

POLICY ISSUE
INFORMATION

SECY-00-0184

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FOR: The Commissioners
FROM: William D. Travers
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SUBJECT: STAFF PROGRESS ON ORPHAN SOURCE ISSUES: FOLLOW-UP TO SECY-99-038

- PURPOSE:
- SUMMARY:
- BACKGROUND:
- DISCUSSION:
 - E-34 Committee progress in developing a national orphan source program:
 - NRC staff activities to address orphan source issues
- RESOURCES:
- COORDINATION:

PURPOSE:

To inform the Commission of the staff's progress on orphan source issues, in response to the April 21, 1999, Staff Requirements Memorandum (SRM) on SECY-99-038, "Staff Efforts to Address Orphan Source Issues" ([Attachment 1](#)).

SUMMARY:

This paper describes the staff's progress on orphan source issues, including the Commission direction to "...fund the Conference of Radiation Control Program Directors (CRCPD) to establish, implement, and manage a national orphan source program, once the E-34 Committee's pilot project is complete." Principal staff's efforts in this area have included continued participation in the CRCPD Committee on Unwanted Radioactive Materials (the E-34 Committee) in an advisory role, requesting resources in the agency budget beginning in Fiscal Year (FY) 2001, to support a national orphan source control program, and the evaluation of issues which could present a barrier to the U.S. Nuclear Regulatory Commission's (NRC's) ability to issue a contract implementing an orphan source control program. The staff has also participated in and/or provided assistance to a number of international activities pertaining to orphan source issues, primarily through its ongoing interactions with the International Atomic Energy Agency (IAEA). Only international activities directly related to the staff's efforts to respond to the SRM on SECY-99-038 are discussed in this paper.

BACKGROUND:

Addressing orphan source issues is an important component of the implementation of the strategic plan to maintain safety and reduce unnecessary burden, by controlling and dispositioning radioactive sources that are no longer in use in commercial activities, or are not adequately controlled by a licensee.

Item 8 of the April 13, 1998, SRM on SECY-97-273, "Improving NRC's Control Over, and Licensees' Accountability for, Generally and Specifically Licensed Devices" ([Attachment 2](#)) directed the staff to further address orphan sources. The staff responded to that SRM on February 3, 1999, in SECY-99-038, which provided several options to the Commission, and recommended that the Commission proceed with Option 2, to fund the CRCPD to establish, implement and manage a national orphan source program once the E-34 Committee's pilot project was complete.

The Commission issued an SRM on SECY-99-038 on April, 21, 1999, which approved the concept of proceeding with Option 2, and directed the staff, in part, to: 1) keep the Commission informed of the progress in pursuing Option 2; 2) include a \$450,000 request in the FY 2001 budget, specifically to support implementation of an orphan source control program; 3) send the Commission an information paper and start funding the CRCPD program as soon as funds were available, if the CRCPD program met the NRC's programmatic needs and the costs were reasonable; or 4) submit a paper to the Commission with recommended alternatives for proceeding with an orphan source control program if the CRCPD program did not meet NRC's programmatic needs, or the costs were excessive; 5) examine the definition of "orphan sources" used in the IAEA Consultants' Report, considered by the IAEA Board of Governors at its March 22, 1999, meeting; 6) issue a press release announcing the Commission's decision on [SECY-99-038](#); and 7) advise the Commission on whether all or most of the contents of SECY-99-038, and the voting record on it, could be made publicly available. Each of these items, with the exception of items 3) and 4), is addressed in this paper. Items 3) and 4) will be addressed, as appropriate, in a future paper, once the E-34 Committee's national orphan source program is sufficiently developed.

DISCUSSION:

E-34 Committee progress in developing a national orphan source program:

The E-34 Committee continues to develop a national orphan source program, and met three times since February 1999. The committee concentrated its activities on enhancing program elements already in place or under development at the time SECY-99-038 was written, and developing and implementing a pilot "source round-up" program for unwanted and orphan cesium-137 and cobalt-60 sources in the State of Colorado. Examples of specific activities include: improving CRCPD's web page regarding unwanted radioactive materials; developing a brochure for persons or agencies seeking assistance with unwanted radioactive materials; and developing a training program for State and Federal agencies on unwanted/orphan radioactive materials. In addition, the E-34 Committee membership has changed. One member left to become the US cost-free expert for orphan source issues at the IAEA. Four new advisors joined the committee (one from the Institute of Scrap Recycling Industries, one from the Steel Manufacturers Association, one from the Oak Ridge National Laboratory, and one more from NRC). Also, a State member and a Federal advisor who left the committee were replaced.

