

February 3, 1999

FOR: The Commissioners

FROM: William D. Travers /s/  
Executive Director for Operations

SUBJECT: STAFF EFFORTS TO ADDRESS ORPHAN SOURCE ISSUES

## PURPOSE:

To provide the Commission with information and options on orphan source issues in response to Item 8 of the Staff Requirements Memorandum (SRM) (Attachment 1) dated April 13, 1998, on SECY-97-273, "Improving the U.S. Nuclear Regulatory Commission's Control Over, and Licensees' Accountability for, Generally and Specifically Licensed Devices."

## SUMMARY:

This paper describes the staff's efforts to address orphan source issues since April 1998, when the SRM on SECY-97-273 was issued. These efforts have included presentations and coordination with stakeholders on the orphan source problem; consultation with Federal agencies and States on jurisdictions and regulatory responsibilities for addressing the orphan source problem; continued close coordination with the Conference of Radiation Control Program Directors (CRCPD) through a committee addressing orphan source issues; and coordination with the U.S. Department of Energy (DOE [EXIT](#)), to finalize a Memorandum of Understanding (MOU) on management of sealed sources. This paper also presents options for establishing an orphan source contract, provides pros and cons for the different contract options, and gives an estimate of the cost of establishing such a contract.

## BACKGROUND:

On December 31, 1996, the Commission issued an SRM on SECY-96-221, and the staff responded in SECY-97-273, "Staff Requirements -- SECY-96-221 -- 'Improving NRC's Control Over, and Licensees' Accountability for, Generally and Specifically Licensed Devices.'" On April 13, 1998, the Commission issued an SRM on SECY-97-273.

In the SRM on SECY-97-273, the Commission instructed the staff, in part, to continue efforts to further address orphan sources, using the guiding principle that non-licensees who find themselves to be in possession of radioactive sources that they did not seek to possess should not be expected or asked to assume responsibility and cost for exercising control or arranging for their disposal. The Commission directed the staff to continue efforts to address orphan sources; consult with other Federal agencies and the States to define jurisdictions and regulatory responsibilities for addressing the orphan source problem; continue to coordinate with CRCPD to ensure that a similar regulatory framework is applied to sources/devices containing Atomic Energy Act (AEA) material and sources/devices containing Naturally occurring or Accelerator-produce Radioactive Material (NARM); aggressively pursue finalizing the MOU with DOE; and consider the pros and cons of establishing a contract program for orphan sources, and provide an estimate of the costs of such a program. Each of these areas of the SRM is addressed, in sequence, in the following discussion. Other areas of the SRM, involving the U.S. Nuclear Regulatory Commission's (NRC) general license program, are the subject of separate staff actions and are not addressed here.

## DISCUSSION:

- [Staff efforts to further address orphan sources](#)
- [Consult with Federal Agencies and States to define jurisdictions and regulatory responsibilities](#)
- [Coordination with CRCPD](#)
- [Efforts to finalize the MOU with DOE](#)
- [Options regarding an orphan source contract program](#)
- [Estimate the costs of an orphan source contract program](#)

## STAFF EFFORTS TO FURTHER ADDRESS ORPHAN SOURCES

The staff is actively pursuing efforts to address the issue of orphan sources, consistent with Commission direction. These efforts have included: staff participation in five federal and state interagency meetings which included representatives of the metal recycling and manufacturing industries; staff presentations at a workshop and a seminar, concerning efforts to improve detection of radioactive materials in the metal recycling and manufacturing industries; interaction with DOE on a pilot program to recover and recycle certain Greater-Than-Class-C (GTCC) materials; responses to two requests from Agreement States for DOE emergency acceptance of GTCC orphan sources; and incident response efforts on a number of orphan source and contaminated metal incidents, including several incidents that involved other Federal agencies and States. [Attachment 2](#) contains more specific information concerning these efforts. The staff plans to continue outreach efforts with industry and stakeholders.

## CONSULT WITH FEDERAL AGENCIES AND STATES TO DEFINE JURISDICTIONS AND REGULATORY RESPONSIBILITIES

The staff met with and/or discussed the roles, responsibilities, and jurisdictions of DOE; the U.S. Environmental Protection Agency (EPA [EXIT](#) NEI ); and the U.S. Federal Emergency Management Agency (FEMA), regarding orphan source issues, with representatives from each of these Federal agencies. The staff also addressed the same issues with State representatives through CRCPD. In addition, the staff researched and consulted available documentation, such as the Federal Radiological Emergency Response Plan (FRERP) and the National Contingency Plan (NCP), concerning each agency's role in responding to orphan source incidents. The discussion in this paper and the attachments have not been reviewed, approved, or sanctioned by the applicable agencies. [Attachment 3](#) provides the NRC staff's characterization of the roles, responsibilities, and jurisdictions of Federal agencies and States for addressing orphan sources, based on available information and the views expressed by the different agency representatives.

The issues of regulatory responsibilities and jurisdictions of Federal agencies and States in addressing orphan source problems have been complex, and there is overlap between the cognizant organizations. Regulatory responsibilities and jurisdictions are particularly difficult to clarify, because of the many different types of sources and situations that may be associated with orphan source incidents. The numerous Federal, State, and local organizations having responsibilities in this area have a variety of capabilities, as well as differing perceptions of each organization's roles and responsibilities, even within their own organizations. All 50 States, and no less than 11 Federal agencies (primarily NRC, DOE, EPA, FEMA ~~EXIT~~, the U.S. Department of Defense, and the U.S. Department of Transportation, and secondarily, the Federal Bureau of Investigations, the U.S. Customs Service, the Central Intelligence Agency, the National Security Agency, and the U.S. Department of State) have responsibility for or jurisdiction over addressing different aspects of the orphan source problem.

Development and implementation of the FRERP and coordination work over the past several years between CRCPD, Federal agencies, and States have helped to clarify roles, responsibilities, and jurisdictions on orphan source incidents, especially concerning the authorities governed by the NCP. Although these efforts have been ongoing for a number of years, significant improvement in this area has been seen over the last few years. To provide a more consistent national approach to orphan source incidents, further efforts are needed. Several mechanisms may be utilized to continue this work, including: working directly and separately with each agency, possibly resulting in additional MOU's, similar to the DOE MOU, concerning orphan sources; requesting the CRCPD E-34 Committee on Unwanted Radioactive Material (the E-34 Committee) to expand its charter to fully address this issue; initiating a working group of representatives of the applicable Federal agencies, and one or more State representatives, to provide a consensus position on this issue; as a member of the NCP National Response Team (NRT), request guidance and clarification on this matter from the NRT in accordance with the provisions of the NCP; request FEMA, through the Federal Radiological Preparedness Coordinating Committee (FRPCC), to develop a consensus position on this issue, and consider training programs and exercises conducted through the FRPCC Training Subcommittee; and supporting and participating in additional lost source exercises. Obtaining a national consensus position on roles, responsibilities, and jurisdictions will likely require a combination of these approaches. The staff plans to continue exploration of these mechanisms.

