sure.

Last year the Army Corps was assigned by FEMA to rebuild the power grid in Puerto Rico. As you know, there is still a certain amount of people on the island, significant amount by what I hear, that still have no electricity 6 months after the hurricane.

I'm concerned that with the money that Congress provided in the last supplements were restoring power but not in a resilient way.

Does the Army Corps have concrete plans to build a durable, resilient, efficient energy system for Puerto Rico, because one of the main concerns is that there is a need to restore power?

Of course if your power goes on again after six months of not having lights, you're not going to get into any other questions with anybody about how long will this last, but we know that these hurricanes will continue to come and they're going to come at different ways that they came in the past to places like—New York had never heard of these things, we now have to get ready for these kind of things too. So what are we doing in Puerto Rico, are we restoring or rebuilding also?

General SEMONITE. Congressman, first of all we're very, very proud to be asked to go down to Puerto Rico and to do that work. We do work for FEMA under that and we work under the Stafford Act, which basically means we restore back to a given level.

The disaster supplemental that was approved, and specifically the $17.4 billion that the Corps got, the majority of that $17.4 is in flood risk management and other types of water capability to repair back.

We are not being asked right now to be able to be a player with respect to resiliency on an additional capability into Puerto Rico, so I'll leave that question up to FEMA. I don't know exactly what that is.

I do want to let you know, though, that for the last six months that we've been down there, we've had several different recommendations back into the Congress as to where those investments could take place, where we can build resiliency back in.

I think matter of fact one of my two stars is testifying tomorrow again to be able to make sure that we are informing Congress where good investments can take place, but that is something that we are not being asked to do with respect to the long-term resiliency in Puerto Rico.

But you're definitely right, there are some places that we made recommendations that if you don't harden that system, it is going to continue to get hit year after year, and then the taxpayers are going to continue to have to go back and rebuild unless there is some resiliency built in.

So I'll stay in my lane. We brought it up to pre-storm. We're 92 percent done as of this morning. But as far as long term, I will leave that up to the other parts of the supplemental that it hit on the electrical grid.

Mr. SERRANO. Thank you. Thank you.

Mr. JOYCE. Thank you Congressman Serrano.

Congresswoman Kaptur.

Ms. KAPTUR. Yes. I wanted to just restate our concern about the Asian carp in the Great Lakes. Congressman Joyce brought this up very eloquently, but I wanted to point something out and, that is, that the current solution barring any permanent barrier or enhanced barrier at Brandon Road or other locations, is that—the solution of the government of the United States currently is to take money from the Great Lakes Restoration Initiative, the GLRI, which by the way the administration has zeroed out and it is our responsibility in Congress to restore it, to embark upon a fish-out program so what that means is that they hire contractors who go down to Mississippi, and perhaps to Illinois, I'm not sure, and they're fishing out these fish.

It is interesting to me that—so the Department of Interior's involved, but they contract out. The money comes from EPA/GLRI, which is zeroed out. To me it is kind of a cut-and-paste solution, it is not really—a very robust fishing program.

I can't tell you how many years I've sat here and said to the various entities involved can you show us—if these are armies, battalions swimming north from Mississippi, show me their concentration so we can get a sense of the spread, how big are they, how multilayered are they, where are they. With all the detectors we have and everything, isn't this something we should know about?

As they entered the Ohio River and they ate up everything or they entered the Peoria and ate up everything. It seems to me that we're not getting the best information the administration's different departments have to help us get our arms around this.

A question a normal person would ask is: Do we have enough fishing battalions out there, what more can we do to prevent them from moving north? I don't sense any rigor across the Departments in really getting their arms around it. So it is kind of an attitude and it is frightening to the $7 billion fishery that I represent on the Lake Erie side that it is sort of destiny, destiny that these things will get up the river and will get in there.

I don't really accept that. I sort of have a vision that maybe there is a genetic control that's going to kick in here at some point. So we've got to be more aggressive about fishing out what's coming up and we have to find a beneficial reuse for it. Rose food is probably a good one. But I just am concerned that we're not treating this enemy as we would some of the others that we have faced.

So I just wanted to put that on the table, so you understand our concern, if there is anything you can do to put together a more coherent interim solution.

As we keep getting delayed and delayed and delayed on the Brandon Road study, I almost view the delay as an acceptance of the fate that this is going—we've accepted the fate on the Executive Branch side that this thing is going to get in, that's how we look at this delay in our region.

So I really encourage you to do what you can to look at counting monitors. We even have monitors we put all over Lake Erie now to monitor the sediments and the particulates, phosphorous, and nitrogen that's in the water as a result of the runoff.

But we don't have anything like that that is well presented from the Executive side on this enormous challenge we face with these

horrendous critters coming north. I don't know what more I can say.

Our maritime community will do anything to help, our tourism industries, everything that exist across this shallowest but warmest of the Great Lakes, more fish than all the other Great Lakes combined—I'm saying that for the record, so people understand what is at stake here.

It seems like a glue-and-paperclip solution. I would guess that Congressman Joyce shares this concern equally and it is really not a very sophisticated approach. I'm hoping that you will be able to add more rigor to this current strategy and help us develop a more sophisticated approach, because people in our area don't want to believe that this is inevitable.

Does anyone want to comment?

General SEMONITE. Ma'am, I'll just talk to you about the fact that we do partner with DOI very closely with respect to where do we see that front line trace. I've shared this diagram with you before. This is a consolidated product, so we know where the adult population is, where the spawning population is, where do we see the juveniles, where do we see the front fish that are out there, and we can continue to share this, but this is a cooperative project with DOI.

I don't disagree with you that there is probably a lot more that could be done, and I can't comment on the fish program. We aren't involved in the fishing part of it. But I would just tell you that I do think it is important to know where the enemy is and to be able to make sure we are aware of what that threat is and how it might progress up and down that river.

And I'll leave it to others to jump on, if need be.

Mr. PETTY. Thank you, General. Obviously for the Department of the Interior, it is a very high priority. Across all the bureaus now, we've actually put a specific group together to deal specifically with invasive species. I was just being able to get a brief from the U.S. Geological Survey out of our research center there in the Great Lakes, the Midwest, out of Michigan, Indiana, Ohio, specifically not only the Asian carp, but you've probably already been briefed up on the grass carp as well, right, and how do we really take these on.

It is complex. The Army Corps has been able to really help us, specifically deal where are they at, where can we go after them, what can we do to not only feel like we're on the defense, but how do we go offense.

So as we work not only with EPA and the other agencies—that's why it gets back to even some of the groups of reorgs, so that all of our bureaus internally with DoI are on the same page specifically with these invasives and then working outwardly with the agency.

That is our goal and we put a high priority within this administration to specifically do that with asking specifically—requesting money for the invasive species program.

Ms. KAPTUR. I don't know who inside the Department could take a leadership on this, but I would very much appreciate a Skype briefing where we could put on the other end of the line all of our marina owners, all of our businesses, all of our mayors, everybody

that's concerned all along the lakefront. This is not a small group of people, those that manage our water intakes. I mean, there is just all kinds of things that we have to be mindful there.

The General mentions the map, but it is not well interpreted. It is not a time series set of information so we can really show are we moving them back, are they advancing further north, what's the density.

I mean, there is all these issues. It is a fish population, it is no different than a human—well, it is a little different than a human population, but you measure things and you give people a sense of how serious we are by the way in which we present this to them.

And it is a big deal for our part of the country, so if there is a way you could think about making this understandable to an audience, we can provide the audience.

And I think they need reassurance that we're doing everything that we can and this is what we know and this is what we need to do and let them help partner in some way. So I just wanted to put that on the table, because I always feel like time's running out. We're not really—we're not meeting the challenge here.

All the money we've put out for genetic controls, not working, nothing, nothing yet. So there is the sense that we're losing the battle and that the battalions are coming north and that the spawning schools are moving north. I don't know if that's true or not, but we—our people need to know that.

So if could I work with you on that, and I'm sure Mr. Joyce would share with his mayors, his marina owners, his port authorities, all these individuals, I think it would be very, very valuable.

Mr. JOYCE. Thank you.

To follow up, not only are those local folks at home. But to give you an idea when GLRI was part of WRDA, it passed 408 to 17. There is a tremendous amount of bipartisan support throughout the communities in that when we had $300 million zeroed out last year, it is back at $300 million.

We'll continue to fight—this year they cut it to $30 million, but we're going to continue to fight to get it back to what it needs to be. Because you need the money so you can plan accordingly, so you can continue the fight. We want to work with you to that end. That's why something like getting the study done and getting a plan of action together would really be important for all of us.

I would like to thank all the witnesses for being here today. Excuse me, I'd be remiss if there is another question.

I look forward to working with you to develop the Fiscal Year 2019 Appropriations bill. For that, the hearing is adjourned. Thank you.

QUESTIONS FOR THE RECORD

SUBCOMMITTEE ON ENERGY AND WATER DEVELOPMENT
HOUSE COMMITTEE ON APPROPRIATIONS

Hearing on the 2019 Budget Request for the Army Corps of Engineers
March 14, 2018

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1. Dam safety

The Administration and the Subcommittee have both recognized the most critical dam safety projects as being very high priorities for funding. In past hearings, the Corps has projected that funding requirements for dam safety needs would continue to grow, as our infrastructure continues to age, as we continue to refine our understanding of risks, and as design standards continue to evolve.

- What are the current projections for future funding requirements for the Corps?

Answer: The Corps develops a funding recommendation for the dam safety program each year. We develop estimates of future funding capabilities for ongoing projects, but not for the program as a whole.

- Does the fiscal year 2019 budget request include the maximum funding levels that can be obligated within the fiscal year for all DSAC-I dams?

Answer: No. The Budget funds ongoing work at these dams each year based on the Corps estimate of what it is able to use, effectively and efficiently, for that work.

2. Inclusion of water resources infrastructure

Please discuss how the Corps would be involved in each of the various programs proposed in the Administration's infrastructure plan.

- Would existing federal projects be eligible for funding under any of the proposed programs?

Answer: Yes. It is expected that existing Federal projects would be eligible for funding Incentive-based Grants, and Rural grants.

- Would the Corps be involved in making decisions on which projects were funded?

Answer: Yes. It is expected that the Corps would be able to use existing or new programs to make funding decisions on projects consistent with the Administration's policies.

- If so, how do you envision that working?

Answer: It will depend on the specific funding and program that the project is eligible for. One example is Incentive-based grants. For this program the Corps would develop specific screening criteria and enter into partnerships based on that criteria.

3. Leveraging non-federal dollars

The Administration's infrastructure proposal seems to emphasize leveraging non-federal funding, including non-federal funding for operation and maintenance expenses. Current law already requires non-federal interests to cost share construction costs and fund operation and maintenance costs for many federal water resources projects, though.

- How would this factor into evaluation of projects under the Administration's proposal?

Answer: One of the proposal's goals is to incentivize sources of revenue where possible. The Corps is still exploring how this concept can be incorporated into project evaluations. A number of concepts will be explored to find ways to incentivize revenue sources such as Return on Federal Investment (ROFI). Using something like ROFI along with other metrics could be one possible way to utilize additional revenue to improve the delivery of our Nation's infrastructure, while at the same time addressing concerns of equity.

4. Expansion of EPA's WIFIA program

The Administration's infrastructure proposal seeks to expand the Environmental Protection Agency's authority under the WIFIA program to include activities normally associated with the Corps of Engineers, including flood mitigation, navigation, and water supply.

- Given that the Corps is a subject matter expert on these types of projects, would you envision a substantive role for the Corps if EPA's authority were expanded as proposed?

Answer: WIFIA authority already includes these types of projects, but the authority rests with the Corps. This subcommittee previously had asked the Corps to provide a plan on how the Corps would implement the authority. If the infrastructure initiative is authorized, the Corps would work with EPA to ensure resident Corps expertise was utilitized.

- Do you think one approach is inherently better or more efficient than the other? If so, why?

Answer: Yes. As the Infrastructure Initiative proposed, EPA would be responsible for administering a loan program for non-federal water resource infrastructure projects.

5. New starts

The fiscal year 2019 budget does not propose any new feasibility studies or new construction starts. Can you please explain why this decision was made?

Answer: The Budget focuses on completing on-going work in the Investigations and Construction accounts.

6. Harbor Maintenance Tax reduction proposal

The FY19 budget includes a proposal to reduce the tax paid into the Harbor Maintenance Trust Fund. Given the outstanding maintenance needs in the nation's harbors, including needs that are federal responsibilities, can you please explain why the tax should be reduced?

Answer: The Administration's intent is to match the receipts being collected in the HMTF with the yearly obligations with the expectation that the local ports would be able more easily to generate funding for self-directed investment. The reduced tax rate also will make the United States more competitive in a global marketplace and will reduce the costs of goods to consumers by reducing the Harbor Maintenance Tax imposed on imports,

domestic cargo, and passengers. Furthermore, the balances in this trust fund are sufficient to fund the entire program for many years.

- Does the Corps have an estimate of how much total funding would be needed to get to the point of having our ports at authorized depths and widths?

Answer: We do not have an accurate estimate at this time. At a minimum, any such estimate would have to factor in costs associated with the repair of navigation structures, disposal site development, maintenance, as well as issues of prioritization and timing.

7. Additional capability

What additional work on the inland waterways system could be done if funding made use of all estimated annual Inland Waterways Trust Fund revenues? What kind of economic benefits would be derived from that extra investment?

Answer: Additional work could be accomplished at Locks and Dams 2, 3, and 4, Monongahela River, PA; Kentucky Lock, KY; Chickamauga Lock, TN; and LaGrange Lock and Dam, Illinois Waterway, IL. However, these projects will only provide economic benefits once they are completed, which is a process that would take multiple years for most of the projects listed.

- Are there any operational or other risks associated with ceasing work at ongoing construction sites?

Answer: The Corps generally sequences and structures its contracts to avoid such risks.

- Are there any oversight personnel costs associated with ongoing work that are not funded in the budget request?

Answer: No.

8. Risks of failure of inland waterways projects

What are the chances of failure at the other locks and dams in the inland waterways system? Will the Corps be able to operate them for the middle to long term at the funding levels included in the budget request?

Answer: Maintaining a reasonable balance in the Inland Waterways Trust Fund (IWTF) would provide additional flexibility to address emerging needs or to address higher priority work in the future that will require more funding than the fuel tax now provides on an annual basis.

In addition, as noted in the Corps "Fiscal Year 2017 United States Army Annual Financial Report," the "overall condition of the inland waterways continues to improve. The number of instances of lock closures due to preventable mechanical breakdowns and failures lasting longer than one day and lasting longer than one week have decreased since FY 2010, which had the highest instances of closures over the past 18 years." The Corps uses the funding provided in the Budget to maintain and operate the locks and dams on the inland waterways, including to reduce the risk of such lock closures. However, to maintain the performance of these waterways over time, new capital investments, such as in the periodic rehabilitation of locks and dams with a high level of commercial traffic, will be required.

9. Moving study-like activities to Investigations

The fiscal year 2019 budget proposes to move some study-like activities, such as Dredged Material Management Plans and Dam Safety Studies, from the Construction and Operation and Maintenance accounts into the Investigations account.

- Can you please discuss the reasons behind these changes?

Answer: There is a general expectation that the accounts laid out for the Army Corps account represent the activities covered by the title of the account – Investigations, Construction, Operation & Maintenance, etc. – and that the Civil Works process flows from Investigations to Construction to Operation & Maintenance, where applicable. However, there are studies being funded in the Construction and Operation & Maintenance accounts,

which are intended to lead to new construction activities. Realigning studies that could lead to a construction activity, but are being funded in other accounts to the Investigations account is intended to increase transparency and present a more holistic presentation in the Budget of the true scope of the Corps' Investigations program. The FY 2019 Budget proposes to fund new Dam Safety Modification Studies, which evaluate potential recommendations for construction to address risks at Corps owned dams, and Dredged Material Disposal Plans, which evaluate the need for construction of and/or improvements to Dredged Material Disposal Facilities, in the Investigations Account.

- Since the Corps cannot transfer funds between accounts, is there any concern about potential operational inefficiencies or delays? For example, under the existing structure, if a Dredged Material Management Plan (DMMP) needs a little more funding to complete, the Corps can evaluate whether some other costs at the project can be reduced and funding shifted to the DMMP. It would seem that you wouldn't be able to do that if the DMMP was funded in a separate account from project O&M.

Answer: No. With funding in the O&M account, it is more likely that the funds for these study-like activities is sacrificed to perform other maintenance work on the project. By including the work in the Investigations account, not only is it more transparent but it allows the funding to be used for its budgeted purpose. Should an activity later warrant additional funding in the execution year, the Corps could consider a reprogramming action to move excess funds from another program, project or activity to the effort needing the additional funding. (This is the case for the civil works program as a whole, and not a result of this Budget proposal.)

- The budget request proposes a significant decrease for the Investigations account overall. When you factor in these activities new to the Investigations account, the amount of funding for traditional feasibility studies and preconstruction engineering and design must have been reduced significantly. Can you please explain the reason for the reduction?

Answer: There was no reduction of the amount of funding available for feasibility studies and preconstruction, engineering and design work. The decision to fund an activity is independent of the account. In other words, all activities competed for funding and were chosen for inclusion in the budget regardless of the source of the funding. When activities were migrated from the Operation and Maintenance or Construction account to the Investigations account, the funding was moved along with the activity.

10. Poplar Island Business Line Change

Poplar Island is a beneficial use of dredged material project that has previously been budgeted for under the ecosystem restoration business line.

- Can you please explain the decision to budget for this project under the navigation business line in this year's budget proposal?

Answer: The budget reclassification increased transparency for the American taxpayer. This project was previously classified as aquatic ecosystem restoration (AER), and while there are AER benefits derived from this project, the Poplar Island Project serves as the primary dredged material disposal site for the Port of Baltimore, and is funded with discretionary appropriations from the Harbor Maintenance Trust Fund. This change in classification more accurately presents the total funding request for the Corps commercial navigation program. The Budget does not propose any cost share or other changes to the project.

11. Beneficial Use of Dredged Material

The Water Resources Development Act of 2016 authorized a beneficial use of dredged material pilot program. Implementation guidance was issued in February, along with a timeline for submission of proposals, which are currently under review by the Corps.

- Can you please explain how this pilot program will work? For example, how do you plan to fund these activities and what kind of visibility will you provide to this Committee?

Answer: For projects selected in the pilot program that use material dredged from a federal navigation project, the incremental costs above the Federal

Standard for transporting and depositing such dredged material will be borne entirely by the federal government. If such pilot projects involve additional activities other than transportation and placement of dredged material, such as wetland plantings or mechanical shaping of dunes and beach berms, those costs shall be shared in accordance with the cost-share requirements of Continuing Authorities Program (CAP) Sec 204. If additional material is dredged from a federal navigation project solely for the purposes of a pilot project, the costs associated with the additional dredging will be cost-shared with the non-Federal sponsor in accordance with CAP Sec 204.

The Corps issued a Federal Register notice on February 9, 2018 announcing the Section 1122 program and requesting proposals and subsequently received 95 proposals. Corps field offices are evaluating the proposals and will provide those meeting eligibility to headquarters in April, 2018. After evaluating those meeting eligibility requirements, HQ staff may recommend up to 10 of those proposals to the Office of the Assistant Secretary of the Army (Civil Works) in early June, 2018.

- How will you select individual pilot projects?

Answer: Consideration of projects will be made in accordance with the requirements of the legislation. As included in the legislation, the Secretary will consider the environmental, economic, and social benefits of the projects, including monetary and non-monetary benefits and the need for diversity of project types and geographical project locations.

- How will you determine whether the pilots are a successful use of federal dollars? What other aspects of these projects do you plan to track or evaluate to determine the level of success of the program?

Answer: Project success will be measured as a comparison of the estimated benefits with the estimated costs.

12. 401 Certification Timelines

It is my understanding that Army Corps regulations provide a 60-day time period for a state to issue a 401 water quality certification, but a District Commander can extend that time period at their discretion. It is also my understanding that infrastructure projects across the country are being impacted by unnecessary and unlimited delays in the 401 process that extend well beyond 60-days, including projects in my district.

- What is your agency doing to provide parameters around when that discretion can be exercised and the 60-day time period extended?

Answer: Under the Corps' current regulations (33 CFR 325.2(b)(1)(ii)), a waiver of water quality certification will occur if the state or other certifying agency does not act on a request for certification within 60 days after receipt of the request for certification. The regulations allow the District Commander to determine that a shorter or longer period is reasonable for the certifying agency to act on the request for certification. The regulation also states that the period for determining whether a waiver has occurred begins when the certifying agency has received a valid request for certification. In most cases the Corps staff works with the appropriate state agencies to identify Section 401 certification issues early in the process and address the issues before they become impediments to the timely completion of the planning phase.

As noted above, state agencies independently administer and make decisions regarding their water quality certification programs. There is little the Corps can do to limit a state from exercising its power to administer the Section 401 program as it deems appropriate.

13. Permitting Timeline Disparities

My district is served by two Army Corps districts; Portland and Seattle. We've seen a wide variation in the processing times for permits between the two offices. So much so that my office, my colleagues on the Senate side, and the local Army Corps offices have received letters from local

government offices requesting to be moved from one Army Corps jurisdiction to another.

- Has Army Corps Headquarters looked into the issue of permitting timelines for both the Seattle and Portland offices? If so, what did you find and can you please explain how there is such a disparity in processing times?

Answer: The Corps' Northwestern Division recently conducted a comparison study of permit processing times in seven counties located on or near the Columbia River in southwest Washington and seven geographically comparable counties in Oregon. The study focused on Nationwide permits (NWPs), since they represent 60-80% of the workload for both districts. Review of overall NWP processing timelines within the selected counties indicates that Portland district generally has a higher percentage of NWPs meeting the national performance metric.

Although neither district has been consistently meeting the metric for NWP decision timeliness, both districts have recently shown improvement. In the selected counties, Portland District's percentage of NWP's meeting the national performance metric has increased from 68% to 71% between 2012 and 2016. In the selected counties in Seattle District, the improvement has been more drastic, with the increase being from 20% to 59% over the same time period.

Recent staffing of vacant positions in the Seattle District, particularly within the Southwest Washington Field office will likely lend to further improvement.

Portland District's permitting in Washington is limited to southern Washington port properties and restoration projects in the Columbia River estuary funded by the Bonneville Power Administration. The Portland District's ability to execute agreements with Ports allows it to supplement its staff specifically to work on Port (but only Port) property and prioritize port workload in Washington. This prioritization may contribute to the public perception that the Portland District is performing at a higher level. Seattle District's ability to execute similar agreements to support additional staff in the select Washington counties is limited, since much of the permit

workload does not come from a non-Federal public entity, public utility, natural gas company, or railroad carrier.

14. Waters of the United States (WOTUS)

The nationwide stay on WOTUS implementation was recently lifted by a court order. While the EPA and Army finalized an applicability rule in January 2018 that delays implementation of the 2015 Clean Water Rule until February 6, 2020 and plans to issue a replacement rule, we are still sensitive to the power of the courts in this situation.

- Previous Corps leadership hasn't always been supportive of WOTUS, given the change in Administration and Corps leadership, what is the Corps current stance on WOTUS?

Answer: The Army, including the Corps, and EPA (together, the agencies) are working together to implement Executive Order 13778, Restoring the Rule of Law, Federalism, and Economic Growth by Reviewing the "Waters of the United States" Rule. The agencies are committed to working together to effectuate the intent of the Executive Order through a two-step process by which the agencies are proposing to first repeal the 2015 Rule, then promulgate a new definition of "waters of the United States."

- What are the Army Corps' plans in dealing with this and potential new court orders?

Answer: In January of 2018, the U.S. Supreme Court held that challenges to the 2015 Clean Water Rule belong in district court rather than the appellate court. This ruling invalidated the nationwide stay of the 2015 Clean Water rule. In a separate action, the Army and EPA promulgated a final rule that delayed the applicability of the 2015 Clean Water Rule until February 6, 2020. This rule was recently enjoined nationwide by the U.S. District Court for the District of South Carolina's. The agencies continue to review the court's order pursuant to which the 2015 Clean Water Rule is now in effect in 23 states, the District of Columbia, and the U.S. territories. Parties to the case, including the agencies, have filed motions appealing the order and seeking a stay of the district court's decision. While the litigation continues, the agencies are complying with the district court's order and

implementation issues that arise are being handled on a case-by-case basis. The agencies recognize the uncertainty this decision has created and are committed to working closely with states and stakeholders throughout the duration of this and any future litigation to provide updated information on an ongoing basis regarding which rules are in place in which states.

15. Puget Island Dredging

The Army Corps has worked very hard to deepen the channel of the Columbia River and we have had tremendous success, benefiting the ports and people. The spoils from the dredging are currently taken up river and placed in a pre-approved site where they sit. However, the beach along the river, in the area of Puget Island, has seen erosion and is endangering homes in the area. The beaches are in need of re-nourishment. Re-nourishment can be accomplished by depositing the dredging spoils on the beach, vice another location up river. Previously held permits for this purpose have expired and we have been in the re-permitting process for multiple years.

- **Question:** Can you please provide an update on the permitting process and an explanation as to why it has taken so long to re-issue permits?

Answer: Currently, Wahkiakum County is redesigning the proposed beach nourishment. The project requires Corps permission under 33 USC 408 for the alteration or occupation or use of a Corps civil works project. The project would occur within the civil works boundary of the Portland District; therefore, the applicant is working with Portland District to evaluate if the proposal has potential to affect federal channel navigation or other Corps projects or properties.

The project also requires a Section 10 of the Rivers and Harbors Act of 1899 and Section 404 of the Clean Water Act permits for the proposed deposit area. This review is being performed by the Seattle District per the geographic boundaries for the Regulatory Program.

Through the course of the 408 review, Portland District staff identified that additional information was needed and that there would likely need to be

modifications to the overall project proposal. As a result of coordination between the County and Portland District, it was determined the area of placement could not be accommodated with the limitations of the dredge. The District is also concerned that placing material on the shoreline will likely redeposit back within the main channel and result in potential increases in the cost of the civil works channel maintenance. As a result, design changes were requested from the County. Updated information is expected and the District plans to complete the technical review by early May 2018. Environmental compliance will be integrated with the Section 404 Clean Water Act Permit that is being managed by the Seattle District to improve the overall efficiency of the Corps' review process.

Regarding the Section 10/404 review, a permit application was received in December 2016. Currently, the 404 permit process is on hold pending the 408 technical review and submission of any project design changes by the County. Once modifications are identified and a redesign is submitted, the Seattle District can complete the required ESA, Historic property, and tribal consultations. Seattle District has been in regular contact with the County to answer any questions or address any concerns.

16. Indiana Harbor Ship Canal

The U.S. Army Corps of Engineers is currently dredging the Indiana Harbor Ship Canal and storing contaminated dredge material at the confined disposal facility in East Chicago, Indiana. In order to accommodate the volume of sediment to be dredged, it's been known that a second lift would need to be constructed as the existing confined disposal facility will reach capacity in 2020. Without construction of a second lift, dredging of the Indiana Harbor Ship Canal will have to cease. In order to prevent interruption of dredging, it was necessary for funding for a lift to be included in the President's FY 2019 budget request. Yet, I was disappointed to learn that it was not.

- Do you agree that security of nuclear and radiological materials ought to be a priority for the United States? Is there a plan to build on the successes of the Nuclear Security Summits?

Answer: Risk of failure and the consequences of that failure are some of the many factors used in the selection of Operation and Maintenance funding in the Navigation business line.

- Could you please tell me why the second phase of this project was not included in the President's FY 2019 budget request?

Answer: The disposal facility work was considered for funding along with all other programs, projects, and activities competing for limited Federal resources. The FY 19 budget provides $10.998 million for the Indiana Harbor, IN project, including $1.698 million for management of the disposal site.

17. Great Lakes Restoration Initiative (GLRI)

I understand that the U.S. Army Corps of Engineers (USACE) has utilized funding from the Great Lakes Restoration Initiative (GLRI).

- Could you please tell me how much funding from the GLRI the USACE has utilized to date and how much it plans to utilize in FY 2018 and FY 2019?

Answer: The Corps has received a total of $318.8 million of GLRI funds since the program was initiated in FY 2010. Of that amount, $203 million has been expended to date. The Corps plans to utilize $60.1 million of FY 2017/2018 GLRI funds in FY 2018 and $14.4 million of FY 2018/2019 GLRI funds received so far this fiscal year in FY 2019.

18. Environmental Infrastructure

Strong congressional support has led to continued funding of Section 592 and 219 programs for water and sewer system improvements in the State of Mississippi. Unfortunately, numerous townships along the Mississippi Gulf Coast, like the City of Gautier, still lack access to federal funding to address major quality of life issues related to clean drinking water and watershed problems.

- Are there unobligated Environmental Infrastructure funds remaining in the State that could be reprogrammed to address some of the critical problems such water quality and wastewater issues in these coastal communities?

Answer: No, there are no unobligated funds on Environmental Infrastructure projects within the State of Mississippi that could be reprogrammed at this time.

Congressman Scott Taylor

19. Norfolk Harbor

In WRDA 1986, Congress authorized improving the Norfolk Harbor Channel to 55 feet. Since then, that improvement has been carried out in stages until today the harbor is at 50 feet. I am pleased that the Corps will conclude its general reevaluation work with a Chief's Report in June of this year so that the 55-foot channel authorized more than 30 years ago can finally be completed. While not included in the FY19 Presidents Budget, with its reauthorization in an upcoming WRDA bill, Norfolk Harbor will be ready to compete for construction funds in an FY19 Work Plan.

Given the longstanding authorization and ongoing construction over several decades in Norfolk Harbor, the reasonable interpretation would be to consider the segments to be recommended in the pending Chiefs report as the next phase of the existing and ongoing project and not a New Start.

- Can you explain how the Corps and the Administration would interpret this project in the context of a New Start determination? And do you agree it could be funded without a New Start designation?

Answer: The project described in the draft Chief's Report has neither initiated construction, nor has it received funding in the Budget to initiate physical construction. Therefore, the Administration would interpret this project, subject to completion of the Chief's Report and authorization, as a "new start". Funding would only be recommended in conjunction with a "new start" designation.

US HOUSE APPROPRIATIONS COMMITTEE
QUESTIONS FOR THE RECORD (QFR) (March 14, 2018)
OFFICIAL RESPONSE

Contact person (WO): Randyl Gessel
Telephone number: 202-513-0646

#1 Dam Safety

The Administration and the Subcommittee have both recognized our most critical dam safety projects as being very high priorities for funding. In past hearings, the Bureau of Reclamation has projected that funding requirements for dam safety needs would continue to grow, as our infrastructure continues to age, as we continue to refine our understanding of risks, and as design standards continue to evolve.

Question: What are the current projections for future funding requirements for Reclamation?

Answer: The Bureau of Reclamation has currently identified necessary dam safety risk reduction actions at 15 facilities within our inventory of high and significant hazard potential dams. Reclamation anticipates additional dams may require initiation of dam safety risk reduction actions within the next 3 to 4 years. The scope and cost of potential modifications for these facilities has not yet been estimated.

The FY 2019 Budget includes $88.1 million for dam safety related activities, utilizing $66.5 million for the previously discussed risk reduction activities and $21.6 million for recurring risk management activities including examinations, performance monitoring, technical evaluations, and program management related activities for Reclamation dams as well as oversight and guidance of the Department of the Interior Dam Safety Programs. The budget request of $88.1 million fully supports all anticipated work planned for FY 2019.

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#2 Inclusion of Water Resources Infrastructure

Question: Please discuss how Reclamation would be involved in each of the various programs proposed in the Administration's infrastructure plan?

Would existing federal projects be eligible for funding under any of the proposed programs?

Answer: The Administration's infrastructure plan would provide $200 billion to encourage at least $1.5 trillion in infrastructure investment, including $100 billion in incentive grants to spur additional state, local, and private investment and $50 billion specified for rural infrastructure. Water resources projects are eligible for both of these categories of projects.

Question: Would Reclamation be involved in making decisions on which projects were funded?

If so, how do you envision that working?

Answer: Under the Infrastructure proposal, $100 billion would be made available for the Incentives Program. The funds would be divided in specific amounts to be administered by the United States Department of Transportation (DOT), United States Army Corps of Engineers (USACE), and Environmental Protection Agency (EPA). Other Federal agencies seeking to incentivize eligible projects within their areas of jurisdiction could petition DOT, USACE, or EPA to transfer Incentives Program funds to be used consistent with the requirements under the program. Another $50 billion would be made available to the Rural Infrastructure Program for capital investments in rural infrastructure investments as block grants to States, which would have discretion to choose individual investments to respond to their unique rural needs.

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#3 Leveraging Non-Federal Dollars

The Administration's infrastructure proposal seems to emphasize leveraging non-federal funding, including non-federal funding for operation and maintenance expenses. Current law already requires non-federal interests to cost share construction costs and fund operation and maintenance costs for many federal water resources projects, though.

Question: How would this factor into evaluation of projects under the Administration's proposal?

Answer: This is correct, current law typically requires non-federal interests to cost share construction costs and fund operation and maintenance costs for many federal water resources projects. In some cases, water and power users fund all operation and maintenance costs upfront, and the project does not seek appropriated funds. The specifics depend upon the project or program authorization and contracts or agreements among the parties.

The incentives portion of the Administration's Infrastructure proposal includes $100 billion in grants for applicants that demonstrate innovative approaches to generating new revenue streams, prioritizing maintenance, and modernizing procurement practices. The proposal also recognizes not all project sponsors have the same capacity to raise capital, which is why the proposal sets aside $50 billion for rural projects. Sponsors of water resources projects would be eligible to apply for both of these categories of funding.

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#4 Expansion of EPA's WIFIA Program

The Administration's infrastructure proposal seeks to expand the Environmental Protection Agency's authority under the WIFIA program to include activities normally associated with the Bureau of Reclamation, specifically water supply.

Question: Given that Reclamation is a subject matter expert on these types of projects, would you envision a substantive role for Reclamation if EPA's authority were expanded as proposed?

The split in expertise could be addressed in one of two ways – either EPA could manage the entire program, relying on Reclamation for expertise on certain types of projects, or Reclamation could manage a program for individual types of projects, relying on EPA or another federal agency for expertise on review of loan or loan guarantee applications.

Do you think one approach is inherently better or more efficient than the other? If so, why?

Answer: The Department supports the Administration's infrastructure plan proposal to amend EPA's WIFIA program to include a broader range of non-Federal water resources projects in addition to financing drinking water and wastewater systems.

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#5 Future Year Funding Needs

This subcommittee has long been interested in getting the agencies to plan for more than just one year at a time, for instance through development of a five-year comprehensive plan. This look at the future is particularly important for programs, like Reclamation's, that must balance maintenance of existing assets with important new investments.

Question: What are the Reclamation-wide funding needs for the next five years? Do you see anything coming that will cause a change in priorities in any way?

How does Reclamation prioritize needs for existing and new investments when developing its budget request?

Answer: The Department of the Interior formulates funding requests on an annual basis. Each year, requirements are prioritized to best deliver water and power in an economically and environmentally sound manner in the interest of the American public. Priority is also given to activities which advance the Administration's goals to ensure efficient energy generation of energy to meet the Nation's economic needs; provide reliable water supplies for irrigation, people, and the environment; enhance outdoor recreation opportunities; and fulfill commitments to tribal nations.

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#6 Indian Water Rights Settlements

Reclamation's budget request includes $127.4 million for Indian water rights settlements. Some of these settlements have statutory deadlines for completing work.

Question: Does the budget request keep us on track to meet these deadlines?

How do you balance funding needs across authorized settlements?

Answer: Reclamation carefully considers the statutory deadlines for authorized settlements each year in developing its Budget request. The FY 2019 Budget request for Reclamation includes $127.4 million for Indian water rights settlements. This level of funding will enable Reclamation to stay on track to meet the statutory deadlines for authorized Indian water rights settlements.

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#7 Common Regional Boundaries

The Department of the Interior recently proposed reorganizing all of the agencies in the Department, including Reclamation, under common regional boundaries. The Department has said this reorganization would not increase costs at its agencies and bureaus. However, Reclamation's fiscal year 2019 budget request includes an additional $3.4 million to support the reorganization.

Question: What is the schedule for implementing these new boundaries?

What is the anticipated total cost to Reclamation for this reorganization?

Answer: We anticipate beginning implementation of the new unified regional boundaries late in FY 2018. The Department believes any costs associated with this reorganization would be minimal in FY 2018. The FY 2019 Budget for Reclamation requests $3.4 million to support the Department's migration to common regional boundaries to improve service and efficiency.

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#8 Regional Leads

Secretary Zinke has discussed the idea of having someone in each region to facilitate cooperation among the DOI agencies.

Question: Could you please expand on what is envisioned with this idea?

Would the idea be to put someone from one agency in charge of all the agencies in that region? If so, how would you ensure that person would have the necessary expertise relevant to each agency's mission?

What is the schedule for gathering comment and potentially implementing this proposal?

Answer: Under the reorganization, an Interior Regional Director (IRD) would eventually be established in each region. The IRD would be responsible for facilitating inter-bureau communication, cooperation, and coordination at the regional level. This person would have direct responsibility for managing some widely shared mission and/or administrative functions such as NEPA compliance or human resources management across all the bureaus operating in that region. Exactly which administrative or mission functions would be managed in this way is still being discussed, and would likely vary from one region to the next. In any case, missions that are exclusive to one agency, such as the operation of hydroelectric plants, would continue to be managed in the traditional way through the responsible bureau. The IRD would not operate in a vacuum, but would work with the bureau regional directors in that region, and could draw on their specialized expertise and that of their staffs.

The Secretary has been actively seeking ideas from Congress, state governors, our own employees, and a wide variety of stakeholders since the spring of 2017, and that will continue as we move ahead. The plan is to implement the unified regional boundaries during FY 2018, and to gradually roll out the rest of the reorganization in a phased and deliberate manner over an extended period of time, with continuing input from all affected parties.

THURSDAY, MARCH 15, 2018.

SECRETARY OF ENERGY

WITNESS

HON. RICK PERRY, SECRETARY OF ENERGY

Mr. SIMPSON. The hearing will come to order. It is my pleasure to welcome Secretary Rick Perry to his second hearing with the Energy and Water Subcommittee. Secretary Perry, thank you for your continued service to our country, we appreciate it very much.

I look forward to hearing from you today on the fiscal year 2019 budget request and learning more about how it reflects your priorities for the Department of Energy.

The Department of Energy's role in supporting our Nation's defense through the maintenance of a nuclear weapons stockpile and through support for the nuclear Navy are at times not well recognized. The importance of these activities are well reflected in the fiscal year 2019 budget request.

However, with the strong increase of $1.8 billion, or 19 percent, requested for nuclear Weapons Activities and $369 million, or 26 percent, for Naval Reactors compared to the fiscal year 2017 enacted level, these programs and the other defense activities of this bill are and will remain a high priority for this committee.

I am also pleased that the administration continues to propose appropriate funding for Yucca Mountain. Having the administration's support for current law is refreshing and hopefully will help us move past the legislative stalemate with the Senate of the past several years.

The President's budget proposes a $1.9 billion decrease from fiscal year 2017 for energy programs reflecting the administration's desire to focus resources on early stage research and development. This committee must carefully review the request to understand the impacts to these important programs and activities.

Unfortunately, the Department has been very slow to provide details about the request for Energy Programs. In fact, we are still waiting on some program details and others were provided just this morning. This delay means today's hearing is an even more important part of our oversight process.

Secretary Perry, I appreciate you being here today to explain your budget request and hope that we can work together to move forward a budget that will strengthen our national security and advance our energy independence.

Please ensure that the hearing record, questions for the record and any supporting information requested by the subcommittee, are delivered in the final form to us no later than 4 weeks from the time that you receive them.

Members who have additional questions for the record will have until the close of business on Monday to provide them to the subcommittee office.

With that, I will turn to my ranking member, Ms. Kaptur, for her opening statement.

Ms. KAPTUR. Thank you very much, Mr. Chairman, and we welcome you back, Mr. Secretary, and all of your colleagues who are with you today serving our country, and we are glad to have you back again.

No department could be more important in America's security than the Department of Energy, in terms of energy security and also guardianship of our nuclear weapons complex so important to our strategic position.

I understand that yesterday you also led a roundtable discussion on critical water issues. I want to thank you for doing that and for the administration grappling with this rather complex but timely issue, and for your action step to request information on how best to unleash innovation in this area.

Our energy and water and food systems are interdependent and I don't think enough work has been done on the intersection of these important areas. Texas has experienced very heavy rainfall, enormous, and has had the edges of drought burn your edges there, so I think your special sensitivity here is very important to the Nation at this point in our history.

We need to develop affordable, deployable energy and water-efficient systems from agriculture to electricity generation and use, and I look forward to working with you on this important confluence of issues.

Before we discuss the budget request, I want to take a moment to express some disappointment and, frankly, frustration that we are sitting here today over a month after the President's budget request was released. And unfortunately, only this morning has the Department provided the final volumes of your budget request. I wanted to make sure you were aware of that.

During my time as Ranking Member on this subcommittee, I have never seen delays like this. While I understand that there are multiple administration entities involved in this production process, and certainly one called the Office of Management and Budget, I have to say this does not reflect well on the Department and does a disservice to this committee.

I would like to take a moment to discuss the impressive strides we have made in increasing America's energy independence with no department more important than your own.

I view this as a strategic goal for our Nation. We now provide over 90 percent of our energy needs from domestic sources. This is an accomplishment for decades in the making and I think with your stewardship we will get over the last 10 percent and give us a little reserve in addition.

Renewable energy is a subset of that; now accounts for 18 percent of our electricity generation. This is nearly on par with our Nation's nuclear fleet and it has happened in a relatively short period of time, although some of our photovoltaic research goes back to the 1980s.

Electricity made up a smaller share of consumer spending last year than it ever has in recorded history. And every business I represent tells me that if I can get the percentage of energy costs down, they become more competitive. The Department of Energy has been a real leader in that regard.

With our economy growing, our total energy consumption is declining, providing we have an economic growth pattern that takes care of emissions.

These successes are due in no small part to DOE's world-class research. There is simply is no better both basic and applied. And looking at the budget request, I am gravely concerned and hope to be able to fix the significant cuts that are contained in it, particularly in the energy accounts, that will undermine the advances we have been making to date and will slow progress to continue job creation and efforts to modernize our aging energy infrastructure.

The budget request for the Department of Energy provides a significant increase of 10 percent to defense accounts, including a staggeringly huge increase in the Weapons Activities account of 19 percent.

