

OFFICE OF INSPECTOR GENERAL

The Transportation Security Administration Does Not Properly Manage Its Airport Screening Equipment Maintenance Program



Homeland
Security

May 6, 2015
OIG-15-86



HIGHLIGHTS

The Transportation Security Administration Does Not Properly Manage

Its Airport Screening Equipment Maintenance Program

May 6, 2015

Why We Did This

We reviewed TSA's airport screening equipment maintenance program to determine whether TSA is properly managing its screening equipment maintenance contracts and related maintenance activities. TSA's four maintenance contracts, which cover both preventive and corrective maintenance, are valued at about \$1.2 billion. According to TSA, in fiscal year 2014, it spent about \$251 million on maintenance for its screening equipment.

What We Recommend

To strengthen program oversight, we recommend TSA develop, implement, and enforce policies and procedures to ensure its screening equipment is maintained as required and is fully operational while in service.

For Further Information:

Contact our Office of Public Affairs at (202) 254-4100, or email us at DHS-OIG.OfficePublicAffairs@oig.dhs.gov

What We Found

The Transportation Security Administration (TSA) is not properly managing the maintenance of its airport screening equipment. Specifically, TSA has not issued adequate policies and procedures to airports for carrying out equipment maintenance-related responsibilities. Because TSA does not adequately oversee equipment maintenance, it cannot be assured that routine preventive maintenance is performed or that equipment is repaired and ready for operational use.

Without diligent oversight, including implementing adequate policies and procedures and ensuring it has complete, accurate, and timely maintenance data for thousands of screening equipment units, TSA risks shortening equipment life and incurring costs to replace equipment. If the equipment is not fully operational, TSA may have to use other screening measures, which could result in longer wait times and delays in passenger and baggage screening. More importantly, our prior work on airport passenger and baggage screening demonstrated that these other measures may be less effective at detecting dangerous items. Consequently, the safety of airline passengers and aircraft could be jeopardized.

TSA's Response

We made three recommendations and TSA agreed that, when implemented, should strengthen the TSA's oversight of its screening equipment maintenance program and ensure equipment is properly maintained and fully operational while in service.



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Abbreviations

AIT	Advanced Imaging Technology
DHS	Department of Homeland Security
EDS	Explosives Detection System
ETD	Explosives Trace Detection
FDRS	Field Data Reporting System
FY	fiscal year
GAO	Government Accountability Office
OIG	Office of Inspector General
TSA	Transportation Security Administration



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Background

As part of its mission to protect the Nation’s transportation systems, TSA relies on screening equipment at airports to prevent dangerous items from being carried on aircraft. Each day, TSA screens about 1.8 million airline passengers and about 1.2 million checked bags at roughly 450 domestic airports nationwide. TSA has four maintenance contracts valued at a total of about \$1.2 billion, which cover both preventive and corrective maintenance for out-of-warranty screening equipment. These contracts cover maintenance for 1 base year plus at least 3 option years.¹ Appendix D contains details on the four contracts. According to TSA data, during fiscal year (FY) 2014, the component spent approximately \$251 million on maintenance-related activities for its airport screening equipment.

According to TSA, it screens passengers and their baggage using more than 9,000 pieces of checkpoint and checked baggage screening equipment at airports nationwide. We reviewed maintenance data on the following checkpoint passenger screening equipment: Explosives Trace Detection (ETD) machines, Advanced Imaging Technology (AIT) machines, Bottled Liquid Scanners, x-ray machines, and walkthrough metal detectors. We also reviewed maintenance data for Explosives Detection System (EDS) and ETD checked baggage screening equipment. See figure 1 for examples of AIT, ETD, and EDS equipment.

Figure 1: Examples of AIT, ETD, and EDS Equipment



L3 ProVision AIT
Source: L3 Communications

IONSCAN 500DT ETD
Source: Smiths Detection

Reveal CT-80DR EDS
Source: Leidos

The different types and levels of maintenance are defined in the maintenance contracts. As part of routine preventive maintenance, contracted technicians are to perform specific maintenance actions according to contractual requirements and manufacturer specifications. According to the maintenance

¹ TSA’s contract with Siemens Government Services, Inc. covers two base periods within the first year.



