U.S. DEPARTMENT OF ENERGY

Office of Inspector General

DOE-OIG-25-25

July 2, 2025

The Office of Nuclear Energy's Contract Award to American Centrifuge Operating, LLC (Centrus) for the High Assay Low Enriched Uranium Demonstration Project

AUDIT REPORT

Department of Energy
Washington, DC 20585

July 2, 2025

MEMORANDUM FOR THE PRINCIPAL DEPUTY ASSISTANT SECRETARY FOR NUCLEAR ENERGY

SUBJECT: Audit Report: *The Office of Nuclear Energy's Contract Award to American Centrifuge Operating, LLC (Centrus) for the High Assay Low Enriched Uranium Demonstration Project*

The attached report discusses our audit of the Office of Nuclear Energy's contract with American Centrifuge Operating, LLC for the High Assay Low Enriched Uranium Demonstration Project. During our audit, we found pre-award activities appear to have inappropriately limited competition, and the award went to a contractor with known financial risks at the time the contract was awarded. These risks increased the likelihood of non-performance and higher costs to the Government; therefore, at the time of award, this sole-source contract may not have been in the Government's best interest.

Because more than 6 years have passed since this procurement decision, we are not making any recommendations, and a management decision is not required. However, we encourage the Office of Nuclear Energy to consider our findings and observations during future procurements, with particular attention to potential sole source awards.

We conducted this audit from July 2021 through May 2025 in accordance with generally accepted government auditing standards. We appreciated the cooperation and assistance received during this audit.

Sarah Nelson
Assistant Inspector General
for Management
Performing the Duties of Inspector General
Office of Inspector General

cc: Chief of Staff

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DOE OIG HIGHLIGHTS

The Office of Nuclear Energy's Contract Award to American Centrifuge Operating, LLC (Centrus) for the High Assay Low Enriched Uranium Demonstration Project

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Why We Performed This Audit

From June 2012 through September 2015, the Department of Energy invested approximately $397 million in the United States Enrichment Corporation (renamed Centrus in September 2014) to financially support a research, development, and demonstration program for the large centrifuge technology at Centrus' demonstration facility in Ohio. However, in September 2015, more than a year after the company declared Chapter 11 bankruptcy, the Department terminated funding for the project. Centrus was unable to continue operation of the demonstration plant without further support and, in February 2016, announced its intent to demobilize it. In May 2019, the Department awarded a sole source contract with American Centrifuge Operating, LLC, a subsidiary of Centrus, for the High Assay Low Enriched Uranium (HALEU) Demonstration Project.

This audit was initiated to determine whether the Office of Nuclear Energy's (Nuclear Energy) contract award to American Centrifuge Operations, LLC was in the Government's best interest.

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What We Found

We found that Nuclear Energy constrained competition throughout the pre-award and award phases for the HALEU Demonstration Project by including highly restrictive requirements. Specifically, Nuclear Energy bypassed contracting rules outlined in the Federal Acquisition Regulation, and the Notice of Intent and the Justification for Other Than Full and Open Competition contained restrictive requirements that limited competition. In addition, Nuclear Energy awarded the sole source contract to a contractor with financial risks and questionable viability at the time the contract was awarded.

Limiting competition for awards is generally not in the Government's best interest. Acquisition should be fair, transparent, and facilitate competition, which helps ensure the Government receives the best value while satisfying the needs of the agency. However, in this case, the procurement actions included restrictive language that limited competition. As a result, the Department may not have received the best value for taxpayer resources.

What We Recommend

Because more than 6 years have passed since this procurement decision, we are not making any recommendations. However, we encourage Nuclear Energy to consider our findings and observations during future procurements, paying particular attention to potential sole source awards.

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Background and Objective

The Department of Energy's Office of Nuclear Energy's (Nuclear Energy) mission is to advance nuclear energy science and technology to meet U.S. energy, environmental, and economic needs. Nuclear Energy has identified five goals to address challenges in the nuclear energy sector, help realize the potential of advanced technology, and leverage the unique role of the Government in spurring innovation:

1. Enable continued operation of existing U.S. nuclear reactors;
2. Enable deployment of advanced nuclear reactors;
3. Develop advanced nuclear fuel cycles;
4. Maintain U.S. leadership in nuclear energy technology; and
5. Enable a high-performing organization.

