OFFICE OF INSPECTOR GENERAL

DHS Did Not Effectively Oversee TSA's Acquisition of Computed Tomography Systems

Homeland Security

September 23, 2021

OIG-21-69

OFFICE OF INSPECTOR GENERAL
Department of Homeland Security

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

September 23, 2021

MEMORANDUM FOR: Randolph D. Alles
Acting Under Secretary for Management

The Honorable David Pekoske
Administrator
Transportation Security Administration

FROM: Joseph V. Cuffari, Ph.D.
Inspector General

SUBJECT: *DHS Did Not Effectively Oversee TSA's Acquisition of Computed Tomography Systems*

For your action is our final report, *DHS Did Not Effectively Oversee TSA's Acquisition of Computed Tomography Systems.* We incorporated the formal comments provided by your office.

The report contains three recommendations aimed at improving the Department's oversight of TSA's Checkpoint Property Screening System program. Your office concurred with all three recommendations. Based on information provided in your response to the draft report, we consider recommendations 1 and 2 open and 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. Please send your response or closure request to OIGAuditsFollowup@oig.dhs.gov.

Based on information provided in your response to the draft report, we consider recommendation 3 open and unresolved. As prescribed by the Department of Homeland Security Directive 077-01, *Follow-Up and Resolutions for the Office of Inspector General Report Recommendations*, within 90 days of the date of this memorandum, please provide our office with a written response that includes your (1) agreement or disagreement, (2) corrective action plan, and (3) target completion date for each recommendation. Also, please include responsible parties and any other supporting documentation necessary to inform us about the current status of the recommendations. Until your response is received and evaluated, the recommendation will be considered open and unresolved.

Consistent with our responsibility under the *Inspector General Act of 1978*, as amended we will provide copies of our report to 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 Bruce Miller, Deputy Inspector General for Audits, at (202) 981-6000.

Attachment

Cc: Jim Crumpacker, Director, Departmental GAO/OIG Liaison Office

DHS OIG Highlights

DHS Did Not Effectively Oversee TSA's Acquisition of Computed Tomography Systems

September 23, 2021

Why We Did This Audit

The Transportation Security Administration (TSA) plans to spend over $1.2 billion to procure and maintain computed tomography (CT) systems at passenger screening checkpoints. Given the security mission and significant investment, we conducted this audit to determine to what extent TSA's acquisition of CT systems addresses needed capabilities.

What We Recommend

We made three recommendations to improve the Department's oversight of TSA's Checkpoint Property Screening System program.

For Further Information:
Contact our Office of Public Affairs at (202) 981-6000, or email us at DHS-OIG.OfficePublicAffairs@oig.dhs.gov

What We Found

TSA acquired CT systems that did not address all needed capabilities. According to TSA's 2018 Operational Requirements Document, to achieve its mission successfully, its CT systems must be able to meet throughput, detection, availability, and safety requirements. However, we determined TSA deployed 300 CT systems to airport passenger screening checkpoints that did not meet throughput requirements and, although CT systems provided enhanced detection, they required an upgrade almost immediately after purchase to address operational needs.

These issues occurred because the Department of Homeland Security did not provide adequate oversight of TSA's acquisition of CT systems. DHS is responsible for overseeing all major acquisitions to ensure they are properly planned and executed and meet documented key performance thresholds. However, DHS allowed TSA to use an acquisition approach not recognized by DHS' acquisition guidance. In addition, DHS allowed TSA to deploy CT systems even though they did not meet all TSA key performance parameters. DHS also did not assess TSA's detection upgrade before TSA incorporated it into the CT system. As a result, TSA risks spending over $700 million in future appropriated funding to purchase CT systems that may never fully meet operational mission needs.

DHS Response

DHS concurred with all three recommendations. We consider recommendations 1 and 2 open and resolved. Recommendation 3 is open and unresolved. Appendix A contains DHS' management comments in their entirety.

Background

The Transportation Security Administration (TSA) is responsible for protecting the Nation's transportation systems to ensure freedom of movement for people and commerce. TSA executes a layered security approach to mitigate existing and evolving threats at passenger screening checkpoints. As part of this approach, TSA uses a combination of technology and services to screen passengers and carry-on bags for concealed threats as they enter the airport security checkpoint.

The Advanced Technology (AT) X-ray is the primary screening system used by TSA at passenger screening checkpoints to screen carry-on items. This system uses two-dimensional X-ray imaging to screen carry-on bags for explosives and other prohibited items. In 2016, TSA's *Transportation Security Capability Analysis Process, Capability Gaps*[1] identified a need for updated screening equipment that would detect a broader range of explosives, reduce false alarm rates, minimize operational bottlenecks, and allow passengers to leave liquids in bags.

