Los Alamos helps Texas schools remove radioactive gammators

Contact: Jim Danneskiold, slinger@lanl.gov, (505) 667-1640 (04-126)

LOS ALAMOS, N.M., April 12, 2005 -- Crews hired by the state of Texas and advised by Los Alamos National Laboratory have recovered three large radioactive sources from high schools in San Antonio, the latest success in the Laboratory's nationwide effort for the National Nuclear Security Administration's program to reduce security and other risks associated with radioactive material.

Working with the San Antonio Independent School District, the Texas Department of State Health Services, Radiation Program led the effort to recover the three heavily shielded devices, known as Gammators, which contained four-inch-long rods of cesium-137. The Gammators were removed from Brackenridge, Fox Tech and Lanier high schools, where they had been stored for more than 30 years after a brief career irradiating seeds, cells and other objects with gamma rays for school science experiments.

Story Tools

- Printer friendly version
- Send article to a friend
- View most sent

enlarge image

enlarge image

"We're most grateful to the National Nuclear Security Administration for funding this effort, and to Andy Tompkins and everyone from Los Alamos for making sure this operation was carried out safely and securely," said D. Ray Jisha of the Department of State Health Services, who supervised the work.

Over the past 25 years, Los Alamos has recovered more than 10,500 radiation sources of various types from schools, hospitals, research institutes and industrial facilities, such as oil drilling companies. Those sources have contained everything from plutonium to cobalt (see attached fact sheet).

"This represents the National Nuclear Security Administration's efforts to further prioritize and accelerate the removal of high risk radiological materials that can be used in a dirty bomb," said Ed McGinnis, acting director of NNSA's Office of Global Radiological Threat Reduction. "We are working overtime across the nation to remove and secure materials that pose not only a safety hazard but a security risk, and we commend Los Alamos for another job well done."

The barrel-shaped devices at the three high schools each weigh about 1,850 pounds. Surrounding each radioactive source, which rests on a small turntable, is a welded steel shell filled with lead shielding. Each one-inch diameter rod originally contained about 400 Curies of highly radioactive cesium-137, which has decayed to about half that level over time.

About 150 of the Gammators were supplied to schools across the United States and to other countries in the 1960s and 1970s through the "Atoms For Peace" program. Hospitals used similar devices to irradiate blood.

Crews had to use brute force to wrestle one of the devices down two flights of stairs to reach the truck during the operation, which began with preparations on Saturday (April 9), and concluded the next day.

Because of the heavy shielding, the stored devices posed little risk to students and

teachers at the three schools. However, the slim chance of exposure through inappropriate handling made removal of the Gammators a priority for the state, the school district and for Los Alamos.

"Our teams from Los Alamos have gone into hundreds of places all over the country to remove radioactive sources that are no longer needed," said Tompkins, who works for Los Alamos' Offsite Source Recovery Project, part of the U.S. Department of Energy's National Nuclear Security Administration's Radiological Threat Reduction Program. "Since the 9-11 attacks, we have stepped up our efforts significantly because of the potential threat that any radioactive material might be misused."

Bill Vinal, science director for the school district, said state technicians frequently tested the three Gammators for leaks.

"Although there was never any danger to the students or teachers, we haven't needed these in many years and wanted them moved to a safe, secure location," Vinal said. "There's just no reason to keep this type of material around."

Note to news media/editors: photo available online at . . .

http://www.lanl.gov/news/albums/environment/OSRP_1.sized.jpg. Photo caption: Andy Tompkins of Los Alamos' Offsite Source Recovery Project looking at one of the Gammators mounted on a hand truck before it was lowered down the stairs a step at a time. Photo credit: Los Alamos National Laboratory.

http://www.lanl.gov/news/albums/environment/OSRP_2.sized.jpg. Photo caption: Andy Tompkins of Los Alamos' Offsite Source Recovery Project looking at one of the Gammators. Photo credit: Los Alamos National Laboratory.

http://www.lanl.gov/news/albums/environment/OSRP_3.sized.jpg. Photo caption: employees of U.S. Stars, a San Antonio, Texas contractor hired by the state of Texas, maneuver the Gammator. Photo credit: Los Alamos National Laboratory.

http://www.lanl.gov/news/albums/environment/OSRP_4.sized.jpg. Photo caption: Employees of U.S. Stars, a San Antonio, Texas contractor hired by the state of Texas, maneuver the Gammator down a stairwell. The crew had to lower the device step-by-step

down a flight of stairs, one step at a time. Photo credit: Los Alamos National Laboratory.

LOS ALAMOS NATIONAL LABORATORY

A DEPARTMENT OF ENERGY/UNIVERSITY OF CALIFORNIA LABORATORY

Communications and External Relations Division

Public Affairs Office

FACT SHEET: LOS ALAMOS OFF-SITE SOURCE RECOVERY PROJECT

Los Alamos National Laboratory, working through the U.S. Department of Energy's National Nuclear Security Administration, has been reducing the risk from radioactive sources for 25 years by safely and securely recovering sources from industry and academia. These efforts grew after the Sept. 11, 2001 attacks, with the increased awareness of potential security and environmental threats from unsecured nuclear materials.

