

International Conference on Radioactive Waste Management: Solutions for a Sustainable Future (CN-294)



International Conference on Radioactive Waste Management: Solutions for a Sustainable Future

1-5 November 2021, Vienna, Austria

Contribution ID: 212

Type: **POSTER**

US-Mexico Cooperation on Source Repatriation

In September 2019, on the sidelines of the IAEA General Conference, the Department of Energy-National Nuclear Security Administration (DOE-NNSA) Undersecretary for Nuclear Security, Lisa Gordon-Hagerty, and the director of the National Institute for Nuclear Research (ININ) of the United Mexican States, Dr. Javier Cuitláhuac Palacios Hernández, signed a Memorandum of Understanding (MOU) for the consolidation and removal of disused radioactive sources of US origin from Mexico. Annex II of the memorandum specified an inventory of low-activity sources located at the Radioactive Waste Treatment Plant (PATRADER) and the Radioactive Waste Storage Center (CADER) of the ININ, to be repatriated to the United States by the Off-Site Source Recovery Program (OSRP) part of the Los Alamos National Laboratory.

Because these two facilities are located on opposite sides of Mexico City, ININ worked with staff at the CADER site to consolidate the devices and sources into PATRADER at ININ.

OSRP worked with its industry partner, Qal-Tek, to make preparations to disassemble the devices and remove the sources for efficient packaging. Brokerage companies were used to support the shipments in both Mexico and the US; as was the Mexican regulatory authority, National Commission on Nuclear Security and Safety (CNSNS) consulted for approval.

In preparation for recovery, Type A containers, special form capsules, radiation detection equipment, and auxiliary support supplies were prepared at ININ in late 2019. The source recovery mission was completed in January 2020. Both organizations achieved permanent risk reduction by eliminating more than 4.44 TBq of Americium-241 /Beryllium (well above the IAEA threshold for Category 2 of 592 GBq), as well as packaging a significant quantity of Californium-252. A total of 158 sources were packed and their repatriation to a consolidation facility in the US was completed. The shipment of the sources was prioritized due to the Covid-19 pandemic that occurred at the exact same time.

Once the sources were received in the US, the OSRP, DOE-NNSA and ININ completed their commitment to Annex II and have improved global radiological security.

Additionally, a source recovery involving US and Canadian origin sources from approximately 80 Category 1 and 2 teletherapy heads is in the planning stages and is also included in the Memorandum of Understanding.

Do you wish to participate as a Young Professional?

No

Speaker's title

Mr

Affiliation

Los Alamos National Laboratory

Do you wish to be considered for a Young Professional grant?

No

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Session Classification: Multinational Cooperation in Radioactive Waste Management

Track Classification: 7. Multinational Cooperation in Radioactive Waste Management