Nuclear Energy, and its National Laboratories, support research and development on a wide range of new advanced reactor technologies (in support of Goal 2) to help meet the Nation's energy, environmental, and national security needs. According to Nuclear Energy, more than 20 U.S. companies are developing advanced reactors, and a majority of these new reactor designs will require a fuel that is not yet available at a commercial scale. It is what the industry calls high-assay low-enriched uranium (HALEU). Specifically, the existing fleet of reactors runs on uranium fuel that is enriched up to 5 percent with uranium-235—the main fissile isotope that produces energy during a chain reaction. HALEU is enriched between 5 and 20 percent and is required for most U.S. advanced reactors to achieve the smaller designs that get more power per unit of volume.

From June 2012 through September 2015, the Department invested approximately $397 million in the United States Enrichment Corporation (renamed Centrus in September 2014) to financially support a research, development, and demonstration program for the large centrifuge technology at Centrus' demonstration facility in Ohio—the American Centrifuge Plant. Despite that investment, Centrus filed for Chapter 11 bankruptcy in September 2014. The company ultimately emerged from bankruptcy, but the Department announced in September 2015 that it would not continue funding the demonstration plant past the end of the month. Centrus was unable to continue operation of the demonstration plant without further Government support and, in February 2016, announced its intent to demobilize it. Nevertheless, on May 31, 2019, Nuclear Energy awarded a sole source contract to American Centrifuge Operations, LLC (ACO), a wholly owned subsidiary of Centrus. The objective of the contract was to demonstrate the capability to produce HALEU with existing U.S.-origin enrichment technology by June 1, 2022, and to provide the Department with HALEU for near-term use in its research and development for the advancement of civilian nuclear energy and security, and other programmatic missions.

We initiated this audit to determine whether Nuclear Energy's contract award to ACO, a subsidiary of Centrus for the HALEU Demonstration Project, was in the Government's best interest.

Results of Audit

NUCLEAR ENERGY RESTRICTED COMPETITION WHICH MAY NOT HAVE BEEN IN THE GOVERNMENT'S BEST INTEREST

Even though limiting competition for awards is generally not in the Government's best interest, Nuclear Energy restricted competition throughout the pre-award and award phases for the HALEU Demonstration Project. Specifically:

1. Nuclear Energy bypassed contracting rules outlined in the Federal Acquisition Regulation (FAR); and

2. The Notice of Intent (NOI) issued in January 2019 and the Justification for Other Than Full and Open Competition (JOFOC) approved by Nuclear Energy officials in May 2019 contained restrictive requirements that limited competition.

Additionally, Nuclear Energy awarded the sole source contract to a contractor with financial risks and questionable viability at the time of award.

The MOU Between Nuclear Energy and Centrus Setup Sole Source Award

The Memorandum of Understanding (MOU) between Nuclear Energy and Centrus bypassed legislative requirements and contracting rules outlined in FAR and set up a future sole source award. Under the Competition in Contracting Act of 1984, all procurements must be competed as full and open with limited exceptions identified in FAR. FAR 6.3 outlines approved exceptions from full and open competition, including when the supplies or services required are available from only one responsible source and when no other supplies or services will satisfy the requirements. Other approved exceptions include "unusual and compelling urgency" or "national security." Further, written justification must be completed before issuing a contract without full and open competition, referred to as a sole source award. FAR 6.3 also states that a contracting officer shall not initiate negotiations for a sole source contract or award any other contract without providing for full and open competition unless the contracting officer justifies such actions in writing, certifies the accuracy and completeness of the sole source justification, and obtains required approvals. FAR 15.2 states that "[g]eneral information about agency mission needs and future requirements may be disclosed at any time." However, FAR Section 15.201(f) adds, "When specific information about a proposed acquisition that would be necessary for the preparation of proposals is disclosed to one or more potential offerors, that information must be made available to the public as soon as practicable […], in order to avoid creating an unfair competitive advantage."