At the same time, the request slashes non-defense energy accounts by more than 40 percent of which energy efficiency and renewable energy alone is cut by 67 percent, two-thirds.

Cuts like these lead me to believe that you do not think that efficiency and renewables are a good investment, so I would like to take a minute to enumerate some of the accomplishments of the Office of Energy Efficiency and Renewable Energy and feel obligated to do so this morning.

Since 2009, the cost of electricity from new wind power projects has decreased by 67 percent, wow. For solar that corresponding figure is 86 percent decline. Americans have saved hundreds of billions of dollars thanks to new energy efficiency standards that have brought us smarter appliances, heating and cooling systems, and lighting and we are on track to see $1 trillion in savings by 2020.

The Weatherization Assistance Program also proposed for elimination in this budget request, which I simply cannot support, delivers $340 million in yearly energy savings to the American people. These advances have put money in the American people's pockets and made our air cleaner and most notably for the President's agenda created jobs.

The fastest growing job in America today, as the Secretary well knows, is wind turbine technician, and, in fact, Texas is one of the top states for energy efficient jobs.

Finally, with all of the rhetoric about putting America first on an economy-wide basis, China outspends us by almost $100 billion annually on research and development, yet here you are defending massive cuts to programs that have proven effective.

If we want to maintain our technological and economic advantages, we must increase these investments. And make no mistake, they are investments in our future. We cannot be shortsighted and let the rest of the world pass us by.

With that, I will close my remarks and thank you again, Mr. Secretary, for being here with us today and we look forward to your testimony and the opportunity to adapt your budget request as the months ensue.

Thank you, Mr. Chairman, for the time.

Mr. SIMPSON. Thank you.

Mr. Secretary, the floor is yours.

Secretary PERRY. Mr. Chairman, thank you for the privilege to be here. Ranking Member Kaptur, it is good to be in your presence and the committee members as well.

We are here to discuss the President's Fiscal Year 2019 budget request for the Department of Energy, and just as an aside, let me say what a privilege it is to be able to serve.

Ms. Kaptur, I know that you are just a few days away from being the longest-serving female member of the House of Representatives. Congratulations. We were just sharing what an honor it is to be the longest-serving anything; myself as a governor of Texas back a few years ago. But what an extraordinary privilege for me to sit in front of you as the 14th Secretary of Energy.

Mr. Chairman, this budget represents a request to the American people, through their representatives in Congress, to fund the priorities of this Department. It underscores DOE's commitment to stewardship, accountability, and service.

And I hope that our interactions with you and other committees of Congress that we have had over the past year have underscored the commitment to serve and the transparency that we intend to share with you and the American people.

In total DOE leadership, I think we have appeared now some 23 times over the last year in front of Congress. We are very proud of that strong relationship both with the staff we put together, and some of your young men and women that you have trained up very well and we have been able to hire. Thank you for that.

This is the second hearing of 2018 and in the coming weeks, I am going to have several more opportunities to sit in front of your colleagues. I am very proud of our standard of transparency as we try to work together to hammer out this budget.

When I first appeared before this committee last year, I committed DOE to advancing several key issues, key objectives if you will, and I noted at that time that we needed to modernize our nuclear weapons arsenal, continue to address the environmental legacy of the Cold War, further advance domestic energy production, better protect our energy infrastructure, and accelerate our Exascale computing capabilities.

This Fiscal Year 2019, a $30.6 billion budget request for the Department, seeks us to move forward on those and other goals. Mr. Chairman, plain and simple, the United States Government has no greater or more solemn duty than protecting its citizens.

Since nuclear deterrence is critical to that defense, last year we promised a much needed upgrading of our arsenal. This year we have requested an 8.3 percent increase for that purpose and to align ourselves with the Nuclear Posture Review and the Nuclear Security Strategy.

I want to stop just a second and say thank you to this committee. For 25 years the modernization of our nuclear stockpile has not been a priority for many in Congress. Unfortunately, the world has changed a lot in those 25 years and we can't wait any longer. This committee understands that you can only defer maintenance and modernization for so long and that time for inaction has passed,

and I just want to say thank you for recognizing that and for strongly supporting the modernization for our nuclear arsenal.

We are also focusing on addressing the environmental legacy left at the Department in a lot of the sites—Mr. Fleischmann, he has in his district some of those sites, there are many across the country.

We are asking for additional funds to clean those sites up. We also have a duty to advance a fundamental mission of our Department and that is energy independence. Ms. Kaptur made mention of that, of where we find ourselves.

Thanks to American ingenuity and innovation, we are on the cusp of realizing that mission objective for the first time since the oil shortage in the 1970s.

In the coming years, we are going to produce enough energy from all of our abundant fuels not only to meet our own needs, but those of our friends, our allies, and our partners as well.

Just last year, we became a net exporter of LNG. There are 27 nations now that receive exports on five continents. Because of technology, we are also making our energy cleaner.

We can pursue an all-of-the-above policy that more efficiently develops and uses all of America's energy resources. Through the power of innovation, we can both grow our economy and protect our environment.

And that is the heart of this new energy realism doctrine that I recently described. To drive further energy innovation, we are requesting continued funding of our energy program offices as well as the funding for research in fossil fuels and nuclear power, including advanced small modular reactors.

Now we have a duty to advance domestic energy production. We also have a duty to ensure that our energy actually gets delivered without interruption. That is why last year I promised to step up our efforts to protect and maintain America's energy infrastructure to all those hazards that are out there.

The devastation caused by the 2017 hurricanes and the impact to the electric sector was highlighted. We clearly have to improve our grid reliability resilience in the face of these natural disasters, we continue to work with our public and our private partners and Puerto Rico to help restore power outages caused by Hurricane Maria and improve the resiliency of Puerto Rico's electric system. As of March the 7th, the Puerto Rican Electric Power Authority reported that power had been returned to 70 percent of the customers.

We also need to protect against manmade attacks, including cyber attacks. So this year we have requested funding to increase and strengthen cybersecurity as well as the Department's cyber defenses. We are establishing a new office of Cybersecurity, Energy Security, Emergency Response. It is called CESER.

Much of our Nation's greatest technology breakthroughs affecting energy has come through, as you made reference to, Ranking Member, the work at the national labs that we have. We need to ensure their funding as well.

In 2017, our national labs won 33 of the prestigious R&D 100 awards, including technologies regarding new materials, protecting our environment, incorporating renewable energy, reliably onto our

electric grid and sophisticating our cybersecurity tools. These accomplishments, meeting the people driving our innovation agenda, and imploring them to reach even higher, are some of the reasons I am committed to visit each of our national labs.

I am especially proud of the work several of our labs are doing to harness the power of world-class supercomputers to improve our health, and particularly the health of our veterans. We have stood up a program called Active that is specifically using our computing capability to address our veterans' health.

Finally, let me touch on one of our other key objectives laid out last year, and that is to accelerate efforts to develop Exascale computing systems. This year we have requested nearly a 31 percent increase for this vital area in order to keep the United States at the forefront of supercomputing.

So, Mr. Chairman, in my first year I have been able to see the depth, the breadth of the DOE enterprise. I could not be prouder to be able to lead this amazing agency. I have visited 19 of the national labs, 4 more coming up before the end of the month. I also visited WIPP, the Nevada National Security Site; Pantex; Y-12, the Kansas City National Security Complex, McNary Dam, and Hanford. But seriously, I told somebody, I said, I kind of feel like Johnny Cash, that old song, "I've Been Everywhere, Man."

At each of these sites, it became abundantly clear to me just the amazing talent of the patriots that work at these facilities all through the DOE complex. These are really, really fine men and women who I cannot be prouder to get to work with on a daily basis and say that I am part of a team of people that is making America safer, more secure, economically and otherwise.

In the end, it is you, the people's duly elected representatives, who are going to best decide how to allocate the resources. If there is one thing I learned as governor, I learned how the appropriations process worked. I recognize we push these budgets out and then we work together to finalize the product.

My commitment to you is not only do I respect your role in this, I understand my role in this. And that we will use those resources wisely and in pursuit of the goals that you and I and the administration have outlined.

So thank you and I look forward to attempting to answer your questions.

[The information follows:]

Testimony of Secretary Rick Perry
U.S. Department of Energy Before the
U.S. House Committee on Appropriations Energy and Water Development Subcommittee
March 15, 2018

Chairman Simpson, Vice Chairman Fleischmann, Ranking Member Kaptur, and Members of the Subcommittee, it is an honor to appear before you today to discuss the President's FY 2019 Budget Request for the Department of Energy ("the Department" or "DOE").

It is a privilege and an honor to serve as the 14th Secretary of Energy.

Mr. Chairman, this budget represents a request to the American people through their representatives in Congress to fund the priorities of this Department.

As such, it represents a commitment from all of us at DOE– that we will honor the trust of our citizens with stewardship, accountability and service.

As Ronald Reagan reminded us in his First Inaugural, "We are a nation that has a government – not the other way around."

When I appeared before this Committee last year, I committed to modernize our nuclear weapons arsenal, protect our energy infrastructure from cyber and other attacks, achieve exascale computing, advance strong domestic energy production, and address obligations regarding nuclear waste management and the Nation's nuclear legacy.

This FY 2019 $30.6 billion Budget Request for the Department of Energy ("Budget") delivers on these commitments.

The Department's world-leading science and technology enterprise generates the innovations to fulfill our mission. Through our 17 National Laboratories, we engage in cutting-edge research that expands the frontiers of scientific knowledge and generates new technologies to address our greatest challenges.

Our National Laboratories are doing outstanding work in many areas, and they have a rich history of innovation that has bettered the lives of millions across the globe. For example, in FY 2017, the National Laboratories won 33 of the prestigious R&D 100 Awards, including technologies regarding new materials, protecting our environment, incorporating renewable energy reliably on to our electric grid, and sophisticated cybersecurity tools. These are but a few examples of the work the

National Laboratories have done just last year to push the boundaries of research, development, and commercialization. I have had the opportunity to visit many of the Laboratories over the past year, and witness first- hand this outstanding work done by the dedicated workforce across the nation.

I am especially proud of how our National Laboratories, in working with the Department of Veteran's Affairs and other federal agencies, universities, doctors, and researchers, are harnessing the power of our world-class supercomputers to improve the health of our veterans. This work is part of DOE's proud legacy in the biosciences, and as the initiator of the Human Genome Project.

This Budget proposes over $12 billion in early stage research and development (R&D) that will focus the intellectual prowess of our scientists and engineers on the development of technologies that the ingenuity and capital of America's entrepreneurs and businesses can convert into commercial applications and products to improve the lives and security of all Americans.

Restoring the Nuclear Security Enterprise

The security of the United States and its allies is one of our primary DOE missions.

The Budget fulfills the President's vision of rebuilding and restoring our Nation's security through robust investments in the Department's nuclear security mission. The Budget provides $15.1 billion for the National Nuclear Security Administration (NNSA), $2.2 billion or 16.7 percent above the FY 2017 enacted level.

The Request makes necessary investments consistent with the February 2018 Nuclear Posture Review (NPR) to modernize and rebuild a nuclear force and nuclear security enterprise; prevent, counter, and respond to nuclear proliferation and terrorism threats; and provide safe, reliable, and long-term nuclear propulsion to the Nation's Navy.

The Budget includes $11.0 billion for Weapons Activities. This $1.8 billion increase over the FY 2017 enacted level supports maintaining the safety, security, and effectiveness of the nuclear stockpile; continuing the nuclear modernization program; and modernizing NNSA's nuclear security infrastructure portfolio in alignment with the NPR.

The Budget includes $1.9 billion for our ongoing Life Extension Programs (LEP) and Major Alterations, a $580 million increase. Funding for the W76-1 warhead

LEP supports the Navy and will keep the LEP on schedule and on budget to complete production in FY 2019. An increase of $178 million for the B61-12 LEP will keep us on schedule to deliver the First Production Unit (FPU) in FY 2020 to consolidate four variants of the B61 gravity bomb and improve the safety and security of the oldest weapon system in our nuclear arsenal.

The Budget also supports the Air Force's Long-Range Stand-Off program through an increase of $435 million from FY 2017 enacted for the W80-4 LEP, to deliver the first production unit in FY 2025 of the cruise missile warhead. We also increase funding by $23 million for the W88 Alteration 370 to provide the scheduled first production unit in FY 2020. The request includes $53 million for a replacement for the W78, one of the oldest warheads in the stockpile, by 2030.

The Budget for Weapons Activities also increases investments to modernize our nuclear infrastructure. For example, we include $703 million, a $128 million increase from FY 2017, for construction of the Uranium Processing Facility needed to replace deteriorating facilities at the Y-12 National Security Complex, as well as $27 million for a Tritium Production Capability at Savannah River and $19 million for a Lithium Production Capability at Y-12.

The Weapons Activities Budget request also includes $163 million, a $68 million increase from FY 2017 enacted, for NNSA collaboration with the Office of Science on the development of exascale computer systems, which I address below.

In the NNSA's Naval Reactors program, the Department has the ongoing responsibility to provide militarily effective nuclear propulsion plants for Navy vessels and to ensure their safe, reliable and long-lived operation. The Budget provides $1.8 billion to support the safe and reliable operation of the Navy's nuclear-powered fleet and continuation of the *Columbia*-class submarine program, refueling of the Land-Based Prototype reactor, and the Spent Fuel Handling Recapitalization Project.

Today, over 45% of the Navy's major combatants are nuclear powered. DOE's role in propulsion plants, spent fuel handling, and recapitalization is critical to the Navy's ability to conduct its mission around the globe.

The Budget also includes $1.9 billion for the Defense Nuclear Nonproliferation (DNN) program to reduce global threats from nuclear weapons. This critical national security program prevents the spread of nuclear and radiological materials, advances technologies that detect nuclear and radiological proliferation worldwide,

and eliminates or secures inventories of surplus materials and infrastructure usable for nuclear weapons.

The Budget continues termination activities for the Mixed Oxide Fuel Fabrication Facility project proposed in the FY 2018 Request, providing $220 million for use toward an orderly and safe closure of the project. The Budget also includes $59 million for the continuation of preliminary design and the initiation of long-lead procurements for the Surplus Plutonium Disposition project in support of the dilute and dispose strategy.

The Budget provides $319 million for Nuclear Counterterrorism and Incident Response, $47 million above FY 2017 enacted, to work domestically and around the world to improve our ability to respond to radiological or nuclear incidents, in conjunction with other agencies in a broader U.S. Government effort.

Finally, the Budget includes $423 million for the federal workforce at the NNSA. This $35 million increase is essential to ensuring our world-class workforce of dedicated men and women can effectively oversee NNSA's critical national security missions.

Securing against Cyber Threats

Among the most critical missions at the Department is to develop science and technology that will ensure Americans have a resilient electric grid and energy infrastructure. Protecting this infrastructure means it has to be resilient and secure to defend against the evolving threat of cyber and other attacks.

Unfortunately, cyberattacks pose an ever-increasing threat to the Nation's networks, data, facilities, and infrastructure. A reliable and resilient power grid is critical to U.S. economic competiveness and leadership, and to the safety and security of the nation. We need to understand the increasing and evolving natural and man-made threats and develop the tools to respond to those threats across our energy infrastructure.

The Department is the sector-specific agency for the energy sector, and therefore, is the lead federal agency for the Emergency Support Function #12 that partners with the energy sector to ensure infrastructure security and resilience and to coordinate response and recovery. To elevate the Department's focus on energy infrastructure protection, the Budget Request splits the Office of Electricity Delivery and Energy Reliability, which totals $157 million, into two offices. Doing so will increase focus on grid reliability in the Office of Electricity Delivery (OE)

and cybersecurity in the Office of Cybersecurity, Energy Security, and Emergency Response (CESER).

CESER will allow more coordinated preparedness and response to emerging cyber and physical threats and natural disasters and support the Department's national security responsibilities. To work toward this critical objective, the Budget provides $96 million for the CESER office to develop tools needed to protect the U.S. energy sector against threats and hazards, mitigate the risks and the extent of damage from cyberattacks and other disruptive events, and improve resilience through the development of techniques for more rapid restoration of capabilities.

CESER will work in an integrated manner with private industry, as well as Federal, State, and Local jurisdictions and other DOE offices, to enable industry to enhance the resilience (the ability to withstand and quickly recover from disruptions and maintain critical function) and security (the ability to protect system assets and critical functions from unauthorized and undesirable actors) of the U.S. energy infrastructure.

Also, in FY 2019, the Office of Nuclear Energy's budget includes $5 million for the Nuclear Energy Enabling Technologies (NEET) Crosscutting Technology Development (CTD) program to expand its nuclear reactor cybersecurity research to support development of intrusion-resistant systems and practices. Research will be conducted in four areas: cyber risk management, secure architectures, modeling and simulation, and supply chain cyber security assurance. NEET-CTD will also perform simulated cyber-attacks against existing and next generation control system architectures to verify attack difficulty and control efficacy, methods, and metrics.

Securing against cyber threats means we must also protect against threats to the Department's own infrastructure in science, technology, and nuclear security. This Budget takes major steps to safeguard DOE's enterprise-wide assets against cyber threats. The Budget provides funding to secure our own networks, and increases funding for the Chief Information Officer by $16 million from the FY 2017 enacted level to modernize infrastructure and improve cybersecurity across the DOE IT enterprise. Funding for cybersecurity in the National Nuclear Security Administration is increased to $185 million to enhance security for our nuclear security enterprise. In the Environmental Management program, we provide $43 million for cybersecurity to ensure the security at seven cleanup sites. This Budget provides the resources we require to secure our systems and our infrastructure.

Improving Grid Resilience

As we protect our energy infrastructure from cyber threats, we also must improve resilience and reliability of the nation's electricity system. The Budget provides $61 million for Electricity Delivery to support transmission system resource adequacy and generation diversity, move forward with new architecture approaches for the transmission and distribution system to enhance security and resilience, and advance energy storage. The Budget supports research and development at DOE's National Laboratories to develop technologies that strengthen, transform, and improve energy infrastructure so that consumers have access to reliable and secure sources of energy.

Advancing Exascale and Quantum Computing

As I discussed last year, the Department's leadership in developing and building the world's fastest computers has faced increasingly fierce global competition over the last decade. Maintaining the Nation's global primacy in high-performance computing is more critical than ever for our national security, our continuing role as a science and innovation leader, and our economic prosperity.

The Budget includes $636 million to accelerate development of an exascale computing system, including $473 million in the Office of Science (Science) and $163 million in NNSA. This unprecedented investment, which is $376 million—or 145 percent—above the FY 2017 enacted level, reflects the Department's plan to deliver an exascale machine for the Office of Science in 2021 and a second machine with a different architecture by 2022.

To achieve these goals, the Science/NNSA partnership will focus on hardware and software technologies needed to produce an exascale system, and the critical DOE applications needed to use such a platform. This world-leading exascale program will bolster our national security by supporting the nuclear stockpile, while also supporting the next generation of scientific breakthroughs not possible with today's computing systems.

We will not, however, satisfy our need for computing advances with the achievement of exascale computing alone. The FY 2019 Budget Request also includes $105 million in quantum computing to address the emerging urgency of building our competency and competitiveness in the developing area of quantum information science. This early-stage, fundamental research will concentrate on accelerating progress toward application of quantum computing techniques and quantum sensing to grand challenge science questions.

Addressing the Imperative of Nuclear Waste Management

As I mentioned to this Committee last year, we must move ahead in fulfilling the Federal Government's responsibility to dispose of the Nation's nuclear waste. The Budget includes $120 million, including $30 million in defense funds, to resume licensing for the nuclear waste repository at Yucca Mountain and implement a robust interim storage program.

The Budget devotes $110 million for DOE to support the Nuclear Regulatory Commission (NRC) licensing proceeding for the nuclear waste repository at Yucca Mountain, including funding for technical, scientific, legal and other support.

In addition, the Budget includes $10 million to implement a robust interim storage program to ensure earlier acceptance of spent nuclear fuel and accelerate removal from sites in 39 states across the country. Interim storage capability also adds flexibility to the system that will move materials from sites across the country to its ultimate disposition.

By restarting the long-stalled licensing process for Yucca Mountain and committing to establishing interim storage capability for near-term acceptance of spent nuclear fuel, our Budget demonstrates the Administration's commitment to nuclear waste management and will help accelerate fulfillment of the Federal Government's obligations to address nuclear waste, enhance national security, and reduce future burdens on taxpayers. This also will increase public confidence in the safety and security of nuclear energy, thus helping nuclear energy to remain a significant contributor to the country's energy needs for generations to come.

Fulfilling Legacy Cleanup Responsibilities

The Budget also includes $6.6 billion for Environmental Management (EM), $182 million above the FY 2017 enacted level, to address its responsibilities for the cleanup and disposition of excess facilities, radioactive waste, spent nuclear fuel, and other materials resulting from five decades of nuclear weapons development and production and Government-sponsored nuclear energy research.

To date, EM has completed cleanup activities at 91 sites in 30 states and Puerto Rico, and is responsible for cleaning up the remaining 16 sites in 11 states—some of the most challenging sites in the cleanup portfolio.

The Budget continues funding of $150 million to address specific high-risk contaminated excess facilities at the Y-12 National Security Complex and the

Lawrence Livermore National Laboratory.

The Budget includes $1.4 billion for the Office of River Protection at the Hanford Site, for continued work at the Hanford Tank Farms and to make progress on the Waste Treatment and Immobilization Plant. This budget will continue progress toward important cleanup required by the Consent Decree and Tri-Party Agreement to include a milestone to complete hot commissioning of the Low Activity Waste Facility by December 31, 2023. The Budget also includes $747 million to continue cleanup activities at Richland, including continued K-Area decontamination and decommissioning remediation and the K-West Basin sludge removal project. For Savannah River, the Budget provides $1.7 billion, $287 million above enacted FY 2017, to support activities at the site. This will include the Liquid Tank Waste Management Program, completing commissioning and beginning operation of the Salt Waste Processing Facility, continued construction of the Saltstone Disposal Unit #7, a start to construction of the Saltstone Disposal Units #8/9, and support for facilities that receive and store nuclear materials.

The Waste Isolation Pilot Plant (WIPP) is essential for the disposition of transuranic defense-generated waste across the DOE complex, and the Budget provides $403 million to safely continue waste emplacement at WIPP. The Budget Request will continue WIPP operations, including waste emplacements, shipments, and maintaining enhancements and improvements, and progress on critical infrastructure repair/replacement projects, including $84 million for the Safety Significant Confinement Ventilation System and $1 million for the Utility Shaft (formerly Exhaust Shaft). These steps will increase airflow in the WIPP underground for simultaneous mining and waste emplacement operations.

The Budget includes $359 million to continue cleanup projects at the Idaho site, such as the Integrated Waste Treatment Unit, and to process, characterize, and package transuranic waste for disposal at offsite facilities. It provides $409 million for Oak Ridge to continue deactivation and demolition of remaining facilities at the East Tennessee Technology Park, continue preparation of Building 2026 to support processing of the remaining U-233 material at the Oak Ridge National Laboratory, and support construction activities for the Outfall 200 Mercury Treatment Facility at the Y-12 National Security Complex.

For Portsmouth, the Budget includes $415 million, $33 million above FY 2017 enacted, to continue progress on the deactivation and decommissioning project at the Portsmouth Gaseous Diffusion Plant, safe operation of the Depleted Uranium Hexafluoride Conversion Facility, and construction activities at the On-Site Waste Disposal facility. At Paducah, the Budget includes $270 million to continue

ongoing environmental cleanup and depleted uranium hexafluoride (DUF6) conversion facility operations at the Paducah site. In addition, the FY 2019 Budget Request supports activities to continue the environmental remediation and further stabilize the gaseous diffusion plant.

Together, these investments for Environmental Management will make significant progress in fulfilling our cleanup responsibilities while also starting to address our high-risk excess facilities at NNSA sites.

Focusing Priorities on Core Missions

The Budget continues to focus the Department's energy and science programs on early-stage research and development at our National Laboratories to advance American primacy in scientific and energy research in an efficient and cost-effective manner.

Also, in line with Administration priorities, the Budget terminates the Advanced Research Projects Agency-Energy, known as ARPA-E, and the Department's Loan Programs, while maintaining necessary federal staff to oversee existing awards and loans. Termination of these programs will save over $300 million in FY 2019 alone while significantly reducing financial risk to the taxpayer moving forward.

Advancing American Energy Dominance

The Budget requests $2.1 billion for the applied energy programs. Within these offices, the FY 2019 Budget focuses resources on early-stage, cutting-edge R&D conducted by the scientists and engineers at our 17 National Laboratories who continually develop the next great innovations that can transform society and foster American economic competitiveness and then on transitioning these breakthroughs to the private marketplace.

The Budget consolidates programs focused on bringing technologies to the market in the Office of Technology Transitions, requesting a 23% increase from FY 2017. Through concerted effort and coordination with our labs, this will reduce costs to the taxpayer while at the same time providing a robust technology transfer program to transfer breakthroughs from the National Laboratories to the private sector.

Nuclear Energy

Nuclear energy provides 20 percent of our electricity baseload, and 60 percent of our carbon-free generated electricity. The Budget provides $757 million for the

Office of Nuclear Energy to continue innovating new and improved nuclear energy technologies. The budget focuses funding on early-stage research and development, such as the Nuclear Energy Enabling Technologies program, that enables the research and development of innovative and crosscutting nuclear energy technologies to resolve fundamental nuclear technology challenges.

The FY 2019 Budget includes $163 million for the Reactor Concepts Research, Development and Demonstration program. Within this total, $128 million is for early-stage R&D on advanced reactor technologies, including $54 million for a new Advanced Small Modular Reactor R&D subprogram. This new subprogram is a one-time effort to fund early stage R&D and related technical assistance, the results of which are intended to be widely applicable and employed by nuclear technology development vendors for the purpose of accelerating the development of their advanced SMR designs. The Budget also provides $15 million within Reactor Concepts for early-stage R&D and pre-conceptual design work related to Versatile Advanced Fast Test Reactor concept.

Within the Fuel Cycle Research and Development program, the Budget provides $40 million to support the development of one or more light water reactor fuel concepts with significantly enhanced accident tolerance.

Finally, the Budget for Nuclear Energy also supports robust safeguards and security funding of $136 million—a $7 million increase—for protection of our nuclear energy infrastructure and robust infrastructure investments at INL facilities.

Fossil Energy Research and Development

The Fossil Energy Research and Development (FER&D) program advances transformative science and innovative technologies which enable the reliable, efficient, affordable, and environmentally sound use of fossil fuels. Fossil energy sources currently constitute over 77 percent of the country's total energy use and are critical for the nation's security, economic prosperity, and growth. The FY 2019 Budget focuses $502 million on cutting-edge fossil energy research and development to secure energy dominance, further our energy security, advance strong domestic energy production, and support America's coal industry through innovative clean coal technologies.

FER&D will support early-stage research in advanced technologies, such as materials, sensors, and processes, to expand the knowledge base upon which industry can improve

the efficiency, flexibility, and resilience of the existing fleet of coal fired power plants. The request also focuses funding on early-stage research that enables the next generation of high efficiency and low emission coal fired power plants that can directly compete with other sources of electricity in the market and provide low cost reliable power 24/7.

Funding is also provided to support competitive awards with industry, National Laboratories and academia focused on innovative early-stage R&D to improve the reliability, availability, efficiency, and environmental performance of advanced fossil-based power systems. For example, the Advanced Energy Systems subprogram will focus on the following six activities: 1) Advanced Combustion/Gasification Systems, 2) Advanced Turbines, 3) Solid Oxide Fuel Cells, 4) Advanced Sensors and Controls, 5) Power Generation Efficiency, and 6) Advanced Energy Materials. While the primary focus is on coal-based power systems, improvements to these technologies will result in spillover benefits that can reduce the cost of converting other carbon-based fuels, such as natural gas, biomass, or petroleum coke into power and other useful products in an environmentally-sound manner.

Energy Efficiency and Renewable Energy

The Energy Efficiency and Renewable Energy budget funds $696 million to maintain America's leadership in transformative science and emerging energy technologies in sustainable transportation, renewable power, and energy efficiency. Knowledge generated by early-stage R&D enables U.S. industries, businesses and entrepreneurs to develop and deploy innovative energy technologies and gives them the competitive edge needed to excel in the rapidly changing global energy economy.

Energy storage is an important area of focus, and the Request includes $36 million for battery R&D as well as $90 million for a new "Beyond Batteries" R&D initiative. As part of grid modernization efforts, "Beyond Batteries" considers energy storage holistically, and focuses on advances in controllable loads, hybrid systems, and new approaches to energy storage, which are essential to increasing the reliability and resiliency of our energy systems.

Advances in these areas, as well as in battery technologies, will allow for loads to be combined with generation from all sources to optimize use of existing assets to provide grid services, and increase grid reliability. The FY 2019 also invests in advanced combustion engines, and new science and technology for developing biofuels. The Budget funds research into the underpinnings of future generations of solar photovoltaic technology, into the design and manufacturing of low-specific

power rotors for tall wind applications, and on wind energy grid integration and infrastructure challenges.

The Budget also funds early-stage R&D for advanced manufacturing processes and materials technologies. These efforts, combined with the research that leverages the unique high-performance computing assets in the National Laboratories, can drive the breakthroughs that will promote economic growth and manufacturing jobs in the United States.

Leading World-Class Scientific Research

The Department of Energy is the Nation's largest Federal supporter of basic research in the physical sciences, and the President's FY 2019 Budget provides $5.4 billion for the Office of Science to continue and strengthen American leadership in scientific inquiry. By focusing funding on early-stage research, this Budget will ensure that the Department's National Laboratories continue to be the backbone of American science leadership by supporting cutting-edge basic research, and by building and operating the world's most advanced scientific user facilities—which will be used by over 22,000 researchers in FY 2019.

We provide $899 million for Advanced Scientific Computing Research, an increase of $252 million above the FY 2017 enacted level. This funding will continue supporting our world-class high-performance computers that make possible cutting-edge basic research, while devoting $472 million in the Office of Science to reflect the Department's plan to achieve of exascale computing by 2021. This focused effort will drive the innovations necessary for computing at exascale speeds, resulting in computing systems at unprecedented speeds at Argonne National Laboratory in 2021 and Oak Ridge National Laboratory in 2022. The FY 2019 Request also supports quantum computing R&D and core research in applied mathematics and computer science, and high-performance computer simulation and modeling.

The Budget also provides $1.8 billion for Basic Energy Sciences, supporting core research activities in ultrafast chemistry and materials science and the Energy Frontier Research Centers. We will continue construction of the Linac Coherence Light Source-II at SLAC National Accelerator Laboratory and the Advanced Photon Source Upgrade at the Argonne National Laboratory, and initiate the Advanced Light Source Upgrade project at the Lawrence Berkeley National Laboratory, and the Linac Coherence Light Source-II High Energy project at SLAC. The operations of the light sources across the DOE science complex and supporting research across the

Nation will ensure our continued world leadership in light sources and the science they make possible.

The Budget also provides $770 million for High Energy Physics, including $113 million for construction of the Long Baseline Neutrino Facility and Deep Underground Neutrino Experiment at Fermilab, $63 million above the enacted FY 2017 level. We will continue to fund ongoing major items of equipment projects, and initiate three new projects at the Large Hadron Collider, the High Luminosity Large Hadron Collider Accelerator Project, and the High Luminosity ATLAS and CMS detector upgrade projects. By supporting the highest priority activities and projects identified by the U.S. high energy physics community, this program will continue cutting-edge pursuit to understand how the universe works at its most fundamental level.

The Budget for the Office of Science provides $340 million for Fusion Energy Sciences, including $265 million for domestic research and fusion facilities and $75 million for the ITER project. For Nuclear Physics, the budget provides $600 million to discover, explore, and understand nuclear matter, including $75 million for continued construction of the Facility for Rare Isotope Beams and operations of facilities, including the newly-upgraded Continuous Electron Beam Accelerator Facility. For Biological and Environmental Research, the Budget includes $500 million to support foundational genomic sciences, including the Bioenergy Research Centers and to focus on increasing the sensitivity and reducing the uncertainty of earth and environmental systems predictions.

Strategic Petroleum Reserve

In addition to our nuclear security responsibilities, the Department of Energy ensures the Nation's energy security. The Strategic Petroleum Reserve (SPR), one component of that effort, protects the U.S. economy from disruptions in critical petroleum supplies and meets the U.S. obligations under the International Energy Program. The Budget includes $175.1 million, $47.5 million below the FY 2017 enacted level, to support the Reserve's operational readiness and drawdown capabilities. The Request also includes a drawdown and sale of up to 1 million barrels of crude oil from the SPR to provide funding for Congressionally-mandated crude oil sales and emergency drawdown operations.

The Budget continues the sale of SPR oil for the Energy Security and Infrastructure Modernization Fund authorized by the Bipartisan Budget Act of 2015 to support an effective modernization program for the SPR.

Finally, as the Northeast Gasoline Supply Reserve (NGSR) is operationally ineffective and not cost-efficient as a regional product reserve, the President's Budget proposes to liquidate the NGSR and sell its one million barrels of refined petroleum product in FY 2019, resulting in an estimated $77 million in receipts.

Power Marketing Administrations

Finally, the Budget includes $77 million for the Power Marketing Administrations (PMAs). The Budget proposes the sale of the transmission assets of the Western Area Power Administration (WAPA), the Bonneville Power Administration (BPA), and the Southwestern Power Administration (SWPA) and to reform the laws governing how the PMAs establish power rates to require the consideration of market based incentives, including whether rates are just and reasonable. The Budget also proposes to repeal the $3.25 billion borrowing authority for WAPA authorized by the American Recovery and Reinvestment Act of 2009.

Conclusion

In conclusion, I reaffirm my commitment to ensure that the Department of Energy, along with its national laboratories, will continue to support the world's best enterprise of scientists and engineers who create innovations to drive American prosperity, security and competitiveness. The President's FY 2019 Budget Request for the Department of Energy positions us to take up that challenge and delivers on the high-priority investments I proposed to you last year.

As we move forward over the coming weeks and months, I look forward to working with you and your colleagues in Congress on the specific programs mentioned in this testimony and throughout the Department. Congress has an important role in the path forward on spending decisions for the taxpayer, and I will, in turn, ensure DOE is run efficiently, effectively, and we accomplish our mission driven goals. Thank you, and I look forward to answering your questions.

Mr. SIMPSON. Thank you, Mr. Chairman. Mr. Secretary, I couldn't agree with you more on the value and the importance of our national labs and the great work that they do. I call them the Crown Jewels. I really think that they do some of the best scientific research in the world at these national labs.

It is kind of a strange time in that we are talking about the 2019 budget request and you don't know what the 2018 is yet, so it is a little hard. And some of the questions that we have are kind of based on what the 2018 budget might be and I guess we will see that hopefully next week, seeing as how on the 23rd we run out of funding. I think we are on a path to get the final year funding done by the end of next week, but let me get a couple of the questions out of the way.

First of all, I am pleased to see that the Department has continued to request funding to reopen the Yucca Mountain licensing process. The reopening of Yucca Mountain is one of the highest goals of this subcommittee. As you know, it is not a scientific issue, it is a political issue that we have had a hard time resolving between the House and the Senate over the last . . . forever it seems like.

Could you tell me what your plans are to move forward with Yucca Mountain?

Secretary PERRY. Yes, sir. Yesterday I had a conversation with Senator Heller along those same lines. He wanted to know if this $120 million in our line item was for that purpose.

I simply told him, and this is right to the core the law requires us to go forward with this on the licensing side to find out what the observations are from both sides of this issue, and that is, simply put, what this appropriation is for, it is what the administration means for it to be.

We have an obligation. I made a commitment to uphold the laws and the Constitution of the United States when I took this job.

The law clearly requires the Department of Energy to go through this licensing process. This is the funding to do just that, Mr. Chairman.

Mr. SIMPSON. As you know, we have had some disagreements between the House and the Senate on Yucca Mountain, which has led to disagreements on interim storage.

The reality is, as I am sure you well know, we need both those things. Before we can move forward, I think we have got to come to an agreement on both Yucca Mountain and the authorization for interim storage.

I know Congressman Shimkus has a bill in the House that I think you all have seen. Senator Alexander and Senator Feinstein have a less comprehensive bill in the Senate. In trying to work out those differences and trying to get those passed, are you supportive of the Shimkus bill?

Secretary PERRY. I will leave that to those of you with great talent in being able to negotiate those bills, sir.

I agree with your understanding and your passion about having places to store long term, both in temporary and in permanent storage of radioactive material. It is one of the reasons that not only do we need to look at the issue relative to Yucca, but also WIPP. There is a site in West Texas that I was very familiar with

when I was the Governor outside of Andrews, Texas, and there may be some other sites in this country that are appropriate.

I am going to work with the Congress as you give me instructions to find the solution to a challenge. I hope I brought a good focus to that we have in, I think, 38 States now sites that have these materials. We have been fortunate that we haven't had an incident, and they need to be stored in highly secure, highly scientifically proven areas that will be safe for long-term storage.

Mr. SIMPSON. One other subject of contention over the last several years, the Department of Energy first proposed to cancel the MOX Fuel Fabrication Facility in order to pursue an alternative means to fulfill the U.S. responsibilities under its nonproliferation agreement with Russia in its Fiscal Year 2014 Budget.

It is 5 years later and there are still significant questions surrounding the dilute-and-dispose alternative. The committee still does not have a comprehensive lifecycle cost estimate of the alternative and DOE hasn't submitted any legislative proposals that would be needed to carry out and fulfill the program.

The fiscal year 2018 National Defense Authorization Act allows you to terminate the project if you are able to provide a lifecycle cost estimate that shows the cost of the alternative is 50 percent of the cost of MOX. We were informed that DOE was pulling together an interim cost estimate in order to certify that a cost estimate exists that meets the NDAA threshold as opposed to submitting the comprehensive lifecycle cost estimates that is reported under development.

Will it be a comprehensive lifecycle cost estimate for dilute-and-dispose? When will it be provided to Congress? Do you intend to submit the NDAA's certification and terminate the project? And, if so, when and will that be before the comprehensive lifecycle cost is finished or will you wait until that is finished? And if and when a waiver is submitted, will the estimate contain significant detail to allow Congress to carry out its oversight responsibilities?

Secretary PERRY. Yes, sir. I will try to be very brief. You covered some pretty good watershed there of issues.

Let me just talk about what you asked. Let me just say again, Ms. Kaptur, and to Chairman Simpson, from the standpoint of you getting some information you consider to be too slowly, and I don't disagree with you. I apologize for that. I am learning that sometimes this process is not anywhere near as fast as I would like for it to be either.

Working with our friends at OMB is a new experience for me coming from a State and having been a governor and appropriator. I am not making excuses. I am just telling you I recognize it. I don't like it either and I am going to do something about it.

MOX, total project cost, according to the U.S. Army Corps of Engineers, is $17.2 billion compared to the cost to stand up the dilute-and-dispose process which is somewhere between $800 million and $1 billion, so almost a 17, 18 to 1 difference. That is $16.7 billion less to do the dilute-and-dispose process.

The annual program cost is $800 million to $1 billion. To build the facility is between $200 and $500 million. The delta there is about $4- to $600 million per year on the operating cost less for D&D.

Obviously money is important and there is a great deal of difference in the amount of money that we are talking about here between building out the MOX and the D&D.

But here are the numbers that really jump out to me, and it is the completion dates of these two different paths. The completion date for the MOX project is 2048, the completion date for the D&D is 2027. That is a 21-year difference, 21 years earlier for D&D.

The starting of the plutonium disposition is 2050–2051 versus 2028. So getting that plutonium into a form that it could be taken out of South Carolina and disposed of in a permanent way, is a 22-year difference.

So there is clearly a difference here. We lay this in front of you. What we will do is there, and I think four questions that get asked in that final, and then it goes to you for 30 days.

The 11th of May is when that will be—no. Never mind.

Mr. SIMPSON. The reason I ask——

Secretary PERRY. I am telling you more than you need to know and the last part was wrong.

Mr. SIMPSON. The numbers you have given me and my question is where the hell these numbers come from, because nobody really knows. There has been such discrepancy over the last 4 or 5 years as we have dealt with this of what the real numbers are and that all depends on who the heck you talk to, and that has been frustrating to us.

But when the NDAA language came out and said, hey, if you can do this for 50 percent less, how could I argue with that? If you can do it for 50 percent less, I am going to go for it.

I just want to know that the information given to us is not written on the back of a napkin in a restaurant sometime saying we can do it for 50 percent less, here.

When I hear them say, OK, we have got preliminary costs substantially less, I want to see the comprehensive report and I want to know how you came to those conclusions, what you took into consideration. The last estimate I saw on dilute-and-dispose, they didn't cost estimate any of the transportation cost or any of the disposal cost actually in WIPP and the cost of expanding it.

Are we going to see a proposal from the administration to expand the land withdrawal in New Mexico? Because I think we are going to have that if we are going to put this stuff at WIPP.

Secretary PERRY. That is going on as we speak from the standpoint of requesting through New Mexico the designation that is going to give us substantially more volume at WIPP.

Mr. SIMPSON. The other question I have, and this is probably answerable, I just don't know what it is yet, is, with the slowdown of WIP because of the incident that occurred, it is going to be several years before it is back up to full operation. Right now I think they are taking eight shipments a week or something like that——

Secretary PERRY. That is correct.

Mr. SIMPSON [continuing]. And we are going to add in another stream of waste into that, so that is going to essentially lower the shipments that are going to come from other sites that have agreements with the Federal Government and we are going to miss some milestones if we are going to slow that down.

Is that all being taken into consideration?

Secretary PERRY. It is and I might add, and again I am fixing to say something that I read just in the clips over the last couple of days, but just take that into account where that came from. The site out in West Texas is going to ask the Nuclear Regulatory Commission for some licensing approval there. So again, there may be some expanded options for us to use. But you are correct, those numbers, those studies, will be given to you and the committee members, but all that has been taken into consideration.

Mr. SIMPSON. One time there was a thought process—and I was talking last night, the staff couldn't remember where it came from, about building onsite storage at WIPP, above ground, so that when you got ready to put it underground, you just had to take it from the onsite storage at WIPP.

Is that still under consideration? They said at the time rough estimate to be about $5 million to build an onsite storage facility at WIPP. Is that still under consideration? They said at the time, rough estimate to be about $5 million to build an onsite storage facility at WIPP. Is that still?

Secretary PERRY. I am not aware that there are conversations of that going on. What I do know is that there are some above ground work being done to modernize. There is also some work being done there to increase the ventilation capability, and what have you. I cannot give you a definitive answer on whether or not there are ongoing conversations about onsite——

Mr. SIMPSON. Storage there.

