

Department of Homeland Security **Office of Inspector General**

United States Customs and Border Protection's
Radiation Portal Monitors at Seaports





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Department of Homeland Security

Washington, DC 20528 / www.oig.dhs.gov

JAN 29 2013

MEMORANDUM FOR: Kevin K. McAleenan
Acting Assistant Commissioner
Office of Field Operations
U.S. Customs and Border Protection

Steve Karoly
Assistant Director
Product Acquisition and Deployment
Domestic Nuclear Detection Office

FROM: Anne L. Richards *Anne L. Richards*
Assistant Inspector General for Audits

SUBJECT: *United States Customs and Border Protection's Radiation Portal Monitors at Seaports*

Attached for your action is our final report, *United States Customs and Border Protection's Radiation Portal Monitors at Seaports*. We incorporated the formal comments from the United States Customs and Border Protection and the Domestic Nuclear Detection Office in the final report.

The report contains three recommendations aimed at improving the overall effectiveness of the radiation portal monitoring program at seaports. Your offices concurred with all recommendations. Based on information provided in your response to the draft report, we consider the recommendations resolved. Once your office has fully implemented the recommendations, please submit a formal closeout letter to us within 30 days so that we may close the recommendations. The memorandum should be accompanied by evidence of completion of agreed-upon corrective actions and of the disposition of any monetary amounts.

Consistent with our responsibility under the *Inspector General Act*, we are providing copies of our report to appropriate congressional committees with oversight and appropriation responsibility over the Department of Homeland Security. We will post the report on our website for public dissemination.

Please call me with any questions, or your staff may contact Mark Bell, Deputy Assistant Inspector General for Audits, at (202) 254-4100.

Attachment



OFFICE OF INSPECTOR GENERAL
Department of Homeland Security

Table of Contents

Executive Summary 1

Background 2

Results of Audit 4

 RPM Screening at Seaports 5

 Recommendations 10

 Management Comments and OIG Analysis 10

Appendixes

Appendix A: Objectives, Scope, and Methodology 13

Appendix B: Management Comments to the Draft Report 15

Appendix C: CBP Process for Resolving RPM Alarms 19

Appendix D: Response to Congressional Mandate to Assess Training 20

Appendix E: RPM Reconfiguration Process 22

Appendix F: RPM Program Planning 23

Appendix G: Major Contributors to This Report 24

Appendix H: Report Distribution 25

Abbreviations

CBP	United States Customs and Border Protection
DHS	Department of Homeland Security
DNDO	Domestic Nuclear Detection Office
FY	fiscal year
OIG	Office of Inspector General
PEP	Project Execution Plan (2006)
PNNL	Pacific Northwest National Laboratory
RPM	radiation portal monitor
SAFE Port Act	<i>Security and Accountability for Every Port Act of 2006</i>
U.S.	United States



Executive Summary

According to the *Security and Accountability for Every Port Act of 2006*, as amended, all containers entering the United States (U.S.) at the 22 ports through which the greatest container volume enters the country by vessel must be screened for radiation. To secure the Nation's borders while facilitating legitimate trade and travel, United States Customs and Border Protection (CBP) screens incoming shipments for elevated radiation levels, using large-scale radiation detectors called radiation portal monitors. In fiscal year 2011, CBP screened approximately 24.3 million containers coming through all U.S. ports of entry. The Domestic Nuclear Detection Office (DNDO) tests, acquires, deploys, and provides maintenance in the first year of operation; CBP provides maintenance after the first year. CBP has the lead for commissioning, operating, and maintaining the radiation portal monitors. We conducted this audit to determine whether DNDO and CBP deploy and use radiation portal monitors to ensure the most efficient cargo screening at seaports. Our audit also addressed the congressional mandate in the *Coast Guard and Maritime Transportation Act of 2004*, as amended, to conduct an annual evaluation of the cargo inspection system.

DNDO reported that there are currently 444 radiation portal monitors operating at seaports throughout the U.S., which are meeting the requirement to screen all containerized cargo at the 22 seaports with the most container volume. We were unable to determine whether DNDO and CBP initially deployed radiation portal monitors to ensure operational efficiency because the components did not thoroughly document deployment decisions and plans. Although all cargo is being screened, we identified some radiation portal monitors utilized infrequently or not utilized at all.

The components do not fully coordinate or centrally manage the radiation portal monitor program to ensure effective and efficient operations. Specifically, CBP does not consistently gather and review utilization information to ensure that it is fully utilizing all radiation portal monitors. CBP does not always monitor and promptly evaluate changes in the screening environment at seaports to relocate radiation portal monitors as necessary. Finally, DNDO and CBP do not accurately track and monitor their inventory of radiation portal monitors. Given the radiation portal monitors' limited life and the lack of funding for new monitors, CBP and DNDO should better coordinate to fully utilize, promptly relocate, and properly maintain inventory to best use resources and to continue screening of all containerized cargo entering U.S. seaports. The components concurred with our three recommendations and will identify a single program office responsible for fully coordinating and centrally managing the program; establish guidelines to track and report the utilization of monitors at every seaport; and develop and document a formal collaborative process to ensure that monitor relocation is effectively planned and implemented to meet security needs at seaports.



Background

CBP is responsible for securing the Nation's borders while facilitating legitimate trade and travel. According to the *Security and Accountability for Every Port Act of 2006* (SAFE Port Act), as amended, all containers entering the U.S. by vessel through the 22 seaports with the greatest container volume must be scanned, also referred to as screened, for radiation. In fiscal year (FY) 2011, CBP screened approximately 24.3 million containers through all ports of entry. Ports of entry are responsible for daily port-specific operations at locations such as seaports, land borders, mail facilities, and rail crossings.

CBP uses a multilayered approach of risk-based analysis, intelligence, and high-risk shipment examination to manage potential security threats from the large volume of maritime cargo. The component screens shipments for elevated radiation levels using large-scale radiation detectors called radiation portal monitors (RPM). CBP has established protocols to isolate cargo and once detected, determine the level and type of radiation.

