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April 4, 2019

The Honorable Kristine Svinicki
Chairman
U.S. Nuclear Regulatory Commission (NRC)
Washington, D.C. 20555-0001

Priority Open Recommendations: Nuclear Regulatory Commission

Dear Chairman Svinicki:

The purpose of this letter is to provide an update on the overall status of the Nuclear Regulatory Commission's (NRC) implementation of GAO's recommendations and to call your personal attention to areas where open recommendations should be given high priority.¹ In November 2018, we reported that on a government-wide basis 77 percent of our recommendations made 4 years ago were implemented.² NRC's recommendation implementation rate was 86 percent. As of January 2019, NRC had 24 open recommendations. Fully implementing these open recommendations could significantly improve agency operations.

Since our last letter in March 2018, NRC has implemented 1 of 5 open priority recommendations. Specifically, NRC assessed the effectiveness of its trustworthiness and reliability process by which licensees approve employees for unescorted access to high-risk radiological sources at industrial facilities. In doing so, NRC identified potential enhancements to that process and is using those results to provide licensees with additional guidance. As a result of these efforts, NRC has better assurance of the security of radiological sources at industrial facilities.

NRC has 4 priority recommendations remaining from those we identified in our 2018 letter, and we are not adding any new recommendations at this time. We ask your continued attention on these remaining recommendations. (See enclosure for the list of these recommendations.)

The 4 priority recommendations fall into the following 3 areas.

Addressing the Security of Radiological Sources.

Two recommendations would improve NRC's ability to ensure the secure use of radiological sources. Our July 2016 report on controls of dangerous materials contains 2 priority recommendations regarding licensing and accountability strategies for dangerous (category 3) sources and quantities of radioactive materials. Specifically, we recommended that NRC take steps to include category 3 sources and licenses in 2 databases as quickly as possible, and require that transferors of category 3 quantities of radioactive materials confirm the validity of a

¹Priority recommendations are those that GAO believes warrant priority attention from heads of key departments or agencies. They are highlighted because, upon implementation, they may significantly improve government operation, for example, by realizing large dollar savings; eliminating mismanagement, fraud, and abuse; or making progress toward addressing a High Risk or duplication issue.

²GAO, *Performance and Accountability Report: Fiscal Year 2018*, [GAO-19-1SP](#) (Washington, D.C.: Nov. 15, 2018).

would-be purchaser's license with the appropriate regulatory authority before transferring such materials.

NRC continues to consider actions to address these recommendations, including key analyses completed since we issued our 2016 report, but has not implemented these recommendations. In September 2018, we briefed NRC staff on new information on the consequences of category 3 sources we developed as part of recent work on radiological source security.³ This new information, which further supports our recommendations, contradicts part of the analysis that NRC staff completed as a result of our 2016 report. Accordingly, we urged NRC staff to inform the Commission to delay taking action on our 2016 recommendations until the Commission can fully consider this new information. Once the Commission considers this new information, we strongly encourage NRC to implement these recommendations by taking the steps outlined above.

Improving the Reliability of Cost Estimates.

One recommendation would improve the reliability of NRC's cost estimates and better ensure that Commissioners have adequate information on which to base their regulatory decisions. In our December 2014 report, we found that NRC's procedures did not adequately support the development of reliable cost estimates and recommended that NRC align its cost estimating procedures with relevant best practices identified in the *GAO Cost Estimating and Assessment Guide*.⁴ NRC issued a draft of the updated cost estimating guide for comment in April 2017, but has not issued the final guide. To fully implement this recommendation, NRC needs to complete and issue its updated cost estimating guide.

Improving Strategic Human Capital Management.

One last priority recommendation would help NRC better plan for its future workload. NRC significantly expanded its workforce to meet the demands of an anticipated increase in workload that ultimately did not occur. More recently, a forecast for reduced growth in the nuclear industry prompted NRC to develop plans to decrease its size. We recommended in our April 2017 report that NRC set agencywide goals for its overall workforce size and composition that extend beyond the 2-year budget cycle. NRC has completed the first phase and begun the second phase of an enhanced strategic workforce planning pilot, but to fully implement our recommendation, it needs to ensure that these efforts will contribute to setting goals for the size and composition of its workforce that extend beyond the 2-year budget cycle.