In November 2017, to address capability gaps in carry-on bag screening, TSA initiated the Checkpoint Property Screening System (CPSS) program. The purpose of the CPSS program is to replace over 2,000 AT X-ray systems with enhanced three-dimensional computed tomography (CT) systems to detect a broader range of explosives and improve passenger experience by no longer requiring removal of liquids and laptops from carry-on bags. Figure 1 depicts a CT system used to screen baggage at passenger screening checkpoints.

Figure 1. TSA CT System
Source: TSA

TSA outlined four key performance parameters the CT system must meet to successfully perform the mission. According to the July 2019 *Operational Requirements Document for Accessible Property Screening System (APSS),* the CT system must provide:

- **Detection:** an automated "region of interest" determination capability that highlights the threats in accordance with the Level 0 requirements in the TSA detection standard.
- **Safety:** the system must operate without presenting a safety hazard as indicated in the *TSA Occupational Safety and Health Manual*.

[1] *Transportation Security Capability Analysis Process, Capability Gaps*, Version 2.0, July 2016.

- **Cybersecurity:** the system must enforce role-based access control, allowing only authenticated users to perform those functions associated with the user's active role at the time of access, 95 percent of the time.
- **Interoperability:** the system must have configurable functional components for information exchange across APSS key elements.

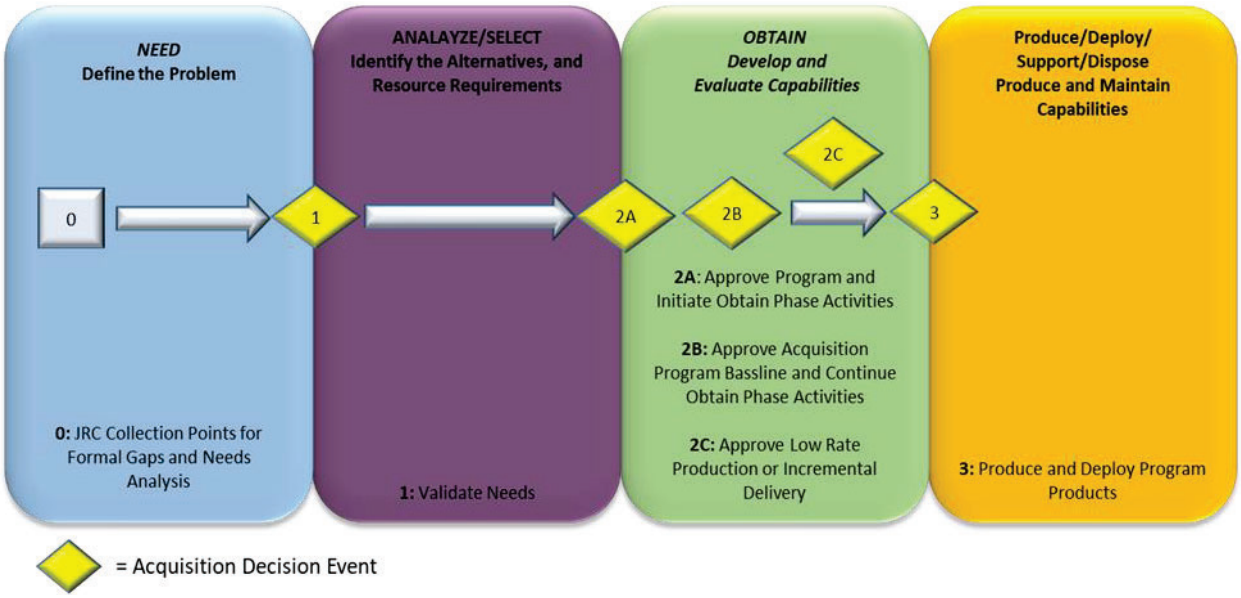
Under the CPSS program, TSA planned to use an incremental acquisition approach to deploy CT systems. As part of this approach, TSA would procure modified commercial-off-the-shelf systems and roll out software upgrades in increments, with each increment providing greater detection. The increments are discrete segments of the capability, installed following a deployment decision. According to TSA, using an incremental approach would allow the CT system to mature over time and reach milestones gradually, as opposed to all at once. As part of Increment 1 under the CPSS program, TSA planned to deliver and sustain up to 490 CT systems, with a lifecycle cost of $1.28 billion for full operational capability through fiscal year 2034 and a 10-year sustainment and maintenance period.

In December 2018, TSA also decided to use a second program to acquire CT systems. TSA established a new project under the existing AT program to rapidly field an enhanced detection system at passenger screening checkpoints citing an "emergent need." In December 2019, TSA began deploying 300 of the 490 CT systems under the AT program. According to the February 2018 *Operational Requirements Document for Advanced Technology-2 Devices Version 4.0,* a CT system purchased under this program must provide:

- **Detection:** provide an automated "region of interest" determination capability that highlights the threats in accordance with the Tier II requirements in the TSA detection standard.
- **Safety:** operate without presenting a safety hazard to Transportation Security Officers or passengers. Safety hazards include electrical hazards, radiation exposure, tripping hazards, bodily injury hazards due to sharp corners or edges, and an adverse impact on electronic medical devices such as pacemakers.
- **Availability:** maintain an operational availability of at least 96 percent.
- **Throughput:** screen on average 200 items per hour.