Secretary PERRY [continuing]. Interim storage prior to it being down in the——

Mr. SIMPSON. It would be interesting to find out because that was, for a relatively cheap cost, you could build onsite storage there; and, of course, you would have to have the approval of the State of New Mexico.

Secretary PERRY. Yes, sir.

Mr. SIMPSON. But it made sense to me.

Secretary PERRY. Yes, sir.

Mr. SIMPSON. And then you could come a lot closer to meeting a lot of these State agreements that we have got around the country. Before I go to Ms. Kaptur——

Mr. FRELINGHUYSEN. You can go to Ms. Kaptur.

Mr. SIMPSON. We will go to Ms. Kaptur.

Ms. KAPTUR. I thank the gentlemen from not just Idaho, but New Jersey; and Mr. Secretary, thank you for some clarification in your replies here to the Chairman's questions. My first question relates to a statement you made in your opening remarks. You referenced progress in the United States increasing LNG exports, I share your excitement at that, but could you tell us to what extent DOE may be developing new energy partnerships or pathways to our European allies to prevent their energy supplies being held hostage to rogue regimes? Is there any working group, any initiative? Can you enlighten us in any way in that regard?

Secretary PERRY. Yes, ma'am. There are ongoing conversations with my counterparts, and other government officials, Poland, for instance, and bringing LNG in through Poland, down into Central Europe. The real issue there is interconnects, from my perspective, between the European countries. Obviously, there is issues with

Nord Stream and how that is going to be ultimately decided, and whether or not, you know, Germany is going to be a partner with us on LNG or whether they are going to rely upon the Russian gas that is coming in. So, we are in conversations, with you being the head of the Ukrainian Caucus with our folks and Porshnikoff and his administration relative to how we can assist them.

There are plans for our pipeline—this isn't LNG, but this is a plan for a pipeline. We think it is important for the European Union to have multiple choices. You know, we would love to sell them as much LNG as we can from the United States, but I think it is important for freedom's purposes that Europe and the EU has multiple sources of energy of which they can choose. It is good for competition, but it is also, more importantly, from my perspective, good for freedom.

Ms. KAPTUR. Thank you for that perspective, Mr. Secretary. And if there is any working group within the administration of which you are a part that can come and privately brief some of the members of this subcommittee and perhaps others, believe me, there is deep interest on the part of this member.

Secretary PERRY. Yes, ma'am.

Ms. KAPTUR. I want to move to a domestic concern here. The cuts in the budget that are proposed to the Energy Efficiency and Renewable Energy account, the number I have is 67 percent. And we have a statement here by a senior DOE official who recently said publicly that the Energy Efficiency and Renewable Energy programs are a victim of their own success, and successes to date in bringing down the cost of renewable energy. And deploying their technologies means that the Federal Government no longer needs to make these types of R&D investments.

Let me just put on the record that China—I represent some major solar firms, I think the best ones in the country. There are probably some in Texas, too, but they are hacked hundreds of times a month by the Chinese. And the Chinese are not reducing their investment in R&D and there is a huge global market in these technologies, and your budget basically relegates the United States to a very inferior position. So, I know I have a plan to try to alter your budget, but what is your plan to ensure in the budget you have submitted that we don't fall behind in the energy efficiency and renewable energy arena?

Secretary PERRY. Ms. Kaptur, you are correct in the sense that it is a priority of the Department to continue to keep the United States at the very tip of the spear when it comes to technology innovation. It is how we have found ourselves to be at this place in the energy sector at this time. It was through innovation; it will continue to be through innovation.

One of the things I learned as an appropriator and as a governor was that just because a line item was reduced didn't necessarily mean that particular line item had fallen out of favor. In some cases, what that means is, and I will give you a few examples, and that high-level DOE person you were talking about, I understand what they were saying. They are basically saying we have had some successes and we ought to be celebrating those successes. For instance, the Vehicle Technology Office, it met or exceeded its goals in 5 of the last 5 years. Hydrogen and Fuel Cell Technologies Of-

fice, again, they met or exceeded their goals in 5 of the last 5 years. We consider that to be meeting the goals of which we had put in place. And when you meet the goals, those are mature and they don't need to be funded going forward. Are there places where we have, philosophically, I am an all-of-the-above energy person, so in our National labs, philosophically, I am pushing some particular areas. You know, battery storage is a great example of it. I am a big fan; I have been on the record of saying that is the holy grail of battery storage. We may be right on the cusp of hitting the tipping point. There are some that say, well, you have got to continue to spend money, but we have great successes in that arena. So, the idea that we have to spend or that the criticism would be because you are not spending the same amount of money in this line item, I would suggest to you in many cases it is because there have been successes in those. The solar energy office is a great example—5 of the last 5 years, we have met or exceeded. Are we working on some areas in the solar side in our National labs that are being funded? Yes, we are. They may not show as a line item as you have seen before. So, we are reprioritizing, where do these dollars need to go, what is the best return on our investment. We are reprogramming, repurposing, if you will. But I think there is some great celebration that needs to be going on about the successes that we have had, recognizing that we have a lot of competition around the world, and that innovation technology is what is going to take us to the lead. It is why we have asked for this extraordinary—I think extraordinary—increase in Exascale and in the next generation of computing, into quantum computing.

Ms. KAPTUR. Thank you, Mr. Secretary, for what you are able to say. I would hesitate if I didn't say, or I would be remiss in my duties here, the competition is predatory for many of these countries. And so, I don't think that we can afford to put our foot on the brake while we have got our foot on the accelerator at the same time over there at DOE. I think that we have to keep our rigor. And so, my efforts on this committee will be devoted to that end.

Your budget request actually cuts the Office of Energy's energy storage program by 74 percent. Yes, we have reached certain thresholds, but we certainly haven't maximized what we know in these energy arenas. And that brings me to the budget proposal to eliminate ARPA-E. The President's budget requests support Energy's efforts to enhance today's energy security, they state, while also making strategic investments for tomorrow, yet ARPA-E is eliminated. Your acting director of ARPA-E suggested at this week's energy summit that reforms may be coming to the program, and I would like you to know that this subcommittee is extremely interested in any proposed changes to ARPA-E. That is kind of like the gold star; it is where we invent the future. Could we have your commitment that we will be informed in any proposed changes to ARPA-E early on?

Secretary PERRY. Ms. Kaptur, you have my commitment that I am going to work with this committee. And one of the things, again, that I have learned as a Governor is that we are going to honor and follow instructions. The ARPA-E and its future iterations, we realize that the investment in late technology and in early stage technology and in basic research is really important. All

of those mesh together. I created and oversaw a program while I was the Governor of Texas called the Emerging Technology Fund. I think there is a real role for government to play in funding, particularly in these early stages, technology that might not ever get commercialized without that.

You know, if it is the will of this committee for ARPA-E to exist going forward, in some form or fashion, I hope that you will have confidence that not only have I done this before as a Governor, but that we will have good successes and we can stand up together and say this is how it is supposed to work, this is a good return on the investment for the American taxpayers dollars.

Ms. KAPTUR. Thank you. Mr. Chairman, I know that my time is up in this round. I just wanted to ask again if you could identify someone, Mr. Secretary, from the Department of Energy who is most knowledgeable about European energy pathways and perhaps somebody from DOD and somebody from State, I don't know, but if they could come and brief interested members of this subcommittee, we would be very appreciative, on what is happening with the thinking inside the administration strategically on the importance of that set of allies and their energy supply lines. Thank you.

Secretary PERRY. I can and I will.

Mr. SIMPSON. We are glad to have with us the chairman of the full committee, Mr. Frelinghuysen.

The CHAIRMAN. Mr. Secretary, welcome. I know that Mr. Newhouse and Mr. Joyce, Mr. Fortenberry, Mr. Fleischmann, and Mr. Aguilar have been very patient, so let me just take 2 minutes, what we call two fingers, obviously to welcome you and obviously thank Chairman Simpson who succeeded me as Chairman. He's doing a heck of a better job than I ever did and he works very closely with Ms. Kaptur, who I think was recognized, you may not know, as the longest-serving woman in the United States House of Representatives yesterday. I am sure you deserve more applause.

A couple of things. I hope in the future we can reopen Yucca. That is something that is important to me. I am a great believer in the nuclear enterprise being modernized. I do think the public is owed a better explanation as to why it is necessary. Maybe this isn't the place to talk about it, but I think if we are going to make these substantial investments, let me say, I think we have some incredible laboratories out there. It has been a while since I visited some of them, but they are national treasures.

I continue to have some concerns about cybersecurity and the things that the people who are not on our side might do to affect their great work out there, and I am sure the issue will be raised. We need to work on cleanups, the legacy of issues.

And lastly, someone once told me if you don't raise the local issues, they will find somebody else to replace you. Fortunately, I am retiring, so I don't have to necessarily worry about that, but in my life, I have been very much involved in domestic fusion. I am interested in the future of ITER. We have these partnerships, let us cultivate them. We are losing partners all over the place for a variety of reasons. And, yes, I will put a plug in for PPPL, the Princeton Plasma Physics Lab.

Good luck to you, and I want to thank the chairman for the time and everybody for their patience.

Mr. SIMPSON. Mr. Aguilar.

Mr. AGUILAR. Thank you, Mr. Chairman and Mr. Chairman and the Ranking Member. Thank you, Mr. Secretary, for being here on such an important day. I know it is the start of March Madness. Thankfully, UT doesn't play until tomorrow, so we appreciate your time.

The electric power industry—and I will pick up a little bit on what the chairman of the full committee was talking about when we discuss reliability, resiliency, and cyber. You mentioned it in your opening statement that the Office of Electricity Delivery and Energy Reliability, has been a lead role in addressing infrastructure issues related to the power grid, including physical security and cybersecurity of all energy infrastructure. The fiscal year 2019 budget request split these two offices, as you know, into Electricity Delivery and then the Cybersecurity, Energy Security, and Emergency Response CESER, as you called it. The budget request would reduce funding levels to the new OE by 59 percent from fiscal year 2017 enacted levels, and increase funding to CESER, the cyber side, by 21 percent. Given the challenges of the hurricanes in prior years presented to our power system, combined with aging electricity infrastructure and increasing retirements on baseload coal and nuclear power plants, why has the DOE proposed to reduce OE's funding in areas intended to support reliability and resiliency?

Secretary PERRY. Mr. Aguilar, I think the answer in a global way was earlier on when I talked about that just because you see a reduction in a line item doesn't necessarily relate to, you know, there is a 36 percent, or whatever that number is, reduction in our interest in that or in our ability to affect the areas of which we are discussing. I want to share with you, if I could kind of shift over to the cyber side of this, I think the commitment to the electrical sector is still there. I think we are going to be able to address the needs with the dollars that we have.

From a prioritization standpoint, protecting the grid from cyber attacks is substantially high on our priority list. We spoke about it a year ago. Standing up this office to protect, and to understand better. Chairman Simpson, in his district with Idaho National Lab, he has a test grid of which we can go out and actually break it, infect it, and that is going to serve, I think, very well. You are going to see this whole office standing up with a lot of attention and resources to a critical area: obviously, our capacity to protect the grid. We have a sector-specific agency requirement by statute to protect the electrical grid, so, the cyber in this Office of Cybersecurity, Energy Security, and Emergency Response—and the emergency response part of it is—there is flexibility of—obviously I consider emergency response to be in line with some of the issues that you made reference to on the electrical side of things. So, I think splitting those up and looking at it from the standpoint of, well, this is how much you are going to spend here, so, therefore, you are taking away some of your focus, your interest, that is not correct. Again, this is about being able to manage, being able to

prioritize, and, yes, the line item is less there, but that may not necessarily mean, that there is going to be less results.

Mr. AGUILAR. Sure, I understand. And I understand that the Department was warned in the past about facing imminent threats. We have talked about that as well, ensuring that we guard against our resiliency. In 2015, the Ukraine electricity grid was messed with. I mean, we know that these things happen and we just want to make sure we are investing in the right areas in order to make that happen.

I would ask you more questions; my time is up. Let me just lastly say that part of our fiscal year 2019 analysis and justification, it has to ensure that we have all the information in front of us. And I know that there are volumes that haven't been given to this committee, and our inability to do our job, as you understand it from your role as executive, requires that we have that documents. And so, to the extent that we can continue to request and have that proper information to evaluate the programs and the line items, it would sure help us do our jobs a little better. So, I appreciate your attention to that.

Secretary PERRY. Yes, sir.

Mr. AGUILAR. Thank you, Mr. Chairman.

Mr. SIMPSON. Mr. Fleischmann.

Mr. FLEISCHMANN. Thank you, Mr. Chairman. Mr. Secretary, good morning, sir.

Secretary PERRY. Good morning, sir.

Mr. FLEISCHMANN. As you know, I represent the great people of the Third District of Tennessee, and in that district is a wonderful city, Oak Ridge. Oak Ridge sits in Anderson and Roane counties and it is a very, very special place. A personal note of thanks to you, though, sir, before I start for your personal attentiveness to Oak Ridge and all that we do there. And also I want to thank you for the tremendous staff that you have put together at DOE. Your team is exemplary and a privilege and pleasure to work with, so, I thank them as well.

Mr. Secretary, at Oak Ridge we had the Manhattan Project. I believe we won World War II there. We won the Cold War there, and we have done such a tremendous job, the men and women who have served us for decades there. It is a community that supports nuclear. We have the Oak Ridge National Laboratory, which is truly an outstanding facility. We have got the Y-12 Plant under NNSA and we are building the uranium processing facility, and I want to commend you and your Department. The contractor there is doing a tremendous, tremendous job. Every time we go there, it gets better and better. And as you may know, that had to be redesigned and things were going so well to make sure that our Nation's nuclear arsenal is strong for years to come. And I know the Pantex Plant in Texas is doing an outstanding job as well. We also have a nuclear cleanup mission, and I appreciate your kind words and support of all that we do. This is something that Republicans and Democrats alike work so hard, not only in the House, but in the Senate. Nuclear cleanup is so, so important. As you know, I am the chairman of the Nuclear Cleanup Caucus, chairman of the National Labs Caucus, so it has just been a tremendous privilege to

work with you, sir. One last accolade, I want to talk to you about, and thank you for your STEM research support.

At Oak Ridge we have an organization called ORAU. The Oak Ridge Institute for Science and Education managed by ORAU is truly outstanding. We also have ORISE, which is a key entity in the Department providing all of our Nation's laboratories more than 3,000 research participants per year.

They also work for more than 20 other Federal research agencies, providing research participants in key facilities. So, again, thank you for the direction in which you are taking this critically important Federal agency.

I have some questions. The Department of Energy's National Laboratories are a key element of our National research enterprise, but much of their physical plants are over 50 years old. At the 10 National laboratories, stewarded by the Department's Office of Science, there is an estimated $2 billion backlog in infrastructure projects.

All the National laboratories have urgent needs ranging from modernization laboratory space and utility upgrades to seismic refitting and demolition of excess facilities that are costly to maintain. At the same time much of the lab's infrastructure is not directly funded, and if it is, the funding is inadequate.

So, the labs are left to cobble together funding to operate, maintain everything from nuclear hot cells and isotope production facilities to advance manufacturing facilities and supercomputing centers, all of which are mission-critical to the Department.

And as maintenance costs grow, laboratory overhead rates grow making it more expensive for others to work with the labs. This creates a constant drag on the system of labs to maintain state-of-the-art assets that attract the best and brightest scientists to do nationally important research in partnership with others.

My question, sir, besides the need for additional funding, how do you propose to address infrastructure needs of the National Laboratories, sir?

Secretary PERRY. Mr. Fleischmann, you are absolutely correct, in the sense of the facilities when we went and toured Oak Ridge, and there is a building out there that we refer to as the mouse house. That is as old as I am and that is old in a building sense. So, being able to decontaminate and deconstruct them, there has to be some additional funds.

I hope that the committee would take a look at that from the standpoint of being able to remove, Mr. Newhouse lives out—with Hanford right around the corner, and that is a facility we got to clean up, and in a lot of Members' places, and so not only the clean-up side of this, but also old facilities.

And the fact is these do need to be, in some cases, removed. They are contaminated, they are going to cost a lot of money, it is going to take substantial time to do that properly. But the other side of it is to build new facilities that are going to be attractive to the next wave of scientists that are going to be coming in, where they want to come and work in a place that is not 50 or 60 years old and falling down.

So, our commitment is to prioritize where we can with the resources that we have, but obviously having the resources available is going to be important.

Mr. FLEISCHMANN. Yes, sir. Thank you. Mr. Secretary, the United States and China are in a race for supercomputing supremacy, which is critical for advances in science and technology that would drive economic growth. According to Science Magazine, on February 9th of this year, after dominating the supercomputing rankings for decades, the United States is so far behind that the combined power of the top two machines in China easily outpaces that of all 21 supercomputers operated by the United States Department of Energy, the country's top supercomputer funder.

However, that could change this summer when the Summit supercomputer at the Oak Ridge National Laboratory is commissioned. At approximately 200 petaflops, Summit will be the fastest in the world with twice the power of the top Chinese supercomputer. Summit represents a critical next step on the U.S. path to developing an Exascale system 1,000 times more powerful than today's supercomputing systems.

The United States currently has a research and development plan to develop and deploy an Exascale system by 2021, including a system at ORNL called Frontier, about the same time that China or Japan are expected to deploy their own Exascale systems.

Mr. Secretary, to beat, if not maintain, competitive relations with the Chinese and Japanese in the field of supercomputing, the United States needs to deploy its own Exascale system in 2021. Your budget request makes a serious investment in achieving this goal. Can you talk a little bit more about the elements required for this success?

Secretary PERRY. Yes, sir. The fiscal year 2019 request includes $636 million, and $473 million of that in the Office of Science and $163 million in the NNSA. June the 15th, I announced $258 million in funding over 3 years that are going to support six leading U.S. technology companies, because it is obviously not just a DOE/National Lab enterprise here. This is working with our private sector partners as well.

So, not only have you all appropriated and reprioritized these dollars into the Exascale at the DOE, it is also working with our national technology companies as part of an Exascale computing project. It is called New Pathway Forward. And these awards will, obviously, accelerate and develop the critical hardware, and it is going to be necessary to put us back in what I consider to be a rightful place, is having the fastest computing capability in the world.

Right now, we don't have that. And the importance, from my perspective, is that getting us back to that position is tantamount to our national security and Argonne is going to have the first Exascale computer followed closely by your Oak Ridge lab.

It is a different architecture, and this should put us back in either the first or second slot when those are done, and then obviously the transition on to quantum computing after that. And, again, this is one of those examples that as Exascale comes into its maturity, and we start shifting funds over to the quantum computing, there will be substantially less spent in Exascale on the

line item, and we will start transitioning those dollars over to quantum computing at that particular point in time, which your home lab will play a very important role.

Mr. FLEISCHMANN. Thank you, Mr. Secretary. Mr. Chairman, I yield back.

Mr. SIMPSON. We are fortunate to have with us the ranking member of the full committee, Ms. Lowey.

Ms. LOWEY. And I am fortunate to be here. Thank you, Mr. Chairman and Madam Ranking Member.

Mr. Secretary, welcome. Before we discuss the budget request I want to take a moment to express my profound disappointment and frustration that we are sitting here today, 33 days after the President's budget request was released, without a complete budget justification from your office.

During my time as ranking member of the subcommittee, I have never seen delays like this. And while I understand there are multiple administration entities involved in this production process, I have to say this does not reflect well on you or your Department, and I do hope you will be getting us that information quickly.

My first question is about Yucca Mountain, and I know it has been discussed, but I want to make a couple of points, because Yucca Mountain and interim storage I think is essential to deal with.

I appreciate your fiscal year 2019 request, including funds for Yucca Mountain and interim storage for spent nuclear fuel. This issue is extremely important for my district, as the village of Buchanan and town of Portland plan for future redevelopment of the Indian Point Energy Center Plant site.

So I would like to ask these questions.

Number one, how are you working with Congress to support moving forward with Yucca Mountain and other consolidated storage options for nuclear waste? And when do you hope to see Yucca Mountain or interim storage facilities opened and operational?

Secretary PERRY. Ms. Lowey, I addressed your concerns a little earlier about the lack of transparency. When you don't get something, I consider that to be a lack of transparency and discussed this earlier with the committee. The appropriate actions will be taken, ma'am. It is not lost on me that not only do you deserve, but it is my duty, to make sure that the information that you request gets to you in a timely fashion.

And speaking of timely fashion, the administration, through their budget request, does put $120 million into the budget to put the Yucca process back on track from a licensing standpoint. And I think that is important because it is required by law.

I am not going to speak to previous secretaries or administrations, but I made a commitment when I was sworn in to uphold the laws and Constitution of the United States. It is clearly a statutory responsibility. There is a law that says you will take this process forward. We are following the law.

With that said, we will follow the will of Congress, as you all decide how you want to deal with Yucca, and whatever that may be, is that we will dutifully follow your instructions about how to deal with that.

As a side note, I agree with you. I think we as a country have a moral responsibility to remove that waste from many of your districts and to dispose of it properly. It may be in a temporary manner.

It will ultimately be in a permanent manner, and not only do we need to be looking at the sites that have been designated and expand some of those facilities we need to speed the permitting process as much as reasonable, to be able to move that material out of the sites, that in many cases are not secure.

Ms. LOWEY. Thank you. And I am glad we agree that it is time for the Department of Energy to finally take title of spent nuclear fuel and dispose of it safely and permanently.

In advance of Yucca Mountain, or an interim storage facility being licensed, I do hope that we can work together to make sure that spent fuel is transported safely.

What work has the Department of Energy done to study the characteristics of spent nuclear fuel as it relates to transportation conditions? And can you identify any gaps in the Department's knowledge about spent fuel volatility? And what resources will your Department need to study spent fuel and how to make it safe for transport?

Secretary PERRY. Ms. Lowey, I don't know of any obvious discrepancies that are there, but what I would ask for you, and the committee's approval to go back, research that with some detail, and get that back to you as soon as possible.

Ms. LOWEY. Thank you, Mr. Secretary. And thank you, Mr. Chairman.

Mr. SIMPSON. Mr. Newhouse.

Mr. NEWHOUSE. Thank you very much, Mr. Chairman, Madam Kaptur. Secretary Perry, it is a pleasure to see you again.

Secretary PERRY. Yes, sir. Thank you.

Mr. NEWHOUSE. Part of your effort to "be an everywhere man", I want to thank you for coming out to my district last August and visiting some of the things that are of high importance to our Nation. So, thank you very much for that.

But let me get right to the point of question I have for you. As part of your visit you are able to visit the McNary Dam and so you were able to see, I think I could say firsthand, really the huge role that the hydroelectric dams play in the Pacific Northwest. It is truly an amazing thing.

The Federal Columbia River Power System, unfortunately, today though is being threatened. And so that means our energy, our transportation, our agriculture, our irrigation, our flood control, our economy is truly at risk in the Pacific Northwest.

The people on this panel, my colleagues here and other places in Congress, have heard me speak strongly and passionately about this, and I will continue to because right now there is a single Federal judge that is forcing additional spill at our dams. That decision overrides a comprehensive biological opinion that was agreed to by scientists and engineers at Federal agencies, by Northwest Tribes, by local and State governments, our regional experts and stakeholders.

I have got proposed language alongside with my colleagues, Representatives McMorris Rodgers and Herrera Beutler, for the Appro-

priations Bill for fiscal year 2018 to prevent this additional spill. And if we are able to do that we will save Pacific Northwest ratepayers, in just 1 year, $40 million in increased utility rates.

So, I know you are a strong proponent of renewable hydroelectric power. And Mr. Secretary, would you commit to working with me to prevent this forced additional spill, save our dams which are a vital component of our way of life in the Pacific Northwest?

Secretary PERRY. The short answer, yes.

Mr. NEWHOUSE. I appreciate that very much.

Secretary PERRY. Yes, sir.

Mr. NEWHOUSE. We are going to need all of your horsepower and your muscle to be able to pull this off.

Secretary PERRY. Certainly.

Mr. NEWHOUSE. And again, thank you very much seeing firsthand the importance. And I think you made some comments relating to you have nothing like that in Texas.

Secretary PERRY. That is true.

Mr. NEWHOUSE. And they truly are a unique source of not only energy, but they really do drive our economy and our way of life in the Pacific Northwest.

Secretary PERRY. As you will remember, I shared with you two things that you all do substantially well, and that is hydro and wine. And they do that well. Let us not get into that, sir. I am digging. This hole is already pretty deep.

Well, we won't go into the quality versus quantity equation.

Mr. NEWHOUSE. I am sorry. I am sorry, Mr. Chairman, I should not have brought that up.

Mr. CALVERT. The difference between Washington potatoes and Idaho potatoes, quality versus quantity.

Mr. NEWHOUSE. Yes. So, restarting my clock will—also last summer you were able to visit the Hanford cleanup site, and part of that you saw the high-level waste in the treatment facilities at the waste treatment plant. You know, recently it has been with some concern that I have heard that the Department of Energy is considering delaying the design, engineering, and construction of the high-level waste and the pretreatment facilities. I have expressed that concern to you and with the Office of Environmental Management because of the unknown repercussions of such a decision.

Can you tell us for certainty that the DOE would still be able to meet court-mandated deadlines for full operations of the WTP with this kind of a delay?

Secretary PERRY. Certainly, that is our intention. I will share with you from a high level that the project that I inherited as the Secretary, was trying to do too much at the same time, and they needed to get focused on doing what we know would work, and that is what we have shifted to now.

With that said, we are going to be able to, on the C-Farm, that area called C-Farm, and those tanks, we are going to be able to make an announcement in the not too distant future about some good progress that we are making there, and that has not been in the works before.

And so, I am reasonably comfortable that the progress that we are making at Hanford is meeting the requirements of the lawsuit. Working closely with the senators from Washington State, yourself,

and other members who have interest in, and dealing with Hanford as responsibly and as expeditiously as we can.

Mr. NEWHOUSE. Thank you. And I know my time is up, but let me just, again, stress to you my reservations about the proposal of delaying, and would hope that we can see concrete plans from DOE as they continue through that proposal.

Secretary PERRY. Yes, sir.

Mr. NEWHOUSE. Thank you, Mr. Chairman. I yield back.

Mr. SIMPSON. Mr. Joyce.

Mr. JOYCE. Thank you, Mr. Chairman. And welcome, Mr. Secretary. It is nice to have you here. It was unfair last year when you were here, you had probably 2 weeks or 3 weeks under your belt when you first came in for this meeting, but, unfortunately, I want to take you back to a discussion we had, again, last year.

And for me, it is incredibly important for Perry Nuclear Power Plant, and I know Ranking Member Kaptur has a plant also as well in her district. That, unfortunately, because of the critical role it has played in the economy of our county, and the 1,284 megawatt power plant employs more than 700 workers and is the largest taxpayer and the largest county in my district.

The plant is one of the largest of its type and it produces enough electricity to power more than 1 million homes per day. Now the number of nuclear plants across the country are closed or announced their intended closure, 6 nuclear plants have closed in the last 6 years, 19 others have announced closures, according to the CRS.

And I am concerned for my district, but also for our electric grid. If plants continue to shut down prematurely it could seriously affect the reliability of our energy system.

As you well know, the last administration made a war on coal. A lot of the coal-fired plants were also working in our area have been shut down, not to return.

This Perry Nuclear Plant and the Toledo Plant are up and running now and, you know, unlike Texas or some of the other warm States, we had a month of being less than 32 degrees. And at some time we are taxing our grid and we are going to shut down what I see to be a viable plant, which would produce no real results other than destabilizing the grid.

And so I ask you, Mr. Secretary, can you speak to what your Department is doing to ensure the long-term reliability of our electric grid? And is there anything on the horizon that I could relay to my constituents back home who are worried about this potential closure, sir?

Secretary PERRY. Mr. Joyce, thank you for bringing up what I consider to be a real challenge for this country, and that is reliable energy, affordable energy, a resilient grid. I put forward a 403 request to FERC back some months ago on this issue of reliability and with a focus on the nuclear and the coal industry.

I believe with all my heart, and I will give you an example, As the governor we had the other issue, the other side of this, is in August it gets really hot in Texas. And we have ERCOT, which is the Electrical Reliability Council of Texas, which oversees our grid.

I called in the leadership of that and I told them, I said, I do not want to get a phone call from someone whose grandmother has

died in her home because the electricity went off in August, where the days are 105 to 110 degrees.

And that is the same from a citizen safety standpoint, not even to mention the national security side of this, of being able to have multiple sources of power, so that if one of them does get interrupted, gas going to the Northeast, not only is it being stopped from transmitting across certain States, you are seeing plants being taken offline because of the economics.

And so I think it is time for us to have this conversation in a national way. FERC has got to be engaged with this, this country needs to have a conversation. Are we going to make sure and take the steps to ensure that our nuclear and coal industries, in particular, are going to be viable alternatives. And part of all of the above mix in our energy portfolio, so that we never have to take that phone call from someone in the Northeast when the next polar vortex hits that the financial centers of New York or Boston went offline because they couldn't keep the power on, but more importantly, the citizens that had to make the difference between—or had to make the choice between am I going to keep the lights on or am I going to keep my home warm?

Mr. JOYCE. And I certainly appreciate your efforts in using every arrow in your quiver to make sure that we could have a multiple, disciplined grid to make sure we do that. And especially in light of the fact we just did a tax reform, the idea that we want to repatriate manufacturing and bring things back here.

As you well know, in a rolling brownout they are not going to brown out schools or hospitals or homes. They are going to brown out factories. And I have heard many manufacturers talk about the fact that they need a stable, reliable electrical grid in order to prosper or in order to grow in the area.

Ms. KAPTUR. Will the gentleman yield?

Mr. JOYCE. Absolutely.

Ms. KAPTUR. I want to thank you very much for bringing up a particular problem facing Northern Ohio. It is quite serious. Obviously it relates to our nuclear capabilities on the commercial side and the fallout from marketplace competition.

But I would like to invite the Secretary, in his wisdom, with all his experience, to think of a way that we might work with the Department on a regional focus for what the fallout is going to be in terms of capabilities of those who work in this very delicate industry, and what our alternatives are for the future if, in fact, we are part of the 25 percent of nuclear power that gets shut down in this country.

I have found, having worked with several departments, that the Department of Energy, and this is not blaming you, Mr. Secretary, but it is just the Department's founding, the way it has operated, to not have geographic sensitivity.

So, for example, after the terrible events of the 1970s with the first Arab oil embargo we ended up, you know, creating this strategic petroleum reserve, in fact the Department of Energy. We were not very conscious of how significant energy is in the functioning of this country.

And now when the coal plants shut down, the fallout across Ohio, Southern Ohio, West Virginia, Kentucky, one knows, politi-

cally, the American people should not have been shattered in those regions, but there was no transition plan. But it is partly because of the way that the Department was formed and focused and so forth, and it lacks that kind of geographic, particularized geographic sensitivity.

The Department of Commerce, the Department of HUD, I mean they have a little bit more focus. So, my request would be, could we think of a way to meet with stakeholders from this region to find a better transition plan for regions that are going to be hammered?

Mr. SIMPSON. We will have a second round.

Mr. JOYCE. In fact, I will tie this up real quickly, Mr. Chairman.

Ms. KAPTUR. Thank you, Mr. Chairman.

Mr. JOYCE. Well, just the fact that if, in fact, the end result is that some plant is going to be closed down, especially in our communities, does DOE have any plans on how we are going to remediate these areas or help these people who are going to lose their livelihoods and the largest tax base and payers in their districts?

Secretary PERRY. Mr. Chairman, let me just very briefly, we are laying out a plan in the not too distant future. We are not ready to publicly lay it out.

Ms. Kaptur, and particularly the region that we are looking at is one, as you very appropriately identified, is having some real economic challenges and that is in the Appalachian region, and to help transition it into an area where petrochemical refining would be at the basis of it.

As the governor of Texas I worried greatly in August and September about a Category 5 hurricanes coming up the Houston ship channel and devastating the petrochemical footprint. That is a substantial amount of that industry for the United States. That is a national security issue.

To develop that in another region of this country, Appalachia, makes sense because you are sitting on top of the Marcellus and the Utica, which are prolific gas fields. Helping transition the workers who are either out of work or not working in jobs that are satisfactory from their perspective and into higher paying, refining petrochemical-type jobs, that is something that we are working on actively today at DOE. And we are relatively familiar with that, Toledo and the region there, and the transition that could go.

But the other side of this is to make sure that we don't lose those plants; to make sure that we make decisions at this particular point in time, to keep those plants in operation either until we know for sure that they are not going to be needed or that we make the transition to another form of energy, and to be able to transform those communities in some ways that are wise economically and from a national security standpoint.

Mr. JOYCE. Thank you, Mr. Secretary. And if I may just add, there is at least 20 more years of useful life in the Perry Plant.

Secretary PERRY. Yes, sir.

Mr. JOYCE. Thank you.

Mr. SIMPSON. Mr. Fortenberry.

Mr. FORTENBERRY. Thank you, Mr. Chairman. Mr. Secretary, nice to see you, and I apologize for the coming and going. We have got two secretaries within a hundred feet of one another right now.

Ms. HERRERA BEUTLER. Three.

Mr. FORTENBERRY. Three.

Ms. HERRERA BEUTLER. Yeah, three different ones.

Mr. FORTENBERRY. I see, Secretary Day.

Secretary PERRY. I thought yesterday was Secretary's Day, then every day.

Mr. FORTENBERRY. Everyday. President Putin recently announced his new Satan-2 missile, which can destroy France or Texas. So, I tweeted that, Mr. Putin, so you can kill us better than we can kill you. Now what? Part of your portfolio. I didn't hear back from him, though.

Secretary PERRY. He has tapped your phone.

Mr. FORTENBERRY. Or perhaps he knew the tweet before it went out. I don't know. Part of your portfolio is nonproliferation, and the intersection or two significant responsibilities is what I want to talk to you about.

The International Atomic Energy Association, which is the multilateral body, has significant relevance in this ever-shifting world of advancing technology where the genie is out of the bottle and not just traditional threats are emerging, but new ones potentially.

The mission of the IAEA as I see it is going to evolve from, and it already is, from safety to verification. I want to know how well our Department is integrated in shaping that culture with them, because I think, again, the importance of that multilateral institution only grows in a more complicated 21st century.

Secondly, the nonproliferation programs, particularly the ones where we had some mild cooperation with the Russians, do we have any thread of communication or cooperation left with them?

Secretary PERRY. Let me address your last question first. And the answer that we can talk about in this room is yes. We can go and have further details about that in a different room, but I think it is appropriately so that we try to reach out to—and particularly through the IAEA. And we have a very good working relationship with them and one that we continue to develop where, as far as I know, the largest contributor to the IAEA, and so they pay attention to the United States' interests and goals.

And so, having this leadership role in the nonproliferation area, and they basically are our agent, if you will, is a reasonable statement. Not that we single-handedly, manage the——

Mr. FORTENBERRY. I want to say partner.

Secretary PERRY. OK. Yes, sir. But I think we have a good relationship with them, and I think our goals are the same, and that is to protect this globe against the proliferation of nuclear materials.

I think we do a good job of that at this particular point in time, but it is a very different world today. And this administration's goal of trying to make sure that no countries are able to be able to develop weapons, nuclear weapons, is very strong and very capable and very sincere.

Mr. FORTENBERRY. There is a secondary issue here which we must tread very delicately through. It is the idea of expanding nuclear power throughout the world, particularly in the Middle East. The Russians are building a nuclear plant for Egypt, for instance, and other countries in the region are seeking nuclear power.

And fine, looked at through the lens of just alternative, cleaner energy sources, but there is also a body of scientific technological knowledge that builds up with one of these facilities, and it is very hard to begin to separate that from the possibility of future weapons development. Now, the infrastructure for obtaining fissile material and the rest is quite significant. I understand that, so that is a de facto firewall.

However, I think elevating certainly international consciousness and to the degree that we can prioritize what we already have in place in terms of line item programs on proliferation has to be core of the mission of the Department, because if one of these things goes off anywhere, just one, it is a completely different world.

Secretary PERRY. Yes, sir.

Mr. FORTENBERRY. Thank you, Mr. Chairman.

Mr. SIMPSON. Mr. Calvert.

Mr. CALVERT. Thank you, Mr. Chairman. And good to see you, Secretary, and to have you here.

Secretary PERRY. Thank you, sir.

Mr. CALVERT. Since we brought up wine, you know, we are happy to have a wine business in California. It is only 90 percent of the U.S. production. I just thought I would point that out, Mr. Newhouse.

And one of the reason we like the wine business in California is you can't move the vines to Texas, since we have moved everything to Texas, but you did a good job. It is hard to move. I understand that the question has been brought up——

Secretary PERRY. If you keep drinking the wine, that is a good trade.

Mr. CALVERT. Yes. Yes. And we need wine in California. Yucca Mountain, I am sure was brought up, energy storage has been brought up, MOX I am sure was brought up by the Chairman. And I have some additional questions, though, so I will send them your way. If you could answer those, it would be fantastic.

And one point I want to make, though, it is embarrassing to have Russian gas in Boston because of not having a pipeline up there to service that part of the country when we have an abundance of natural gas in the United States. I am sure you feel the same way. I just thought I would bring that point up.

Secretary PERRY. Yes, sir. I do.

Mr. CALVERT. I don't know if the issue of cybersecurity was brought up. As you mentioned in your budget request, it splits the Office of Electricity Delivery and Energy Reliability into two offices, and that is all well and good. And in energy response, how do you pronounce that CESER?

Secretary PERRY. CESER, yes, sir.

Mr. CALVERT. CESER, you contend that this will increase separate focuses on grid reliability and cybersecurity, which obviously is important. One of my roles on the Appropriations Committee is to serve on the Defense Appropriations Subcommittee as well as a liaison to the Intelligence Committee. And it is obviously apparent that one of the biggest threats to the Nation is the state of our cybersecurity.

Now, cyberspace, the underlying infrastructure, especially energy and infrastructure, we are all vulnerable to a wide range of risks, stemming from both physical and cyber threats and hazards.

And by the way, I was happy that the President came out publicly against the merger of Broadcom and Qualcomm because of things that we know about, and Chinese influence in trying to take over the 5G component of a feature industry, which is going to have a big impact on what you are talking about on quantum computing and the future of cybersecurity and everything else to do with the Internet, which is extremely important that we keep that technology in the United States.

But can you speak to how the new CESER Office will contribute to the overall goal of making our Nation's cyberspace more secure?

And along those lines, you mentioned that CESER will work in an integrated manner with private industry. How will this office's interaction with the private sector, which is generally more further ahead than, obviously, government at this point, and create a more resilient cyberspace? And what is the Federal spending gap as far as combating this thing, so we know what to fund?

Secretary PERRY. Yes, sir. Thank you, Mr. Calvert. It was your call a year ago when I had just been in the position for a few weeks, and I came and testified in front of you. I shared with you that cyber and cybersecurity was going to be one of our priorities. Nothing has changed my mind. As a matter of fact, if anything, I realize that this is more and more a high priority of this country and, obviously, sector-specific DOE and the electrical grid. So, I think there's $96 million request for CESER in its own funding account now. This is a clean split of responsibility in funding lines from the existing Office of Electricity account, and I think it's like a 13 percent increase over fiscal year 2017 that was enacted. The other part of that division, of the current Office of Electricity, is going to be electric delivery and it's going to continue to pursue it's critical mission to improve reliability.

Again, these will be more, you know, things that we do at INL and there will, obviously, be some CESER activities at INL as well.

But the message was clear from the President that the warfare that goes on today in the cyberspace is real. It is serious, and that we must lead the world, not only in protecting our citizens and our infrastructure, but also our allies. And this is a responsibility that weighs heavily upon the shoulders of the United States, and we intend to not only take it seriously, you have seen the response that we have taken by standing up this Office of Cybersecurity and Emergency Response. What we are trying to do is consolidate DOE's efforts and not have them scattered out in different places and trying to consolidate them as much as we can so that we get the most return on our investment and achieve the best results we can get by the expenditures of these dollars.

Mr. CALVERT. One last comment. I know earlier, I think in the week you were in a panel about water and energy together, but, you know, obviously, water is extremely important in the area I represent in California and in the west where we are hit by drought, it seems more than ever, that's extremely important. So, the laboratory's research into water or data collection, computing, simulation, all of that is extremely important. And I, also, might

bring up better ways of desalinization in the future as a potential water source. We have a big reservoir out next to us called the Pacific Ocean that we'd like to tap into more efficiently.

Secretary PERRY. I'll just add to that very quickly. This week we had a roundtable discussion laying out the administration's effort to create a focus on water, potable water in particular, by creating an x-prize type of an approach to this so that we, you know, challenge kids all across the country, private sector organizations, our National Labs to come up with the new innovation, the new technology that will be able to address this issue of water. There are many, myself included, that think this may be one of the biggest natural resource challenges that we have. And just like 15 years ago when they told us that we weren't going to be able to produce any more energy in this country. There were some visionaries, some people that didn't just take the status quo and the conventional wisdom as the truth and go on down the road living in this sense of scarcity of natural resource from an energy standpoint. I think that same potential is still in America. I think our ability to innovate and use our technology, our brilliant minds from Silicon Valley to the middle of this country. That issue and challenge of finding water for this country, and for the world, is out there and it will be American innovation. We just can't get in the way. Don't let government be an impediment to it. Let government be a true partner and to help, lower the barriers, if you will, and be a part of the solution, not a part of the problem.

Mr. CALVERT. Thank you. Thank you, Mr. Chairman.

Mr. SIMPSON. Ms. Herrera Beutler.

Ms. HERRERA BEUTLER. Thank you, Mr. Chairman. Mr. Secretary, I wanted to, also, piggyback a little bit off of what my colleague said. So, my district is down stream of Hanford, are adjacent to the good gentleman here, and we go out to the mouth of the Pacific. And so, on behalf of my communities in Southwest Washington I want to thank you for your commitment to Hanford and to really helping keep the Federal commitment to clean up the Federal mess, right? So, I appreciate that very much.

Let me transition. Speaking of every year, the BPA Transmission Sale-Off Proposal. So, you did get to see part of our hydroelectric generation system. Part of that also flows down into my area and we're very proud of our hydro system. I've heard it would take upwards of 16 coal-fired plants to replace the low generation that we have from this amazing energy source that is carbonless, and that we, as right pairs, in the region put a lot of time and effort into. And that's why this proposal it seems perennial, but I am generally confused by this one. I wanted to ask more specifically, so I see a one-time projected $5 billion revenue increase to the Federal coffers from a sale-off, but it's over—I want to ask how that compares with over, I think it's about $32 billion that has been repaid to taxpayers through the use of these publicly-owned assets. So, that the efficiency and the use far outweighs this one-time payment, and I just wanted your thoughts.

