Senate Armed Services Committee
Advance Policy Questions for Jill M. Hruby
Nominee to be Under Secretary for Nuclear Security and Administrator, National Nuclear Security Administration, Department of Energy

Duties and Qualifications

In accordance with title 42, U.S. Code, section 7132(c)) the Under Secretary for Nuclear Security, Department of Energy, serves concurrently as the Administrator of the National Nuclear Security Administration (NNSA), as set forth in title 50, U.S. Code, section 2402. The Under Secretary must have extensive background in national security, organizational management, and appropriate technical fields, and be well-qualified to manage the nuclear weapons, nonproliferation, and materials disposition programs of the NNSA in a manner that advances and protects the national security of the United States.

What background, experience, and expertise do you possess that qualify you for appoint as the Under Secretary for Nuclear Security and Administrator for Nuclear Security, National Nuclear Security Administration (NNSA)?

I'm a mechanical engineer and spent 34 years of my professional career at Sandia National Laboratories before I retired as Laboratories Director in May 2017. Sandia is an NNSA-sponsored Federally Funded Research and Development Center and the Nation's nuclear weapons engineering laboratory with over 10,000 permanent employees and an annual budget of about $4B. During my time at Sandia, I was engaged either as a technical staff member or manager in a variety of programs including the science supporting nuclear weapons, weapon component and system development, nonproliferation, nuclear security, and more. As the Laboratories Director, I wrote two stockpile assessment letters. In my various leadership roles at Sandia, I have experience managing large programs and diverse teams of people.

Since my retirement from Sandia in 2017, I have been active in nuclear weapons and nonproliferation programs through both compensated and non-compensated employment, and on boards and advisory committees. I spent a year as the Inaugural Sam Nunn Distinguished Fellow at the Nuclear Threat Initiative (a non-partisan, non-profit, non-governmental organization) then as a consultant exploring the intersection of advanced technologies and nuclear policy. In addition, I have been a special government employee (non-compensated) as a member of the Defense Science Board and the NNSA Defense Programs Advisory Committee. I have been a member of boards and advisory committees including the National Academy of Sciences Committee for International Security and Arms Control, Los Alamos National Laboratory missions committee, and CRDF Global.

I have a broad set of technical knowledge and organizational management skills to lead nuclear weapons, nonproliferation, and materials disposition efforts. I know the DOE and NNSA cultures well and am very familiar with the labs, plants, and sites.

What is your understanding of the duties and functions of the Under Secretary for Nuclear Security? Of the duties and functions of the Administrator, NNSA? Do you perceive there to be any differences or dissonance between the requirements of each such position? If confirmed, under whose authority, direction, and control, would you serve in each such position?

As Under Secretary for Nuclear Security, if confirmed, I will be a direct report to Secretary Granholm. In the Under Secretary role I will help inform and execute the Secretary's vision, and that of President Biden, in furthering both nuclear security and the overall mission of the Department of Energy (DOE).

The duties of the Administrator are clearly spelled out in the NNSA Act. If confirmed, I will be responsible for the execution of the NNSA mission to ensure the safety, reliability and performance of the nuclear weapons stockpile; to provide the Navy with nuclear propulsion; to enhance nuclear nonproliferation; to reduce the global threat of weapons of mass destruction; and to further our leadership in science and technology, with our labs, plants, and sites and the amazing people who perform the challenging work.

I believe there will be good alignment between the Secretary of Energy and Under Secretary for Nuclear Security. Secretary Granholm has expressed her strong support for the DOE's role in national security, and under her leadership the responsibilities for the Undersecretary for Nuclear Security and the statutory obligations of the Administrator are aligned, harmonious, and compatible**.**

If confirmed, as Administrator, I would be subject to the authority, direction and control of Secretary Granholm and Deputy Secretary Turk, as specified in the NNSA Act. Similarly, with respect to the functions of Under Secretary, I am subject to the authority, direction, and control of Secretary Granholm and Deputy Secretary Turk.

Do you believe that there are any steps that you need to take to enhance your ability to perform the duties of the Under Secretary for Nuclear Security and Administrator, NNSA?

If confirmed, I intend to develop strong and transparent relationships with the Secretary of Energy, the DOD Under Secretary of Acquisition and Sustainment, all members of the Nuclear Weapons Council including the STRATCOM Commander, and Congress to enhance my ability to succeed at my duties.

Major Challenges and Priorities

What are the major challenges confronting the Under Secretary for Nuclear Security/Administrator, NNSA?

The biggest challenge is simultaneously modernizing the physical infrastructure of the nuclear security enterprise while delivering on the stockpile modernization, science programs, and the nonproliferation and navy reactor program needs.

Over the past several decades, the NNSA enterprise has re-learned delivering modernized nuclear weapons and established a science-based stockpile stewardship program to provide confidence without nuclear explosive testing. The NNSA now needs to add a robust and trusted ability to deliver unique infrastructure programs, some that are substantial in scale and technical challenge. The production capabilities provided by the infrastructure programs are essential to modernizing and sustaining our nuclear deterrent for decades to come. If confirmed, I will work closely with Congress to continue the efforts of my predecessors to modernize our infrastructure to ensure we can re-establish production capability and retain the stockpile management capability required to confidently maintain our nuclear deterrent.

NNSA must also ensure that innovative nonproliferation technologies are ready to go if needed, and enhance nuclear security through material minimization, emergency response, and counterproliferation activities. The NNSA must also continue to provide high quality results for Navy nuclear propulsion.

NNSA can only succeed if we have the right workforce with the right skills. The nuclear security enterprise is facing a bow-wave of retirements. It will be critical for NNSA, working with our labs, plants, and sites, to effectively recruit and retain the next generation of smart, dedicated, and innovative nuclear security personnel.