DHS designated both the AT and CPSS as major acquisition programs due to their high-dollar value. DHS acquisition guidance requires that all major acquisition programs follow the DHS Acquisition Lifecycle Framework (ALF) to ensure consistent and efficient management, support, review, and approval throughout the acquisition lifecycle. The four phases of the ALF are shown in Figure 2.

Figure 2. DHS Acquisition Lifecycle Framework



Source: DHS Acquisition Management Instruction 102-01-001

Each phase of the ALF leads to an Acquisition Decision Event, a predetermined point within an acquisition phase at which the Acquisition Decision Authority decides whether the proposed acquisition program meets certain requirements necessary to move on to the next phase.[2] The Acquisition Review Board supports the Acquisition Decision Authority in determining the appropriate direction for an acquisition program at each Acquisition Decision Event.[3] Acquisition Decision Authority approval at each Acquisition Decision Event is required for an acquisition program to proceed to the next phase in the acquisition lifecycle.

As of May 2021, TSA had deployed 300 CT systems under the AT program, but had not purchased any CT systems under the CPSS program. TSA's CPSS program is in the "Obtain" phase and still evaluating capabilities. According to its November 2020 *Acquisition Program Baseline for the Checkpoint Property Screening System Program Version 1.1*, TSA plans to procure an additional 190 CT systems under the CPSS program. Deployment is scheduled to start October 2022 following a "Produce and Deploy" Acquisition Decision Event. We conducted this audit to determine to what extent TSA's acquisition of CT systems addresses needed capabilities.

[2] The DHS Under Secretary for Management is the Acquisition Decision Authority for the AT and CPSS acquisition programs.
[3] The Acquisition Review Board is the departmental executive board that reviews all Level 1 and Level 2 acquisition programs.

Results of Audit

DHS Did Not Provide Adequate Oversight to Ensure TSA Acquired CT Systems that Met All Required Capabilities

TSA deployed 300 CT systems to airport passenger screening checkpoints that did not address all needed capabilities. These issues occurred because DHS did not provide adequate oversight of the acquisition. Specifically, DHS allowed TSA to use an acquisition approach not recognized by DHS' acquisition guidance. In addition, DHS allowed TSA to deploy CT systems even though they did not meet all TSA key performance parameters. DHS also did not assess TSA's detection upgrade before TSA incorporated it into the CT system. As a result, TSA risks spending over $700 million in future appropriated funding to purchase CT systems that may never fully meet operational mission needs.[4]

TSA Deployed CT Systems That Did Not Meet All Required Capabilities

TSA deployed CT systems to airport passenger screening checkpoints that did not meet minimum throughput requirements. TSA's February 2018 Operational Requirements Document identified the need for a CT system capable of screening, on average, 200 items per hour to successfully perform the mission. However, we determined TSA purchased 300 CT systems capable of screening an average of 170 items per hour — 15 percent less than the minimum requirement, and less than the AT X-ray system capability of approximately 354 items per hour. TSA officials elected to accept known risks to throughput and wait times, in exchange for the advanced detection capabilities the CT system offered. Additionally, TSA officials said although the CT system did not fully meet the requirements, it met their needs as TSA continues to deploy upgrades that will take several incremental steps. DHS determined TSA would have to either use the CT systems during periods of lower volume passenger traffic or use both the CT systems and AT X-ray systems to balance high demand and reduce the impact to checkpoint operations.

We also determined TSA's CT systems only provided a temporary detection improvement. Although CT systems provided enhanced detection over the AT X-ray systems, the initial 300 CT systems required an upgrade almost immediately after purchase. In July 2020, 8 months after initiating deployment of the systems, TSA requested approval for a detection upgrade to address operational needs. According to DHS, it approved the upgrade "to

[4] *Transportation Security Administration Capital Investment Plan FY 2021 – FY 2025, Fiscal Year 2020 Report to Congress,* June 30, 2020.

allow for standard operating procedure modifications during the low volume travel period and to eliminate the need to retrain transportation security officers." TSA deemed the upgrade low risk and asserted it offered a decreased detectable threat mass, expanded detection of emerging threats, eliminated the requirement to divest bags of large electronics and 3-1-1 compliant liquids,[5] and addressed COVID-19 precautions by reducing item search rates and bin use. The Department's decision was not documented in a decision memorandum.

DHS Did Not Provide Adequate Oversight of TSA's Acquisition Approach

DHS is responsible for reviewing and approving the acquisition approach used for major acquisition programs to fulfill operational need in a timely manner and at a reasonable cost. According to TSA's November 2020 *Acquisition Program Baseline for the Checkpoint Property Screening System Program Version 1.1*, TSA planned to use an incremental delivery acquisition approach to deploy enhanced capabilities rapidly in "increments" to support increased detection standards and enhance networking capabilities. However, we determined DHS' acquisition guidance does not recognize "incremental delivery" of capabilities as an approved acquisition, nor does it describe or provide any examples of how to implement such an approach.

