

**Statement of Dr. Brent Park**  
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**U.S. Department of Energy**  
**Before the**  
**Subcommittee on Energy**  
**U.S. House Committee on Energy and Commerce**

**May 22, 2018**

Chairman Upton, Ranking Member Rush, and Members of the Subcommittee, it is an honor to appear before you on behalf of the Department of Energy's (DOE) National Nuclear Security Administration (NNSA). Today, I will provide general and technical comments on two bills. The first pertains to the potential for DOE to establish and carry out a program to support the availability of high assay low-enriched uranium (HA-LEU) for commercial use and other purposes. The second pertains to DOE's authority under 10 CFR Part 810 to authorize civil nuclear trade, helping to ensure that nuclear technologies and assistance exported from the United States will be used only for peaceful purposes. Although the Administration has not taken an official position on the bills, the Department appreciates the Committee's interest in these topics.

**NNSA's Role in Uranium Management**

***Uranium Management for Defense and Non-Defense Uses***

The Department is preparing an Excess Uranium Management Plan addressing management of its uranium inventory that is excess and not dedicated to national security missions. This Department-wide effort is being coordinated by DOE's Office of Nuclear Energy and is expected to be released in the coming months. In addition, NNSA produces a biannual report to Congress, the Unencumbered Enriched Uranium Management Plan Through 2065, that includes plans for managing tritium and enriched uranium resources to meet national security and defense requirements.

***Uranium Requirements***

As stated in the 2018 Nuclear Posture Review, we live in an evolving international security environment that is more complex and demanding than any since the end of the Cold War, necessitating a national commitment to maintain modern and effective nuclear forces and infrastructure. To remain effective, 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. NNSA requires a reliable supply of strategic materials, including enriched uranium, to accomplish its missions.

For NNSA, enriched uranium is required at various levels of enrichment and forms for national security and nonproliferation missions, as well as medical isotope production. Today, the United States no longer has a uranium enrichment capability for these missions. The Nation relies on an inventory of highly enriched uranium (HEU) material that is downblended to meet the enriched uranium requirements listed above; however, that supply is finite and, at present, irreplaceable. Additionally, the United States requires enriched uranium for defense missions to be free from domestic peaceful use restrictions and from foreign peaceful use obligations.

To support NNSA's nonproliferation mission of minimizing or eliminating the use of HEU in civilian application, NNSA provides HA-LEU for use in research reactors and medical isotope production, internationally and domestically. The HA-LEU we provide is used in the production of molybdenum-99 (Mo-99), a life-saving medical isotope used in thousands of patient procedures daily in the United States.

NNSA continues to refine its projections on the finite supply of HEU to ensure adequate supply for Defense Programs, Defense Nuclear Nonproliferation, and Naval Reactors. NNSA has sufficient inventory to support tritium production through 2038, research reactors and isotope production through the early 2040s, and naval reactors through the 2050s.

NNSA's Office of Defense Programs is working to reestablish a Domestic Uranium Enrichment (DUE) capability in time to supply LEU for tritium production. In December of 2016, NNSA approved the mission need for this capability and an analysis of alternatives is currently underway. NNSA is considering options to include a HA-LEU capability as it works to reestablish its DUE capability.

The Department agrees with the Committee's concern regarding the availability of HA-LEU fuels and recognizes industry's need for HA-LEU fuels in support of advanced nuclear technologies. The Department will evaluate any specific requests from industry for this material alongside its ongoing needs for enriched uranium for research reactor fuel and medical isotope production and its national defense needs for tritium production and naval propulsion.

### ***Draft Discussion Legislation on Establishing a Program to Support Availability of HA-LEU for Commercial Use***

This draft legislation would require the Secretary of Energy to establish and carry out a program to support the availability of HA-LEU for commercial use. The Department would be required to work with industry to design and have transportation packages certified by the Nuclear Regulatory Commission by January 1, 2023.

It would require the Department to report on the uranium inventory that could be used for commercial purposes, conduct a biannual survey of stakeholders to estimate the quantity of HA-LEU necessary for commercial use, and conduct an analysis to determine options available to the Secretary to procure HA-LEU.

The legislation as written may be redundant to existing requirements and efforts underway. Allowing a Consortium that includes industry members to determine who can purchase HA-LEU

from the Department may present conflicts of interest or an unfair advantage to certain players in an emerging market. In the near term, NNSA will continue to review existing programmatic needs and will make every reasonable effort to accommodate industry requests for material when they are submitted.

NNSA recognizes the commercial need for HA-LEU; however, additional draws on the limited supply of HEU from the Department's inventory would have unintended national defense, economic, and medical consequences.

In addition, a shortage of material to supply research reactors and medical isotope production may deter reactors from converting to HA-LEU fuel from HEU fuel in the future. There also may be a shortage of life-saving medical isotopes.

Additional HEU for down-blending would have to be identified from the existing inventory of weapons and weapon components, many of which are held for potential reuse in future weapons designs. If additional materials are earmarked for HA-LEU, the Department may be forced to make premature decisions on future nuclear weapon stockpile makeup and design. Although NNSA does not currently anticipate needing to down-blend additional HEU to LEU for tritium production, this issue could be exacerbated if NNSA needed to bridge a gap to a full scale enrichment capability.