The RPM detection system is a passive, non-intrusive means to screen vehicles and containers for the presence of nuclear and radiological materials. Vehicles and containers pass through RPM sensor panels positioned on opposite sides of seaport terminal exit lanes. Two panels, situated on each side, contain tubes filled with helium-3 and polyvinyl toluene plastic to detect radiation sources as containers pass through the system. Exhibit 1 shows RPM panels in an exit lane.

In addition to radiation sensor panels, the RPM system includes other sensors to communicate alarms and system problems to CBP officers through indicator lights and audio messages. The system also includes ancillary components such as traffic lights, booths, and remote monitoring stations. The systems can detect various types of radiation emanating from nuclear devices, dirty bombs, special nuclear materials, natural sources, and isotopes commonly used in medicine and industry.

Exhibit 1 – RPM System



RPM panels in an exit lane; two panels on each side screen containers for radiation as vehicles move slowly (5 mph) through.
Source: DHS OIG



OFFICE OF INSPECTOR GENERAL

Department of Homeland Security

Several entities participate in the RPM program, including:

- Department of Homeland Security (DHS) - DNDO tests, acquires, deploys RPMs, and provides maintenance during the first year of RPM operation.
- Pacific Northwest National Laboratory (PNNL) - a contractor to DNDO that deploys and installs RPMs.
- CBP has the lead for commissioning, operating, and maintaining the RPMs.
- CBP officers at the ports of entry maintain custody of the RPM inventory onsite, operate RPMs, and resolve all radiation detection alarms.

At each port of entry where equipment is deployed, the primary RPM screens a vehicle or container for radiation. CBP officers may release containers that do not set off alarms. Vehicles or containers that set off radiation detection alarms during the primary screening are sent to secondary screening. If the secondary screening continues to alarm, officers must determine if the radiation source is an actual threat. If required, CBP Laboratories and Scientific Services provide forensic and scientific analysis to assist officers in their determination.

CBP officers must report the specific type of radiation detected during the secondary screening to a supervisor or secondary Inspection Officer. Using handheld radiation detection equipment, officers must isolate and locate the radiation source, establish a safety perimeter, identify the radiation source, and implement the appropriate radiation response procedures. Appendix C contains more information on the alarm resolution process.

As of August 2012, DNDO and CBP reported that they had installed 1,459 RPMs at ports of entry nationwide, including 444 that were operational at seaports. Initially, DNDO and CBP deployed RPMs to fulfill the mandate to screen all incoming containerized cargo at the 22 highest container volume seaports in the U.S. At times, RPMs are removed or relocated because of changes in the flow of commerce initiated by commercial shipping companies or changes in the physical layout of seaports due to terminal expansions or closures.

Since the inception of the RPM program, CBP reports screening more than 679 million transported containers for radiological contraband, resulting in more than 2.8 million radiation alarms. According to DNDO and CBP's Project Execution Plan (PEP), approximately \$623 million was spent on the RPM program between FY 2002 and FY 2011.

Initial estimates of the deployed RPMs showed an average useful life expectancy of 10 years. Based on the initial estimates, some RPM equipment will become obsolete by 2014, with no useful RPMs at seaports by 2021. Subsequent studies have shown that



OFFICE OF INSPECTOR GENERAL

Department of Homeland Security

the service life can be increased with continued maintenance and improvements. However, DNDO has not yet funded or deployed technologies to increase the service life of current RPMs or decided on a new technology to replace them. In 2005, DNDO began to develop, test, and deploy advanced screening technology through its Advanced Spectroscopic Portal Program, but DHS cancelled the program in 2011 because of operational and technical challenges. DNDO created the Polyvinyl-Toluene Improvement Program intended to increase RPM service life and efficiency. One of seven studies created under this program focused on extending service life; the others focused on improving detection capabilities and providing a tool to monitor RPM panel status. These research and development studies have been funded since FY 2010, but implementation will not begin until FY 2014, with very limited funding.

This audit responds to the congressional mandate in Section 809(g) of the *Coast Guard and Maritime Transportation Act of 2004* (Public Law 108-293), as amended. This act requires the DHS Office of Inspector General (OIG) to conduct an annual evaluation of the cargo inspection system for international intermodal cargo containers. We reviewed the sources and quality of information used by the cargo inspection system to determine whether it is collected from the best and most credible sources, and we evaluated data sources to determine information gaps and weaknesses. We checked the system for reporting and analyzing inspection statistics, system operator competence and training, whether the system effectively detects potential acts of terrorism, and deficiencies that need to be remedied. Appendix A contains our objectives, scope, and methodology. Appendix D contains our assessment of operator training.

Results of Audit

DNDO reported that there are currently 444 RPMs screening all containerized cargo at the 22 seaports with the most container volume. We were unable to determine whether DNDO and CBP initially deployed RPMs to ensure operational efficiency because the components did not thoroughly document deployment decisions and plans. Although all cargo is being screened, we identified some RPMs utilized infrequently or not utilized at all.

The components do not fully coordinate or centrally manage the RPM program to ensure effective and efficient operations. Specifically:

- CBP does not consistently gather and review utilization information to ensure that it is fully utilizing all RPMs.
- CBP does not always monitor and promptly evaluate changes in the screening environment at seaports to relocate RPMs as necessary.



OFFICE OF INSPECTOR GENERAL

Department of Homeland Security

- DNDO and CBP do not accurately track and monitor their inventory of RPMs.

Given the RPMs' limited life and the need for funding for new monitors, CBP and DNDO should better coordinate to fully utilize, promptly relocate, and properly maintain inventory to best use resources and to continue screening of all containerized cargo entering U.S. seaports.

RPM Screening at Seaports

According to DNDO, there are currently 444 RPMs screening 99 percent of inbound containerized cargo at seaports; the other 1 percent of incoming cargo enters the U.S. at low-volume seaports.