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contracts, preventive maintenance is to be scheduled during nonoperational hours or during nonpeak operational hours, with approval of local TSA officials. Corrective maintenance is unscheduled and includes replacing parts and repairing equipment as needed.

TSA's Service Response Center, a contractor-operated call center, is the single point of contact for all corrective maintenance service requests. The Service Response Center's responsibilities include receiving trouble calls, generating and referring work orders, coordinating maintenance, and updating the status of work orders. The center also provides technical support during the life cycle of all TSA screening equipment, including equipment maintained by other service providers. See appendix E for a diagram of the corrective maintenance process for TSA's screening equipment.

TSA's Office of Security Capabilities' Integrated Logistics Support branch is responsible for maintenance of transportation security equipment used to screen passengers and baggage to detect explosives and other dangerous items. The branch manages the maintenance contracts. Each contract has an assigned contracting officer and contracting officer's representative to ensure compliance with the contractual requirements for specific screening equipment. The branch is also responsible for tracking maintenance issues and enforcing penalties on contractors for not complying with contractual requirements. To monitor contractor performance, the Integrated Logistics Support branch reviews contractor-provided data, which is submitted electronically to TSA each month. Additionally, as part of its monitoring, TSA contracted with a company to review and analyze contractor-provided maintenance data.

In July 2006, the Government Accountability Office (GAO) issued a report on TSA's efforts to control the costs of EDS and ETD machines.² GAO also examined the extent of TSA's oversight of maintenance contractors' performance for EDS and ETD machines. GAO concluded that TSA had policies to monitor contracts, but did not have policies and procedures requiring documentation for the review of contractor-submitted performance data. GAO also reported that TSA did not have reasonable assurance that contractors were performing as required and that full payment was justified. According to GAO, because TSA agreed with and implemented the recommendations, it closed them. Neither GAO nor TSA could provide documentation and details about the actions taken.

² GAO-06-795, *Oversight of Explosive Detection Systems Maintenance Contracts Can Be Strengthened*.



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Results of Audit

TSA is not properly managing the maintenance of its airport screening equipment. The component has not issued adequate policies and procedures to airports for carrying out maintenance-related responsibilities. TSA also does not adequately oversee screening equipment maintenance. Therefore, TSA cannot be assured that routine preventive maintenance is performed or that equipment is repaired and ready for operational use.

Without diligent oversight, including implementing adequate policies and procedures and ensuring it has complete, accurate, and timely maintenance data for thousands of screening equipment units, TSA risks shortening equipment life and incurring costs to replace equipment. If the equipment is not fully operational, TSA may have to use other screening measures, which could result in longer wait times and delays in passenger and baggage screening. More importantly, our prior work on airport passenger and baggage screening demonstrated that these other measures may be less effective at detecting dangerous items. Consequently, the safety of airline passengers and aircraft could be jeopardized.

We are making three recommendations to TSA that, when implemented, should strengthen the component's oversight of its screening equipment maintenance program and ensure equipment is properly maintained and fully operational while in service.

TSA Does Not Properly Manage Its Screening Equipment Maintenance Program

Preventive Maintenance

TSA does not have adequate procedures to ensure that screening equipment preventive maintenance is completed according to contractual requirements and manufacturers' specifications, and it does not adequately oversee the preventive maintenance process. Specifically:

- TSA has not issued guidance to the airports on tracking and monitoring preventive maintenance actions.
- TSA relies on self-reported data provided by the maintenance contractors and does not validate the data to confirm that required preventive maintenance actions have been completed.
- TSA cannot be certain preventive maintenance has been completed in the required timeframe because contractor-provided data in reports is incomplete.



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- TSA's maintenance contracts do not include performance measurements for preventive maintenance or penalties that TSA can enforce if contractors do not perform preventive maintenance as required.

