

**U.S. Nuclear Regulatory Commission Actions to Address Priority Open
U.S. Government Accountability Office Recommendations**

Addressing the Security of Radiological Sources

The U.S. Government Accountability Office (GAO) identified seven open priority recommendations for the U.S. Nuclear Regulatory Commission (NRC) from four reports that addressed the security of category 3 sources (GAO-16-330), security measures for radioactive materials that could be dispersed through a radiological dispersal device (GAO-19-468), verification of licenses for category 3 materials (GAO-22-103441), and security of sources no longer in use (GAO-24-105998).

In the report GAO-16-330, "Nuclear Security: NRC Has Enhanced the Controls of Dangerous Radioactive Materials, but Vulnerabilities Remain," GAO recommended that the NRC:

- 1) Take the steps needed to include category 3 sources in the National Source Tracking System [NSTS] and add Agreement State category 3 licenses to the Web-Based Licensing [WBL] System as quickly as reasonably possible.
- 2) At least until such time as category 3 licenses can be verified using the License Verification System, require that transferors of category 3 quantities of radioactive materials confirm the validity of a would-be purchaser's radioactive material license with the appropriate regulatory authority before transferring any category 3 quantities of licensed material.

In the report GAO-22-103441, "Preventing a Dirty Bomb: Vulnerabilities Persist in NRC's Controls for Purchases of High-Risk Radioactive Materials," GAO recommended that:

- 1) The Chairman of the NRC should immediately require that vendors verify category 3 licenses with the appropriate regulatory authority.
- 2) The Chairman of the NRC should add security features to its licensing process to improve its integrity and make it less vulnerable to altering or forging licenses. These security features could include multifactor authentication or moving away from paper licenses to electronic-based licensing.

The Commission approved the NRC staff's recommendation not to amend the regulations to include category 3 sources in the NSTS or to impose security requirements to prevent aggregation of category 3 sources to a category 2 quantity of radioactive material. The Commission did direct the staff to develop a proposed rule, SECY-22-0112, "Proposed Rule: Radioactive Source Security and Accountability," that examined other potential enhancements related to source security and provided it to the Commission for consideration. However, the Commission did not approve the proposed rule.

The staff previously issued Information Notice 22-01 to remind licensees to ensure, before transferring any radioactive material, that license verification meets the requirements set forth in NRC regulations or other equivalent Agreement State requirements. The NRC staff is also

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developing an enhancement to licenses that would make them less susceptible to counterfeiting.

Additionally, in accordance with NRC and Agreement State guidance, pre-licensing site visits are conducted for all unknown entities to provide a basis for confidence that a new applicant (i.e., an entity that has never had a license or is unknown to the NRC or Agreement State) requesting a specific license, or a licensee requesting transfer of control to a new applicant, will store and use radioactive materials at locations as specified on the license. The pre-licensing guidance adds clarity for the determination of what constitutes a known and unknown entity, enhances the criteria the NRC staff should use when performing pre-licensing site visits, provides clarification for how to identify suspicious activity, and eliminates the practice of hand-delivering licenses during the site visit.

Agreement States may elect to use the WBL system; however, adoption of the system is not mandatory, and Agreement States may use their own systems. There are currently 13 Agreement States that have elected to use WBL as their primary licensing system. Agreement States that do not use WBL as their licensing system would need to either voluntarily provide their licenses authorizing category 3 quantities or radioactive material to the NRC to facilitate verification through LVS or perform manual verification.

In the report GAO-19-468, "Combating Nuclear Terrorism: NRC Needs to Take Additional Actions to Ensure the Security of High-Risk Radioactive Material," GAO recommended that the NRC:

- 1) Consider socioeconomic consequences and fatalities from evacuations in the criteria for determining what security measures should be required for radioactive materials that could be used in a radiological dispersal device (RDD).
- 2) Require additional security measures for high-risk quantities of certain category 3 radioactive material and assess whether other category 3 materials should also be safeguarded with additional security measures.

The NRC acknowledges GAO's recommendation, but respectfully disagrees with GAO's recommendation regarding considerations for socioeconomic consequences and fatalities from evacuations in the criteria for determining what security measures should be required for radioactive materials that could be used in an RDD. The agency maintains that the current regulatory requirements provide for the safe and secure use of radioactive materials for each category (see Summary of NRC Actions – Response to GAO Reports (Enclosure), [ML20052D885](#)). Moreover, the NRC's established policy on the security of radioactive materials continues to be based on potential health effects, not socioeconomic impacts.

