Search and Secure for Orphaned Radioactive Sources

Eliminating Potential Risk Today

The Search and Secure Project works with partner countries to establish programs to search, recover, and secure in-storage radioactive sources that have fallen out of regulatory control (orphaned sources) or that have become lost or stolen. This initiative is one offering of the National Nuclear Security Administration's Office of Radiological Security (ORS), whose mission is to protect radiological materials, assist in the removal of disused sources, and promote the development and use of alternative technologies to reduce our reliance on radioactive materials.

What Are Orphaned Radioactive Sources?

Radioactive sources that fall outside of regulatory control are considered orphaned materials and therefore could pose a risk to the general public health or potentially be used in a radiological dispersal device. ORS offers the Search and Secure project, which collaborates with partner countries to provide equipment, training, and tools necessary to search, locate, and secure orphaned, lost, or stolen radioactive sources.

Equipment to Safely Locate Radioactive Sources

Search and Secure donates hand-held equipment needed to conduct searches for radioactive sources in a safe and effective manner. Equipment quantities and types are determined on a case-by-case basis and can include:

- Thermo RadEye Personal Radiation Detector
- Thermo PackEye Backpack
- Ludlum Portable Swipe Count
- CANBERRA Inspector 1000 with NaI probe
- CANBERRA Radiagem Kit including:
  - Radiagem 2000 GM Base Unit
  - Alpha/Beta/Gamma Pancake Probe
  - Alpha/Beta Contamination Probe
  - Telescoping High Range GM Probe

Radiological Removal Partnership Training

Search & Secure provides basic and advance trainings to participant countries that instruct on how to properly search for orphan sources. These "train the trainer" courses are designed to provide participants with the knowledge and skills to continue their training and train others.

Basic Training provides classroom instruction, classroom training, and field exercises. The course introduces participants to the main concepts of Search & Secure including: basic principles of radiation, operation of radiation detection equipment, planning/preparing a search, conducting an orphan source search, packaging and transport.

Advanced Training provides participants with advance in-depth knowledge of select topics and supports the preparation and search of an actual site believed to contain orphaned sources. Topics includes radiation detection equipment, packaging and transportation, gamma spectroscopy, advanced features of the Inspector 1000, and search planning and operations for identified

sites. Following two days of in-class instruction, participants are taken to the sites to execute their planned orphan source searches.

Program Sustainability

Search and Secure provides countries with the resources needed to sustain the program over the long-term, including:

- Classroom Training Material Handbook
- Search and Secure Field Guide and Search Procedures
- Search and Secure Training Video
- Access to e-learning tool

The Realistic Adaptive Interactive Learning System (RAILS) is an e-learning tool that provides users access to all educational materials and interactive training simulations. RAILS is customizable and can be adapted to support a country's training needs after the Search and Secure classroom training is complete.

For more information, contact: ORSInfo@nnsa.doe.gov.

ORS
Office of Radiological Security
Protect · Remove · Reduce

Global Material Security

NNSA National Nuclear Security Administration

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