According to the maintenance contracts in place at the time of our review, there are two levels of preventive maintenance. Level I maintenance is performed by local TSA personnel, primarily daily or weekly, and does not require opening a machine to inspect mechanical operations. Level II maintenance is primarily performed monthly, quarterly, or annually by trained maintenance technicians. Also, as part of Level II maintenance, contractors are to verify TSA personnel's performance of Level I preventive maintenance.

Other than a calibration test for ETD machines, TSA has not provided sufficient guidance to local TSA airport personnel on procedures to properly document, track, and maintain Level I preventive maintenance actions. For the nine airports we reviewed, we noted that some maintenance logs contained incomplete or inconsistent data.

According to the maintenance contracts, contractors are required to verify the performance of Level I preventive maintenance performed by TSA personnel. TSA personnel at seven of the nine airports we reviewed could not provide any documentary evidence that contractors were verifying Level I maintenance. We also noted that two airports used locally developed ETD maintenance logs, which did contain maintenance technician signatures. Without accurate and complete maintenance logs for all equipment, TSA cannot ensure that airport personnel are performing Level I preventive maintenance. TSA also cannot be certain contractors are complying with the requirement to verify performance of Level I preventive maintenance actions.

TSA also does not ensure that contractor-reported data on Level II preventive maintenance is accurate. According to their contracts, the maintenance contractors are to schedule all Level II preventive maintenance and, at the end of every month, submit reports on all maintenance actions performed that month. A separate TSA contractor is responsible for reviewing and analyzing maintenance data and verifying that the contractors are complying with requirements to perform monthly preventive maintenance on all screening equipment. However, because TSA has not provided this contractor with the prescribed preventive maintenance schedules to use for comparison, it cannot confirm that the maintenance was performed as required. Local TSA personnel were also unaware of Level II preventive maintenance requirements. TSA personnel at six of nine airports we reviewed were not aware of the contractors' preventive maintenance schedule or did not know whether preventive maintenance had been performed.



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TSA's maintenance contracts do not include a penalty structure for missed preventive maintenance actions. One contractor said that if it does not complete all preventive maintenance required in a month, they compensate by performing additional maintenance the following month. In our opinion, performing additional maintenance in the subsequent month is contrary to the intent of preventive maintenance, which is to be performed at regular intervals.

TSA acknowledged that oversight of preventive maintenance should be improved and standardized. In April 2014, it initiated a pilot program at five airports to track maintenance actions in the Airport Information Management System. TSA is still refining the system, but intends to use it to track and manage local preventive maintenance requirements, as well as report and store historical maintenance information.

Corrective Maintenance

TSA also does not adequately oversee contractors' corrective maintenance of screening equipment. TSA could not provide evidence it independently validates contractor-reported corrective maintenance data for accuracy and reliability to ensure contractors are meeting equipment performance requirements. At the nine airports we reviewed, TSA did not consistently enforce its own requirement that local TSA personnel acknowledge corrective maintenance actions have been completed and equipment is ready for operational use.

TSA has developed performance data elements for its corrective maintenance contractors to track how long screening equipment is out of service and what percentage of time it is operationally unavailable. To assess equipment performance and compliance with contractual requirements, maintenance contractors are required to collect and report specific corrective maintenance data, including the time and date of each step in the maintenance process. The TSA contractor that gathers and analyzes preventive maintenance data also gathers the corrective maintenance data to ensure the contractors are meeting the required performance measurements. TSA can penalize maintenance contractors that do not meet these performance requirements.

Every month, the TSA contractor gathers data from the maintenance contractors on dates and times of their corrective maintenance actions, as well as whether they have met performance requirements. However, TSA does not compare this contractor-provided maintenance data to information from other sources to ensure it is valid and accurate. For two of the airports we reviewed, we attempted to, but could not validate contractor-reported maintenance data because it was not comparable to information from other sources. For example, at one airport, corrective maintenance actions were based on ticket numbers, which did not correspond with the contractors' work order numbers.



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Additionally, we attempted to compare contractor-provided data to information reported in the Field Data Reporting System (FDRS), which pulls information directly from the screening equipment. For example, FDRS data for EDS machines captures the numbers and types of bags (i.e., operational or test bags) that are run through an EDS machine. However, we were unable to compare the information because of data reliability issues. TSA personnel believe some unreliable data may have been the result of maintenance technicians incorrectly reporting non-critical maintenance actions as critical or may have recorded timestamps incorrectly.

