POLICY ISSUE
INFORMATION

December 7, 2011 SECY-11-0169

FOR: The Commissioners

FROM: Mark A. Satorius, Director
Office of Federal and State Materials
and Environmental Management Programs

SUBJECT: U.S. NUCLEAR REGULATORY COMMISSION IMPLEMENTATION PLAN FOR THE RADIATION SOURCE PROTECTION AND SECURITY TASK FORCE REPORT

PURPOSE:

The purpose of this paper is to provide the Commission with a summary of the enclosed annual update of the "U.S. Nuclear Regulatory Commission (NRC) Implementation Plan for the Radiation Source Protection and Security Task Force Report," in accordance with the Staff Requirements Memorandum (SRM) for SECY-06-0231, "NRC Implementation Plan for the Radiation Source Protection and Security Task Force Report," dated January 16, 2007. This plan highlights interagency efforts in the area of radiation source protection and security, including updates on progress toward a comprehensive approach to improve the security of cesium-137 chloride (CsCl) sources. Consequently, this paper also provides the Commission with information requested in the SRM for SECY-08-0184, "Strategy for the Security and Use of Cesium-137 Chloride Sources," dated April 15, 2009. For efficiency, the staff will continue to report on the development of CsCl issues in the periodic updates of the implementation plan. This paper does not address any new commitments or resource implications.

SUMMARY:

The Energy Policy Act of 2005 (EPAct) created an interagency task force on radiation source protection and security under the lead of the NRC. After receiving the first draft report in June 2006 by the Radiation Source Protection and Security Task Force (Task Force), the Commission directed the staff in the SRM for COMSECY-06-0032, "Draft Report to the

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President and the U.S. Congress on the Radiation Source Protection and Security Task Force Report," dated August 3, 2006, to develop a plan, including prioritization, cost estimates, and the staff view on how to proceed with implementation of the recommendations and actions in the report for which NRC has responsibility.

The staff submitted the first implementation plan to the Commission in SECY-06-0231 (November 22, 2006). This implementation plan addressed the recommendations and actions from the Task Force report that was provided to the President and Congress on August 15, 2006. The staff used this implementation plan to organize and track the efforts related to the Task Force recommendations and actions. The staff continues to provide the Commission with annual updates to the implementation plan.

BACKGROUND:

The EPAct mandates that not later than 1 year after the date of the legislative enactment of the Act, and not less than once every 4 years thereafter, the Task Force shall submit to the President and Congress a report and recommendations on materials source security. In 2006, the NRC submitted the first Task Force report to the President and Congress. The report contained 10 recommendations and 18 actions that addressed security and control of radioactive sources. In accordance with the EPAct, the Task Force also submitted its quadrennial report to the President and Congress on August 11, 2010. These reports are publicly available in the Agencywide Documents Access & Management System (ADAMS) (ML062190349 and ML102230141). The 2010 report presented the status of the first report's recommendations and actions, including the resolution of a number of significant recommendations and actions. This report also presented 11 new recommendations. Several of those new recommendations include actions related to the issue of CsCl sources. The implementation plan defines the recommendations as tasks to be completed by appropriate agency leads within the framework of their upcoming activities.

DISCUSSION:

In the last update to the Commission in SECY-10-0159, "U.S. Nuclear Regulatory Commission Implementation Plan for the Radiation Source Protection and Security Task Force Reporting," dated December 8, 2010, the staff noted that the Task Force would begin deciding upon the plans for implementation and assigning lead responsibility for each of the new recommendations and open recommendations and actions from the 2006 and 2010 reports during its January 19, 2011, and subsequent meetings. Prior to initiating discussions on plans for implementation, the Task Force focused on trying to generate high-level Government attention on the 2010 report. One example of this was reaching out to NRC's Congressional Committees. Despite the efforts of the NRC Office of Congressional Affairs to heighten awareness of the report to the NRC's Congressional Committees, no additional feedback or inquiries were received. The Task Force has since undertaken its implementation discussions and enclosed is an updated NRC Implementation Plan. The updated plan presents the strategy

for implementation of the recommendations and actions, issues that could complicate implementation, lead offices, resource estimates, and task breakdowns. Some of the recommendations and actions have no specific NRC implementation activities.

The plan will remain as a living, publicly available document in ADAMS (ML113070315). The staff has updated the plan to reflect progress through November 2011. The following recommendation and action were completed since the last update received by the Commission:

2006 Recommendation 5-2: The Task Force recommends that the U.S. Government evaluate the feasibility of using new and existing technologies to detect and discourage the theft of risk-significant radioactive material during transport. The evaluation should include the findings of operational testing of existing technologies offering enhanced security of motor carrier shipments of hazardous material; shipment tracking, including communication systems; radio-frequency identification; vehicle disabling technologies; and mobile and stationary radiation detection systems.

> Status: During the March 16, 2011, Task Force meeting, the Task Force determined that the conclusions of the June 30, 2010, final report of the Tracking of Radioactive Sources Focus Group (established by the Department of Homeland Security (DHS) Government Coordinating Council (GCC)—Radioisotope Subcommittee) addressed the recommendation. The report provides the advantages, disadvantages, and availability of technologies that may be used for tracking conveyances, packages, or individual radioactive sources. Advances in technologies with respect to tracking of radioactive sources will continuously be monitored by DHS' GCC. The Task Force considers this recommendation to be completed.

2006 Action 11-2: The NRC should consider programming the National Source Tracking System (NSTS) to provide automatic daily information to [U.S.] Customs [and Border Patrol] on import/export shipment notifications.