However, the pre-award action, initiated by Nuclear Energy to obtain required HALEU, limited competition and created a competitive advantage before there was an NOI to proceed without full and open competition, a JOFOC, or contact award. Specifically, in September 2018, the Principal Deputy Assistant Secretary for Nuclear Energy sent a Memorandum through the Under Secretary of Energy to the Deputy Secretary requesting approval to enter into an MOU with Centrus. The purpose of the MOU was to "express the intent of the Parties to undertake activities which are prerequisites for the Parties to enter into a contract, with the goal of deployment of a 16-machine AC-100M HALEU cascade […] producing a 19.75 percent U235 enriched product by October 2020 (the HALEU Cascade Project)." The request also sought approval for Nuclear Energy's development of advanced nuclear reactor technologies and reactor fuels through a demonstration of enrichment capability to produce HALEU using existing "U.S.-origin technology" for the Department's use in its research and development activities and programs. However, in the request for approval, Nuclear Energy further restricted the production requirement from "U.S.-origin technology" to state that "[t]he only U.S. origin uranium enrichment technology readily deployable to meet the projected HALEU demand within the anticipated time frames is the AC-100M centrifuge machine technology developed over many years by Centrus" through partial funding and support from the Department. Finally, the request states that the MOU "provides a path forward for DOE and Centrus to negotiate a contract for the deployment of a 16-machine AC-100M HALEU cascade […], producing a 19.75 percent U235 product by October 2020."

In October 2018, the Department signed the MOU with Centrus. The MOU specifically states that it does not create any legally binding obligations on the Department, Centrus, or any third party, nor does the MOU obligate the Department or Centrus to enter into a contract as described therein. However, as part of the MOU, Centrus agreed to undertake certain activities that it most likely would not otherwise have taken given its financial situation at the time and its lack of financial support from the Department, including: (1) rescinding its License Amendment Request with the Nuclear Regulatory Commission (NRC), and (2) requesting an extension to the Lease Agreement for the Department's Piketon facility. As detailed previously, in the years preceding the MOU, Centrus emerged from its 2014 Chapter 11 bankruptcy. Although it had emerged from bankruptcy, Centrus was still struggling financially when Nuclear Energy decided to enter into an MOU with the company. According to a Department review, Centrus had a net income of just $5 million in fiscal year 2017, and that income was followed by an annual net loss of $112 million in fiscal year 2018. At the time of the MOU—when Centrus took actions anticipating that it would be awarded a Department contract to produce HALEU—the company's total debt was significantly greater than its total assets, and its ability to pay short-term obligations from assets readily convertible to cash had declined significantly. The MOU process limited competition for a future award to produce HALEU and clearly indicated Nuclear Energy's intention to award a HALEU contract to Centrus. Furthermore, the MOU resulted in tangible actions from Centrus that, given its financial condition at the time, Centrus would likely not have otherwise taken.

According to a Department official, the Department knew from the beginning that ACO was the only entity that had the ability to construct the AC-100Ms because they were ACO's design, and Centrus was the only entity that had an NRC license. The company developed the AC-100M machine through years of support from the Department. In addition, the contracting officer indicated that there was no problem with issuance of the MOU because FAR allows "general information about agency mission needs and future requirements" to be disclosed at any time and includes the ability of the agency to contact knowledgeable individuals in industry regarding market capabilities to meet requirements. The contracting officer explained, "Had Centrus not agreed to either extend its existing license in the MOU, or its existing lease with the Department, there would have been no reason to pursue a contract. The MOU confirmed this was Centrus' intent." However, the MOU and the information contained in it were not "general information about agency mission needs." Instead, the MOU included specific actions to be taken by Nuclear Energy and Centrus, "which are prerequisites for the Parties to enter into a contractual agreement."