According to TSA, FDRS may not be accurately capturing the types of bags running through EDS machines, which help determine whether a machine was in operational mode or test mode. Therefore, we could not be certain whether a specific EDS machine was operational or if it was in test mode at a specific date and time. As a result, the contractor may have incorrectly reported that the equipment was out of service, but it is also possible that passenger bags were screened by equipment that was not fully operational.

TSA acknowledged that it has not developed policies or procedures to ensure that airport personnel comply with a requirement to verify and “sign off” on all corrective maintenance actions. This would help ensure maintenance has been completed and screening equipment is ready for service. At the nine airports we reviewed, local TSA personnel said maintenance contractor technicians do not always notify them when equipment is repaired or obtain TSA’s sign off when maintenance has been completed. According to the technicians we interviewed at one airport, local TSA personnel are not always available or willing to accept the responsibility of acknowledging the equipment has been repaired.

Conclusion

In carrying out its mission to safeguard millions of airline passengers and aircraft, TSA has made a significant investment in acquiring and maintaining passenger and baggage screening equipment. Without diligent oversight, including implementing adequate policies and procedures and ensuring it has complete, accurate, and timely maintenance data for thousands of screening equipment units, TSA risks shortening equipment life and incurring costs to replace equipment. If the equipment is not fully operational, TSA may have to use other screening measures which could result in longer wait times and delays in passenger and baggage screening. More importantly, our prior work on airport passenger and baggage screening demonstrated that these other measures may be less effective at detecting dangerous items. Consequently, the safety of airline passengers and aircraft could be jeopardized.



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Recommendations

We recommend that TSA's Office of Security Capabilities and Office of Security Operations:

Recommendation 1: Develop and implement a preventive maintenance validation process to verify that required routine maintenance activities are completed according to contractual requirements and manufacturers' specifications. These procedures should also include instruction for appropriate TSA airport personnel on documenting the performance of Level 1 preventive maintenance actions.

Recommendation 2: Develop and implement policies and procedures to ensure that local TSA airport personnel verify and document contractors' completion of corrective maintenance actions. These procedures should also include quality assurance steps that would ensure the integrity of the information collected.

We recommend that TSA's Office of Acquisition:

Recommendation 3: Enhance future screening equipment maintenance contracts by including penalties for noncompliance when it is determined that either preventive or corrective maintenance has not been completed according to contractual requirements and manufacturers' specifications.



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Management Comments and OIG Analysis

TSA provided comments to the draft report. A copy of TSA's response is included in its entirety in appendix C. In the response, TSA recognized its responsibility for effective management of airport screening equipment. TSA also acknowledged that maintenance of this equipment is central to the agency's mission to protect U.S. transportation systems.

Overall, TSA concurred with our recommendations and acknowledged the need for improved program oversight, particularly with tracking and awareness of preventive and corrective maintenance activities at the local airport level. However, TSA takes issue with the title of the report, stating that it does not accurately characterize the conditions and findings noted in the report. Furthermore, TSA stated the program's effectiveness should not be questioned as suggested by the report title. Additionally, TSA asserted its maintenance program has consistently achieved operational availability rates above 98 percent. TSA also claimed that the service life of much of its airport security equipment has been extended beyond initial life expectancy rates through TSA's use of performance-based maintenance contracts.

We disagree that the title of our report does not accurately reflect our findings regarding TSA's airport screening equipment maintenance program. We determined that TSA does not have adequate procedures to ensure that preventive maintenance for its screening equipment is completed according to contractual requirements and manufacturer's specifications. We also determined that TSA does not adequately oversee the preventive and corrective maintenance processes for its equipment. In our opinion, proper management of a program requires effective oversight to ensure the program goals are met.

