

**NUCLEAR REGULATORY COMMISSION**

**Radiation Source Protection  
and Security Task Force;  
Request for Public Comment**

**AGENCY:** Nuclear Regulatory Commission.

**ACTION:** Request for public comment.

**SUMMARY:** The Nuclear Regulatory Commission (NRC) has established an interagency task force to evaluate and make recommendations on the protection and security of radiation sources. The Radiation Source Protection and Security Task Force (Task Force) is required by the Energy Policy Act of 2005. As part of the Task Force's considerations, it is seeking public input on the major issues before the Task Force. To aid in that process, the NRC is requesting comments on the issues discussed in this notice.

**DATES:** The comment period expires (**insert 30 days from date of publication**). Comments received after this date will be considered if it is practical to do so, but the Task Force is able to assure consideration only for comments received on or before this date.

**ADDRESSES:** You may submit comments by any one of the following methods. Please include the following number (RSPS-TF) in the subject line of your comments. Comments submitted in writing or in electronic form will be made available to the public in their entirety. Personal information will not be removed from your comments.

Mail comments to: Chief, Rules and Directives Branch, Division of Administrative Services, Office of Administration, Mail Stop T6-D59, U.S. Nuclear Regulatory Commission, Washington, DC 20555-0001.

E-mail comments to: [NRCREP@nrc.gov](mailto:NRCREP@nrc.gov).

Hand deliver comments to: 11555 Rockville Pike, Rockville, Maryland 20852, between 7:30 a.m. and 4:15 p.m., Federal workdays. (Telephone (301) 415-7163).

Fax comments to: Chief, Rules and Directives Branch, U.S. Nuclear Regulatory Commission at (301) 415-5144.

Publicly available documents related to this activity may be examined and copied for a fee at the NRC's Public Document Room (PDR), Public File Area O1 F21, One White Flint North, 11555 Rockville Pike, Rockville, Maryland.

**FOR FURTHER INFORMATION CONTACT:** Merri Horn, Office of Nuclear Material Safety and Safeguards, U.S. Nuclear Regulatory Commission, Washington, DC 20555-0001, telephone (301) 415-8126, e-mail, [mlh1@nrc.gov](mailto:mlh1@nrc.gov).

## **SUPPLEMENTARY INFORMATION:**

### I. Background

New section 170H.f. of the Atomic Energy Act, added by section 651(d) by the Energy Policy Act of 2005 (Public Law 109-58), requires the establishment of an inter-agency task force on radiation source protection and security. The Task Force was established to evaluate and provide recommendations relating to the security of radiation sources in the United States from potential criminal or terrorist threats, including acts of sabotage, theft, or use of a radiation source in a radiological dispersal device. The Task Force is comprised of representatives of the NRC, Department of Homeland Security (DHS), Department of Defense (DOD), Department of Energy (DOE), Department of Transportation (DOT), Department of Justice (DOJ), Department of State (DOS), Director of National Intelligence (DNI), Central Intelligence Agency (CIA), Federal Emergency Management Agency (FEMA), Federal Bureau of Investigation (FBI), Environmental Protection Agency (EPA), Office of Science and Technology Policy (OSTP), and Health and Human Services/Food and Drug Administration (HHS/FDA). The Committee is chaired by NRC.

The Energy Policy Act of 2005 requires the Task Force to evaluate and make recommendations for possible regulatory and legislative changes on several specific topics related to the protection and security of sources. For the purposes of the Task Force, the Energy Policy Act of 2005 defines a radiation source as a Category 1 Source or a Category 2 Source as defined in the Code of Conduct<sup>1</sup> and any other material that the Commission, by regulation, defines as a radiation source for the purposes of section 170H. Spent nuclear fuel

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<sup>1</sup>Code of Conduct on the Safety and Security of Radioactive Sources,” approved by the Board of Governors of the International Atomic Energy Agency and dated September 8, 2003.

and special nuclear materials (plutonium and uranium isotopes) are excluded. The Task Force is required to submit its report to Congress and the President. The first report is to be submitted no later than August 8, 2006, with subsequent reports to be submitted not less than once every 4 years. The topics being considered by the Task Force in the first report are discussed in Section III.