#### COORDINATION WITH CRCPD

In late Calendar Year (CY) 1997, EPA provided funding to the CRCPD for initiation of a committee -- the E-34 Committee -- whose charter is to prepare a national program for addressing and responding to unwanted radioactive material. The staff has coordinated with CRCPD, through the E-34 Committee, consistent with Commission direction to ensure that a similar regulatory framework is applied to both AEA and NARM sources/devices. The E-34 Committee includes advisory members from NRC, EPA, and DOE. The E-34 Committee's activities have included: defining the problem; determining the part of the problem that the E-34 Committee's program would address; identifying the essential elements of an orphan source program; surveying regulatory agencies, discussing the issue with stakeholders, and developing criteria for acceptance of radioactive materials into the program, to determine and bound the scope of the problem; requesting NRC assistance to use the Nuclear Material Event Database (NMED) for tracking orphan sources; and discussing the need for clarification of the roles and responsibilities of State and Federal agencies for addressing the orphan source issue, and coordinating these roles for a consistent approach.

The E-34 Committee plans to continue development of the program and initiate a pilot orphan source acceptance program in CY 1999. If the pilot program is successful, it may serve as a template for State and Federal agencies to respond to unwanted radioactive materials. Issues regarding EPA's funding of the program development, funding of the final E-34 orphan source acceptance program, cooperative agreements between States, application of a similar regulatory framework between AEA orphan sources and NARM orphan sources, and the use of NMED to track orphan sources, are discussed in more detail in [Attachment 4](#). To date, the staff has found participation on the E-34 Committee to be a valuable mechanism for interacting with other organizations on the orphan source problem and for developing a potential solution to the orphan source problem.

#### EFFORTS TO FINALIZE THE MOU WITH DOE

The Office of Nuclear Material Safety and Safeguards (NMSS) staff worked closely with the NRC's Office of the General Counsel (OGC) and DOE Office of Waste Management to redraft the MOU on management of sealed sources, in an attempt to address concerns expressed by DOE's OGC with the original 1995 draft MOU. In addition, NRC staff informed DOE about the Commission's direction in the SRM on SECY-97-273, to aggressively pursue finalization of the MOU. DOE Office of Waste Management staff agreed, in principle, to assist in this effort, and on December 18, 1998, DOE management signed the MOU and returned it to NRC in a letter of the same date. The signed MOU is being provided to the Commission, for approval, as [Attachment 5](#). NMSS has coordinated with OGC on the final version of the MOU, and OGC has no legal objection to NMSS signing and issuing the MOU. Upon Commission approval, the staff is prepared to sign the MOU.

#### OPTIONS REGARDING AN ORPHAN SOURCE CONTRACT PROGRAM

In considering the pros and cons of establishing an orphan source contract program that would enable licensees or DOE to take possession of, and arrange for proper transfer or disposal of, orphan sources, the staff evaluated: the required capabilities of such a contractor and the bounds of such a contract; whether NRC has the legal authority to issue such a contract; factors that would limit such a contract; contract alternatives; and the positive and negative attributes of such a contract. The steps the staff took to consider the pros and cons of establishing an orphan source contract, and an analysis of the legal and contractual complexities of such a program, are discussed in detail in [Attachments 6, 7, and 8](#).

As shown in the analysis in [Attachment 6](#), the staff identified four principal options for an orphan source contract:

1. NRC establishes an orphan source contract program, with a commercial firm or firms, for AEA material only.
2. NRC funds CRCPD to establish, implement, and manage a national orphan source program, once the E-34 Committee's pilot program is complete (~ mid CY 2000). NRC funding would be commensurate with the proportion of NRC licensees to all US licensees, and would be limited to only those efforts associated with AEA material.
3. NRC neither establishes nor funds an orphan source contract or program, but continues to work with the E-34 Committee, to develop a national

orphan source program (the E-34 Committee's program would require funding from sources other than NRC).

4. A combination of Options 1 and 2. The combination would allow NRC to issue an orphan source contract while the E-34 Committee is continuing work on its national program, then end the contract and fund the E-34 Committee's program, once its development is complete.

The staff identified a number of pros and cons for each of the options (see Attachment 6). Based on the pros and cons and an analysis of the legal and contractual complexities of establishing an orphan source contract, the staff recommends that the Commission proceed with Option 2 (fund the E-34 Committee's program) as the preferred alternative. The staff expects that the E-34 Committee's program will contain the essential elements that NRC would require of an orphan source contract, or more, and funding the E-34 Committee's program presents several clear advantages over other options. For instance, the E-34 Committee's program would offer a seamless framework for both NARM and AEA orphan sources; minimize many legal uncertainties and potential conflicts of interest that an NRC contract would face; cover all States and jurisdictions; require fewer NRC full-time equivalent position resources; and promote inter-agency and Federal/State cooperation on the orphan source problem.

#### ESTIMATE THE COSTS OF AN ORPHAN SOURCE CONTRACT PROGRAM

The annual frequency of orphan source incidents, which is a dominant factor in the cost of an orphan source contract, is not known for a variety of reasons, as discussed in Attachment 9. Therefore, it is difficult to accurately estimate the costs of the orphan source contract options discussed in this paper. The staff has been able to provide a rough estimate for an orphan source contract, based on current information and discussions with waste brokers and waste handlers, with the assumption that the contract covers only AEA orphan source material in non-Agreement States. The staff's estimate of the annual cost of an orphan source program is only a rough approximation, and actual costs would be highly dependent on a number of variables. The staff's estimated costs for NRC funding the E-34 Committee's program implementation and continuation, with the assumptions that NRC's funding covers only AEA material and NRC shares the costs of the program proportionally with the Agreement States, results in an expectation of the same approximate costs. Estimates for the costs of funding the E-34 Committee's program should be better defined after the pilot program. The staff's estimate is that either option (an NRC contract program or NRC funding of the E-34 Committee's program) would cost approximately \$450,000 per year. Actual costs would likely vary from year to year, possibly by as much as a couple hundred thousand dollars. More detail on these estimates, and the bases for the costs, are provided in Attachment 9.

#### RECOMMENDATIONS:

1. The Commission approve the staff's plans to sign the MOU with DOE on management of sealed sources.
2. The Commission proceed with Option 2 as the preferred alternative for an orphan source contract. If approved, the staff will provide the Commission with the status of the E-34 Committee's program development, and the E-34 Committee's cost estimates for the program, by mid-CY 2000. Funding for this option should not be required until the E-34 Committee's program is fully developed (FY 2001), and could be addressed during the current, ongoing-budget formulation cycle for the FY 2001 budget.