DHS' acquisition guidance does reference agile acquisitions for certain software development and delivery for information technology acquisition programs.[6] According to the policy, agile development is a series of repetitive steps used to deliver solutions incrementally through continuous planning, development, testing, and delivery. The agile approach differs from a traditional acquisition in that it allows rapid and flexible response to change with frequent documented capability improvements. Although we identified similarities to agile acquisitions and TSA's incremental acquisition approach, officials from the DHS Office of the Chief Information Officer, Program Accountability and Risk Management, and TSA did not identify the CPSS program as an agile acquisition because TSA is not developing software. Instead, the same DHS officials stated the CPSS program should follow the DHS acquisition management instruction. However, as we stated above, DHS does not recognize "incremental delivery" of capabilities as an approved acquisition approach.

We recognize DHS has been working on a way to field capabilities faster to keep pace with ever-changing threats. DHS published the DHS Rapid Acquisition

[5] TSA 3-1-1 Liquids Rule - liquids, aerosols, gels, creams and pastes in carry-on bags are limited to travel-sized containers that are 3.4 ounces (100 milliliters) or less per item.
[6] *Agile Methodology for Software Development and Delivery for Information Technology Instruction 102-01-004*, February 19, 2020.

Framework to streamline the ALF and provide additional guidance on defining, executing, and overseeing rapid acquisition programs.[7] However, this guidance was not available during TSA's acquisition of CT systems under the AT program and DHS did not approve TSA to conduct a rapid acquisition.

DHS Did Not Provide Adequate Oversight of Test and Evaluation

According to DHS' acquisition management instruction, components must conduct operational test and evaluation to demonstrate a system satisfies the user's operational needs, as defined by the Operational Requirements Document, prior to the "Produce" phase. Key performance parameters are the most important non-negotiable requirements that must be met for an acquisition program to be considered successful in fulfilling an identified capability need. Failure to meet key performance parameters may lead to a program breach.[8]

Once an operational test is completed, DHS' Director, Office of Test and Evaluation prepares a Letter of Assessment concluding whether the system is operationally effective and suitable for procurement. If the test is successful, DHS may authorize the component to move into the "Produce" phase of the ALF. Upon receiving a favorable decision, TSA places approved systems on a qualified product list. The list contains systems that have successfully completed the test and evaluation process and have been approved by DHS. Successful vendors added to the qualified product list are eligible for future competitive contract awards.

Despite operational test and evaluation requirements, DHS allowed TSA to proceed to full rate production ("Produce" phase) even though the system did not meet its key performance parameter for throughput. DHS did not require TSA to develop a remediation plan or re-evaluate its performance requirement as required by DHS' acquisition guidance. Instead, DHS approved TSA's decision to accept the CT system in exchange for attaining the advanced detection capabilities it offered over the AT X-ray.

According to DHS officials, TSA had an urgent need at passenger screening checkpoints and decided to expedite the ALF review process to address this operational threat. However, TSA did not have a certified urgent operational need, which allows acquisition programs to sacrifice meeting key performance parameters to deploy a solution quickly. During follow-up interviews, officials from the DHS Joint Requirements Council and the Office of Program Accountability and Risk Management confirmed that TSA was not approved for

[7] *DHS Instruction 102-01-011, Revision 00.1, Rapid Acquisition,* February 25, 2020.
[8] A program breach occurs when a program or project fails to meet any cost, schedule, or performance threshold in the approved Acquisition Program Baseline.

this type of acquisition. Nevertheless, DHS allowed TSA to accept the risk and proceed with the program in breach of one its key performance parameters.

In addition, we determined DHS did not assess TSA's detection upgrade prior to fully incorporating it into the CT system, as required by DHS' acquisition guidance. According to Department officials, the upgrade was deemed low risk with no additional costs. Department officials also noted that TSA did not need the Department's approval because the DHS Under Secretary for Management delegated his authority to TSA to make changes to deployed and operational systems, including detection algorithm upgrades. This delegation only applies to systems on the qualified products list and does not apply to unqualified system upgrades. We contacted TSA to verify whether vendors were added to the qualified product list for CT systems. At the time of our audit, there were no vendors on the qualified products list. Therefore, the delegation of authority would not be applicable, and any system upgrades would have to comply with DHS acquisition guidance.

Conclusion

DHS is missing opportunities to provide better oversight of TSA's acquisition of CT systems. Sound acquisition management requires clear policies and processes to properly execute major systems acquisitions and ensure these efforts achieve intended results. Given the security mission and this significant investment in technology, it is critical that DHS ensure it has proper controls over major systems acquisitions. Without adequate controls and oversight, TSA risks spending over $700 million in future appropriated funding to purchase CT systems that may never fully address capability needs.