Secretary PERRY. I think maybe the best way for me to address this is kind of the way you started, is that it is a perennial issue and I suspect that it will have the perennial result.

Ms. HERRERA BEUTLER. OK. Very good. We're happy with that. The next question I have is Federal dictates that the PMAs, which includes Bonneville, must sell their rates have to recover all of the costs associated with the generation and delivery of power at the lowest possible cost consistent with sound business principles. I wanted to ask for your take on why the budget proposal claims that changing the PMA rate structure from a cost-based to a market-based proposal will mitigate the risk to taxpayers because, I mean, if the rural electric co-ops and the municipal utilities are paying all the appropriate costs, what is the risk to taxpayers that we would be seeking to mitigate?

Secretary PERRY. And here's what I would say, I think these are conversations that are healthy. I think we shouldn't be afraid to have them, to lay it out there, and then let the facts pretty much stand for themselves, and if there is a clear win for the taxpayers then let's have that conversation in front of this committee, but, obviously, I think just to lay it out without, number one, really having the data to back it up is not particularly of great utility.

So, let's make sure that we are spending money, and are getting the best return on our investment, and if the numbers clearly come back and say the way we've historically done that is in the best interest of the taxpayers and the citizens then I suspect that's the position this committee's going to take and I understand my role as saluting and going forward.

Ms. HERRERA BEUTLER. I appreciate that. One final question. You know these ones, obviously, impact the whole region of the Northwest. This one's a little bit more specific to one of my county's on the Columbia River. I wanted to connect with someone on your team on the department's study of the economics of pumped storage hydro projects which offer a utility scale approach to resiliently integrating renewables. So, I want to put a bug in your ear, but I'd like specifically to connect with someone.

Secretary PERRY. I'm going to have Under Secretary Menezes coordinate with you. That's in his shop.

Ms. HERRERA BEUTLER. Cool.

Secretary PERRY. Yes, ma'am.

Ms. HERRERA BEUTLER. Thank you, sir. I yield back.

Mr. SIMPSON. Thank you. Just so that we get the full picture of what's going on in the Pacific Northwest. If I came from Washington I would be arguing the same point that my friends and colleagues from Washington are arguing. There's another side to this story. I come from southeast Idaho. We depend on irrigation water. We currently send 427,000 acre feet down the Snake River to flush salmon smolts over the dams. Now, a judge has ordered that that be increased, that they spill more water, and this is to recover salmon. The one thing we're not doing, is recovering salmon. This has been going on for 20 years, as long as I've been in Congress, trying to figure out how to recover the five salmon runs. We spend, currently, BPA spends about $700 million a year on salmon recovery. That's $700 million that the rate payers are paying.

Now, Idaho sends this water down. The power generated by the dams goes, guess where? Washington and Oregon. A little bit into Idaho, not much. Most of it, it's in Washington and Oregon. And then when we send this 427,000 acre feet down the river, they

pump it out after it goes over the dams and irrigate land to grow crops in competition with the land in Idaho and the crops in Idaho that we couldn't irrigate because we sent 427,000 acre feet down the water—or down the river. And what we're losing, is the economic benefit of the salmon runs that used to be when the salmon runs were going on in Idaho you couldn't stand on a river, you couldn't find a place on the river so people were fishing salmon runs. It was a huge industry.

And so, what I've told my friends is, "listen, all of the costs of the dams on the Columbia River are borne by Idaho, and the benefits go to Washington and Oregon. Maybe we ought to consider what's going on here." I'm not in favor of removing dams, I just don't think it's a smart thing to do. But there's got to be a bigger consideration of that. This is the whole argument that's going on in the Pacific Northwest right now about how do you restore salmon runs, how do you maintain the economy, how do you produce the electricity, etc., etc. You talk about 16 coal-fired plants. I can build you one nuclear power plant that'll do it for many other things.

Ms. HERRERA BEUTLER. Would the chairman yield for a second?

Mr. SIMPSON. I certainly would.

Ms. HERRERA BEUTLER. I think your point is very well taken. I would encourage us not—it's not the Oregon and—really Oregon and Washington or—I can speak for those of us in Washington, want you to waste more water, right? But we are right now battling a Federal judge who is throwing science out the window. We're all for restoring those runs, right? We, as rate payers, as a region, spend upwards of a billion. I mean, there's other things that aren't calculated in there, and in an effort to mitigate and protect what we can, and then we have a Federal judge that says the Obama administration science and the consensus that was put together in the Biological Opinion, we're going to chuck that.

Mr. NEWHOUSE. Four States.

Ms. HERRERA BEUTLER. Yes, four States. So, we're right now battling and——

Mr. SIMPSON. I understand that.

Ms. HERRERA BEUTLER [continuing]. So I think that's where our guns should be aiming.

Mr. SIMPSON. I understand that, and I'm not opposed to what you're trying to do.

What I'm trying to say is there's a bigger issue here than saving four dams. There really is. And it's something that needs to be considered by all of us. And this is not a discussion, so, all I'm going to say is when you want to weigh-in on this, there is more than just one side to this argument that's going on.

Anyway, let me talk about something else for just a minute.

Secretary PERRY. I'll stay in my lane here, Mr. Chairman.

Mr. SIMPSON. Let me talk about something else for just a minute. Your Office of Counterintelligence gave its classified briefing on cybersecurity last fall. I had one—Congressman Walden was out at the Idaho lab and we took a tour, and we did a classified briefing on cybersecurity and stuff out there. And I'll tell you—I'll give you my impression. I'm as worried about cybersecurity and cyber attacks as I am nuclear. The difference with cyber is that they could

attack and destroy your economy, and you might not know where it came from. It is scary business. I think that's our biggest threat.

And I know that I talked with the people at INL that gave us our briefing there and we'll be talking with your people. We would like to set up, both Greg and I, a classified briefing for our subcommittee and his subcommittee that oversees this stuff. But after 9/11, everybody that came in and lobbied for something, whether it was an association or a department, or whatever, they used the word "Homeland Security." We've got to do this for Homeland Security. Whether we're going to grow corn in Iowa we had to do it for Homeland Security reasons because that was the key phrase that was used.

And then we came with climate change, everybody that came in, "We got to do this for climate change reasons. We've got to save the environment," et cetera. Now the key phrase in cybersecurity. And my question is, is that I think we're attacking it department-wide, but I'm not sure that we're attacking it government-wide. Today nobody can tell us in the Federal government how much money we spend on climate change because everybody has some money to address climate change. We spent $10 million in the National Park Service, and I can't remember how many million in the Forest Service as if the climate change is going to be different when it hits the border of the park.

And I'm wondering how do we coordinate government-wide to address the issue of climate change so we all know what different departments are doing. Who's the lead of this? I would like to be able to appropriate money to someplace to address cybersecurity that knows that we're doing it government-wide. And if, in the Department of Energy we address cybersecurity, what if the Department of Agriculture's not doing it or somebody else? So, how do we do this government-wide?

Secretary PERRY. It's my understanding that from a National security standpoint the Department of Homeland Security is the lead agency on that. We have a sector-specific, in the energy sector, the electrical grid is our responsibility. I think you bring up a really good point that from a budget standpoint and for managing those budget standpoints that there are probably a lot of line items or sub-line items in budgets all across government that in their IT budgets there's something in there for cyber, and you're absolutely correct, Mr. Chairman, do we have a global plan for this government so that we're not duplicating services? One of the things that I found coming in here from being a Governor and a CEO, if you will, of a pretty big entity, that there is not, you know, some people may say, "Well, that's OMB's responsibility." I hope that's not the answer. That we have a better effort government-wide to make sure, number one, that we are successfully being able to defend to the American people from these cyberattacks that are happening literally hundreds of thousands of times a day. And that we're doing it in a way that is not terribly wasteful and in a way that is as efficient as we can make it. I'm not assured of that. I will tell you that I am not confident that the Federal government has a broad strategy in place, that is not duplicating or as least duplicative that it can be, and so I'll just stop by saying that I will, you know, I'd love to work with you in answering that challenge.

Mr. SIMPSON. I appreciate that. One of the other challenges is, as you know, we're—as you said, it's the electrical grid. The electrical grid is mostly privately owned, and that means we have to work with the private sector. One of the challenges is, is when you go to Idaho Power, I'll use as an example, and you go to the CEO and say, "We've detected the possibility of something where you need to do X, Y, and Z," you need to be able to talk to the CEO on a classified basis. And when it takes two years to get a classified clearance for a CEO of something, they kind of look back at you like "that's the government way," you know. Somehow we've got to speed up the classification process of how we get these classifications through. It should not take two years. That's just crazy. It makes it more and more difficult to work with.

Secretary PERRY. Again this is a conversation we can have offline. There may be another way rather than forcing someone to get a classified briefing before they can be read into a very specific piece of information. I don't know whether that is possible or not but I think we need to look at, we certainly—you are absolutely correct about we have got to be able to have a private sector. Rail lines are in most cases private. Electrical wires in most cases are private. Pipelines in most cases are private and all of those are part of the infrastructure in this country that cyber, that are exposed to cyber-attacks.

Mr. SIMPSON. One last question and I will just—you can answer this later if you want but as I have mentioned in the past we are looking at ways to continue the use of the AMWTP, the Advanced Mixed Waste Treatment Process, that are out of the compactor and stuff. They are going to be running out of their job essentially because they have done their job and are there alternative uses of that? Is there waste that could be compacted and readied for WIPP that could be transported there or do we close it down and I don't know.

Secretary PERRY. Yes, sir.

Mr. SIMPSON. But I have asked the Department to take a look at that and see if there are other uses for it or do we close it down, one of the two. So.

Secretary PERRY. Yes, sir. And, you know, there are a lot of those types of MOX's. One of those that we are having that conversation with now is OK, so MOX is not going to work and you are going to go to D&D if that is where you all decide. What are the different alternatives for that MOX facility? We are talking about that now. Obviously——

Mr. SIMPSON. I'm thinking the world championship racquetball courts.

Secretary PERRY. There are some legitimate options that are out there and I would think that for AMWDP it is the same.

Mr. SIMPSON. Yes. Ms. Kaptur.

Ms. KAPTUR. Thank you. Mr. Secretary, I just wanted to make a statement at the beginning regarding the Energy Efficiency and Renewable Energy account again. You don't have to comment on this but I just wanted to point out that almost all the centers, the hubs and clean energy manufacturing institutes are terminated in your budget submission.

I come from a heavy manufacturing part of the United States as you well know and when I talked to the head of Ford Motor for example, and we were at a plant dedication for their heavy truck division, and I said what's the most important thing I can do to help you compete? He said cut my energy costs by a third.

I really think that these clean energy centers particularly focused on our heavy energy users are really critical. If we lived in a world where other countries traded fairly and competed fairly, terrific. But we don't. And so I just wanted to draw that particular set of activities in your department to your attention and to say that these heavy energy users dealing with the uneven marketplace that they deal with globally, the VAT taxes out there, closed markets are out there, predatory practices are out there, you know, I get sick of it.

Secretary PERRY. Yes, ma'am.

Ms. KAPTUR. We now bear half a trillion dollars in trade deficit every year for over a quarter century. Hey, why do you think the American people are upset? Because they are paying the price of all of this.

So the idea that we could help our own manufactures compete on our own territory, no brainer.

Secretary PERRY. Yes.

Ms. KAPTUR. We ought to be able to do that. So I just wanted to checkmark that for you and say please pay some additional attention to it. Coming from Texas, you will understand it completely.

Secretary PERRY. Yes, ma'am.

Ms. KAPTUR. My final question though has to do with the Nuclear Posture Review. The administrations 2018 nuclear posture review was released early last month and a nearly final draft was leaked a little bit before that. But I'm actually not hearing very much from the NNSA on how it might implement the new nuclear weapons capabilities that the NPR calls for. There are a whole lot more costs that will be foisted upon the Department and as Congress considers the Nuclear Posture Review it is critical that we really have an open debate about it and if it make sense to take on these proposals from a security standpoint, a fiscal standpoint, a work force standpoint, and I'm wondering, Mr. Secretary, if you could commit that this subcommittee will be fully briefed on NNSA's plans for regarding the NPR starting with the fiscal year 2018 budget and beyond.

Secretary PERRY. Yes, ma'am. And just to add a tiny bit of color to that, we have a new administrator at NNSA. Very capable, Lisa Gordon-Hagerty is an incredibly bright and capable, I look forward to having her come over and sit down with the committee or with you singularly or collectively to share with you the collective vision and the intent to follow. Our 2019 request which is a 19 percent increase and over fiscal year 20 17 levels and is consistent with the NPR. So yes, I think you will find a very thoughtful, experienced and helpful partner in the Administrator.

Ms. KAPTUR. When she comes we will be very interested in knowing the impact that the posture review will have on the modernization program already on record. And also NNSA is already at capacity working on four life extension projects.

Secretary PERRY. Right.

Ms. KAPTUR. And so the issue of the workforce, the infrastructure, these suppliers are all held in advance and we have a lot of uncertainty about how the new proposals will impact ongoing efforts within the department.

Secretary PERRY. We know it and we recognize it as a challenge.

Ms. KAPTUR. All right. Thank you. Thank you very much for your appearance today.

Secretary PERRY. Yes, ma'am. Can I just add one thing here just very quickly about your conversation with the manufacturer that said if you will just lower our energy costs by one third? One of the things that we did in my home state while I was the governor was being able to deregulate our energy market in the state of Texas. Now we are a little bit different because we have our own grid if you will, ERCOT, for the entirety. But government regulations, just like we see here in a lot of different places, cost manufacturers a lot and one of the things that we talked about earlier was making sure that there is an efficient, reliable, affordable supply of energy. And so keeping those nuclear plants, and coal plants so that we have that competition out there in the market is one of the ways that you will drive down regulations and reliability and affordability of energy sources.

We are going to make a lot more impact on this one third reduction in energy costs than practically anything I can think of.

Ms. KAPTUR. What you said, Mr. Secretary, about competition is very important because what northern Ohio will face and this is the heavy manufacturing band that actually stretches from Gary, Indiana all the way over to Pittsburgh if you really want to look at what is going on in our region. But here you have a nuclear power supplying the major base power and if that is removed OK, without any forethought or, you know, just sort of stupidly do this, then natural gas, we have the largest Marcellus Utica Shale discoveries on the whole continent and so that is going to be displaced.

But I have no doubt in my mind if there is no competition, those prices will rise like crazy. And so what you just said is really important. And that's what Congressman Joyce and I, among the things that we are worried about, are we going to have this wild mouse sort of reaction in our area? Are we going to have a smoother transition? Because if we have the wild mouse solution where you go off the edge and everybody falls off, we will have so many casualties. Human casualties in the work force, casualties in terms of consumer pricing, casualties of the skilled work force and I really am very worried about it because that has been our history. We have never done it right. We didn't do it right in the coal fields and we have a chance of not doing it right again and we don't really mandate the Department of Energy to have a smooth transition. We don't do that.

Secretary PERRY. We will work with you, Ms. Kaptur.

Ms. KAPTUR. Thank you. Thank you, Mr. Chairman and members.

Mr. SIMPSON. Final question, Mr. Newhouse.

Mr. NEWHOUSE. Thank you, Mr. Chairman, appreciate that. Mr. Secretary, last summer during your visit to the Northwest you also were able to visit one of the premiere National laboratories that we

have in this country, the Pacific Northwest National Laboratory. Thank you very much for doing that. In fact, on your visit they showed us things that I had never seen before so please come back so I can see the rest of what is going on out there. But it was an honor to have you there.

Just to piggyback on some of the other discussion that has been going on this morning, you've heard a number of times about the concerns with the proposed reductions to the Office of Energy Efficiency and Renewable Energy. And I just want to make sure that you appreciate the potential impacts to the National laboratories of that proposal in advancing new energy technology.

I understand the Departments focus on early stage research but I also know that there has got to be a strong support for applied research as well and I believe that they rode the commercialization is far longer and riskier than the view the Department may hold. So many EERE research programs assist the development of advanced energy technologies in the earliest stages and it is critical to bridging those potential "valleys of death", a term that I have learned recently, that often appear throughout this development process.

So could you maybe give us, expand or expound a little bit more about your views and the value of applied R&D at the labs and what you will do to ensure that this research gets out of the labs and into the market place?

Secretary PERRY. Yes, sir. Part of my response to you would be my history of supporting that type of work both basic research. I understand very well from practical observations and applications as the governor creating a program called the Emerging Technology Fund. I think one of the reasons that these programs have been criticized in the past and my observation, and I think the reason why, is because they haven't been managed that well. That Members of Congress or members of the public have looked at this and went, you know, we don't see any return on our investment here. You just, put a bunch of money out there into something that sounded good and then never saw it on the market. And granted, there is not a banker in America that has got a 1,000 percent batting average.

Mr. NEWHOUSE. Yes, right.

Secretary PERRY. On loans. I get that. But what I will offer to you is this committee as Congress makes decisions about what your priorities are and what you want funded, if it is the observation that you want dollars to be spent on these early stage development, I have a track record of bringing really good, capable individuals in, to operate these programs in an effective way that will commercialize them. And that the public and the world get to enjoy these technologies that, you know, would never have been commercialized had we not been engaged with this.

Do we want to make sure that we get a good return? Yes, sir. Do we want to be held accountable? Absolutely. But I will tell you that my interest in this is something not unlike I did while I was the Governor of Texas. We were relatively successfully with it and, you know, there will always be people who criticize government investing in certain innovative programs. I know that, that is OK.

We have some pretty good examples of sustainable transportation portfolio that we are funding in this budget. There is a renewable power portfolio and this is early stage research on solar, wind and geothermal. We are all-of-the-above and I think our budget and our focus backs that up.

And thirdly, the energy efficiency portfolio funds $142 million. In the last 40 years of some early stage R&D that had some real impact, advanced lighting, space heating, cooling, billing, envelopes and, I think our commitment to this is still very much all of the above. I think what you are going to require of us and our expectation and our budget is one that we are going to oversee this efficiently. We are going to do it with good outside input and that our results are what we are going to be judged by.

Mr. NEWHOUSE. I appreciate that commitment and also commit to you that we will work with you, help to tell the story, help to make the public and Congress feel comfortable about the successes we have been able to experience through these investments. They are many and significant and just real quickly about this dam issue.

I'm not spelling that word. Mr. Simpson is absolutely right. There has to be a larger discussion about the relationship between all the partners in this, Idaho included. And I do not deny that and I want to look, I look forward to working with the Chairman on that as well.

Why this is so urgent is because within three weeks there is going to be a requirement to increase the spill over those dams which will require more water coming from Idaho. And so this impacts all of us in a negative way and I know you mentioned you wanted to say in your lane on this one but actually this is your lane and you could probably tell us at great length the impact, the harm on our energy infrastructure on forced spill and if we had time to go into that I would ask you that question and I will leave it to the Chairman if he wants to entertain that answer.

Secretary PERRY. Yes, well let's talk after the meeting, I mean, I think this is a pretty broad issue that covers a lot. I can talk about it from a judicial restraint standpoint. I can talk about it in the importance of it may be a good exhibit of why they need to actually teach economics at law school.

Mr. SIMPSON. That's what I'm saying, the reason we have economists is to make astrology look respectable. So but it is an important——

Mr. NEWHOUSE. Thank you, Mr. Chairman——

Mr. SIMPSON [continuing]. But it is an important issue that he talks about and it is and my concern on my end of it is if we don't do something about it, if we don't fix this, 10 years from now the salmon runs are gone and they are non-recoverable. So there, I mean, there is a whole range of issues that are dealt with here.

Mr. NEWHOUSE. Yes, absolutely. Absolutely. And that discussion needs to happen.

Ms. SIMPSON. And I understand the decision will probably come down the day before.

Mr. NEWHOUSE. But we are looking to try to buy some time to mitigate some of these costs that are going to happen.

Mr. SIMPSON. I understand that.

Mr. NEWHOUSE. Unnecessarily. Unnecessary costs.

Mr. SIMPSON. That's why I've been supportive of what you are going to do.

Mr. NEWHOUSE. Yes, I appreciate that.

Mr. SIMPSON. Mr. Fortenberry.

Mr. FORTENBERRY. Mr. Secretary, if you could dispatch the new Administrator of the NNSA quickly to us that would be very helpful.

Mr. SIMPSON. She will be here Tuesday. Consider it done.

Mr. FORTENBERRY. Well done.

Secretary PERRY. Yes, very good. Thank you so much. We do some paranormal work over at DOE.

Mr. FORTENBERRY. I see. Well good. That will be helpful. Look forward to that. And then your other offer of another meeting in another place to talk through some of the more sensitive things.

Secretary PERRY. Yes, sir.

Mr. FORTENBERRY. The quicker we could do that the better.

Secretary PERRY. Yes, sir, absolutely.

Mr. FORTENBERRY. Could we look at a matter of weeks in that regard?

Secretary PERRY. Yes, sir. Or less.

Mr. FORTENBERRY. Thank you. Quickly, what is your perspective on hydrogen fuel cells? There are some experts that suggest that real expansive, widespread, commercial viability is on the horizon. And what is the department's perspective on that and what is the research intensity in the department in that regard?

Secretary PERRY. Yes, sir. We continue to support that research. My personal observation is that it's going to be driven by economics just like almost everything is from the standpoint of some states are going to put in CNG filling stations where there is big heavy haul, such as from Dallas to San Antonio and to Houston back to Dallas. 85 percent of the population of my home state lives in that triangle. We passed legislation to put CNG in there so you could get heavy haul trucks to transition from older, more inefficient diesel engines, to CNG. The cost of maintenance, I mean, there is a lot of different reasons why that makes sense.

A lot of those decisions appropriately should be made at state levels and that states need to make those. Again, fueling stations for hydrogen, the transition to those types of vehicles, is there a use for them in generators? We think there is some opportunities.

When you think about the number of generators that were needed in the Texas Gulf Coast, Florida, and when Superstorm Sandy hit, having access to that type of technology, the cost becomes less important in that sense. When you start talking about human lives and being able to either keep pharmacies up and going, gas stations having access to long term generation, so there are some aspects of hydrogen fuel.

I'll finish with this one. Out at Savannah River, they are doing some work on hydrogen fueled hypersonic aircraft. And, I mean, pretty fascinating work, take you anywhere in the world in four hours from Los Angeles. And, I mean, this is not Buck Rogers stuff. I mean——

Mr. FORTENBERRY. This is academics.

Secretary PERRY [continuing]. This is literally to the point of manufacturing and using hydrogen as the fuel. And we know, you know, from a global environmental impact when you start thinking about the emissions that are probably as hard on the climate, the environment is high level emissions when you start using hydrogen fuel to run those aircraft then your byproduct is H2O, water vapor.

Mr. FORTENBERRY. Thank you, Mr. Secretary.

Mr. SIMPSON. Did you have something you wanted to say Marcy?

Ms. KAPTUR. I just wanted to say always seeking to curry favor with the Chairman, I just wanted to say that I really endorse his statements today on cybersecurity and the benefit that we would have as a subcommittee regarding a private briefing on the administration's approach to that issue across departments. Thank you, Mr. Chairman, for bringing that up.

Mr. SIMPSON. You're welcome. One last question and just for the record so that you can state it, you're opposed to the uranium sales to continue the funding of Portsmouth?

Secretary PERRY. That is correct.

Mr. SIMPSON. We are going to try to help you out with this. I wanted that on the record because I want somebody that is not here that might be listening.

Secretary PERRY. Yes, sir.

Mr. SIMPSON. Because I think we need to get your Assistant Secretary for EM confirmed as quickly as possible confirmed through the Senate. So——

Secretary PERRY. That would be helpful.

Mr. SIMPSON [continuing]. Anything we can do to help but we will help you out on that.

Secretary PERRY. Yes, sir.

Mr. SIMPSON. Thank you for being here. I appreciate your enthusiasm for the Department. I think it is a great place that you work and they do fantastic work out there. And thank you to your staff that you have got, those that you have got here with you and those that you don't.

Secretary PERRY. And just for the record I'm going to stay there.

Mr. SIMPSON. We enjoy working with them and get us those justifications if you can as soon as possible.

Secretary PERRY. Yes, sir. Thank you.

Mr. SIMPSON. Thank you. Hearing is closed.

QUESTIONS FOR THE RECORD

SUBCOMMITTEE ON ENERGY AND WATER DEVELOPMENT
HOUSE COMMITTEE ON APPROPRIATIONS

Hearing on the 2019 Budget Request for the Department of Energy
March 15, 2018

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1. MOX Termination

Mr. Secretary, the Department of Energy first proposed to cancel the MOX Fuel Fabrication Facility in order to pursue an alternative means to fulfill U.S. responsibilities under a nonproliferation agreement with Russian in its fiscal year 2014 budget request.

The Fiscal Year 2018 National Defense Authorization Act allows you to terminate the project if you are able to provide a lifecycle cost estimate that shows the cost of the alternative is 50% of the cost of MOX.

- When will a comprehensive lifecycle cost estimate for dilute and dispose be provided to Congress?

The lifecycle cost estimate for dilute and dispose was provided on May 10, 2018, concurrently with the Secretarial waiver of the requirement to carry out construction and project support activities relating to the MOX facility using funds authorized to be appropriated by the Fiscal Year (FY) 2018 National Defense Authorization Act or otherwise made available for FY 2018 for NNSA for the MOX facility.

- Do you intend to submit the NDAA certification and terminate the project, and if so, when? Will DOE wait until its comprehensive lifecycle cost estimate is finished?

On May 10, 2018, consistent with the requirements of the FY 2018 NDAA, the Department submitted to the congressional defense committees the Secretary's waiver of the requirement to carry out construction and project support activities relating to the MOX facility using funds authorized to be

appropriated by the FY 2018 NDAA or otherwise made available for FY 2018 for NNSA for the MOX facility. This waiver included the required certification regarding the lifecycle cost estimate. Consistent with the Consolidated Appropriations Act, 2018, the Department submitted the lifecycle cost estimate to the Committees on Appropriations of both Houses of Congress concurrently with the Secretarial waiver.

- If and when a waiver is submitted, will the estimate contain sufficient detail to allow Congress to carry out its oversight responsibilities?

Yes, the lifecycle cost estimate contains sufficient detail to allow Congress to carry out its oversight responsibilities.

2. <u>WIPP and MOX Alternative Legislative Requirements</u>

Mr. Secretary, in September 2017, the Government Accountability Office (GAO) reviewed the dilute and dispose alternative and recommended that DOE develop a plan for expanding disposal space at WIPP.

An expansion requires Congressional action and there is still no agreement with New Mexico to allow for a change to the Land Withdrawal Act. DOE is also prohibited by law from shipping plutonium to South Carolina because it is not meeting MOX production objectives.

- Do you agree with the GAO's assessment that WIPP needs to be expanded? Have you looked further into the legislative proposals that are needed to fully carry out dilute and dispose?

The Department of Energy (DOE) agreed with the recommendations by the Government Accountability Office (GAO) in its report on surplus plutonium, GAO-17-390. Additional disposal panels at the Waste Isolation Pilot Plant (WIPP) are required to dispose of the Land Withdrawal Act (LWA) capacity limit of 6.2 million cubic feet. This is true whether or not additional surplus plutonium is designated for disposal at WIPP.

DOE submitted a regulatory permit modification request in January 2018 to the New Mexico Environment Department, to clarify how DOE will more accurately track the actual volume of transuranic (TRU) waste disposed of at WIPP against the LWA capacity limit. This change will support WIPP's intended mission as a safe disposal option for current and future TRU waste generated by atomic energy defense activities. DOE is pursuing this change regardless of the path forward for the surplus plutonium associated with Mixed Oxide facility. No change to the WIPP Land Withdrawal Act (LWA) is needed or is being considered at this time.

WIPP is presently accepting about 8 shipments of waste per week and its capacity will be extremely limited for the next several years until a new permanent ventilation system can be installed.

- When do you expect the WIPP ventilation project to be complete and the mine fully restored to pre-incident operations?

The new WIPP ventilation system is expected to be operational in the 2021 timeframe. This, along with the mining of Panel 8, which is expected to be available for disposal in the same timeframe, will provide the capability for a significant increase in shipping and emplacement rates.

- Is DOE still pursuing the idea of expanding the above-ground staging area at WIPP to allow more waste to be shipped? Have you spoken with New Mexico on permitting and do you have an estimate of the costs?

The DOE Carlsbad Field Office (CBFO) submitted a request to the New Mexico Environment Department in 2017 for a Hazardous Waste Facility Permit modification for the approval to construct and operate an above ground storage unit for contact handled transuranic (CH TRU) waste at the WIPP. The Above Ground Storage Capability (AGSC), if implemented, would be constructed over two years at a total cost estimate is of $10-15 million.

3. <u>Small Modular Reactors</u>

I am interested in learning more about what the Department is planning to do with small modular reactors. The budget request proposes a new $54 million activity to support advanced small modular reactor research and development. The last major small modular reactor effort achieved its goal of supporting the submission of a license application to the Nuclear Regulatory Commission.

- What are the goals of this new proposed activity and how will it expand upon the Department's previous support of small modular reactors?

- How does support of small modular reactors fit within your strategic vision for the Office of Nuclear Energy?

One of the Department's top priorities in support of our National Security Strategy is to conduct early-stage R&D that can help enable industry to deploy advanced nuclear energy systems. The development of improved advanced nuclear reactor designs and technologies is critical to assuring that nuclear power will be a viable option for the United States (U.S.) energy requirements for generations to come.

The goal of the Advanced Small Modular Reactor (SMR) Research and Development (R&D) subprogram is to enable industry to accelerate the development of advanced SMRs through cost-shared, early-stage, design-related technical assistance and R&D, the results of which would be widely applicable and adoptable by a broad spectrum of nuclear reactor design vendors The Department's goal with this one-year effort is to support advanced SMRs that have high potential to improve the overall economic outlook for nuclear power in the U.S., and to enhance our global competitiveness. This subprogram reflects our commitment supporting the

re-establishment of U.S. leadership in advanced reactor technologies and will be used to help nuclear technology development vendors answer key early-stage R&D questions related to SMR technologies as well as to the development of advanced manufacturing, fabrication and construction techniques for nuclear parts and components.

We believe the U.S. nuclear industry's development of game-changing and market disrupting advanced SMR designs will be key to the U.S.'s ability to regain competitive leadership in the nuclear sector. SMRs attractive features and benefits may include walk-away safe designs, low cost fabrication of reactor components in U.S. factories, modular construction practices that reduce construction costs and schedules, more financeable and lower cost reactor options, and versatile plants that can provide baseload capacity, or ramp power up and down based on service requirements, also known as load following. The Department expects that SMRs can be integrated with renewable and fossil fuel electricity sources and support multiple concurrent uses, such as electricity generation, water desalinization, hydrogen production, and other applications.

4. AMWTP

Mr. Secretary, the Office of Environmental Management conducted a 45-day review of the study to look at the entire program and make recommendations for moving forward with what the acting chief described as "more timely…decision-making". The study proposed using the Advanced Mixed Waste Treatment Project to serve as a national center for characterizing and compacting transuranic waste that would be disposed of at WIPP.

- How is DOE making progress on assessing the feasibility of using AMWTP to compact and package transuranic waste?
- Are you supportive of the idea and what benefits do you see for continuing to operate AMWTP?

DOE is evaluating the possibility to continue operation of AMWTP after completion of the facility's mission at the Idaho National Laboratory in December 2018. No decisions have been made regarding a mission for the facility after its current mission ends.

At this time, DOE is refining analyses to assess the challenges, cost effectiveness, viability of a continuing mission for AMWTP. Issues to be addressed for effective implementation include: (1) impacts on funding, existing baseline and risk prioritization for the Idaho National Laboratory and other waste generator sites; (2) the availability of a steady waste stream to support continuous operations; (3) packaging and transportation, since some waste that could be a candidate waste for treatment at the AMWTP

cannot be shipped in existing Nuclear Regulatory Commission-certified canisters; and (4) restrictions on the receipt and storage of off-site waste in Idaho (i.e., 1995 Idaho Settlement Agreement requirements for treatment and shipment of waste). Discussions with multiple states, relevant regulatory authorities, and stakeholders will be needed to resolve the challenges.

5. Fusion

With the announcement last week from MIT about the new Commonwealth Fusion Systems company funded with $100 million in private investment, it is clear that many in the fusion community (also including other private fusion ventures, and the ARPA-E ALPHA program) are ready to tackle a bolder, higher-risk approach to put fusion power on the grid on an aggressive time frame – with goals of less than 20 years.

- Would you support public-private partnerships to enhance the chances of success in both the public and private approaches?

The Department of Energy (DOE) is encouraged by new private entrants seeking to realize the commercial potential of fusion research. The Fusion Energy Science (FES) program office within the Office of Science of DOE is the largest supporter of fusion research in the U.S. At present, several private companies in the U.S. and abroad, as well as ARPA-E, are also supporting research activities focused on the development of fusion as an energy source. The private ventures have the benefit of tools, techniques,

and research results that have been and are being obtained through the FES program. The newest such private company is Commonwealth Fusion Systems (CFS), which aims at development of large-bore high-temperature superconducting (HTS) magnets, for utilization in an eventual tokamak fusion plasma confinement system. The FES program is already supporting research on HTS and tokamaks and would coordinate its plans for such research efforts in light of the corresponding activities by CFS.

- Is DOE looking seriously into enabling such a public-private partnership to develop economical fusion power on an aggressive time frame?

The Department continues to assess the activities of private fusion ventures. Before the Department were to consider any of these concepts for support, normal peer review would be important.

The DOE's Fusion Energy Science Program specifically does not have a mission to "produce energy." That means nearly all their funding is devoted to plasma science, and ignores some of the challenging engineering problems that designing a demonstration fusion energy reactor would face.

- Do you think we need a strategic plan for fusion that encompasses all challenges, with an ultimate goal of building a demonstration reactor that produces net energy?

The FES developed a strategic plan, entitled *The Office of Science's Fusion Energy Sciences Program: A Ten-Year Perspective*, which was submitted to

Congress in December 2015. This plan encompasses five challenging areas of emphasis: (1) massively parallel computing with the goal of validated whole-fusion-device modeling, (2) materials research as it relates to plasma and fusion science, (3) research in the prediction and control of transient events that can be deleterious to toroidal fusion plasma confinement, (4) stewardship of discovery in plasma science that is not expressly driven by the fusion energy goal but will address frontier science issues, (5) robust operations support and regular upgrades of FES user facilities, and (6) continued leveraging of resources among agencies and institutions and strengthening of partnerships with international research facilities. Currently, the U.S. is one of seven Members (the others being China, European Union, India, Japan, South Korea, and Russian Federation) that are collaborating to build ITER, the world's largest magnetic fusion device. ITER is designed to prove the scientific and technological feasibility of fusion as a large-scale energy source based on the same principles that power our Sun and the stars. An important U.S. review is presently underway to assess civilian nuclear energy activities, and ITER has been included in this study. Also, at the request of the Department, the National Academy of Sciences (NAS) is performing a study to provide strategic guidance about how best to advance

the fusion energy sciences in the U.S. The NAS committee released its interim report on December 21, 2017, and the full report is due in late 2018.

Assistant Secretary's or Designee's Name/Date: Dr. Steve Binkley 3/15/2018

6. Natural Gas

On April 9th, a number of the agencies involved in permitting infrastructure (including energy infrastructure) signed the "One Federal Decision Memorandum of Understanding" for Major Infrastructure projects.

I was glad to see that you, Mr. Secretary, and the Chairman of the Federal Energy Regulatory Commission, as well as many of the other Departments and agencies move forward on this MOU and the concept of having concurrent reviews and a goal for finalizing permitting within two years. Your quote on the MOU specifically said it would "reduce unnecessary hurdles, provide investors with critical certainty, drive investments, and speed up projects that will allow the US to export more of our new found energy."

I note that the MOU's processes still need to be finalized and this will apply to future projects. We also need to make sure we don't lose sight of the projects in the pipeline now.

- With the requirements of the market showing about $170 billion of investment is need in order to take advantage of the US shale revolution, are you comfortable with processes in place you have now on major energy infrastructure permits – where both DOE and FERC have roles – such as LNG terminals and pipelines? Can you make sure you're working towards the same degree of timeliness and clarity on projects currently in the permitting process?

Yes, we will continue to work with FERC to improve the process. Under Section 3 of the Natural Gas Act (NGA), the Secretary of Energy has

authority over the importation and exportation of natural gas to and from the United States. This authority applies to the commodity and not the physical infrastructure; Sections 3 and 7 of the NGA give jurisdiction over the siting, construction, and operation of liquefied natural gas (LNG) terminals and interstate natural gas pipelines to the Federal Energy Regulatory Commission (FERC).

The NGA deems imports and exports of natural gas from and to countries with which the United States has a free trade agreement (FTA) requiring national treatment for trade in natural gas to be in the public interest. Accordingly, the Department of Energy (DOE) must approve applications for FTA imports or exports without modification or delay. The same provisions apply to imports of LNG.

For applications to export natural gas (including LNG) to countries where a qualifying FTA is not in place (non-FTA countries), DOE conducts a public interest review to determine whether the proposed exports would be inconsistent with the public interest.

The majority of proposed LNG export projects fall under the jurisdiction of both DOE and the Federal Energy Regulatory Commission (FERC) (or, in

certain cases, the U.S. Maritime Administration). FERC is the lead agency in the environmental reviews of these projects under NEPA. The environmental review at FERC can take several years given the complexities of the project and any challenges the application may receive from the public. DOE is a cooperating agency on these FERC-led environmental reviews. DOE takes final action on applications as soon as possible after the FERC approval process is complete. In DOE's most recent LNG order for the Eagle Maxville facility (located in Jacksonville, FL), the facility was not subject to FERC review, and DOE granted the export application within three months. In fact, just recently, on July 25, 2018, DOE published a final rule that provides for faster approvals for small-scale exports of natural gas from facilities like Eagle Maxville that seek to export less than 51.75 billion cubic feet per year from facilities that do not require an Environmental Impact Statement of Environmental Assessment under NEPA.

Implementation of the One Federal Decision framework will reduce the amount of time it takes DOE to take final action on non-FTA export applications. In most cases, FERC is the lead agency on the required environmental review and DOE serves as a cooperating agency. Enhanced cooperation and collaboration between all of the agencies in the review of

proposed LNG export terminals will help meet the timeliness goals set forth in the MOU. Under the One Federal Decision framework, DOE maintains its own authority to make decisions regarding non-FTA export applications.

Subcommittee Questions

DOE Management

7. Shift to Early Stage Research and Development Update

Your budget request continues last year's focus on shifting research and development activities to an earlier stage. One of the challenges of this strategy is that the definition of what constitutes "early stage" is dependent on the type of energy technology you are discussing.

- In this context, does the Department have a common definition of what early stage research and development is and can you describe it for us?

- How does the Department know when something has moved past this "early stage" designation? Does the Department then transition this technology to market or does it simply move to the next early stage research and development idea?

In general, early-stage research focuses on technology challenges that present a significant degree of scientific or technical uncertainty across a relatively long period, making it unlikely that industry will invest significant R&D on their own. The primary goal of early-stage R&D is to generate knowledge upon which industry as a whole, not individual companies, can develop and deploy innovative energy technologies. The R&D results would be widely useful to or adoptable across industry. You are correct in stating that what constitutes "early stage" is dependent on the type of energy

technology being discussed. Attributes that may be considered in evaluating how de-risked and market-ready a technology is include system integration complexity, amount time that is required to reach commercialization, and the maturity of the private marketplace (some novel technologies create new markets entirely). In practice, the Department and its National Laboratories continually evaluate opportunities for hand-offs to the private sector and engage with industry stakeholders to better understand technical challenges to inform priority areas for the Department's R&D.

The Administration has made it clear they want the United States to become an energy technology exporter. I understand this is also a priority of yours. That's something we can all support.

- How is the Department ensuring that it is building the pipeline of energy technology innovation that's ready for exporting within this focus on early stage projects?

- How is the Department helping to usher these innovations into the market so that they are ready to be exported?

Ultimately, it is the private sector that will export technology and has the best understanding of what technologies are exportable. Therefore, the Department is pursuing industry engagement with renewed vigor. The Department is exploring increased and improved partnerships with other federal and non-federal organizations that support the growth of small

businesses and entrepreneurs in moving lab-created technologies from lab to market. DOE is also collaborating with larger business entities and the investment community on how DOE early-stage R&D can support the development of cutting edge technologies that solve real-world industry needs. We are expanding outreach and stakeholder engagement to increase access to the capabilities, expertise and facilities of the National Labs to all these stakeholder groups. The DOE also recently released a Lab Partnering Service platform organized by technology category to facilitate public access to the subject matter experts and intellectual property available at the National Labs.

8. <u>DOE Cybersecurity Weaknesses</u>

The DOE Inspector General reported that, over the past several years, DOE has been involved in several cyber security breaches. The IG reported that a July 2013 incident resulted in the exfiltration of a variety of personal information on over 104,000 individuals.

Mr. Secretary, the DOE Inspector General has repeatedly recognized cybersecurity as a management challenge area for DOE. Some improvements have been reported since DOE's worst incident in 2013, but the IG's latest evaluation found that "the types of weaknesses identified in prior years, including issues related to vulnerability management, system integrity...and access controls continue to exist." Essentially, the IG found that DOE's cybersecurity program is not effective.

The Department of Energy's cybersecurity regulation, Order 205.1B, has not been revised and updated since 2013. In last year's Office of Management

and Budget's Cross-Agency Cybersecurity Goal Report, DOE ranked last or next to last out of 23 federal agencies.

- What is your strategy to address long-standing weaknesses related to the cybersecurity of its computer systems?

We are using a "back to basics" approach to address long-standing weaknesses and revise our current Cyber Strategy, starting with the development of an overarching IT Modernization Strategy and a budget that stresses the importance of cybersecurity. We have identified updated goals, objectives, and prioritized tasks emphasizing the need for a dramatic improvement in cybersecurity. In addition, we have reorganized our cyber mission to reflect the NIST Cybersecurity Framework functions, and we are assessing and improving our cyber posture by looking at 4 key elements: threat, asset, vulnerability, and risk. Part of the Cyber Strategy revision also includes a Department-wide review of DOE Order 205.1B, Department of Energy Cybersecurity Program.

Improving our cyber posture also includes factoring in and operating based on risk management principles, which allow us to prioritize monitoring and oversight activities, as well as to inform budgetary, procurement, personnel, and other resourcing and cyber risk decisions in order to apply our resources as effectively as possible to the highest risk areas.