#### RESOURCES:

The resources in NMSS' budget are sufficient to support Recommendation 1. Although resources to implement Recommendation 2 have not been budgeted, if the Commission directs the staff to pursue any type of contract option that requires funding, NMSS will address the funding requirements in the next budget formulation cycle. Following initial implementation of a program, staff would use its experience to further refine cost estimates for future budget cycles.

#### COORDINATION:

OGC 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.

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Attachments: 

1. SRM on SECY-97-273, dtd 4/13/98
2. [Staff Efforts to Further Address Orphan Sources](#)
3. [Jurisdictions and Regulatory Responsibilities](#)
4. [Coordination with CRCPD](#)
5. [Letter transmitting signed MOU with DOE.](#)
6. [Pros and Cons of a Contract Program](#)
7. [Sources Sought Synopsis](#)
8. [Request for Legal Advice on a Contract Program](#)
9. [Cost Estimates for Contract Options](#)

## CONTINUED STAFF EFFORTS TO FURTHER ADDRESS ORPHAN SOURCES

- 1. COMMISSION DIRECTION
- 2. DEFINITION OF ORPHAN SOURCE
- 3. CONTINUED STAFF EFFORTS TO FURTHER ADDRESS ORPHAN SOURCES

## 1. COMMISSION DIRECTION

In the Staff Requirements Memorandum (SRM) on SECY-97-273, the Commission instructed the staff to, "Continue efforts to further address the orphan sources. A guiding principle is that non-licensees who find themselves to be in possession of radioactive sources that they did not seek to possess should not be expected or asked to assume responsibility and cost for exercising control or arranging for their disposal."

## 2. DEFINITION OF ORPHAN SOURCE

Before describing the staff's efforts with "orphan sources," it is important to define the term. A key concept in addressing the orphan source issue is answering the question: "What is an orphan source?" The answer is non-trivial. The answer bounds the extent of the orphan source problem. For instance, if the orphan source definition is considered to include unsealed material of any form, then very large volumes of contaminated soil or building materials might be considered to fit into the definition. This would result in a broad interpretation of the extent of the orphan source problem, requiring massive funding to address the problem. Conversely, if the orphan source definition is limited to just sealed sources, then small areas of volumetrically contaminated metals might not be considered to fit into the definition. Small amounts of material contaminated by a leaking sealed source also might not be considered to fit into the definition, although the leaking sealed source itself might fit the definition. This would result in a narrow interpretation of the extent of the orphan source problem, leading to an underestimate of the funding needed to address the problem.

The term "orphan source" may be, and has been, used to describe a variety of types and forms of radioactive materials in a multitude of conditions, for which there is no viable responsible party to provide for an appropriate disposition of the material. However, the generally accepted definition of an orphan source is radioactive material in discrete form (i.e., contained within a small volume such as a sealed source, activated metal, or materials encapsulated in similar small containers), containing either material covered by the Atomic Energy Act of 1954, as amended, or naturally occurring or accelerator-produced radioactive material that is in any one or more of the following conditions:

- In an uncontrolled condition that requires removal to protect the public health and safety from a radiological threat;
- Controlled or uncontrolled, but for which a responsible party cannot be readily identified;
- Controlled, but for which the continued security of the material cannot be assured and, if in the possession of a licensee, the licensee has little or no options for, or is incapable of providing for, the disposition of the material;
- In the possession of a person, not licensed to possess the material, who did not seek to possess the material; or
- In the possession of a State radiological protection program (either Agreement State or non-Agreement State) for the sole purpose of mitigating a radiological threat because of one of the above conditions, and for which the State does not have a means to provide for the appropriate disposition of the material.

The staff applies this definition of "orphan sources" in addressing orphan source issues. Although imperfect, this definition contains the extent of the orphan source problem to realistic, manageable levels.

## 3. CONTINUED STAFF EFFORTS TO FURTHER ADDRESS ORPHAN SOURCES

In addition to the specific activities listed in the SRM on SECY-97-273, the staff has continued a number of efforts to further address the orphan source issue. These staff efforts have included the following:

- A. Working with the U.S. Department of Energy (DOE) to identify and remove (or schedule for removal) 57 americium-241:beryllium (AmBe) orphan sources, located in both Agreement and non-Agreement States, that are Greater-Than-Class-C (GTCC), in accordance with the waste classification in 10 CFR Section 61.55. In a letter dated September 5, 1996, DOE indicated that it intended to implement a pilot program to recycle AmBe sources. In subsequent discussions, DOE staff requested that the U.S. Nuclear Regulatory Commission (NRC) and the States identify up to 40 potential candidates for the pilot program. Based on information provided by the NRC regional offices and the States, the staff identified and prioritized 57 sources. The staff requested that the sources be accepted into DOE's pilot program, in letters to DOE sent between August 1997 and September 1998. DOE accepted all but one of the NRC-identified candidates into the program and expanded the pilot by an additional 16 sources, to 56 total sources. (The one candidate source not accepted had other available disposition options.) To date, 15 of the 57 sources have been received by DOE, with the remaining to be scheduled in early Calendar Year 1999. The staff will continue working with DOE in an effort to establish routine acceptance of AmBe sources, as well as to expand DOE's recycling program to include other GTCC sealed sources, such as plutonium-238 (Pu<sup>238</sup>).
- B. Responding to two requests from Agreement States for DOE assistance in situations involving GTCC material that was causing, or had a potential to cause, a threat to the public health and safety. These requests concerned a 213.5-Gigabecquerel (5.77-curie) Pu<sup>238</sup>.Be sealed

source used in a "neutron howitzer," and a pacemaker containing a 0.08-gram Pu<sup>238</sup> sealed source.