Initial RPM Deployment

We were unable to determine whether DNDO and CBP initially deployed RPMs to ensure operational efficiency because the components did not thoroughly document deployment decisions and plans. DNDO and CBP used the PEP to guide RPM deployment. The PEP was approved in 2006 and included the required scope of work, deployment schedules by location, and costs to deploy RPMs to ports of entry. However, the components could not provide complete information on the factors used to determine the number of RPMs to deploy at each location. Although CBP provided documentation to support initial deployment to screen all containerized cargo at the 22 seaports with the most container volume, it could not provide evidence to justify placement of RPMs at specific seaports.

During our site visits to seven seaports, we identified RPMs that had been deployed but not used for several years. In addition to the 444 RPMs currently at seaports, 46 others have been removed since their initial deployment. According to CBP, some of these units are being relocated. CBP also plans to relocate 23 other RPM systems in the near future.

Without documentation to support how CBP and DNDO made initial deployment decisions, we were unable to determine whether RPMs were unused or being removed because they were not properly deployed. It is not clear whether DNDO and CBP considered all critical factors needed for deployment.

Monitoring RPM Utilization

CBP does not consistently gather and review utilization information to ensure that it is fully utilizing all RPMs. CBP receives and reviews monthly utilization



OFFICE OF INSPECTOR GENERAL

Department of Homeland Security

reports; however, there was no indication that the reports were used to determine how RPMs are utilized or affect deployment decisions. For example, CBP's Data Analysis Center provides the Office of Field Operations reports that include monthly primary and secondary screening totals for each seaport location and scan data for each RPM lane. The Data Analysis Center can also provide more detail for each seaport, such as utilization of each RPM lane.

CBP established the Port Radiation Inspection Detection and Evaluation system to monitor and retrieve data; however, this system is not fully installed at all ports. This system connects the network of radiation detection equipment to the CBP network. It provides data monitoring and retrieval capabilities so that CBP can immediately assess and respond to radiological threats. Additionally, the system can be populated with commodity and shipper information by connecting to CBP's system that targets cargo for screening. CBP officers enter alarm data into computers, such as information on the commodity, shipper, and the type of radiation identified.

During our review of the monthly Data Analysis Center reports, we tested the data and identified that it was incomplete and would need attention if CBP were to rely on it. CBP's policy and training guide provide a standard for completeness; however, the data is often incomplete. According to the Data Analysis Center, the entry of data is approximately 50 percent complete. Further, we identified 11 RPMs at multiple locations that did not have updated screening totals, even though the equipment was active at these locations.

During our review of CBP data and site visits, we identified primary and secondary RPMs that were screening very few containers annually. Although CBP's Office of Field Operations obtains a monthly report with screening totals by seaport, the office was unaware of an RPM that was rarely used for several years. Local CBP personnel at one port could not explain why some RPMs remained idle for years. During our site visits to the seven ports selected for review, we identified 24 of 185 RPMs infrequently used or not used at all. Specifically:

- 19 of 185 RPMs or 10 percent were not being used.
 - Four of these RPMs at one terminal had not been used since February 2011. The RPMs remain inactive while they wait to be transferred to another nearby terminal.



OFFICE OF INSPECTOR GENERAL

Department of Homeland Security

- Three RPMs were not being used due to seaport reconfiguration in January 2011.¹
- Two RPM systems had not been used since January 2011.
- Five of 185 RPMs or 3 percent were rarely used and screened a minimal volume of the containers at the location.
 - Four RPMs had multiple tandem lanes that unnecessarily screened every shipment twice.² Whether the container alarmed or not, it was screened by two RPM systems. Exhibit 2 shows an RPM set up in a tandem lane.

Exhibit 2



RPM unit configured with tandem lanes.

Source: DHS OIG

Additionally, CBP does not always monitor and evaluate changes in the seaport screening environments to promptly relocate RPMs as necessary. CBP and DNDO have removed 46 RPMs since their initial deployment; however, we could not determine whether these changes resulted from insufficient planning for deployment or changes in screening environments. According to CBP, some of these units are in the process of being relocated to other ports.

Although CBP and DNDO maintain joint deployment documents, they do not include guidance that would help ensure the agencies promptly relocate RPMs for operational efficiency. For example, the 2006 PEP, which guided the early RPM deployment decisions, does not include a detailed relocation process. The PEP does not contain information on the responsible entity or guidance to help ensure that RPMs are promptly relocated as seaport screening demands change. Instead, when CBP determines that it needs to change the RPM configuration at a seaport, CBP port officials submit a request to CBP Headquarters. DNDO approves some of these change requests, but others are handled internally by CBP. As a result, RPM systems can remain idle for extended periods of time.

¹ Reconfiguration is the addition, deletion, and/or relocation of RPMs at a previously completed site to accommodate changes in a port, crossing terminal, gate, or facility reconfiguration; it may also include addition or moving of panels to accommodate updates to detection requirements or changes to cargo being screened.

² In a tandem lane, the secondary RPM is directly connected to the primary RPM; vehicles must pass through both, regardless of alarms. We observed exit gates with one tandem lane and others with multiple tandem lanes.



OFFICE OF INSPECTOR GENERAL

Department of Homeland Security

In addition, CBP does not formally document its process to ensure prompt resolution of required changes to RPM operations and locations. According to DNDO and CBP, they were to update the PEP to reflect these changes as necessary. Instead, approved Baseline Change Requests are recorded outside of the document in an Excel spreadsheet. CBP attempted to revise the Joint CBP/DNDO Deployment Strategy in 2008, but DNDO did not approve the document and could not provide a reason for this decision. Appendix E contains details on the RPM relocation process.

Without a standard to measure RPM utilization or a process to collect and analyze detailed utilization information, CBP cannot ensure full utilization of RPMs or the best use of funds. Given that there are limited funds to sustain the RPM program and that there are no plans to replace the RPMs when they are no longer useful, CBP and DNDO need to ensure that they are using their current resources most efficiently.