If confirmed, how would you address these challenges?

If confirmed, I will work closely with the Department of Defense (DOD), National Security Council (NSC), Office of Management and Budget (OMB), and Congress to understand NNSA requirements, communicate NNSA priorities, and advocate for NNSA funding to meet the priority needs. I will also forge strong partnerships with the NNSA complex leadership to deliver the infrastructure and modernization programs in the timelines required by our customers. Finally, I will expand on the on-going work between NNSA and our colleagues at the labs, plants, and sites to help recruit and train the workforce of the future.

If confirmed, what would be your main priorities in each of the roles for which you have been nominated?

If confirmed, my highest priority will be to ensure NNSA continues to provide a safe, secure, and reliable nuclear weapon stockpile now and into the future. This includes executing on budget and schedule the weapon life extensions and modernization activities, the infrastructure improvements, and the science-based stewardship program. I will also focus on ensuring the NNSA is at the forefront of the technology and capability required to support potential arms control treaties, prevent nuclear material and weapon

proliferation, and support counterterrorism efforts. Finally, I will support the Navy's nuclear propulsion program to ensure the U.S. nuclear navy can meet its mission.

As the Under Secretary of Nuclear Security, I will work with other leaders in DOE to achieve the Department's objectives especially in areas of mutual interest such as nuclear energy, environmental management, and high-performance computing.

Relations with Congress

What are your views on the state of the relationship between the Under Secretary for Nuclear Security and the Senate Armed Services Committee in particular, and with Congress in general?

The Senate Armed Services Committee, given its oversight and authorization responsibilities, is well versed in the mission of the NNSA and has been supportive of NNSA programs. This suggests a generally good relationship between the former Under Secretaries for Nuclear Security and the SASC and their staffs. I recognize there are different points of views between members of SASC and in Congress as a whole on nuclear weapons issues and NNSA governance, however, the continuity of bi-partisan support on key issues has been impressive and strong. I believe the relationship can and should continue to be strengthened.

If confirmed, what actions would you take to sustain a productive and mutually beneficial relationship between Congress and the Under Secretary for Nuclear Security?

I firmly believe communication is key to maintaining good relations. If confirmed, I will ensure NNSA maintains open and timely communications with Congress, especially the Senate Armed Services Committee and its Strategic Forces Subcommittee.

Nuclear Weapons Mission and Security Environment

The Biden Administration is considering conducting a new Nuclear Posture Review (NPR). The last NPR, conducted in 2018 by the Trump Administration, emphasized the importance of modernizing our stockpile, NNSA facilities, and the workforce. Although the Secretary of Defense is the primary cabinet official responsible for policymaking regarding nuclear weapons, the support of the Secretary of Energy and the Administrator of NNSA are crucial to successful execution of the nuclear mission.

If confirmed, what would be your role in the conduct of the Biden Administration's NPR?

If confirmed, I will take an active role in the NPR process to ensure NNSA's capabilities and requirements are communicated and understood as part of this major policy-making process. While nuclear military requirements are set by the DoD, NNSA has a unique set

of responsibilities it must deliver for America's integrated deterrent to remain safe, secure, and effective.

If confirmed, what changes to the 2018 NPR would you recommend the Biden Administration consider?

I am not privy at this time to specifics of the pre-decisional NPR process. That said, I will make sure NNSA executes the policy decisions the President and Department of Defense outline in any update to the U.S. nuclear posture. Whatever policy decision is made, NNSA must continue its current path of revitalizing our aging Cold War infrastructure, meet DOD requirements for warhead manufacturing, ensure sufficient research and development capabilities to avoid the need to return to nuclear explosive testing, and deliver facilities required to produce key strategic materials.

Should the upcoming NPR recommend enhancements to the U.S. nuclear posture, will you commit, if confirmed, to providing the full and timely {question cut off}. Should the upcoming NPR call for the development of additional nuclear capabilities, will you commit, if confirmed, to supporting those additions and ensuring that NNSA fully supports the new requirements?

Yes. If confirmed, I commit to fully supporting any changes, additions, or developments directed by the President, as that guidance is translated into specific requirements by the Nuclear Weapons Council, and as those requirements and programs are ultimately authorized and appropriated by Congress.

Overall Management

The NNSA Act of 2000, as amended, establishes that the Administrator, NNSA ". . . shall be subject to the authority, direction, and control of the Secretary [of Energy]. Such authority, direction, and control may be delegated only to the Deputy Secretary of Energy, without re-delegation."

What is your view on the relationship between the Secretary of Energy and the Administrator of NNSA in statute and in recent practice?

Although NNSA is a semi-autonomous organization, per the NNSA Act, it is subject to the authority, direction, and control of the Secretary. As such, the Secretary of Energy, Deputy Secretary of Energy, and NNSA Administrator must maintain a strong and healthy relationship. If confirmed, I will work closely with Secretary Granholm and Deputy Secretary Turk to ensure cohesion, collaboration, and alignment across the Department.

How is the "semi-autonomous" nature of the NNSA, as set forth in the by the NNSA Act, reflected in NNSA's organizational structure? What makes NNSA different from the domains of the other Under Secretaries of the Department of Energy (DOE)—in both law and practice?

The NNSA Act designates NNSA as a semi-autonomous organization under DOE to execute its national security programs. This is a unique authority and differs from the other DOE Under Secretaries. It gives the Administrator authority over key operational functions, such as personnel, procurement, and policy development. NNSA's semi-autonomous nature also empowers the NNSA career staff who specialize in nuclear security in their work with the Department of Defense. If confirmed, I will work closely with DOE leadership to continue to build a strong, collaborative, and mission-focused culture where DOE and NNSA can better leverage each other's expertise.