- C. Working with industry (primarily the metal recycling and manufacturing industries) to address issues concerning the identification and proper disposition of orphan sources, including:
- Participation in a meeting, in April 1998, between NRC; DOE; the U.S. Environmental Protection Agency (EPA); members of the Conference of Radiation Control Program Directors E-34 Committee on Unwanted Radioactive Material (the E-34 Committee); and representatives of the Institute of Scrap Recycling Industries (ISRI); the American Iron and Steel Institute (AISI); the Steel Manufacturer's Association (SMA); and the Specialty Steel Industry of North America, to introduce these stakeholders to the E-34 Committee's initiative, and to provide the stakeholders with an opportunity to identify areas of concern that need to be addressed by the E-34 Committee.
  - Participation in a meeting, in July 1998, between the DOE National Center of Excellence for Metals Recycle, ISRI, and AISI, where EPA and NRC discussed current activities, within their agencies, concerning the recycling of and clearance levels for metals and orphan sources.
  - Participation in a "Workshop on the Detection of Radioisotopes in Steel Scrap," in June 1998, that focused on identifying means to better detect radioactive material in the steel manufacturing and scrap recycling process. The workshop was sponsored by DOE's Office of Industrial Technology, which requested NRC to make a presentation concerning NRC's current efforts to better ensure the control and accountability of material and to address the orphan source issue. Representatives of the steel industry, including ISRI, AISI, and SMA attended this workshop.
  - Participation in a June 1998, ISRI seminar, on "Radioactivity in the Scrap Recycling Process," that addressed how radioactive material enters the scrap recycling process, means to prevent this from occurring, ways to detect radioactive material in the scrap recycling process, and how to handle found material. NRC was requested to make a presentation on assistance in the identification of radioactive materials in the scrap recycling process. This presentation included a discussion of identifying markings on sources and devices; typical shapes and sizes of various types of sources and devices; industries in which sources and devices are typically used; common isotopes and activities found in sources or devices; and points, during the life-cycle of a source or device, when the potential for identification could be increased. Workshop participants and attendees included a number of representatives of the steel recycling industry; other governmental agencies (EPA, DOE, and the States); health physics consultants; and radiation detection equipment manufacturers.
  - Participation in a December 1998, meeting, with the U.S. Department of State (DOS), concerning the creation of an International Radioactive Source Management (IRSM) initiative. The DOS is leading the IRSM initiative in response to international requests for assistance in the areas of orphan source management, and clearance levels for metals. The IRSM initiative is intended, in part, to develop a program for the prevention, identification, tracking, response, and remediation of radioactive materials being illegally imported and exported to and from nation-states, including the United States. NRC presentations concentrated on past initiatives in this area and current activities, including rulemakings on control and accountability of generally licensed devices, and clearance levels for certain materials. NRC presenters also discussed the staff's work on orphan sources issues and recycling of contaminated materials. Other participants and attendees included EPA, DOE, the U.S. Department of Transportation, the U.S. Customs Service, ISRI, AISI, SMA, radiation detection equipment manufacturers, staff representatives from the House of Representatives and the Senate Sub-committee on Intelligence, and representatives of other government agencies.

- D. Responding to a number of orphan source incidents, including incidents involving orphan sources that were melted at steel mills and uniformly distributed in steel products, and working with EPA, States, NRC's Office of International Programs, and the Federal Bureau of Investigation, to address policy issues concerning the licensing of products manufactured using the contaminated steel, attempting to recover stolen or lost radioactive material, and locating responsible parties

The staff recommends continuing outreach efforts with industry and stakeholders. These efforts will provide assistance to stakeholders in identifying orphan sources before they are shredded or melted; obtain information about the concerns and needs of the scrap recycling and metal manufacturing industries in the areas of orphan sources and clearance levels; identify and include other stakeholders; continue identifying other related orphan source areas that should to be addressed by NRC; and keep stakeholders informed of the status of NRC's other efforts in the orphan source area.

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ATTACHMENT 3

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## JURISDICTIONS AND REGULATORY RESPONSIBILITIES OF FEDERAL AGENCIES AND STATES IN ADDRESSING ORPHAN SOURCES

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- 1. BACKGROUND
- 2. THE STAFF'S APPROACH TO DEFINING JURISDICTIONS AND REGULATORY RESPONSIBILITIES
- 3. THE FRERP AND THE NCP
- 3. JURISDICTIONS AND REGULATORY RESPONSIBILITIES OF FEDERAL AGENCIES AND THE STATES
  - EPA

- o DOE
- o FEMA
- o States
- 4. MECHANISMS FOR IMPROVING COORDINATION:

## 1. BACKGROUND

The issues of regulatory responsibilities and jurisdictions of the various Federal agencies and States in addressing orphan source issues have been complex, leading to overlap and potential gaps between the cognizant organizations. Roles, regulatory responsibilities, and jurisdictions of the organizations are particularly difficult to clarify, for a number of reasons. Orphan source incidents are inherently different, variable, and unplanned; a large number of Federal, State, and local agencies and organizations have responsibilities for different portions of orphan source incidents; and individual agencies may have different roles, or perceptions of roles, within their own staffs, at different locations.

The variability in orphan source incidents is tremendous. For instance, an incident may involve a foreign radioactive source imported into the United States, or a domestic orphan source. An incident could involve Naturally occurring or Accelerator-produce Radioactive Material (NARM), or material covered under the Atomic Energy Act of 1954, as amended (AEA). An incident could result from an accident or intentional misconduct, in which case law enforcement agencies could be involved. An incident could occur either in an Agreement State or a non-Agreement State. Responders may have the capability to immediately mitigate any public health hazards, or they may ask for State or Federal assistance. Responders may have the authority and facilities to take and store the orphan source, or they may not. An incident could lead to minimal hazards, or to widespread contamination. An incident could even potentially involve domestic or international terrorism, in which case the Nation's intelligence agencies could become involved. All 50 States, and no less than 11 Federal agencies (primarily the U.S. Nuclear Regulatory Commission (NRC), the U.S. Department of Energy (DOE), the U.S. Environmental Protection Agency (EPA), the Federal Emergency Management Agency (FEMA), and the U.S. Department of Transportation, and secondarily the U.S. Department of Defense, the Federal Bureau of Investigation, the U.S. Customs Service, the Central Intelligence Agency, the National Security Agency, and the U.S. Department of State) have some responsibility or jurisdiction for addressing the orphan source issue.

## 2. THE STAFF'S APPROACH TO DEFINING JURISDICTIONS AND REGULATORY RESPONSIBILITIES

To define jurisdictions and regulatory responsibilities for addressing the orphan source problem, the staff first researched and reviewed available guidance documentation for the Federal agencies on orphan source and similar incidents, including the following documents:

1. The Federal Radiological Emergency Response Plan (FRERP);
2. The National Contingency Plan (NCP), formally known as the National Oil and Hazardous Substances Pollution Contingency Plan;
3. The Comprehensive Environmental Response, Compensation and Liability Act of 1980, as amended (CERCLA);
4. NRC's Response Coordination Manual 1996 (RCM-96, NUREG/BR-0230);
5. The Atomic Energy Act of 1954, as amended;
6. The Energy Reorganization Act of 1974, as amended;
7. The Department of Energy Organization Act; DOE Orders and guidance documents;
8. Title 10 U.S. Code of Federal Regulations (10 CFR) Part 835 (DOE's regulations concerning the management of sealed sources, amended December 4, 1998);
9. The draft NRC/DOE Memorandum of Understanding (MOU) concerning the management of sealed sources; and
10. Other statements of purpose and responsibility found in agency brochures and Internet web pages.