Inventory Control

Neither CBP nor DNDO has ensured that the inventory of RPM equipment is complete and accurate. Both entities rely on PNNL to inventory the equipment; however, a comprehensive audit has never been conducted to account for all of the property. According to CBP's *Personal Property and Asset Management Handbook*, port personnel must perform an annual inventory of "capitalized and accountable" property, including the RPM systems. We reviewed the FY 2011 and FY 2012 inventory reports for seaport RPM systems and determined that not all systems were reported. In FY 2011 and FY 2012, CBP port personnel did not inventory 70 RPM systems and 20 RPM systems, respectively.

We were unable to reconcile the weekly individual inventory reports PNNL provides to CBP and DNDO. Once PNNL deploys an RPM system to a location, CBP tracks the system and any transfer of equipment between locations. CBP's Systems, Applications, and Products system reports the equipment as a system, without tracking the many different pieces that make up each RPM system such as panels, computers, booths, and enunciators. We were also unable to reconcile inventory records in the Systems, Applications, and Products system with PNNL's current deployment list, and we noted that a minimum of 10 RPM systems were missing among the records. CBP officers at the port of entry record the information in the Systems, Applications, and Products system. The inventory reports system location, acquisition value, and asset number. DNDO only maintains a spreadsheet to track the approved, pending, or unfunded reconfigurations of RPM equipment.



OFFICE OF INSPECTOR GENERAL

Department of Homeland Security

During our review of the inventory reports, DNDO informed us that PNNL does not inventory or track the mobile RPM equipment at port locations.³ PNNL relies on CBP to track mobile RPM units through a maintenance database. We identified 12 instances in which the number of mobile RPMs at a location could not be verified and confirmed. For example:

- At one seaport, the PNNL records showed a total of 24 mobile RPMs; however, we could only locate 17 systems. After questioning the discrepancy, port personnel explained that the mobile RPMs were relocated several years ago.
- At another port, PNNL's inventory reported eight mobile RPMs. We could only locate six systems. CBP port personnel indicated that two mobile RPMs had been moved to a different location also under their management.

Without auditing and verifying all RPM inventory, CBP and DNDO are not properly accounting for government property. Further, the components cannot be assured that the equipment is being maintained, utilized, and relocated to make the best use of its limited life and screening capabilities.

Sustaining the RPM Program

To support the PEP, CBP and DNDO developed the *Joint DNDO/CBP Deployment Strategy For Domestic Border Crossing Nuclear Detection System* (joint strategy) to define the future RPM program. The joint strategy identified specific actions to improve screening efficiency at seaports by implementing Advanced Spectroscopic Portal technology and deploying RPMs that used this technology. DHS cancelled the program in 2011 because of operational and technical failures. However, CBP and DNDO did not update the joint strategy to address how seaports would be affected by the cancellation.

DNDO initially provided the RPM program with \$25 million annually and reduced the funding to \$5 million annually. With greatly reduced projected future funding for the RPM program, alternate sources of funding will have to be obtained or significant scope and services must be cut. The reduction of program services will retain only the most critical functions to support deployments and overall project management.

³ Mobile RPMs are truck-mounted RPM systems designed to detect nuclear materials in cargo containers. The mobile RPM is appropriate for seaport, rail, airport, and vehicle cargo applications, but is mostly used by CBP at seaports.



OFFICE OF INSPECTOR GENERAL

Department of Homeland Security

Neither entity has identified technologies to replace the current RPMs, nor has DNDO provided sufficient funding to deploy technologies to increase their service life. As a result, it is unclear how screening efficiency will be improved in the future. It is also unclear how CBP and DNDO will sustain the current level of screening given that fewer RPMs will be in service as they age.

Recommendations

We recommend that the United States Customs and Border Protection Acting Assistant Commissioner, Office of Field Operations, and the Domestic Nuclear Detection Office Assistant Director, Product Acquisition:

Recommendation #1:

Identify a single program office responsible for fully coordinating and centrally managing the radiation portal monitor program to ensure effective and efficient operations and future planning. In the office, designate responsible officials to ensure overall program performance, accountability, coordination, and inventory control for the relocation and utilization of the equipment.

Recommendation #2:

Establish guidelines to track and report the utilization of radiation portal monitors at every seaport. The guidelines should allow for some exceptions based on unique environmental conditions, yet ensure minimally used equipment is reported and relocated promptly for more efficient utilization.

Recommendation #3:

Develop and document a formal collaborative process to ensure that radiation portal monitor relocation is effectively planned and implemented to meet security needs at seaports. The process should ensure that, in making these decisions, all relevant data is reported and analyzed.

Management Comments and OIG Analysis

CBP and DNDO submitted unified formal comments to our report, and a copy of the response in its entirety is included as appendix B. CBP and DNDO also provided technical comments and suggested revisions to our report in a separate document. We reviewed CBP and DNDO's technical comments and made changes in the report when appropriate. Both CBP and DNDO appreciated our



OFFICE OF INSPECTOR GENERAL

Department of Homeland Security

efforts and concurred with all three of our recommendations. A summary of the responses and our analysis of those responses are as follows.

Response to Recommendation #1: CBP and DNDO concurred and will work together to ensure a balanced and reasonable approach is taken to implement this recommendation. The completion date will be determined no later than January 2014. The components explained that multiple options are considered when determining the best approach for moving forward. The components will work with Headquarters for the best approach to implement the recommendation while examining the statutory framework; conducting a legal review; defining the organizational components, roles, and responsibilities; and estimating the cost.

OIG Analysis: CBP and DNDO's planned corrective actions will be responsive to the recommendation. This recommendation will remain open and resolved until we receive documented support that CBP and DNDO have developed plans and identified a single program office responsible for fully coordinating and centrally managing the RPM program. The intent of the recommendation is to have a single program control point to make any ultimate decisions on the RPM program, not necessarily to stand up a new program office.