With a view to improving organizational management and operational effectiveness, would you recommend any changes to the structure of NNSA?

Independent studies have noted the improvement in NNSA governance and management of the nuclear security enterprise in recent years. However, there is still room for improvement. The foundation of good governance lies in NNSA having healthy relationships with its stakeholders.

If confirmed, I intend to focus on defining roles and responsibilities across the NNSA enterprise, improving communication, and changing the culture to focus on timely and cost-effective delivery and innovation. I will also focus on sustaining the reforms that have been started by previous Administrators and recommended by Congressionally-appointed groups such as the Meis-Augustine Commission. I will work with the NNSA leadership team to improve NNSA's project management, program review, and cost estimation expertise.

Relationship with the Department of Defense (DOD)

If confirmed, you will be a member of the Nuclear Weapons Council (NWC), together with the Under Secretaries of Defense for Policy, Acquisition and Sustainment, Research and Engineering, the Vice Chairman of the Joint Chiefs of Staff, and the Commander of U.S. Strategic Command. Since the 1946 Atomic Energy Act, when it was designated as the "Military Liaison Committee," the primary purpose of the NWC is to serve as the civilian-military interface and set the military requirements for nuclear forces, which form the basis of the core mission of NNSA. The Department of Defense (DOD) is, in a sense, NNSA's primary customer.

How would you assess the relationship between NNSA and the DOD, at both senior management levels, as well as at working levels?

My assessment is NNSA and the DOD have integrated their work well, and the relationship has improved in recent years. NNSA and DOD must continue to successfully integrate each of the unique departmental capabilities and responsibilities to maintain a safe, secure, and effective nuclear deterrent without delays or surprises.

If confirmed, what steps would you recommend to improve this relationship?

If confirmed, I plan to continue the work of my predecessors and maintain regular engagements with my DOD counterparts to ensure NNSA is fully aware of and ready to deliver DOD requirements. Additionally, I will take an active role in the NWC.

Do you believe that NNSA is adequately responsive to the requirements set by the DOD?

Yes. If confirmed, I will work to ensure continual communication and integration with the DOD and, if necessary, improve NNSA's ability to respond to DOD requirements.

Do you believe it important for the NWC to ensure the NNSA is adequately funded through the interagency budget process to meet DOD's requirements?

If confirmed, I will work closely with the Secretary of Energy, the Office of Management and Budget (OMB), and the Nuclear Weapons Council to make sure NNSA understands DOD requirements and requests the necessary funding to meet those requirements. The NWC is the appropriate forum for DOD and NNSA to understand respective funding requirements of the nuclear deterrent and make financial tradeoffs in cases where there may be budget limitations.

Defense Programs

The Stockpile Stewardship Program has supported the annual nuclear weapons certification effort for the last 20 years.

Do you believe that the United States currently possesses the capabilities to ensure the stockpile is safe, secure, and reliable—without nuclear weapons testing?

Yes. Each year, the Directors of the National Security Laboratories and the Commander of United States Strategic Command assess the state of the nuclear stockpile. They have determined the United States does not need to conduct nuclear explosive tests at this time to ensure a safe, secure, and effective deterrent. However, NNSA also maintains test readiness tools to ensure the U.S. remains prepared to resume nuclear testing, only if required to ensure the safety and effectiveness of the U.S. arsenal, or to respond to evolving technical and geopolitical circumstances, and only then under explicit direction from the President.

The NWC has laid out a schedule for the next 20 years that includes the completion of four life extension programs (LEPs), as well as multiple refurbishment programs, the development of the W93 warhead, and the maintenance of the existing stockpile.

Do you have any concerns with this ambitious schedule and, in particular, concurrency between the plants and the laboratories?

If confirmed, I will work closely with the plants and laboratories on these critical programs to ensure concurrency and the ability to deliver on time and budget.

Congress has authorized the Stockpile Responsiveness Program for the last several years in order to exercise design and engineering skills in support of the nuclear weapons mission, but this authority has not been fully utilized by NNSA.

If confirmed, how would you support the Stockpile Responsiveness Program and make full use of the authorities it provides NNSA?

If confirmed, I will fully support, and request funding for, the Stockpile Responsiveness Program and leverage all possible avenues across NNSA to ensure we are postured to confront future challenges with an experienced and practiced workforce.

If confirmed, what are your long-term plans for the National Ignition Facility and, in particular, how would you execute the long term effort to achieve sustained ignition, which to date has not occurred?

I believe the National Ignition Facility (NIF) is essential to NNSA's Stockpile Stewardship Program and NIF's contributions extend beyond ignition. If confirmed, I will work with the laboratory community to develop a long-term plan for this critical element of stewardship.

What are your views of the Advanced Computing Program and what is your vision for the use of advanced computing in furtherance of NNSA missions?

I believe the Advanced Simulation and Computing (ASC) program is essential to provide the high-performance simulation and computing capabilities that inform critical NNSA stockpile stewardship decisions. The ASC simulation tools enable broad and deep knowledge of the individual processes involved in a nuclear weapon explosion, as well as a comprehensive understanding of the complex interactions among these processes. ASC will provide and sustain the required confidence in the nation's nuclear deterrent by developing and deploying credible, science-based simulation tools to certify the current and future stockpile.

<u>NNSA Budget</u>

Section 1632 of the Fiscal Year 2020 National Defense Authorization Act requires the NWC to examine the NNSA budget before its submission to the Office of Management and Budget (OMB), to ensure it can meet DOD requirements.

If confirmed, how would you ensure compliance with this provision? How would you ensure the NWC is accorded adequate time to review the budget before its submission to OMB?

If confirmed, I will learn what process was used for the FY 2022 budget, inform Congress of the process used, and ensure that process is continued for future budgets.

