By the Numbers

- **Secured** partnerships with more than 700 U.S. facilities in all 50 U.S. states and more than 1,000 sites in 80+ countries
- **Enhanced** security in more than 1,900 buildings worldwide
- **Recovered** more than 1.5 million curies of radiological materials worldwide
- **Provided** training and equipment to 75 countries for the recovery of orphaned radioactive sources
- **Trained** more than 4,200 U.S. law enforcement and responders
- **Removed** 486 radioisotope thermoelectric generators and substituted these devices with over 220 alternative power supplies worldwide
- **Installed** In-Device Delay kits on 500+ radioactive source devices in the U.S.
- **Created** a pilot project to incentivize non-isotopic alternatives
- **Conducted** 50+ site-specific radiological counter-terrorism tabletop exercises with the FBI

Contact Information

ORS collaborates with partners worldwide to protect radioactive sources used for vital medical, research and commercial purposes; remove and dispose of disused radioactive sources; and reduce the global reliance on radioactive sources through the replacement of viable non-radioisotopic alternative technologies.

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

ORS
Office of Radiological Security
Protect · Remove · Reduce

OFFICE OF RADIOLOGICAL SECURITY

Dedicated to Securing the World's Radioactive Sources.

National Nuclear Security Administration

Global Material Security

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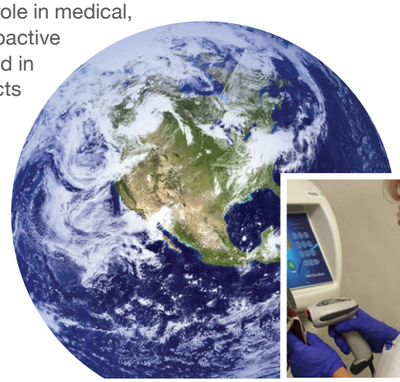
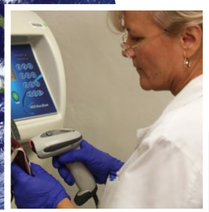
Dedicated to Securing the World's Radioactive Sources

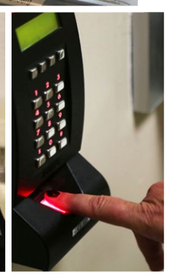
Across the world, radiological materials play an important role in medical, research, and commercial facilities. However, if these radioactive sources were to fall into the wrong hands, they can be used in a radiological dispersal device ("dirty bomb") or in other acts of terrorism. The Office of Radiological Security, or ORS, works to prevent the theft of radiological materials on a global scale. ORS's mission is to enhance global security by preventing high-activity radiological materials from being used in acts of terrorism.

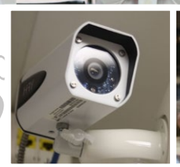
As an organization of the Department of Energy's National Nuclear Security Administration, ORS works worldwide with governments, responders, businesses, hospitals, industries, and international organizations, to provide first-line-of-defense security enhancements, expertise, training, source recovery, and alternative replacement strategies to users of radiological materials.

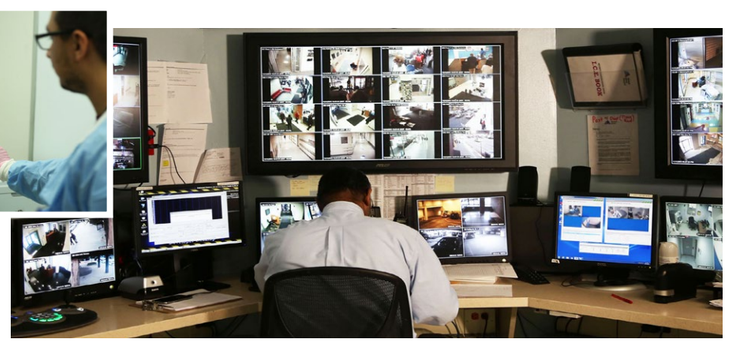
ORS focuses its resources on the security of high-activity sources such as cesium-137, cobalt-60, americium-241, and iridium-192.











