



ORS

Office of Radiological Security

Protect · Remove · Reduce

DOE/NNSA Off-Site Source Recovery Program

RLA9081 Strengthening Cradle-to-Grave Control of Radioactive Sources

Kingston, Jamaica

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Bill Stewart

Los Alamos National Laboratory



Global
Material
Security



- OSRP's mission – two decades of recovering excess, unwanted, abandoned, and orphaned radioactive sealed sources in the interest of national security and public health and safety



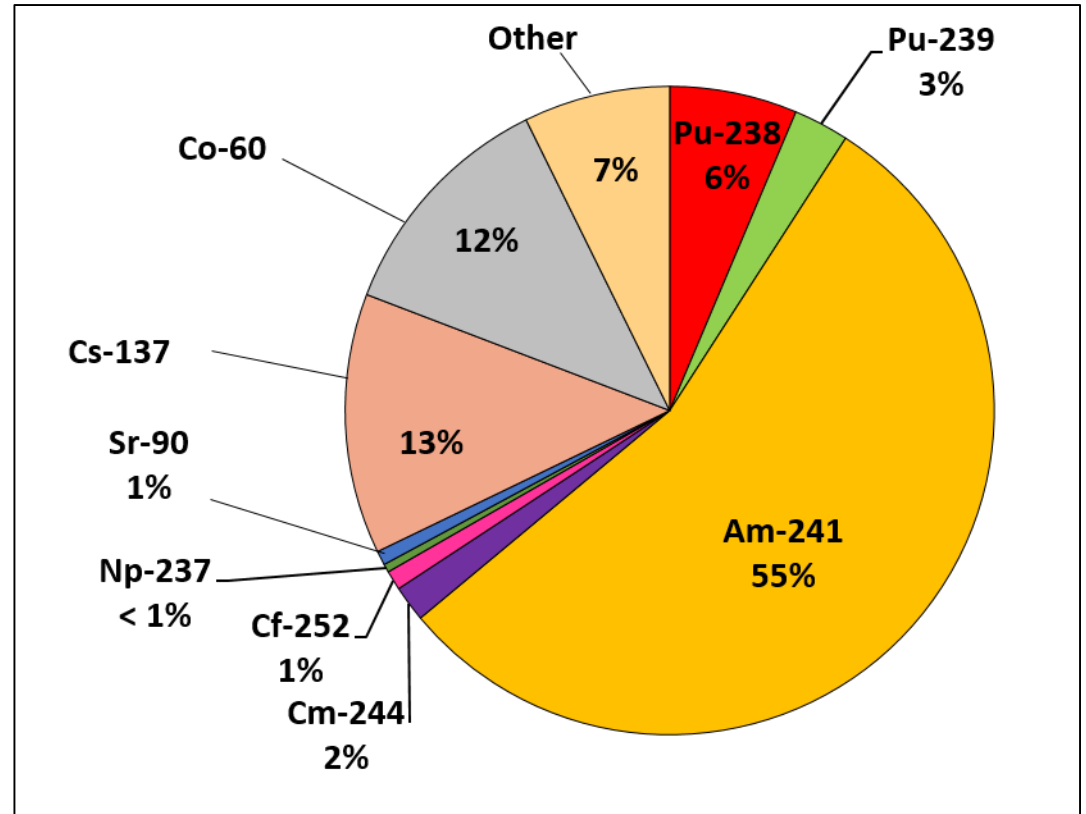
OSRP is sponsored by the NNSA Office of Global Material Security's Office of Radiological Security

- Recovery of
 - TRU, US origin, defense-related sources (Pu-239, Pu-238, Am-241, Cf-252, Cm-244)
 - non-TRU not-commercially-disposable sources (Sr-90, Cs-137, Co-60, Ir-192, Ra-226)... “high activity beta-gamma emitting devices”

^{238}Pu	^{90}Sr
^{239}Pu	^{137}Cs
^{241}Am	^{60}Co
^{252}Cf	^{192}Ir
^{244}Cm	^{226}Ra

Sealed Sources Recovered by Isotope

- 67% of the sources recovered are TRU
- 26% of the sources recovered are high-activity beta-gamma



- Globally, over 3000 sites have registered more than 70,000 sources
- OSRP has recovered nearly 40,000 disused and unwanted sources
- This represents about 1.25 million Curies of radioactive material from around the world.



OSRP helps licensees register and qualify sources for recovery...

Register sources at osrp.lanl.gov

Types of Licensees and Source Applications

- Licensees: private industry, universities, hospitals, DOE labs, and other governmental sites
- Applications: industrial radiological devices (moisture-density, thickness gauges etc.), medical devices (blood irradiators, radiotherapy), research, nuclear power plants, etc.