In your opinion, would cross-training between DOD, NNSA, and DOE programming and financial management personnel improve interdepartmental coordination on budgetary matters? Please explain your answer.

Yes. Many human resource and training experts have identified cross-training as an effective tool to improve workforce performance. In addition, the DOD, NNSA, and DOE personnel would gain insights into each other's best practices and bolster the areas that need improvement.

Personnel

Do you believe that NNSA has the appropriate number of civilian employees to perform its mission? If so, please explain your rationale.

If confirmed, I will look closely at staffing across NNSA to ensure adequate staffing, the appropriate skills mix, and structure so that NNSA continues to meet its mission in an effective manner.

If not, what would be the appropriate size of the NNSA civilian workforce and what, in your view, would the additional personnel accomplish that NNSA is not able to accomplish today? If confirmed, which specific components of the NNSA would you recommend growing? Please explain your answer.

I understand NNSA's staffing requirements are consistently assessed to determine the appropriate size and mix of NNSA's workforce. If confirmed, I look forward to reviewing these assessments and working to ensure NNSA has the workforce it needs.

Do you believe that NNSA has the appropriate capabilities—in both its civilian employee and contractor workforces—to perform its mission? If so, please explain your rationale.

The complex would be unable accomplish its essential missions without the expertise and efforts of the nuclear security enterprise workforce. If confirmed, one of my priorities will be to maintain the core competencies of the current workforce, and recruit and retain the highly-skilled professionals and skilled trades personnel needed to execute its missions.

If not, please explain what capabilities each such workforce requires to ensure that NNSA is fully mission capable?

If confirmed, what specific steps would you take to acquire the necessary capabilities in both the NNSA civilian and contractor workforces?

If confirmed, recruiting and retaining world class talent within NNSA's federal and contractor workforce will be a priority of mine. I believe it is essential for NNSA to provide meaningful and challenging professional opportunities that attract and retain

dedicated professionals. Central to this effort is fostering an enterprise-wide sense of purpose in NNSA's nuclear security mission. Particular attention must be placed on ensuring that, as the current NNSA workforce ages, the administration maintains partnerships with the academic and university communities through pipelines that encourage and attract the world's best engineers, scientists, and support staff.

If confirmed, what specific steps would you take to retain critical nuclear weapons expertise in both NNSA the civilian and the contractor workforces?

In the next five years, a significant portion of the NNSA and nuclear security enterprise workforce will be eligible to retire. If confirmed, I will prioritize maintaining those skills and expertise and provide NNSA support to help the nuclear security enterprise recruit and retain the highly skilled workforce needed to execute its national security missions.

In your view, does the Administrator, NNSA need any additional authorities or personnel system flexibilities to build and maintain the civilian workforce the NNSA needs to accomplish its mission? Please explain your answer.

If confirmed, I will learn more about NNSA's existing hiring authorities and determine if additional authorities are required.

Construction and Project Management

NNSA has been plagued by cost overruns, schedule delays, and project cancellations related to the construction of nuclear facilities, including the Uranium Processing Facility, the Chemistry and Metallurgy Research Replacement project, the Mixed Oxide Fuel Fabrication Facility, and others.

In your opinion, what are the primary causes of these repeated failures in project management?

In the past, GAO has identified a number of areas where NNSA could improve project management, including ill-defined project requirements; lack of proper cost estimating; and starting projects before proper sufficient design and technology development is completed. Over the past decade, NNSA has made significant improvements which have led to a notable turnaround in NNSA's ability to deliver projects and GAO has taken NNSA off its high risk list for projects costing less than $750 million. If confirmed, I will work to strengthen NNSA practices and to adopt best business practices on its larger projects to complete such projects on-time and on-budget.

In your view, are the changes in NNSA project management practices undertaken over the last few years sufficient to address these problems? Please explain your answer.

Over the past decade, NNSA has made significant improvements to address project management challenges. If confirmed, I will champion continued improvement.

If confirmed, what specific steps would you take to ensure that these project management failures are not repeated in the future? What specific changed in policy, practice, organization, or regulation would you recommend in furtherance of this effort?

If confirmed, I will support strengthening and improving NNSA's contract and project management. To do so, some of my recommendations include clarifying lines of authority, holding those responsible for projects accountable, adding rigor to existing project management practices, strengthening cost estimating, and ensuring projects remain within original scope and cost baselines. If confirmed, I will prioritize understanding NNSA's project management and practices to further ensure that future projects do not encounter past challenges.

In your view, does the Administrator, NNSA need any additional authorities or flexibilities to address the root causes of these project management failures? Please explain your answer.

NNSA follows DOE Order 413.3B which governs program and project management for the acquisition of capital assets. I certainly agree with the precept that rigorous project management principles should be applied and that the Federal staff must be given the tools they need and then be held accountable and responsible for delivering the work. If confirmed, I look forward to being briefed on its detailed application to NNSA activities and whether any changes are warranted.

In 2014, largely in response to a string of the large project management failures, Congress mandated the creation of the Office of Cost Estimation and Program Evaluation (CEPE) in the Department of Energy. CEPE was modeled on the DOD Office of Cost Assessment and Program Evaluation (CAPE).

In your view, is CEPE sufficiently staffed (in terms of billets allocated and billets encumbered by qualified personnel) to provide independent cost estimates and other costing and project management advice internal to NNSA?

If confirmed, I intend to review if CEPE is sufficiently staffed.

Does CEPE have sufficient authority and access to DOE data and information to serve its statutory purpose?

If confirmed, I will review whether CEPE has sufficient authority and access.

CEPE reports directly to the Undersecretary for Nuclear Security. If confirmed, what steps will you take to ensure that CEPE has adequate access to you and other senior leaders in your organization, as necessary and appropriate?