Nuclear Energy Crafted Requirements in the NOI and JOFOC That Only ACO Could Fulfill

Both the NOI and the JOFOC contained unnecessarily restrictive requirements that only ACO, the wholly owned subsidiary of Centrus, could fulfill. Specifically, by restricting the requirement beyond U.S.-origin to the AC-100M HALEU Cascade, the Department moved from a potential competitive procurement to only ACO being able to meet the requirements. Both the NOI and the JOFOC included a requirement for U.S.-origin enrichment technology "because only U.S.-origin technology would be capable of producing HALEU for use in any type of advanced nuclear application, civilian or defense-related." However, the Department's restriction on U.S.-origin technology to only "a 16 machine AC-100M HALEU Cascade" limited the award to only one source because, per the NOI and JOFOC, "ACO is the only source capable of executing the contract activities to meet the requirements of the HALEU Demonstration Program."

Both the NOI and JOFOC acknowledged that "ACO is in this unique position because it developed the AC-100M centrifuge and associated equipment; it possesses proprietary data associated with advanced designs related to that technology; and it has demonstrated technical expertise in operating the AC-100M equipment and technology. In sum, ACO is the only U.S.-owned and -controlled entity capable at this time to demonstrate and operate the only existing U.S.-origin uranium enrichment technology on the required schedule." In addition to restricting the requirement to the AC-100M centrifuge, the NOI (and the MOU) included a restrictive schedule to produce U235 by October 2020. However, the Department changed this requirement in the issued JOFOC to June 2022, therefore adding 20 months to the required schedule and potentially removing one of the reasons Nuclear Energy cited to restrict competition in the MOU and NOI.

FAR 11.0 requires that agencies only include restrictive provisions or conditions to the extent necessary to satisfy the need of the agency. Per Department officials, the "need of the agency" was to establish U.S. technology leadership in the supply chain for HALEU. Yet, its requirements included a "Deployment of a 16 machine AC-100M HALEU Cascade," which was more restrictive. Department officials asserted that no other organizations responded to the NOI in the required manner, which proves that no other organizations had the ability to compete, thus supporting the sole source contract. However, the Department's restriction of the need from functions to be performed (i.e., demonstrate ability to produce HALEU with U.S.-origin technology) to a specific technology (i.e., deploy the AC-100M HALEU Cascade with proprietary data rights held by a specific company) coupled with the restrictive timeline, (which was changed in the JOFOC but not the NOI), substantively prevented the ability of any other company to compete. Such overly restrictive requirements appear to violate FAR 11.0.

Centrus Had Financial Risks and Negative Equity at Time of Sole Source Award

On May 31, 2019, Nuclear Energy awarded the sole source contract—as described in the 2018 MOU—to ACO, a wholly owned subsidiary of Centrus. Nuclear Energy awarded the sole source contract despite the company's significant financial risks and questionable viability at the time of award. In March 2019, the Department approved a *Determination to Reduce the Non-Federal Cost Sharing Requirements for Demonstration Activities to be Conducted Under the Proposed Contract with American Centrifuge Operating, LLC (ACO) for the High-Assay Low Enriched Uranium (HALEU) Demonstration Program* (Cost Share Decision), which reduced ACO's cost share from 50 percent to 20 percent. The Cost Share Decision identified three key reasons to reduce the cost share below the standard 50/50 ratio. Specifically:

- The demonstration met a programmatic need for a U.S.-origin technology option for future production of HALEU, and no other non-Federal entity had the capability to undertake this demonstration project, as planned;

- The demonstration of the production of HALEU using the AC-100M centrifuges was intended to provide a better understanding of the technological risks associated with HALEU production and demonstrate technical reliability of the AC-100M operations; and

- ACO already had an NRC license for a Lead Cascade Demonstration and operation of a centrifuge enrichment plant at the Piketon facility.

Data available to the Department at the time of award showed that the company certainly could not have met the standard 50/50 cost share, and that it may not have been able to meet the reduced 20 percent share. FAR 9.1 requires contractors to be able to obtain financial resources, if needed. A Department official involved in the award told us that the company indicated early on that it would be leveraging its equipment as part of its cost share.