We are now in the implementation phase of our integrated Joint Cyber Coordination Center (iJC3). This platform will give senior leaders and cyber defenders new, state-of the-art tools to help identify, protect, and detect threats to and within the DOE environment. In addition, iJC3 will integrate other cyber tools within DOE by leveraging newer, more efficient and effective cloud-based technologies.

Finally, we will continue to improve our interagency and industry coordination by expanding our use of the best practices and lessons learned. For example, we are working closely with the Department of Homeland Security on the implementation of the Continuous Diagnostics and Mitigation (CDM) program to enhance our visibility into our systems.

- How will you ensure another major cybersecurity breach does not occur under your watch?

While no one can definitively ensure that cyber breaches will not occur, we can and will continue to improve our cyber posture to better predict, prevent, and respond to this ever-changing threat. We can do this by managing changing requirements, including our resources and risk profile, and then constantly revising our risk assessment to address this changing threat. We are constantly working to engage and leverage the best cyber innovations

and capabilities from our scientists and innovators at DOE's 17 National Laboratories across the country. Along with improving our Identify, Protect, and Detect functions, DOE is also improving our Respond and Recover functions to help minimize and mitigate serious security incidents or breaches, enabling us to quickly return to normal, secure operations.

Clean Energy Research and Development

9. Beyond Batteries Initiative

This year's budget request includes $90 million for a new effort as part of the broader Grid Modernization focus on battery technologies within the Department. EERE and the Office of Electricity Delivery have been funding energy storage and battery research and development for years. I'm interested in finding out how this new effort would build off of our previous investments and the plan for moving this forward.

- What makes this initiative different from the activities we've provided funding for in the past?

As part of the Administration's efforts to increase the reliability and resilience of our energy systems, Beyond Batteries takes a broad, holistic view of energy storage as part of a set of capabilities that enable temporal flexibility in the conversion of energy resources to useful energy services. Batteries, or electrochemical energy storage technologies, are an important technology solution to continue to advance, but there are other options to

achieve the same energy services batteries can provide. Beyond Batteries looks at the functions that grid-scale batteries can provide, then focuses on other ways to provide those functions. In this way, it is inspired by the success of previous investments in grid-scale batteries, and builds off of previous work in both the Office of Electricity and the Office of Energy Efficiency and Renewable Energy to effectively mimic many of the benefits of grid-scale batteries.

For example, controllable loads work in the FY 2019 request concentrates on technologies that enable behind-the-meter devices to provide grid services, including power electronics that incorporate storage controls. This work builds on previous investments in systems integration in the Solar program and in power electronics in the Advanced Manufacturing program to develop new technologies leveraging scalable domestic manufacturing capabilities.

The FY 2019 request also includes work to research, validate, and improve the ability of large, bulk power resources like geothermal and hydropower to operate flexibly over long periods of time and provide essential reliability services. This includes field testing to validate the ability of these resources

to respond quickly to electrical demand fluctuations and other grid disturbances. This work builds off of previous investments in the Geothermal program focused on the ramping ability of geothermal plants, as well as work in the Water program on valuation of hydropower and pumped storage.

Finally, the FY 2019 request for Beyond Batteries includes work centered on reliable hybrid energy systems to include technologies and approaches for integrating electric vehicles, hydrogen fuels cells, distributed wind and solar, and building loads. In addition to incorporating the progress made from previous work in each of the individual programs, this work builds off of successful Grid Modernization Initiative projects that cut across DOE offices.

- Developing a strategic plan that sets performance targets and research and development goals has been a success of the Grid Modernization focus. Do you have plans to do this with the Beyond Batteries Initiative?

Absolutely. Beyond Batteries is aligned with the Grid Modernization Initiative strategic plan, and the Department will set performance targets and research and development goals. Beyond Batteries will be managed through

the Grid Modernization Initiative structure to leverage its success, ensure coordination, and avoid overlap.

- Will demonstrations of new technologies be a component of this new initiative?

Beyond Batteries includes testing and validation of early stage research and development at sufficient scale to feed back into the development cycle. In keeping with the Administration's focus on early-stage research, Beyond Batteries will involve industry partnerships to help transition early-stage research funded by DOE to the private sector for full-scale demonstrations.

Nuclear Energy

10. Advanced Reactors

Advanced non-water cooled reactors represent the next generation of technologies in the nuclear sector. The Department's proposed budget emphasizes basic research and development but proposes to eliminate some of the programs that are accelerating later-stage development of U.S. advanced reactor technology.

- Secretary Perry, do you agree that development of advanced non-water cooled reactors is essential for maintaining U.S. leadership in this industry?

The Department recognizes the need to reinvigorate and revitalize the U.S. nuclear industry to ensure that affordable and resilient nuclear power can

remain a part of the domestic energy mix for decades to come. Nuclear energy is an essential element of the Nation's diverse energy portfolio required to sustain the U.S. economy and support our national goals. Having an industry-led advanced reactor pipeline that enables the development and deployment of advanced nuclear energy systems, including non-water cooled concepts, is critical to the long-term leadership of the U.S. in nuclear technology. This will enable our Nation to realize the vision of a revitalized domestic nuclear industry and expanded U.S. leadership in a global economy by providing affordable, reliable, and clean energy.

- How does the Department's budget help ensure the rapid development of advanced reactor technologies?

As described above, one of the Department's top priority goals is to enable, through early-stage R&D, industry's deployment of advanced nuclear energy systems being pursued by U.S. nuclear developers. The development of improved advanced nuclear reactor designs and technologies, as well as application of advanced reactor technologies to improve the operation of the existing domestic fleet of nuclear power plants is critical to assuring that nuclear power will be a viable option for the United States (U.S.) energy requirements for generations to come. The Office of Nuclear Energy has

established and is executing programs to engage our national laboratories, the university community, and the U.S. nuclear industry. This budget request supports these programs and efforts.

In FY 2019, the Department will provide $54 million to support cost-shared, early-stage, design-related technical assistance and R&D, the results of which would be widely applicable and adoptable by a broad spectrum of nuclear reactor design vendors under the Advanced Small Modular Reactor Research and Development program..

Overall, FY 2019 advanced reactor funding will be used to support a broad scope of proposals for early-stage R&D supporting nuclear technology related to the existing fleet of nuclear power plants in the U.S. and development of advanced reactors by U.S. companies for the purpose of accelerating the development of their technologies.

Further, NE is supporting U.S. industry in the accelerated development of nuclear technologies by offering competitively-awarded technical and design vouchers through the Gateway for Accelerated Innovation in Nuclear (GAIN) Initiative to provide access to the Department's unique national laboratory expertise, as well as through the Nuclear Science User Facilities (NSUF) to provide access to Idaho National Laboratory and NSUF partner

experimental and computational capabilities. These GAIN and NSUF efforts will focus on supporting U.S. industry in accelerating their deployment of cross-cut technology areas such as advanced manufacturing, modeling and simulation, advanced sensors and instrumentation.

The Department is working closely with U.S. nuclear innovators to understand the remaining challenges to bringing the next generation of advanced nuclear power into the marketplace. . The Department is focusing this R&D on early-stage, cross-cutting work that benefits this sector broadly, in order to catalyze the immense innovation already underway so that it can proceed to industry-led commercialization. Early-stage R&D on advanced reactor technologies supports work on generic topics that can apply to multiple advanced reactor concepts. This includes R&D for fundamental technologies and design methods for advanced reactors, interactions of advanced reactor coolants with materials and components, advanced energy conversion, advanced instrumentation and controls, research to enhance safety and reduce regulatory risk, advanced materials development and codification, and fuel development and graphite material qualification. All of these R&D efforts will be most effective when driven and guided by specific, industry-informed long-term objectives, with the aggressive

timelines needed to ensure that U.S. innovators retain their leadership role in the global nuclear industry.

Nuclear Fuel and Waste Disposition

11. Yucca and Interim Storage

The budget request seeks $120 million to restart the Yucca Mountain licensing process and initiate a robust interim storage program. Before the Yucca licensing process was shelved in 2010, the Department had a distinct office, the Office of Civilian Radioactive Waste Management, for managing Yucca. While the budget documents I have seen don't specifically request a restart to this office, I imagine that moving Yucca forward and implementing an interim storage program will be best served by restarting this previous office.

- Does the Department currently have a plan for restarting the Office of Civilian Radioactive Waste Management?

Although the Department has not yet prepared a formal, detailed plan for restarting the Yucca Mountain licensing proceeding, it is continuing to explore various options for restarting that important effort. DOE's request provides for legal support to represent the Department in the licensing process, as well as to respond to litigation and other legal matters. It provides for technical and scientific support necessary to support an affirmative case for the license and to respond to any challenges to the license application. It also provides for the document management activities

associated with the licensing process. Furthermore, the Yucca Mountain and Interim Storage program's Program Direction request supports 83 federal staff and associated activities. The program requires a significant commitment of human capital to assure consistency with federal policies and strategies in the planning, engagement, responsiveness, and the adaptation of plans that address changing and dynamic conditions. The Budget Request includes additional staffing for the program office to ensure there is appropriate guidance and oversight throughout the program. Of the 83 funded staff, 53 will be re-aligned from staff currently funded by other DOE Program Direction budgets. 30 new staff members will be hired to provide additional Yucca Mountain license application support activities.

- If money is received to restart Yucca activities, how quickly can the Department mobilize to restart the licensing application process?

If Congress appropriates funding for DOE to restart its participation in the Yucca Mountain license proceeding, DOE will use those funds as described in the President's Budget and in accordance with Congressional direction. The Department estimates that it would need approximately six months before it would be ready to restart as an applicant and resume the adjudication, but closer to 12 months to have all necessary staff, processes,

and procedures in place to meet the rigorous requirements of being an NRC applicant.

- The adjudication of these legal matters will be a joint effort between the Department and the Nuclear Regulatory Commission. Has the Department been coordinating with the NRC to ensure a rapid response to these legal hurdles if money is received to restart Yucca?

The Department has not been coordinating with the NRC on a potential restart of legal proceedings, however the Department participated in the NRC's recent public meeting on the Licensing Support Network. Both agencies are involved in the licensing proceeding, but our roles are distinct and separate. If and when Congress appropriates funds, the Department will cooperate with the NRC to resume the hearings in an expeditious manner.

Electricity Delivery and Energy Reliability

12. Puerto Rico Grid Recovery Efforts

As the federal agency studying the grid, the Office of Electricity is well positioned to provide technical assistance to Puerto Rico in their efforts at planning for a future grid that is resilient and reliable.

- Can you discuss the efforts the Office of Electricity has undertaken thus far in the Puerto Rico grid recovery effort?

Under the National Disaster Recovery Framework (NRDF), coordinated by the Department of Homeland Security the U.S. Army Corps of Engineers

(USACE) is the coordinating agency for the Infrastructure Systems Recovery Support Function (RSF). In support of USACE, the Department of Energy (DOE) provides energy sector subject matter expertise and technical assistance to all levels of government during recovery. In this role, DOE has been working closely with USACE, the Federal Emergency Management Administration (FEMA), the Puerto Rico Electric Power Authority (PREPA), industry, and the Government of Puerto Rico to provide recommendations on how to build a more resilient electric grid in Puerto Rico.

DOE has deployed personnel to Puerto Rico through FEMA mission assignments under the NRDF to serve as the Energy Subsector Lead for the Infrastructure Systems RSF. DOE continues to leverage expertise within DOE and its national laboratories to provide energy sector subject matter expertise and technical assistance for identifying opportunities to increase the resilience of Puerto Rico's energy system.

DOE also participates in the inter-agency, inter-jurisdictional recovery planning process. Recovery activities include engaging with a variety of public and private sector stakeholders to identify energy resilience options

and potential solutions. DOE is considering the recommendations outlined in several reports, including Puerto Rico Recovery Plans from the Congressional Research Service, Rocky Mountain Institute, Federal Emergency Management Agency, Federal Oversight and Management Board of Puerto Rico, and PREPA and the Build Back Better report, as well as other insights gained from DOE's participation in restoration and recovery efforts as part of the process of synthesizing recommendations for a DOE report expected to be released in late spring, 2018.

- What will the Office of Electricity's role be in the future grid planning for Puerto Rico?

The Office of Electricity Delivery and Energy Reliability (OE) continues to support Puerto Rico in efforts to improve and harden the island's electric grid following recovery. OE is working on several activities in parallel that will inform strategies and investments to make the Puerto Rican energy infrastructure more reliable and resilient. In the near term, OE is issuing an Energy Resilience Solutions for the Puerto Rico Grid report making recommendations addressing potential near- and long-term actions for the Puerto Rican grid. Further analysis will be needed to make optimal investment decisions for grid improvement.

In addition OE is supporting a multi-laboratory effort on near-term grid modeling. Results from this effort will support the rebuilding of a more resilient electric power grid system in Puerto Rico. This effort is developing a dynamic model of the Puerto Rico power system to capture interdependencies and analysis of contingencies useful for real time and long term planning. The results of this modeling will also support and inform Department of Housing and Urban Development (HUD) and Federal Emergency Management Administration (FEMA) suggested actions that can be taken now and during the upcoming hurricane season, as well as longer-term infrastructure investments that can have lasting effect to make the grid more resilient.

OE is also supporting work with the Southern States Energy Board (SSEB) to develop a strategy for Electric Energy Policy and Regulatory Framework for Puerto Rico.

13. <u>Electric Grid Reliability</u>

The electric grid faces a vastly different mix of electricity generation resources than when the first utilities started delivering electricity over 100 years ago.

- What is the Department's strategy for ensuring that this new mix of generation sources still maintains a secure and reliable grid?

The grid needs to address variability, complexity, and uncertainty of this new mix of generation sources. We accomplish this through a portfolio of research, modelling, operations and planning activities with the national laboratories, universities, and industry.

One of the challenges with the national electric grid is that it consists of many different owners and operators. Within this context, the Department serves a research and development role, rather than a regulatory role. This provides a unique opportunity to see the big picture of all the different moving parts that form the grid of today.

- How does the Department work with all of these actors to achieve its goals on maintaining the reliability and resiliency of the future electric grid?

The Department establishes broad public-private partnerships and facilitated engagements through activities like the cross-department Grid Modernization Initiative (GMI) and the North American Synchrophasor Initiative (NASPI).

Fossil Energy

14. Small Scale Coal Modular Power Plants

The budget request for Fossil Energy discusses a plan to develop small-scale and modular coal firing units that would help meet the baseload requirements needed for our evolving electric grid.

- What are the benefits of this technology versus the large-scale coal units that currently exist in the market today?

Compared to the large-scale coal units that currently exist in the market today, small-scale modular units could be more efficient, flexible, and be less expensive to build. Further analysis is needed to better quantify the potential of this small-scale concept. Unlike the large-scale units that have slower response time, the small-scale units could be more responsive to changes in electricity demand and depending on the configuration, possibly manufactured in a shop environment, increasing the quality and uniformity of the units prior to shipping. A smaller footprint that could lead to a lower capital investment and the potential for faster stakeholder adoption, which would further drive costs down and potentially standardize the next generation of power plants. It's possible that such units could also be operated in communities to make products other than electricity, and drive local economies with jobs and new products.

- The budget request hopes to have two designs of these types of technologies by the end of 2022. Given the budget request proposes to reduce the overall funding level for Fossil Energy, what are we giving up to achieve this goal?

The budget request for Office of Fossil Energy appropriately funds high-priority activities, reduces or eliminates work on low-priority and late-stage

efforts, and balances the needs of ongoing programs with new initiatives to support progress. .

Science

15. New Quantum Information Sciences Effort

The budget request for the Office of Science proposes a new effort on quantum information science and artificial intelligence and requests $105 million from multiple Office of Science programs to support this effort.

- Can you give us a sense of the goals of this effort? What do we hope to ultimately achieve?

The Office of Science's (SC) involvement in this field is driven by quantum information science's (QIS) tremendous transformative potential for its mission needs and reflects its status as the Nation's leading supporter of basic research in physical sciences. SC's QIS strategy builds on DOE's and SC's unique strengths such as the capabilities, expertise and community resources that are resident in the DOE National Laboratory complex and adopts an approach that focuses on cross-cutting themes among the SC core programs.

- QIS will contribute to advance the SC mission through numerous applications. Improvements in optimization, pattern recognition,

simulation and machine learning via quantum computers and corresponding algorithms will enhance and accelerate the analysis of large datasets in High Energy Physics.

- Control of quantum coherence and entanglement in novel quantum materials and systems developed in BES will enable applications encompassing information processing, secure communication, sensors, energy generation, and control of chemical reactions.
- The development and deployment of quantum sensors will enable precision Nuclear Physics (NP) measurements and the development of quantum computing algorithms and analog quantum simulations applicable to many-body nuclear systems will enable calculations previously not possible with classical computing; the new Enriched Stable Isotope Production capability developed by the NP-managed DOE Isotope Program will produce isotopes critical for the Nation, as well as QIS.
- QIS-enhanced sensors will perform noninvasive visualization of subcellular biological processes in BER programs. SC's mission focus will drive the identification of critical grand challenge problems that are good candidates for QIS applications.

The requirements of these grand challenge problems will in turn provide a solid foundation that will guide the QIS investments within SC. In FY 2017, ASCR initiated two QIS programs, focused on quantum algorithm and quantum testbed development.

The budget request makes reference to the fact that this emphasis is at least partially driven by a desire to try to match Asian and European investments in quantum information systems. This is a similar argument to the increased emphasis the Office of Science has placed on exascale computing.

- Are we just playing catch up with the international community?

Quantum information science (QIS) is a thriving area of science that exploits particular quantum phenomena to measure, process, and transmit information in novel ways that greatly exceed existing capabilities. QIS provides a basic foundation for countless application areas including computing/simulations, sensing and metrology and communication. The past few years have been marked by rapid technical advances, growing industry investments and an increasingly competitive international landscape in QIS with significant implications for economic and national security.

DOE's QIS strategy builds on DOE and SC's unique strengths such as the capabilities, expertise and community resources that are resident in the DOE National Laboratory complex and adopts an approach that focuses on cross-

cutting themes among the SC core programs. SC has developed complementarity and synergy in QIS across SC program offices through information sharing and joint planning; to facilitate interagency coordination; and to bolster alignment of SC programs with identified Federal needs, priorities, and objectives in QIS.

- How is this effort being coordinated with other federal agency efforts that have focused on quantum computing efforts? How are we ensuring our investments aren't duplicative?

DOE is coordinating its QIS efforts through OSTP's Interagency Working Group on Quantum Information Systems. DOE/SC co-chairs that working group with NIST and NSF. In the near future OSTP plans to elevate the working group to a Subcommittee of NSTC. The Deputy Director for Programs in SC will serve as the co-chair for the new Subcommittee on Quantum Information Science.

Congressman Ken Calvert

16. Mixed Oxide (MOX) fuel project

The Department of Energy and NNSA claim the MOX Project will cost $12 billion and 31 years to complete, while the contractor has said that it can finish the project in 1/3 of the cost and 1/3 of the time. The FY16 NDAA Congress called for a rebaseline of the project, however, the contractor was never directed to perform a rebaseline.

- From the Department's perspective, is there a need to rebaseline the project and determine the true cost to complete before we make any decisions regarding the project?

There is no need to rebaseline this project. NNSA is confident in the latest independent cost estimate. In August 2016, the Department worked with the U.S. Army Corps of Engineers to update the project's performance baseline as required by the Fiscal Year 2016 National Defense Authorization Act. The GAO determined that our estimate of $17.2 billion was reliable in their September 2017 report on plutonium disposition. We subsequently requested a fixed price proposal from our contractor; however, they did not provide one.

17. <u>Energy Storage</u>

I appreciate your inclusion of robust funding for various energy storage programs, including the Joint Center for Energy Storage Research, a consortium of national labs, universities, and industry partners.

As you know, cost-competitive energy storage "will be critical" to balance the grid under high levels of variable renewable energy. Recently San Diego Gas & Electric built the world largest lithium-ion grid battery in the San Diego area and AES will finish an even larger battery in Long Beach by 2020. But there are needs for other cost-competitive technologies to meet the Southern California grid's needs.

- Much of the current research effort on energy storage technology is focused on transportation-uses. How can we bolster efforts to improve innovative grid-scale energy storage technologies to fulfill the

Department's vision for a more resilient and reliable 21st Century grid? Why is it important that we invest in other uses for this technology?

Office of Electricity (OE) efforts are focused on grid-scale energy storage. The development of novel materials and components to solve key cost and performance barriers to energy storage development is a critical element of the OE Energy Storage program. In the Office of Science's Basic Energy Sciences program, Joint Center for Energy Storage Research (JCESR) research has always included a strong effort on grid storage. For the renewal of JCESR starting in FY 2018, the emphasis will be on the discovery of new materials and chemistries beginning at atomic and molecular levels.

Among the drivers for the research is transformational performance, such as increased stability to improve battery lifetimes and enhance safety, for stationary storage critical for the electrical grid. DOE is proactively leveraging the research efforts across the Department to translate scientific advances to technology applications.

The OE Energy Storage program is designed to develop new and advanced technologies that will ensure the stability, reliability, and resilience of electricity infrastructure. The program focuses on accelerating the

development of new materials and device technologies that can lead to significant improvements in the cost and performance of energy storage systems and accelerate the adoption of the energy storage into the grid infrastructure. For the research supported by Basic Energy Sciences, advances in understanding battery science, including the discovery of new materials and chemistries for grid storage, are typically relevant to a broad range of energy storage applications.

It is also important that we invest in other technologies that can deliver similar benefits, which is the goal of the Beyond Batteries initiative, which is funded through the Office of Energy Efficiency and Renewable Energy (EERE). As a complement to the work of the OE Energy Storage Program, Beyond Batteries targets technologies that can allow a variety of generation and end-use devices to provide many of the same grid services as grid-scale battery storage.

18. StorageShot Concept

The Department's August 2017 "Staff Report on Electricity Markets and Reliability" acknowledges, cost-competitive energy storage "will be critical" to balance the grid under high levels of variable renewable energy. As electricity systems move towards greater variable renewables, bulk energy storage will become increasingly important -- capturing excess electricity, including renewable energy generation, when demand and prices are low,

and then utilizing that energy during peak demand times with low storage cost.

Despite energy storage technologies' large potential, the Obama Administration failed to commit the resources and expertise necessary to tackle key performance and cost barriers to the increased utilization of the technology. Historically, the Department's research programs have had the greatest impact when resources are focused on very clear, specific goals.

In 2011, the SunShot Initiative was established, which set out a goal for more affordable solar power and has met nearly 90% of their original cost target in just six years ($0.23 to $0.06 per kilowatt-hour for utility-scale photovoltaic (PV) solar power).

- In light of the success of SunShot, has the Department explored a similar model, related to Energy Storage, such as a StorageShot, a crosscutting Department-wide driven initiative aimed at driving down costs and improving the performance of a diverse set of grid-scale storage technologies?

The OE Energy Storage program is designed to develop new and advanced technologies that will ensure the stability, reliability, and resilience of electricity infrastructure. The program utilizes the 2013 Grid Storage Report as a roadmap to address the challenges facing deployment of grid scale energy storage. OE works with EERE and other DOE offices to coordinate activities in energy storage, Beyond Batteries, and other areas, to improve the ability of technologies across the DOE portfolio to provide grid services and create a more reliable, resilient grid.

- Given the Department's focus on "doing more with less," would setting this type of technology goal ensure scant federal dollars are being efficiently utilized to meet goals important for U.S. innovation leadership that improve grid resilience and reliability?

OE continues to maximize Federal resources to focus on energy storage activities that have the greatest likelihood of impact on grid reliability and resilience outcomes.

19. <u>U.S. Leadership in National Scientific User Facilities -Advanced Light Source Upgrade</u>

I've been a big supporter of our nation's national user facilities for years now. Not only are they a benefit to the Department of Energy, they are an asset to all federal research agencies and provide a big return on the federal investment.

Because of this, I was very pleased to see that the FY19 budget request provides funding for much needed upgrades to several facilities, including the Advanced Light Source at Berkeley Lab. The upgrade, once complete, will restore the ALS as the world leader in the delivery of soft x-ray light and will secure U.S. leadership in the capability for years to come.

At the same time, however, the Budget funds less than optimal operations of existing facilities within Basic Energy Sciences.

- Can you accomplish the goals you set out to achieve by funding upgrades without fully funding the operations of these facilities?

The FY 2019 President's Request for the Basic Energy Sciences (BES) program supports a balanced portfolio of (1) forefront research in condensed matter and materials sciences, chemical sciences, geosciences, and

biosciences, (2) the upgrade and construction of world-leading scientific user facilities, and (3) the operation of these facilities. Each facet of this portfolio is essential to maintaining international competitiveness in new materials discovery and chemical processes, which are the foundation for many applications of potential societal benefit. Within available funding, BES can successfully deliver our highest priority investments in facility upgrades while continuing to operate the suite of scientific user facilities and serve the program's mission needs.

Congressman Chuck Fleischmann

20. Cleanup verification

Oak Ridge has an ongoing mission that requires a focus on removing excess facilities to support future missions that falls under the DOE office of environmental management. Key to progress on cleanup is the establishment of disposal pathways (such as the proposed new land fill in Oak Ridge) and the verification of cleanup activities.

- Can we continue to see the department support ongoing independent verification of DOE's clean up mission, so that land transfers and verification of contractor cleanup activities are assured?

The Department is fully committed to addressing its responsibilities for the cleanup and disposition of excess facilities, radioactive waste, spent nuclear fuel, and other materials resulting from five decades of nuclear weapons development and production and Government-sponsored nuclear energy

research. There is an added benefit when the land and facilities can be transferred to the local community to the local community reuse organization support economic development and growth. We are committed to ensuring independent verification of our cleanup efforts and the efficient transfer of land continues, and the Department appreciate your leadership in this area.

21. Emergency Response

Oak Ridge is home to DOE's Radiation Emergency Assistants Center / Training Site (REAC/Ts). This is a key mission to ensure that governments, first responders, nurses, doctors and others are trained to respond to a radiation emergency.

- Can you tell us about your focus on emergency response components within DOE and how the NNSA components might or might not be associated with the new office of energy infrastructure security?

DOE plays a vital role in protecting our Nation's energy infrastructure from cyber threats, physical attack, and natural disasters. The new Office of Cybersecurity, Energy Security, and Emergency Response (CESER) will play an essential role in coordinating government and industry efforts to address these energy sector threats. The office will be composed of work currently conducted in the Office of Electricity Delivery and Energy Reliability's Infrastructure Security and Energy Restoration (ISER) and

Cybersecurity for Energy Delivery Systems (CEDS) accounts, with a focus on early-stage activities that improve cybersecurity and resilience to harden and evolve critical grid infrastructure, and will also enable more coordinated preparedness and response to cyber and physical threats and natural disasters.

NNSA's emergency response mission combines efforts from multiple program offices across the nuclear security enterprise, and NNSA will continue to play a vital role in the U.S. Government's efforts to prevent, counter, and respond to nuclear and radiological events, including terrorism or an accidental release of radiological materials. The establishment of the CESER office does not involve any transfer of functions between NNSA and CESER, but the offices will coordinate as appropriate during emergency responses.

22. Domestic Uranium Enrichment

America does not have a domestic uranium enrichment technology in commercial use, and NNSA has pushed out a restoration of this capability for national security purposes by 20 years. Right now, however, the advanced nuclear reactor community is clamoring for a source of "high assay" low enriched uranium, and a recent report by the Nuclear Energy Institute made clear the need to establish both an enrichment and a fuel fabrication capacity for this specialty material if America – and not China or Russia -- is to lead in this sector.

- Is DOE taking a look at using the enrichment technology we are operating in Oak Ridge for this purpose, and if not, can you do so?

The Department recognizes the potential long-term interest from industry in the development of advanced reactors and will continue to monitor and evaluate the situation.

23. Accident Tolerant Fuels

- Does DoE anticipate supporting the ATF program at an appropriate level that will support vendor led R&D geared towards full deployment of ATF in the mid-2020s?

The FY 2019 Request continues to support the vendor-led R&D and funds the unique capabilities of the national laboratories to support industry. The industry has set challenging goals for ATF deployment recognizing the potential safety and economic benefits for existing reactors. One goal is to install the first core reloads of ATF concepts in commercial reactors in the mid-2020s. Realization of that goal will depend upon positive results of ongoing testing and evaluation of the ATF concepts. The FY 2019 Request funds those ongoing testing and evaluation activities.

- In FY2019 what programmatic resources does DoE need in order to support the vendor led program so funds could be appropriated to cover those needs without taking money from the vendors?

The ATF program is a collaborative effort between the fuel vendors, utilities, and the national laboratories. The FY 2019 Request adequately funds both the vendor-led R&D and the laboratory capabilities that are needed by the fuel vendors to develop and qualify their ATF concepts. These include the operation and maintenance of irradiation test reactors and post-irradiation examination facilities that provide performance data that will be required by industry.

- Is DoE committed to continue sustained investment to develop new materials that have the potential to further increase plant savings?

The FY 2019 Request supports early-stage R&D in three major mission areas: supporting the existing nuclear fleet, developing advanced nuclear reactor concepts, and developing advanced fuel cycle technologies. New and innovative materials are required in all of these mission areas and the FY19 Request funds investments in material development, especially in Reactor Concepts Research, Development and Demonstration; Fuel Cycle Research and Development; and Nuclear Energy Enabling Technologies.

Congresswoman Jaime Herrera Beutler

24. Hydropower

Secretary Perry, as you know, hydropower provides the majority of electricity generation in my state. Power that provides grid reliability and resiliency benefits, and also works to integrate other variable energy resources. However, hydropower and pumped storage projects are not always properly valued or compensated for these services they provide.

- Can you discuss how you, and the Department, view the contributions of hydropower and pumped storage to our national energy mix and what the hydropower program in EERE's Water Power Technologies Office can do to address this important issue?

DOE believes strongly that hydropower has unique value as a dispatchable, predictable, and renewable resource that provides critical benefits to the nation's power system. In the Pacific Northwest, where 40% of the nation's hydropower resource capacity is located, hydropower facilities contribute local, regional and West-wide reliability and resiliency benefits. DOE is aware of the challenges related to valuing and compensating the grid reliability and resiliency benefits hydropower provides; significant research is needed to evaluate and quantify the value and role of hydropower in the power system of the future, and the implications for the design and operation of hydropower and pumped storage systems. DOE's Water Power Technologies Office has begun to undertake significant new research in this area, including projects responsive to FY17 and FY18 Congressional

direction, and has proposed $20 million in new research for FY19 as part of the DOE Beyond Batteries initiative. DOE's research will be informed by the results of a recently-completed Request for Information (https://eere-exchange.energy.gov/default.aspx#Foaldc7e629f0-7127-43df-a13b-6a5da7a38b3a) to recruit data and recommendations on topics ranging from technology capabilities to advanced system modeling.

25. Bonneville Power Association

- What steps are being taken to bring financial stability and greater alignment with market prices to the BPA that will allow them to continue being the provider of choice once their contracts mature in 2028?
- How does the DOE plan to ensure that the annual payments to the Treasury continue into the future?

This year, BPA embarked on its 2018-2023 Strategic Plan released in January 2018. Through achieving strategic goals outlined in the Strategic Plan, BPA aims to address industry dynamics and risks that challenge its specific commercial performance. Strategic goals include: 1) strengthening BPA's financial health for cost management, financial resiliency, and high credit ratings; 2) modernizing assets and operations to make BPA more competitive and responsive to customer needs; and 3) continuing to take advantage of new market opportunities to maximize the value of the

flexibility and capacity services that clean hydropower resources can provide while providing responsible environmental stewardship and regional accountability.

The BPA Administrator has a Federal statutory responsibility to assure that BPA recovers all its costs, including its obligations to repay the Treasury. BPA establishes its rates to maintain a 95 percent probability of making this repayment over two consecutive years. This equates to a 97.5 percent certainty of making annual scheduled payments in a single year of the rate period. Last year BPA made its annual Treasury payment on time and in full for the 34th consecutive year. Under current law, DOE is responsible for the oversight and supervision of BPA, including that BPA adheres to Congressional mandates and its repayment obligations to the Treasury.

- How does selling off transmission assets bring stability to the agency?

In the Administration's view, ownership of transmission assets is best carried out by the private sector, which provides appropriate market and regulatory incentives. Eliminating or reducing the Federal Government's role in owning and operating transmission assets--and increasing the private sector's role-- would encourage a more efficient allocation of economic

resources--and mitigate unnecessary risk to taxpayers. The proposed sale of transmission assets would require Congressional authorization.

- Can you explain how selling off the assets with a projected one-time revenue of $5 billion compares favorably to $32 billion that has been repaid to the taxpayers through the use of these publicly owned assets?

Taxpayers incur risks based on the taxpayer's capital investments in assets owned by the Power Marketing Administrations and the deferred repayment of these capital investments. The proposed sale of assets would eliminate the outstanding debt Bonneville Power Administration (BPA) currently holds on its transmission lines and other transmission assets and the risks associated with that debt.

26. <u>Pumped Storage</u>

Language to study the economics of pumped storage hydro projects, which offer a utility-scale approach to resiliently integrating renewables, was included in FY 2017 Energy and Water Appropriations.

- Could someone on your staff provide me with an update on the status of the study?

In response to the FY17 Congressional direction to conduct two techno-economic studies of pumped storage projects, the Water Power Technologies Office has brought together technology and grid expertise

across five national laboratories to develop a new, widely applicable methodology to assess the value of pumped storage projects. The project team is in the process of designing this methodology, and will subsequently test and refine that methodology through the application of the methodology at two specific pumped storage sites which will be competitively selected. On April 27, the Office issued a Notice of Opportunity for Technical Assistance (NOTA) (https://eere-exchange.energy.gov/Default.aspx#FoaIdf8968306-42e1-4480-b916-fdcf514e1051) that invites developers the opportunity to submit their pumped storage proposals as candidates for the techno-economic studies in exchange for data and participation. On May 2, during Water Power Week in Washington, D.C., the laboratory team lead, Argonne National Laboratory, debuted a preliminary methodology outline with the National Hydropower Association's value task force. DOE staff would be happy to provide you with a more detailed briefing on the status and objectives of this study if valuable.

27. Hanford

My district is downstream of the Hanford site, and the Waste Treatment Plant (WTP) is essential to protecting the Columbia River from the millions of gallons of nuclear waste currently stored in underground tanks at

Hanford. The Direct Feed Low Activity Waste (DFLAW) facility is scheduled to begin vitrifying waste as early as 2022.

- How will WTP's funding needs change as startup, commissioning, and operations begin at the DFLAW facility?

The FY 2019 budget request supports DOE's approach to beginning tank waste treatment at Hanford by the 2023 Consent Decree milestone, through the Direct Feed Low Activity Waste (DFLAW) approach. The contractor is incentivized to deliver the associated WTP facilities as soon as December 2021. As the intensity of startup testing and commissioning activities increases, funding needs for DFLAW activities will shift from construction to operations.

In order for the DFLAW facility to successfully operate, it will need a steady supply of waste from Hanford's underground storage tanks.

- What steps is DOE taking to ensure the infrastructure and technology are in place to supply an adequate feed of waste to DFLAW, and what do you expect those associated costs will be?

DOE is in the process of evaluating the associated costs, necessary infrastructure upgrades, and other information to ensure adequate waste feed is available to support DFLAW. DOE is assessing the option of initially treating tank waste using a Tank Side Cesium Removal treatment (TSCR) unit and then using an optimized Low Activity Waste Pretreatment System

(LAWPS) facility as a pretreatment asset to provide waste feed for the LAW facility. DOE's contractor is evaluating vendor proposals for the design, fabrication and testing of a TSCR unit, and is continuing the design development of an optimized LAWPS.

As work to prepare the DFLAW facility for operations continues, there will still be important design, engineering, and construction work required for the High Level Waste (HLW) and Pretreatment (PT) facilities.

- What steps is DOE taking to ensure that all of these facilities are on track to meet their scheduled completion dates? And how much funding will these efforts require in future years?

The Department is closely examining and will continue to monitor the eight milestones associated with substantially completing the construction of and commissioning HLW and PT, and the hot start and initial operations milestones for the WTP.

DOE has asked the United States Army Corps of Engineers (Army Corps) to perform a parametric analysis of certain options and funding scenarios to evaluate the likelihood of achieving certain HLW and PT-related milestones. The Army Corps analysis will include an evaluation of the annual funding need for the HLW and PT facilities under certain specified scenarios.

The 300-296 Waste Site is a highly radioactive spill located underneath the 324 Building at Hanford, in very close proximity to the Columbia River. At the proposed funding level of $658 million for DOE's Richland Operations Office (RL), it is unlikely that substantial progress would be made in remediating this waste site in FY19.

- How do you plan to fund this important cleanup effort, and when do you expect the project to be complete?

The FY 2019 request for the Richland Operations Office includes $66 million for the River Corridor Closure Project, including the ongoing activities to remediate the 300-296 Waste Site, such as the spill underneath the 324 building. Our workers continue to make safe and steady progress toward the remediation of this waste site, and expect to complete the work by September 2019, which is the Tri-Party Agreement deadline for the work.

28. <u>DOE/NIH/VA – Leveraging national assets</u>

This morning there are two hearings to examine the FY19 budget proposal, including one for the Department of Energy and another for the Department of Health and Human Services. I serve on both subcommittees, which has given me a unique perspective to identify opportunities to leverage the best capabilities across agencies. As you know, the DOE labs have world class assets, like high performance computing and data analytics, that are really national assets. For example, the Pacific Northwest National Laboratory in my state of WA, and in Rep. Newhouse's district, is well known for its work in genomics and biological science, especially as it pertains to the environment and environmental cleanup. That same expertise has been used to advance the science in proteins, biomarkers, and in other areas that benefit cancer patients, veterans' health and active-duty military.

- Given the significant contributions of PNNL's research to NIH and the VA, what can you do as Secretary of Energy to ensure the capabilities of the national labs are available to these and other federal agencies?

The Department of Energy (DOE) has and will continue to make the special and unique capabilities and expertise of the DOE national laboratories available to other Federal agencies via the Strategic Partnerships Projects. DOE has well established policies and procedures to facilitate access to the DOE national laboratories based on the relevant statutes that authorize use of the DOE laboratories by other Federal agencies (e.g., Atomic Energy Act, Economy Act).

DOE also has executed several Memorandums of Understanding (MOUs) with other Federal agencies which recognize the unique partnership between an agency and DOE regarding access to the DOE national laboratory system. For example, DOE and the National Institutes of Health (NIH) have a long-standing MOU which includes some key special provisions that ensure the NIH has access to the DOE laboratories to further its critical health missions. In addition, the Nuclear Regulatory Commission (NRC) and DOE have an MOU to recognize the continued relationship between the two agencies so NRC can access the unique knowledge and expertise at the DOE laboratories

to assist NRC in its regulatory mission. Finally, DOE has recently executed a MOU with DOD that establishes several overarching provisions and requirements that apply to all work funded by DOD at the DOE laboratories which facilitates access to the DOE laboratories.

29. Grid

Washington state is fortunate to have a strong innovation effort in grid modernization, through work with Bonneville, the Pacific Northwest National Lab, University of Washington, Washington State University and industry who all recognize the need for a robust, stable, and integrated grid. As you know, the committee has supported the Department's work through the multi-year Grid Modernization Initiative, and the Grid Modernization Laboratory Consortium, and we hope to see these continue.

- Can you explain your plans for continuing these efforts, and can you ensure that the reorganization you've proposed by dividing the Office of Electricity Delivery and Energy Reliability (OE) will not impact their on-going projects?

The restructuring to move the Cybersecurity and Emerging Threats and the Infrastructure Security and Energy Restoration Divisions into a new Office of Cybersecurity, Energy Security, and Emergency Response will not impact ongoing projects in Washington State. The Department appreciates your support and plans to continue the Grid Modernization Initiative and the Grid Modernization Laboratory Consortium in FY 2019.

30. Research and Technology

Broad Goals Question: The 17 world-class DOE-supported national energy laboratories, as well as the nation's premiere research universities and private research facilities, constitute the most comprehensive energy research and development network of its kind. Their work has yielded some of the most significant technological breakthroughs in the energy sector, enhancing our nation's domestic electricity supply and improving energy security. Historically, this network has had the greatest impact when resources are focused on very clear, ambitious goals.

- With that model in mind, would orienting DOE's research programs to develop specific goals for other important energy technologies, such as grid-scale energy storage, advanced nuclear reactors, and innovative fossil energy systems, bolster federally funded research focused energy use, generation, and storage?

- Should the Department set focused research goal for the labs to expedite the commercial deployment of affordable advanced energy technologies?

- Given the Department's focus on "doing more with less," would setting this type of technology goal ensure scant federal dollars are being efficiently utilized to meet goals important for U.S. innovation leadership?

- How can federally-funded research efforts be better focused on improving the cost of deployment for advanced energy technologies, so ultimately the American public can realize the benefits of this important work?

America's research and development (R&D) leadership is built on a network of public and private entities, often working in partnership, that house world-leading facilities and top technical talent. The DOE's 17 National Laboratories are central to this network and support some of the most

transformative discovery science and innovative early-stage research, research that has generated tremendous return to the taxpayer in terms of technology development and has seeded the Nation's position of energy dominance.

The Department's process for road-mapping its current and future research is very much goal-driven. This is especially the case for use-inspired research, such as the body of R&D supported by the applied energy programs, much of which occurs at the National Labs. These programs - supporting advances in areas such as grid-scale energy storage systems, advanced nuclear reactors, and innovative fossil energy systems, as well as important work in areas such as cybersecurity and the energy-water nexus - are structured around technical milestones and measurable progress.

A typical DOE research program benefits from industry and external stakeholder input. Strategic annual resource planning for National Lab funding is informed by outside experts before final decisions are made by DOE program managers. In this way, clear and impactful objectives are set for all research activities, and the Department ensures that it is pursuing

ambitious goals that provide a foundation for continued energy dominance and economic, environmental and national security benefits.

The Joint Center for Energy Storage Research (JCESR) at Argonne National Laboratory is an example of successful coordination of the DOE research network around the important topic of energy storage. JCESR leverages leading researchers and the unique facilities of its National Lab host, and is structured around three high-impact research focus areas, each of which has ambitious technical targets that support system targets for performance (400 Watt-hours per kilogram) and cost ($100 / Kilowatt hour).

By successfully organizing Lab resources to tackle challenges head on and by establishing numerous industry partnerships to ensure the research is supporting viable development pathways with potential market outcomes, JCESR plays an important contributing role to the Nation's future technology leadership.