Three Strategies, One Mission: Securing Radiological Materials

ORS uses three strategies to enhance global radiological security:

- **Protect** radioactive sources used for vital medical, research and commercial purposes
- **Remove** and dispose of disused radioactive sources
- **Reduce** the global reliance on high-activity radioactive sources by promoting the adoption and development of non-radioisotopic alternative technologies

Protecting Radioactive Sources

To execute these strategies, ORS collaborates with partners to implement radiological material security enhancements.

Potential partners include the following types of facilities:

- Medical institutions offering cancer treatment
- Blood and research irradiator facilities
- Sterilization facilities
- Well logging and radiography device users

ORS teams partner with these organizations to evaluate existing security systems, install security enhancements, train staff and responders in radiological material security, and conduct tabletop exercises to plan response to radioactive source theft scenarios.

Security enhancements may include:

- Access controls
- Delay elements such as hardened locks, doors, and safes
- Motion and radiation sensors
- Video assessment
- Electronic tamper indicating seals
- Alarm control and display systems
- Remote monitoring to off-site locations
- Cesium Irradiator and Gamma Knife In-Device Delay kits

ORS also works both domestically and internationally to develop and enhance national radiological security programs to promote sustainable security, and provides individual site sustainability tools for procedures, maintenance plans, systems testing, and response plans. ORS collaborates with partner countries to enhance national radiological security regimes to promote sustainable security including implementation of regulatory development, security planning and training, transportation security, response planning and training, response exercises, and the strengthening of inspection and enforcement regimes.

Security Enhancements for Mobile Radioactive Sources

Radioactive sources in transport or in mobile devices (e.g. well logging and radiography) in the field are especially vulnerable. ORS provides security enhancements, training, and exercises to address the transportation of radioactive sources. ORS is also collaborating with industry partners to develop and deploy mobile source transit security systems for radiography cameras and well logging devices.

Removing Disused Radioactive Sources

ORS works with users of radioactive sources to assist with proper removal of disused radioactive sources, helping to eliminate excess, unwanted, abandoned, or orphaned radioactive sealed sources that pose a threat to security, public health, and safety.

In the U.S., ORS implements the Off-Site Source Recovery Project (OSRP) and Source Collection and Threat Reduction (SCATR). OSRP recovers and dispositions disused radioactive sealed sources that have no commercial disposal pathway. SCATR, managed by the Conference of Radiation Control Program Directors (CRCPD), provides cost-shared support for the packaging, transport, and disposal of Class A, B, and C sources with access to a commercial disposal facility.

On the international front, ORS partners with the International Atomic Energy Agency, supplier states, and partner countries to improve sustainable, long-term source management. Through these collaborative efforts, radioactive sealed sources are placed in a secure storage location in country, or, in some cases, repatriated to their country of origin.

The ORS Search and Secure project supports partner countries with equipment and training needed to search for orphaned or abandoned sources. ORS is also working with industry partners to design and fabricate new containers to expand the safe and secure transportation of disused radioactive sources.

Reducing Radiological Materials

As an investment in the future, ORS has launched a program to encourage the transition to non-radioisotopic alternative devices where possible as a permanent risk reduction strategy. ORS is exploring sustainable opportunities that benefit device users while promoting the security of our communities. By working with global partners, federal and state governments, industry, and other key stakeholders, ORS is taking the lead in promoting the use of viable alternative technologies where appropriate and feasible to replace the most common devices that use high-activity sources. Certain alternative technologies can work as well, if not better than the equipment and sources being replaced. A pilot effort is underway to provide incentives to replace cesium irradiators with alternative technologies. As the policy interface with the scientific community, ORS is also collaborating with a broad range of technical experts to identify and address gaps and improve the effectiveness and efficiency of transition to alternative technologies where possible.

Globally, ORS works to exchange information on the status of technology, invests in and encourages the use of technologies where appropriate, understand and reduce obstacles to replacements, and promote the transition to alternatives when feasible.