### **DOE's Civil Nuclear Technology Export Authority**

The U.S. Energy Information Administration projects that installed nuclear generating capacity outside the United States will increase by nearly 80% from 2015 to 2050. The growing international market presents a critical commercial opportunity for the U.S. nuclear industry, and the exports of U.S. nuclear technology need to be carefully managed. Under the Atomic Energy Act of 1954, as amended (AEA), the Secretary of Energy has the authority to authorize proposed exports of unclassified U.S. nuclear technology and assistance with the concurrence of the Department of State (DOS) and after consultation with the Departments of Defense and Commerce, and the Nuclear Regulatory Commission. This authority is implemented in the 10 CFR Part 810 regulation (Part 810), which DOE/NNSA is responsible for administering.

As the Secretary stated in his December 22, 2017 letter to this Subcommittee, the Department is committed to reducing processing times for applications under Part 810 while maintaining strong nonproliferation controls on U.S. nuclear technology. DOE/NNSA and other pertinent U.S. Government agencies have made significant progress in improving the efficiency and transparency of the Part 810 regulatory regime, including through implementation of DOE/NNSA's Part 810 Process Improvement Plan. Key accomplishments to date include the following:

- The Department published a revision to the Part 810 regulation that, among other benefits, establishes fast track approval processes for a number of activities that previously would have required specific authorization.

- The Department established an electronic submissions portal (“e810”) that is operational and available for industry use. This website was a long-standing request from industry groups and has been available to exporters since January 2017. The e810 system reduces the paperwork burden for industry and increases transparency by allowing the applicant to view where their request is in the reviewing process.
- DOE established a single point of contact for all exporters, standardized internal documents, and clarified internal review processes.
- DOE/NNSA has begun an effort to clarify the Part 810 compliance policy to encourage exporters to self-identify issues and violations.
- DOE/NNSA worked with the DOS to provide an earlier contingent concurrence on applications, enabling most reviews to be completed concurrently while DOS works to obtain the required government-to-government nonproliferation assurances from the country that would receive the assurances. Previously, DOS did not concur until they had received the required assurances, and DOE’s final review did not start until receiving DOS’s concurrence.
- DOE/NNSA coordinated across the Department to establish timely and realistic deadlines for internal reviews of Part 810 applications to reduce processing times and improve the predictability of the application process for applicants.
- DOE/NNSA expanded industry outreach and assistance, including with regional events at nuclear industry hubs, and began issuing an annual public report summarizing Part 810 review activities.

Because of these and other changes, the average processing time for specific authorization, renewal, and amendment requests under Part 810 has dropped from a high of more than 18 months to approximately 12 months. In addition to these recent accomplishments, future planned improvements include establishing user groups and training sessions for e810, developing a risk-based procedure for the analysis of reports submitted under Part 810, expanding the system’s functionality to include electronic reviews of documents by DOE and the interagency, and creating a publicly available online archive of Part 810 authorizations and determinations. NNSA is working to ensure these improvements are implemented in a timely manner.

Despite continuous improvements in the Part 810 process, the lengthiest part of the specific authorization process remains the time it takes partner countries to provide the required governmental nonproliferation assurances which can result in processing delays of six months to well over a year.

Efforts to expedite the Part 810 process must also accommodate the requirements of the Fiscal Year 2016 National Defense Authorization Act, which added a heightened level of review for proposed technology exports to China and Russia.

### ***Draft Discussion Legislation on Improvements to the 10 CFR Part 810 Process***

Through amendments to Section 161 of the AEA, this bill would remove language prohibiting the Secretary from delegating his authority under section 57b. of the AEA to approve exports of nuclear technology and assistance.

The bill also amends Section 57 of the AEA to direct the Secretary to establish expedited procedures to process Part 810 applications involving the transfer of “low proliferation reactor technologies” to certain countries, as designated by the Secretary, and with the caveat that China and Russia are ineligible.

Once implemented in regulation, these expedited procedures would work similarly to the “fast track approval” process for requests to provide operational safety assistance that was introduced in the 2015 revision to the Part 810 regulation.

The transfer of all nuclear power reactor technologies (other than technology for reactors especially designed for the production of plutonium or uranium-233) is already generally authorized to all countries that have Agreements for Peaceful Nuclear Cooperation (123 Agreements) with the United States, other than China, India, and Russia.

As such, the impact of the expedited procedures will be limited to certain special cases. For example, the expedited procedure could be used to quickly approve deemed export applications for nationals of non-sensitive countries, as well as applications from U.S. nuclear companies to outsource information technology services to non-sensitive countries that have established non-proliferation commitments, but generally authorized destinations under Part 810.

The Department supports reforms to streamline the Part 810 review process and appreciates the language recognizing the Department’s own progress in implementing its Part 810 Process Improvement Plan. DOE looks forward to working with the Committee on this legislation and to continuing to improve the Part 810 process.

### **Conclusion**

DOE appreciates the ongoing bipartisan support of this Committee, and looks forward to working with the Committee on the legislation on today’s agenda and any future legislation.