The Department's FY 2019 Budget Request integrates improved management efficiencies and focused R&D efforts and allows the DOE to better leverage its existing facilities and support an R&D portfolio that

maximizes the return on every taxpayer dollar the DOE is entrusted to steward.

The Department is undertaking efforts to expand industry awareness of and participation in the goal-setting process. The Office of Technology Transitions (OTT) mission is to expand the commercial impact of the Department's R&D portfolio. Through programs such as the OTT Technology Commercialization Fund and agency reform efforts to streamline mechanisms for public-private partnerships with the National Labs, the DOE is working to enable and incentivize research partnerships with industry.

The Department of Energy has recently made improvements through its tech to market and technology transitions programs. However, many companies still struggle with tech transfer contracting procedures that can take up to a year to complete.

- From your perspective, how could the federal government streamline public-private partnerships and ease access to taxpayer supported research?

As you have noted, in response to feedback from stakeholders, the Department has recently made several changes in our processes to improve the speed of business for entering into partnership agreements. We continue to look for ways to improve within DOE.

Earlier this year, the National Institute of Standards and Technology (NIST) within the Department of Commerce, which has a statutory mandate to coordinate agencies across the entire federal government specifically with regard to technology transfer, has begun soliciting additional feedback through a broad based conversation, including a formal Request for Information, to gather stakeholder input to identify additional changes that would further facilitate partnership mechanisms and process improvements. The Department is participating in this effort, and will be eager to consider the results. This may lead to recommendations on statutory changes, non-statutory policy changes that can be effected across agencies, sharing of best practices or other changes. The Department will remain actively involved in these efforts to streamline federal labs' ability to partner with the private sector and provide access to the labs' unique capabilities.

Congresswoman Marcy Kaptur

31. Beyond Batteries Initiative

This year's budget request includes $90 million for a new effort as part of the broader Grid Modernization focus on battery technologies within the Department. EERE and the Office of Electricity have been funding energy storage research and development for years.

- How will this new initiative build on those previous investments?

As part of the Administration's efforts to increase the reliability and resilience of our energy systems, Beyond Batteries takes a broad, holistic view of energy storage as a set of capabilities that enable temporal flexibility in the conversion of energy resources to useful energy services. Batteries, or electrochemical energy storage technologies, are an important technology solution to continue to advance, but there are other options to achieve the same energy services batteries can provide. Beyond Batteries looks at the functions that grid-scale batteries can provide, then focuses on other ways to provide those functions. In this way, it is inspired by the success of previous investments in grid-scale batteries, and builds off of previous work in both the Office of Electricity and the Office of Energy Efficiency and Renewable Energy to effectively mimic many of the benefits of grid-scale batteries.

For example, controllable loads work in the FY 2019 request concentrates on technologies that enable behind-the-meter devices to provide grid services, including power electronics that incorporate storage controls. This work builds on previous investments in systems integration in the Solar program and in power electronics in the Advanced Manufacturing program to develop new technologies leveraging scalable domestic manufacturing capabilities.

The FY 2019 request also includes work to research, validate, and improve the ability of large, bulk power resources like geothermal and hydropower to operate flexibly over long periods of time and provide essential reliability services. This includes field testing to validate the ability of these resources to respond quickly to electrical demand fluctuations and other grid disturbances. This work builds off of previous investments in the Geothermal program focused on the ramping ability of geothermal plants, as well as work in the Water program on valuation of hydropower and pumped storage.

Finally, the FY 2019 request for Beyond Batteries includes work centered on reliable hybrid energy systems to include technologies and approaches for integrating electric vehicles, hydrogen fuels cells, distributed wind and solar, and building loads. In addition to incorporating the progress made from previous work in each of the individual programs, this work builds off of successful Grid Modernization Initiative projects that cut across DOE offices.

- What makes this initiative different from the activities Congress has provided funding for in the past?

Beyond Batteries takes a broad, holistic view of energy storage as a set of capabilities that enable temporal flexibility in the conversion of energy resources to useful energy services. Batteries, or electrochemical energy storage technologies, are an important technology solution to continue to advance, but there are other options to achieve the same energy services batteries can provide.. Beyond Batteries looks at the functions that grid-scale batteries can provide, then focuses on other ways to provide those functions. In the past, activities focused on demand response, distributed electricity generation, hybrid systems, thermal management, etc. have all be narrowly focused on a technology solution to a specific application. The Beyond Batteries initiative builds upon this past work, exploits synergies, and provides a more comprehensive and coordinated approach to research and development of a grid flexibility solution set, which still includes batteries and other forms of energy storage.

- Is the Department proposing new work scope in this initiative, or is this simply a recharacterization of work that is already under way?

Beyond Batteries is about providing the grid with reliable and resilient services using advanced generation and end-use technologies, and is therefore not a new scope of work.

- How does the Department envision EERE and OE working together on this initiative?

As part of the Grid Modernization Initiative (GMI), Beyond Batteries will be managed through the GMI structure to leverage its success, ensure coordination, and avoid overlap between the Department's program offices which will initially include the Office of Energy Efficiency and Renewable Energy and the Office of Electricity. The Department does envision expanding Beyond Batteries topics that would benefit from the inclusion of the Office of Fossil Energy and the Office of Nuclear Energy, as well as the Office of Science. Where relevant, program office partnerships would be developed within the GMI framework.

- If energy storage is truly a Departmental priority, why did your budget request cut OE's Energy Storage program by 74 percent? The Beyond Batteries Initiative does not appear to cover the same activities.

Energy storage systems can significantly improve the operating capabilities of the electricity grid—providing the flexibility for addressing variability in electricity supply and demand, optimizing asset utilization, and strengthening electric system reliability and resilience. In FY 2019, OE energy storage R&D efforts will continue to be focused on the development of novel materials and key components for promising megawatt-scale energy

storage systems which will provide added resilience and control capabilities to the grid.

Regarding the Beyond Batteries initiative, it does not cover the same scope, and OE and EERE are in discussions to ensure coordination. Beyond Batteries focuses on better coordination of controllable loads and flexible generation technologies to provide many of the same reliability and resiliency benefits as grid-scale energy storage. Specifically, the Department is emphasizing the ability of its entire portfolio to improve grid reliability and resiliency by viewing its programs—where relevant—from the perspective of the grid services they can provide.

32. Carbon Capture

At the CERAWeek conference in Houston, Lynn Good, Duke Energy's CEO announced a plan to eliminate coal use by 2050 unless carbon capture technology is available. America's energy CEOs are, in effect, saying there is no future for coal without carbon capture. Given this administration's support for coal, I can't figure out why your budget slashes funding for carbon capture by 80 percent.

- Can you explain this disconnect?

DOE is committed to supporting research and development for transformational technologies that reduce the capital and energy penalty so that carbon capture with enhanced oil recovery is economically viable for

coal fired power plants. The reduction in funding reflects DOE's successes in demonstrating first-generation capture technologies, which we now deem mature enough for industry to further adapt or deploy in a commercial environment. DOE's role will be to support early-stage research in the discovery of novel materials and processes which can be accomplished in the laboratory and with advanced computing through our network on universities and national laboratories. DOE will continue to seek partnerships with industry to scale these novel technologies for commercial deployment.

33. ARPA-E

I appreciated our discussion on APRA-E at the hearing. At this year's ARPA-E Summit, the Acting Director of ARPA-E suggested that "reforms" may be coming to the program. The Subcommittee is very interested in any proposed changes to ARPA-E, and we would expect to be informed before any changes are made.

- Can you commit to informing the Subcommittee prior to any changes to ARPA-E?

DOE will operate the ARPA-E program in accordance with Congressional appropriation and direction. Should ARPA-E make any substantive changes to the program, we will ensure that the Subcommittee stay informed through the appropriate congressional notifications.

34. Energy Infrastructure

President Trump has proposed an infrastructure plan that falls short of what the United States needs. There are many things I disagree with in his plan, but among the most important is the lack of discussion of energy infrastructure. The American Society of Civil Engineers gave American energy infrastructure a D+ rating, as our aging system is at capacity and desperately needs updating.

Hurricanes Harvey, Irma, and Maria pummeled Texas, Florida, and Puerto Rico, causing enormous damage and human suffering. Parts of Puerto Rico are still without power. As storms like these become increasingly common due to climate change, it is clear that we must invest more in storm hardening and other upgrades to make the grid more resilient.

- Did President Trump consult with you while crafting his infrastructure plan?

Yes, DOE was consulted.

- Do you think that reducing the Electricity Deliver and Energy Reliability account will help achieve this goal of improved resiliency?

By working cooperatively with utilities, Federal and state regulators, regional transmission organizations (RTOs), independent system operators (ISOs), the North American Electric Reliability Corporation (NERC), the Electric Power Research Institute (EPRI), and academic institutions, we will be able to achieve significant improvements in grid resilience.

TUESDAY, MARCH 20, 2018.

NATIONAL NUCLEAR SECURITY ADMINISTRATION

WITNESSES

LISA GORDON-HAGERTY, UNDER SECRETARY FOR NATIONAL SECURITY AND ADMINISTRATOR FOR THE NATIONAL NUCLEAR SECURITY ADMINISTRATION

PHIL CALBOS, PRINCIPAL ASSISTANT DEPUTY ADMINISTRATOR FOR DEFENSE PROGRAMS

DAVE HUIZENGA, PRINCIPAL ASSISTANT DEPUTY ADMINISTRATOR FOR DEFENSE NUCLEAR NONPROLIFERATION

ADMIRAL JAMES CALDWELL, OFFICE OF NAVAL REACTORS

Mr. SIMPSON. I would like to call the hearing to order. Good morning, everyone.

Today's hearing is to discuss the details of the Fiscal Year 2019 Budget Request for the National Nuclear Security Administration, or the NNSA, which includes programs to sustain our nation's nuclear weapon stockpile and advance U.S. nonproliferation goals, and provide safe and reliable nuclear propulsion for the U.S. Navy.

I would like to welcome all of our witnesses, those we are hearing from for the first time, and those we are welcoming back.

Ms. Lisa Gordon-Hagerty is the newly-confirmed Administrator of the National Nuclear Security Administration; Admiral James Caldwell is testifying again as Director of Naval Reactors; Mr. Phil Calbos is the Principal Assistant Deputy Administrator for Defense Programs; and Mr. Dave Huizenga who has previously testified before this subcommittee in a different capacity, is testifying today as the Principal Assistant Deputy Administrator for Defense Nuclear Non-Proliferation.

Thanks to all of you for being here today, and we look forward to hearing your testimony.

The President's budget request for the Department of Energy shows a strong commitment to enhancing our newest national security. The request for the NNSA is $15.1 billion, an increase of $1.16 billion or 8 percent above last year's budget request.

This funding will advance the modernization of the nuclear weapons stockpile and its supporting infrastructure, prevent, counter and response to nuclear proliferation and terrorism threats and support the Navy's nuclear propulsion needs.

We look forward to hearing from you today on how this administration's recently concluded Nuclear Posture Review will impact ongoing nuclear stockpile modernization plans, as well as what is needed to support the nuclear infrastructure and workforce that is the foundation our nation's nuclear capabilities.

With the confirmed Administrator now in place to lead the NNSA, we are also looking forward to hearing more about your

strategies for addressing long-standing governance and management problems in the nuclear security enterprise.

Please ensure that the hearing record responses, to the questions for the record, and in the supporting information requested by the subcommittee are delivered in final form to us no later than 4 weeks from the time you receive them. I also ask that if members have additional questions they would like to submit to the subcommittee for the record, that they, please, do so by the close of business on Friday.

With those opening comments, I would like to yield to our Ranking Member, Ms. Kaptur, for any opening comments that she might have.

Ms. KAPTUR. Thank you, Mr. Chairman, for yielding the time. And thank you all for joining us today. And we appreciate your appearing before our subcommittee. And we want to welcome the Administrator, Gordon-Haggerty, in your new role. It was a pleasure to meet with you recently. Thank you very much for taking the time.

The Department of Energy and the National Nuclear Security administration have an awesome mandate to safeguard and shepherd our nation's nuclear weapons complex, which undergirds our national security and strategic interests. And I know that each of you today bear the weight of that awesome responsibility. Thank you.

I posture to note that nuclear weapons and the platforms that deliver them serve as only one component of our national security and national nuclear strategy. Because, in fact, strategic diplomacy must be our nation's first pathway to address global nuclear challenges.

However, I am concerned that this administration does not take the need for diplomacy nearly as seriously as it should. The reductions and staffing at the State Department are decimating our ability to effectively exert that tool of our national power to mitigate the risk we face from the countries who have these weapons on hand, and the lack of appointment of certain ambassadors is particularly troubling.

In addition, I feel the need to remind this administration that the entire nuclear enterprise is an exercise in deterrence. That should be the frame through which every decision about our nuclear capacity and capability is made. How do our adversaries perceive alternative A versus alternative B?

Diplomatic engagement is fundamental and critical to the art of deterrence, and without it, it makes nuclear engagement more possible. It gives us insight into other nation's perceptions, but it also allows us to help us provide the narrative so that our intentions and our policies are unambiguous.

And of course the NNSA Defense Nuclear Nonproliferation Program also plays a central role in our nuclear security by securing nuclear material globally, and providing important insights into foreign nuclear programs, bringing the depth of knowledge that is well valued.

These efforts rely first on relationships and soft power. The Nonproliferation Program has an important role in verification of trea-

ties and agreements to curb nuclear weapons and weapons-usable materials.

DNN develops technologies to help strengthen the safeguards mission of the International Atomic Energy Agency. For example, the Department of Energy's National Labs created the on-line Enrichment Monitor, which allows the IAEA inspectors to measure in real time the enrichment levels of uranium, an enormous step forward for verifying compliance with safeguards agreements.

Yet, in a budget request that sees NNSA increasing 17 percent overall, funding for the Nonproliferation Program is down slightly.

Since we last met to review the NNSA budget we continue to see evolving challenges around our world, and an intensified threat environment such as from Russia and China.

The Nuclear Posture Review recognizes these threats, and therefore focuses on ensuring and rebuilding military nuclear capabilities, but pays little more than lip service to the treaties that have enabled dramatic reductions in certain types of nuclear weapons.

My concerns with the NPR are many, and I will name just a few here. I feel compelled to do so. The Nuclear Posture Review proposes two new nuclear weapons capabilities. While these are not new weapon systems, they do not currently exist in our nuclear arsenal as well as retaining the B83 gravity bomb, which the Department of Defense and Energy committed in 2013 would be retired.

Number 2, I have serious concerns about the potential for low-yield nuclear weapons making the threshold for nuclear use more likely. Will our potential adversaries know what type of weapons we are using if the nuclear weapons are substantially similar to conventional ones?

This is particularly concerning as the NPR also proposes to expand the circumstances under which nuclear weapons could be used including in response to "non-nuclear strategic threats."

Number 3, finally, there is the issue of cost. To continue to field the Nuclear Force the size we have today is estimated to cost $1.2 trillion according to the CBO, and 400 billion alone, in modernization costs.

This doesn't include any of the proposed new nuclear capabilities outlined in the Posture Review. Regardless of my opinion on these matters or my vote, these costs increases are simply not realistically feasible given the other constraints on the Federal budget.

And so I would say to my chairman, and to my fellow subcommittee members, it is critical that we have a robust public debate about the proposals in the NPR within the context of our fiscal situation.

Recognizing the new threats we face, we need to discuss these important issues, and in particular, we need to hear from the NNSA, because so far there has been a significant lack of detail about how we would implement the proposed new capabilities.

Mindful of the many needs of our nation, this subcommittee must ensure precious resources are balanced appropriately as part of a coherent strategy that includes all the tools of our national power.

And with that, I close my remarks. Thank you, Mr. Chairman, for the time.

Mr. SIMPSON. Thank you. Ms. Gordon-Hagerty, you have been on the job now for 3 weeks. So, welcome to our committee for the first time. We look forward to hearing from you.

Ms. GORDON-HAGERTY. Thank you. I am delighted to be here. Chairman Simpson, Ranking Member Kaptur, and distinguished members of the subcommittee, thank you for the opportunity to present the President's Fiscal Year 2019 request for the Department of Energy's National Nuclear Security administration Budget Request.

It is a privilege to appear before you today, representing the extraordinary men and women of the DOE NNSA and the vital roles we play in executing our national security missions.

Chairman Simpson, a written statement has been provided to the subcommittee, and I respectfully request that it be submitted for the record.

Mr. SIMPSON. Will do.

Ms. GORDON-HAGERTY. Thank you. Since being sworn in almost 4 weeks ago, I have had the opportunity to receive in-depth briefings by the NNSA's programs and projects. I still have a great deal more to learn, but what I have seen so far is impressive.

NNSA has shown steady progress with the support of this subcommittee and Congress. For example, infrastructure and modernization, flight testing of the B61–12, removals of highly-enriched uranium from Ghana and Kazakhstan, and commissioning of a new class of nuclear-powered aircraft carrier.

These are but a few examples of how NNSA has lent its world-class expertise to keeping our nation safe and secure. But there is much more to be done to meet the challenges posed by the geopolitical environment.

The President's fiscal year 2019 Budget Request for NNSA is $15.1 billion, providing the resources required to help ensure we are able to protect and keep our Nation, allies and partners safe. And this request also moves us towards a deterrent that is modern, robust, flexible, resilient, ready and appropriately tailored to meet current and future uncertainties, as outlined in the 2018 Nuclear Posture Review.

The fiscal year 2019 budget request clearly demonstrates the administration's strong support for NNSA, and our three enduring missions, maintaining the safety, security and reliability of the U.S. nuclear weapons stockpile; reducing the threat of nuclear proliferation and nuclear terrorism around the world; and providing nuclear propulsion for the U.S. Navy's fleet of aircraft carriers and submarines.

NNSA's fiscal year 2019 budget request for weapons activities account is $11 billion, an increase of 7.6 percent over the fiscal year 2018 request. This funding supports the nation's current and future defense posture, including infrastructure across the nuclear security enterprise.

This budget request supports our three life extension programs and one major alteration, and advances recapitalization and modernization of our Cold War era infrastructure.

The modernization and recapitalization of our nuclear security enterprise infrastructure will take decades, but we are making steady progress.

With this subcommittee's support, over the least several years, NNSA has completed more than 100 infrastructure recapitalization projects, and accelerated critical maintenance work to reduce risks to our workforce and our missions.

Additionally, the Uranium Processing Facility Project continues to make timely progress with the recent completion of two subprojects that were finished two months ahead of schedule, and $18 million under budget.

Of the five remaining subprojects, two are underway and three will begin this year.

The fiscal year 2019 Budget Request also includes $1.9 billion for defense nuclear nonproliferation account, a 3.9 percent increase over the fiscal year 2018 request. This funding continues NNSA's far-reaching activities around the world to prevent the proliferation of nuclear weapons, counter the threat of nuclear terrorism, and respond to nuclear and radiological incidents.

The budget request for naval reactors is $1.8 billion, a 20.9 percent increase above the fiscal year 2018 request. In addition to supporting today's operational fleet, this request sustains Naval Reactors' ability to deliver tomorrow's fleet.

It funds three key projects. Developing the Columbia-Class Reactor Plant, refueling a research and training reactor in New York, and building a new spent-fuel handling facility in Idaho.

The budget request for Federal salaries and expenses is $422.5 million. This request provides funding for 1,715 full-time equivalents for effective program management and appropriate oversight of the nuclear security enterprise.

Of note, since 2010, NNSA's program funding has increased 50 percent, while staffing has decreased 10 percent.

NNSA's fiscal year 2019 budget request is a result of a disciplined process to prioritize funding for validated requirements as designated by the administration, and it sets forth the foundation to implement policies from the Nuclear Posture Review and the National Security Strategy.

Thank you for your continued strong support and the opportunity to testify before you today. And I look forward to answering any questions you may have. Thank you.

[The information follows:]

Statement of Lisa E. Gordon-Hagerty
Administrator
National Nuclear Security Administration
U.S. Department of Energy
on the
Fiscal Year 2019 President's Budget Request
Before the
Subcommittee on Energy and Water Development
House Committee on Appropriations

March 20, 2018

Chairman Simpson, Ranking Member Kaptur, and Members of the Subcommittee, thank you for the opportunity to present the President's Fiscal Year (FY) 2019 budget request for the Department of Energy's (DOE) National Nuclear Security Administration (NNSA). NNSA deeply appreciates the Committee's strong support for the nuclear security mission and for the extraordinary people and organizations that are responsible for its execution.

The President's FY 2019 budget request for NNSA is $15.1 billion, an increase of $1.2 billion or 8.3% over the FY 2018 request. The request represents approximately 50% of DOE's total budget. This budget request demonstrates the Administration's strong support for NNSA and reinforces the recently released Nuclear Posture Review (NPR) and National Security Strategy (NSS). We will continue to work with the Department of Defense (DoD) to determine the resources, time, and funding required to address policies laid out in the NPR, including the potential low yield ballistic missile warhead, sea launched cruise missile, and B83-1 gravity bomb. We live in an evolving international security environment that is more complex and demanding than any since the end of the Cold War, which necessitates a national commitment to maintain modern and effective nuclear forces and infrastructure. To remain effective, however, recapitalizing our Cold War legacy nuclear forces is critical.

NNSA's enduring missions remain vital to the national security of the United States: maintaining the safety, security, reliability, and effectiveness of the nuclear weapons stockpile; reducing the threat of nuclear proliferation and nuclear terrorism around the world; and providing nuclear propulsion for the U.S. Navy's fleet of aircraft carriers and submarines. The President's FY 2019 budget request is reflective of this Administration's strong support for NNSA and ensures that U.S. nuclear forces are modern, robust, flexible, resilient, ready, and appropriately tailored to deter 21st-century threats and reassure America's allies.

Attracting, training, and retaining a skilled and experienced workforce is critical to NNSA's ability to accomplish its diverse missions. NNSA's dedicated and highly talented cadre of Federal employees and Management and Operating (M&O) contract partners must be supported with the tools necessary to support the complex and challenging responsibilities found only within NNSA's nuclear security enterprise. NNSA's infrastructure is in a brittle state that requires significant and sustained investments over the coming decade to correct. There is

no margin for further delay in modernizing NNSA's scientific, technical, and engineering capabilities, and recapitalizing our infrastructure needed to produce strategic materials and components for U.S. nuclear weapons.

The FY 2019 budget request also reflects the close partnerships between NNSA and other federal departments and agencies. NNSA collaborates with DoD to meet military requirements, support the Nation's nuclear deterrent, and modernize the nuclear security enterprise. NNSA also partners with a range of federal agencies, to prevent, counter, and respond to nuclear proliferation and nuclear terrorism.

NNSA is mindful of its obligation to be responsible stewards of the resources entrusted by Congress and the American taxpayers. Our FY 2019 budget request is the result of a disciplined process to prioritize funding for validated requirements as designated by the Administration and sets the foundation to implement policies from the NPR and NSS.

Weapons Activities Appropriation

The FY 2019 budget request for the Weapons Activities account is $11.0 billion, an increase of $777.7 million or 7.6% over FY 2018 request levels. Nuclear deterrence remains the bedrock of America's national security. Given the criticality of effective U.S. nuclear deterrence to the safety of the American people, allies, and partners, there is no doubt that NNSA's sustainment and replacement program should be regarded as both necessary and affordable. The programs funded in this account support the Nation's current and future defense posture and the associated nationwide infrastructure of science, technology, and engineering capabilities.

The Weapons Activities account supports the maintenance and refurbishment of nuclear weapons to maintain safety, security, and reliability; investments in scientific, engineering, and manufacturing capabilities to certify the enduring nuclear weapons stockpile; and the fabrication of nuclear weapon components. This account also includes investments in enterprise-wide infrastructure sustainment activities, physical and cybersecurity activities, and the secure transportation of nuclear materials.

Maintaining the Stockpile

This year, the work of the science-based Stockpile Stewardship Program again supported the Secretaries of Energy and Defense in certifying to the President for the 22nd consecutive year, that the U.S. nuclear weapons stockpile remains safe, secure, and reliable without the need for nuclear explosive testing. This remarkable scientific achievement is made possible through the work accomplished by NNSA's world-class scientists, engineers, and technicians, and through investments in state-of-the-art diagnostic tools, high performance computing platforms, and modern facilities.

For Directed Stockpile Work (DSW), the FY 2019 budget request is $4.7 billion, an increase of $689.0 million or 17.3% over the FY 2018 request. Included within this request is funding to

support the life extension programs (LEPs) for the W76, B61, and W80, and a major alteration of the W88; and advance the ground based strategic deterrent, by one year to 2019, and investigate feasibility of interoperable aspects for other types of warheads. These LEPs are aligned with the needs outlined in the NPR and with the approved Nuclear Weapons Council strategic plan.

- ***W76-1 LEP***: The $113.9 million requested for the W76-1 LEP directly supports the sea-based leg of the nuclear triad by extending the service life of the original W76-0 warhead. With continued funding, the W76-1 LEP will remain on schedule and on budget to complete production in FY 2019.

- ***B61-12 LEP***: NNSA continues to make progress on the B61-12 LEP that will consolidate four variants of the B61 gravity bomb. This LEP will meet military requirements for reliability, service-life, field maintenance, safety, and use control while also addressing multiple components nearing end of life in this oldest nuclear weapon in the stockpile. With the $794.0 million requested, NNSA will remain on schedule to deliver the First Production Unit (FPU) of the B61-12 in FY 2020. NNSA is responsible for refurbishing the nuclear explosives package and updating the electronics for this weapon. The Air Force will provide the tail kit assembly under a separate acquisition program. When fielded, the B61-12 gravity bomb will support both Air Force long-range nuclear-capable bombers and dual-capable fighter aircraft and bolster central deterrence for the United States while also providing extended deterrence to America's allies and partners.

- ***W88 Alteration 370 Program***: Currently in the Production Engineering Phase (Phase 6.4), the W88 Alt 370 is on schedule, with FPU planned in December 2019. The budget request for this program, which also supports the sea-based leg of the nuclear triad, is $304.3 million in FY 2019.

- ***W80-4 LEP***: The current air-launched cruise missile delivers a W80 warhead first deployed in 1982. Both the missile and the warhead are well past planned end of life and are exhibiting aging issues. To maintain this vital deterrent capability, NNSA requests $654.8 million in FY 2019, an increase of $255.7 million or 64.1% over the FY 2018 request to extend the W80 warhead, through the W80-4 LEP, for use in the Air Force's Long Range Stand-Off (LRSO) cruise missile. This funding supports a significant increase in program activity through the Design Definition and Cost Study Phase on a timeline consistent with the DoD's LRSO missile platform modernization schedule.

- ***Interoperable Warhead 1 (IW1)***: The IW1 program will replace one of the oldest warheads in the stockpile, and provide improved warhead security, safety, and use control. To replace the Air Force employed W78 warhead, NNSA is requesting $53.0 million to support the scheduled restart of the feasibility study and design options work suspended in 2014. Technology development efforts are focused on supporting the W78 warhead replacement and investigate the feasibility of interoperable aspects for

other types of warheads. To reduce risk, investments will initially be made against technologies that are less than technology readiness level 5.

Within DSW, the FY 2019 budget request includes $619.5 million for Stockpile Systems. This program sustains the stockpile in accordance with the Nuclear Weapon Stockpile Plan by producing and replacing limited-life components such as neutron generators and gas transfer systems; conducting maintenance, surveillance, and evaluations to assess weapon reliability; detecting and anticipating potential weapon issues; and compiling and analyzing information during the Annual Assessment process.

The DSW also requests $1.1 billion for Stockpile Services to support the modernization of capabilities to improve efficiency of manufacturing operations to meet future requirements. The Stockpile Services request supports all DSW operations by funding programmatic and infrastructure management, and maintaining the core competencies and technologies essential for reliable and operable stewardship capabilities.

Strategic Materials are key for the safety, security, and effectiveness of the Nation's nuclear deterrent and are used for addressing national security concerns such as nuclear nonproliferation and counterterrorism missions. The requested funding is necessary to maintain NNSA's ability to produce the nuclear and other strategic materials associated with nuclear weapons as well as refurbish and manufacture components made from these materials. The program includes Uranium Sustainment, Plutonium Sustainment, Tritium Sustainment, Domestic Uranium Enrichment (DUE), and other strategic materials, such as lithium.

- ***Strategic Materials Sustainment:*** The $218.8 million for the Strategic Materials Sustainment program will develop and implement strategies to maintain the technical base for strategic materials in support of NNSA's nuclear weapons, non-proliferation, and naval reactors activities at NNSA's eight sites.

- ***Uranium Sustainment:*** Funding for Uranium Sustainment supports the program to maintain existing enriched uranium capabilities through enhanced equipment maintenance while preparing to phase out mission dependency on Building 9212, a Manhattan Project-era production facility at the Y-12 National Security Complex (Y-12) in Oak Ridge, Tennessee. The funding request of $87.2 million will assist NNSA in sustaining uranium manufacturing capabilities while accelerating planning and execution of the Building 9212 Exit Strategy to reduce risks associated with transitioning enriched uranium capabilities to the Uranium Processing Facility (UPF) that is under construction.

- ***Plutonium Sustainment:*** The $361.3 million requested for Plutonium Sustainment supports continued progress to meet pit production requirements. The requested funding increase would support efforts to begin the long term plan to develop a capability to produce no fewer than 80 W87-like war reserve pits per year by 2030, as directed in the NPR.

- ***Tritium Sustainment:*** The FY 2019 budget request of $205.3 million will support the Nation's capacity to provide the tritium necessary for national security requirements. Tritium will be produced by irradiating Tritium Producing Burnable Absorber Rods in designated Tennessee Valley Authority nuclear power plants and by recovering and recycling tritium from gas transfer systems returned from the stockpile at the SRS Tritium Extraction Facility.

- ***Lithium Sustainment:*** The FY 2019 budget request establishes a separate Lithium Sustainment Program of $29.1 million that supports a Lithium Bridging Strategy to maintain the production of the nation's enriched lithium supply in support of the nuclear security mission, DOE's Office of Science, and DHS.

- ***Domestic Uranium Enrichment:*** The DUE program, with a request of $100.7 million in FY 2019, will continue efforts to make available when needed the necessary supplies of enriched uranium for a variety of national security needs.

For Research, Development, Test, and Evaluation (RDT&E), the FY 2019 budget request is $2.0 billion, a decrease of $33.0 million or 1.6% below the FY 2018 request.

Increases for the Science Program ($564.9 million) provide additional funding to support subcritical experiments for pit reuse and advanced diagnostics for subcritical hydrodynamic integrated weapons experiments that produce key data for stockpile certifications.

The Engineering Program ($211.4 million) sustains NNSA's capability for creating and maturing advanced toolsets and technologies to improve weapon surety and support annual stockpile assessments.

The Inertial Confinement Fusion Ignition and High Yield Program in FY 2019 ($418.9 million) will continue to build upon prior accomplishments. These efforts continue to provide key data to reduce uncertainty in calculations of nuclear weapons performance and improve the predictive capability of science and engineering models in high-pressure, high-energy, high-density regimes.

The RDT&E request for FY 2019 includes $703.4 million for the Advanced Simulation and Computing (ASC) Program, and continues NNSA's program of collaboration with DOE's Office of Science to implement DOE's Exascale Computing Initiative. NNSA's ASC Program will support stockpile stewardship by developing and deploying predictive simulation capabilities for nuclear weapons systems. NNSA is taking major steps in high-performance computing by deploying increasingly powerful computational capabilities at both Los Alamos National Laboratory (LANL) and Lawrence Livermore National Laboratory.

The Secure Transportation Asset (STA) program provides safe, secure movement of nuclear weapons, special nuclear material, and weapon components to meet projected DOE, DoD, and

other customer requirements. The Office of Secure Transportation has an elite workforce performing sensitive and demanding work; agents are among the most highly trained and dedicated national security personnel operating within the United States. The FY 2019 budget request of $278.6 million continues our efforts to modernize and replace the existing fleet of transporters and efforts to hire and train an additional 40 agents. The FY 2019 funding also supports the Safeguards Transporter (SGT) risk reduction initiatives to extend the life of the SGT to meet the STA mission capacity.

NNSA's Office of Defense Programs also maintains the vitality of the broader nuclear security enterprise that supports other agencies' nuclear missions. An important aspect of this effort is investment in Laboratory, Site and Plant Directed Research and Development. As confirmed by independent reviews, this type of defense research and development investment provides basic research funding to foster innovation and to attract and retain scientific and technical talent and is critical to the long-term sustainment of our national laboratories.

Improving Safety, Operations, and Infrastructure

NNSA's diverse national security missions are dependent upon the safety and reliability of its infrastructure. More than half of NNSA's facilities are over 40 years old, and roughly 30% date back to the Manhattan Project era. If left unaddressed, the condition and age of NNSA's infrastructure will put NNSA's missions, the safety of its workforce, the public, and the environment at risk. As reaffirmed in the NPR, "An effective, responsive, and resilient nuclear weapons infrastructure is essential to the U.S. capacity to adapt flexibly to shifting requirements. Such an infrastructure offers tangible evidence to both allies and potential adversaries of U.S. nuclear weapons capabilities and can help to deter, assure, hedge against adverse developments, and discourage adversary interest in arms competition." The FY 2019 budget request for Infrastructure and Operations is $3.0 billion, an increase of $199.6 million or 7.1% above the FY 2018 request. The FY 2018 National Defense Authorization Act provided NNSA and its M&O partners with additional flexibility to address the challenges of modernizing the enterprise by increasing the minor construction threshold to $20 million. This reform supports efforts to address deferred maintenance through recapitalization projects that improve the condition and extend the design life of structures, capabilities, and systems to meet NNSA's nuclear weapons and nonproliferation program needs.

The FY 2019 budget request for Infrastructure and Operations includes $1.1 billion for Line Item Construction projects. The requested amount provides the remaining funding of $48.0 million for the Albuquerque Facility, supports UPF at Y-12 ($703.0 million), and continues the Chemistry and Metallurgy Research Replacement project at LANL ($235.1 million). The FY 2019 budget also includes $19.0 million in funding to begin the first steps toward the construction of a new lithium production facility and $6 million for the 138kV Power Transmission System Replacement project to replace and upgrade the current power transmission system for the Mission Corridor at NNSS. Delivering these projects on budget and schedule is contingent upon stable and predictable funding profiles, and the President's budget request being supported.

Many of NNSA's excess process-contaminated facilities will ultimately be transferred to DOE's Office of Environmental Management for disposition. In the interim, NNSA is focusing on reducing risks where possible. For example, NNSA has made critical investments to stabilize high-risk process contaminated facilities until ultimate disposition, including at Y-12's Alpha 5 and Beta 4 facilities. NNSA also remains committed to reducing the risk of non-process contaminated facilities by dispositioning facilities where possible. In late 2017, NNSA, with the support of Congress, completed the transfer to a private developer of over 200 acres of the aging Bannister Federal Complex in Kansas City, Missouri, eliminating $300 million of repair needs.

Later this spring, completion of the Pantex Drummond Office Building (formerly known as the Administrative Support Complex) at the Pantex Plant outside of Amarillo, Texas will allow NNSA to move nearly 1,000 employees into a modern, energy efficient workspace. After completion of the Pantex Drummond Office building NNSA will also be able to dispose of dilapidated, 1950s-era buildings and eliminate approximately $20 million in deferred maintenance.

Defense Nuclear Security's (DNS) FY 2019 budget request is $690.6 million, an increase of $3.7 million or 0.5% over the FY 2018 Request. To execute its enterprise security program, DNS provides funding to the sites for: protective forces, physical security systems, information security and technical security, personnel security, nuclear material control and accountability, and security program operations and planning. The request manages risk among important, competing demands of the physical security infrastructure and includes planning and conceptual design funds for a series of future projects to sustain and recapitalize the Perimeter Intrusion Detection and Assessment Systems at the Pantex Plant and Y-12. Preliminary estimates are included within the recently completed *10-year Physical Security Systems Refresh Plan*. Future budget requests will reflect refined and detailed funding requirements.

Information Technology and Cybersecurity enable every element of NNSA's missions. The FY 2019 budget request is $221.2 million, an increase of $34.4 million, or 18.4% over the FY 2018 request. The cybersecurity program continuously monitors enterprise wireless and security technologies to meet a wide range of security challenges. The requested funding increase will be used to continue working toward a comprehensive information technology and cybersecurity program to deliver secure crucial information assets. The funding will continue to mature the cybersecurity infrastructure, comprising almost 100 sensors and over 70 data acquisition servers located across the nation.

Defense Nuclear Nonproliferation Appropriation

The FY 2019 budget request for the Defense Nuclear Nonproliferation account is $1.9 billion, an increase of $69.5 million or 3.9% above the FY 2018 request. Defense Nuclear Nonproliferation account activities address the entire nuclear threat spectrum by helping to prevent the proliferation of nuclear weapons, counter the threat of nuclear terrorism, and respond to nuclear and radiological incidents around the world. The FY 2019 budget request funds two program mission areas under the Defense Nuclear Nonproliferation account: the Defense

Nuclear Nonproliferation (DNN) Program and the Nuclear Counterterrorism and Incident Response (NCTIR) Program.

Nonproliferation Efforts

The Office of Defense Nuclear Nonproliferation works with international partners to remove or eliminate vulnerable nuclear material; improve global nuclear security through multilateral and bilateral technical exchanges and training workshops; help prevent the illicit trafficking of nuclear and radioactive materials; secure domestic and international civilian buildings containing high-priority radioactive material; provide technical reviews of U.S. export license applications; conduct export control training sessions for U.S. enforcement agencies and international partners; strengthen the International Atomic Energy Agency's ability to detect and deter nuclear proliferation; advance U.S. capabilities to monitor arms control treaties and detect foreign nuclear programs; and maintain organizational readiness to respond to and mitigate radiological or nuclear incidents worldwide.

The Material Management and Minimization (M3) program provides an integrated approach to addressing the risk posed by nuclear materials. The FY 2019 budget request is $332.1 million. The request supports the conversion or shut-down of research reactors and isotope production facilities that use highly enriched uranium (HEU) and acceleration of new, non HEU-based molybdenum-99 production facilities in the United States, which recently contributed to the approval of the first Food and Drug Administration-approved U.S.-origin technology to produce the medical isotope. Additionally, the request for M3 supports the removal and disposal of weapons usable nuclear material and continues the transition to the dilute and dispose strategy for surplus plutonium disposition, including the completion of the independent validation of lifecycle cost estimate and schedule for the dilute and dispose strategy.

The Global Material Security program works with partner nations to increase the security of vulnerable nuclear and radioactive materials and improve ability to deter, detect, and investigate illicit trafficking of these materials. The FY 2019 budget request for this program is $337.1 million and includes efforts to secure the most at-risk radioactive material in U.S. high-threat urban areas by 2020.

The Nonproliferation and Arms Control program develops and implements programs to strengthen international nuclear safeguards; control the spread of nuclear and dual-use material, equipment, technology and expertise; verify nuclear reductions and compliance with nonproliferation and arms control treaties and agreements; and address enduring and emerging proliferation challenges requiring the development of innovative policies and approached. The FY 2019 budget request for this program is $129.7 million. This increase serves to improve the deployment readiness of U.S. nuclear disablement and dismantlement verification teams and to enhance export control dual-use license and interdiction technical reviews.

The Defense Nuclear Nonproliferation Research and Development program supports innovative

unilateral and multilateral technical capabilities to detect, identify, and characterize foreign nuclear weapons programs, illicit diversion of special nuclear material, and nuclear detonations worldwide. The FY 2019 budget request for this program is $456.1 million.

Nonproliferation Construction consolidates construction costs for DNN projects. The FY 2019 budget request is $279.0 million. As in FY 2018, the Administration proposes termination activities for the Mixed Oxide (MOX) Fuel Fabrication Facility project and continuing to pursue the dilute and dispose option to fulfill the United States' commitment to dispose of 34 metric tons of plutonium. The $220.0 million for the MOX Facility will be used to continue terminating the project and to achieve an orderly and safe closure. The scope and costs will be refined in subsequent budget requests when the termination plan for the MOX project is approved. The request also includes $59.0 million for the Surplus Plutonium Disposition project to support the dilute and dispose strategy.

Nuclear Counterterrorism and Incident Response (NCTIR)

The FY 2019 budget request for NCTIR is $319.2 million, an increase of $41.8 million or 15.1% over the FY 2018 request. NNSA's Counterterrorism and Counterproliferation (CTCP) program is part of broader U.S. Government efforts to assess the threat of nuclear terrorism and develop technical countermeasures. The scientific knowledge generated by this program underpins the technical expertise for disabling potential nuclear threat devices, including improvised nuclear devices, supports and informs U.S. nuclear security policy, and guides nuclear counterterrorism and counterproliferation efforts, including interagency nuclear forensics and contingency planning.

The Counterterrorism and Counterproliferation program provides a flexible, efficient, and effective response capability for any nuclear/radiological incident in the United States or abroad by applying the unique technical expertise across NNSA's nuclear security enterprise. Appropriately trained personnel and specialized technical equipment are ready to deploy to provide an integrated response for radiological search, render safe, and consequence management for nuclear/radiological emergencies, national exercises, and security operations for large National Security Special Events.

The CTCP program maintains an operational nuclear forensics capability for pre-detonation device disassembly and examination, provides operational support for post-detonation assessment, and coordinates the analysis of special nuclear materials. Readiness is maintained to deploy device disposition and device assessment teams, conduct laboratory operations in support of analysis of bulk actinide forensics, and to deploy subject matter expertise and operational capabilities in support of ground sample collections that contribute to conclusions in support of attribution.

NNSA's Aerial Measuring System (AMS) provides airborne remote sensing in the event of a nuclear or radiological accident or incident within the continental United States, as well as in support of high-visibility national security events.

The AMS fleet consists of three B200 fixed-wing aircraft with an average age of 33 years and two Bell 412 helicopters with an average age of 24 years. The age of the current aircraft leads to unscheduled downtime resulting in reduced mission availability. A recently concluded Analysis of Alternatives on the AMS aircraft determined that recapitalization of the aging aircraft fleet is necessary to continue to provide Federal, state, and local officials with rapid radiological information following an accident or incident. The FY 2019 budget requests $32.5 million as part of a two-year replacement process for the five aircraft.

The equipment used by NNSA's emergency response teams is aging, resulting in increasing maintenance costs and increasing risks to the emergency response mission. This budget includes funding for incremental recapitalization of incident response equipment consistent with lifecycle planning to maintain operational readiness. This budget also includes funding for state-of-the-art, secure, deployable communications systems that are interoperable with the Federal Bureau of Investigation and DoD mission partners that will help provide decision makers with real-time technical recommendations to mitigate nuclear terrorist threats.