This document provides the public with the opportunity to comment on the topics to be considered by the Task Force.

## II. Request for Written and Electronic Comments

The Task Force is soliciting comments on the topics presented in Section III of this document. Comments may be submitted either in writing or electronically as indicated under the ADDRESSES heading. This paper provides some background on the major topics that the Task Force will be considering.

Based on the comments received in both written or electronic form, the Task Force will be in a better position to evaluate the issues and make appropriate recommendations for regulatory or legislative action.

## III. Topics for Discussion

The following format is used in the presentation of the topics that follow. Each topic is assigned a number with a short title, and includes a topic description paragraph and for some topics, a listing of factors for consideration. The topics being addressed in this document are those topics which the Energy Policy Act of 2005 specifies that the Task Force must address in

its report. Other topics may be considered in future reports. The public and industry are invited to 1) address any inconsistencies that may be a cause for concern or are perceived to present problems in implementation of the program; 2) address any perceived gaps or overlaps in the programs; 3) provide suggestions for modifications to the current programs mentioned in each topic; and 4) propose regulatory or legislative changes for each topic as appropriate. The public feedback will be considered during the Task Force's review of each topic. Commenters may also provide topic suggestions for Task Force consideration in future reports.

#### Topic No. 1

*The list of radiation sources requiring security based on potential attractiveness of the source to terrorists and the extent of the threat to public health and safety.*

Discussion: The Task Force will evaluate which radiation sources are required to be secured based on potential attractiveness of the source to criminals and terrorists and the extent of the threat to public health and safety. The evaluation is to identify any inconsistencies in the radiation source lists used by various agencies and determine whether additional sources should be added to the lists. Some examples of the source lists used by various agencies follow. The NRC has issued Orders that impose additional security and control measures upon a certain subset of NRC and Agreement State licensees. The isotopes and thresholds used as the basis of the Orders was the IAEA Code of Conduct Category 1 and Category 2, except radium (Ra)-226, plus several additional isotopes not listed in the Code of Conduct [actinium (Ac)-227, polonium (Po)-210, plutonium (Pu)-236, Pu-239, Pu-240, thorium (Th)-228, and Th-229]. In addition, the NRC has issued Orders, and the Agreement States have issued legally-binding requirements, to a larger subset of their respective licensees, requiring implementation of additional security and control measures. The isotopes and thresholds used as the basis

was the IAEA Code of Conduct Category 1 and Category 2, except Ra-226. The NRC has also issued Orders to licensees related to transportation of radioactive material in quantities of concern. The isotopes and thresholds used as the basis for the transportation Orders was the IAEA Code of Conduct Category 1 threshold, except Ra-226. NRC has also issued a final rule on the import and export of radioactive material (70 FR 37985; July 1, 2005). The list of isotopes and thresholds used as the basis of the final rule was the Category 1 and Category 2 thresholds as defined by the Code of Conduct, except Ra-226. The NRC plans to issue a final rule to add Ra-226 to the import and export radioactive material listing. The NRC has also issued a proposed rule on National Source Tracking of Sealed Sources (70 FR 43646; July 28, 2005). The isotopes and thresholds for the tracking system are any source equal to or greater than the Category 2 threshold for the isotopes in the Code of Conduct, plus several additional isotopes (Ac-227, Po-210, Th-228, and Th-229). Commenters are invited to provide input on whether any inconsistencies in the radiation source lists used for different purposes are a cause for concern, what additional sources should be added to the list(s), and why they should be added to the list(s). Factors to be considered include: radiation source activity levels; radioactive half-life; dispersability; chemical and material form; the availability of the source to physicians and patients for medical use; consistency with the IAEA Code of Conduct; consequence and risk of malevolent use, and any other factors determined to be appropriate. If other factors are suggested for consideration, the commenter should explain the basis for including the factor. Commenters are invited to provide input on which factors are more important and should be emphasized.