The NRC continues to encourage GAO to consider the conclusions of the Radiation Source Protection and Security Task Force (Task Force), which is comprised of independent experts from 14 Federal agencies and one State organization. Task Force reports represent the coordinated Federal consensus on source security in the United States. The Task Force has determined both the isotopes and activity thresholds appropriate for enhanced security and concluded that "current measures for the security and control of radioactive sources are appropriately protective of risk-significant quantities of radioactive material." Further, the Task Force found that "there are no significant gaps in the area of radioactive source protection and security that are not already being addressed."

The NRC also acknowledges GAO's recommendation of additional security measures, similar to the existing physical protection measures in place for category 2 quantities of radioactive material, for certain category 3 radioactive materials (see Enclosure – Response to GAO 2023 Priority Recommendations, [ML23143A336](#)). However, the agency respectfully disagrees and maintains that the current regulatory requirements provide for the safe and secure use of radioactive materials, regardless of the category of material.

In the report GAO-24-105998, “High-Risk Radioactive Material: Opportunities Exist to Improve the Security Sources No Longer in Use,” GAO recommended that the Chair of NRC, in coordination with the Department of Energy (DOE), and in consultation with other relevant stakeholders, should conduct an analysis to evaluate options and take action to facilitate long-term storage, within agency authorities, to better secure foreign-origin americium-241 until a permanent disposal or viable recycling option is available.

The NRC regulations do not distinguish between foreign- and domestic-origin americium-241. Long term, safe storage by licensees of sources awaiting a disposal pathway is facilitated by current NRC regulations and oversight programs. The NRC will continue to participate in interagency activities to further a disposition solution for foreign-origin americium-241. However, the DOE/National Nuclear Security Administration (NNSA), rather than the NRC is the appropriate agency to lead and conduct the analysis described in the recommendation.

The NRC staff will continue to communicate with the DOE/NNSA staff during NNSA's evaluation of storage, disposal, or viable recycling recovery options for foreign-origin americium-241 under NNSA's Off-Site Source Recovery Program. The NRC and DOE/NNSA staff previously collaborated on a common position statement regarding disposal of foreign-origin americium-241. The NRC is prepared to, if appropriate, license any facility that DOE/NNSA determines is a viable option to store foreign-origin americium-241.

As a member of the Task Force on Radiation Source Protection and Security, the DOE has been discussing options for disposition of foreign-origin americium-241 under activities pursuant to Recommendation 5 from the 2010 Task Force report. The recommendation is still considered open by the Task Force, which provides a vehicle to regularly update the Administration and Congress on this item.

Improving the Reliability of Cost Estimates

In the report GAO-15-98, "Nuclear Regulatory Commission: NRC Needs to Improve Its Cost Estimates by Incorporating More Best Practices," GAO stated that the NRC should align its cost estimating procedures with relevant best practices identified in the GAO Cost Estimating and Assessment Guide (GAO Cost Guide). There is a significant update related to this recommendation.

In November 2023, the Office of Management and Budget (OMB) issued a revised Circular No. A-4, which contains guidance for Federal agencies on the development of regulatory analysis. In addition, GAO revised the Federal cost estimating guidelines, in 2020. To address the revised guidance from OMB and GAO, the NRC staff requested to withdraw NUREG/BR-0058 and its appendices from Commission consideration. In May 2024, the Commission approved the staff's request and directed staff to update NUREG/BR-0058 to be consistent with the revised OMB and GAO guidance (SRM-SECY-20-0008; [ML24124A088](#)). The Commission further directed staff to consolidate the guidance into a single manuscript for issuance, with the exception of an

appendix related to the staff's consideration of qualitative factors in regulatory decision-making. The Commission asked that this appendix be submitted as a notation vote paper. Lastly, the Commission directed staff to solicit and respond to public feedback on the revised NUREG/BR-0058.

The staff will then issue the final NUREG/BR-0058 and reference it on the NRC public website. Staff will do the same for the accompanying appendix, following the Commission's review and decision.