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In March, we issued our biennial update to our high risk program, which identifies government operations with greater vulnerabilities to fraud, waste, abuse, and mismanagement or the need for transformation to address economy, efficiency, or effectiveness challenges.⁵ Our high risk

³We discuss this new information on the consequences of category 3 sources in an April 2019 report. See: GAO, *Combating Nuclear Terrorism: NRC Needs to Take Additional Actions to Ensure the Security of High-Risk Radioactive Material*, [GAO-19-468](#) (Washington, D.C.: Apr. 4, 2019).

⁴GAO, *GAO Cost Estimating and Assessment Guide: Best Practices for Developing and Managing Capital Program Costs*, [GAO-09-3SP](#) (Washington, D.C.: March 2009).

⁵GAO, *High-Risk Series: Substantial Efforts Needed to Achieve Greater Progress on High-Risk Areas*, [GAO-19-157SP](#) (Washington, D.C.: Mar. 6, 2019).

program has served to identify and help resolve serious weaknesses in areas that involve substantial resources and provide critical services to the public.

Several government-wide high-risk areas have direct implications for NRC and its operations. These include (1) the government-wide personnel security clearance process, (2) ensuring cybersecurity of the nation, (3) improving management of IT acquisitions and operations, (4) strategic human capital management, and (5) managing federal real property. We urge your attention to the government-wide high-risk issues as they relate to NRC. Progress on high-risk issues has been possible through the concerted actions and efforts of Congress, the Office of Management and Budget (OMB), and the leadership and staff in agencies, including NRC.

Copies of this report are being sent to the Director of the Office of Management and Budget and appropriate congressional committees; the Committees on Appropriations, Budget, and Homeland Security and Governmental Affairs, United States Senate; and the Committees on Appropriations, Budget, and Oversight and Reform, House of Representatives. In addition, the report will be available at no charge on the GAO website at <http://www.gao.gov>.

I appreciate NRC's continued commitment to these important issues. If you have any questions or would like to discuss any of the issues outlined in this letter, please do not hesitate to contact me or Mark Gaffigan, Managing Director, Natural Resources and Environment, at GaffiganM@gao.gov or (202) 512-3841. Contact points for our Offices of Congressional Relations and Public Affairs may be found on the last page of this report. Our teams will continue to coordinate with your staff on all of the 24 open recommendations. Thank you for your attention to these matters.

Sincerely yours,

A handwritten signature in black ink that reads "Gene L. Dodaro". The signature is fluid and cursive, with a long horizontal stroke extending to the right from the end of the name.

Gene L. Dodaro
Comptroller General
of the United States
Enclosure

cc: The Honorable Mick Mulvaney, Director, Office of Management and Budget

Enclosure -- Priority Open Recommendations to NRC

Addressing the Security of Radiological Sources

Nuclear Security: NRC Has Enhanced the Controls of Dangerous Radioactive Materials, but Vulnerabilities Remain. [GAO-16-330](#). Washington, D.C.: July 1, 2016.

Recommendation: Because some quantities of radioactive materials are potentially dangerous to human health if not properly handled, NRC should take action to better track and secure these materials and verify the legitimacy of the licenses for those who seek to possess them. Specifically, the NRC should take the steps needed to include category 3 sources in the National Source Tracking System and add agreement state category 3 licenses to the Web-based Licensing System as quickly as reasonably possible.

Actions Needed: NRC neither explicitly agreed nor disagreed with this recommendation, but stated that it would consider our recommendation as part of a working group the agency has established. In August 2017, the working group provided information on these issues to the Commission and recommended neither including category 3 sources in the National Source Tracking System nor adding agreement state category 3 licenses to the Web-based Licensing System. In September 2018, we briefed NRC staff on new information on the consequences of category 3 sources we developed as part of recent work on radiological source security.⁶ This new information, which further supports our recommendation, contradicts part of the analysis that the working group provided to the Commission. Accordingly, we urged NRC staff to inform the Commission to delay taking action on our 2016 recommendations until the Commission can fully consider this new information.