Response to Recommendation #1: TSA concurred. TSA stated that procedures for all Level 1 preventive maintenance will be clarified and re-issued to all TSA airport locations, along with guidance for conducting and documenting preventive maintenance. TSA's Office of Security Operations will develop a process for verification of compliance with this guidance. Additionally, TSA will establish procedures to provide airport personnel with monthly Level 2 preventive maintenance schedules for arranging and monitoring these actions. TSA anticipates completion of these activities by September 30, 2015.

OIG Analysis: We consider TSA's planned actions responsive to our recommendation. This recommendation is resolved and will remain open until TSA provides documentation that (1) preventive maintenance procedures, including conducting and documenting these actions, have been re-issued to



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the airports, (2) verification of compliance with this process has been developed, and (3) procedures to provide airport personnel with monthly Level 2 preventive maintenance schedules have been established.

Response to Recommendation #2: TSA concurred. TSA indicated it will establish automated procedures to notify its airport personnel when corrective maintenance actions have been completed. Additionally, maintenance contractors will provide ticket status to TSA operations centers or other TSA designated points of contact at frequent intervals for awareness and verification. TSA anticipates implementation of these procedures by September 30, 2015.

OIG Analysis: We consider TSA's planned actions responsive to our recommendation. This recommendation is resolved and will remain open until TSA provides evidence that automated notification procedures for completion of corrective maintenance actions have been established and maintenance contractors are providing updates to TSA on ticket status.

Response to Recommendation #3: TSA concurred. TSA stated it has included financial penalties related to preventive and corrective maintenance in the draft statements of work for two of its soon to be awarded contracts. TSA indicated that future maintenance contracts will include these penalties as well.

OIG Analysis: We consider TSA's planned actions responsive to our recommendation. This recommendation is resolved and will remain open until TSA provides documentation to show that financial penalties for noncompliance with preventive and corrective maintenance contractual requirements are included in its future screening equipment maintenance contracts.



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Appendix A
Transmittal to Action Official



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Department of Homeland Security

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

MAY 6 2015

MEMORANDUM FOR: Jill Vaughan
Assistant Administrator
Office of Security Capabilities
Transportation Security Administration

Latetia Henderson
Assistant Administrator
Office of Acquisition
Transportation Security Administration

FROM: Mark Bell *Mark Bell*
Assistant Inspector General for Audits

SUBJECT: *The Transportation Security Administration Does Not Properly Manage Its Airport Screening Equipment Maintenance Program*

For your action is our final report, *The Transportation Security Administration Does Not Properly Manage Its Airport Screening Equipment Maintenance Program*. We incorporated the formal comments provided by your office.

The report contains three recommendations aimed at improving TSA's oversight of its screening equipment maintenance program and ensuring equipment is properly maintained and fully operational while in service. Your office concurred with all of the recommendations. Based on information provided in your response to the draft report, we consider recommendations 1 through 3 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.

Consistent with our responsibility under the *Inspector General Act*, 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 Paul Wood, Acting Deputy Assistant Inspector General for Audits, at (202) 254-4100.

Attachment



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Appendix B

Objective, Scope, and Methodology

The Department of Homeland Security (DHS) 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 TSA is properly managing its screening equipment contracts and related maintenance activities.

Our audit covered TSA's maintenance operations from October 2010 through February 2014. We researched and reviewed Federal laws, DHS management and acquisition directives, and TSA's maintenance contracts (including performance measures). We also reviewed prior reports from GAO and OIG for previously identified findings and recommendations. We interviewed TSA officials from the Office of Security Capabilities, including the Integrated Logistics Support branch, the Office of Security Operations, and the Office of Acquisition to determine their maintenance program roles and responsibilities.

To understand the screening equipment maintenance process at the airport level, we conducted site visits and interviewed airport officials at four Category X airports and one Category I airport.³ We also interviewed airport officials at three other Category X airports and one other Category I airport. For all nine airports, we reviewed pertinent maintenance-related documents from those locations.

We also interviewed officials from TSA's maintenance contractors—Leidos, L-3 Communications, Morpho Detection International, Inc., and Siemens Government Technologies, Inc. To gain an understanding of how contractor performance is evaluated, we met with representatives from TSA's contractor, Logical Essence, which works with TSA's Integrated Logistics Support branch. We attended a Program Management Review between TSA and L-3 to understand the purpose of the meetings and the maintenance-related issues addressed.