Response to Recommendation #2: CBP and DNDO concurred and are taking action to implement the recommendation. Expected to be completed by May 2013, these actions include: initiating a study to investigate the need for secondary RPMs and associated cost implications of using handheld systems for alarm adjudication; updating the current deployment guidance for primary and secondary RPMs, related to initial deployments and configurations; establishing a process to periodically assess RPM usage and identify RPMs for potential deactivation or decommissioning; and establishing a joint asset team to identify efficiencies in internal asset and inventory management.

OIG Analysis: CBP and DNDO's planned corrective actions will be responsive to the recommendation. The recommendation will remain open and resolved until we review documented support on the study to investigate the need for secondary RPMs and associated cost implications of using handheld systems, updated information for deployment guidance for primary and secondary configurations, a documented process to periodically review RPM usage at seaports, and documentation on the establishment of a joint asset team and its purpose.



OFFICE OF INSPECTOR GENERAL

Department of Homeland Security

Response to Recommendation #3: CBP and DNDO concurred and will ensure the appropriate offices take the necessary steps to improve the RPM relocation processes to oversee systems to meet required standards. CBP and DNDO are currently developing a 2013 PEP, documenting current RPM deployment projects on the basis of priorities and a long term PEP for the RPM process, and further defining roles and responsibilities. The components expect to have these changes in place by September 2013.

OIG Analysis: CBP and DNDO's planned corrective actions will be responsive to the recommendation. The recommendation will remain open and resolved until we review documented support that the components have established a formal collaborative process to ensure RPM relocations are effectively and comprehensively planned and implemented to meet security needs at seaports.



Appendix A

Objectives, Scope, and Methodology

The Department of Homeland Security (DHS) Office of Inspector General (OIG) was established by the *Homeland Security Act of 2002* (Public Law 107-296) by amendment to the *Inspector General Act of 1978*. This is one of a series of audit, inspection, and special reports prepared as part of our oversight responsibilities to promote economy, efficiency, and effectiveness within the Department.

We conducted this audit to determine whether DNDO and CBP are deploying and using RPMs to ensure the most efficient cargo screening at seaports. To answer our objective, we reviewed prior audit reports and the recommendations. We reviewed policies and procedures for deployment and use of RPMs, including the *Global Nuclear Detection Architecture Strategic Plan 2010*, the 2006 PEP, the *Joint DNDO CBP Strategy for Domestic Border Crossing Nuclear Detection System*, Government Accountability Office *Standards for Internal Control in the Federal Government*, and CBP Directive 5290-015A. We reviewed and compared criteria to CBP's deployment and utilization of RPMs, and we analyzed available documentation supporting decisions for the equipment's deployment and use.

We interviewed officials within CBP, including the Office of Field Operations' Non-Intrusive Inspection; Office of Information and Technology; Office of Administration Facilities, Management, and Engineering; Office of Intelligence and Investigative Liaison; Office of Operational Field Testing Division; and Enforcement Technology Program. We also interviewed CBP lab partners, DNDO officials, and PNNL officials.

We analyzed relevant information used by CBP and DNDO for the deployment and relocation decisions. This included the initial deployment criteria to determine factors contributing to deployment decisions, Baseline Change Requests, RPM deployment expenditure data, and the process for the reconfiguration and decommissioning of RPM equipment. We have limited assurance in the reliability of the RPM expenditure data because CBP officials informed us that supporting documentation for specific RPM expenditures was outdated and not accessible.

To select locations to visit we analyzed RPM reports on scan and alarm data to identify usage at seven ports of entry. We also asked CBP for a list of RPM activity at ports of entry. CBP provided a list of the number of RPM scans and alarms for 108 CBP ports of entry from key personnel at CBP Headquarters. The data represented FY 2011 and the first three quarters of FY 2012. During the review, we determined that some of the CBP data was incomplete and may be unreliable. We divided the list into three tiers: 1) high-volume locations with scans in the millions; 2) mid-volume locations with scans in



OFFICE OF INSPECTOR GENERAL

Department of Homeland Security

the 100,000's; and 3) low-volume locations with scans below 10,000's. Due to time constraints and limited accessibility to some geographical locations, we visited the high-volume seaport terminals.

We visited terminals at seven seaports where we interviewed port personnel, the port director, supervisors, and CBP officers. We reviewed inventory lists and equipment to ensure all RPM panels were accounted for, deployed, and used. We also verified inventory and the screening procedures applied at each terminal visited.

As of August 2012, DNDO reported that there were 1,459 RPMs deployed at all ports of entry. Of the 1,459 RPMs, there are 444 deployed at 39 different seaports. We observed operations selected for review at the seven of the seaports, which included 185 RPMs and 27 mobile RPMs.

To evaluate the cargo inspection targeting system for international intermodal cargo containers, we reviewed the training curriculum. We assessed the competence and training of system operators by confirming the personnel requirements for utilizing RPM equipment, analyzing the training curriculum, and verifying officer knowledge through onsite observations to ensure the officers were meeting standards. We evaluated the process for conducting RPM operations and resolving RPM alarms. We also evaluated the process for reporting the resolution of RPM alarms and completeness of the Data Analysis Center database and the Cargo Enforcement Reporting Tracking System used for reporting the resolution of RPM alarms. We compared these processes to criteria and determined whether RPM resolution data is used in future targeting efforts. We compared RPM operations conducted by CBP officers at local Ports of Entry with CBP Directive 5290-015A.

We conducted this performance audit between April and November 2012 pursuant to the *Inspector General Act of 1978*, as amended, and according to generally accepted government auditing standards. Those standards require that we plan and perform the audit to obtain sufficient, appropriate evidence to provide a reasonable basis for our findings and conclusions based upon our audit objectives. We believe that the evidence obtained provides a reasonable basis for our findings and conclusions based upon our audit objectives.



