



DOE Policy- Reporting of Radioactive Sealed Sources Update

Melanie P. May, Peter V. O'Connell, Robert McMorland
U.S. Department of Energy

EFCOG (Radiation Protection Subgroup)
October 18-19, 2011



Agenda

DOE Policy for Reporting of Sealed Sources

- Revision of DOE O 231.1A, chg.1, *ES&H Reporting*, to incorporate DOE N 234.1, *Reporting of Radioactive Sealed Sources* to create DOE O 231.1B
- Summary of changes and updates
- Review of key requirements
- Future Activities - including development of DOE Radiological Source Registry and Tracking (RSRT) Database Web page and option of Web-based reporting



Status of DOE Policy

Reporting of Radioactive Sealed Sources

- DOE N 234.1 requirements have been incorporated into DOE O 231.1B, *Environment, Safety and Health (ES&H) Reporting* along with other DOE reporting requirements:
 - Attachment 1 – CRD
 - Attachment 2, 3, 4 and other – Annual Site Environmental, Occupational Safety and Health (Injury and Illness Recordkeeping and Reporting, Fire Protection), Ionizing Radiation Exposure, and Reporting Safety Basis Information
 - Attachment 5 – Reporting of Radioactive Sealed Sources Information
- DOE O 231.1B approved June 27, 2011. DOE N 234.1 is cancelled.



Summary of Changes

No new requirements resulting from the merger

Format changes

- Followed existing DOE O 231.1A format with new directives guidance
- Distinguishes between federal-only vs. federal and contractor elements
- Required fields for reporting are specified in one location – Attachment 5, Appendix B table

Clarifies scope of materials under directive



Summary of Changes, Continued

Specific Changes include:

- Deleted consideration of “in-growth” in transaction reporting
- Extends transaction reporting timeframe to 5 days
- Clarifies definition for “transaction”
- Introduces a definition for “regenerated” (sealed source)
- Updates references



Summary of Changes, by section



- Purpose
- Cancellation
- Applicability
- Requirements
- Responsibilities
- References
- Attachment 1, CRD, 4. Reporting of Radioactive Sealed Sources Information
- Attachment 5, Reporting of Radioactive Sealed Source Information,
- Attachment 5, Definitions
- Attachment 5, Appendix A - Table of Isotopes, and



DOE Policy Objectives (Sealed Source Reporting)



To establish U.S. DOE requirements for inventory reporting in support of :

- IAEA *Code of Conduct on the Safety and Security of Radioactive Sources*, January 2004
- IAEA *Guidance on the Export and Import of Radioactive Sources*, March 2005

To establish DOE transaction reporting requirements for select radioactive sealed sources in support of :

- 10 CFR Parts 20 and 32, *National Source Tracking of Sealed Sources*, November 8, 2006
- 10 CFR Part 110, *Export and Import of Radioactive*



Scope



Each DOE site/facility operator that possesses accountable radioactive sealed sources that meet the criteria of 10 CFR part 835, Subpart M and Appendix E, including sources that meet the criteria of 10 CFR Part 835 Appendix E that have been identified for disposal but not yet disposed and radioisotope thermoelectric generators (RTGs), must report its initial inventory, if initial inventory was not already reported with baseline inventory in 2008, or verify previously reported inventory to the DOE RSRT. See also Definitions and Abbreviations.

In addition, radioactive sealed sources that meet the criteria of IAEA Category 1 or 2 sources (as identified in Attachment 5)



IAEA Categorization: Typical Sealed Sources by Use



- Category 1: radioisotope thermoelectric generators, irradiators, and radiation teletherapy
- Category 2: industrial gamma radiography, high and medium dose rate brachytherapy
- Category 3: fixed industrial gauges (examples include level gauges, dredger gauges, conveyer gauges), and well logging



Definition: Transactions (Clarified)



Transactions: IAEA Category 1 or 2 radioactive sealed sources as identified in Attachment 5, Appendix A (DOE O 231.1B) that are:

- (1) Transferred (shipped) or received (**incl. “regenerated”**)
 - Between DOE Reporting Identification Symbols (RIS) or
 - From a DOE RIS and an NRC licensee or Agreement State licensee, or
 - Exported from or imported to a DOE RIS;
- (2) Manufactured (new **or initially identified source**);
- (3) Disassembled;
- (4) Sent for disposal (**e.g. final end-of-life action**)



Definition: Regenerated (Radioactive Sealed Source)



The activity of the radioactive sealed source in the sealed source device is increased by neutron activation in a nuclear reactor or by other means to restore the desired radioactivity level. The identity and the unique serial number of the sealed source may or may not remain with the original source throughout regeneration. Regeneration is treated as shipment or receipt when the identity and serial number are retained.



Current & Future Activities

- An RSRT Web page to provide for future on-line reporting is under development. The RSRT Web site is not active yet.
 - A link to the RSRT System description is available via the HSS web site under HS-82 (Office of Information Management) at <http://www.hss.doe.gov/InfoMgt/>
- User input encouraged for Beta-test phase.
- Complete the 2011 annual data verification between RSRT and sites (10 CFR 835 baseline inventory).
- Verification of DOE data in NSTS and reconciliation
 - 1. DOE RSRT vs. NRC NSTS (10 CFR 835 vs. 10 CFR 835)



Current & Future Activities, Continued.



- Joint DOE/DHS/NRC Classification Guide for Radiological Dispersal Devices and Radiation Exposure Devices (U), September 2009.
 - Approved for use by any DOE, NNSA, Department of Homeland Security (DHS) or Nuclear Regulatory Commission (NRC) employee or contractor.
 - 2011- Under revision
- RSRT Contacts List- please keep site contacts up-to-date
- NRC Radiation Source Protection and Security Task Force
 - 2010 Report – recommendations and actions
- IAEA Nuclear Security Series guidance documents



Key Contacts



Melanie May, HS-52, (safeguards and security)
- 301-903-1566

Peter O'Connell, HS-11, (worker occupational
radiation protection) - 301-903-5641

Robert McMorland, HS-82, DOE RSRT
Manager – 202-586-0057