JLS Mark 1

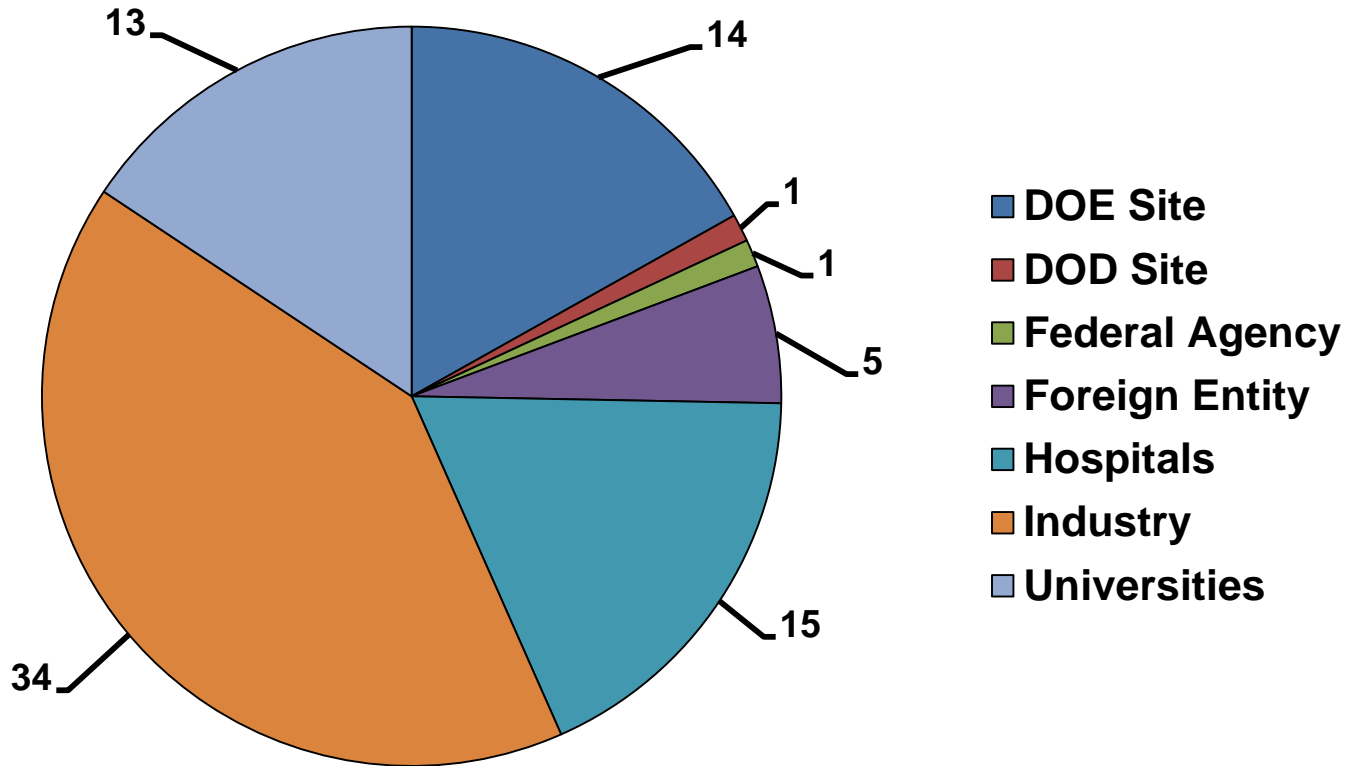


IBL 437 C



IPL Am-241 XFB-3

Source Recovery Sites in FY16



Drums Used for TRU Source Packaging



S100



S300



12" POC



Special Form Capsules: Model I, Model II, Model III have different internal volume and limits on source activity and weight loading