I understand the Director of CEPE is a member of the NNSA senior leadership team and therefore has access to the Administrator and other NNSA senior leaders. If confirmed, I intend to review ways to ensure the Director of CEPE has adequate access to me and other senior leaders.

If confirmed, specifically how would you undertake to support and sustain CEPE capabilities and independence? How would you balance these efforts with the mandate to be a responsible steward of taxpayer dollars?

I understand the importance of CEPE's cost and resource analysis capabilities to NNSA and value its independence from the program offices as being critical to providing independent, data driven analysis to me. If confirmed, I will ensure CEPE maintains its independence and review its staffing and funding.

Plutonium Strategy

NNSA has selected two sites for plutonium pit production: Los Alamos will produce approximately 30 pits per year and the former Mixed Oxide Fuel Plant at the Savannah River Site will produce up to 50 pits per year, for a projected two-site total of not less than 80 pits per year.

What are your views on the Los Alamos site and its capabilities to achieve its pits per year production target to support the demands of the ongoing stockpile program?

Los Alamos National Laboratory (LANL) is the Nation's Center of Excellence for plutonium research, development and production. LANL has previously demonstrated the ability to manufacture plutonium pits to maintain the U.S. nuclear deterrent. The diligent execution of current plans to expand existing production capacity will enable NNSA and LANL to meet the Nation's need to produce no fewer than 30 pits per year in 2026. In April 2021, the Los Alamos Pit Production Project (LAP4) achieved Critical Decision One, approval of the conceptual design and cost range, a key step to meet requirements and execute this important mission. I pledge to work closely with NNSA and LANL leadership to enable achievement of this critical milestone.

In your view, what changes are necessary to convert the former Mixed Oxide Fuel Plant at the Savannah River Site to achieve its pits-per-year production target to support the requirements of the ongoing stockpile program??

To repurpose the Mixed Oxide Fuel Fabrication Facility to support the Nation's plutonium pit production mission, the robust building structure must be outfitted with specialized processing and manufacturing equipment. Supporting infrastructure must also be designed and constructed and safety and security systems must be installed. This effort requires a training program to provide a workforce capable for all production and infrastructure for pit manufacturing. The program must also establish waste processing capabilities to process hazardous and non-hazardous waste. NNSA is executing a project

that will implement all necessary changes to achieve production of no fewer than 50 pits per year at the Savannah River Site.

Uranium Strategy and Tritium Production

NNSA currently meets national security requirements for tritium production by providing low-enriched uranium (LEU) to the Tennessee Valley Authority (TVA) to irradiate in the Watts-Bar 1 Reactor. DOE has maintained a policy that only unobligated LEU can be used for national security purposes, meaning that neither the uranium nor the technology used to enrich it carries an "obligation" from a foreign country requiring that the material only be used for non-weapons purposes. Since the United States Enrichment Corporation (USEC) ceased enrichment operations in 2013, DOE has relied on down-blending recycled high-enriched uranium (HEU) to meet requirements for unobligated LEU, but the available supply of recycled HEU for down-blending is finite. NNSA is undergoing an Analysis of Alternatives for obtaining unobligated uranium.

Do you believe the United States should re-establish a domestic uranium enrichment capability to support NNSA needs?

Yes, I do. Re-establishing a domestic uranium enrichment capability would support several NNSA goals, namely maintaining the nuclear weapons stockpile, supporting nonproliferation efforts worldwide, and fueling the nuclear navy.

What are your ideas for the re-establishment of such a capability?

If confirmed, I would support the ongoing Analysis of Alternatives and engage with the Administration and Congress on a path forward that provides the most cost-effective solution to the American taxpayers.

A Government Accountability Office (GAO) report in 2014 entitled "Interagency Review Needed to Update U.S. Position on Enriched Uranium That Can Be Used for Tritium Production" concluded that the DOE's policy on identification of obligated uranium was based on three international agreements and a series of policy decisions. Of the three agreements, GAO concluded that only one explicitly addressed tritium production, but that State Department had consistently interpreted the other two agreements as imposing peaceful use restrictions on LEU for tritium production.

Do you believe this GAO reading of all three agreements remains consistent with U.S. policy goals?

Ensuring a continued supply of tritium is critical to the success of NNSA's mission. I am committed to the highest nonproliferation standards and, if confirmed, would ensure NNSA's production of tritium is consistent with U.S. international agreements and governmental policy. If confirmed, I will assess the GAO and State Department interpretations and seek to reach alignment.

Section 3138 of the National Defense Authorization Act (NDAA) for Fiscal Year (FY) 2020 directed the Department of Energy to "determine whether the Agreement [between the United States of America and the United Kingdom of Great Britain and Northern Ireland] for Cooperation on the Uses of Atomic Energy for Mutual Defense Purposes, signed at Washington, July 3, 1958, . . . permits the United States to obtain low-enriched uranium for the purposes of producing tritium in the United States." The Secretary of Energy affirmed that such procurement of low enriched uranium can occur.

What are your views on the accuracy of the Secretary of Energy's determination in this regard?

If confirmed, I would work with this Administration to evaluate the legality of any proposal.

Fissile Materials Disposition

The United States and Russia committed to the disposition of 34 metric tons (MT) of weapons grade plutonium under the Plutonium Management and Disposition Agreement (PMDA) in 2000. The original plan by the United States was to convert excess weapons grade plutonium to mixed oxide (MOX) reactor fuel for civilian reactors at the Savannah River Site (SRS). After spending billions of dollars, this project was subsequently abandoned in favor of diluting the plutonium and disposing of it at the Waste Isolation Pilot Plant (WIPP). The dilute and dispose process involves shipping the plutonium pits from Pantex to Los Alamos to be turned into oxide powder, then shipping then on to SRS for packaging, followed by final shipment to WIPP for disposal.