GENERAL OSRP BACKGROUND

Mission

The Off-Site Source Recovery Project (OSRP) at Los Alamos National Laboratory recovers excess and unwanted radioactive sealed sources and other radioactive material from the environment. The project is part of the U.S. Radiological Threat Reduction Program and is led by the National Nuclear Security Administration of the U.S. Department of Energy. Los Alamos' OSRP has recovered more than 10,500 radioactive sources, more than two-thirds of the actinide sources known to be excess and unwanted. OSRP expects to recover a total of 18,000 actinide sources by decade's end.

Los Alamos has been the only national recovery site for excess sealed radioactive sources for 25 years. OSRP makes sure unwanted, unused or unsecured sources are recovered and removed 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. From Oct. 1, 2002, through March 31, 2004, Los Alamos' OSRP responded to a Congressional mandate to recover a total of

5,529 industrial sources from North Carolina, California, Texas and Pennsylvania. So far during the 2005 fiscal year, 479 sources have been recovered. During the 1980s and 1990s, Los Alamos recovered about 1,100 additional sources under predecessor programs.

Concern following the September 11 attacks has accelerated the recovery and disposition of sources. New excess and unwanted sealed sources are registered with the OSRP on a regular basis. There are more than a hundred sealed plutonium and americium sources at more than 70 U.S. colleges universities and research institutions that are no longer wanted or needed, and OSRP hopes to recover many over the next year. Excess and unwanted americium-241, plutonium-238, and plutonium-239 sealed sources are transported to Los Alamos or the Nevada Test Site for temporary storage. Qualified sources will be disposed at New Mexico's Waste Isolation Pilot Plant (WIPP).

OSRP has substantially finished recovery of domestic well logging sources over the past few years, recovering about 3,000 that came mostly from smaller, independent operators and those who have gone out of business. Since the 9/11 attacks, well-logging companies have become progressively more security conscious and have been securing many sources from off-shore platforms and other (especially overseas) locations.

A bright spot is that the average size of excess actinide sources is decreasing, so the amount of radioactive material in each is getting smaller. This means OSRP probably has already recovered most of the actinide sources that could present the highest risk. That risk will never be reduced to zero, and large numbers of sources will remain in use by their owners unless current regulations change.

Examples of Recent Major Los Alamos Recovery Operations

Emergency recovery requested by the U.S. Nuclear Regulatory Commission of 478 sources from BSI Industries near Pittsburgh, which contained cesium-137, cobalt-60, strontium-90, radium 226, curium-244 and americium-241.

NRC-requested recovery of four large radioisotope thermoelectric generators from Houston in time for the 2004 Superbowl, containing a total of 66,000 Curies of strontium-90.

Recovery of plutonium-239 research sources from Columbia Union College, Takoma Park,

Md., just five miles from the Capitol Building.

Recovery of 11 sources from locations in the Boston area and 52 in the New York City area in late June and early July in preparation for the Democratic and Republican conventions.

Achievement of an ambitious congressional mandate to recover 5,000 sources known at the time to be excess within 18 months. In its fiscal year 2002 supplemental appropriation of 9-11 funds, Congress set a March 31, 2004, deadline. OSRP beat the deadline by nearly a month, and recovered 529 additional sources.

New Organization and Expanded Mission

In October of 2003, responsibility for OSRP moved from DOE's Office of Environmental Management to NNSA as part of the Global Threat Reduction Initiative. This transition expanded the OSRP mission to include beta- and gamma-emitting sources of concern to the International Atomic Energy Agency and the U.S. government, including cobalt-60, strontium-90, cesium-137, iridium-192 and radium-226. The OSRP is aggressively recovering high-activity beta and gamma sources is defining a formal process for recovery and disposition of smaller sources containing these materials. OSRP will team with agencies, commercial organizations and facilities that have special capabilities to manage these radionuclides.

Materials like the cesium-137 and strontium-90 recovered at BSI and Houston (described above) and in the three San Antonio high schools have been recovered as special priority cases, and are helping to define the process for future recoveries. With the help of Bechtel-Nevada, the OSRP recently decommissioned a large cobalt irradiator at the University of Hawaii and the sources have been sent to disposal at the NTS. As the OSRP reduces the risk in this country, it is now using its expertise and infrastructure to assist the IAEA to reduce the risk through source recovery in other nations around the world.

The goal of the OSRP is not to recover every source, just all sources that are excess, unwanted or improperly secured. These recoveries will significantly reduce the risk that existed at the start of this decade. The Nuclear Regulatory Commission and authorized state agencies are responsible to assure that all the sources that remain in use are

secured and well protected.

Los Alamos National Laboratory is operated by the University of California for the National Nuclear Security Administration of the U.S. Department of Energy and works in partnership with NNSA's Sandia and Lawrence Livermore national laboratories to support NNSA in its mission.
Los Alamos enhances global security by ensuring the safety and reliability of the U.S. nuclear deterrent, developing technologies to reduce threats from weapons of mass destruction, and solving problems related to defense, energy, environment, infrastructure, health and national security concerns.

Los Alamos National Laboratory
The World's Greatest Science Protecting America

Operated by the University of California for the U.S. Department of Energy