In September 2019, approximately 6 months after the Cost Share Decision and 4 months after the contract was awarded, the Office of Science Integrated Support Center's Financial Pricing Review Team completed a Desk Review on American Centrifuge Operating, LLC (Desk Review) to determine if the proposed costs were acceptable as a basis to negotiate a fair and reasonable cost to the Department. The Desk Review found that Centrus did not have adequate financial resources to fulfil the contract, or the ability to obtain necessary resources, as required by FAR. Centrus' total debt was significantly greater than its total assets, resulting in negative equity. Further, an analysis measuring Centrus' ability to pay short-term obligations indicated an inability to meet those obligations. In fact, the financial condition review identified that from fiscal year 2017 through June 2019, Centrus' ability to pay short-term obligations from assets readily convertible to cash had declined significantly. In addition, the Desk Review identified that "ACO proposed forgone fees of $7,909,302" as "additional contractor cost share" to be applied to its 20 percent cost share requirement. Finally, the Desk Review found that Centrus did not provide a letter of credit in its proposal, and after reviewing the financial statements, no line of credit was identified as available for use by Centrus. These illiquid contributions, coupled with the overall financial condition of the company at the time of award, should have raised concerns about whether Centrus was able to come up with its cost share, either independently or through private capital investments.

CONCLUSION

As reported, the pre-award activities taken by the Department, and the overly restrictive requirements and financial instability of the selected contractor, highlight that Nuclear Energy and the Department bypassed key acquisition controls designed to ensure fair and open Federal contracting practices to award a sole source contract to ACO. Such actions are not unique to this demonstration project. Specifically, in 2021 the Government Accountability Office issued a report[1] indicating that the Department had bypassed controls designed to limit its financial exposure in funding carbon capture demonstrations. The Government Accountability Office reported that Department documentation and testimony from officials indicated that senior leadership directed these actions.

Acquisition should be fair, transparent, and facilitate competition, which helps ensure the U.S. Government receives the best value while satisfying the needs of the agency. As identified, the procurement actions were not clear or transparent and the inclusion of restrictive language may have resulted in the Department not receiving the best value for taxpayer resources.

Recommendations

Because more than 6 years have passed since this procurement decision, we are not making any recommendations. However, we encourage Nuclear Energy to consider our findings and observations during future procurements, with particular attention to potential sole source awards.

[1] *Carbon Capture and Storage: Actions Needed to Improve DOE Management of Demonstration Projects* (GAO-22-105111, December 2021).

Management Comments

Due to the report containing no recommendations, Departmental management determined that official comments would not be provided.

Office of Inspector General Response

Although we have no recommendations in this report, we appreciated the Department's cooperation and assistance provided throughout this audit.

Objective, Scope, and Methodology

Objective

We initiated this audit to determine whether the Office of Nuclear Energy's contract award to American Centrifuge Operating, LLC, a subsidiary of Centrus Energy Corp. for the High Assay Low Enriched Uranium (HALEU) Demonstration Project, was in the Government's best interest.

Scope

The audit was performed from July 2021 through May 2025. The audit covered the planning and establishment of the HALEU demonstration contract awarded May 31, 2019, (definitized October 31, 2019), through Modification 14, issued December 7, 2021. All information was obtained via remote access techniques. The audit was conducted under Office of Inspector General project number A21AL016.

Methodology

To accomplish our audit objective, we:

- Reviewed applicable policies, procedures, laws, and regulations relevant to procurement of a sole source contract.

- Reviewed contract documentation that supported the Office of Nuclear Energy's justification around the award of the contract for the HALEU Demonstration Project. This included the following:

  - A *Memorandum of Understanding Between the Department of Energy and Centrus Energy Corp. on the High Assay Low Enriched Uranium Demonstration Project.*

  - A Notice of Intent.

  - A *Determination to Reduce the Non-Federal Cost Sharing Requirements for Demonstration Activities to be Conducted Under the Proposed Contract with American Centrifuge Operating, LLC (ACO) for the High-Assay Low Enriched Uranium (HALEU) Demonstration Program.*

  - A Justification for Other Than Full and Open Competition.

  - A letter contract with its "Section C – Description/Specifications" and associated milestones.

  - A Desk Review on American Centrifuge Operating, LLC.

  - A definitized contract with its "Section C – Description/Specifications" and associated milestones.

- Select modifications.
- Contract invoices ranging from June 2019 through November 2022. The invoice review specifically looked at lease payments and contract withholding amounts.