## Topic 2

*The national system for recovery of lost or stolen radiation sources.*

Discussion: There are several activities that make up the system for the recovery of lost or stolen sources. One of the key aspects is to prevent radiation sources from being lost or stolen in the first place. NRC, Agreement States, and DOE have requirements for the safe and secure use of radioactive material. NRC regulations require licensees to secure licensed materials that are stored in controlled or unrestricted areas from unauthorized removal or access. NRC regulations also require licensees to control and maintain constant surveillance of licensed material that is in a controlled or unrestricted area and that is not in storage. Agreement States have similar requirements.

Programs intended to foster better control of sources include the NRC's General License Tracking System (GLTS), the planned National Source Tracking System, and the NRC's lost source enforcement policy (December 18, 2000; 65 FR 79139). The enforcement policy involves a civil penalty that is 3 times the cost of disposal for a source. This policy is intended to discourage licensees from improperly disposing of a source by lessening the possible financial attractiveness of abandoning the source rather than disposing of it properly.

There is also a program for orphan and unwanted sources. Emergency source recoveries are handled under a NRC/DOE Memorandum of Understanding (65 FR 1184; January 7, 2000). Unwanted sources are handled under DOE's Off-Site Source Recovery Program (OSRP). The Conference on Radiation Control Program Directors has a national orphan radioactive material disposition program that tries to match unwanted sources that do not have disposal options (or are not readily available or affordable) with licensees that could use the source.

Another aspect of the national system for recovery of lost or stolen radiation sources is the requirement to report lost or stolen material to the appropriate regulatory agency. For the radioactive sources being considered by the Task Force, the regulations in 10 CFR Part 20.2201 require NRC licensees to immediately upon discovery, report lost, stolen, or

missing material to the NRC Operations Center. Agreement States have similar requirements. NRC and the Agreement States have procedures for handling the reports of lost, stolen or missing material and for coordinating with local, state, and federal agencies to seek prompt recovery of such material. There is also a Trilateral Initiative between the United States, Mexico, and Canada on the reporting of lost or stolen sources. In addition, the U.S. Government is cooperating with the IAEA and other nations in tracking and combating illicit trafficking of radioactive material. Commenters are invited to provide input on inconsistencies or perceived gaps or overlaps in the source recovery system. If commenters provide recommendations for improvement of the source recovery program, they should explain the basis for the recommended measure.

### Topic 3

*Storage of radiation sources that are not used in a safe and secure manner.*

Discussion: NRC, Agreement States, and DOE have requirements for the safe and secure storage of radiation sources, whether in temporary or long-term storage. NRC regulations require licensees to secure from unauthorized removal or access licensed materials that are stored in controlled or unrestricted areas. NRC's radiation protection standards are located in 10 CFR Part 20. Requirements on use of radiation sources are located in 10 CFR Parts 30, 32, 33, 34, 35, 36, 39, and 70 for the various types and quantities of material. Agreement States have similar requirements. DOE's radiation protection standards are located in 10 CFR Part 810. Commenters should address inconsistencies in storage requirements, whether changes to existing requirements for storage of sources are warranted, and explain the basis for any recommended changes.



## Topic 4

### *The national source tracking system for radiation sources.*

Discussion: The requirements for the National Source Tracking System (NSTS) were addressed by an Interagency Coordinating Committee on source tracking. The Committee developed the high-level requirements for the tracking system. NRC is using these high-level requirements to inform the development of the system and the development of a rule. The NRC published the proposed rule on National Source Tracking for public comment (70 FR 43646; July 28, 2005). The final rule is scheduled to be published no later than August 8, 2006. The final rule could likely require transaction reporting for Category 1 and Category 2 sources, plus Ac-227, Po-210, Th-228, and Th-229. These additional radionuclides were added because they are used in the DOE lab system, although they are rarely, if ever, used in these quantities in the civilian sector. The transactions to be reported include manufacture, transfer, receipt, disassembly, and disposal. The final rule also could require that a licensee's initial inventory of Category 1 and Category 2 sources be reported. In addition, import/export notifications will be recorded in the system, as well as reports of lost, stolen, or missing Category 1 and Category 2 sources. The system is intended to capture the domestic life cycle history of each tracked source and will begin operation in mid 2007. The system will contain information on sources possessed by NRC licensees, Agreement State licensees, and DOE facilities. Factors to be considered include whether additional sources should be added to the tracking system, whether different thresholds should be considered (particularly Category 3 quantities of the IAEA Code of Conduct radionuclides of concern), and whether additional transaction reporting should be required. Commenters are invited to make suggestions for future modifications to the system and explain the basis for any recommended changes.

