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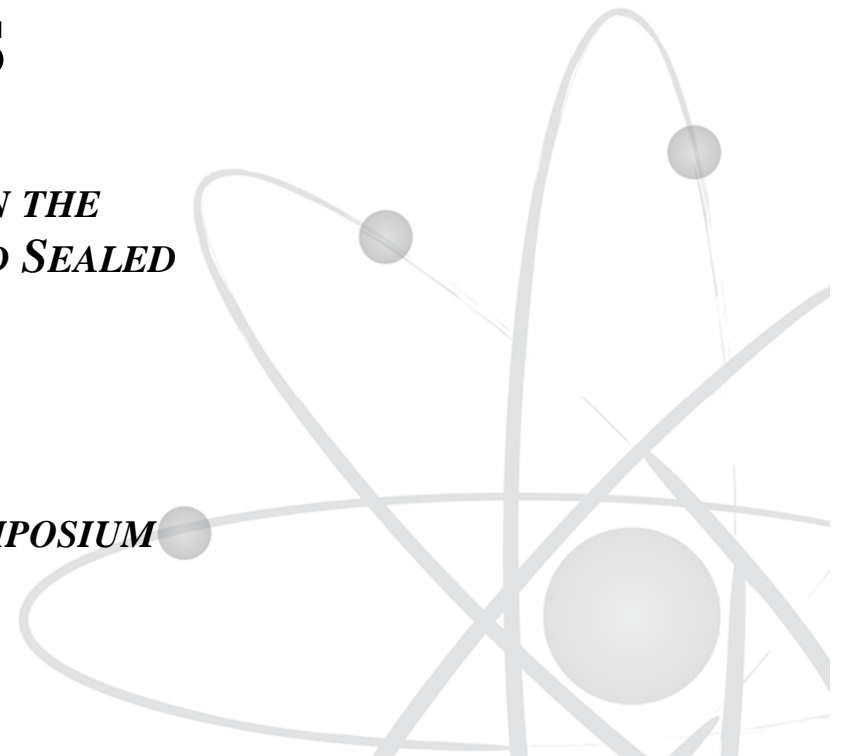
NNSA/GTRI: END-OF-LIFE MANAGEMENT OF DISUSED SEALED RADIOACTIVE SOURCES

*IAEA SPECIAL SESSION ON THE
MANAGEMENT OF DISUSED SEALED
SOURCES*

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*WASTE MANAGEMENT SYMPOSIUM
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❑ **GTRI provides voluntary security assistance which include:**

- ❑ Removal of disused or unwanted radioactive sources;
- ❑ Voluntary security upgrades;
- ❑ Specialized training for local law enforcement;
- ❑ No-fault table top exercises;
- ❑ Transportation Security



❑ **GTRI voluntary security enhancements are:**

- ❑ **Complementary to and do not replace** the licensee's requirements to meet Nuclear Regulatory Commission (NRC) and Agreement State regulatory requirements;
- ❑ **Sound, cost-effective, and prudent best practices** which further improve security above regulatory requirements.



See NRC RIS 2010-02 ***"The Global Threat Reduction Initiative (GTRI) Federally Funded Voluntary Security Enhancements For High-Risk Radiological Material"***



Off-Site Source Recovery Project (OSRP)



- ❑ Every year, thousands of sources become disused and unwanted in the United States.
- ❑ Licensees in many states do not have commercial disposal access.
- ❑ While secure storage is a temporary measure, the longer sources remain disused or unwanted the chances increase that they will become unsecured or abandoned. Thus, permanent disposal is essential.
- ❑ **OSRP - <http://osrp.lanl.gov/>**
 - ❑ To date, GTRI has recovered over 30,000 sources totaling over 839,000 Ci
 - ❑ GTRI primarily recovers Cs-137, Co-60, Sr-90, Am-241, Pu-238, Pu-239, Ra-226