Of these documents, the most significant for the overall coordination of an orphan source incident response would be likely the FRERP, because this plan is specifically designed for radiological emergencies where there would be a coordinated response involving both State and Federal resources. This plan does not grant authorities, but only delineates the process and procedure for coordinating the Federal response to a radiological emergency. In addition, the most significant document regarding the authorities granted to Federal agencies for the response to a radiological release (such as an orphan source), whether the release constitutes an emergency or not, would be the NCP as this plan specifically indicates the actions that Federal agencies may take in situations involving the release of radioactive material that require a Federal response.

Based on the documents described above, past orphan source incidents, a Lost Source Exercise conducted in September and October of 1997, and the report summarizing this exercise, the staff compiled a listing of the various roles, responsibilities, and tasks that could be required for addressing orphan source issues. Examples of areas included in this listing include prevention of orphan sources, response to both lost and found sources, enforcement, remediation, and investigation into orphan source incidents. To address the issue of Federal responsibilities and jurisdictions, the staff discussed the listing with representatives of DOE, EPA, and FEMA. The staff held discussions with representatives of DOE's Office of Environmental Management and EPA's Office of Radiation and Indoor Air (ORIA) in September and October 1998, respectively, where NRC staff presented the listing to the other agencies, and asked each representative to identify which roles, responsibilities, and tasks fell within its agency's responsibility or jurisdiction. Each agency provided a response to the NRC staff's request. These issues were also discussed telephonically with a representative from FEMA's Emergency

Services Branch (who also had experience and responsibility in FEMA's Radiological Emergency Preparedness group). To address the issue of State responsibilities, the staff provided the listing to State representatives of the Conference of Radiation Control Program Directors (CRCPD) E-34 Committee on Unwanted Radioactive Material (E-34 Committee) and discussed State responsibilities during a committee meeting on October 14-16, 1998. In addition, the staff requested each State representative to further review the listing and provide responses, if able to, for both AEA material and NARM. To date, the staff has not yet received the State responses. However, during the October meeting, it was suggested that this issue about jurisdictions and regulatory responsibilities could also be raised at the next full CRCPD meeting, which is planned for mid-1999.

### 3. THE FRERP AND THE NCP

The scope of the FRERP covers "...any peacetime radiological emergency that has actual, potential, or perceived radiological consequences in the United States, its Territories, possessions, or territorial waters and that could require a response by the Federal Government." In addition, the plan describes how the Federal response to a radiological emergency will be organized, and the circumstances under which each agency would be the Lead Federal Agency (LFA). The FRERP does not allocate resources or provide additional authorities to Federal agencies, but it does provide for the coordination of Federal resources in response to a request from a State or local government or from owners or operators of radiological facilities or activities. The FRERP also provides for the efficient integration of Federal resources with State and local resources, and the resources of the owner or operator of the facility or activity, through the use of an LFA. The LFA is identified, in general terms, as the "...Federal Agency that owns, authorizes, regulates, or is otherwise deemed responsible for the facility or radiological activity causing the [radiological] emergency and has authority to conduct and manage Federal actions onsite."

The FRERP specifically indicates that it is intended, in part, to address the coordination of the Federal response to radiological emergencies at or involving NRC and Agreement State licensees. In addition, the FRERP indicates that it is also intended to address radiological emergencies involving abandoned radioactive materials, imported radioactively contaminated material (including contaminated scrap metal), and shipments of foreign-owned radioactive material that have actual, potential, or perceived radiological consequences in the United States, its Territories, possessions, or territorial waters. These situations encompass, either directly or indirectly, a large portion of orphan source incidents.

The scope of the NCP covers a variety of incidents involving the release of a hazardous material, including radioactive material. The NCP specifically indicates that it covers "...releases into the environment of hazardous substances, and pollutants or contaminants which may present an imminent and substantial danger to public health or welfare of the United States." The NCP is not limited to either NARM or AEA material, but would not cover any situations involving the release of radioactive materials for which there were other viable options. For example, the NCP states that "...release of source, byproduct, or special nuclear material from a nuclear incident, as those terms are defined in the Atomic Energy Act of 1954, if such release is subject to requirements with respect to financial protection established by the Nuclear Regulatory Commission under section 170 of such Act, or, for the purposes of section 104 of CERCLA or any other response action, any release of source, byproduct, or special nuclear material from any processing site designated under section 102(a)(1) or 302(a) of the Uranium Mill Tailings Radiation Control Act of 1978(42 U.S.C. 7901 et seq.)" are excluded from the definition of a release as these materials have financial assurance provisions relating to their release.

Similar to the FRERP, the NCP describes aspects of the response to the release of a hazardous material that presents an imminent and substantial danger to the public health or welfare of the United States. This includes the use of Federal, State, and local resources and their respective authorities and responsibilities. In contrast to the FRERP, the NCP identifies the mechanisms available for lead agencies, response teams, and/or On-Scene Coordinators (OSC) to obtain and allocate resources to address a response. The NCP is also similar to the FRERP as it designates a lead agency depending on the circumstances of the release, but is different from the FRERP in that the lead agency is not necessarily the agency which regulates or has jurisdiction over the hazardous material involved in the release, and an OSC is appointed by the lead agency and is responsible for the overall coordination of the response. For additional guidance on releases involving radioactive material, the NCP refers to the procedures contained in the FRERP, but states that "... most radiological discharges and releases do not result in FRERP activation and should be handled in accordance with the NCP." This would be true for most orphan source incidents, but not necessarily for the same reason it is recognized in the NCP. Most orphan source incidents require a rapid initial response involving State and/or local emergency response personnel. As no Federal involvement typically occurs in this initial response, coordination of Federal resources and activities is not required. Following this initial response, the hazard or threat to the public and environment is typically temporarily mitigated. Although Federal involvement may occur following the initial response phase, the Federal response is typically not to the extent where the FRERP would need to be invoked for the coordination of Federal resources. However, in cases where the threat remained prevalent and a Federal response was required, the NCP would likely be the primary guiding document for the coordination of the Federal response.

Although the NCP addresses the availability of resources for response actions through available funding, it also states that response actions to a release "...shall be carried out under existing programs and authorities when available. Federal agencies are to make resources available, expend funds, or participate in response to discharges and releases under their existing authority." In addition, the NCP encourages industry groups, academic organizations, and other interested parties to commit resources for response operations and indicates that response operations shall not be carried out under the NCP in situations where a "state or political subdivision thereof" has the capability to carry out the various aspects of a response, including removal actions, except in certain special circumstances (e.g., where the release has the potential to affect Federal lands, releases affecting several states, etc.).