- Reviewed documentation calculating the need for HALEU and the timeline for that need.

- Reviewed correspondence and responses between the Department and members of Congress related to the award.

- Interviewed key personnel in the Department, including individuals at the National Nuclear Security Administration, Office of Nuclear Energy, and Oak Ridge Office of Environmental Management. We also talked with key personnel at the Department of Defense. In addition to interviews, we reviewed email archives for key Department personnel.

- Attempted to interview key personnel no longer employed by the Department. We made several attempts to contact these individuals; however, we were unable to interview them.

We conducted this performance audit in accordance with generally accepted government auditing standards. Those standards require that we plan and perform the audit to obtain sufficient, appropriate evidence to provide a reasonable basis for our findings and conclusions based on our audit objective. We believe the evidence obtained provides a reasonable basis for our findings and conclusions based on our audit objective. We assessed internal controls and compliance with laws and regulations necessary to satisfy the audit objective. In particular, we assessed the control activities component and the underlying principle of implementing control activities. However, because our review was limited to these internal control components and underlying principles, it may not have disclosed all internal control deficiencies that may have existed at the time of this audit.

To assess the reliability of the procurement documents and data needed to answer the audit objectives we: (1) reviewed documentation and compared against documentation maintained in the source system, and (2) interviewed agency officials knowledgeable about the data. We determined that the data were sufficiently reliable for the purposes of this report.

Management officials waived an exit conference on June 18, 2025.

Related Reports

Office of Inspector General

- Audit Report: *Subcontracts for Consulting Services at Fermi National Accelerator Laboratory* (DOE-OIG-19-48, September 2019). The Office of Inspector General found that Fermi Research Alliance, LLC had not ensured that the sole source justifications were clearly documented and approved for its noncompetitively awarded subcontracts for consulting services. Of the 19 consultant subcontracts selected, 13 had been noncompetitively awarded, and 11 of those agreements, totaling $463,751.40, had not contained adequate sole source justifications. Specifically, four consultant subcontracts reviewed did not include any sole source justifications, and seven lacked the necessary level of detail to support their noncompetitive awards.

- Audit Report: *The Department of Energy's Office of Headquarters Procurement Services Contract Awards Made to Alaska Native Corporations* (OAI-M-16-09, April 2016). The Office of Inspector General found Headquarters Procurement Services had not always effectively managed sole source contract awards made to Alaska Native Corporation firms. Procurement officials had not adequately maintained the necessary documents and completed Headquarters Procurement Services contract files. In addition, the award of an apparent follow-on sole source contract occurred because Headquarters Procurement Services had not followed Small Business Administration and Federal Acquisition Regulation requirements.

- Audit Report: *Subcontract Administration at Selected Department of Energy Management and Operating Contractors* (OAS-M-15-07, July 2015). The Office of Inspector General found that the Kansas City Plant awarded eight ($10.2 million) subcontracts on a sole-source basis without a specific justification.

Government Accountability Office

- Report to Congressional Committees: *CARBON CAPTURE AND STORAGE: Actions Needed to Improve DOE Management of Demonstration Projects* (GAO-22-105111, December 2021). The Government Accountability Office (GAO) identified significant risks to the Department of Energy's management of coal carbon capture and storage demonstration projects. These risks included: (1) high-risk selection and negotiation processes, and (2) bypassing of cost controls. The GAO expanded in the "Bypassing of cost controls" section to state that the Department, at the direction of senior leadership, did not adhere to cost controls designed to limit its financial exposure on funding agreements for coal projects that the Department ultimately terminated. According to Department documentation and officials, senior leadership directed actions to support projects even though the projects were not meeting required key milestones. Department documentation also indicates that had Congress authorized an extension on the use of the funds, the Department might have continued funding some of these projects.

- Report to Congressional Committees: *URANIUM MANAGEMENT: Actions to Mitigate Risks to Domestic Supply Chain Could Be Better Planned and Coordinated* (GAO-21-28, December 2020). The GAO found that Department of Defense is developing microreactors, which will require high assay low enriched uranium fuel. However, according to Department of Defense and Department officials, the U.S. Government has not made a determination whether this high assay low enriched uranium must be unobligated. Also, to mitigate the enrichment capability, the Department definitized a $115 million, 3-year sole source contract with Centrus Energy Corp. to produce high assay low enriched uranium, with the expectation that the technology could be commercialized following a successful demonstration.