Clive Variance Background

- Prior to July 2008, the Low-Level Radioactive Waste (LLRW) disposal facility in Barnwell, South Carolina afforded sealed source waste generators without a LLRW Compact facility and SCATR a disposal pathway for sources
- Barnwell's July 2008 closure to out-of-compact generators left most states and generators without a disposal pathway for disused and unwanted sealed sources
- The Low-Level Radioactive Waste Policy Amendments Act of 1985 (LLRWPA) allowed that Compact and non-Compact LLRW disposal facilities could opt to accept waste from states without a Compact facility
 - *EnergySolutions* in Clive, Utah is a facility unaffiliated with a Compact
 - With its recently approved variance, it can accept Class A LLRW from authorized generators in all 50 states



- In 2008, DHS created the Removal and Disposition of Disused Sources Focus Group (“RDDS Focus Group”)
 - Focus Group included sealed source manufacturers, distributors, users, storage and disposal companies, regulators, other Federal and State officials, and LLRW compact members
- The RDDS Focus Group recommended solutions and a path forward in a report
 - One solution from the Focus Group report was the possibility of a license amendment to allow sealed source disposal at Clive facility →
A license variance or amendment would be required
- The variance effort required agreement and action by a range of stakeholders with varied equities and interests: EnergySolutions, NNSA/GTRI, State of Utah-DRC, and CRCPD
- The variance request put forth by EnergySolutions centered on GTRI’s threat reduction initiatives
 - It would be limited to sealed sources registered as disused with OSRP



SCATR/UTAH- The Path Ahead



- April 2012 Clive variance includes a range of sealed sources that meet the definition for Class A waste
- Important from a security standpoint: Co-60 and Cs-137, two of the most commonly used gamma-emitting radionuclides, are eligible for disposal at Clive

Table 1: Commonly Used Radionuclides and Class A Limits

Isotope	Class A Limit	Isotope	Class A Limit	Isotope	Class A Limit
⁶⁰ Co	700 microCi/cm ³	¹²⁵ I	700 microCi/cm ³	¹⁹² Ir	700 microCi/cm ³
¹³⁷ Cs	1 microCi/cm ³	¹⁰⁹ Cd	700 microCi/cm ³	⁶⁵ Zn	700 microCi/cm ³
¹⁵³ Gd	700 microCi/cm ³	¹³³ Ba	unlimited	²⁰⁴ Tl	700 microCi/cm ³
⁵⁵ Fe	700 microCi/cm ³	⁶⁸ Ge	700 microCi/cm ³	²² Na	700 microCi/cm ³
⁵⁷ Co	700 microCi/cm ³	¹⁵² Eu	unlimited	⁵⁴ Mn	700 microCi/cm ³
²¹⁰ Po	700 microCi/cm ³	¹⁴⁷ Pm	700 microCi/cm ³	¹⁹⁵ Au	700 microCi/cm ³



SCATR/UTAH- The Path Ahead

- The variance will last for a period of one (1) year from the date the first sealed source waste is received at the EnergySolutions facility
- Only sealed sources recovered in coordination with the SCATR program are authorized for disposal under the variance
- To encourage generators to take advantage of this opportunity, CRCPD is offering to share the cost of Class A sealed source disposal at Clive -- SCATR is targeting a 50 percent cost-share
- The Clive variance effort provides a model to other sites and states which may be able to undertake similar efforts in support of national security, health, and safety



Schedule Moving Forward

- Class B and C sealed sources will also be collected by SCATR for disposal at WCS from generators participating in the Clive initiative
- CRCPD will work with a subset of states – Illinois, Indiana, New York, and Ohio – to ‘pilot’ the Clive disposal effort and Class B and C source collections to determine the best process for engaging other states
- **Ongoing – Registration & Update**
 - Generators must register their Class A, B, and C disused sources with the OSRP at <http://osrp.lanl.gov/PickUpSources.aspx>
 - Registered generators must ensure updated registration information - each source has a unique identifier
- **March 15, 2013 - Deadline for all sources to be registered**
- **After March 15, 2013** – Waste disposal brokers will contact licensees and source collections will begin



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Financial Assurances



- Financial assurances are increasingly important now that commercial disposal options are available
- Some states have good models for financial assurance schemes
- Investigating ways to make financial assurances a requirement, while maintaining states' flexibility in implementation



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Questions and GTRI Contacts



Questions?

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