Recommendations

Recommendation 1: We recommend the DHS Under Secretary for Management revise acquisition guidance to include approved acquisition approaches and require documented approval of any deviations prior to program execution.

Recommendation 2: We recommend the DHS Under Secretary for Management determine whether to issue guidance, and/or a job aid, for the incremental delivery of capabilities.

Recommendation 3: We recommend the DHS Director, Office of Test and Evaluation review and assess whether TSA's detection upgrade for the Computed Tomography system is operationally effective and suitable for procurement.

Management Comments and OIG Analysis

DHS concurred with the three recommendations in this report. Appendix A contains a copy of DHS' management response in its entirety. DHS also provided technical comments to our draft report, and we made changes to incorporate these comments, as appropriate. We consider recommendations 1 and 2 open and resolved. Recommendation 3 is open and unresolved. A summary of the Department's responses and our analysis follows.

Although DHS agreed with the recommendations, DHS did not agree with our report's overall conclusion. DHS asserted that we demonstrated a lack of understanding of the DHS acquisition and oversight process. Specifically, DHS contends that an incremental delivery approach is not precluded from policy requirements just because the policy does not specifically address incremental delivery. According to the Department, the use of "blocks," or increments, is among the most common acquisition approaches throughout the Federal Government, including DHS, since many programs are designed to deliver capability to the user as soon as possible in manageable increments, blocks, or segments. However, sound acquisition management requires clear policies and processes to properly execute major systems acquisitions and ensure these efforts achieve intended results. We recognize DHS has been working on a way to field capabilities faster to keep pace with ever-changing threats and are pleased DHS will update its acquisition guidance as a result of our report.

The Department also disagreed with our conclusion that TSA deployed CT systems that did not meet all required capabilities. Specifically, DHS asserted that CT systems were initially deployed with the most up-to-date detection algorithm turned on, and with a more advanced detection algorithm already pre-loaded on each system that could easily be activated following favorable test results. In July 2020, the DHS Chief Acquisition Officer (CAO) approved TSA's request to activate the pre-loaded detection algorithm on all CT systems, based on an updated TSA System Evaluation Report. However, DHS' acquisition management instruction requires a Letter of Assessment from DHS' Director, Office of Test and Evaluation, concluding whether the operational test was adequate and whether the system is operationally effective and suitable for procurement. A Letter of Assessment was to be issued for each Increment, since functionality varied by Increment. Although DHS' Director, Office of Test and Evaluation, issued a Letter of Assessment that assessed candidate CPSS devices in July 2021, there is no Letter of Assessment for the detection upgrade incorporated to deployed CT systems in July 2020.

Additionally, DHS clarified its decision on the CT system's throughput requirement stating that, after detailed discussion at the Acquisition Review

Board (ARB), the CAO and ARB members concluded that deployment of the CT systems, "albeit with a slightly slower throughput rate, but with a significant increase in detection over existing AT X-ray systems, was an acceptable risk." According to test data, the CT systems demonstrated the capability of meeting the throughput requirement once the users were more familiar with the systems. The need to protect the traveling public was paramount and, as the test data suggested at the time, the throughput of the CT systems continued to improve since deployment. However, an operational test and evaluation is required to demonstrate a system satisfies the user's operational needs. Key performance parameters are the most important non-negotiable requirements that must be met during testing for an acquisition program to be considered successful in fulfilling an identified capability need. As stated in our report, despite unmet operational test and evaluation requirements, DHS allowed TSA to proceed to full rate production ("Produce" phase) even though the system did not meet its key performance parameter for throughput. Instead the throughput key performance parameter was omitted when the CT project under the existing Advanced Technology program was transferred to the Checkpoint Property Screening System program.

Lastly, the Department contended that we confused the "urgent need" expressed by TSA and Congress for an improved detection capability, with the specific and unrelated Urgent Operational Need (UON) requirements process defined in *DHS Instruction Manual 107-01-001, Rev 01, DHS Manual for the Operation of the Joint Requirements Integration and Management System*, September 20, 2018. We did not confuse "urgent need" with Urgent Operational Need. As explained in our report, the Department allowed TSA to establish a new project under an existing Advanced Technology program, expedited the DHS Acquisition Lifecycle Framework because of an expressed "urgent need," and allowed TSA to sacrifice meeting the throughput key performance parameter in exchange for the advanced detection capabilities the CT system offered. These decisions would have been justified had a certified Urgent Operational Need been approved. Although TSA was granted an expedited acquisition review process, TSA needed to meet key performance requirements prior to deploying the CT systems as required by DHS acquisition guidance; it did not.

DHS Response to Recommendation 1: Concur. DHS Management Directorate's Office of Program Accountability and Risk Management (MGMT PARM) will issue guidance on acquisition approaches or strategy. The guidance will ensure Program Managers develop overarching acquisition strategies for delivering a capability reviewed by the Department. Additionally, the guidance will address the process to identify, document, and approve deviations from the originally established approach. Estimated Completion Date (ECD): August 31, 2022.