  Report to Congressional Committees: *NUCLEAR WEAPONS: NNSA Should Clarify Long-Term Uranium Enrichment Mission Needs and Improve Technology Cost Estimates* (GAO-18-126, February 2018). The GAO found that the National Nuclear Security Administration (NNSA) is taking or plans to take four actions to extend inventories of low-enriched uranium that is unobligated. The GAO reviewed these actions and found the actual costs and schedules for those taken to date generally align with estimates. However, NNSA and the GAO identified risks with two of the actions. One of these risks have been resolved and NNSA is taking steps to mitigate another. The GAO also found that NNSA's preliminary plan for analyzing options to supply unobligated enriched uranium in the long term is inconsistent with Department directives for the acquisition of capital assets. Finally, the GAO also reported that, although the scope of the mission need statement is unclear, NNSA has prepared preliminary cost estimates for the two uranium enrichment technology options. However, these estimates are limited in scope and do not fully meet best practices for reliable cost estimates.

- Report to Congressional Requesters: *DEPARTMENT OF ENERGY: Transactions Involving USEC Inc. Since 1998* (GAO-15-730, September 2015). The GAO found that the Department engaged with the United States Enrichment Corporation (USEC) Inc. in 23 transactions since USEC Inc. was privatized from 1998 through July 1, 2015. The 23 transactions fall into 6 categories including: (1) 3 transactions to help establish USEC as a private company; (2) 6 transactions for national security purposes; (3) 5 transactions regarding the operation and management of various facilities; (4) 3 transactions to support nuclear materials management; (5) 3 transactions to address issues with previous transfers of uranium; and (6) 3 other transactions. USEC Inc. filed for Chapter 11 bankruptcy in March 2014 and emerged in September 2014 as Centrus Energy Corp.

- Report to Congressional Requesters: *DEPARTMENT OF ENERGY: Interagency Review Needed to Update U.S. Position on Enriched Uranium That Can Be Used for Tritium Production* (GAO-15-123, October 2014). The GAO found that the Department has adhered to its practice of using only unobligated low-enriched uranium (LEU) to meet national security needs for tritium. The Department has adhered to this practice by, for example, requiring its interagency agreement for tritium production with the Tennessee

Valley Authority that the Tennessee Valley Authority use only unobligated LEU as fuel in any nuclear reactor that is being used to produce tritium for national security purposes, and the Department is responsible for ensuring Tennessee Valley Authority can obtain unobligated LEU for this purpose. However, a key assumption underlying the decision to use only unobligated LEU for national security purposes has changed. The U.S. no longer has a ready capability to enrich unobligated LEU for tritium production. According to Department officials, the Department is currently engaged with an interagency working group to assess options for obtaining unobligated LEU in the future. Given the U.S. no longer has an assured source of unobligated LEU, the results of an updated interagency review that either reaffirms or supports a change in the current practice could help address questions about whether using certain other LEU for tritium production is an option for the Department at this time.

- Report to Congressional Requesters: *DEPARTMENT OF ENERGY: Enhanced Transparency Could Clarify Costs, Market Impact, Risk, and Legal Authority to Conduct Future Uranium Transactions* (GAO-14-291, May 2014). The GAO found that the Department undertook four transactions involving USEC in 2012 and 2013. According to the Department, the Department benefited from these transactions. The GAO identified legal concerns with all four transactions. In addition, the GAO identified issues concerning the Department's methods for valuing tails and whether the Department received reasonable compensation with respect to its largest transaction. Finally, the GAO reported that the Department contracted for two studies in 2012 and 2013 to support required determinations by the Secretary of Energy that certain uranium transfer would not have an adverse material impact on the domestic uranium market. However, the Department did not take steps outlined in its contracts or in Departmental quality assurance guidance to ensure the quality of these studies.

FEEDBACK

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