

# Air Force sweeps up, buries dirty bomb material in Nevada

By Keith Rogers Las Vegas Review-Journal

August 22, 2015 - 9:54pm

With thieves stealing radioactive sources in Mexico while other potent materials sat idle on a mountain in Alaska, U.S. nuclear security experts used military cargo jets this summer to whisk away some of North America's most dangerous "dirty bomb" threats.

Thirteen highly radioactive sources were loaded on Air Force C-17 Globemaster jets in late July in southern Mexico and near the Arctic Circle and flown to Creech Air Force Base at Indian Springs, 45 miles northwest of Las Vegas, according to Air Combat Command and the National Nuclear Security Administration.

They were then hauled by trucks more than 20 miles to the Nevada National Security Site and buried in a guarded, monitored landfill.

"We do all we can do to deny a terrorist from acquiring that material," said Art Atkins, the National Nuclear Security Administration's assistant deputy administrator for global materials security.

"We're really focused on the dirty bomb, a weapon of mass disruption," he told the Las Vegas Review-Journal in an interview this month.

Atkins and three other members of the agency's team talked about the program that led to the recovery of three cesium-137 sources from southern Mexico. The sources had been used for three decades to eradicate a livestock parasite, the screwworm.

Through Wednesday, the Off-Site Source Recovery Project led by Los Alamos National Laboratory in New Mexico has secured 2,884 radioactive sources in other countries and 31,781 in the United States since 2003.

The three shielded, American-made sources in Mexico were loaded on an Air Force C-17 cargo jet at Tuxtla Gutierrez — capital of the state of Chiapas — and flown July 23 to Creech.

The next day, on July 24, another C-17 arrived at Creech with 10 radioactive strontium-90 sources flown in from Eielson Air Force Base, about 25 miles southeast of Fairbanks, Alaska, according to Air Combat Command.

The command's Air Force Technical Applications Center reported that the 10 "radioisotope thermoelectric generators" had been used at Burnt Mountain north of the Arctic Circle to power communication and ground-motion detection equipment, or seismometers, that had been used since the 1970s to verify compliance with nuclear test ban treaties.

Each of the generators contained 1 to 3 pounds of strontium-90, fashioned like hockey pucks and surrounded by tungsten and cast iron shielding. With the vessels weighing 4,000 pounds apiece, they had to be loaded on Chinook helicopters and airlifted from five locations on Burnt Mountain to Eielson for the flight to Creech.

The final destination for both deliveries was the Area 5 landfill at the Nevada National Security Site, formerly known as the Nevada Test Site, 65 miles northwest of Las Vegas, where full-scale U.S. nuclear weapons tests were conducted from 1951 until 1992.

The 24-foot-deep engineered landfill where sealed sources are covered with an 8-foot soil cap is about 15 miles from the nearest public road. A person standing on top of the landfill with no protective gear wouldn't receive a measurable radioactive dose above naturally occurring background radiation, according to a security site spokesman.

## Dirty bomb prevention

The July deliveries were the first time Air Force cargo jets have been used to transport would-be dirty bomb materials for disposal at the Nevada site.

Atkins said the site has received 37 shipments since 2005. Trucks are used to transport materials retrieved in the United States while those recovered from overseas have come by ships to U.S. ports and then trucked to the security site.

He said the recovery program's goals are to work with countries to improve their ability for securing nuclear materials, protect sources that are in use, and detect those that are outside of regulatory control so they don't wind up "in the hands of somebody we don't want it to be in."

Combined, the three sources from Mexico contained 50,000 curies, or large units of radioactivity, enough to produce lethal doses and cause widespread environmental damage.

Radioactive sources from 23 countries, including the United States, have been recovered under the program with the largest foreign quantities coming from Mexico. Since 2009, the National Nuclear Security Administration, a branch of the Energy Department, has spent \$130 million on the off-site recovery program for an average annual budget of \$18.5 million.

Some recovered sources have been sent to U.S. national laboratories for reuse. The rest have been sent to the Nevada site or other government or industrial waste sites for disposal.

The danger posed by the materials is not that they could be fashioned into a device that would explode into a nuclear chain reaction. Instead, the danger comes from spreading radioactivity that could be lethal if inhaled, or ingested, or would result in harmful exposures or widespread environmental damage.

"We are concerned about economic impact and psychological impact," said Maegon Barlow, director of the security agency's radiological security office.

"In a dirty bomb," Atkins said, "we're not talking about the same level of destruction from the explosion but dispersion of the substance that would result in immediate and long-term health impacts."

The effects of contamination would be costly, he said. "This could make a large portion of a city uninhabitable for a long time, decades."

### **Brazil's tragic lesson**

Officials for the International Atomic Energy Agency called the 1987 incident at the abandoned Goiania Institute of Radiotherapy in Brazil "one of the most serious radiological accidents ever to have occurred."

It happened two years after the private institute moved to another location, leaving a sealed, cesium-137 source behind. A scavenger who tried to salvage the metal used tools to breach the container of cesium-chloride salt, a soluble compound that quickly spread through the environment.

"After the source capsule was ruptured, the remnants of the source assembly were sold for scrap to a junkyard owner," the agency's 157-page report says.

"He noticed that the source material glowed blue in the dark. Several persons were fascinated by this and over a period of days friends and relatives came and saw the phenomenon," the report says.

Four people died as a result of their exposures and many others became sick or suffered radiation burns.

Mexico has grappled with missing radiological sources four times since 2013 when a truck hauling a container of

highly radioactive cobalt-60 pellets to a storage facility in central Mexico was stolen. The truck was found abandoned and the container was found in a field.

The latest incident occurred in April when Mexican authorities issued a precautionary alert to the public about an iridium-192 source used for industrial radiography that was stolen from a truck in southern Tabasco state. The source was found and recovered in late April.

### **Sharing the burden**

After recovery of the cesium-137 sources in July, Anne Harrington, security agency deputy administrator for defense nuclear nonproliferation, lauded the cooperation of the Mexican government, saying the "work is a reflection of our shared threat reduction and nuclear security goals."

In the Aug. 13 interview, Atkins said Nevada has been "a strong partner" in working with the Energy Department's National Nuclear Security Administration to ensure that potential dirty bomb nuclear materials are safely taken to and disposed at the former Nevada Test Site.

"We have a very good relationship with them and we're in constant contact with them," he said about Nevada's federal facilities environmental staff.

"We go through the planning process in a very transparent and inclusive manner," Atkins said. "We feel very strong this interaction is very positive and that public and environment will be protected."

Contact Keith Rogers at [krogers@reviewjournal.com](mailto:krogers@reviewjournal.com) or 702-383-0308. Find him on Twitter: [@KeithRogers2](https://twitter.com/KeithRogers2)

Copyright ©GateHouse Media, Inc. 2015. All rights reserved. • [Privacy Policy](#)