OIG Analysis: MGMT PARM's corrective action is responsive to the recommendation. We consider this recommendation resolved and open pending the issuance of DHS guidance on acquisition approaches or strategy.

DHS Response to Recommendation 2: Concur. MGMT PARM will assess the need for additional guidance and/or a job aid with respect to the incremental delivery of capabilities. Additionally, PARM is in the process of updating *Instruction 102-01-001, Acquisition Management,* and will assess the need to add or clarify the language in the instruction, as appropriate. ECD: August 31, 2022.

OIG Analysis: MGMT PARM's corrective action is responsive to the recommendation. We consider this recommendation resolved and open pending the determination to issue a job aid and to update Instruction 102-01-001 for the incremental delivery of capabilities.

DHS Response to Recommendation 3: Concur. DHS' Director, Office of Test and Evaluation published a CPSS Letter of Assessment on July 23, 2021, that assessed candidate CPSS devices with the latest detection algorithm. Once TSA completes and reports on CT system 6.2 Follow-on operational test and evaluation, DHS' Director, Office of Test and Evaluation will assess results and provide the DHS Deputy Under Secretary for Management subsequent conclusions and recommendations for consideration, as appropriate. ECD: To Be Determined.

OIG Analysis: DHS' Director, Office of Test and Evaluation's corrective action is not responsive to the recommendation. The July 23, 2021 CPSS Letter of Assessment that assessed candidate CPSS devices with the latest detection algorithm did not include the Smiths Detection system detection upgrade in July 2020. We consider this recommendation unresolved and open pending an ECD and a Letter of Assessment of the Smiths Detection system detection upgrade, or evidence the CT system was upgraded with the assessed candidate CPSS devices.

Objective, Scope, and Methodology

The Department of Homeland Security Office of Inspector General was established by the *Homeland Security Act of 2002* (Public Law 107–296) by amendment to the *Inspector General Act of 1978*.

We conducted this audit to determine to what extent TSA's acquisition of computed tomography addresses needed capabilities. To accomplish our objective, we identified and reviewed pertinent departmental policies, procedures, and directives including *DHS Acquisition Management Instruction*

102-01-001; DHS Agile Development and Delivery for Information Technology Instruction Manual 102-01-004-01; DHS Manual for the Operation of the Joint Requirements Integration and Management System 107-01-001-01; and *DHS Systems Engineering Life Cycle Guidebook, 102-01-103-01*. We also reviewed and analyzed prior audit reports related to the audit objective including Government Accountability Office reports and congressional testimony.

To understand TSA's operational requirements and acquisition approach for the AT and CPSS programs, we reviewed TSA's 2016 *Transportation Security Capability Analysis Process* report. We also conducted interviews with officials from TSA's Acquisition Program Management office and Requirements and Capabilities Analysis office, and obtained and analyzed the following relevant acquisition documents:

- *Mission Needs Statement for Accessible Property Screening,* November 2017
- *Operational Requirements Document for Advanced Technology-2 (AT-2) Devices,* February 2018
- *Advanced Technology (AT Program) Acquisition Plan,* August 2018
- *Checkpoint Property Screening System (CPSS) Acquisition Plan,* August 2019
- *Acquisition Program Baseline for Advanced Technology Program (AT Program) Acquisition Program Management,* December 2018
- *Concept of Operations for Accessible Property Screening System,* June 2019
- *Operational Requirements Document for Accessible Property Screening System (APSS),* July 2019
- *Functional Requirements Document for the Checkpoint Property Screening System – Increment 1,* February 2020
- *Acquisition Program Baseline for the Checkpoint Property Screening System Program, Version 1.1*, November 2020

To assess whether the CT system met needed capabilities we identified operational requirements and reviewed Test and Evaluation Master Plans. We interviewed officials from the Science and Technology Directorate and obtained and reviewed the Letter of Assessment issued by the Director, Office of Test and Evaluation to determine whether CT systems met key performance parameters.

To evaluate the Department's oversight of TSA's CT system acquisitions, we reviewed and analyzed DHS acquisition guidance, acquisition lifecycle documents, and decision memoranda. We also interviewed officials from the Office of Program Accountability and Risk Management, Office of the Chief

Information Officer, and the Joint Requirements Council. We evaluated oversight reviews and justifications necessary for departmental acquisitions to progress through DHS' ALF.

To evaluate TSA's acquisition approach, we reviewed acquisition planning documents and Acquisition Decision Memorandums. We interviewed officials from the Office of Program Accountability and Risk Management, Office of the Chief Information Officer, Science and Technology Directorate, and the Joint Requirements Council. To determine the extent to which DHS policies and processes reflect incremental delivery of capability, we reviewed current DHS policies. Specifically, we assessed the *Agile Requirements and Road Mapping Guidance, Agile Instruction (102-01-004)*, and *Agile Instruction Manual (102-01-004-01)*; the joint requirements directives and instruction manual; *DHS' Acquisition Management Directive 102-01* and *DHS Instruction 102-01-001, Revision 1.3, DHS Acquisition Management Instruction 102-01-001,* and other related guidance.