To test the reliability of contractor-provided maintenance data, we selected a sample of maintenance tickets opened during our scope period for out-of-warranty equipment not subject to depot maintenance. We limited our sample

³ TSA classifies U.S. airports into five categories (X, I, II, III, IV) based on various factors, such as the number of annual takeoffs. In general, Category X airports have the largest number of passengers boarding aircraft and Category IV airports have the smallest number.



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universe to maintenance tickets related to EDS and x-ray machines that provide FDRS data. From our universe of 216,699 tickets nationwide, we selected a random sample of 272 tickets to obtain a 90 percent confidence level and a 5 percent error rate. Our sample included 103 critical corrective maintenance tickets, 42 noncritical corrective maintenance tickets, and 127 preventive maintenance tickets. We compared the contractor-provided data for these maintenance actions to data in FDRS.

We conducted this performance audit between December 2013 and November 2014 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 C
TSA Management Comments to the Draft Report

U.S. Department of Homeland Security
601 South 12th Street
Arlington, VA 20598




Transportation
Security
Administration

APR 24 2015

INFORMATION

MEMORANDUM FOR: John Roth
Inspector General
U.S. Department of Homeland Security

FROM: Melvin J. Carraway 
Acting Administrator

SUBJECT: Transportation Security Administration Response to The
Office of Inspector General's Draft Report, titled *The
Transportation Security Administration Does Not Properly
Manage Its Airport Screening Equipment Maintenance
Program* OIG Project No. 13-085-AUD-TSA

Purpose

This memorandum constitutes the Transportation Security Administration's (TSA) formal Agency response to the subject report. TSA recognizes its responsibility for effective management of Transportation Security Equipment (TSE). We are grateful for the opportunity to review and provide comments to your draft report.

Background

TSA protects the Nation's transportation systems to ensure freedom of movement for people and commerce. The development, acquisition, deployment, and maintenance of TSE are central to TSA's mission to protect U.S. transportation systems. TSA personnel use equipment to screen air passengers, baggage, and cargo, including x-rays, explosives trace detection systems, explosives detection systems (EDS), bottled liquid scanners, and enhanced walk-through metal detectors.

In support of this program, TSA employs an equipment maintenance strategy that uses comprehensive Performance Based Logistics contracts and innovative acquisition strategies to provide for the preventive and corrective maintenance of deployed TSE. Additional routine preventive maintenance tasks that do not require a certified maintenance technician (primarily calibration and cleaning of some equipment) are performed by TSA personnel located at the airports.



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The Office of the Inspector General (OIG) performed this self-directed audit in fiscal year 2014 to determine whether routine and periodic maintenance is being performed on airport screening equipment in accordance with contractual requirements and manufacturers' specifications.

Discussion

Overall, TSA concurs with OIG's recommendations but takes issue with the proposed title, The Transportation Security Administration Does Not Properly Manage Its Airport Screening Equipment Maintenance Program, as it is not an accurate characterization of the conditions and findings noted in the report. While TSA concedes the need for improved program oversight, the effectiveness of the program should not be in doubt, as suggested by the proposed title. The TSA Screening Equipment Maintenance Program has consistently achieved TSE operational availability rates above 98 percent. In addition, the effective and efficient use of performance-based contracts for maintenance services has contributed to extending the service life of much of the deployed TSE well beyond initial life-expectancy estimates. TSA has strictly enforced these contracts and has maintained high equipment availability rates while reducing maintenance budget funding requirements in each of the three most recent budget requests. TSA acknowledges that there is room for improvement in the maintenance program, particularly with regard to tracking and awareness of preventive and corrective maintenance activities at the local airport level.

Recommendation 1: Develop and implement a preventive maintenance validation process to verify that required routine maintenance activities are completed according to contractual requirements and manufacturers' specifications. These procedures should also include instruction for appropriate TSA airport personnel on documenting the performance of Level 1 preventive maintenance actions.