A particular area of jurisdictional complexity involves situations where an orphan source has been identified, but the immediate hazard to members of the public has been mitigated, either through the actions of State and/or local emergency response personnel, actions by personnel at the facility where the orphan source is located, or because the type, activity, or configuration of the radioactive material does not present an immediate hazard. Once the immediate hazard is mitigated, but often before the source itself is removed, many response organizations' jurisdictions or responsibilities cease, leaving the facility with unwanted radioactive material. In addition, if the situation is no longer considered a radiological emergency, the FRERP is no longer applicable. State and Federal agencies having regulatory responsibility, or standards for release, for radioactive material, have employed a number of

approaches to these types of situations. Differences in the approaches used in the past have occurred, in part, because of the differences in the conditions and situations associated with each individual orphan source incident. Examples of the different approaches taken include: 1) cases where the facility in which the material was found was required to provide for its disposition or to obtain a license to possess and store the material; 2) incidents where EPA provided for the disposition of material in some situations involving sources or devices that were determined to be of unknown or foreign origin, but indicated that it would not provide for the disposition of such material in other similar incidents; 3) situations where DOE assistance was requested to, and did, retrieve and/or dispose of radioactive material that presented a potential hazard to members of the public; and 4) several incidents where State agencies removed radioactive materials and either placed the materials in storage, pending a disposition option, or provided for disposition of the material via an orphan source contractor or other similar mechanism.

Although each of these situations was unique -- as is the case with almost all orphan source incidents -- they demonstrate that historically, there has not been a single, consistent, national approach to responding to orphan source incidents, both at the State and Federal levels. Some agencies, such as FEMA and DOE, have clearly defined responsibilities, and other organizations' responsibilities are less clear. Considerable overlaps exist between regulatory jurisdictions in responding to orphan source issues. For instance, EPA is the LFA under the FRERP for responding to unidentified radioactive material in a public location, when assistance is requested by the State or local government. If the source is subsequently identified as NRC-licensed material, then NRC becomes the LFA, even if the material is in an Agreement State. The hand-off point between EPA and NRC, and the process for transfer of LFA responsibility, has never been clearly defined, so both agencies could reasonably believe that they have similar, overlapping responsibilities. If the response actions were in accordance with the NCP, the EPA would likely be the lead agency and would appoint an OSC for the coordination of the response activities. If the responsible party for the source was identified and determined to be an NRC licensee, the NRC would have certain regulatory responsibilities, including enforcement actions and working with the licensee to recover and properly dispose of the source, but the OSC may also have similar responsibilities including pursuing recovery of the costs associated with the response from the responsible party. It is unclear when OSC responsibilities would end and NRC (or other regulatory agency) responsibilities would begin. This issue was a subject of discussion during the 1997 Lost Source Exercise, but no definitive consensus was reached as to whether or when the handoff of LFA would occur. One option presented was that EPA would continue as the lead agency, with NRC assisting in its traditional regulatory role. Also, NRC has traditionally deferred to Agreement States to respond to orphan source issues within their own boundaries; however, NRC would have responsibility for the coordination of the Federal response to an incident if assistance was requested by the State, in accordance with the FRERP.

The FRERP and NCP are even less clear about responsibilities after the immediate public health and safety hazard has been mitigated or is determined to be non-existent (i.e., after the "emergency" is over). In several recent incidents, EPA (as the LFA for unidentified sources in public areas) determined that the low-level sources found in public locations did not present significant hazards, and EPA terminated its involvement in the incidents. Once EPA ceases involvement, it is entirely unclear whether NRC or the Agreement States have some responsibility to regulate the material, or investigate the source of the material, whether or not the NRC staff agrees with EPA's risk-informed decision. At present, for all reports that unidentified radioactive material is found in a public location (such as in a metal scrap yard, a municipal landfill, or a public street), EPA is initially the LFA.

Coordination work in this area over the past several years, especially following the creation of the FRERP, has helped to clarify the roles, responsibilities, and jurisdictions of the Federal agencies and the States, as well as provide a more consistent national approach in responding to orphan source incidents. This work has resulted in productive dialogue between NRC, EPA, DOE, the States, and stakeholders, all working toward a common approach. However, the accomplishments in this area have been made relatively recently, as the orphan source issue received greater attention at the national and international levels, and there is a need for continued improvement.

### 3. JURISDICTIONS AND REGULATORY RESPONSIBILITIES OF FEDERAL AGENCIES AND THE STATES

The following discussion provides detailed information on the identified and/or stated jurisdictions and regulatory responsibilities of EPA, DOE, FEMA, and the States regarding orphan sources issues:

#### EPA

The FRERP identifies EPA as the LFA for the response to a radiological emergency at a facility that is not licensed, owned, or operated by a Federal agency or an Agreement State. Included in this responsibility are radiological emergencies involving both AEA and non-AEA material. The EPA is additionally designated as the LFA for radiological emergencies involving radioactive material from a foreign or unknown source that has actual, potential, or perceived radiological consequences in the United States, its territories, possessions, or territorial waters. The FRERP indicates that "unknown sources of radioactive material" refers to those materials whose origin and/or radiological nature have not yet been established, and indicates that these include contaminated scrap metal and abandoned radioactive material.

The NCP also identifies responsibilities for a number of Federal agencies, including EPA. As stated in the report issued by EPA Region III on the Lost Source Exercise, CERCLA "...and the NCP provide EPA broad funding and response authority to protect public health and welfare and the environment." In addition, this report states, "The NCP provides authority for an EPA removal action (cleanup) to radioactive materials so long as the licensee does not fall under the financial assurance provisions of the Price-Anderson amendments Act (not a commercial nuclear power plant or DOE facility). While EPA is authorized to respond under the NCP to all releases not covered under Price-Anderson, EPA would not normally initiate a removal action using CERCLA funds unless other options to address the situation were exhausted or there was a request for assistance from another Federal agency." In this respect, the NCP does not distinguish between AEA material and NARM, and therefore, the identified authorities would not be limited to either of these types of material.

The EPA/ORIA's response, concerning jurisdictions and regulatory responsibilities in addressing the orphan source issue, conforms with the FRERP and the discussion in the Lost Source Exercise report. However, EPA/ORIA's response made the distinction that activities under CERCLA are limited to emergency situations, whereas the discussion in the Lost Source Exercise report made no such distinction, and the text in the FRERP states that EPA is the LFA in emergencies where the material "...has actual, potential, or perceived radiological consequences."



## DOE

The jurisdictions and regulatory responsibilities of DOE for addressing the orphan source problem are relatively well-defined.