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Appendix B
Management Comments to the Draft Report

1300 Pennsylvania Avenue NW
Washington, DC 20229



**U.S. Customs and
Border Protection**

January 11, 2013

Charles K. Edwards
Deputy Inspector General
Department of Homeland Security
245 Murray Drive, SW, Building 410
Washington, DC 20528

Re: Draft Report, "United States Customs and Border Protection's Radiation Portal Monitors at Seaports" (OIG Project No. 12-033-AUD-CBP)

Dear Mr. Edwards:

Thank you for the opportunity to review and comment on this draft report. U.S. Customs and Border Protection (CBP) and the Domestic Nuclear Detection Office (DNDO) appreciate the DHS Office of Inspector General's (OIG's) work in planning and conducting its review and issuing this report.

The Radiation Portal Monitor (RPM) Program is an important and significant activity in CBP's execution of its mission to interdict illicit radioactive materials and to prevent their entry into the United States. CBP is pleased to note the OIG's positive recognition that CBP's execution of the RPM Program is consistent with the requirements of the *Security and Accountability for Every Port Act of 2006*, as amended, to scan all containerized cargo entering the United States at the 22 seaports with the greatest container volume.

The draft report contained three recommendations directed to CBP's Acting Assistant Commissioner, Office of Field Operations, and DNDO's Assistant Director, Product Acquisition. CBP and DNDO concur with all three recommendations. Specifically:

Recommendation 1: Identify a single program office responsible for fully coordinating and centrally managing the RPM program to ensure effective and efficient operations and future planning. In the office, designate responsible officials to ensure overall program performance, accountability, coordination, and inventory control for the relocation and utilization of the equipment.

Response: Concur. CBP and DNDO will work together to ensure a balanced and reasonable approach is taken to implement this recommendation, and that multiple options are considered when determining the best approach for moving forward with standing up a



OFFICE OF INSPECTOR GENERAL

Department of Homeland Security

program management office (PMO). This will include ensuring the definition and establishment of a PMO are based on statutory, operational, funding and policy considerations, as appropriate. The following actions will be needed for designation of the PMO:

1. Explore with Headquarters the best approach to implement the recommendation.
2. Establish a schedule for concluding these actions and initiation of operations for the PMO, including concurrence from all impacted agencies.
3. Examine the statutory framework for the program office with respect to scope.
4. Define the critical organizational components, and roles and responsibilities of the program office.
5. Conduct legal review of the proposed designation to ensure consistency with all applicable and relevant statutes and appropriations.
6. Estimate the cost of implementing this OIG audit recommendation.

Estimated Completion Date (ECD): To be determined no later than January 31, 2014

Recommendation 2: Establish guidelines to track and report the utilization of RPMs at every seaport. The guidelines should allow for some exceptions based on unique environmental conditions, yet ensure minimally used equipment is reported and relocated promptly for more efficient utilization.

Response: Concur. The following actions are underway or will be initiated:

1. CBP/Office of Field Operation/Cargo and Conveyance Security Division/Non-Intrusive Inspection Division has initiated a study to investigate the need for secondary RPMs and associated cost implications of using handheld systems for alarm adjudication. ECD: March 31, 2013
2. Update current RPM deployment guidance for primary and secondary configurations related to initial deployments and reconfigurations. ECD: May 31, 2013
3. Establish a process to periodically assess RPM usage and identify RPMs for potential deactivation or decommissioning and to initiate action as follows:
 - a. Remove unused RPMs from the maintenance and calibration schedule only once final status of the lane has been determined on the basis of port of entry or terminal operator plans.
 - b. Remove an RPM from a lane only when the lane is no longer used for inbound containerized cargo or conveyances with any future plans for RPM usage.



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- c. Develop a cost estimate for removal of all unused RPMs after determination of no potential future use in current location.

ECD: May 31, 2013

4. CBP has established a joint asset team to identify efficiencies in internal asset and inventory management. CBP will establish and implement a separate logistics inventory/property accountability system to address any gaps in inventory.
ECD: Completed. Specifically a joint asset team was formed in December 2012 to address inventory issues and gaps.

Overall ECD: May 31, 2013

Recommendation 3: Develop and document a formal collaborative process to ensure that RPM relocation is effectively planned and implemented to meet security needs at seaports. The process should ensure that, in making these decisions, all relevant data is reported and analyzed.

Response: Concur. Safeguarding and accounting of CBP owned and operated equipment is a very significant fiduciary responsibility and we will ensure the appropriate offices take the necessary steps to improve these processes to oversee systems to meet required standards. The following actions are underway or will be initiated:

1. CBP and DNDO are developing a Project Execution Plan (PEP) for Fiscal Year 2013 for planned RPM deployments and reconfigurations. This new PEP will document the current approved RPM deployment projects on the basis of priorities, as previously documented in memoranda to DNDO.
ECD: February 28, 2013
2. CBP and DNDO are developing a Project Management Plan and long-term PEP to further define the RPM deployment process and roles and responsibilities.
ECD: September 30, 2013
3. CBP Office of Field Operations will conduct recurring teleconferences with each Field Office to discuss inspection and detection technology needs, issues and future requirements.
ECD: Completed. Initiated December 2012 and will continue, as needed.

Overall ECD: September 30, 2013



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Again, thank you for the opportunity to review and comment on this draft report. Technical comments were previously provided under separate cover. Please feel free to contact me if you have any questions. Alternatively, a member of your staff can contact Kathryn Dapkins, Audit Liaison, Office of Internal Affairs at (202) 325-7732. We look forward to working with you in the future.