What are your views on the dilute and disposal method?

The dilute and disposal method uses existing, proven technologies, and will allow the United States to meet its disposition commitments in less time and at half the cost of the MOX approach.

What are your views on permanent disposal at WIPP?

Permanent disposal of diluted plutonium at WIPP is a safe, secure, and environmentally responsible approach. If confirmed, I will ensure the Department works with the State of New Mexico to provide information to the public on the safety of this disposition method.

What are your views of the logistics of shipping plutonium between Pantex, Los Alamos, SRS, and WIPP? In your opinion, could this process be simplified by shipping the pits directly to SRS to be converted to oxide powder there?

It is my understanding that the Department is preparing to conduct a thorough review of the viability and environmental impact of conducting oxidation at various locations, including Los Alamos, where current capabilities exist in PF-4, and Savannah River Site,

as well as any other alternative determined to be reasonable. I further understand the logistics of each alternative will be considered in the final analysis.

Nuclear Safety and Security

NNSA was created partially in response to security lapses at the Los Alamos National Laboratory. Nonetheless, periodic security lapses have continued to occur, such as in 2012 at the Y-12 facility.

To what extent have the conditions that allowed such lapses to occur been corrected, in your view?

I understand a comprehensive review by security experts identified causes such as divided security responsibilities, degraded security equipment, and security culture problems, among other factors. Following the incident, contract and procedural changes were made to ensure a clear single point of responsibility to integrate security functions. A comprehensive review and assessment of security infrastructure across the enterprise led to the development of a security infrastructure revitalization program to replace aging security systems. The security organization implemented the NNSA Security Roadmap (NSR) to provide a vision, a strategy, and a path forward to drive continuous improvement of its nuclear security program. Additionally, security culture campaigns were instituted across the NNSA enterprise to ensure security, like safety, is integrated in everything NNSA does. If confirmed, I will assess the effectiveness of the Roadmap and associated activities.

If confirmed, would you recommend any further changes in policy, practice, management, or oversight to reduce the frequency of security issues at NNSA facilities?

If confirmed, I will support NNSA's initiatives to improve security at its facilities, as well as look for additional ways to improve security especially in light of new technological capabilities.

The Defense Nuclear Facilities Safety Board and NNSA's Office of Enterprise Assessments have reported a number of accidents at the national laboratories in recent years. The accidents included explosions, exposure to radiation, and one incident that was identified as a "near criticality accident" that led to the partial shutdown of the plutonium facility at Los Alamos National Laboratory for several years—putting both personnel and mission at risk. Yet, while personnel safety is critically important, the nuclear mission by definition involves some of the most hazardous materials. Risk cannot be eliminated completely at the labs while ensuring mission accomplishment?

I agree that risk cannot be eliminated at the labs given the hazardous nature of the work that must be accomplished to fulfill our national security mission. However, the risk needs to be recognized, understood, and appropriately controlled while balancing that with mission execution and ensuring the safety of the public, workers, and environment.

How should we balance safety, risk, and mission at the national laboratories?

For NNSA to be successful in meeting its national security mission, it must have sustained strong safety performance. High safety achievement and mission success are compatible and mutually support each other; having one but not the other is not sustainable. This is balanced by properly assessing risk and controlling it. If confirmed, I will emphasize continuous safety improvements and a risk management culture across NNSA's nuclear security enterprise to execute NNSA's missions in a safe and secure manner.

If confirmed, what steps would you recommend to improve the safety culture at the labs while still meeting mission requirements?

Based on my years at Sandia National Laboratories, I understand how important a positive safety culture environment is in accomplishing the NNSA mission. The key to this is establishing and reinforcing expectations by senior leadership. If confirmed, I will accomplish this through my regular interactions with the leadership of the Management & Operating partners. I will also emphasize the critical nature of effectively engaging with employees to provide two-way feedback while stressing organizational learning so we can continuously improve. Setting high expectations, ensuring employee engagement, and embracing organizational learning, will establish the necessary foundation to improve safety culture at the NNSA labs. To ensure continual improvement, I will also emphasize the importance of a strong safety conscious work environment so employees will feel comfortable raising safety issues and leaders are prepared to effectively address those issues. This will enable NNSA to collectively work together to safely accomplish the mission.

Defense Nuclear Nonproliferation

What do you perceive as the highest priorities of the nuclear nonproliferation programs at NNSA?

The Biden-Harris Administration's Interim National Security Strategic Guidance highlights a number of critical national and international security objectives in which NNSA can play a major contributing role. In my view, chief among these nuclear nonproliferation priorities are:

1. *eliminating* stocks of weapons-usable nuclear materials, and vulnerable radioactive sources globally, and minimizing the need for future use;
2. *strengthening* U.S. leadership in civil nuclear commerce, arms control, and nonproliferation globally; and
3. *reducing* the threat posed by nuclear weapons programs of concern.

NNSA is uniquely positioned to contribute towards each of these three items, and if confirmed, I will work to advance the Administration's nonproliferation agenda.

The United States no longer holds a bilateral agreement with Russia for joint nuclear nonproliferation activities. However, a number of ongoing nonproliferation programs are focused on countries in that region.

In your view, are there are additional opportunities for cooperation with states outside of the former Soviet Union, particularly in the Middle East and North Africa? If confirmed, what would be your priorities in these areas?

While some of NNSA's earliest nuclear security and nonproliferation work was with Russia and other regional partners, NNSA has now expanded its work to over 100 countries, recognizing nuclear nonproliferation is a global activity.