We continue to believe that implementing our recommendation would provide greater assurance that a bad actor could not manipulate the system by, for example, altering a paper license to acquire radioactive materials in aggregate greater than what they are authorized to possess. We encourage NRC to take action to implement this recommendation once the Commission has fully considered the new information we developed on the risks of category 3 sources.

Recommendation: Because some quantities of radioactive materials are potentially dangerous to human health if not properly handled, NRC should take action to better track and secure these materials and verify the legitimacy of the licenses for those who seek to possess them. Specifically, the NRC should at least until such time that 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 materials license with the appropriate regulatory authority before transferring any category 3 quantities of licensed materials.

Actions Needed: NRC neither explicitly agreed nor disagreed with this recommendation, but stated that it would consider our recommendation as part of a working group the agency has established. In August 2017, the working group provided information on these issues to the Commission and recommended against requiring transferors of category 3 quantities of radiological material to confirm the validity of licenses before transferring any category 3 quantities of these materials. In September 2018, we briefed NRC staff on new information on

⁶We discuss this new information on the consequences of category 3 sources in an April 2019 report. See: GAO, *Combating Nuclear Terrorism: NRC Needs to Take Additional Actions to Ensure the Security of High-Risk Radioactive Material*, [GAO-19-468](#) (Washington, D.C.: Apr. 4, 2019).

the risks of category 3 sources we developed as part of ongoing work on radiological source security.⁷ This new information, which further supports our recommendation, contradicts part of the analysis that the working group provided to the Commission. Accordingly, we urged NRC staff to inform the Commission to delay taking action on our 2016 recommendations until the Commission can fully consider this new information.

We continue to believe that implementing our recommendation would provide greater assurance that a bad actor could not manipulate the system by, for example, altering a paper license to acquire radioactive materials in aggregate greater than what they are authorized to possess. We encourage NRC to take action to implement this recommendation once the Commission has fully considered the new information we developed on the risks of category 3 sources.

Director: David Trimble, Natural Resources and Environment

Contact Information: TrimbleD@gao.gov, (202) 512-3841

Improving the Reliability of Cost Estimates

Nuclear Regulatory Commission: NRC Needs to Improve Its Cost Estimates by Incorporating More Best Practices. GAO-15-98. Washington, D.C.: December 12, 2014.

Recommendation: To improve the reliability of its cost estimates, as NRC revises its cost estimating procedures, the NRC Chairman should ensure that the agency aligns the procedures with relevant cost estimating best practices identified in the *GAO Cost Estimating and Assessment Guide* and ensure that future cost estimates are prepared in accordance with relevant cost estimating best practices.⁸

Actions Needed: NRC generally agreed with the recommendation. To fully implement this recommendation, NRC needs to issue its update to its cost estimating procedures to align with best practices identified in our cost estimating guide.

Director: Frank Rusco, Natural Resources and Environment

Contact Information: RuscoF@gao.gov, (202) 512-3841

Improving Strategic Human Capital Management

Strategic Human Capital Management: NRC Could Better Manage the Size and Composition of Its Workforce by Fully Incorporating Leading Practices. GAO-17-233. Washington, D.C.: April 27, 2017.

Recommendation: To improve NRC's ability to strategically manage the size and composition of its workforce and respond to changes in the nuclear industry, the Chairman of the Nuclear Regulatory Commission should set agencywide goals, which could be ranges, for overall workforce size and skills composition that extend beyond the 2-year budget cycle.

⁷We discuss this new information in an April 2019 report. See [GAO-19-468](#).

⁸GAO, *GAO Cost Estimating and Assessment Guide: Best Practices for Developing and Managing Capital Program Costs*, [GAO-09-3SP](#) (Washington, D.C.: March 2009).

Actions needed: NRC generally agreed with the recommendation. NRC has some efforts underway to improve individual offices' planning efforts. To fully implement this recommendation, NRC needs to use the inputs from the offices' processes to develop agencywide goals for the workforce size and skills composition that extend beyond the 2-year budget cycle.

High risk area: Strategic Human Capital Management

Director: Frank Rusco, Natural Resources and Environment

Contact Information: RuscoF@gao.gov, (202) 512-3841

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