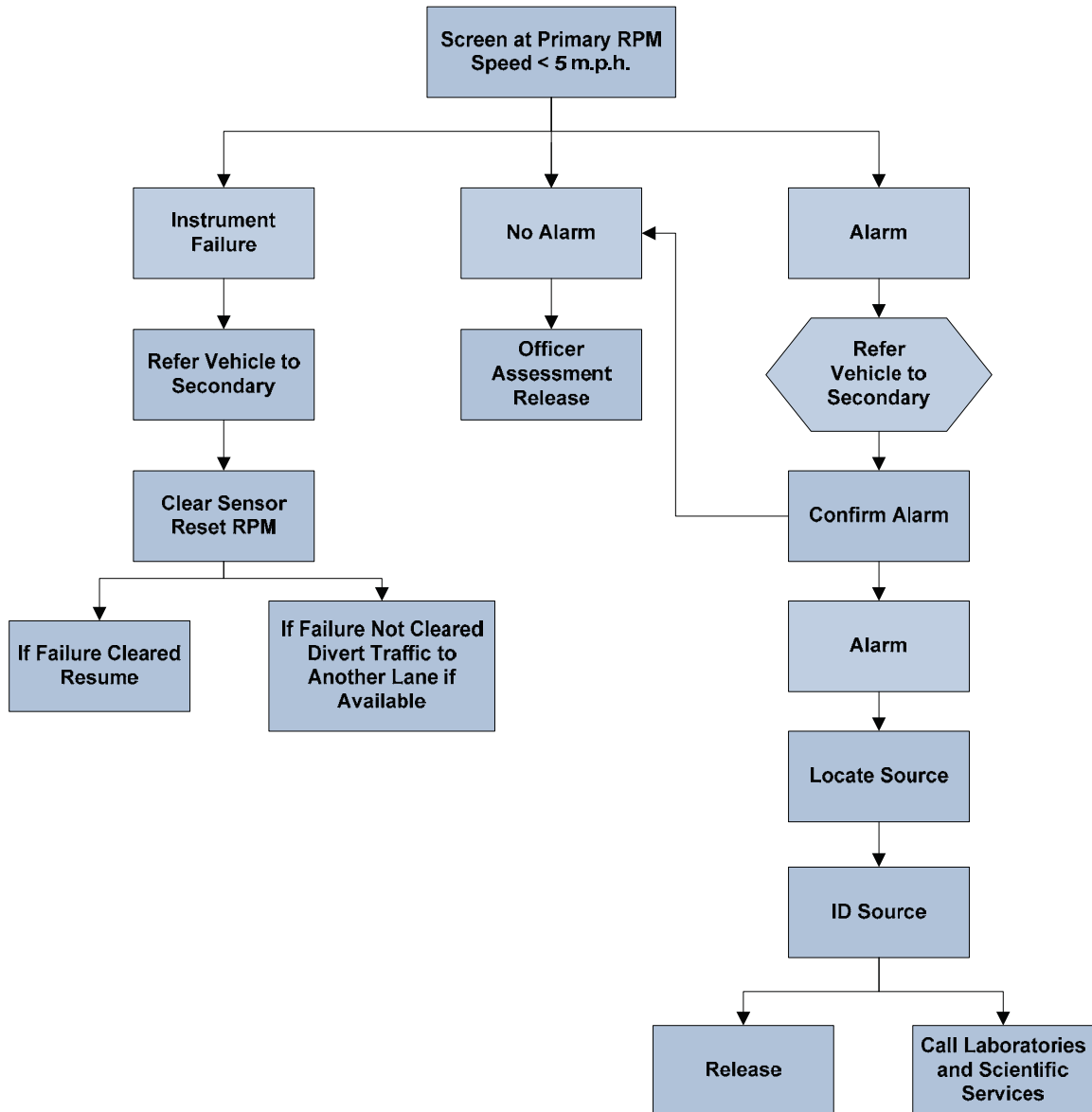
Sincerely,

A handwritten signature in cursive script that reads "James F. Tomsheck".

James F. Tomsheck
Assistant Commissioner
Office of Internal Affairs



Appendix C CBP Process for Resolving RPM Alarms



Source: CBP - Office of Training and Development Radiation Portal Monitor Attrition Training: Review and Field Exercises Instructor Guide, December 2011



Appendix D

Response to Congressional Mandate to Assess Training

We conducted onsite interviews and observations of CBP officers' compliance with established criteria and training, which supported that officers are sufficiently competent in operating RPMs to detect illicit radiological sources. We assessed the competence and training of employees operating the system to determine whether they are sufficiently capable of detecting potential terrorist threats, and to determine whether CBP officers are trained and competent to utilize RPM equipment to detect illicit radiological sources. We verified that CBP officers must take the Virtual Learning Center "RPM Attrition" course as a prerequisite to the "Radiation Portal Monitor Training" course provided by the CBP Field Operations Academy. We compared onsite RPM operations conducted by CBP officers at local ports of entry with CBP Directive 5290-015A.

RPM training provides CBP officers with knowledge in the following areas critical to using RPM equipment:

- CBP radiation detection requirements
- Sources of radiation that may cause RPM alarms
- Types of radiation detection equipment
- RPM terminology
- Types of cargo that cause the majority of alarms at ports of entry
- Identification of RPM components
- Substance resolution and falsified U.S. Nuclear Regulatory Commission certificates
- Interpretation of RPM profile graph printouts and the alarm view window
- RPM care and maintenance requirements
- Field exercises covering RPM component identification, operation, and alarm resolution

CBP officers are evaluated on their performance and adherence to CBP *Radiation Detection Program Directive 5290-015A* and local standard operating procedures (as applicable). The tool for this evaluation is the Personnel Qualification Standard.

CBP officers are certified as having completed the course when they have achieved 70 percent on the final evaluation and are entered in the Training Records and Enrollment Network. If participants do not achieve a score of 70 percent or better, remediation or an opportunity to retake the course is provided; those students are then allowed to retake the evaluation.