TSA concurs. Procedures for all equipment requiring Level 1 preventive maintenance will be clarified and re-issued to all TSA airport locations, along with guidance regarding the conduct and documentation of preventive maintenance. TSA's Office of Security Operations (OSO) will develop a process for verification of compliance with this guidance. TSA anticipates completion of these activities by September 30, 2015.

Regarding Level 2 preventive maintenance conducted by maintenance contractors, TSA will develop and implement additional independent validation procedures by a third party to ensure that actions are completed within the prescribed timeframe for each type of equipment. TSA will also establish procedures to provide TSA airport personnel with planned monthly preventive maintenance schedules to allow scheduling and monitoring of preventive maintenance completion. TSA anticipates completion of these activities by September 30, 2015.

Recommendation 2: Develop and implement policies and procedures to ensure that local TSA airport personnel verify and document contractors' completion of corrective maintenance actions. These procedures should also include quality assurance steps that would ensure the integrity of the information collected.



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TSA concurs. TSA will establish automated procedures to notify TSA airport personnel of completion of all corrective maintenance actions. Additionally, maintenance service providers will provide ticket status to TSA operations centers or other TSA designated points of contact at frequent intervals for awareness and verification. TSA anticipates implementation of these procedures by September 30, 2015.

Recommendation 3: Enhance future screening equipment maintenance contracts by including penalties for noncompliance when it is determined that either preventive or corrective maintenance has not been completed according to contractual requirements and manufacturers' specifications.

TSA concurs. TSA has included specific financial penalties related to preventive and corrective maintenance in the draft statements of work for the Morpho Detection and L3 EDS maintenance contracts. These contracts are scheduled for award by July 2015. Future maintenance contracts will also include specific financial penalties related to preventive and corrective maintenance.



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Appendix D
TSA's Screening Equipment Maintenance Contracts

Equipment Maintenance Contracts (Valued at \$1.2 Billion)⁴

Contractor	Equipment/Unit Type	Number of Units	Base/Option Year	Contract Value (in millions)
Siemens Government Services, Inc. (expired January 31, 2014)	<ul style="list-style-type: none"> Explosives Trace Detection Advanced Imaging Technology Bottled Liquid Scanner X-ray Walk-Through Metal Detector 	7,258	Base Period Option Year 1 Option Year 2 Option Year 3 Option Year 4	\$33.0 \$99.4 \$99.2 \$98.9 \$98.5
Subtotal				\$429.0
Morpho Detection International, Inc.	<ul style="list-style-type: none"> Explosives Detection System 	656	Base Year Option Year 1 Option Year 2 Option Year 3	\$88.8 \$88.8 \$88.8 \$88.8
Subtotal				\$355.2
L-3 Communications	<ul style="list-style-type: none"> Explosives Detection System 	589	Base Year Option Year 1 Option Year 2 Option Year 3	\$71.1 \$77.7 \$80.0 \$81.2
Subtotal				\$310.0
Leidos (formerly SAIC)	<ul style="list-style-type: none"> Explosives Detection System 	497	Base Year Option Year 1 Option Year 2 Option Year 3 Option Year 4	\$16.4 \$29.1 \$29.7 \$30.2 \$30.5
Subtotal				\$135.9
Totals	---	9,000	---	\$1.2B

Source: DHS OIG analysis of TSA's screening equipment maintenance contracts and equipment inventory listing as of September 2013

Maintenance-related Contract (Data Analysis)

Contractor	Service Type	Base/Option Year	Contract Value (in thousands)
Logical Essence	Review and analyze maintenance data and verify that maintenance contractors are complying with contract requirements	Base Option Year 1 Option Year 2 Option Year 3 Option Year 4	\$744.7 \$763.3 \$782.4 \$801.9 \$822.0
Total			\$3.9M

