

POLICY ISSUE NOTATION VOTE

April 18, 2011

SECY-11-0058

FOR: The Commissioners

FROM: R. W. Borchardt
Executive Director for Operations

SUBJECT: PROPOSED FINAL POLICY STATEMENT ON THE PROTECTION OF
CESIUM-137 CHLORIDE SOURCES

PURPOSE:

To request Commission approval to publish the Final Policy Statement on the Protection of Cesium-137 Chloride Sources in the *Federal Register*. This paper does not address any new commitments or resource implications.

SUMMARY:

This paper provides the staff's response to the Commission's direction in the Staff Requirements Memorandum (SRM) COMSECY-09-0029, "Draft Policy Statement on the Protection of Cesium-137 Sources," dated May 24, 2010 (Draft Policy Statement), and to the last open item in the SRM for SECY-08-0184, "Strategy for the Security and Use of Cesium-137 Chloride Sources," dated April 15, 2009. Specifically, the SRM on COMSECY-09-0029 directed the staff to seek public comments on the Draft Policy Statement and develop a Final Policy Statement based upon the comments. The SRM on SECY-08-0184 directed the staff to work with Federal agencies to define criteria for a dispersible source of concern. The proposed Final Policy Statement (Enclosure) was developed after consideration of public comments on the Draft Policy Statement and new developments relevant to security issues involving cesium-137 chloride (CsCl) sources that took place since the publication of the draft.

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BACKGROUND:

In response to the Commission's direction in the SRM for COMSECY-09-0029 to develop a proposed Final Policy Statement, the staff pursued a number of initiatives. The staff published the Draft Policy Statement for public comment in the *Federal Register* on June 29, 2010 (75 FR 37483). The staff held a public meeting on November 8-9, 2010, in Gaithersburg, Maryland to solicit comments on the Draft Policy Statement. The public meeting was announced in the *Federal Register* on September 29, 2010 (75 FR 60149), as well as in two NRC press releases issued on June 28, 2010 (No. 10-117) and October 5, 2010 (No. 10-176). The public meeting included technical sessions with 28 panel presentations, followed by facilitated discussion with the audience. The meeting was attended by 77 participants including the general public and representatives of licensees (users in the blood irradiation industry, biomedical research institutions, the pharmaceutical industry, and calibration laboratories), health and industry associations, source and device manufacturers, manufacturers of alternate technologies (x-ray and Cobalt-60), and Federal and State government agencies. The comment period ended on December 17, 2010. The staff received 11 written comments and a number of oral comments from the panelists and the audience at the public meeting (see <http://www.nrc.gov/materials/miau/licensing.html#cc>).

Following the issuance of the SRM for COMSECY-09-0029, the staff provided information to the Commission on staff activities, regarding CsCl sources, conducted in 2010. On February 25, 2011, the staff provided the Commission a memorandum on the development of a strategy for end-of-life management of CsCl sources (ML110190056), which summarized the extent and the results of the staff's interaction with other Federal agencies and stakeholders. The staff also reported to the Commission that the staff was not able to identify any Federal agency to champion development of alternate chemical forms of Cs-137 for the replacement of the currently used CsCl sources in SECY-10-0146 (ML103050379), dated November 5, 2010.

In August 2010, the Radiation Source Protection and Security Task Force (Task Force) completed its second quadrennial report (Task Force Report) to the President and Congress (ML102230141). The Task Force Report addressed the security of all radioactive sources, but singled out the issue of CsCl sources in several of the recommendations (i.e., 2010 Recommendations 3, 4, 10, and 11). As a follow-up to the Task Force Report, the staff provided to the Commission in December 2010, the NRC's implementation plan for the Task Force Report (ML103050432). The NRC implementation plan indicated that recommendations regarding CsCl sources were to be completed by the Task Force within the framework of their upcoming activities. The proposed Final Policy Statement is consistent with the conclusions and the recommendations of the Task Force Report.

Disposal of CsCl sources was addressed in the Draft Policy Statement, in the Task Force Report and its implementation plan, as well as in the staff's proposed strategy for end-of-life management of CsCl sources. DOE also considered disposal of such sources in its "Draft Environmental Impact Statement for the Disposal of Greater-Than-Class C (GTCC) Low-Level Radioactive Waste and GTCC-Like Waste," which was published on February 18, 2011, for public comment (accessible at <http://nepa.energy.gov/1653.htm>). The Environmental

Impact Statement (EIS) includes proposals for resolution of disposal issues for sealed sources,

including CsCl sources. The proposed Final Policy Statement recognizes DOE's issuance of the EIS and expresses the Commission's intent to interact with DOE to resolve the issue of waste disposal.