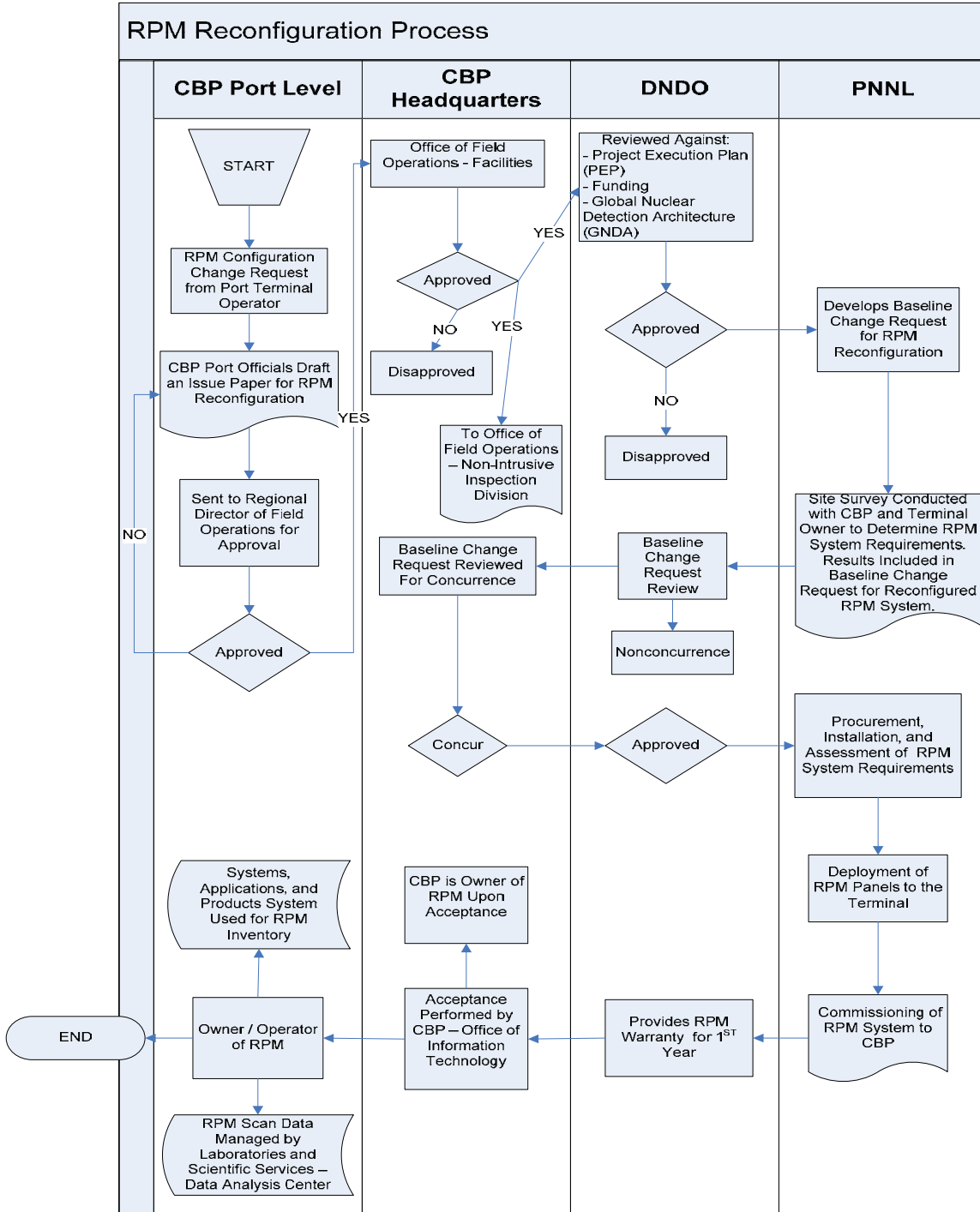
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A total of eight field exercises are used to give CBP officers the opportunity to demonstrate the standard processes associated with RPM operation and to follow the requirements for responding to alarms and alerts. After these exercises, CBP officers participate in a final classroom exercise.



Appendix E RPM Reconfiguration Process



Source: DHS-OIG with input from CBP and DNDO.



Appendix F RPM Program Planning

<u>2006 Project Execution Plan (PEP)</u>	<u>Joint DNDO/CBP Deployment Strategy For Domestic Border Crossing Nuclear Detection System</u>	<u>Planning Shortfalls</u>
<p>Defines the current overall project objectives, work scope, schedules, costs, and required funding for Pacific Northwest National Laboratory (PNNL) to support DNDO and CBP in deploying RPMs at ports of entry.</p>	<p>According to the Joint Strategy, DNDO has the charter to develop and acquire appropriate nuclear detection technologies that meet user requirements and support the deployment of those technologies. CBP has the lead for deploying, commissioning, operating, and maintaining the nuclear detection systems that compose the Domestic Border Crossing Nuclear Detection System.</p>	<p>The PEP and the Joint Strategy do not include RPM reconfiguration planning or a mitigation strategy for key planning assumptions.</p>
<p>The PEP describes the RPM deployment process to be executed by PNNL. It also explains Baseline Change Requests, which are deployment changes that impact the scope, schedule, and cost baselines. It also includes key planning assumptions for program funding, technology, and deployments.</p>	<p>The purpose of this document is to present a jointly developed strategy for the deployment of RPMs for securing the Nation's border crossings from attempts to smuggle nuclear devices, special nuclear materials, or threatening radioactive materials.</p>	<p>CBP's and DNDO's roles and responsibilities are included in the Joint Strategy, but not in the PEP.</p>
		<p>No clear and transparent joint decision-making.</p>
		<p>No RPM sustainment planning.</p>

Source: DHS OIG



Appendix G

Major Contributors to This Report

Patrick O'Malley, Director
J. Eric Barnett, Audit Manager
Cheryl Jones, Audit Manager
LaTrina McCowin, Auditor-in-Charge
Kevin King, Auditor
Jeffrey Wilson, Program Analyst
Thomas Hamlin, Program Analyst
Brian Smythe, Program Analyst
Kelly Herberger, Communications Analyst
Ralleisha Dean, Independent Reference Reviewer



Appendix H

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