## Topic 5

*A national system to provide for the proper disposal of radiation sources.*

Discussion: NRC, Agreement States, and DOE have requirements concerning decommissioning and proper disposal of radiation sources. Many licensees return radiation sources to the manufacturer at the end of the useful source life. If sources are disposed of, it must be at an authorized facility. Some of the radiation sources would be considered Greater than Class C (GTCC) waste if they were to be disposed. Disposal options are limited for GTCC waste. (GTCC waste means low-level radioactive waste that exceeds the concentration limits of radionuclides established for Class C waste in 10 CFR 61.55.)

NRC regulations on radiological criteria for license termination are in 10 CFR Part 20, Subpart E and requirements for disposal of material are located in 10 CFR Part 20, Subpart K. Agreement States have similar requirements. NRC and Agreement States also have requirements concerning decommissioning funding. NRC's decommissioning financial assurance requirements are located at 10 CFR 30.35. Part 30.35 establishes thresholds for sealed sources containing byproduct material below which financial assurance is not required. For the most commonly used radionuclides, these thresholds are above the threshold for a Category 1 or Category 2 source. However, the threshold is based on total authorized possession limits and not on individual sources. NRC's lost source enforcement policy (December 18, 2000; 65 FR 79139) provides a civil penalty of 3 times the disposal cost for improperly disposed sources. Commenters are invited to address available disposal options and the adequacy of decommissioning funding requirements. Commenters are also invited to address the need for user fees to provide for the proper disposal of radiation sources. The basis for any recommendations should be included as part of the comments.

## Topic 6

*Import and export controls on radiation sources to ensure that recipients of radiation sources are able and willing to adequately control radiation sources.*

Discussion: NRC and DOE have programs controlling the import and export of radiation sources. The DOE program applies to DOE facilities and the NRC program applies to all other entities. Entities must have a NRC export license to export radiation sources to other countries or an NRC import license to import radiation sources from other countries. NRC's regulations governing import and export of radiation sources are located in 10 CFR Part 110. The final rule on import/export of Category 1 and Category 2 levels of radioactive material was published on July 1, 2005 (70 FR 37985), and became effective on December 28, 2005. The rule requires a specific license for import or export of Category 1 and Category 2 radiation sources, except Ra-226. An amendment will soon be promulgated to add Ra-226 to the regulations as mandated by the Energy Policy Act of 2005. The principal criterion for approving exports is a finding that the export is not inimical to the common defense and security of the United States. This finding is relevant to both the nuclear proliferation significance of exports and the related security concerns about radioactive material falling into the hands of non-country organizations, including terrorist groups. In making its inimicality determination, the Commission will, in consultation with the Executive Branch, consider whether the importing country has the technical and administrative capability, and the resources and regulatory structure to manage radioactive material in a safe and secure manner. Commenters are invited to address any perceived gaps in the requirements for import and export controls and whether additional controls are necessary and why.

## Topic 7

### *Procedures for improving the security and control for use and storage of radiation sources.*

Discussion: NRC, Agreement States, and DOE have requirements for the safe and secure use of radiation sources. DOE requirements for radiation protection are located in 10 CFR Part 810. NRC regulations for the safe and secure use of radiation sources can be found in 10 CFR Parts 20, 30, 32, 33, 34, 35, 36, 39, and 70. The requirements include a requirement for conducting physical inventories. Agreement States have similar requirements. In addition, both NRC and Agreement States have imposed additional controls on licensees via Orders or other legally binding requirements. Some of the Orders contain sensitive information that is not available to the public. These additional security and control measures address access control; monitoring, detecting, assessing, and responding to intrusions; liaison with local law enforcement agencies; background investigations; protecting against unauthorized disclosure of sensitive unclassified information; license verification; shipments and transfers (domestic); and imports and exports. Both NRC and Agreement States have inspection programs to evaluate whether licensees are meeting the requirements and can take enforcement actions against licensees to ensure compliance. Commenters are invited to provide input on inconsistencies in the requirements, any perceived overlaps in the requirements, and additional measures needed to address perceived gaps in the requirements. If commenters provide input for improvements of the programs, they should explain the basis for the recommended measure.