Consistent with the Nuclear Nonproliferation Treaty (NPT), the United States has long held that peaceful nuclear technology can and should be shared for the benefit of humankind. NNSA plays a significant role in ensuring that those partner countries who pursue the peaceful use of nuclear technology are able to do so in a manner that ensures adherence to the highest nonproliferation standards. For the Middle East and Northern African regions, strengthening the adherence to and implementation of the highest standard for IAEA safeguards verification in both regions would help to promote stability and reduce tensions in these strategically vital areas.

Second, I believe NNSA can build upon its existing nuclear security accomplishments by working with our partners to strengthen their ability to combat nuclear smuggling and secure radioactive and nuclear materials.

What challenges has the new relationship between the United States and Russia posed in nuclear nonproliferation programs?

The deterioration of nuclear nonproliferation dialogue and cooperation between the United States and Russia has posed significant challenges, not only for bilateral relations overall, but also for global nuclear security.

Russia has significant inventories of civilian nuclear material and the United States has not been able to work with or discuss HEU minimization or consolidation efforts. Additionally, due to the vastness and complexity of the Russian nuclear complex, the security of the Russian nuclear material will remain a long-term interest of the United States. The United States and Russia continue to have a shared interest and responsibility to ensure abidance to the highest possible security standards.

There are a number of critical issues that would benefit from broader U.S.-Russian dialogue and engagement. I am convinced that global nuclear security, nonproliferation, and arms control must be part of the agenda for discussion. If I am confirmed, I look forward to supporting the Administration's policy toward Russia, while maintaining NNSA's readiness to build on the joint nuclear nonproliferation accomplishments already achieved—when and if appropriate.

What do you believe are the greatest challenges in nuclear nonproliferation programs with countries other than Russia?

At the top of the list is the fact that China and North Korea are improving their nuclear weapons capabilities, including associated delivery systems. Meanwhile, Iran possesses the largest missile arsenal in its region. China is aggressively acquiring U.S. and allies' technology for economic and military advantage.

Beyond these geopolitical challenges, there are technological challenges as well. NNSA's technical capabilities and expertise will be needed to balance the enormous potential benefits to society of emerging technologies, such as advanced nuclear reactor designs, additive manufacturing and5G technologies, in ways that do not lower the barriers to proliferation. These are the cooperative and technical challenges that NNSA is poised to answer, and if confirmed, I look forward to being a part of these contributions.

In your view, what are the three greatest unmet nuclear nonproliferation needs? How would you propose to address these needs, if confirmed? What resources, authorities, flexibilities, or cooperation would you need to meet such needs?

In my view, there is still much work to be done globally to minimize and secure vulnerable and excess radioactive and nuclear materials so that they do not wind up in the hands of proliferators or terrorists. While the United States and the international community have made much progress in this regard, unfortunately it is the more difficult tasks that remain. Achieving these remaining goals and managing the minimization going forward will require renewed bilateral engagement and diplomacy, technological innovations, and NNSA leadership's support in swaying some key partners' willingness to collaborate.

Second, I believe there is an ongoing need to confront the noncompliance threats posed by Iran and North Korea and be prepared for potential future arms control treaties with Russia or China. For Iran and North Korea, NNSA in partnership with the IAEA and international community needs to develop the technological tools and capabilities to prevent or address noncompliance challenges. In the event of new arms control discussions with Russia or China, new technologies for monitoring and verification will be needed for the negotiations and to support any agreement. All of these efforts require continued research and development, invigorated human capital management and training efforts, and sustaining the necessary technical expertise and infrastructure.

Finally, the third area that I will highlight is the need to keep pace with—and regulate—emerging technologies to mitigate their potential proliferation threat while making the greatest use of their promising opportunities. This will likely require not just technological research and development but also the establishment of smart multilateral and bilateral policies and partnerships to reduce these threats.

If confirmed, I look forward to assessing these key NNSA nonproliferation programs to identify where and what additional efforts may be required to meet these priorities, and to

working with Congress to discuss resources, authorities, flexibilities, or cooperation needed .

Nonproliferation Research and Development (R&D)

NNSA has responsibility for a broad range of R&D efforts.

If confirmed, what would be your nonproliferation R&D priorities?

If confirmed, I believe NNSA should advance U.S. detection and characterization capabilities for early observation and persistent monitoring of foreign nuclear weapons production activities. Prioritizing the development of new tools and approaches, for example with R&D on artificial intelligence and leveraging open source and cross-government data, will enable earlier detection of proliferation activities and allow for a broader and more effective suite of U.S. government options in response.

Priority should also be given to advancing capabilities for global nuclear explosion monitoring and with targeted R&D on detecting low-yield and evasive nuclear testing. Both activities maintain our current capabilities and will develop the next generation of monitoring tools and expertise to meet emerging test monitoring challenges.

Do you believe that there are R&D areas that need more attention or funding? Please explain your answer.

As was highlighted in President Biden's Interim National Security Strategic Guidance, rapid changes in technology will shape every aspect of our lives and our national interests, but the direction and consequences of the technological revolution remain unsettled. As the pace of global innovation increases, emerging technologies such as advanced manufacturing or quantum computing will enable quicker and alternative pathways to weapons development. We must invest in R&D activities that will both exploit opportunities and assess vulnerabilities. We also must strengthen a whole-of-government approach to invest in high-priority innovative ideas and to be more effective at transitioning technologies to mission partners responsible for monitoring.

Regulation and Oversight

Staff at NNSA's national laboratories often complain that they are overburdened by regulation and oversight, both internal and external, and that these contribute to the challenges in staying under cost and on schedule for major projects.

Do you believe that environmental, safety, and construction regulations are properly applied to NNSA projects and operations? Do you believe these regulations support effective performance by the labs and efficient mission execution overall?

