OFFICE OF INSPECTOR GENERAL

Information Technology Management Letter for the Transportation Security Administration Component of the FY 2014 Department of Homeland Security Financial Statement Audit

Homeland Security

March 24, 2015

OIG-15-46

HIGHLIGHTS

Information Technology Management Letter for the Transportation Security Administration Component of the FY 2014 Department of Homeland Security Financial Statement Audit

March 24, 2015

Why We Did This

Each year, our independent auditors identify component-level information technology control deficiencies as part of the DHS consolidated financial statement audit. This letter provides details that were not included in the fiscal year (FY) 2014 DHS Agency Financial Report.

What We Recommend

We recommend that TSA, in coordination with the DHS Chief Information Officer and Chief Financial Officer, make improvements to its financial management systems and associated information technology security program.

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

We contracted with the independent public accounting firm KPMG, LLP to perform the audit of the consolidated financial statements of the U.S. Department of Homeland Security for the year ended September 30, 2014. KPMG, LLP evaluated selected general information technology controls and business process application controls at the Transportation Security Administration (TSA). KPMG, LLP determined that TSA took corrective action to design and consistently implement certain technical security account controls.

However, KPMG, LLP continued to identify general information technology control deficiencies related to logical access to TSA's core financial and feeder systems. Such control deficiencies limited TSA's ability to ensure the confidentiality, integrity, and availability of its critical financial and operational data.

OFFICE OF INSPECTOR GENERAL
Department of Homeland Security

Washington, DC 20528

March 24, 2015

TO: Stephen Rice
Chief Information Officer
Transportation Security Administration

David Nicholson
Chief Financial Officer
Transportation Security Administration

FROM: Sondra McCauley
Assistant Inspector General
Office of Information Technology Audits

SUBJECT: *Information Technology Management Letter for the Transportation Security Administration Component of the FY 2014 Department of Homeland Security Financial Statement Audit*

Attached for your information is our final report, *Information Technology Management Letter for the Transportation Security Administration Component of the FY 2014 Department of Homeland Security Financial Statement Audit.* This report contains comments and recommendations related to information technology internal control deficiencies. The observations did not meet the criteria to be reported in the *Independent Auditors' Report on DHS' FY 2014 Financial Statements and Internal Control over Financial Reporting*, dated November 14, 2014, which was included in the FY 2014 DHS Agency Financial Report.

The independent public accounting firm KPMG, LLP conducted the audit of DHS' FY 2014 financial statements and is responsible for the attached information technology management letter and the conclusions expressed in it. We do not express opinions on DHS' financial statements or internal control, nor do we provide conclusions on compliance with laws and regulations. We will post the final report on our website.

Please call me with any questions, or your staff may contact Sharon Huiswoud, Director, Information Systems Audit Division, at (202) 254-5451.

Attachment

KPMG LLP
Suite 12000
1801 K Street, NW
Washington, DC 20006

December 19, 2014

Office of Inspector General,
U.S. Department of Homeland Security, and
Chief Information Officer and Chief Financial Officer,
Transportation Security Administration,
Washington, DC

Ladies and Gentlemen:

In planning and performing our audit of the consolidated financial statements of the U.S. Department of Homeland Security (DHS or Department), as of and for the year ended September 30, 2014 (hereinafter, referred to as the "fiscal year (FY) 2014 DHS consolidated financial statements"), in accordance with auditing standards generally accepted in the United States of America; the standards applicable to financial audits contained in *Government Auditing Standards* issued by the Comptroller General of the United States; and Office of Management and Budget Bulletin No. 14-02, *Audit Requirements for Federal Financial Statements*, we considered internal control over financial reporting (internal control) as a basis for designing our auditing procedures for the purpose of expressing our opinion on the financial statements. In conjunction with our audit of the consolidated financial statements, we also performed an audit of internal control over financial reporting in accordance with attestation standards issued by the American Institute of Certified Public Accountants.

During our audit we noted certain matters involving internal control and other operational matters at the Transportation Security Administration (TSA), a component of DHS, that are presented for your consideration. These comments and recommendations, all of which have been discussed with the appropriate members of management, are intended to improve internal control or result in other operating efficiencies.

With respect to financial systems at TSA, we noted certain internal control deficiencies in the general IT control area of access controls. These matters are described in the *Findings and Recommendations* section of this letter.

