

Global Physical Security Program

History

Sandia National Laboratories' (SNL) Global Physical Security Program has a long history of contributing its expertise to the field of physical security throughout the world. Since the inception of the National Nuclear Security Administration's (NNSA) Global Threat Reduction Initiative (GTRI) in 2004, the Global Physical Security Program has continually provided support for GTRI's mission: "to reduce and protect vulnerable nuclear and radiological material located at civilian sites both in the United States and abroad." Toward this goal, the Global Physical Security Program's responsibilities include designing, installing and sustaining physical protection system (PPS) upgrades for hospitals, radiological waste repositories, industrial locations, research reactors and research facilities. The Global Physical Security Program also establishes additional delay features for irradiators, and provides Physical Protection training and Response Force training to maximize the effectiveness of the PPS system. Search and Secure training is also provided to teach proper methods for searching for and securing radiological material.

Key Programmatic Examples

The Global Physical Security Program has conducted PPS upgrades at numerous research

reactors and radiological sites. Internationally, the Global Physical Security Program has supported 110 PPS upgrades in Europe, Asia, Africa, North America, and South America.

GTRI program highlights include the following:

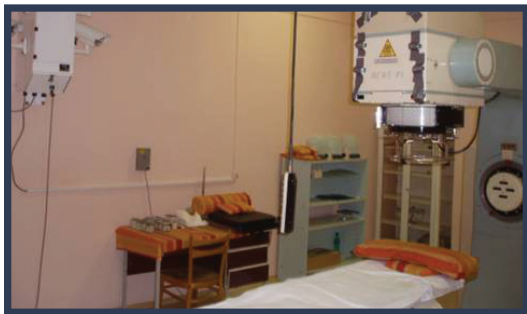
- **Kazakhstan BN-350:**
Responsible for the physical protection of spent fuel that contains significant amounts of plutonium (Pu) and highly enriched uranium (HEU) at temporary and long-term storage sites and during transportation.
- **Mexico National Institute of Nuclear Research:**
The installation of PPS upgrades at the Institute's research reactor is one example of the twenty PPS upgrades at HEU research reactors around the world.



- Beijing Olympics: PPS upgrades at multiple radiological sites in close proximity to Olympic venues were completed before the opening ceremony.

Domestically, the Global Physical Security Program has completed 38 PPS upgrades at universities, hospitals, and government sites. Domestic program highlights include the following:

- Remote Monitoring Systems (RMS): Completed installation of RMS to notify response forces of attempts to steal or sabotage radiological or nuclear materials through



transmission of alarm and video data

- In-Device Delay (IDD): Completed installation of IDD kits for Cesium Chloride Irradiators to



increase the delay of source removal.

- University Research and Test Reactors: Continued to conduct assessments and complete installations of PPS upgrades at research and test reactor facilities.

Work Progress

To date, the Global Physical Security Program has made a significant impact on securing nuclear and radiological sites both in the United States and internationally. With such high importance placed on the protection of nuclear and radiological materials, U.S. Government support for this work has significantly increased over the last five years with growth rates exceeding 65% between fiscal year 2008 and 2009. As a result, the Global Physical Security Program's portfolio has also increased.

As the lead lab for GTRI's upgrades at international HEU reactors, the Global Physical Security Program is striving to help meet the Initiative's fiscal year 2010 goal of installing PPS upgrades at twenty-two research reactor facilities outside of the United States and the former Soviet Union. With GTRI's newly expanded mission to include domestic PPS upgrades, the Global Physical Security Program was chosen as the lead for securing the thousands of U.S. radiological facilities in the southeast and southwest regions. The Program plans to secure over ninety radiologically significant buildings worldwide in fiscal year 2010 alone.

Achievements

During fiscal year 2009, the Global Physical Security Program successfully secured thirty-eight facilities—twenty domestically and eighteen abroad—resulting in the protection of millions of curies of radiological sources and nuclear material. To date, contracts are in place to secure 88 sites in fiscal year 2010. As a result of these contracts, SNL was recognized by both NNSA and numerous foreign governments for the diligent efforts of its Global Physical Security Program.

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