

Advanced Spectroscopic Portal (ASP)



The Advanced Spectroscopic Portal (ASP) is an advanced nuclear screening portal system designed to identify and interdict the illegal entry of nuclear devices and materials into the United States.

Benefits

- Critical defense tool for the Department of Homeland Security (DHS) and the Domestic Nuclear Detection Office (DNDO)
- Senses nuclear materials at various points of entry into the United States, as well as other locations such as domestic checkpoints and rail lines
- Capable of screening cars, trucks, cargo containers and mail
- Modular architecture allows system to be mounted in several configurations
- Multiple detector types ensure high gamma and neutron sensitivity over full range of usage conditions
- Designed to minimize false alarms that would unnecessarily impede the flow of border traffic and commerce
- System incorporates advanced threat identification algorithms

Designed to Counter Nuclear Threat

Covert nuclear attack is the foremost threat facing the United States today. The safety of the nation depends upon its ability to design and field systems to detect and interdict smuggled nuclear weapons and materials. For this reason, the ASP is a high-priority program within DHS and a key component of DNDO and other federal national nuclear detection initiatives to meet homeland security needs. By enhancing the country's early detection capabilities, ASP detectors address the threat of radiological dispersal devices, improvised nuclear devices or a nuclear weapon being used by terrorists inside the United States.

Upgrade Over Current Detector Portals

Since Sept. 11, 2001, the Bureau of Customs and Border Protection has deployed nearly 600 first-generation Radiation Portal Monitors at manned ports of entry, international mail and express consignment courier facilities, land border crossings, airports and seaports. As a point of reference, DHS reports that 360,000 vehicles, 5,100 trucks and containers, 2,600 aircraft, and 600 vessels cross into the United States at more than 600 points of entry every day.

Built with available technology, these first-generation Radiation Portal Monitors are unable to distinguish between legitimate naturally occurring radioactive materials such as

fertilizer and bananas that are not harmful, and illicit materials that pose a threat. These situations necessitate secondary screening, which is manpower intensive and slows the flow of commerce. Therefore, a more discriminating primary screening system — the ASP — is needed.

First-Rate Technological Partners

As the prime contractor of the ASP system, Raytheon will provide program management, engineering development, manufacturing and field support for this next-generation screening portal. It will also conduct research and development for future systems improvements. Raytheon has teamed with Bubble Technology Industries (BTI), a global leader in nuclear physics and radiation detection technology. This team is best-suited to provide DHS with the best systems solution.

Capable of Rapid Reconfiguration

The ASP system is composed primarily of a series of compatible panels, which can be easily combined into a multitude of different configurations, based on the specifics of the venue where the search is being conducted. These different variants can be designed to screen cars, trucks, and cargo containers for illicit nuclear material and devices. Some detector portals are stationary and screen vehicles and their content as they pass through, while others can be mounted on vans and SUVs.

Part of Multi-Layer Defense Strategy

The overall screening process employed by the DHS consists of multiple layers. Raytheon's ASP system, which is a medium-resolution portal, is used for both primary and secondary screening. If a primary ASP system detects illicit material, the cargo in question must then pass through a secondary ASP portal for a more thorough examination. The ASP primary screening system significantly reduces the false-alarm rate at this initial screening stage, minimizing the cargo that must pass through secondary screening.



All work on portals will be performed at IDS' SHINGO-award-winning Integrated Air Defense Center in Andover, Mass.

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