DOE's roles, responsibilities, and jurisdictions for the management of sealed sources are contained or described in a number of documents, including 10 CFR Parts 820 and 835; DOE Orders and Notices; DOE's Radiological Control Manual (RCM); and DOE's "Implementation Guide for Sealed Source Control and Accountability." These regulations, requirements, and guidance documents contain the essential elements of a sealed source management program including the receipt, possession, use, transfer, security, reporting of events, inventory, accountability, leak-testing, record-keeping, enforcement, and emergency procedures for sealed sources. Specifically, these documents describe DOE's procedures and responsibilities for the reporting of lost or stolen material, or material otherwise unaccounted for, and for responding to the identification of lost, stolen, or otherwise unaccounted for material.

The FRERP identifies DOE as the LFA for the response to a radiological emergency at a facility owned or operated by DOE, as well as emergencies involving the transportation of radioactive materials shipped by or for DOE. Although DOE receives significant authority from the AEA, DOE's responsibilities and authorities are not limited to material that is covered by the AEA. DOE also possesses and uses NARM sealed sources and is responsible for the accountability of NARM material. The FRERP also designates DOE as responsible for the initial coordination of offsite Federal radiological monitoring and assessment during the response to a radiological emergency. The DOE Radiological Assistance Program (RAP) was developed for just this type of assistance, and was established by DOE Order 5530.3. DOE RAP teams will respond to requests for assistance from States in radiological emergencies, regardless of whether the response is coordinated under the FRERP guidelines. If the Federal response were being coordinated under the FRERP, DOE would remain responsible for the activities of a RAP team, but coordination authority for these Federal response activities would reside with the LFA.

In general, DOE has responsibility for addressing all aspects of orphan source incidents occurring at DOE-owned and -operated sites, and at all DOE activities. In the case of an orphan source incident occurring outside a DOE site, DOE has indicated that its roles and responsibilities for addressing the orphan source problem are limited to orphan sources that can be identified as having originated from within DOE jurisdiction. This would include radioactive materials owned, possessed, and/or used by DOE, or a DOE prime contractor, in the conduct of DOE activities, which become orphan sources; and radioactive materials that were inadvertently released from a DOE site. DOE's responsibility would be limited in situations involving radioactive materials owned by DOE but possessed and/or used by an NRC or Agreement State licensee under a DOE loan/lease, or similar, agreement. In such situations, the agreement stipulates the responsibility of both DOE and the licensee for the possession, use, and ultimate disposition of the material. Typically, DOE remains responsible for taking possession of the radioactive material at the end of the agreement term, but would not be responsible for the packaging and transportation of the material to a DOE site (i.e., DOE would accept the material once it is shipped to a DOE facility). DOE would also not be responsible for the cleanup of radioactive materials that were covered by one of these agreements, if the licensee lost control of the material resulting in the release of radioactive material or spread of contamination, unless the agreement specifically identifies the responsibility as DOE's.

## FEMA

FEMA has only limited regulatory responsibility or jurisdiction for addressing the orphan source problem. In addition, FEMA has very limited response personnel and equipment for responding to incidents involving radiation sources or material. If an orphan source incident were to escalate to a radiological emergency, FEMA could serve in its traditional role of coordinating Federal resources for disaster relief, if requested by the Governor of the State, or in response to a Presidential disaster declaration. This high threshold would probably require that the incident be very large-scale, before FEMA would become involved. If FEMA did become involved, FEMA's role and activities would include providing non-radiological assistance with finding medical, housing, and recovery resources for those injured or displaced by the incident; assisting in evacuation and/or relocation of individuals and animals; disseminating information and literature concerning the long-term effects to the surrounding areas, following the radiological emergency; and providing guidance to the public and non-radiological response personnel on ways to reduce their risks of injury from the radiological hazard. These activities may be performed through a number of methods, including public meetings, and radio and television broadcasts. However, FEMA typically would not become involved in orphan source incidents limited to a single location or to a small number of affected persons.

FEMA has certain roles and responsibilities, other than incident response, that may be applicable to the orphan source problem. FEMA routinely assists States and local governments and communities in the development of disaster contingency plans. These contingency plans may be site-specific or general in nature. These contingency plans may contain sections on responding to sealed sources or devices that present a radiological threat to members of the public, or the contingency plans may involve a site that possesses and uses sealed sources and/or devices. The Superfund Amendments and Reauthorization Act of 1986 (SARA) requires each community to establish a Local Emergency Planning Committee (LEPC) with responsibility for the development of such contingency plans. In addition, FEMA periodically provides training on the FRERP and other emergency and disaster response and planning, including contingency planning, for State and Federal participants. A number of the training programs apply to radiological emergencies, as well as other emergencies and disasters.

## STATES

The FRERP discusses States' general responsibilities for responding to radiological emergencies. The FRERP notes that, other than in areas under Federal control, "...the State or local government has the responsibility for taking emergency actions, both onsite and offsite, with support provided, upon request, by Federal agencies,..." for minimizing the radiological hazard to the public. In addition, the FRERP states that "...the concept of operations [of the FRERP] recognizes the preeminent role of State and local governments for determining and implementing any measures to protect life, property, and the environment in areas not under the control of a Federal agency." To address the local government's role in emergencies, the SARA requires each community to establish an LEPC, with responsibility for developing contingency plans for emergencies and disasters. State and local governments bear the ultimate responsibility for taking the necessary steps to protect the public from hazards, including radiological hazards, in areas within their boundaries that are not under Federal control. If the State or local government is unable to adequately provide this protection during a radiological emergency, either because of the magnitude of the hazard or because of a lack of appropriate resources or equipment, Federal assistance may be requested in accordance with the FRERP provisions. The Federal assistance provided in response to such a request is only intended to supplement the

capabilities of the State or local government, and is not intended to transfer the complete response to the radiological emergency to the applicable Federal agencies. Except in extremely rare cases, where the State or local government is found to be inadequately minimizing the hazard to the public, or where there are extremely large incidents (such as those involving several States), the entity that requested the assistance (e.g., State or local government, facility, etc.) remains responsible at all times for the response to the radiological emergency, and that entity makes the final determination as to when assistance is no longer needed. Requests for assistance in accordance with the FRERP may include radiological emergencies involving both AEA and NARM materials.

In addition to the general responsibilities of all States, Agreement States have the additional regulatory responsibilities acquired under the NRC/State agreement, pursuant to subsection 274b of the AEA. These include establishing and implementing regulations and requirements for the control and accountability of licensed radioactive materials; enforcement programs for persons who lose control and accountability of their licensed material; and incident reporting and response programs that include orphan source incidents. Although the regulation of AEA material is limited to NRC or the Agreement States, the regulation of NARM is reserved to the States (except for NARM owned or used by or on a Federal facility). Excepting certain requirements of the Occupational Safety and Health Administration, there are few national requirements for the regulation of NARM. Consequently, the regulation of NARM varies considerably from State to State. In an effort that provides increased inter-State consistency, the CRCPD has issued "Suggested State Regulations" that address NARM, and numerous States have adopted these regulations.