Since February 1999, the E-34 Committee has expended its greatest effort on developing the pilot program and its implementation in the State of Colorado. The E-34 Committee intends to use the pilot program to test and demonstrate certain aspects of its national orphan source program (e.g., viability of a national "source round-up;" State participation and coordination; contracting with waste brokers; and information exchange). Although the E-34 Committee stipulated that the pilot program will be limited to one State, it may consider expanding the pilot program to other States if the response within Colorado is not sufficient to provide an adequate assessment of the viability of a national program.

Implementation of the pilot program is not progressing as quickly as initially anticipated. Limited availability of committee members and advisors to participate in the development and implementation of the pilot program, and difficulties in both coordinating key aspects of the program and resolving legal and technical issues have hampered progress on the pilot program. The E-34 Committee originally estimated completion of the pilot program by mid-calendar year (CY) 2000, but the staff now expects the pilot program to be completed in mid-CY 2001.

The following are highlights of activities associated with the pilot program:

- The E-34 Committee gained approval, in concept, from the CRCPD Board of Directors to proceed with the pilot program in early CY 2000, including establishing a funding mechanism for the collection and disposition of certain unwanted radioactive materials identified under the pilot program.
- CRCPD issued an invitation to the State of Colorado to participate in the pilot program in February 2000.
- The State accepted the invitation, and in March 2000, the E-34 Committee met with representatives of the State Radiation Control Program to discuss details, and the Committee's expectations, of both the pilot program and the State.
- The E-34 Committee resolved its legal barriers sufficiently to establish a contract for funding -- through the State -- the collection and disposition of the unwanted sources identified under the pilot program.
- The arrangement between the CRCPD and the State of Colorado is that the State will be responsible for ensuring the sources are collected and disposed of in an appropriate and safe manner, and the CRCPD will provide funding to support this effort.
- Colorado officials are handling program logistics within the State, including: announcing the State's intent to conduct the program; providing program details to its licensees and other stakeholders; identifying potential source candidates, participants, collection points, and other persons willing to assist in the collection process; and making any necessary arrangements with local government entities.
- Contractual and funding arrangements between the CRCPD and the State of Colorado are nearing completion, and identification and collection of sources are expected to begin once these arrangements are finalized.

Several contractual and technical issues encountered and addressed by the E-34 Committee during development of the pilot program are similar to the issues the staff identified, in SECY-99-038, regarding NRC issuing a contract for an orphan source program. Examples include: determining the appropriate extent and limitation of contractor activities (e.g., would contract activities include only arranging for disposal, or should they also include such activities as collection, packaging, and waste characterization?); establishing the division of responsibilities among the CRCPD, the contractor, and the State; resolving liability concerns of the CRCPD, the State, and the contractor (e.g., being held responsible for, or having to take possession or ownership of, collected sources); deciding to what extent disposition options other than disposal should be considered for collected sources; and ensuring that the contract and pilot program stay within the bounds of the E-34 Committee charter to develop a national orphan source program.

NRC staff activities to address orphan source issues

NRC staff activities to address orphan source issues since February 1999, include: advising the Commission, in an April 30, 1999, memorandum, on which portions of SECY-99-038 could be made publically available; signing, on June 18, 1999, the Memorandum of Understanding (MOU) with the U.S. Department of Energy (DOE **EXIT**) on the management of sources; issuing a press release on June 21, 1999, announcing the Commission decision on SECY-99-038, and that the MOU with DOE had been signed; evaluating/comparing "orphan source" definitions from various entities (e.g., IAEA, E-34 Committee, other

Federal agencies and foreign governments) with the definition presented in SECY-99-038; participating in E-34 Committee activities in an advisory role; responding to requests for DOE assistance in accordance with the MOU; and evaluating potential barriers to NRC funding a national orphan source program.

Since February 1999, the staff has participated in all three E-34 Committee meetings, and provided advice and assistance on various CRCPD/E-34 Committee activities, including:

- Assisting in the development of the E-34 Committee training program concerning unwanted radioactive materials. NRC staff involvement with the training program has primarily been with the portion related to using the Nuclear Materials Event Database (NMED), to improve the response to the identification of unwanted/orphan radioactive materials. This portion of the training concentrates on using the NMED to track orphan sources, identify potential responsible parties, identify potential problem areas/trends, and maintain a historical record of the event from its initiation to final resolution.
- Working with CRCPD representatives to provide information for and assistance on updating and enhancing its web site for unwanted radioactive materials, developing procedures for responding to requests for assistance with unwanted radioactive materials, and responding to incidents involving unwanted/orphan radioactive material within NRC jurisdiction.
- Ongoing efforts to modify the NMED for use as an orphan source tracking system, as requested by CRCPD. Modifications, since February 1999, allow the NMED to accept orphan source reports from all States, and added additional capabilities for users to search source or device information on found orphan sources. The staff expects completion of the remaining changes that CRCPD requested by October 30, 2000.

