



POLICY ISSUE

(Information)

DATE February 11, 2025 **SECY-25-0013**

FOR: The Commissioners

FROM: John W. Lubinski, Director
Office of Nuclear Material Safety
and Safeguards

SUBJECT: 2025 IMPLEMENTATION PLAN UPDATE FOR THE RADIATION
SOURCE PROTECTION AND SECURITY TASK FORCE REPORT

PURPOSE:

The purpose of this paper is to provide the Commission with the status of open items from the Radiation Source Protection and Security Task Force (Task Force) report, the most recent of which was issued in August 2022 (Agencywide Documents Access and Management System (ADAMS) Accession No. [ML22199A290](#)). The U.S. Nuclear Regulatory Commission (NRC) staff provides these updates every 2 years, in coordination with the Task Force reports that are issued to the President and Congress every 4 years. The last 2-year update on the status of open items were provided to the Commission in the February 2023 Task Force Implementation Plan ([ML22355A002](#)). This paper does not address any new commitments or resource implications.

BACKGROUND:

The Energy Policy Act of 2005, Public Law No. 109-58, 119 Stat. 594, created the Task Force under the lead of the NRC. This Task Force provided its first draft report to the Commission in June 2006 in COMSECY-06-0032, "Draft Report to the President and the U.S. Congress on the Radiation Source Protection and Security Task Force" ([ML061770130](#), non-public).

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In addition to approving the report, the Commission directed the staff in the Staff Requirements Memoranda (SRM) to COMSECY-06-0032 ([ML062150520](#), non-public) to develop an implementation plan for Commission consideration, subsequent to finalization of the Task Force report, that included prioritization, cost estimates, and the staff's view on how to proceed with implementation of the recommendations and actions¹ in the Task Force report for which the NRC has responsibility.

Each subsequent implementation plan is publicly available in ADAMS and accessible from the NRC website (<https://www.nrc.gov/security/byproduct/task-force.html>). The implementation plan is used to prioritize and facilitate implementation of efforts related to the Task Force recommendations and actions, and to communicate the status of recommendations and actions to the Commission and the public on a routine basis.

The first Task Force report, 2006 Task Force report ([ML062190349](#)), contained 10 recommendations and 18 actions that addressed security and control of radioactive sources. Subsequent activities and reports identified additional recommendations and actions and resulted in closing recommendations and actions.² As a result, 36 recommendations and actions have been completed since the original report was issued, and 6 recommendations and actions remain open.

DISCUSSION:

The enclosed 2025 implementation plan includes a strategy for implementing open Task Force recommendations and actions; outlines potential issues that could complicate implementation of the recommendations and actions; identifies lead agencies, supporting agencies, resource estimates where appropriate; and details tasks necessary to implement the open recommendations and actions.

As discussed in the 2022 Task Force report, six recommendations and actions remain open. The status of each of these items is described in detail in the enclosure. In addition, SRM-SECY-08-0184, "*Strategy for the Security and Use of Cesium-137 Chloride Sources*," ([ML091050314](#)) directed the staff to report back to the Commission on progress made toward a comprehensive approach to improve the security of CsCl sources.³ The status of the three open

¹ Actions are items identified by the Task Force that did not rise to the level of recommendations because they were underway or planned in the near term, but that were important to track and complete.

² The 2010 report ([ML102230141](#)) presented 11 new recommendations, several of which included actions related to cesium-137 chloride (CsCl) sources; it also closed 14 recommendations and actions. The 2014 report ([ML14219A642](#)) closed 17 recommendations and actions and added three new recommendations. The 2018 ([ML18276A155](#)) report closed four recommendations and actions, and there were no new proposed recommendations. The 2022 report ([ML22213A157](#)) closed one recommendation, and there were no new proposed recommendations.

³ CsCl sources with activity levels associated with Categories 1 and 2 thresholds established by the International Atomic Energy Agency in its Code of Conduct on the Safety and Security of Radioactive Sources (i.e., above 27 curies) are widely used in self-shielded irradiators in three major modes of application: Blood sterilization, bio medical research, and calibration. CsCl is used because of the properties of cesium-137, including its desirable energy spectrum, long half-life, low cost, and moderate shielding requirements relative to other nuclides. Into irradiators, CsCl is found in a compressed powder form that is double-encapsulated in a stainless steel capsule. This physical form is used because of its high specific activity (gamma emission per unit volume) and manufacturability. However, because it is highly soluble in water and is dispersible in aerosol form, it also presents security concerns. As such, the use and security of CsCl sources has been a matter of concern for the NRC and an area of focus for the Task Force. Significant progress has been made in adequately securing and finding alternatives to these sources, as evidenced in Task Force reports and the Policy Statement issued by the NRC on this subject (76 FR 44378).

