

Non-Intrusive Inspection Systems & Radiation Detection Equipment

Fiscal Year 2015 Accomplishments

Non-Intrusive Inspection Systems & Radiation Detection Equipment

The mission of U.S. Customs and Border Protection (CBP) is to safeguard America's borders – protecting the public from dangerous people and materials while enhancing the Nation's global economic competitiveness by enabling legitimate trade and travel. To achieve this mission, CBP uses a layered enforcement strategy to monitor, regulate, and facilitate the flow of goods. A critical layer within this strategy is the use of Non-Intrusive Inspection (NII) systems and Radiation detection equipment (RDE), to detect and interdict contraband while facilitating the flow of commerce.



CBP uses various technologies to thoroughly and quickly inspect/scan sea containers, rail cars, trucks, automobiles, pallets, and various packages and parcels for the presence of contraband without damaging the conveyance or its contents, nor resorting to more intrusive and time-consuming manual inspections, such as drilling and dismantling.

CBP and our mission partners are committed to sustaining the capability by extending the service life, improving or replacing systems with technology that promotes integration, automation, and agility across border security operations.

Technology Descriptions

Large-Scale (LS) NII systems are capable of imaging an entire conveyance. These systems possess unique performance characteristics that provide CBP with an enhanced capability to image both laden cargo conveyances and passenger vehicles for the presence of contraband (i.e., weapons, money, narcotics). LS NII also provides CBP with capabilities to detect the presence of weapons of mass destruction. System types include: fixed and mobile X-ray or gamma-ray imaging technology for cargo trucks, cargo containers, trains, palletized cargo, as well as fixed and mobile backscatter technology for passenger vehicles and buses. LS NII also includes emerging types of multimode technologies that integrate X-ray and radiation detection in a single platform.

Small-Scale (SS) NII systems are used to perform non-intrusive inspections on passenger baggage and cargo; view inside of fuel tanks and small compartments; identify density anomalies in the shells of vehicles, behind walls of conveyances, and propane tanks; and identify false walls in containers. System types include X-ray vans, baggage X-ray systems, density meters, fiberscopes, and tool trucks.

LS RDE systems (e.g., radiation portal monitors (RPM)) provide a passive, non-intrusive means to scan cargo and conveyances for the presence of radiological materials. System types include fixed and mobile RPMs. Future LS RDE capabilities may include detection equipment to scan on-dock rail cargo, break-bulk and roll-on/roll-off cargo, rail cargo, and conveyances at tactical checkpoints. CBP is the exclusive DHS operator of LS RDE and operates the systems, specifically RPMs, at land, sea, and air ports of entry (POE). Future LS RDE may be operated at border patrol checkpoints. RPMs are also operated by foreign governments under the Department of Energy's Nuclear Smuggling Detection and Deterrence program at many foreign sea ports of departure.

SS RDE are lightweight, portable, handheld or wearable instruments that can quickly scan a range of conveyances and support mobile operations. They provide officers and agents with the ability to detect, localize, or identify radiological material. Examples include personal radiation detectors (PRD), radiation isotope identification devices (RIID) and Human Portable Tripwire (HPT) devices. PRDs provide personal safety for officers and agents by alarming on levels of radiation. RIIDs and HPTs are used to adjudicate radiation alarms and transmit data to Laboratories and Scientific Services (LSS) for further analysis. SS RDE is utilized by CBP at and between ports of entry in U.S. Border Patrol and Air and Marine Operations.

Scanning Mission

- » Conducted approximately 7 million exams, resulting in more than 2,400 NII seizures with a total weight of over 390,000 pounds (valued at over \$634 million) and nearly \$4.1 million in currency.
- » Scanned 100 percent of all mail, express consignment mail, and parcels; nearly 100 percent of all truck cargo, 100 percent of personally owned vehicles arriving from Canada and Mexico; and approximately 99 percent of all arriving sea-borne containerized cargo for the presence of radiological or nuclear materials
- » Deployed 10 LS NII systems, 102 SS NII systems, 40 RPMs, 200 RIIDs, and over 2,000 PRDs to frontline officers and agricultural specialists

Operational Efficiencies

- » Continued implementation of revised operational settings for RPMs
- » Currently deployed at 43 POEs, reducing alarm rates by 78 percent at seaports and 44 percent at land borders
- » Wait-time reduction of 58,000 hours per year valued at a gross domestic product of nearly \$1.9 million
- » Project recognized with the Secretary's Award for Excellence and CBP Unit Citation Award
- » Removed 72 under-utilized RPMs, which equated to more than \$880,00 in annual maintenance savings
- » Deployed a new class of mobile systems that eliminate Commercial Drivers License requirements and create a smaller footprint
- » Extension of the Port Radiation Inspection Detection and Evaluation (PRIDE) pilot eliminated manual data archiving at the Port of Detroit.