> Status: Version 2 of the NSTS was deployed in mid-May 2011. However, during the Security Categorization reanalysis of the NSTS, it was determined that automatic import/export notifications would negatively impact the security and corresponding access level permitted for users of the system. Therefore, it was not implemented in the Version 2 deployment. NRC, however, will provide appropriate NSTS information on a need-to-know basis when requested by Government agencies. The Task Force considers this action to be completed.

Since the last update to the Commission in SECY-10-0159 (December 2010), the following significant developments occurred related to other Task Force recommendations and actions:

- The U.S. Department of Energy (DOE) published its draft environmental impact statement (EIS) providing disposal options for Greater-Than-Class C (GTCC) low-level radioactive waste (LLRW) for public review and comment on February 18, 2011. The NRC provided a response to DOE's request for the NRC's perspective on four specific topics in the draft EIS on August 5, 2011 (related to 2006 Action 9-1).

- A final NRC policy statement on the protection of CsCl sources was published on July 25, 2011, in the *Federal Register* (76 FR 44378) (related to 2010 Recommendations 3, 9, 10, and 11).

Progress toward a comprehensive approach to improve the security of CsCl sources continues to be tracked in the implementation plan. Specifically, status updates on initiatives related to the SRM for SECY-08-0184 are provided for the following:

- development of a government-facilitated disposal pathway,
- short-term and long-term research and development of alternative technologies, and
- development of a government incentivized program for the replacement of existing sources with effective alternatives.

A more detailed description of the status of these initiatives is contained in the implementation plan under the following recommendations:

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.

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.

2010 Recommendation 10: The Task Force recommends that the U.S. Government, contingent upon the availability of alternative technologies and taking into consideration the availability of disposal pathways for disused sources, investigate options such as a voluntary, prioritized, Government-incentivized program for the replacement of Category 1 and 2 sources with effective alternatives, with an initial focus on sources containing CsCl.

A more detailed description of the status of these items is reflected in the enclosed implementation plan, which closely aligns with the status presented in the final CsCl Policy Statement. Both the applicable recommendations and the policy statement recognize that near term replacement of devices or CsCl sources in existing blood, research, and calibration irradiators is not practicable. Despite this, progress is being made by DOE on developing its final GTCC LLRW EIS, in which disposal options for CsCl sources are given special consideration (relevant to 2006 Action 9-1). The Task Force encourages efforts to develop alternate forms of Cs-137 that would reduce the security risks and will monitor any new developments in this area.

The Task Force also maintains awareness of the DOE National Nuclear Security Administration (NNSA) Global Threat Reduction Initiative (GTRI) voluntary program to retrofit existing CsCl irradiators with additional physical security enhancements and to incorporate these improvements into the designs of newly manufactured units. As of September 30, 2011, 335 buildings containing nuclear and/or radioactive materials have undergone voluntary security enhancements (this includes completed enhancements at 12 non-power reactors). Also, the specialized in-device delay hardening kits for the most widely used models of CsCl blood and research irradiators, which are funded by GTRI, have been installed on 289 of the 852 devices within the scope of the initiative. These efforts are often also complemented by assist visits and tabletop exercises conducted by NNSA experts, partnered with the Federal Bureau of Investigation, at licensee facilities. These visits and exercises allow participants to share best practices. As of September 30, 2011, 16 table-top exercises have been completed. These continuing initiatives will be updated in the next Task Force report.

Lastly, as previously reported in the last update to the Commission in SECY-10-0159 in December 2010, the staff indicated that implementation of certain new recommendations could have an impact on current NRC policy or budget. Specifically, implementation of 2010 Recommendation 2 would involve policy decisions and significant resources: The Task Force recommends that the U.S. Government agencies reevaluate their protection and mitigation strategies to protect against a significant radiation exposure device or radiological dispersal device attack based on the Task Force-endorsed definitions, radionuclides, thresholds, and the associated assumptions and parameters referenced in the 2010 report (related to 2006 Recommendation 3-1).

NRC uses a Security Assessment (SA) decision-making framework[1] methodology, which is based on deterministic effects (prompt fatalities). Considering land contamination or economic impacts in the evaluation of consequences would constitute a significant change in the underpinning assumptions used by the NRC in its current SA framework. In order to address the Task Force recommendation, the staff is evaluating the next steps for engaging the Commission, in light of existing Commission direction[2] with respect to the SA decision-making

[1] Attachment 2 of SECY-04-0222, "Decision-making Framework for Materials and Research and Test Reactor Vulnerability Assessments," provides details on the SA decision-making framework.

[2] SRM for SECY-04-0222, "Decision-making Framework for Materials and Research and Test Reactor Vulnerability Assessments," dated January 19, 2005, and commitments in SECY-06-0045, "Results of Implementation of the Decision-making Framework for Materials and Research and Test Reactor Security Assessments," dated March 1, 2006.

framework. If there are any policy implications, the staff will determine the appropriate next steps and communicate with the Commission.

COORDINATION:

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

/RA/

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Enclosure:
NRC Implementation Plan for the Radiation
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ML113070551 WITS 200700044/EDATS: SECY-2010-0587/FSME201100100
WITS 200900097/EDATS: SECY-2010-0588/FSME201100101

OFC	MSSA	MSSA	MSSA	MSSA
NAME	KLukes	AGiantelli	JLuehman	BMcDermott
DATE	11/01/2011	11/04/2011	11/17/2011	11/22/2011
OFC	NSIR	OGC	TechEd	FSME
NAME	MLayton	EBowdenBerry	CPoland	MSatorius
DATE	11/18/2011	11/20/2011	11/30/2011	12/7/2011

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