Beyond Federally legislated requirements for the regulation of radioactive materials, some States have been granted the authority, by their legislatures, to expend resources for certain additional activities, such as the removal and temporary storage or disposal of radioactive material that presents a threat to the public. Under this authority, some States have developed effective programs that allow the States to take possession of, transfer, store, and dispose of orphan sources.

#### 4. MECHANISMS FOR IMPROVING COORDINATION:

A number mechanisms may be utilized to continue to address this issue, including:

- Working directly and separately with other applicable agencies to address specific issues relating to NRC's working relationship with each agency in the area of orphan sources. This could include negotiating additional MOU's, similar to the DOE MOU, with other applicable agencies, where deemed necessary to formalize and document inter-agency agreements and procedures;
- Request the E-34 Committee to expand its charter to fully address this issue, as it deems appropriate for its national orphan source program, and continue participation on the E-34 Committee to ensure NRC views are expressed and understood in this area;
- Initiating an inter-agency Working Group (WG) comprised of representatives from the applicable Federal agencies; one or more State representatives (e.g., CRCPD and the Organization of Agreement States representing both Agreement and non-Agreement States); and other key stakeholders, such as industry, to provide a consensus position on this issue. The WG would need a defined focus so as to not duplicate efforts by other groups and initiatives.
- The NCP provides provisions for situations when there is insufficient national guidance, or questions, concerning interpretation of the NCP. These provisions provide that the National Response Team (NRT) may be requested to provide guidance and clarification on such matters. As a member of the NRT, NRC may request the NRT consider this issue as a matter of interpretation of the NCP, and request guidance and clarification from the NRT as a whole. The NRT has the authority to take steps to address issues brought before it, including the creation of a committee to address the issue. This may have a similar result as the creation of an inter-agency WP as it would likely require input from all applicable NRT member agencies as well as the States;
- Following the 1997 lost source exercise, a number of States and participating organizations indicated the need for, and their support for, additional similar exercises. Specifically, the State of North Carolina has offered to host a second lost source exercise, which is currently planned for May 1999, and similar tabletop exercises have been conducted in Regions II and III. Continued support of, and participation in, these exercises will help to enhance an understanding of, and further define, the roles, responsibilities, and jurisdictions of both the participating Federal agencies, as well as State, local, and applicable stakeholder participants with the response to the identification of an unknown radioactive source that presents a threat to the public health and safety and the environment. To this end, NRC staff have built on the success of the original lost source exercise to enhance communication and cooperation with EPA, the OSCs, and the NRT, in the areas of inter-agency roles, responsibilities, and jurisdictions during the response to the identification of an unknown radioactive source that presents a threat to the public health and safety and the environment.
- As discussed above, FEMA has a role in orphan sources in the area of contingency planning and training. FEMA currently provides training in the area of response to radiological incidents (although, generally concentrating on potential incidents occurring at Nuclear Power plants) through the Training Subcommittee of the Federal Radiological Preparedness Coordinating Committee (FRPCC). The FRPCC Training Subcommittee may be requested to consider the development of training programs and exercises in this area, which would first require that they identify and/or develop a consensus position on this issue. Alternately, the FRPCC Training Subcommittee may decide to initiate a training workshop intended to address issues needing clarification. This process has been utilized in the past by the FRPCC Training Subcommittee for addressing FRERP issues needing clarification; and

The staff continues to attempt to identify additional areas which could enhance obtaining a national consensus position on roles, responsibilities, and jurisdictions in the area of orphan sources. Satisfactory resolution of this issue will likely require a combination of the currently available mechanisms being utilized and one or more of the new initiatives discussed above.

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**COORDINATION WITH CRCPD AND  
FUNDING OF CRCPD'S E-34 COMMITTEE**

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The staff continues to coordinate closely with Conference of Radiation Control Program Directors (CRCPD), through an advisory role on CRCPD's E-34 Committee on Unwanted Radioactive Material (the E-34 committee). In this role, the staff has striven to ensure that a similar regulatory framework is applied to sources/devices containing Atomic Energy Act (AEA) material and Naturally occurring or Accelerator-produce Radioactive Material (NARM), under CRCPD's developing orphan source program.

Funding from the U.S. Environmental Protection Agency (EPA) for the E-34 Committee provides authorization only for development of a national orphan source program and conducting a pilot program. EPA's funding does not provide for the implementation and continuation of an orphan source program once one is developed. The staff expects that funding for implementing a national orphan source program would probably come from a cooperative effort by the States and applicable Federal agencies. To this extent, the E-34 Committee has discussed potential cooperative agreements between States to pool resources and capabilities for addressing unwanted radioactive materials. The E-34 Committee has also proposed discussing the orphan source program, and cooperative agreements between States, at the next full CRCPD meeting, in mid-calendar year 1999.

The E-34 Committee has determined that, for an orphan source program to be most effective, such a program requires both the States and applicable Federal agencies to agree and participate in all aspects of the program, on a national scale. To address this goal, the E-34 Committee plans to recommend to the States that they consider ways to promote national cooperation and participation in the program. In particular, the E-34 Committee will recommend that the States use the Nuclear Material Events Database (NMED), not only for materials events, in general, but also for tracking unwanted radioactive material. The E-34 Committee also plans to recommend that States enhance their regulatory programs in the area of control and accountability of radioactive materials, to reduce the potential for lost material. The E-34 Committee will make these recommendations for both Agreement and non-Agreement States.

The staff has also supported the E-34 Committee's efforts by recommending that the Commission grant CRCPD's request to use NMED as a national database for tracking orphan sources. Use of NMED to track orphan sources will provide wide access to orphan source information, including NMED information about orphan sources/devices containing NARM. The staff's coordination with CRCPD also included meeting with the CRCPD Board on October 16, 1998, to discuss CRCPD's plans regarding the E-34 Committee and the orphan source problem, and to discuss NRC's efforts and activities in the orphan source area. The staff plans to continue participating in an advisory role on the E-34 Committee, meeting with CRCPD when requested on orphan source issues, and emphasizing that a similar regulatory framework should be applied to orphan sources/devices containing AEA material and orphan sources/devices containing NARM.

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**LETTER FROM DOE,  
TRANSMITTING SIGNED MOU,  
DATED DECEMBER 18, 1998**

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**SOURCES SOUGHT SYNOPSIS FOR THE  
ORPHAN SOURCE RECOVERY PLAN  
(Published in the Commerce Business Daily September 29, 1998)**

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