Integration, Automation and Agility

- » CBP, in collaboration with the Department of Homeland Security Science and Technology Directorate, spearheaded and finalized a Presidential Permit Project to wirelessly exchange real-time NII system images between CBP and Mexico to provide relief of traffic congestion in Brownsville, Texas, due to the relocation of the Brownsville-Matamoros International Bridge.
- » Successfully demonstrated the use of next-generation RPMs for land border rail scanning in Laredo, Texas. The next-generation RPM was integrated with the rail X-ray NII system and the combination system showed sufficient radiation categorization capability to make the operations viable without adversely impacting commerce.
- » Conducted a technology demonstration at the Ambassador Bridge and Fort Street in Detroit, Michigan, integrating NII, RDE equipment, and multiple CBP law enforcement databases to identify methods to streamline processing and reduce officer administrative actions and activities.

RPM SAVINGS



77.9%
fewer alarms



88 officers redirected to
other law enforcement duties



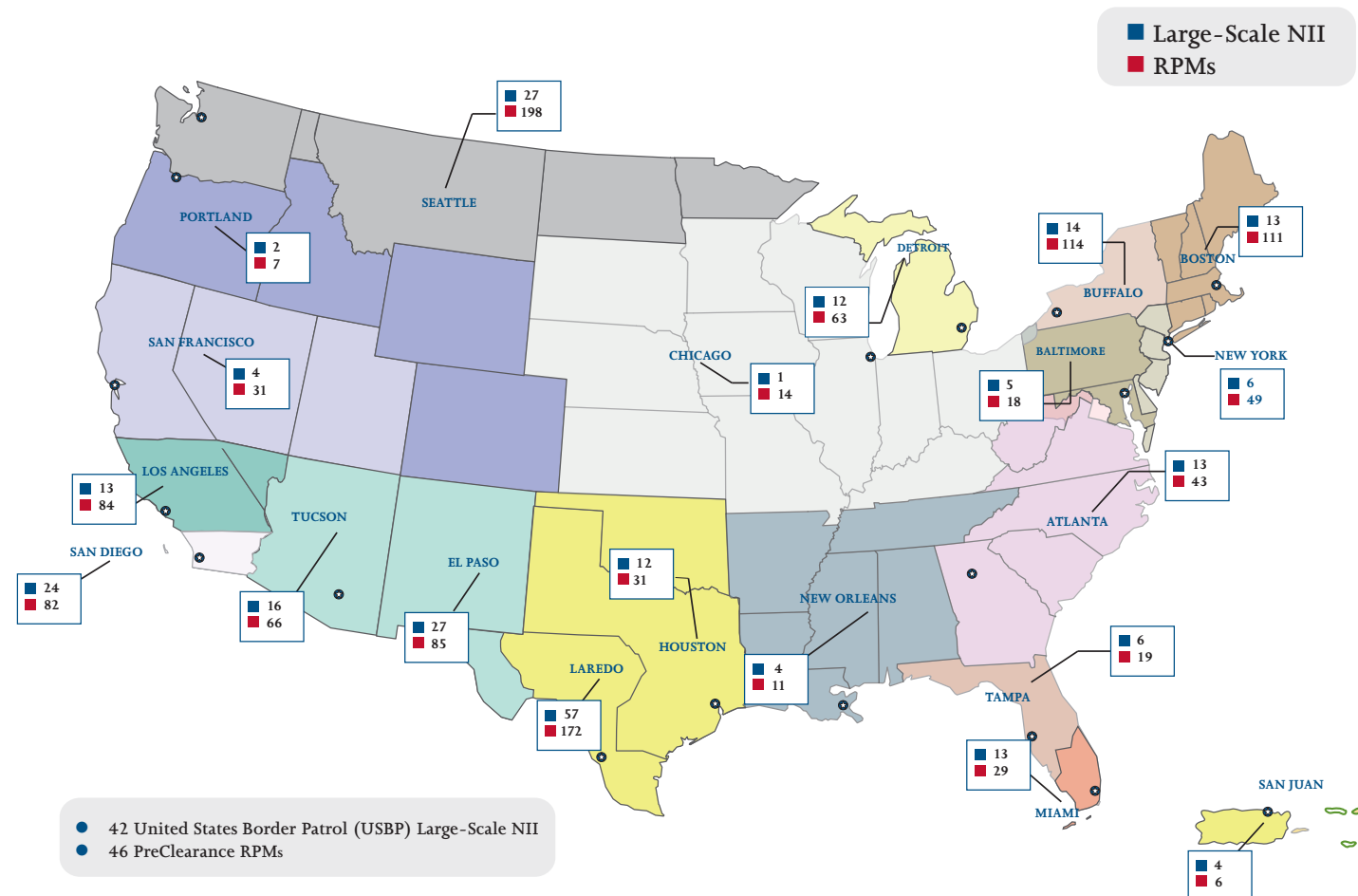
58,000
hours saved in traffic delays

NII and RDE Unit Quantities as of Sept. 30, 2015

LS NII	315
LS RDE: RPMs	1,281
SS RDE: RIIDs	3,134
SS RDE: PRDs	32,404
SS NII	4,222



Equipment by Field Office as of Sept. 30, 2015



Non-Intrusive Inspection and Radiation Detection Equipment Program

FY 2015 in Review



U.S. Customs and
Border Protection

1300 Pennsylvania Avenue, NW
Washington, DC 20229
www.cbp.gov

CBP Publication No. 0506-0506
May 2016



U.S. Customs and
Border Protection