Task Force recommendations that specifically address security of CsCl sources is summarized below.

2010 Recommendation 4:

The Task Force recommends that the U.S. Government, regional compacts, and States continue to evaluate disposal options for disused radioactive sources, including options for handling a potentially large number of disused cesium chloride sources that may be replaced once viable alternatives are available.

Status: The NRC staff has made progress in addressing 2010 Recommendation 4, which relates to the Commission direction in SRM-SECY-08-0184. On May 29, 2024, the NRC staff submitted to the Commission for its consideration a rulemaking package, SECY-24-0045, "*Proposed Rule - Integrated Low-Level Radioactive Waste Disposal*," ([ML23242A249](#)) that included a draft proposed rule, implementing guidance, and a regulatory analysis. The proposed rule would amend NRC's regulations to revise the licensing requirements for low-level radioactive waste (LLW) disposal and to add near-surface disposal requirements for Greater-Than-Class C, which includes most CsCl sources, in accordance with Commission direction. The proposed rule would ensure that LLW streams that are significantly different from those considered during the development of 10 *Code of Federal Regulations* (CFR) Part 61, such as depleted uranium, would continue to be disposed of safely and meet the performance objectives for land disposal of LLW. The NRC staff held two public meetings in May 2023 and January 2024 that were attended by over 100 stakeholders to discuss preliminary regulatory concepts for the rulemaking. If the Commission approves publication of the proposed rule, the NRC staff will hold additional public meetings during the comment period for the proposed rule.

2010 Recommendation 9:

The Task Force recommends that the U.S. Government enhance support of short-term and long-term research and development for alternative technologies.

Status: The U.S. Department of Energy, National Nuclear Security Administration (DOE/NNSA) has made great strides towards research and development for alternative technologies. DOE/NNSA completed feasibility studies comparing cesium-137 (Cs-137) and cobalt-60 with X-ray technologies in biological research and a study on the impact of different radiation sources on materials that are commonly used in sterilized medical devices. The results of these studies and specific actions taken by Task Force member agencies to enhance support of short-term and long-term research and development for alternative technologies in the coming years will be reviewed and documented in the 2026 Task Force report.

2014 Recommendation 3:

The Task Force recommends that the U.S. Government, as appropriate⁴, investigate options such as voluntary, prioritized, incentivized, programs for the replacement of Category 1 and 2 radioactive sources with effective alternatives. The Task Force further

⁴ The NRC's statutory mandate precludes it from promoting one technology over another for non-safety or security reasons. The NRC would review, in accordance with its procedures, any license application for new technologies.

recommends that U.S. Government agencies, where appropriate, lead by example in the consideration of and transition to alternative technologies that meet technical, operational, and cost requirements.

Status: DOE/NNSA leads efforts towards voluntary replacement of Category 1 and 2 radioactive sources with effective alternatives. For example, DOE/NNSA is working with domestic users of cesium-137 based irradiators who are interested in converting to viable non-radioisotopic alternatives. The Cesium Irradiator Replacement Project (CIRP) provides qualified sites who are interested in making the switch with a financial incentive towards the purchase price of a new non-radioisotopic device, as well as support for the removal and disposal of the cesium irradiator. Since May 2022, DOE/NNSA has replaced 161 Cs-137 blood and research irradiators under CIRP, with more than 140 additional replacements in process. The CIRP program is on track to meet the fiscal year 2019 [115th Congress Public Law 232] specified goal of eliminating the use of blood irradiation devices in the United States that rely on CsCI by December 31, 2027, through a voluntary program. Although the NRC does not advocate for or against alternative technologies in its role as an independent regulator, NMSS does supply DOE/NNSA with national source data to support their CIRP efforts.

Task Force agencies, consistent with each organization's statutory roles and responsibilities, continue to focus on encouraging the adoption of replacement technologies that meet technical, operational, and cost requirements. The status of U.S. Government agencies transitioning to alternative technologies will be reviewed and documented in the 2026 Task Force report.

COORDINATION:

The Office of the General Counsel has reviewed this paper and has no legal objection.



Signed by Lubinski, John
on 02/11/25

John W. Lubinski, Director
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Enclosure:
U.S. NRC Implementation Plan for
the Radiation Source Protection
and Security Task Force Report

SUBJECT: 2025 IMPLEMENTATION PLAN UPDATE FOR THE RADIATION SOURCE PROTECTION AND SECURITY TASK FORCE REPORT.
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