## Topic 8

### *Procedures for improving the security of transportation of radiation sources.*

Discussion: NRC, DHS, and DOT have requirements and procedures related to

transportation of radiation sources. Regulations governing transportation of radiation sources can be found in 10 CFR Part 49 (DOT) and 10 CFR Part 71 (NRC). Transportation security issues includes domestic shipments, import/export shipments, in-bond shipments, and transshipments. NRC has also issued Orders to licensees to enhance the security of transportation of radioactive material in quantities of concern (above Category 1 threshold in the IAEA Code of Conduct). These Orders contain sensitive information that is not available to the public. However, they generally address preplanning and coordination, advance notification of shipments, control and monitoring of underway shipments, trustworthiness and reliability, and information security. Transportation security for IAEA Category 2 quantities was included in the additional controls discussed in Topic 7 above. Commenters are invited to provide input on inconsistencies in the transportation requirements, any perceived overlaps in the requirements, and additional measures needed to address perceived gaps in the requirements. If commenters provide input for improvements of the programs, they should explain the basis for the recommended measure.

## Topic 9

### *Background checks for individuals with access to radiation sources.*

Discussion: NRC, DOE, and DOT have requirements for background checks for individuals that have access to radiation sources during use, storage, or transportation. DOT requires a security threat assessment including fingerprinting and an intelligence and immigration check for the drivers of trucks hauling certain radioactive sources. The Energy Policy Act of 2005 amends section 149 of the Atomic Energy Act to require fingerprinting, for criminal history check purposes, for individuals or entities that are: (1) licensed or certified to engage in an activity subject to regulation by the Commission; (2) have filed an application for a license or

certificate to engage in an activity subject to regulation by the Commission; or (3) have notified the Commission in writing of an intent to file an application for licensing, certification, permitting, or approval of a product or activity subject to regulation by the Commission. The key employees of these entities would be required to be fingerprinted if they have, among other things: (1) unescorted access to radioactive material or other property subject to regulation by the Commission that the NRC determines to be of such significance to the public health and safety or the common defense and security as to warrant fingerprinting and background checks; or (2) access to Safeguards Information.

Commenters are invited to provide input on inconsistencies in the requirements, any perceived overlaps in the requirements, and any additional measures needed to address perceived gaps in the background check requirements. If commenters provide input for improvements of the programs, they should explain the basis for the recommended measure.

## Topic 10

### *Alternative technologies.*

Discussion: EPA and NRC have conducted and/or sponsored research in the area of alternative technologies. Some of the projects are ongoing. As required by the Energy Policy Act of 2005, NRC has recently entered into an arrangement with the National Academy of Sciences to conduct an analysis of alternative technologies. The effort will not be concluded until 2007. Alternative technologies may be available that could perform some or all of the functions performed by devices or processes that employ radiation sources. Use of these alternative technologies could result in the reduction in the number of radiation sources or in the replacement of radiation sources with sources that would pose a lower risk to the public health and safety in the event of an accident or attack involving the radiation source. Commenters are

invited to provide information on potential impacts of the use of alternative technologies and information on potential alternative technologies for consideration by the Task Force. Commenters are also invited to suggest regulatory approaches and possible incentives that could encourage the use of alternative technologies.

Dated at Rockville, Maryland, this \_\_\_\_\_ day of \_\_\_\_\_, 2006.

For the Nuclear Regulatory Commission.

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Margaret V. Federline, Deputy Director  
Office of Nuclear Material Safety  
and Safeguards