We assessed internal controls related to TSA's acquisition of computed tomography addressing needed capabilities. Our assessment of TSA and DHS policies and procedures would not disclose all material weakness in the control structure. Our assessment disclosed that DHS lacked oversight and guidance to ensure acquisition personnel followed key steps required by the DHS ALF. Because our review was limited to addressing our audit objective, it may not have disclosed all internal control weaknesses that may have existed at the time of this audit. We discuss identified internal control weaknesses in the body of the report.

We conducted this performance audit between March 2020 and April 2021 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.

The Office of Audit major contributors to this report are Carolyn Hicks, Director; Paul Exarchos, Audit Manager; Areti Bruno, Auditor-in-Charge; Michael Levy, Auditor; Michaela Stuart, Program Analyst; Lindsey Koch, Communications Analyst; and Saajan Paul, Independent Referencer.

Appendix A
DHS Comments to the Draft Report

U.S. Department of Homeland Security
Washington, DC 20528

Homeland Security

September 3, 2021

MEMORANDUM FOR: Joseph V. Cuffari, Ph.D.
Inspector General

FROM: Jim H. Crumpacker, CIA, CFE
Director
Departmental GAO-OIG Liaison Office

JIM H CRUMPACKER
Digitally signed by JIM H CRUMPACKER
Date: 2021.09.03 07:19:24 -04'00'

SUBJECT: Management Response to Draft Report: "DHS Did Not Effectively Oversee TSA's Acquisition of Computed Tomography Systems" (Project No. 20-024-AUD-TSA)

Thank you for the opportunity to comment on this draft report. The U.S. Department of Homeland Security (DHS or the Department) appreciates the work of the Office of Inspector General (OIG) in planning and conducting its review and issuing this report.

Department leadership is pleased to note OIG's recognition that the Transportation Security Administration (TSA) uses a combination of technology and services to screen passengers and carry-on bags for concealed threats as they enter the airport security checkpoint to mitigate existing and evolving threats. However, leadership does not agree with OIG's overall conclusion that the Department "did not provide adequate oversight of TSA's acquisition of computed tomography (CT) systems." Leadership is also concerned that OIG's draft report is inaccurate and misleading in several respects.

Specifically, TSA worked openly and collaboratively with several DHS oversight organizations[1] to deploy increased detection capability provided by CT in the airports rapidly, while still following DHS acquisition policy. The Department's Advanced Technology (AT) and Checkpoint Property Screening System (CPSS) acquisition programs followed all Departmental acquisition policies and guidance, and were overseen throughout the Acquisition Lifecycle Framework by the Department's Chief Acquisition Officer (CAO) and the Acquisition Review Board (ARB), as well as the TSA Component Acquisition Executive.

[1] Such as the DHS Management Directorate's Office of Program Accountability and Risk Management (MGMT PARM).

The OIG's findings in the draft report demonstrate a lack of understanding of the DHS acquisition and oversight process. For example, the report states that "DHS did not provide adequate oversight of TSA's acquisition approach" because the CPSS program is delivering capabilities in increments, and the OIG consequently determined that DHS acquisition policy does not recognize incremental delivery as an approved approach. However, it is important to understand that an incremental delivery is not precluded just because DHS policy does not specifically address incremental delivery. In actuality, the uses of "blocks," or increments, are among the most common acquisition approaches throughout the Federal Government, including DHS, since many programs are designed to deliver capability to the user as soon as possible in manageable increments, blocks, or segments. In the case of CPSS, the incremental delivery strategy is driven by technological readiness and funding availability, and it was presented to, and approved by, the DHS CPSS ADE-2B DHS ARB on December 17, 2020, and documented in the CPSS ADE-2B ARB Acquisition Decision Memorandum (ADM) dated February 2, 2021.

Further, "cold readers" of OIG's draft report are left to believe that TSA's strategy and plans to test, procure, and deploy the initial 300 CT systems lacked DHS oversight and were not in compliance with DHS acquisition policy, but this is inaccurate, as DHS approved TSA's strategy at every step of the acquisition. For instance, the DHS ARB approved TSA's request to establish the AT/CT project under the existing AT Program in parallel to establishing the CPSS as a "Program of Record." The agreed-upon plan was to transfer the AT/CT project under CPSS once it was established. In December 2018, after conducting Operational Test and Evaluation (OT&E), the DHS ARB granted the AT/CT project an Acquisition Decision Event-3 (ADE-3) approval, and also approved TSA's request to procure and deploy up to 300 CT systems to high-risk airports. The CPSS Program received ADE-2A approval, and the AT/CT project officially transferred to the CPSS Program on August 29, 2019, as planned.

