



Los Alamos project completes two-month recovery effort

By John Bass

October 4, 2005

A two-month effort by the Laboratory's Off-Site Source Recovery Project (OSRP) has recovered 13 unique, large radioactive sealed sources from several locations around the nation. The recoveries are part of the National Nuclear Security Administration's nationwide effort to reduce risks to the public and the environment associated with radioactive material. During the same period, almost 500 other types of sources also were collected across the country by the project.

Working with individual sites and state regulators, the OSRP led the effort in August and September to recover the 13 heavily shielded devices, known as gammators, which contain 4-inch long stainless steel-clad cylinders of a material that could be used in so-called "dirty bombs."

"These accelerated recoveries are part of a nationwide effort to reduce risks associated with accessible and unwanted radioactive material," said NNSA Administrator Linton Brooks. "NNSA is aggressively removing radioactive materials that could be useful to terrorists attempting to make a dirty bomb."

Because of heavy shielding, the devices posed little risk of radiation exposure. However, increased security requirements at both the state and federal level have heightened awareness for removal of these sources to a safe and secure location. Gammators, which weigh on average about 1,850 pounds, were supplied to schools across the United States and to other countries in the 1960s and 1970s



A subcontractor removes a gammator from its mounting stand. [enlarge image](#)



A gammator is loaded into a 20WC DOT specification shipping container. Inset photo: A gammator gets its wheels removed. [enlarge image](#)

Credit: Debi Angeli, N-2

through the U.S. government's "Atoms For Peace" program.

Students used the gammators in experiments to test the effects of radiation exposure on materials and plants. Hospitals use similar devices to irradiate blood. Each device originally contained 400 Curies of cesium-137, but the substance's half-life has reduced its radioactivity to half of what it once was over the past 30 years.

While many of these devices had been idle for decades, economic barriers, such as high disposal and transportation costs kept owners of the units from appropriately disposing of them. Current increased security awareness has forced many of them, though, to re-evaluate the risk of having the units, and seek assistance with disposal.

The sealed sources were recovered from three sites in Pennsylvania, two in New Jersey, and one each in New Hampshire, North Carolina, Alabama, Michigan, Illinois, Wisconsin, Utah and Oregon. The gammators were removed from one hospital, one high school, six universities and five small colleges.

The recovery and transportation of the heavy devices was accomplished by using a special contractor with U.S. Department of Transportation (DOT) 20WC specification containers. These robust, Type B shipping containers were used to overpack the 30-year-old devices to ensure the highest levels of transportation safety as required by the DOT.

A major part of the recovery effort was discovering their current location. Many of the gammators had been transferred so their specific location was uncertain. A group of nuclear industry source vendors, the Nuclear Regulatory Commission, the Conference of Radiation Control Program directors and the OSRP worked to contact current and former owners to verify the locations and status of these devices.

The OSRP was established almost 10 years ago to assist in the recovery and disposition of excess, unwanted, and/or abandoned radioactive sealed sources and other radioactive material. OSRP recovers unwanted, unused or unsecured sources and removes them from the environment. Sources containing radioactive plutonium, americium, cesium, cobalt and strontium have been recovered from medical, agricultural, research and industrial locations throughout the nation.

The project is part of the U.S. Radiological Threat Reduction program led by the Department of Energy's NNSA, and managed by Los Alamos' Nuclear Nonproliferation (N) Division. More than 11,000 radiation sources have been recovered and are now in safe and secure storage away from the public and environmentally sensitive areas. The project represents the NNSA's efforts to remove and secure materials that pose not only a safety hazard, but a security risk. Concern following the Sept. 11, 2001 attacks has accelerated the recovery and disposition of sources.

"This is the culmination of almost a decade of effort by DOE, OSRP, state and federal regulators and the sealed source industry," said Andy Tompkins of Advanced Nuclear Technology (N-2), a member of the OSRP team at Los Alamos. "To finally see all known excess gammators in the U.S. private sector secure and safe achieves one of the OSRP primary mission goals and helps enhance our national security."

LOS ALAMOS NATIONAL LABORATORY

Operated by the [University of California](#) for the [National Nuclear Security Administration](#)

of the US [Department of Energy](#). [Copyright © 2003 UC](#) | [Disclaimer/Privacy](#)