The issue of solubility and dispersibility of CsCl, which is listed as a task in the SRM for SECY-08-0184, was addressed in a number of the above staff communications to the Commission. In the November 5, 2010 staff memorandum to the Commission, it was delineated that the staff was not able to identify a Federal agency willing to take the lead or fund research for alternate chemical forms for Cs-137 sources. The staff considered the findings of a classified risk analysis. The staff briefed the Commission offices on this study on April 21, 2010. Due to the high levels of uncertainty in the results of the study, there is little confidence that an alternative form of Cs-137 could be developed that would reduce the dispersibility and associated clean-up costs. Consequently, for the same reasons set forth above, the staff concluded that there would be limited benefit to developing criteria for solubility or dispersibility of Cs-137 compounds under the current and foreseeable circumstances.

DISCUSSION:

Based on the staff's consideration of oral and written comments, the staff concluded that no substantial revisions were needed to the Draft Policy Statement. The majority of the comments supported the Draft Policy Statement. Many commenters recommended expanding the narrative regarding the areas of use of CsCl sources. One commenter recommended including International Atomic Energy Agency Category 3 CsCl sources, in certain selected types of use, in the Final Policy Statement. Other comments recommended clarifications and editorial changes. All of the written and oral comments were considered when finalizing the Policy Statement (ML110750506). In response to public comments, the draft Final Policy Statement contains expanded discussions of the use of CsCl sources and of new developments in terms of security of CsCl. In addition, changes were made to address the new developments listed above. Neither the public comments nor the new developments resulted in changes to the basic principles that in the Policy Statement.

The staff revised the Policy Statement to address:

- Comments received on the *Federal Register* notice, dated June 29, 2010,
- Comments received in the November 8-9, 2010, public meeting,
- Task Force Report and its implementation plan,
- DOE's EIS, and
- The staff's memorandum, dated February 25, 2011, on end-of-life management of CsCl sources.

The draft Final Policy Statement, transmitted with this paper, also addresses the action items in the SRM COMSECY-09-0029. Specifically: (a) it includes resolution of the comments that the staff received from the public in response to publication of the Draft Policy Statement and in the public meeting; (b) it provides the Commission's views on the security of these sources considering the current threat environment, potential benefits of further risk reduction, and current NRC and Agreement State security requirements, which are in place and ensure the

safety and security of these sources; (c) it encourages manufacturers to develop alternate forms of Cs-137 sources and to strengthen device modifications which could further reduce the risk of malevolent use associated with CsCl; (d) it recognizes DOE's issuance of the GTCC EIS and states that the Commission will actively interact with DOE in all phases of the process to establish a storage facility for permanent, safe, and secure disposal of unwanted sources; and (e) it states the Commission's readiness to respond with additional security requirements, if needed, should the threat environment degrade.

The draft Final Policy Statement also addresses the issue of criteria for dispersible sources of concern as listed in SECY-08-0184. Specifically, it states that the NRC recognizes that objective measures of 'solubility' and 'dispersibility' could be defined as alternate forms of Cs-137 are developed by the manufacturers, but for the near term the Commission considers that it is more appropriate to focus on continued enforcement of the U.S. security requirements and to mitigate risk through cooperative efforts and voluntary initiatives of industries that currently manufacture and use CsCl sources. For the long term, the draft Final Policy Statement states that NRC's mission does not include developmental research, and encourages further research efforts by manufacturers for technologies that could enhance security. The staff will publish the Final Policy Statement as directed by the Commission.

RECOMMENDATION:

The staff recommends that the Commission approve the draft Final Policy Statement on the Protection of CsCl Sources and its publication in the *Federal Register*. In addition, the staff recommends, based on security risk considerations and on the lack of significant technological advancements in the near term that the staff should not develop dispersibility or solubility criteria for CsCl.

COORDINATION:

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

/RA Michael F. Weber for/

R. W. Borchardt
Executive Director
for Operations

Enclosure:
Draft Final Policy Statement

considering the current threat environment, potential benefits of further risk reduction, and current NRC and Agreement State security requirements, which are in place and ensure the safety and security of these sources; (c) it encourages manufacturers to develop alternate forms of Cs-137 sources and to strengthen device modifications which could further reduce the risk of malevolent use associated with CsCl; (d) it recognizes DOE's issuance of the GTCC EIS and states that the Commission will actively interact with DOE in all phases of the process to establish a storage facility for permanent, safe, and secure disposal of unwanted sources; and (e) it states the Commission's readiness to respond with additional security requirements, if needed, should the threat environment degrade.

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Enclosure:
Final Policy Statement

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