Additionally, the OIG report found that the AT/CTs "only provided a temporary detection improvement" when procured, and as a result, TSA was required to immediately upgrade the systems' detection algorithm, but this finding is inaccurate and misleading. In reality, the AT/CTs were initially deployed with the most up-to-date AT algorithm (AT-2 Tier II) turned on, but with a more advanced algorithm (Accessible Property Screening Systems (APSS) 6.2 Level 0) already pre-loaded on each system, that could easily be activated following favorable test results, the plan for which was also approved during the December 2018 ARB. In July 2020, the DHS CAO approved TSA's request to activate the pre-loaded APSS 6.2 Level 0 detection algorithm on all AT/CT systems, based on an updated TSA "System Evaluation Report: Smiths Detection Hi-Scan 6040 CTiX AT/CT Upgrade to 6.2 Level 0 Algorithm," dated June 26, 2020, which confirmed that the algorithm provided increased threat detection capability,

reduced false alarm rates, and increased throughput.

The OIG's draft report further claims that the AT/CT systems did not meet a minimum throughput testing requirement, but DHS allowed TSA to deploy them anyway. This claim misrepresents the thorough process used in addressing the issue and does not recognize the impact of AT/CT on overall transportation security. After detailed discussion at the ARB, the CAO and ARB members concluded that deployment of the AT/CT systems, albeit with a slightly slower throughput rate, but with a significant increase in detection over existing AT machines, was an acceptable risk. Additionally, test data demonstrated that the systems possessed the capability of meeting the throughput requirement once the users were more familiar with the systems. The need to protect the travelling public was paramount and, as the test data suggested at the time, the throughput of the AT/CTs continued to improve since deployment. This decision is documented in the December 2018 ARB ADM, and again is consistent with DHS acquisition policy.

Finally, the OIG mistakenly concluded that "[a]ccording to DHS officials, TSA had an urgent need at passenger screening checkpoints and decided to expedite the ALF review process to address this operational threat. However, TSA did not have a certified urgent operational need, which allows acquisition programs to sacrifice meeting key performance parameters to deploy a solution quickly." The OIG apparently confused the "urgent need" expressed by TSA and Congress for an improved detection capability, with the specific and unrelated Urgent Operational Need (UON) requirements process defined in DHS Instruction Manual 107-01-001, Rev 01,"DHS Manual for the Operation of the Joint Requirements Integration and Management System," dated September 20, 2018. The UON process is specifically for "the need to mitigate a materiel capability gap caused by a watershed shift in the threat or hazard environment" and "if not addressed in an expedited manner (e.g., fielded capability in less than one year), this shift in the threat or hazard could result in loss of life or imminent failure to a mission…" In the case of the AT/CTs, a UON was neither appropriate nor needed; DHS and TSA used standard DHS acquisition processes to successfully procure and deploy the AT/CTs.

Although DHS leadership does not agree with OIG's overall conclusion and believes that the Department ensured acquisition policy was followed and provided adequate oversight, DHS concurs with the three recommendations contained in the draft report. Attached find our detailed response to each recommendation. DHS previously submitted technical comments addressing accuracy, contextual, and other issues under a separate cover for OIG's consideration.

Again, thank you for the opportunity to review and comment on this draft report. Please feel free to contact me if you have any questions.

Attachment

Attachment: Management Response to Recommendations Contained in Project No. 20-024-AUD-TSA

OIG recommended that the DHS Under Secretary for Management:

Recommendation 1: Revise acquisition guidance to include approved acquisition approaches and require documented approval of any deviations prior to program execution.

Response: Concur. MGMT PARM will issue guidance on acquisition approaches or strategy. The guidance will ensure Program Managers develop overarching acquisition strategies for delivering capability that is reviewed by the Department. Additionally, the guidance will address the process to identify, document, and approve deviations from the originally established approach. Estimated Completion Date (ECD): August 31, 2022.

Recommendation 2: Determine whether to issue guidance, and/or a job aid, for the incremental delivery of capabilities.

Response: Concur. MGMT PARM will assess the need for additional guidance and/or a job aid with respect to the incremental delivery of capabilities. Additionally, PARM is in the process of updating Instruction 102-01-001, "Acquisition Management," and will assess the need to add or clarify the language in the instruction, as appropriate. ECD: August 31, 2022.

OIG recommended that the DHS Director, OT&E:

Recommendation 3: Review and assess TSA's detection upgrade for the Computed Tomography system is operationally effective and suitable for procurement.

Response: Concur. The DHS Director of OT&E published a CPSS Letter of Assessment on July 23, 2021, that assessed candidate CPSS devices with the latest detection algorithm. Once TSA completes and, reports on, AT/CT 6.2 Follow-on OT&E, the Director of OT&E will assess results and provide the DHS Deputy Under Secretary for Management subsequent conclusions and recommendations for consideration, as appropriate. ECD: To Be Determined.

Appendix B
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