Staff orphan source activities with DOE have primarily related to responding to requests for DOE emergency assistance in accordance with the NRC/DOE MOU, and supporting and assisting DOE with its pilot program to recover certain americium-241 sealed sources under the Offsite Source Recovery Program (OSRP) at the Los Alamos National Laboratory. Since February 1999, the staff has responded to 11 requests for DOE emergency assistance from the NRC regional offices (3); Agreement and Non-Agreement States (3); private individuals (3, including one individual from Chile); and foreign governments (2). In addition, the staff provided assistance to DOE's OSRP pilot program by requesting the NRC regional offices and Agreement States to identify potential candidates for the second phase of the program, and then prioritizing and forwarding the identified potential candidates to DOE. To date, the NRC regional offices, Agreement and Non-Agreement States, licensees, and other private entities have identified more than 150 sources, possessed by more than 50 separate entities, as potential candidates for the program.

The staff has also worked with DOE to address various issues related to these two primary activities. Examples include resolving a perceived barrier to DOE's contractor conducting activities in NRC jurisdiction under its pilot program, refining NRC and DOE procedures for responding to emergency requests for DOE assistance, conducting the first annual meeting of the NRC/DOE MOU coordinators, and expediting NRC staff's review of potential candidates for DOE's OSRP in support of DOE Secretary Richardson's commitment to accelerate collecting sources under the OSRP, announced in a DOE press release on July, 13, 2000 ([Attachment 3](#)).

In accordance with Commission direction in the SRM on SECY-99-038, the NRC budget includes \$450,000 each year, beginning in FY 2001, to fund a national orphan source program. However, the E-34 Committee's orphan source program is not sufficiently developed for the staff to adequately assess whether the program will meet NRC programmatic needs, and resolve applicable contractual issues. The staff expects to be able to better assess the program, and update its estimate of the costs to fund the program after the E-34 Committee completes the pilot program, expected mid-CY 2001. The staff plans to continue to address the remaining contractual issues, applicable to NRC funding a national orphan source program, as the E-34 Committee's pilot program proceeds.

The staff plans to continue to participate in E-34 Committee activities, including developing a consistent "orphan source" definition, and to work toward funding the CRCPD to establish, implement, and manage a national orphan source program. The staff is encouraged because the E-34 Committee's development of the national orphan source program is proceeding in a direction that could result in a program that meets NRC's programmatic needs, and that may minimize potential contractual and technical barriers to funding such a program. However, the staff is discouraged by the delays in the development of the E-34 Committee's program, and will consider exploring other options to implement a national orphan source program if further delays occur.

RESOURCES:

The current resources in the NRC budget (\$450,000 and 1 FTE) are sufficient to support this activity. However, the delay in the implementation of the pilot source round-up program may result in surplus funding in FY2001, which could then be made available for reprogramming to other high priority activities.

COORDINATION:

The Office of the General Counsel has reviewed this paper and has no legal objection. The Office of the Chief Financial Officer has reviewed this Commission paper for resource implications and has no objections.

/RA/

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Attachments: 1. [April 21, 1999, SRM on SECY-99-038](#)
2. [April 13, 1998, SRM on SECY-97-273](#)
3. [July 13, 2000, DOE Press Release](#)

ATTACHMENT 3

Department of Energy - News Release

<http://www.energy.gov/HQPress/releases00/julpr/pr00182.htm> **EXIT**

[Privacy & Security Notices](#)



FOR IMMEDIATE RELEASE
July 13, 2000

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Secretary Richardson Suspends Release of Materials from DOE Facilities

Secretary of Energy Bill Richardson today suspended the release of potentially contaminated scrap metals for recycling from Department of Energy (DOE) nuclear facilities. The suspension is part of a new policy aimed at ensuring contaminated materials are not recycled into consumer products and at improving the department's management of scrap materials at its nuclear weapons production sites.

"I am making this decision to ensure American consumers that scrap metal released from Energy Department facilities for recycling contains no detectable contamination from departmental activities," said Secretary Richardson. "The suspension will remain in effect until our sites can confirm that they meet this new more rigorous standard."

DOE's existing standards result in radiation exposure that is already far below what is allowed by federal policy. Detection equipment currently available will enable the department to do even better.

The department also is initiating a feasibility study on the possibility of recycling steel from decommissioned facilities into waste containers or other items needed by DOE. A preliminary review completed last May concluded that the concept merits a more detailed study.

"I am challenging the department's managers to think creatively and come up with incentives to promote internal reuse and recycling," said Secretary Richardson.

Richardson also announced other steps to improve record keeping and reporting as well as acceleration of the department's program to collect some types of commercially owned, radioactive sources that are no longer in use. Sealed radioactive sources are used in a variety of measurement, calibration and other activities. These sources can pose significant risks to steelworkers or the public if abandoned or illegally disposed. DOE has responsibility under the Low-Level Waste Policy Act of 1985 to dispose of them properly.

- DOE -