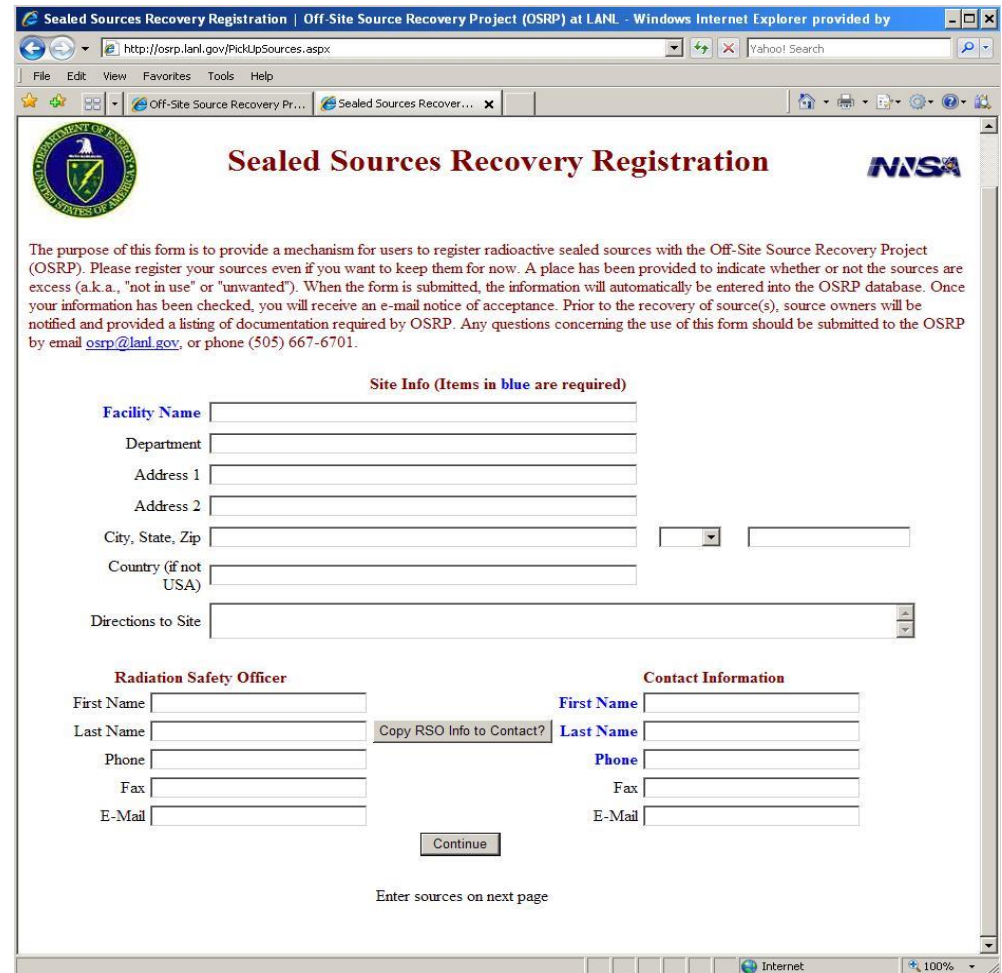
- Licensee packages and ships the sources to an interim staging site
- Licensee must use a shipper trained to DOT requirements
- Ideal option for licensees who want to expedite the removal of their sources
- AK and activity under A value DOT limit requirements must be met
- OSRP can provide Type A drums for self-ships

Do you have unwanted sources?

Register sources at osrp.lanl.gov

- Register unwanted sources with OSRP for recovery consideration.
- Recovery is generally prioritized on the basis of activity and level of security.
- Where numerous sources of lower activity are present at a single location, consideration is given to the total activity from a security perspective.

Registration of sources does not guarantee recovery by OSRP



The screenshot shows a web browser window titled "Sealed Sources Recovery Registration | Off-Site Source Recovery Project (OSRP) at LANL". The address bar shows "http://osrp.lanl.gov/PickUpSources.aspx". The page content includes the Department of Energy logo, the title "Sealed Sources Recovery Registration", and the NNSA logo. A paragraph explains the purpose of the form: to provide a mechanism for users to register radioactive sealed sources with the Off-Site Source Recovery Project (OSRP). Below the text is a form with two main sections: "Site Info (Items in blue are required)" and "Radiation Safety Officer" / "Contact Information". The "Site Info" section includes fields for Facility Name, Department, Address 1, Address 2, City, State, Zip, Country (if not USA), and Directions to Site. The "Radiation Safety Officer" section includes fields for First Name, Last Name, Phone, Fax, and E-Mail. The "Contact Information" section includes fields for First Name, Last Name, Phone, Fax, and E-Mail. A "Continue" button is located at the bottom of the form, and a note says "Enter sources on next page".

ORS initiated development of two new Type B containers:

- Model 435-B: general use for transport of self-shielded devices
- Model 380-B: large, shielded container to transport a majority of high-activity beta/gamma-emitting sealed-source devices



Assembled 435-B container
ready for leak testing

Containers for Beta-Gamma Recoveries



435-B Drop Testing of Test Unit



435-B Production Unit

- The S&S program launched in 2004 to address the problems of orphan sources.
- The program assists countries by developing indigenous capabilities so they can assess their orphaned and disused source problems.
- Since 2004, the S&S program has...
 - Deployed equipment to over 70 countries
 - Trained over 1,000 people
 - Secured 1,000s of sources



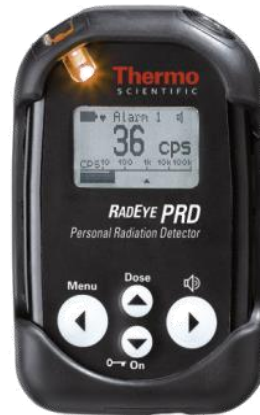
Search for sources in Georgia



Abandoned RTG source

Through the S&S program, we provide radiation detection equipment to partner countries, which

- Gives country regulators capability to detect, locate & identify radioactive sources
- Enables regulators to implement regulatory control programs
- Helps countries build capability



OSRP Contacts at Los Alamos National Laboratory

Becky Coel-Roback

Ph: 505-667-7920

Fax: 505-665-7913

Email: becky_cr@lanl.gov

Justin Griffin

Ph: 505-606-0362

Fax: 505-665-7913

Email: jgriffin@lanl.gov