If confirmed, I will be committed to the safe operation across the nuclear security enterprise to include protection of the workforce, the public, and the environment in a

way that is synergistic and supportive of mission execution. One opportunity is ensuring that safety is properly incorporated into the design and construction of the new NNSA nuclear facilities. This means early incorporation of safety expectations which have been established in relevant directives and regulations, the selection of qualified design and construction firms to lead projects and operations, with corresponding periodic reviews as they progress through important milestones, and the proper staffing of a technically qualified and diverse federal project team. These actions ensure appropriate safety systems and controls are identified early in the process and are validated throughout construction with capable staff to reduce rework and control costs.

If confirmed, my team and I will work closely with the labs, plants, and sites to define continuous improvement of our regulatory functions to ensure that they reflect best business and risk management practices, and enable mission success.

In your view, are the labs are subject to the appropriate level of oversight from the NNSA, DOE, the Defense Nuclear Facilities Safety Board, the Government Accountability Office (GAO), and/or Congress? Are there certain oversight processes that are unnecessarily duplicative or purely bureaucratic, in your view?

Several reports (Mies-Augustine, CRENEL, GAO, NAPA/NAS) highlighted the need for NNSA to improve and make its oversight more effective. Based on insights from these external reviews and lessons learned, I understand NNSA has improved its Site Governance model to ensure mission objectives are met; protection of the workforce, public, and the environment; and operations are effectively accomplished in compliance with contract requirements. I believe it is important to sustain progress made and to continue to look for additional improvements, and if confirmed, I would be dedicated to this pursuit.

If confirmed, what changes in regulatory or oversight structures would you recommend, and why?

If confirmed, I will become more familiar with existing regulatory and oversight structures to assess the current environment and what additional changes would offer more improvement.

Organizational Climate Survey

If confirmed, would you plan to administer a command climate survey to the NNSA workforce under your leadership and management—including the workforces of the labs and other geographically-separate components of NNSA?

If confirmed, I would work to understand the organizational climate across NNSA's nuclear security enterprise, conduct a survey of the NNSA leadership and management, and evaluate options for conducting surveys across the components of NNSA.

Sexual Harassment

What is your assessment of the current climate regarding sexual harassment and gender discrimination in the DOE and NNSA?

If confirmed, I plan to consult with the NNSA equal opportunity office (EEO), NNSA Diversity Manager, DOE-Inspector General, and other stakeholders to obtain information on the current climate regarding sexual harassment and gender discrimination issues at DOE and NNSA, and take appropriate action in consultation with the leadership of DOE and NNSA.

If confirmed, what actions would you take were you to receive or become aware of a complaint of sexual harassment or discrimination from an employee or contractor of the DOE or NNSA?

If I become aware of a complaint of sexual harassment or gender discrimination from an NNSA employee, I will consult with the experts at NNSA to ensure NNSA personnel follow all policies and procedures to ensure such complaints are taken seriously and investigated. I will ensure any corrective actions identified in the investigation are quickly carried out. I will re-emphasize to the responsible managers and supervisors that the employee who raised the complaint must be treated in accordance with all federal laws and DOE regulations.

I will also expect M&O partners to ensure their employees work in an environment free of discrimination, including on the basis of gender. If I become aware of a claim of sexual harassment or gender discrimination from a contractor employee, I will work with the NNSA experts and NNSA team responsible for oversight of that contract to facilitate contractor compliance with the non-discrimination provisions of its contract.

I would also look to implement the recommendations in the GAO review of sexual harassment in the NNSA nuclear security forces. Those recommendations include better understanding and improving the culture to get information more complete than waiting for discrimination complaints.

Notification of Congress

Will you commit that if confirmed, you would promptly notify this Committee of any significant issues in the safety, security, or reliability of the nuclear weapons stockpile?

Yes.

Congressional Oversight

In order to exercise legislative and oversight responsibilities, it is important that this committee, its subcommittees, and other appropriate committees of Congress receive timely testimony, briefings, reports, records—including documents and electronic

communications, and other information from the executive branch.

Do you agree, without qualification, if confirmed, and on request, to appear and testify before this committee, its subcommittees, and other appropriate committees of Congress? Please answer with a simple yes or no.

Yes.

Do you agree, without qualification, if confirmed, to provide this committee, its subcommittees, other appropriate committees of Congress, and their respective staffs such witnesses and briefers, briefings, reports, records—including documents and electronic communications, and other information, as may be requested of you, and to do so in a timely manner? Please answer with a simple yes or no.

Yes.

Do you agree, without qualification, if confirmed, to consult with this committee, its subcommittees, other appropriate committees of Congress, and their respective staffs, regarding your basis for any delay or denial in providing testimony, briefings, reports, records—including documents and electronic communications, and other information requested of you? Please answer with a simple yes or no.

Yes.

Do you agree, without qualification, if confirmed, to keep this committee, its subcommittees, other appropriate committees of Congress, and their respective staffs apprised of new information that materially impacts the accuracy of testimony, briefings, reports, records—including documents and electronic communications, and other information you or your organization previously provided? Please answer with a simple yes or no.

Yes.

Do you agree, without qualification, if confirmed, and on request, to provide this committee and its subcommittees with records and other information within their oversight jurisdiction, even absent a formal Committee request? Please answer with a simple yes or no.

Yes.

Do you agree, without qualification, if confirmed, to respond timely to letters to, and/or inquiries and other requests of you or your organization from individual Senators who are members of this committee? Please answer with a simple yes or no.

Yes.

Do you agree, without qualification, if confirmed, to ensure that you and other members of your organization protect from retaliation any military member, federal employee, or contractor employee who testifies before, or communicates with this committee, its subcommittees, and any other appropriate committee of Congress? Please answer with a simple yes or no.

Yes.