The Emergency Operations program's FY 2019 budget request includes $36 million under NCTIR to support NNSA's Office of Emergency Operations. This funding will support NNSA's all hazard emergency response capabilities, such as providing incident management training and exercise planning, and managing the Emergency Communications Network capability for the Department.

Naval Reactors Appropriation

Advancing Naval Nuclear Propulsion

Nuclear propulsion for the U.S. Navy's nuclear-powered fleet is critical to the security of the United States and its allies as well as the security of global sea lanes. NNSA's Naval Reactors Program remains at the forefront of technological developments in naval nuclear propulsion by advancing new technologies and improvements in naval reactor performance. This preeminence provides the U.S. Navy with a commanding edge in naval warfighting capabilities.

The Naval Reactors FY 2019 budget request is $1.8 billion, an increase of $308.9 million or 20.9% above the FY 2018 request. In addition to supporting today's operational fleet, the requested funding is the foundation for Naval Reactors to deliver tomorrow's fleet and recruit and retain a highly-skilled workforce. One of Naval Reactors' three national priority projects, continuing design and development of the reactor plant for the COLUMBIA-Class submarine, featuring a life-of-ship core and electric drive, will replace the current OHIO-Class fleet and provide required deterrence capabilities for decades. The project to refuel a Research and Training Reactor in New York will facilitate COLUMBIA-Class reactor development efforts to provide 20 more years of live reactor-based training for fleet operators. Funding will also be used to support construction of a new spent fuel handling facility in Idaho that will facilitate

long term, reliable processing and packaging of spent nuclear fuel from aircraft carriers and submarines.

Naval Reactors has requested funding in FY 2019 to support these projects and fund necessary reactor technology development, equipment, construction, maintenance, and modernization of critical infrastructure and facilities. By employing a small but high-performing technical base, the teams at Bettis Atomic Power Laboratory in Pittsburgh, Knolls Atomic Power Laboratory and Kesselring Site in greater Albany, and the spent nuclear fuel facilities in Idaho can perform the research and development, analysis, engineering, and testing needed to support today's fleet at sea and develop future nuclear-powered warships. The laboratories also perform the technical evaluations that enable Naval Reactors to thoroughly assess emergent issues and deliver timely responses to provide nuclear safety and maximize operational flexibility.

NNSA Federal Salaries and Expenses Appropriation

The NNSA Federal Salaries and Expenses FY 2019 budget request is $422.5 million, an increase of $3.9 million or 0.9% over the FY 2018 request. The FY 2019 budget request provides funding for 1,715 full-time equivalents for the effective program and project management and appropriate oversight of the nuclear security enterprise. Since 2010, NNSA's program funding has increased 50%, while staffing has decreased 10%. NNSA has partnered with the Office of Personnel Management to develop a staffing analysis, now in its second phase, of a Human Capital Management Plan that assesses current personnel levels compared to mission needs. The results of the staffing analysis will be used to inform future recommendations on appropriate staff size and provide the type and number of scientists, engineers, project managers, foreign affairs specialists, and support staff needed to accomplish the mission. Part of the evaluation includes a review of current staff skill sets and areas where skills are needed for project and program management, applicable oversight, and day to day operations of the nuclear security enterprise.

Thanks to the support of Congress, NNSA received a 10-year extension to continue to use the Demonstration Project personnel system. The pay for performance personnel system provides an important tool to retain and attract top talent for NNSA's national security missions. With the pay to perform personnel system, we are able to compete for personnel with other highly technical federal and private organizations, motivate and retain high-performing employees, and deal with poor performers. NNSA uses the Demonstration Project in conjunction with the Excepted Service hiring authorities to hire key personnel for the current and next generation workforce with critical nuclear security expertise.

Management & Performance

Since 2011, NNSA has delivered approximately $1.4 billion in projects, a significant portion of NNSAs total project portfolio, 8% under original budget. This past February, the High Explosive Pressing Facility at Pantex achieved CD-4 and was completed $25 million under the approved baseline. We are committed to encouraging competition and increasing the universe of

qualified contractors by streamlining major acquisition processes. NNSA will continue to focus on delivering timely, best-value acquisition solutions for all programs and projects, by using a tailored approach to contract structures and incentives that is appropriate for the special missions and risks at each site. The Office of Acquisition and Project Management continues to lead improvements in contract and project management practices; provide clear lines of authority and accountability for program and project managers; improve cost and schedule performance; and ensure Federal Project Directors and Contracting Officers with the appropriate skill mix and professional certifications are managing NNSA's work.

Conclusion

NNSA's diverse and enduring national security missions are crucial to the security of the United States, the defense of its allies and partners, and global stability. The U.S. nuclear deterrent has and will continue to remain the cornerstone of America's national security, and NNSA has unique responsibilities to maintain and certify the continued safety, security, reliability, and effectiveness of that nuclear deterrent.

Nuclear nonproliferation and nuclear counterterrorism activities are essential to promoting the peaceful use of nuclear energy and preventing malicious use of nuclear and radiological materials and technology around the world. Providing naval nuclear propulsion to the U.S. Navy is crucial to the United States to defend interests abroad and protect the world's commercial shipping lanes. Each of these critical missions depends upon NNSA's capabilities, facilities, infrastructure, and world-class workforce.

Mr. SIMPSON. Thank you. Admiral Caldwell, welcome back.

Admiral CALDWELL. Thank you, sir; and good morning.

Mr. SIMPSON. Good morning.

Admiral CALDWELL. Chairman Simpson, Ranking Member Kaptur, distinguished members of the subcommittee, thank you for the opportunity to testify today.

This subcommittee has consistently provided tremendous support to Naval Reactors, enabling my organization to provide our Navy with effective nuclear propulsion plants, and to ensure their safe, reliable and effective operation.

The results of your support are these, our warships, nuclear-powered warships have unmatched reliability, speed and endurance. These key attributes allow our nuclear fleet to meet the demands of forward presence and crisis response worldwide.

Two weekends ago I participated in ICEX 2018, onboard USS *Hartford* in the Beaufort Sea, above the Arctic Circle. Here, the ship and the crew are conducting tactical exercises with the USS *Connecticut*. The fact that our submarines can operate unsupported in one of the world's harshest environments, is a testament to the tactical advantages of nuclear power.

Today, over 45 percent of the Navy's combatants are nuclear-powered including 11 carriers, and 71 submarines. Over the past year, Naval Reactors has supported deployed operations of 39 submarines, and 33 strategic deterrent patrols.

At any given time, there were approximately 49 of 71 submarines deployed or ready to deploy. This past November, three carriers, *Reagan, Roosevelt* and *Nimitz*, conducted the first tri-carrier operations in a decade off of the Korean Peninsula.

Last year the Navy commissioned USS *Washington*, our 14th *Virginia*-class attack submarine, and the aircraft carrier *Ford*. The *Ford* is the first new propulsion plant design in over 40 years. While matching the high speed of our *Nimitz*-class carriers, the *Ford* propulsion plant delivers 25 percent more power and three times the electrical generation capacity. It reduces maintenance by 30 percent, and reduces the required manpower by 50 percent.

In nuclear shipbuilding we have 11 *Virginia*-class submarines in various stages of construction, and just commissioned our 15th *Virginia*-class submarine, the *Colorado*, this past weekend.

Construction of the next aircraft carrier, *John F. Kennedy*, is well underway. Naval Reactors' budget request for fiscal year 2019 is $1.79 billion, and this represents an approximate 21 percent increase over the fiscal year 2018 requested level.

This is consistent with the plan of record provided in previous budget requests. This request represents a peak budget year, in the future year's nuclear security plan, and is driven by the planned funding ramp up for two national priority projects.

The first project is the refueling overhaul of a research and training reactor in New York. That refueling overhaul starts later this year. This effort supports the reactor development of the Navy's Columbia-class ballistic missile submarine, and will provide 20 more years of training for nuclear fleet operators.

The second project is the new Naval Spent Fuel Handling Facility in Idaho, on which we broke ground last summer. This facility

will enable long-term, reliable processing and packaging of spent nuclear fuel from aircraft carriers and submarines.

This budget request also invests in three key areas. Recapitalization of our vital laboratory facilities and infrastructure; decontamination and decommissioning efforts to reduce environmental liabilities of legacy facilities; and advance reactor technology for initial use in *Virginia*-class submarines, and ultimately for use in future classes of nuclear-powered warships.

Finally, my budget request also allows us to continue design and manufacturing development for the new propulsion plant for the Columbia ballistic missile submarine which will feature a life-of-ship reactor core.

I want to assure the committee that our planning efforts for current and future budgets are done with extreme rigor. The investments we make today in our research and development, not only advance capability, but also result in cost savings, and improved capability far into the future.

Similar investments a decade ago produced the technology we are employing in Columbia and enabling us to do the mission with two fewer submarines.

I understand the difficult budget environment in which Congress must craft legislation, and I respectfully urge your support for aligning allocations with the fiscal year 2019 Budget Request.

Thank you for your longstanding support, and I look forward to discussing my program.

[The information follows:]

Statement of Admiral James F. Caldwell
Deputy Administrator for Naval Reactors
National Nuclear Security Administration
U.S. Department of Energy
on the
Fiscal Year 2019 President's Budget Request
Before the
House Committee on Appropriations
Subcommittee on Energy and Water Development

March 20, 2018

Chairman Simpson, Ranking Member Kaptur, and Members of the Subcommittee, thank you for the opportunity to present the President's Fiscal Year (FY) 2019 budget request for Naval Reactors. In 1955, the United States experienced a step-change in naval dominance when USS NAUTILUS (SSN 571) reported "*Underway on nuclear power*". Since NAUTILUS, follow-on classes of ever more capable U.S. nuclear-powered submarines and aircraft carriers have ensured our warfighting edge over potential adversaries. Forward deployed fast attack submarines exert influence throughout the world, safeguarding vital commercial sea-lanes, protecting aircraft carrier and expeditionary strike groups, and operating virtually undetected in all the world's oceans, even under the Arctic ice. Our Navy's ballistic missile submarines provide strategic deterrence capability to our country and have done so for six decades. Virtually undetectable when submerged, these ballistic missile submarines form the most survivable component of the nuclear triad. Our nuclear aircraft carriers provide the nation highly mobile, sustainable, sovereign territory from which to project flexible, rapid, visible, and credible U.S. military power to keep the peace, deter conflict, and protect American interests around the world. Nuclear propulsion enables these warships to conduct missions vital to national security by providing unique tactical mobility and flexibility, responsiveness, and sustainability – these key attributes ensure our nuclear fleet can meet the demands of forward presence and crisis response world-wide. Today, over 45 percent of the Navy's major combatants are nuclear powered (11 aircraft carriers, 14 ballistic missile submarines, 53 attack submarines, and 4 guided missile submarines) capitalizing on the mobility, flexibility, and endurance of nuclear power that enables the Navy to meet its global mission.

Over the past year, with Naval Reactors support, the Navy deployed 39 submarines and conducted 33 strategic deterrent patrols. At any given time, there were at least 49 of 71 submarines deployed or ready to deploy within days. Our carriers, USS NIMITZ (CVN 68), USS DWIGHT D. EISENHOWER (CVN 69), USS RONALD REAGAN (CVN 76), USS THEODORE ROOSEVELT (CVN 71), USS CARL VINSON (CVN 70), and USS GEORGE H.W. BUSH (CVN 77) successfully conducted deployments, and this past November, REAGAN, ROOSEVELT, and NIMITZ conducted the first tri-carrier operations in a decade off the Korean Peninsula.

In nuclear shipbuilding, this past year also saw the keel laid for the attack submarines Pre Commissioning Unit (PCU) OREGON (SSN 793), the christening of PCU INDIANA (SSN 789) and PCU SOUTH DAKOTA (SSN 790), the delivery of PCU COLORADO (SSN 788) and

finally, the commissioning of USS WASHINGTON (SSN 787) – the fourteenth VIRGINIA-Class fast attack submarine to join the fleet. In addition, construction of the aircraft carrier JOHN F. KENNEDY is well underway and the third carrier of the FORD-Class, ENTERPRISE, starts construction activities this year.

Another recent accomplishment was commissioning USS GERALD R. FORD (CVN 78) last July. I personally participated in the sea-trials of this incredible ship which has the first new design aircraft carrier propulsion plant in 40 years. FORD matches the high speed of our NIMITZ-Class ships while delivering 25 percent more energy and three times the electrical operating capacity, reduces maintenance by 30 percent, and reduces propulsion plant manpower by 50 percent. This historic milestone represents the culmination of almost 20 years of dedicated and sustained effort by Naval Reactors and its field activities, our Department of Energy (DOE) laboratories, nuclear industrial base suppliers, the Navy design team, and the nuclear shipbuilders.

In addition to supporting the operational nuclear fleet, we continue to safely maintain and operate two nuclear powered land-based prototypes – both over 40 years old – to conduct research, development, and training. We also continue to safely maintain and operate two Moored Training Ships to train our nuclear operators – these are both over 54 years old and are the oldest operating pressurized water reactors in the world. These four platforms allow us to train 2800 students per year and provide highly qualified operators to the nuclear fleet.

The strong support of this subcommittee enabled safe operation of the nuclear fleet, progress on our key projects, and our oversight and regulation on all areas across the Naval Nuclear Propulsion Program. Naval Reactors' budget request for FY 2019 is $1.79 billion, an increase of $309 million, or 21 percent, over the FY 2018 requested level and is consistent with the plan of record provided in previous budget requests for major projects we have underway. This year's request represents our peak budget year in the Future Years Nuclear Security Plan. The overall increase to the budget request is primarily driven by the planned funding ramp for two national priority projects – the refueling overhaul of a research and training reactor in New York, and the construction of the new Naval Spent Fuel Handling Facility in Idaho. The increase also allows research and development efforts for advanced reactor plant components and improved reactor cores for installation on future VIRGINIA-Class submarines. This reactor plant technology development will also underpin the demanding and critical design requirements of future classes of nuclear powered warships.

Major Projects

This past year marked the peak in our design efforts for the COLUMBIA-Class strategic ballistic missile submarine propulsion plant. Delivering the life-of-ship reactor core and electric drive propulsion system remains a top priority. The COLUMBIA-Class is the Navy's number one acquisition priority and we are on track to start reactor plant component procurement in FY 2019 to support the start of ship construction in FY 2021. FY 2019 funding of $138 million will provide for propulsion plant component design, development, and testing to support FY 2019 long-lead component contract placement in addition to supporting reactor plant testing and safety analysis.

FY 2019 marks the start of the land-based prototype refueling overhaul. The $250 million request in this year's budget will support the refueling overhaul which is vital to the nuclear propulsion program, enabling 20 additional years of Naval Reactors' commitment to research, development, and training in New York. As part of this refueling activity, we will insert newly manufactured COLUMBIA-Class type fuel modules with the prototype refueling reactor core, enabling testing and demonstration of core manufacturability necessary for production and delivery of the COLUMBIA-Class reactor.

Naval Reactors FY 2019 budget request includes $287 million in construction funding to continue the Spent Fuel Handling Recapitalization Project. The project broke ground last year, and we are conducting site preparation. Full support from Congress has enabled us to keep this project on track and on budget. The total estimated cost for this project remains unchanged. Continued Congressional support will ensure the facility is ready to receive spent nuclear fuel from aircraft carriers in FY 2024 and be fully operational by 2025.

Base Funding

In addition to our three priority projects, Naval Reactors maintains a high-performing technical base to: 1) execute nuclear reactor technology research and development that supports today's fleet and ensures our Navy remains technologically ahead of adversaries and, 2) provide the necessary equipment, construction, maintenance, and modernization of critical infrastructure and facilities. The funding required for this base also supports the lean federal workforce that provides the regulatory oversight necessary to carry out this important technical work safely and efficiently. By employing an effective technical base, the teams of talented and dedicated people at our four Program sites – the Bettis Atomic Power Laboratory in Pittsburgh, the Knolls Atomic Power Laboratory and Kesselring Site in greater Albany, the Naval Reactors Facility in Idaho, and our Washington, DC headquarters – can perform the research and development, analysis, engineering, and testing needed to support today's fleet at sea and develop more capable nuclear-powered warships for tomorrow's fleet. Our labs perform the technical evaluations that enable Naval Reactors to thoroughly assess approximately 4,000 emergent issues annually and deliver timely responses that ensure nuclear safety and maximize operational flexibility.

In the past, I have spoken to the importance of the technical base regarding its support of the nuclear fleet and our essential work on new technologies. This year's budget demonstrates this synergy by developing new technologies that will modify our current VIRGINIA-Class reactor plant design to advance reactor plant components and deliver improved capabilities for next generation submarines. Investing in these core technologies alone will result in an estimated $50 million per ship savings on future warships relative to current technology.

Additionally, there are two other distinct areas of the base that are essential to the Program. First, we will be increasing our efforts in decontamination and decommissioning (D&D) older facilities that have been in existence since the start of the Program in the early 1950's. We have an estimated $7.4 billion in environmental liabilities requiring D&D efforts - about half of these facilities are no longer in use. The Program's positive track record on environmental safety is of the utmost importance to me, and is a core part of the Program's mission. This year's funding

request will enable us to reduce these outstanding liabilities and ultimately reduce our caretaking burden. The second focus area is recapitalizing our Naval Nuclear Laboratory facilities and infrastructure systems, many of which have supported the Program since its inception over 60 years ago. Maintaining these laboratory facilities directly support nuclear fleet operations and advanced research and development efforts that make our nuclear navy the finest in the world.

I want to assure the committee that the planning efforts we execute in budgeting for current and future projects are done with extreme rigor. Our budget profile never deviates far from projections in earlier Future Years Nuclear Security Plan submissions. Investments we make today in research and development efforts not only advance capabilities, but will result in cost savings far into the future. In developing our request, I worked closely with the leadership of the National Nuclear Security Administration (NNSA), the DOE, Office of Management and Budget, and the Department of Defense (DoD). This budget not only reflects my priorities for Naval Reactors but also integrates them with the other important work of my colleagues at NNSA and DoD. There is clear recognition of the valuable capabilities Naval Reactors provides and our history in effectively meeting our obligations. I understand the difficult budget environment in which Congress must craft legislation and I respectfully urge your support for aligning allocations with the FY 2019 budget request.

Mr. SIMPSON. Thank you, Admiral. Mr. Calbos and Mr. Huizenga, you didn't have written statements but do you have some opening comments you would like to make?

Mr. HUIZENGA. I do not have a statement.

Mr. SIMPSON. Yes, sir. Just take questions. Thank you. Thank you for those opening comments.

First question, Madame Administrator. Last week, the National Academies released a report describing the persistence of governance and management problems in the nuclear security enterprise and the failure of past attempts to address them. This subcommittee has a long history of strong oversight of the agencies under its jurisdiction and has taken an active interest in finding solutions to many of these issues described in this particular report. We look forward to hearing from you, more about your plans to take on these longstanding problems and to deliver a program that will successfully modernize the U.S. nuclear weapons stockpile and the supporting NNSA infrastructure.

Now the question. What do you believe is the highest priority management and operating issues that are impacting NNSA's ability to successfully carry out its mission?

And how do you intend to rebuild NNSA's credibility specifically with regards to the NNSA's ability to deliver its programs on time and within budget to consider an appropriate range of alternatives for its major acquisitions before presenting Congress with the funding requests to operate with transparency and how funds are being used, and to improve the cost estimates so that we can fully consider the implications of the funding proposals that we are being asked to support? I know that is a lot of questions.

Ms. GORDON-HAGERTY. Well, I will see what I can do to answer and be responsive to all of them. Thank you, Chairman. First of all, having been in the position for barely 4 weeks now, I have however had the opportunity to be briefed as I had mentioned before about all the good programs that are going on and the wealth of information regarding management and governance. I am very familiar with regard to the Mies Augustine reports, the CRENEL reports and most recently the NAS NAPA or the National Academy of Science, National Academy of Public administration.

In fact, prior to their release of their interim report last week, I asked them to come in and brief me on what their interim findings were of the report.

I am leaning as far forward as I possibly can to ensure that we continue to institute good governance and good management practices throughout NNSA and also I want to mention that I am also dual hatted, an unusual position because I am also the Under Secretary of Energy for Nuclear Security. And in that regard I am going to make full use of that opportunity that I can reach into the entire Department of Energy as well as within the National Nuclear Security administration.

And I think with the reforms that Secretary Perry and under—and Deputy Secretary Brouillette have started, I think there is an opportunity to take some of those governance reforms and also implement them throughout headquarters, the field, our labs, plants and sites. So this is one of my highest priorities and in fact in my confirmation hearing I made it as such.

Mr. SIMPSON. Thank you. On another subject, the Fiscal Year 2018 National Defense Authorization Act allows the Secretary of Energy to terminate the project MOX if DOE can provide a lifecycle cost estimate that shows cost of the alternative is 50 percent of the cost of MOX.

We were informed that the NNSA was preparing an interim cost estimate to certify that a cost estimate that meets the NDAA threshold exists but that you are also developing a more comprehensive life cycle cost estimate. What is the difference between the comprehensive life cycle cost estimate that is under development and the one that might be submitted for the NDAA waiver?

Ms. GORDON-HAGERTY. So, Mr. Chairman, first of all I wanted to thank Congressman Allen who took a trip with me recently down to the Savannah River Site. In my confirmation hearing I did commit to Senator Graham that I would visit the Savannah River Site and I did so within 10 days of my confirmation—of my swearing in. I found it to be a fascinating location. I happened to do my graduate school summer studies at Savannah River so I am familiar with the area and it was kind of like old home week for me.

In that regard I did visit the MOX facility and I visited all of our other facilities and sites and operations within the NNSA most in particular the tritium facility and that is indeed a part of our enduring nuclear mission so that will be part of our enduring mission for the NNSA. Now I want to make sure that everybody understands that the tritium operations will continue at Savannah River Site.

With regard to dilute and dispose the MOX facility, the MOX facility as I have mentioned is a very large facility and I believe I am confident by the information provided to me by the Federal project manager that the $5.4 billion we have spent to date is, it is notable because the plan for MOX was to be completed by 2016 at a cost of $4.5 billion. To date we have spent over $5.4 billion and I am confident in the information that my Federal project manager has given me that it is nowhere close to 50 percent complete.

So in that regard, the administration and the Secretary of Energy and I are working to put together the planned path forward for the termination. We are still evaluating that but that request will be put forward shortly.

With regard to the life cycle cost estimation in the past there were some parts of it that weren't necessarily provided in the interim if you will but, pardon me, we believe that as a result, the life cycle cost determination will include WIPP transportation, the other programs, let me make sure I get this, the transportation costs and we have coordinated this with EM, and we believe that we are confident that it will cost billions less. It will be faster, cheaper and we will be able to dispose of the 34 metric tons that we are required to do under the program.

Mr. SIMPSON. Thanks for that explanation and let me for the record, we talked about this yesterday, but let me for the record just let everyone know that as I said with Secretary Perry, if someone can show me that something is going to cost 50 percent less I am not going to jump and oppose it.

The question we have is we need to make sure that this isn't an estimate done on the back of a napkin in a restaurant, that it is

an actual cost estimate, that it is professionally done. That is why I am kind of, that is why we kind of question what is the difference between a comprehensive life cycle cost estimate and one that is the interim cost estimate and will the decision to move forward with the dilute and dispose as opposed to MOX be based on that interim cost estimate or the life cycle cost estimate?

I would hope that it would be based on the thorough analysis of both of them, of what it costs. I would hope that they rebaseline, we have asked the department to rebaseline the cost of WIPP for I don't know, several years and so far they haven't done that.

And I am not sure I trust anybody's estimate about what any of these costs are because if I go talk to the contractor it's 70 percent complete. I go talk to the DOE, it's 10 percent complete. Now you said it is somewhere in the 50 percent range. I have no idea what the full cost of MOX is or would be if we continued down that road. So and as I said yesterday, I don't want to get—I don't want a future Chairman of this committee to 3 or 4 or 5 years from now be sitting here going OK, we stopped MOX, and we have switched to dilute and dispose. New Mexico has us by the neck because we need an additional land withdrawal or agreements with New Mexico and they want us to pave every road in New Mexico before they will agree to it.

I don't want to be held hostage by that so I want it, if we are going to head down that road, I want it to be a sure thing that we are going to do that. And that is where I am coming from on this whole thing.

Ms. GORDON-HAGERTY. What I would like to do, Chairman, is, if it is appropriate, what I will do is I will go back, collect the additional information that you are requesting and I would be happy to come and brief you and your staffs as soon as possible. But I am confident that the path we are taking with the complete life cycle cost estimation will address all of those issues. And we believe MOX—and we believe that dilute and dispose methodology which is a proven methodology, we have already gotten rid of more than 5 metric tons of material mostly from Rocky Flats plant and other places around the community. So we know that the process works and we believe that that is far cheaper, faster, and the appropriate approach to take to relieve us of the 34 metric tons of plutonium. So I will be——

Mr. SIMPSON. I will throw it out before I go to Marcy for her questions, but, you know, we could dispose of those with a faster reactor also which is something we don't have in this country and anybody that wants to use a faster reactor has to go to Russia or someplace else to use a fast reactor. You could burn the plutonium doing that. But that is just a thought. Ms. Kaptur.

Ms. KAPTUR. Thank you, Mr. Chairman.

Admiral Caldwell, I wanted to ask you Congress has been interested in the prospect of using low enriched uranium for naval fuels and naval reactors has reported to us on this issue which we appreciate. Would this be an excellent opportunity to address a significant source of highly enriched uranium use and further our efforts to convert to low enriched uranium sources.

If Congress appropriates funding for this purpose, will Naval Reactors carry out research and development efforts in this area?

Admiral CALDWELL. Thank you for the question, ma'am. In our reports to Congress, we have been pretty clear that the highly enriched uranium offers a significant military advantage over a low enriched uranium. Fundamentally, low enriched uranium means that you'd put a lot less energy in the core and therefore you would have to refuel the ships more frequently. It would take those ships off line, it would cost more money.

The manufacturing process for low enriched uranium is very different from what we do today. The handling of components at end-of-life is very different. So there were, is a substantial change to what we are doing today and HEU has serviced well for over 60 years.

What we have also said in our reports is that to develop an HE or a low enriched uranium core would take about 10 years, 10 to 15 years and about a billion dollars. And then on top of that would take probably another several billion dollars just to deliver the manufacturing materials and all those things that I talked about previously.

So our view is that HEU is the way to go. To get to an LEU capable core would require a step change in our design. It is a significant difference from what we are using today in our cores. That is why it takes so long and that is why it would cost so much. That said, if money was available for and targeted for LEU development, then naval reactors would continue our work on an advanced fuel system and we would move along that path. We are working on that as much as we can, a low, or an advanced fuel system, but that is many decades away right now, ma'am.

Ms. KAPTUR. Thank you. Madame Administrator, this budget request provides a significant increase as I said earlier of 10 percent to defense accounts including staggeringly huge increase in Weapons accounts of 19 percent. This follows a similar budget request from Fiscal Year 2018 and all while not appropriating funding nonproliferation efforts additional funding there and paying for the increases in Weapons on back of Department of Defense non-defense accounts.

Are these—with this significant increase in the Weapons accounts, how will NNSA structure itself to ensure the quality of its products and the safety of its workforces and honestly are these kinds of increases sustainable?

Ms. GORDON-HAGERTY. Thank you, Congresswoman Kaptur. I believe that they are. In the short time I have been the Administrator, I have seen a robust plan and path forward for not only this fiscal year, for future fiscal years and what it takes to ensure that we have a robust, reliable, and sustainable program for the 3 programs that we administer in the NSSA.

More importantly, we require sustained and reliable and long term appropriations in order to execute the missions under which we are undertaking at present. That includes the 3 LEPs and the one major alteration and it also, I want to make note of the fact that the defense programs budget actually provides us with that critical foundation upon which we can build our nuclear counterterrorism, our nonproliferation and our counterproliferation programs. Because they utilize the capabilities that are at our national laboratories, our plants, and our sites.

So without the foundations of the defense programs activities, we would not be able to have the technical expertise resident under our national labs, plants and sites. And so we utilize the strength of that relationship between our NA–10 defense programs activities and our NA–20 defense nuclear nonproliferation as well as our counterterrorism and counterproliferation programs.

I would ask respectfully if I can offer the floor to Mr. Calbos who is the Deputy Administrator—the Acting Deputy Administrator for Defense Programs and he can enlighten you on some additional facts if you, if that is acceptable.

Ms. KAPTUR. Please.

Ms. GORDON-HAGERTY. Thank you.

Mr. CALBOS. Thank you for the question, ma'am. You are correct, you know, that there is a significant increase in the funding over the last couple years but if you look at the history of what is now the NNSA portfolio, there was a period from about 1990 to about 2010 where frankly the nation had diverted its attention from the nuclear deterrent. We are making up ground now.

The increases are about the weapons that we are putting back out onto the force but also about the core capability of the enterprise and by that I mean the bricks and mortar infrastructure, the science-based stock pile stewardship tools that we need for the lab directors to assess the stockpile on an annual basis. And also the people that we need in the enterprise to take care of all the efforts we have underway.

So as you look at any given year, you are correct that there are significant increases but as you widen the aperture and you look across say the last 25 years, there was a period where there was a downturn in funding and we are now having to make up ground for that.

Ms. KAPTUR. How will you structure your expenditures in order to spend these dollars in a manner that are responsible? I mean, for any business a 19 percent increase is pretty significant in a given year.

Mr. CALBOS. Well, as we move forward with each one of these efforts, we are, you know, ramping up the staffing across the enterprise and again not only in the Federal space——

Ms. KAPTUR. How difficult is that?

Mr. CALBOS. I am sorry.

Ms. KAPTUR. How difficult is that?

Mr. CALBOS. We have achieved what we needed to at this point. The difficulty actually right now is not in finding the qualified folks, it is getting them cleared and on board in time so that they can actually participate in the, you know, work that is needed to, you know, say perform the work on a lifetime extension program. That is one of the big hurdles right now.

Ms. KAPTUR. OK. Mr. Chairman, in this first round I am just going to ask the Administrator for a yes or no answer on the following. The administration's 2018 Nuclear Posture Review was released early last month after a nearly final draft had been leaked weeks before yet there is remarkably little detail from the NNSA on how it might be implementing the additional nuclear weapons capabilities that the NPR calls for.

Can you commit to this subcommittee that we will be fully briefed on NNSA's plans regarding the NPR starting with the fiscal year 2018 budget and beyond?

Ms. GORDON-HAGERTY. Yes.

Ms. KAPTUR. Thank you. Thank you, Mr. Chairman.

Mr. SIMPSON. Mr. Calvert.

Mr. CALVERT. Thank you, Mr. Chairman. Secretary Gordon-Hagerty, Mr. Calbos, Mr. Huizenga, Admiral Caldwell, thank you for being here today and thank you for your service. The Chairman mentioned something about designing things on the back of a cocktail napkin and it kind of brought back a memory about the iconic aircraft designer Kelly Johnson who legend goes was in a bar in El Segundo and with a couple of his colleagues, and sat down because the Japanese had a superior aircraft at the time and designed the P38 on the back of some cocktail napkins and 9 months later it came across the assembly line. 9 months. Why? Because we had to. We had to win. And that is kind of symbolic of the nuclear weapons program.

We started the Manhattan Project and in a very quick period of time we developed a nuclear weapon relative to our adversaries. Why? Because we had to and we had to win the war. But we left obviously some problems behind because we weren't concerned then about as much as we probably should have been about the environmental damage and the problems we are having today.

So when we are talking about maintaining a safe, secure, effective and reliable nuclear stockpile, it requires modern facilities, technical expertise, tools to repair any malfunctions quickly, safely, and obviously securely. Over half of your infrastructure is over 40 years old and a quarter of it goes back to the days that I was mentioning, the days over the Manhattan Project for World War II. It requires constant upgrades, I have seen some of it. It is in pretty bad shape.

Obviously the safety of your employees is at risk. Handling of weapons is at risk and to secure the weapon themselves. And there has been a concerning reports about the state of the nuclear stockpile itself. Some issues include the buildings where the nuclear weapons are housed, they are too rusty to even seal the doors shut. Uranium security complex, the roofs are collapsing. A shortage of specialized tools for these aging systems and the principle information technology used to operate and launch the ICBMs is on an 8 inch floppy disc. Now I kind of remember the 8 inch floppy. You and I probably do, Mike, and we kind of, we are about the same age. But probably the only place on the planet that is using an 8 inch floppy disc is from the 1960s. Maybe it is a good security protocol, I guess you can't hack into it, that is maybe a good thing.

I know some are concerned about the trillion dollar price tag, as we all are, of the current nuclear modernization plan. I am more concerned about the safety issues and the enormous price tag associated with maintaining these aging systems and our aging deterrents.

Can you share with the committee the cost of doing nothing versus the cost of the next generation of nuclear infrastructure and obviously the redesign of our nuclear weapon systems?

Ms. GORDON-HAGERTY. Congressman Calvert, I agree wholeheartedly with the statements that you have made and, in fact, the NPR said it best. We have fallen far short in our responsibilities to ensure that we maintain an infrastructure that is robust and resilient to meet 21st century threats. And we have done a poor job of ensuring that the capabilities that are required in order for our best and brightest to maintain a robust nuclear weapons stockpile is absolutely critical and we have not done a good job. However, we believe we are on a strong path forward to ensure a resilient and robust stockpile with all the ancillary activities associated with it.

As long as we are assured a sustained funding stream, we believe we will get to that. This is not something we can do overnight. It will take decades to modernize our infrastructure but it is critical that we do so now. Insofar as that as concerned, that is what is necessary to ensure that our scientists, engineers, technicians, laboratory and plant specialists can work in a safe environment. And to provide them with anything less is not appropriate. So I assure you that the plan that we have and the path forward we have will be what is necessary to maintain the nuclear deterrent for our United States, our allies and our partners.

And to your point about doing nothing, we are at a point where we have no more margin for error or for doing nothing. We must take on and undertake this program for infrastructure modernization now. And with that, it is not just about the buildings. It is not as Mr. Calbos has said, the brick and mortar. It is about ensuring that we maintain the best and the brightest, be sure that we can for the next generation of scientists, engineers, technicians, laboratory support, administrative support across the board, that we have those personnel that want to somehow provide a capability to ensure our nuclear safety, nuclear security for our United States.

So to me, it is imperative that we work with Congress, with our stakeholders to assure that we can do everything we can to ensure a modern, robust, and resilient nuclear weapons stockpile. And in order to do so, we need to make sure that our infrastructure throughout the nuclear security enterprise is second to none.

Mr. CALVERT. Thank you. Thank you for that answer. I just, as you know, you probably have the one job you cannot make any mistakes, it has to be perfect.

Ms. GORDON-HAGERTY. Yes, sir.

Mr. CALVERT. Because in your job, things go boom, they really go boom. Good luck, thank you.

Ms. GORDON-HAGERTY. Thank you.

Mr. SIMPSON. Mr. Fleischmann.

Mr. FLEISCHMANN. Thank you, Mr. Chairman. To this distinguished panel, I want to say thank you so much. Dave, it is good to see you, I think I met you my first week in Congress. Phil, it is a pleasure. Admiral, I want to thank you on a personal note of privilege for you coming to my office and articulating in a very strong and comprehensive way where we are and where you want our great nuclear Navy to go. For me, I want to say that I agree with your assessment and your vision. I want to thank the men and women of our great United States Navy and we will support you. I will certainly work to support you with the funds needed to complete your mission, sir. Director Hagerty, thank you and con-

gratulations. As Chairman Calvert just articulated, the margin for error in this sphere is zero.

I represent Oak Ridge, Tennessee, birthplace of the Manhattan Project. Right now, we are under construction with the Uranium Processing Facility. I will say the men and women who have worked so hard at Y–12 have done a tremendous job under very adverse and older conditions. But UPF is now going well. It has been redesigned, buildings are up, NNSA has done a great job, our contractor has done a great job on site and I thank you for all of that.

I have a few questions. The Uranium Processing Facility project at Y–12 is a critical component of the NNSA strategy for modernizing the nuclear weapons complex and for continuing to meet the needs of our nuclear Navy. NNSA is committed to complete the UPF project by 2025 for costs not exceeding $6.5 billion. The administration has requested $703 million for UPF for fiscal year 2019. My first question, could you briefly describe whether your request configured in the President's budget and the funding profile of the next few years are adequate to complete the work that needs to be done to advance UPF toward a successful completion by 2025 as NNSA has committed.

Ms. GORDON-HAGERTY. Thank you, Congressman Fleischmann. Let me assure you that with reliable and sustained funding, our intent is to, and I am confident to say that we will complete UPF within the budget which is $6.5 billion and by the end of 2025. So I always want to make sure that we capture all of 2025 and that it is not on January 1st. We have through the end of 2025. I am confident that with reliable and sustained funding, we can get to that effort.

As I mentioned in my opening comments, we have just completed two sub-projects and we completed them two months ahead of schedule and $18 million under budget. So I think that is a welcome sign about the good work that we are doing at the field office as well as our contractor and support staff. I agree with you and I look forward to my first visit to Y–12.

May I also ask if Mr. Calbos has anything else he would like to respond with regard to UPF, thank you.

Mr. CALBOS. Thank you. The only thing I would add to the Administrator's comment is that the success we are having in the uranium space at Y–12 is the result of a methodical process that we have instituted over the last several years. There are some folks that will note that we take a bit of time to get from idea to actual breaking ground, or in this case, pouring concrete. But we have gotten there through a very methodical, rigorous process that includes other parts of the Department of Energy and we have learned from past efforts and we are applying those lessons that we have applied to UPF to other parts of our portfolio. So there is a lot of goodness there.

Mr. FLEISCHMANN. Thank you, sir. The NNSA has established domestic uranium enrichment as one of its strategic material programs. Redeveloping a domestic uranium enrichment capability is critically important to our national security. Also of critical importance is to ensure that current uranium enrichment workforce, skill and supply chain quality do not atrophy unnecessarily. Could

you please describe the steps that NNSA is taking to ensure both that the nation's future enriched uranium needs are met and that the current capabilities of the industry in this country does not continue to erode?

Ms. GORDON-HAGERTY. We concur that we must reestablish a domestic uranium enrichment capability. We need to do so for our long term tritium requirements. We believe that the planned path forward, assuming that it is fully funded, will provide us with the tritium needs necessary for our nuclear weapons stockpile requirements as a critical, strategic material, will provide us with that necessary capability through approximately 2040. However, as you may be aware, we have two centrifuge technologies under which we are considering at the present time. One is in more of a nascent stage right now, so we are developing the R&D on that. But yes, we are providing resources to ensure that we can look at the two different centrifuge technologies and make a determination. Mr. Calbos might have some more to add, if I may.

Mr. CALBOS. Sir, I want to take an opportunity to clarify something that is often reported. That our strategy, as the administrator said, there is a two prong strategy. One is we are going to down blend uranium so that we can bridge to our own domestic production capability. There have been reports that we are down blending HEU that is reserved for Naval reactors and that is not correct. We are not using anything that is set aside for naval reactors, and I think sir, you are good until 2060, based on current fleet size and everything.

But in the more near term, the first requirement that we need to address is the tritium for the weapons. We have a two pronged approach. One is down blend some highly enriched uranium that we have identified at the Y–12 complex. And then going forward, it gets to what Ms. Gordon-Hagerty said about developing our own domestic enrichment capability in the United States.

Mr. FLEISCHMANN. Thank you. And I would like to note for the record, my strong support for a domestic uranium enrichment program to move forward in addition to the down blend. The down blend is a short-term or mid-term solution but I think we need to address that as a nation. Mr. Chairman, I will yield back.

Mr. SIMPSON. Thank you. Ms. Wasserman Schultz.

Ms. WASSERMAN SCHULTZ. Thank you, Mr. Chairman. Madame Administrator, in your written responses to the Senate Armed Services Committee during your confirmation process, you wrote that, eliminating nuclear weapons is a long-term goal and that the United States "now faces a more diverse and unstable geopolitical environment than ever before". I take it that you mean that the more diverse and unstable the geopolitical environment, the longer it is going to take us to reduce or eliminate nuclear weapons.

But given that the President has agreed to meet with the most significant driver of instability in our geopolitical environment with no conditions or questions asked, I would like to know from your perspective, what steps the Trump administration is taking to actually stabilize the geopolitical environment, both in terms of improving our national security in the short term and working toward eliminating nuclear weapons in the long term. It seems to me that there is a reason that previous Presidents were hesitant to just sit

down and agree to a meeting with one of the most dangerous despots in the world without any preconditions and that perhaps does not meet the description that you underscored as important in making sure that we have a more stable geopolitical environment.

Ms. GORDON-HAGERTY. Thank you, Congresswoman Wasserman Schultz. I cannot speak to the President's direction other than the position that he has taken, I would defer to the White House or to State Department from a diplomatic standpoint. However, to my point about long-term strategy where I believe the entire world will be better off without nuclear weapons, I will be the first person to say that. But as long as we are in an unstable environment, we must ensure a credible nuclear deterrent and that is exactly what the NNSA is here to do. And as far as NNSA is concerned, we work with the Nuclear Weapons Council with our counterparts in the Department of Defense to develop the requirements and from there, we will execute the strategies as such.

One of our long-term goals is, of course, and I do not think it has ever come off the table, I can say confidently, that if there is a time at which we can pursue an opportunity to rid the world of nuclear weapons, you would find me standing at the front of the line and that is what I would welcome the opportunity to do. However, because of the situation which we find ourselves, we need to have a safe, secure, and robust reliable nuclear weapons stockpile for the safety, security of our nation, our allies, and our partners.

Ms. WASSERMAN SCHULTZ. I can appreciate what you are saying but you literally have nuclear nonproliferation in your title.

Ms. GORDON-HAGERTY. Correct.

Ms. WASSERMAN SCHULTZ. So presumably, your main responsibility, I mean our posture right now, remains, has been, should be, achieving the goal of nuclear nonproliferation. Again, I assume also that you and your team offer advice and guidance given your expertise, to the White House, about how to make the geopolitical environment more stable. So while I can appreciate that the decisions about who the President meets with are made at the White House, do you or any of your team of experts weigh in with the White House on decisions like whether the President is going to agree to a meeting like this with no preconditions whatsoever?