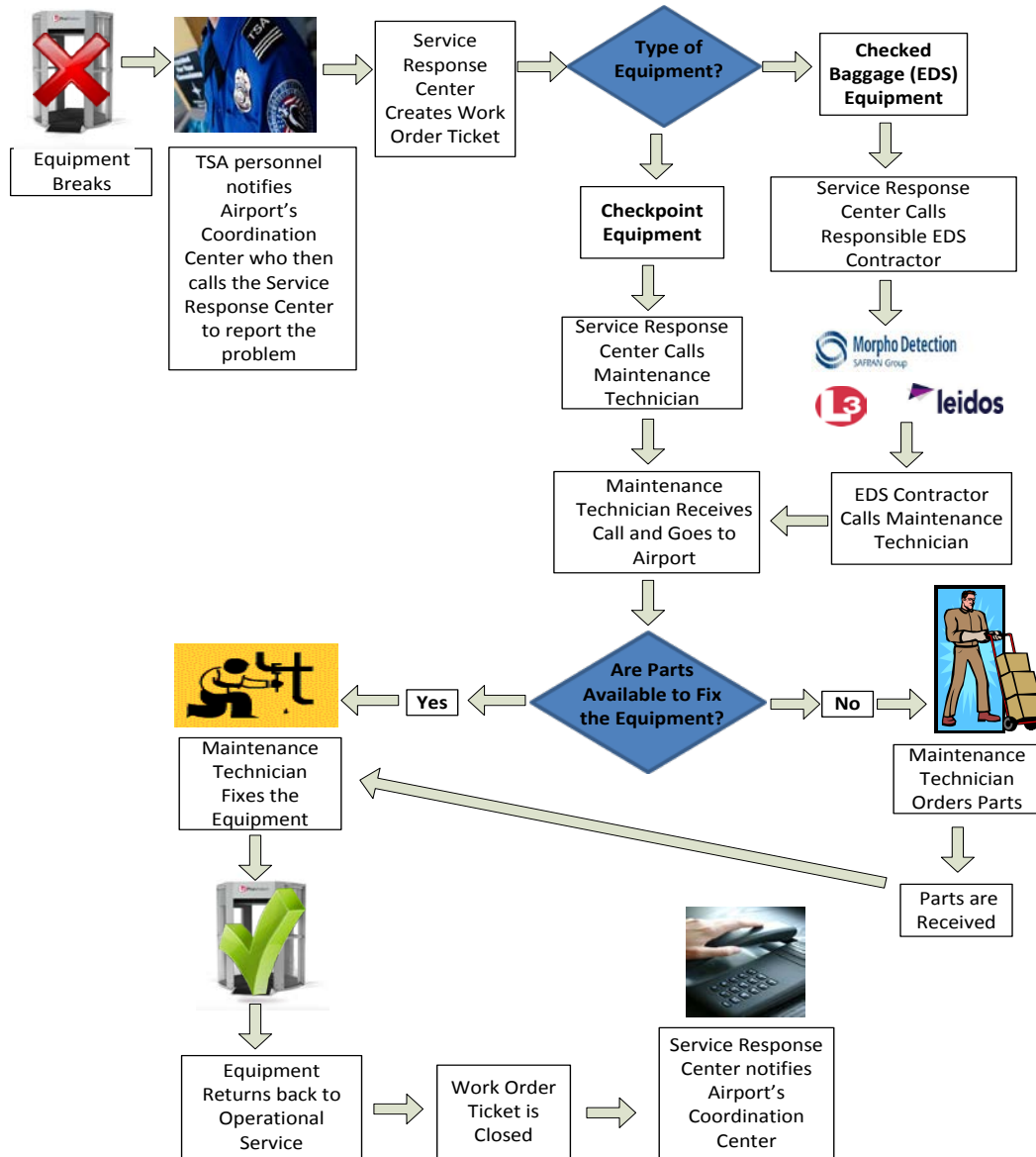
Source: DHS OIG analysis of contracts

⁴ This list of contracts does not include TSA's contract with Leidos which assigned maintenance responsibility for checkpoint screening equipment to this contractor on February 1, 2014.



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Appendix E
Diagram of Corrective Maintenance Process for TSA's Screening Equipment



Source: DHS OIG analysis of TSA's screening equipment maintenance contracts



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Appendix F
Office of Audits Major Contributors to this Report

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Appendix G
Report Distribution

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