Ms. GORDON-HAGERTY. To the extent to making that information known about meeting with no preconditions, I do not believe we were involved in that decision making process. However, you rightly state that part of my mission and my responsibility is nuclear nonproliferation counterproliferation and counterterrorism. And we have a very robust program in arms control and other efforts. If I may, Dave Huizenga is my Principal Deputy Associate Administrator for nuclear nonproliferation and perhaps he can give you some ideas and examples about how we conduct our nonproliferation efforts. Believe me, part and parcel we are involved in interagency discussions, we provide the technical expertise in nuclear nonproliferation across the government.

Ms. WASSERMAN SCHULTZ. I am running a little bit low on time and I do want to hear from him but I want to ask my other question because he can probably help answer it as well. There has been so much focus on the Nuclear Posture Review and the President has emphasized repeatedly that we need to modernize and we

need to nuke up and I agree that there needs to be a balance struck between nonproliferation and making sure that we have a modern, robust program. But that modern robust program is taking cuts. So while I recognize that the administration has not yet started to significantly cut nonproliferation programs to pay for weapons, can you assure me here today that we are not going to move in that direction and that the NNSA will continue to invest in these vital nonproliferation programs, regardless of this administration's insistence on expanding the nation's nuclear arsenal?

Ms. GORDON-HAGERTY. Yes, I can. And, in fact, this year's budget, our 2019 budget request is 3.9 percent increase from our 2018 request. So yes we are and we have a robust nonproliferation program and I hope that you will be able to see some of the results of that. Like I said, we are at front and center with the IAEA, with State Department and with our interagency colleagues in terms of nuclear nonproliferation initiatives.

Ms. WASSERMAN SCHULTZ. Mr. Chairman, is it OK if we hear from Mr. Huizenga?

Mr. SIMPSON. Go ahead.

Mr. HUIZENGA. Thank you. I think we have heard here the importance of maintaining the stockpile. But also I think what we are hearing from both the Congress and the Administrator is there is also an important element to the deterrence. That is making sure the other people, our adversaries do not get ahold of nuclear materials to create nuclear weapons and that we verify that they are abiding by treaties that are in place. I can assure you that there has been no change in the ability of our program to influence these issues. We have direct access to the highest levels of the National Security Council members and we play a very, very vital role in supporting those activities.

Ms. WASSERMAN SCHULTZ. The concern is obviously granting a meeting given the credibility of the meeting with the leader of the free world to a despot like Kim Jong Un with no preconditions at all. And not ensuring that there are steps he has to take to warrant being given that type of a platform an opportunity.

Mr. HUIZENGA. Yes, I recognize that, but there are indeed ongoing discussions now to try to make sure that we are well positioned.

Ms. WASSERMAN SCHULTZ. One can only hope. Thank you for your indulgence, Mr. Chairman. I yield back.

Mr. SIMPSON. Mr. Newhouse.

Mr. NEWHOUSE. Thank you very much, Mr. Chairman and welcome to the panel this morning. I appreciate you being here. Congratulations, Ms. Gordon-Hagerty, on your appointment and your confirmation. Reading through your biography, it seems like you are uniquely qualified for the position and I look forward to working with you. You had your beginnings at Lawrence Livermore, is that correct?

Ms. GORDON-HAGERTY. That's correct.

Mr. NEWHOUSE. And even as a professional staff assistant at Energy and Commerce, I understand. So that should be a source of inspiration for a lot of people in this room. But also many other important positions within important activities of the government related to defense so welcome. You have been on the job for almost

a month so you probably are aware of some of the things that are going on that are under your purview. I represent the many skilled men and women, the scientists at the Pacific Northwest National Laboratory who are very engaged, conduct a great amount of work and research and development in support of your efforts. I think, as a matter of fact, they do more to support the mission of the NNSA than any other lab in the country. So that is a source of pride for me but also a very important role that they fill.

My first question, I guess, from kind of a higher altitude perspective. Could you share with the committee, your vision for the nuclear nonproliferation programs in the coming years?

Ms. GORDON-HAGERTY. Thank you, Congressman. Yes, first of all, as I had mentioned before, obviously we have three very important missions and they are equally important to me. The safe, secure, reliable nuclear weapons stockpile, a robust nonproliferation, counterproliferation, counterterrorism program as well as supporting our nuclear propulsion in our fleet for the Navy. So those are equal and important missions. I cannot understate the importance that I place on all of those missions.

In terms of nuclear nonproliferation, it is an important mechanism by which we can attract, lure, and otherwise avoid nation states or others from finding the development or the ultimate execution of building a nuclear weapon or nuclear device. So we are doing everything we possibly can and I guarantee you, I promise you that I will make this one of my highest priorities. I have worked closely with Mr. Huizenga in the past and we continue to work together today. My door is always open and we have already started to undertake some new efforts, some improved efforts in the nuclear nonproliferation area. Most notably, we have been working on National Security Council staff matters so that we take it to the highest levels of government. And we are in the middle of all nuclear nonproliferation technical efforts. So what I would like to do also is if Dave can describe, Mr. Huizenga, if you will allow him to describe some of our most recent accomplishments and what we plan on for fiscal year 2019 in the areas of nuclear nonproliferation. But I assure you, it will be one of my top priorities.

Mr. NEWHOUSE. Absolutely, please.

Ms. GORDON-HAGERTY. Thank you.

Mr. HUIZENGA. Thank you, Administrator. Yeah, you are right. We actually—the Nonproliferation Office uses the Pacific Northwest Laboratory folks extensively in our cooperation and we appreciate their capabilities. We have used them for years on border security efforts and that was the key effort in stopping smuggling of nuclear materials and radiological materials worldwide. So we have a very robust program that uses not just the PNNL folks, but the draws on the laboratories in general to make sure that we either secure material and help other countries secure the material in place or move it and make it—consolidate it in more secure locations if possible and to stop smugglers and to also make sure that we are ensuring verification, as I mentioned, verification of existing treaties.

Mr. NEWHOUSE. Well, certainly in this day and age is just some very important work, some of most important work that we do in

a defensive strategy. And like I said, I look forward to working with you as you engage in your new role and make sure that we can accomplish those goals as efficiently and quickly as we can. Thank you very much for being here and I yield back, Mr. Chairman.

Mr. SIMPSON. Mr. Fortenberry.

Mr. FORTENBERRY. Thank you, Mr. Chairman. Secretary Hagerty, congratulations as well on your new position and, Admiral, thank you as well and the rest of you for coming today. The conversation has taken a decided turn toward nonproliferation and I want to focus there, as well. Chairman Calvert said it, I think, very responsibly that you perhaps have one of the most important jobs in the government. If this goes wrong, everything else we are trying to do does not matter. When I was a much younger man, it was 1979, I was actually in the country of Egypt and long story, but I ran into someone who had been a World War II Veteran; I believe he was from Australia. And he told me that he was one of the first troops into Nagasaki, as I recall. And I just being a young person said, "Oh my goodness, that must have been absolutely fascinating. What did you see?" And he began to cry.

This whole dynamic of trying to create a 21st century architecture for diplomacy, for proper military strategy for our own defense, in light of an ever-changing world where the technology, so to speak, in this arena is out of the bottle, demands command that we perhaps elevate the focus and our intentions around this area that none of us can really seem to get our mind around. The possibility of one of these things exploding is a game-changer for civilization itself. Now, in this regard, we are doing the same things that we are doing. You have made some really—we are doing the same things that we are doing. Maybe they are robust enough, maybe they are not. What I do not want to see is that we have a problem with imagination. There is an interagency effort that has gone on previously. I would like my question specifically to you all is, what is the status of that? You are the primary carrier of nonproliferation mission and legislative intent, along with DTRA and Defense, as well as some cooperation, I assume, from the NSC, maybe some from Treasury and State, as well as State.

But again, in my mind, at least, this interagency taskforce, we are in interagency dialogue that is absolutely necessary and critical to make sure that we are thinking correctly and continuing to move the mission from just securing and safety of nuclear technology to one of verification and reduction of threats, particularly along the lines of securing loose material, but also loose technology that is out. So respond to this, please. The leadership for this purpose, I think, has to come from you and right here, as well.

Ms. GORDON-HAGERTY. Thank you and I agree wholeheartedly with your statement. We have undertaken a robust interagency process that I have seen in the few weeks that I have been on the job. We have looked at things, cyber security, we have looked at other elements that touch across the elements that you have described. I would also like to bring to your attention that in the Nuclear Posture Review, the organizations—of course, it was before my tenure—but the State Department, the Department of Defense, and Department of Energy played equal roles in developing the nu-

clear posture review and there is an entire section devoted to nonproliferation, counterproliferation, counterterrorism measures. And so that will lay the strategy, if you will, or at least part of the strategy, I think, to get to where you think we need to be and rightfully so. That strategy will then provide us with a framework, if you will, or requirements that we can then use as an outline for moving forward. But exactly some materials, methods, equipment, information that we can find on the internet, all of those play a role in potential nuclear terrorism and the ultimate goal.

Mr. FORTENBERRY. So that section of the Nuclear Posture Review, was that written in coordination with this interagency taskforce, did that fall primarily to your agency? Who was the coordinator of that section?

Ms. GORDON-HAGERTY. Well, actually, I can turn to Mr. Huizenga, who was actually part and parcel of that group and, I believe, even led the process.

Mr. HUIZENGA. Yeah, we played a very extensive role in shaping that chapter. That was extremely important from the very get-go. We wanted to make sure we recognize it was not just——

Mr. FORTENBERRY. Right. Let us look at the conclusions very quick. I am sorry to cut you off. Our time is just very short. So, again, back to this idea of architecture. Are the main accounts for nonproliferation the proper structure, the proper framework for addressing the series of threats that are out there or are we lacking imaginative possibilities here?

Mr. HUIZENGA. I have not seen any lack of imagination or change in posture——

Mr. FORTENBERRY. OK, let me go back to this. Is this interagency taskforce, is there leadership to it, is there a timeline in which it's scheduled to continue to meet, or does that just become information that sits in various agencies? We have a fragmentation problem across government, we have a fragmentation problem—everybody's life has a fragmentation problem. But if one of these goes off, we just cannot afford the possibility.

Mr. HUIZENGA. We are developing very specific plans that are based on, you know, stopping smuggling, securing material, verifying treaty obligations, so each one of these major elements of our export control, you mentioned that as well, you know, to developing technologies; each one of these has a specific plan and we are developing and marching through it, so.

Mr. FORTENBERRY. Are you shepherding this? Are you the leading person in the Government?

Mr. HUIZENGA. I am not personally shepherding it.

Mr. FORTENBERRY Who is?

Mr. HUIZENGA It is being run out of the White House, so the close coordination with State Department and Defense Department and DOE.

Mr. FORTENBERRY. So the National Security Council would be the primary coordinator of the interagency dialogue? Is there a timeline for further considerations here?

Mr. HUIZENGA. Yes. There is continued pressure to make sure that we are staying on top of this.

Mr. FORTENBERRY. So there is no timeline; I think that is what you are saying, something—this kind of goes to the point. This is

so serious that I think I am not countering what you are saying; I am just trying to elevate the seriousness of this as a core key mission. Because—and look, I represent strategic command. We are the command; we are the nerve center for our nuclear policies and weapons systems. And as well, the idea that we have nuclear weapons for our own defense, as well as nonproliferation purposes seems contradictive, but it is not, back to your earlier point. In the meanwhile, we have got to keep ourselves safe, but as we work toward the possibility of eliminating all of these things from the world. Now, but unless we are equating that secondary or primary mission with the first as well, and it tends to drift, I do not think we will get there. Because it is easier to build things.

Mr. HUIZENGA. Yeah, I just want to emphasize, there is no lack of pressure. I feel the pressure in——

Mr. FORTENBERRY. From whom? The White House?

Mr. HUIZENGA. From—the whole interagency recognizes the importance of this effort.

Mr. FORTENBERRY. OK, it is a comment. I just need some more specifics in this——

Mr. HUIZENGA. Yeah.

Mr. FORTENBERRY [continuing]. Regard.

Mr. HUIZENGA. So I guess the reason I am not——

Mr. FORTENBERRY. I mean, it is a better conversation offline and we have—I think we are going to probably have some opportunity to do that, but specifics would help.

Mr. HUIZENGA. OK.

Mr. FORTENBERRY. Thank you.

Mr. SIMPSON. Mr. Joyce.

Mr. JOYCE. Thank you, Mr. Chairman, Administrator Gordon Hagerty. Thank you very much for being here today. My question pertains to strategic and critical material beryllium? As you know, beryllium is the only substance available for certain U.S. strategic weapon systems. There was language in the report accompanying the fiscal year 2018 House Defense Appropriations Bill speaking to the importance of a secure supply of beryllium to ensure the reliability review as nuclear stockpile. The language occurs encourages the NNSA to investigate the feasibility of developing a new and efficient contractor-operated beryllium and beryllium oxide production capability to more efficiently and affordably meet your agency's needs. As NNSA goes through a major modernization effort, does the agency plan to upgrade and secure its beryllium supply?

Ms. GORDON-HAGERTY. Congressman Joyce, we are actually undertaking that feasibility study right now for our future beryllium needs. And beryllium is one of our strategic materials. And so, yes, we are absolutely doing that. We will determine whether or not under that feasibility study what kind of requirements we will have for the foreseeable future for beryllium.

Mr. JOYCE. Fantastic. In doing so, is there a role for private industry to play in this process?

Ms. GORDON-HAGERTY. Absolutely. If there are ways of doing—in fact, we are looking at different opportunities where there can be public private partnerships. Obviously, the sanctity of the material, the issues associated with that when they are ultimately going to be used in our nuclear stockpile is our biggest concern. Security

clearances and other issues have the security around the program, trusted materials, so on and so forth. But absolutely, we would welcome the opportunity to engage with private partners that potentially could provide us with the necessary materials that meet the needs of our strategic materials initiatives.

Mr. JOYCE. Oh, thank you. You know, and I apologize for being late. I have another hearing down the hall. I understand that there had been some discussion you had already discussed the cyber threats or potential for what you are doing to gear up for cyber threats in your industry.

Ms. GORDON-HAGERTY. Cyber threats are certainly a concern of ours, whether the system is, you know, and we have a robust program that we are undertaking right now throughout the Department of Energy, not just within NNSA. Because obviously, our infrastructure and our enterprise requires a resilient cyber security program. And we do have that and I would be pleased to come back and brief you specifically about our cyber security strategies.

Mr. JOYCE. That would be fantastic.

Ms. GORDON-HAGERTY. Thank you.

Mr. JOYCE. And I know that the time is running, so thank you very much for allowing me this time, Mr. Chairman.

Mr. SIMPSON. Yeah. Mr. Aguilar.

Mr. AGUILAR. Thanks, Mr. Chairman. Congratulations, Madam Administrator. Thanks for being here. I appreciate my colleague, Mr. Newhouse, noting that you had some California roots, as well. That is a strong step for him to compliment someone who had some time in California.

The Nuclear Posture Review, as you mentioned, sets numerous priorities for NNSA in support of our enterprise. These include accelerating work on some life extension programs, ensuring robust surveillance programs and reducing the backlog and deferred maintenance at facilities. The fiscal year 2019 budget provides additional funding for these priorities, which is commendable. Do you believe the increase for fiscal year 2019 is sufficient to meet the growing demand for these resources and how do we sustain this level of funding in future years?

Ms. GORDON-HAGERTY. Thank you very much and I agree wholeheartedly with your statement that that is exactly what needs to be done. We do have a robust plan and a path forward to maintain the three—to keep on budget and within—on schedule the three major LEPs we are undertaking at present, as well as our one major alt and refresh, which is the W88 alt 370 CHE refresh. It is important that we receive sustained and reliable funding from the Congress in order to ensure that we can continue to maintain the requirements set forth by the Department of Defense through the Nuclear Weapons Council, which I am a member. And this will set our path forward to ensure a reliable and robust nuclear deterrent. But it is really dependent on working closely with Congress to ensure that the requirements needed to modernize our infrastructure and maintain the capabilities to ensure our long-term strategies are undertaken. So, Mr. Calbos, do you have anything to add to that, if I may?

Mr. CALBOS. Of course.

Ms. GORDON-HAGERTY. Thank you.

Mr. CALBOS. Sir, I appreciate the question. One of the things that we have talked about since we rolled out the NPR is what it represents. And while there is understandably a lot of attention that—that is focused on the new initiatives, the low yield ballistic missile and the sea launch cruise missile, you know, first and foremost, the NPR represents continuity with the program that we have had underway for about three to five years. And that includes the infrastructure improvements, taking care of deferred maintenance and all that.

So you are absolutely correct that we need to maintain support for those programs. There is a little bit of, you know, a tendency to focus on those, on the new initiatives. But first and foremost, we need to get right what we have already been working on and make sure that the enterprise is positioned to support the stockpile for decades to come. This is not a short-term thing. So it is up to us, frankly, to make sure that, you know, we receive the support we need by giving Congress what it needs to make, you know, the right decisions with respect to appropriations.

Mr. AGUILAR. What challenges will we face as we expand these programs and accelerate some?

Mr. CALBOS. You know, it is stable, consistent funding. And again, this is not a one, two, three-year effort. It took us a while to reach the point we are and with respect to the enterprise and it will take us a while to get it back on secure footing for the next, you know, several decades and, you know. Technically, we have the workforce that can do it. You know, we are beefing up the enterprise so that it can conduct the work that it needs to do, but we need sustained funding for many years.

Mr. AGUILAR. In these walls, sometimes we pat ourselves on the back for one and two-year budget deals, so that can be a challenge. As we move forward, you know, how do we find cost savings that can help offset some of this activity?

Mr. CALBOS. Certainly, there are opportunities out there. You know, it is always a bit of a Catch-22 that, you know, if you have the time and the effort and you get support, you know, I will use deferred maintenance as an example. You know, right now we put money into deferred maintenance and into patching rooves for facilities that are not in the long-term plan. But we do that because if we do not, we have got an environmental issue or a safety issue. In a perfect world, we would condemn those buildings, you know, take them down, and build a new facility. In the long run there is cost savings there, but when you are looking at it in a one-year time horizon, it is cheaper just to put a new roof on something.

Mr. AGUILAR. Cost avoidance is something that government does not do a very good job at in general. As a former mayor, we saw that as well. So it is tough and I appreciate—I think it is commendable, the deferred maintenance money that is—that you have identified. I think that that is helpful. Thank you, Mr. Chairman.

Mr. SIMPSON. Thank you. Interesting discussion. I, you know, I agree with you. It would be nice to live in a world that did not have nuclear weapons, but I think we are—that technology has already been developed and I do not know how you are going to get—ever get rid of them or the ability. And it kind of leads me to—I support the nonproliferation programs that we have. I think we got to do

everything we can to stop that. But it is almost—and this is just myself speaking—like I said, a losing game in the long run with the technologies that is out there, that if a country wants to become a nuclear power, they have the ability to do it. And the only thing that we can do is to try to make it in their best interest not to, somehow.

But at some point in time, I guess, Kim Jong Un decided that it was in his best interest to. It is a perplexing problem. I do not look forward to doing your job, but they—that is a—it is a tough one, trying to stop the proliferation of this nuclear material and a nation's ability to develop nuclear weapons. And they often surprise—India surprised us. We did not know they were developing one and all of a sudden, they were there. It is a challenge, but—Admiral Caldwell.

The Spent Fuel Recapitalization project has been carried out, at the Naval Reactors facility in Idaho it is estimated to cost $1.6 billion. Do you have a cost and schedule baseline for the project and do you foresee any difficulties in delivering this project within its current projected cross and what are the biggest risks of the rising cost and when is this project supposed to be completely—or be completed and what do the Navy's—to support the Navy's plans and what are the implications if there are delays in this?

Admiral CALDWELL. Thanks for the question, sir. We are on pace to deliver the Spent Fuel Handling facility on schedule. The initial operating capability would be in 2024 and the full operational capability in 2025. As you know, sir, this is vital to the Navy because it allows us to continue to refuel aircraft carriers and refuel SSBNs, ballistic missiles submarines, and it also allows us to inactivate and take the fuel out of the retiring 688 Los Angeles-class submarine. So it is very, very important to us. If there were delays, then we would have to purchase additional containers to store that fuel so that we could continue the battle rhythm of refueling and defueling that I just described. The delay of one year would cost about $150 million to buy additional containers and we do not want to do that.

Fortunately, thanks to the support of this subcommittee, we have been able to stay on schedule and avoid additional cost growth. The budget submission for this year allows us to continue the site preparations, to start vetting some contracts, $32 million worth of contracts this year. It allows us to continue the design of the equipment that will go into the facility. It allows us to continue the—to the final design of the facility. And it allows us to complete site preparations and to buy the long lead material that we need. Towards the end of the year, we are going to achieve the milestones CD 2 and 3, which will establish the performance baseline and that will allow us to start construction, which will include the pre—the structural steel, as well as the concrete for the foundation. So we are on track, sir, and that is largely due to the great support from this subcommittee and I thank you.

Mr. SIMPSON. Thank you. The ATR, aging reactor, how important that is in the Navy and do you foresee the Navy reactor's continued use, a need for the ATR, and its research and development needs in the future?

Admiral CALDWELL. Yes, sir, the ATR, the advanced test reactor, on the Idaho National Lab, it is essential, it is vital to the Naval Reactors Program. It allows us to take samples of materials that we are considering for future reactors and expose it to a neutron flux, and to see how those materials are going to perform. And then we can run it through cycles and we can take that material out, take a look at it, see how it is performing, and then put it back in the reactor and run it through additional cycles. That advanced test reactor has allowed us to develop fuel systems that have longer lives.

In fact, all of the submarines we are building today have life-of-the-ship cores. The *Ford* aircraft carrier has a 25-year core, so that ship will be refueled once in her life. And it has allowed us to develop the core for *Columbia*, which will be also a life-of-the-ship core over 40 years. We could not have done that without the advanced test reactor. So, we have used it throughout the life of the program and we will continue to use it, and we will continue to support efforts to sustain that program and to extend the service life, if possible, or to recapitalize that effort if we need to.

Mr. SIMPSON. Thank you. For the members that haven't seen it, you need to see how they have to refuel one of these submarines or one of these aircraft carriers. It is not like you take the fuel rods and put them under your arm and walk out, and grab more and put them in and lock. It is a huge, huge cost to refuel one of these things. And I suspect that being life-of-the-ship reactors is a huge cost savings to the operations of that ship in the long run.

Admiral CALDWELL. That is correct, sir. And it is, as in the case of the *Columbia* class, it has allowed us to do the mission with 12 submarines versus 14. And we are estimating a savings of about $40 billion total ownership over the life of that class of submarines, so, that is very important to the Nation.

Mr. SIMPSON. Thank you. I want to get into one other subject, Administrator. Last summer, the GAO published a report that said the NNSA's nuclear modernization programs were already at high risk of delays and cost increases, and that was before the NPR and the announcement of additional modernization programs. The outgoing NNSA Administrator said in January, and I quote, "We are pretty much at capacity in terms of people, although we are hiring more. We are pretty much at capacity in terms of the materials that we need to do this work, and pretty much at capacity in terms of the hours in the day at our facilities to do the work."

Can the NNSA afford the scope of its current modernization programs within existing budgetary targets? And, if not, does the stockpile plan identify all additional needed resources? And if the funding needs are not met, how would this affect the agency's overall modernization schedule? And will future modernization plans continue to include the estimates of the projected budget for the program to provide the assurance that the NNSA's programs are aligned with budgetary plans?

Ms. GORDON-HAGERTY. Mr. Chairman, our plans are based on sustained and reliable funding. And we believe that consistent with the sustained and reliable long-term funding provided by Congress, we will be able to ensure that the requirements set forth by the Nuclear Weapons Council are executed. And so, in a nutshell, it is

really about reliable and sustained funding, making sure that we modernize our infrastructure, we ensure that we have the necessary workforce now and in the future to be able to execute those missions.

As General Klotz correctly pointed out, we are at a heightened state. We haven't seen this amount of activity for many, many years, in fact, decades. However, we believe that working closely with our partners in the field offices, plants, laboratories, and at our sites, we can develop the requirements in the path forward to ensure that we execute the missions outlined by the Nuclear Weapons Council.

Mr. Calbos, anything else that you might want to add, if I may, Mr. Chairman? Thank you.

Mr. CALBOS. Ma'am, I think that captures it. As you look at the workflow, it has grown enormously over the last couple of years and we are continuing to execute. While we are stretched, we are still addressing all the efforts we need to address right now. As you look at the projected funding requirements, you know, we have a document that lays out the next 25 years as we currently understand it. Every year we update that. It is a Stockpile Stewardship Management Plan; we update that. This year's version will reflect changes coming from the NPR, and to the extent that we achieve support for those programs, we can execute.

Mr. SIMPSON. If the two LEPs were working on the B61 and the W88, there is talk that, originally, the B61 was going to be at $8 billion; looks like $10 billion is more accurate now, and probably a 2-year extension of how long it is going to be before that is finished, at least that is the rumors that are out there. If we add additional work due to the Nuclear Posture Review with the two new weapons that they are talking about, what does that do to your overall schedule of the life extension programs for these if we are already at capacity? I guess what I am asking is how is this going to fit in with the capacity that we currently have or is that going to have to expand?

Mr. CALBOS. Congressman Simpson, thank you. First of all, we have not adjusted our cost or our schedule. There are other estimates out there; it is not new. We have our own internal organization which provides an independent cost assessment, and there is goodness in that. They identify risks, and our job is to work through those risks and make sure that they don't materialize. So, the $2 billion increase and 2-year slip is not something that we in the program agree with right now.

As a former Deputy Administrator said when she looked at me, she said your job is to make sure that does not happen; and right now we are making sure that does not happen. It doesn't mean there is not risk in the program. There is absolute risk in the program, and every day we are working with the labs and the plants to burn off that risk so that we can deliver the B61–12 on the schedule that DOD and STRATCOM expect of us.

With respect to do we have the ability to take on additional work as directed by the NPR, when you look at what is in there in terms of new initiatives, specifically the low-yield ballistic missile, relatively speaking, that is a moderate level of effort—again, relatively speaking—and a moderate cost. And we believe where we

can fit it in in the near term—and we can have a more detailed discussion, Ms. Kaptur, ask for more detailed discussion about NPR requirements, we can do that in a smaller setting.

And then, additionally, the sea-launched cruise missile, that would happen farther to the right. So, we believe we can fit those in under the current program.

Mr. SIMPSON. Thank you. Ms. Kaptur.

Ms. KAPTUR. Thank you, Mr. Chairman. I just wanted to mention Congressman Joyce has left, but he and I both represent a heavy industrial region of the country. And just for your information, as the Department moves forward, we represent a region that has many firms that have high capacity in the areas of strategic metals, including beryllium, titanium, magnesium, aluminum, all the V–Ms. So, I just thought I would put that on the record.

We have no Department of Energy research lab, Oak Ridge and Idaho are much more famous than we are, but we do have some amazing capabilities in our region. So, I just wanted to invite you there some time. We can't get a nuclear sub Admiral up to Great Lakes on the St. Lawrence Seaway. We have tried to figure out how to do that. But, in any case, we have people serving in our Navy and our nuclear Navy, and there is even an Ohio class, of course, some of our subs, so we are pretty proud of that. There is actually a Toledo that is out there somewhere. It might be being rehabilitated at the moment, I am not sure; but, in any case, I just wanted to put that on the record.

Now, let's see here. On Nuclear Posture Review, I would like to go back to this. We need to understand the fiscal impact of these proposals before we start down the pathway of implementing them and we will appreciate a further briefing, at your convenience. Does the NNSA plan to use fiscal year 2018 funds to advance either of the proposed capabilities in the Nuclear Posture Review? And, if so, could you state those capabilities, those activities?

Ms. GORDON-HAGERTY. Congresswoman Kaptur, we are currently looking at and evaluating what resources might be applicable in the fiscal year 2019 budget request. However, we are leaning as far forward as possible to be able to ensure that the Nuclear Posture Review strategy is taken, and the requirements are derived by the Nuclear Weapons Council, at which point we will decide how we can best utilize funding. We do not have any resources committed in the fiscal year 2019 budget request. However, we are leaning as far forward as we possibly can, working with OMB and DOD.

As you may be aware, we require Congressional authorization to go into engineering phase 6.3 or higher in order to be able to conduct any types of additional requirements based on the low-yield ballistic missile requirements.

Ms. KAPTUR. There was no funding in the fiscal year 2018 budget, either. And did I hear you correctly, none yet in the 2019?

Ms. GORDON-HAGERTY. Our funding requirements, based on the fiscal year 2019 budget request was as a result of a program of record, and as evaluated by and directed by the Nuclear Weapons Council, so there are no resources available for that because the program of record is what is being funded and not the new requirements that are laid out in the Nuclear Posture Review.

Ms. KAPTUR. Mr. Calbos, is that fair?

Mr. CALBOS. Yes, ma'am, that is fair. As the Administrator stated, we are working with DOD and the Office of Management and Budget. This is all kind of evolving in real time. Both the NPR and the budget closed down at the end of the calendar year, plus or minus, and to the extent that we can do work in 2019, that would be beneficial. But, as Ms. Gordon-Hagerty said, we cannot go into engineering development without explicit congressional authorization, so.

Ms. KAPTUR. Very good. And I think when you come and meet with us privately, I think that would be a very good topic to address as well.

On the B83 gravity bomb, the Department of Defense and Energy committed to Congress in 2013 that the B83 would be retired and you may be aware that it was part of a larger deal to allow the NNSA to move forward with the B61–12 life extension project. However, the NPR proposes to keep the B83 around indefinitely, so, that is a change I think we would see as a change in posture. What has changed militarily since 2013 to require keeping this bomb in the stockpile? And how long does the administration intend to keep the B83 around, and are we looking at extending the life of the B83?

Ms. GORDON-HAGERTY. Congresswoman Kaptur, I guess I would defer to my Department of Defense colleagues in terms of what their DOD requirements are, which they have informed us that we will retain the B83 in the nuclear weapons stockpile until a suitable replacement can be found. So, I would defer to the Department of Defense.

Ms. KAPTUR. Alright thank you. I think, Mr. Chairman, I will submit my other questions for the record.

Mr. SIMPSON. Mr. Fortenberry.

Mr. FORTENBERRY. Thank you, Mr. Chairman. While we have been sitting here, I went back and pulled the Nuclear Posture Review and read the nonproliferation section. So, it is 2½ pages, very well written. It is a lofty visionary-type goal.

Again, without specifics, and this isn't the vehicle necessary to lay down specifics, but I think we need to return to this. There is an interagency review, an interagency working group without a timeline, with something that has been some culture of a scent that is pushed by the National Security Council from what I am gleaning from your comments.

Madame Administrator, you have referenced the Nuclear Weapons Council several times. And, again, I represent Strategic Command. I have dialogued with the commanders of that very important part of our military infrastructure for years about how, if we are to have a reliable nuclear deterrence, we have to ensure that these weapons are reliable. And if that is not assured, then their purpose, the deterrent effect, is diminished. Therefore, we are investing, per the Nuclear Posture Review, as well as the intention of Congress, many, many billions of dollars to upgrade our weapons systems.

What I am trying to impress upon you all is there has got to be a parallel element here rather than a lofty sentiment about what we are going to do with the 21st century architecture for nonproliferation, and I need to become convinced; and I need to be in

partnership with you to make sure that we are exploring every avenue that is open to us to prevent civilization from blowing itself up. This is the reality of what we are facing.

And so, again, back to the Nuclear Weapons Council, which is a decided body, interagency body, with experts on it, who have created the preconditions for Congress to be able to consider this modernization piece. Why don't we have a parallel effort in the nonproliferation space? Because right now it appears to me, the leadership thereof, appears to be vague about the intention because, frankly, it is easier for us to get our mind and heart and technology around building things. It is harder in this art of diplomacy and art of politics and art of geopolitical space where there are really bad actors with ill intention to create conditions which are measurable. But that doesn't mean that we should avoid it—not that you are avoiding it—but we do, from my perspective, need to elevate this.

So, let me propose to you right now, these hearings—we are on Appropriations—these hearings are generally about these various spaces of line items that are either of parochial interest or broader national security issues about what we are spending, what we are not. I would rather go a little bit deeper and press you upon this issue of whether or not we have aligned with specifics this greater goal of using our nuclear posture for nuclear deterrence in nonproliferation.

Ms. GORDON-HAGERTY. Representative Fortenberry, I can't argue with a thing you have said, and I agree wholeheartedly with what you are stating. What I would like to do is offer to you—put together a team from the interagency, as much as that is possible, and provide you with a more robust briefing, if you will, an awareness of what actually is going on in the nonproliferation space. Obviously, the technical expertise resident in the Department of Energy and NNSA is really where we provide the robust support to that.

But in terms of diplomacy, defense activities, the intelligence community, and all of those others that are factors in the interagency process, I will offer to you, that if appropriate, I would be happy to find out more, bring those personnel, my counterparts with me to brief you, which is absolutely appropriate. If that works for you.

Mr. FORTENBERRY. Yeah, why don't we start there? But, again, the first thing you have to do if you are interested in this space is start to try to figure out what the government spends and where.

Again, back to the issue—the problem, potentially, of fragmentation. Maybe we are fine, maybe we are doing everything we can, but to elevate my assurance and the American people's assurance, as well as the citizens of this world who are depending upon us to get this right, to elevate their assurance that we are doing everything we can to create the possibility of a new framework for international dialogue in this regard, I think the mission of that lands to a degree here, even though, as you correctly defined your role as being more technical, but the technical aspects of it are not going to get us necessarily to the art of diplomacy unless we are pushing this through the means that we have, and I think this is absolutely critical.

Now, in this regard as well, the international agency, the IAEA, the International Atomic Energy Agency, has, again, shifted its mission from a traditional one of security, safety, if you will, to verification. We, you, are playing a critical role in this regard as well.

I want to hear, Mr. Chairman, if you will allow me a few more moments, some understanding of culturally what is happening inside your agency in terms of this shift of mission of the IAEA because I think this is critically important to this deeper question as well.

Ms. GORDON-HAGERTY. Absolutely, and thank you. Representative Fortenberry, I can give you one example of where we are working very closely with the IAEA, as well as with State Department, and that is for the implementation of JCPOA with Iran. We are actually providing the technical expertise to the IAEA in training all of the inspectors to ensure that Iran complies with the JCPOA. So, we are playing very close, and we have a very close and robust relationship with the IAEA in this regard. And, of course, that's an inspection, but I guess, Dave, who has been doing this far longer than I have, if Mr. Huizenga could give you some other areas in how he would describe our current relationship with the IAEA.

Mr. FORTENBERRY. And briefly, as a part of that, describe the International Partnership for Nuclear Disarmament Verification?

Mr. HUIZENGA. Thank you.

Mr. FORTENBERRY. Is that embedded in the IAEA?

Mr. HUIZENGA. Not in the IAEA, no.

Mr. FORTENBERRY. There is a glancing reference to it in the Nuclear Posture Review.

Mr. HUIZENGA. Yeah, but we have a close partnership with the IAEA, as you have indicated. We work with them on safeguard training. All of the IAEA inspectors have been trained at the Los Alamos Laboratory to make sure that they know what they are looking for when they go out there in the field. We have supported them in nuclear security for decades now, so, they have a verification and safeguards role in nuclear security, and their safety role, of course, in that regard as well. So, we have a very active cooperation with IAEA.

I guess I would like to just come back—I am not trying to dodge your question. I want to make sure you don't think——

Mr. FORTENBERRY. You do understand my intent. I am pressing you for some substance.

Mr. HUIZENGA. I do, and I want to make sure that you know that I care because, I mean, I am not giving you a date. We are regularly churning out policy papers that then drive us to go do things, to go off in a certain direction and work with a country to try to help them secure their material or maybe remove their materials to a more secure location.

You know, we continue to convert reactors. We worked with the IAEA to convert the reactor in Ghana, recently. We are in the process of working to convert the reactor in Nigeria, and this is in a partnership with the Chinese, who shipped these reactors out there in the past. So, it is a whole of government here and working with the IAEA and foreign partners, as well.

So, while we are working on policy papers to make sure that we are going in the right direction in addressing these issues, we are actually doing things. So, we are converting reactors, removing hundreds of kgs of HEU and plutonium, working with you—I know on the Rad Safe bill, to work on eliminating the possibility of a dirty bomb being used. So, there is a lot of activity going on. In addition to the fact that we have a huge challenge, Mr. Chairman, I take that responsibility very seriously, but we are not just working on paper, we are actually out there doing work as well.

Mr. FORTENBERRY. OK. I think my time has expired, but, Madam Secretary, I will take you up on your kind offer, and if we can get to actually start the process of scheduling—maybe right after this hearing—that would be helpful. Thank you, Mr. Chairman.

Mr. SIMPSON. If you haven't figured it out, every member of this committee has a different interest too, and a different priority, and stuff, and Mr. Fortenberry's has always been in nonproliferation. Thank you for that interest and your delving into it at some length, we appreciate that, and the committee appreciates it.

Just a couple of quick questions. Madam Administrator, the budget request proposes a decrease of $104 million or 20 percent for the scientific research on ignition and the experimental facilities that support that goal, including the National Ignition Facility, Omega Laboratory for LASER Energetics, and the Nike LASER at the Naval Research Laboratory. Though the NNSA constructed the National Ignition Facility, achieving ignition has so far been elusive. What are the prospects of achieving ignition at NIF, and are their other uses for these experimental facilities if ignition cannot be achieved? And are you proposing to shut down any facility? And what are your plans for experimental programs in this budget request?

Ms. GORDON-HAGERTY. Thank you, Mr. Chairman.

We have a number of requests. Obviously, there are always more funding priorities than there is funding. So, we have had to make due with the amounts of the resources that we have requested, and part of those have to do with near term stockpile requirements for assessment and certification. Part of that is ICF and the three programs that fall under ICF: NIF at Livermore, Z at Sandia, and the Omega LASER Facility at University of Rochester. We have determined that for our long-term stockpile assessment and certification that we can wind down some of these programs, but most assuredly, we will continue to use the ICF program to administer certain features because these are part and parcel of our certification process. They are critical to ensuring the safe, secure, and reliable stockpile, both through the assessment and the annual certification that the three laboratory directors provide to the President.

Mr. SIMPSON. So there is no proposal to close any of these three facilities?

Ms. GORDON-HAGERTY. At the present time we are planning for the Omega LASER facility at the University of Rochester to wind down over the next 3 years, our requirements for that user facility, but we are not planning to shut it down. We are just pulling away from our requirements based on what our stockpile requirements are for LASER activities.

Mr. SIMPSON. Thank you. And Admiral Caldwell, your budget request for the general infrastructure. We talked about the recapitalization in Idaho, but for the Office of Naval Reactor, your general infrastructure is for $76 million, or 17 percent above 2017. Could you please outline the status of the Naval Reactor's infrastructure?

Admiral CALDWELL. Yes, sir. There is an increase in the Naval operations and infrastructure budget to the tune of about $60 million over the last budget request. That funds a couple of important things for me.

One is the recapitalization of key laboratory facilities. These are the facilities that allow us to do the research and analyze, you know, problems and issues that not only support today's fleet, but also enable the future fleet. So that is in there.

The other thing that is in there is a commitment to go increase our efforts in decontamination and decommissioning, D&D. I have environmental liabilities that I am responsible for and my team and I have set an aggressive goal to take a bigger cut out of these. So, the budget request is going to allow me to step up my efforts in D&D and retire some of these legacy liabilities.

Mr. SIMPSON. Ms. Kaptur, do you have——

Ms. KAPTUR. Mr. Chairman, I appreciate that. I remembered something that I do want to place on the record because we have such a distinguished panel before us.

Mr. Calbos mentioned workforce issues. Admiral, I happen to represent a company that makes quite a bit of the innards of the Harpoon missile, which is not nuclear, but anyway. When we look around our country at the talents that it takes, industrial companies to make these things happen, it is a highly skilled workforce. Unfortunately, one of the companies I represent, Teledyne, has relocated a lot of its production to Alabama for different reasons. I represent a workforce at Teledyne in Toledo that has, like, been shrunk and shrunk and shrunk.

As you increase your budget, which I think will happen, I don't know how you look at skilled workforce across the Department of Energy, but truly this workforce doesn't deserve to be outsourced or moved. They actually need to be kept because they are a National asset.

So, you are not the Department of Labor and you have a very refined responsibility for this society, but I always speak for our workers. If there is any way I could draw attention to a workforce like this, if they could be retooled, if they could be—can't we do this as a country? Though this is not your job, when we look at what has happened in the mining areas of the United States as the energy world shifted, we have left casualties across that battlefield. We are not smart enough as a country to figure out how to connect the Department of Labor to the Department of Energy, to the Department of Defense, to all these things that happen to the American people. It is part of the reason that they are sort of uneasy right now.

So, I would just encourage you with all of your massive responsibilities—I don't know who you could talk to. Dan Verlay is a pretty good guy. I have enjoyed working with him. But this is an area where I guess I really feel I am not doing my job as a congresswoman. These people do not deserve to be forgotten by our country

or because of some ridiculous contracting procedure that we would lose these skills. I think that still is the best missile of the U.S. Navy, is it not, Admiral? Am I wrong, it is the most reliable?

Admiral CALDWELL. It is certainly a very good missile and something we depend on. Just to comment on your statements, the National industrial base is essential to all the things that we work on around this table. The National Defense Strategy even talks about that, the importance of that. I think we all work on this on a daily basis, on individual products when we look and work with our partners in industry, to encourage them to develop their people, to sustain their workforce. So, even though, as you said, there may not be a global effort here, these efforts go on, on a daily basis at various parts of the Department of Defense and Department of Energy.

Ms. KAPTUR. I can guarantee you that within 350 miles of the home in which I live, the majority of the machine tool industry of this country is housed. So, I do think when you mention the defense industrial base issue, I really do view this as a critical part of what we are able to do as a society. I just appreciate you listening. Thank you.

Thank you, Mr. Chairman.

Mr. SIMPSON. Thank you. And thank you all for being here today. Administrator Gordon-Hagerty, congratulations on your first completion before the Appropriations Committee. Well done. Congratulations on your new appointment. Thank you. Reading your bio, I am sure you did not come to this job for the money. So, thank you for your service.

And, Admiral, every time I think this world is going to hell in a handbasket and the younger generation just doesn't get it, which I am sure my father thought about my generation, et cetera, et cetera, et cetera, all I have to do is go out and look at the great men and women in the service in our military and my faith is restored in the future of this country is in good hands. So, thank you for your service and everything that you all do.

Admiral CALDWELL. Thank you, sir.

Mr. SIMPSON. Thank you. The hearing is closed.

[CLERK'S NOTE]: The National Security Administration did not provide answers to submitted questions in time for inclusion in the record. Answers to submitted questions are on file with the subcommittee.

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