Additionally, at the request of the DHS Office of Inspector General (OIG), we performed additional non-technical information security procedures to identify instances where TSA personnel did not adequately comply with requirements for safeguarding sensitive material or assets from unauthorized access or disclosure. These matters are described in the *Observations Related to Non-Technical Information Security* section of this letter.

We have provided a description of key TSA financial systems and IT infrastructure within the scope of the FY 2014 DHS financial statement audit in Appendix A, and a listing of each TSA

IT Notice of Finding and Recommendation communicated to management during our audit in Appendix B.

During our audit we noted certain matters involving financial reporting internal controls (comments not related to IT) and other operational matters at TSA, and communicated them in writing to management and those charged with governance in our *Independent Auditors' Report* and in a separate letter to the OIG and the TSA Chief Financial Officer.

Our audit procedures are designed primarily to enable us to form opinions on the FY 2014 DHS consolidated financial statements and on the effectiveness of internal control over financial reporting, and therefore may not bring to light all deficiencies in policies or procedures that may exist. We aim, however, to use our knowledge of TSA's organization gained during our work to make comments and suggestions that we hope will be useful to you.

We would be pleased to discuss these comments and recommendations with you at any time.

The purpose of this letter is solely to describe comments and recommendations intended to improve internal control or result in other operating efficiencies. Accordingly, this letter is not suitable for any other purpose.

Very truly yours,

KPMG LLP

Department of Homeland Security
Information Technology Management Letter
Transportation Security Administration
September 30, 2014

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APPENDICES

OBJECTIVE, SCOPE, AND APPROACH

Objective

We audited the consolidated financial statements of the U.S. Department of Homeland Security (DHS or Department) for the year ended September 30, 2014 (hereinafter, referred to as the "fiscal year (FY) 2014 DHS consolidated financial statements"). In connection with our audit of the FY 2014 DHS consolidated financial statements, we performed an evaluation of selected general information technology (IT) controls (GITCs) and business process application controls (BPACs) at the Transportation Security Administration (TSA), a component of DHS, to assist in planning and performing our audit engagement. At the request of the DHS Office of Inspector General (OIG), we also performed additional information security testing procedures to assess certain non-technical areas related to the protection of sensitive IT and financial information and assets.

Scope and Approach

General Information Technology Controls

The *Federal Information System Controls Audit Manual* (FISCAM), issued by the U.S. Government Accountability Office (GAO), formed the basis of our GITC evaluation procedures.

FISCAM was designed to inform financial statement auditors about IT controls and related audit concerns to assist them in planning their audit work and to integrate the work of auditors with other aspects of the financial statement audit. FISCAM also provides guidance to auditors when considering the scope and extent of review that generally should be performed when evaluating GITCs and the IT environment of a Federal agency. FISCAM defines the following five control categories to be essential to the effective operation of GITCs and the IT environment:

1. *Security Management* – Controls that provide a framework and continuing cycle of activity for managing risk, developing security policies, assigning responsibilities, and monitoring the adequacy of computer-related security controls.
2. *Access Control* – Controls that limit or detect access to computer resources (data, programs, equipment, and facilities) and protect against unauthorized modification, loss, and disclosure.
3. *Configuration Management* – Controls that help to prevent unauthorized changes to information system resources (software programs and hardware configurations) and provide reasonable assurance that systems are configured and operating securely and as intended.
4. *Segregation of Duties* – Controls that constitute policies, procedures, and an organizational structure to manage who can control key aspects of computer-related operations.
5. *Contingency Planning* – Controls that involve procedures for continuing critical operations without interruption, or with prompt resumption, when unexpected events occur.

While each of these five FISCAM categories were considered during the planning and risk assessment phase of our audit, we selected GITCs for evaluation based on their relationship to the ongoing effectiveness of process-level automated controls or manual controls with one or more automated components. This includes those controls which depend on the completeness, accuracy, and integrity of information provided by the entity in support of our financial audit procedures. Consequently, FY 2014 GITC procedures at TSA did not necessarily represent controls from each FISCAM category.

Business Process Application Controls

Where relevant GITCs were determined to be operating effectively, we performed testing over selected BPACs (process-level controls which were either fully automated or manual with an automated component) on financial systems and applications to assess the financial systems' internal controls over the input, processing, and output of financial data and transactions.

FISCAM defines BPACs as the automated and/or manual controls applied to business transaction flows and relate to the completeness, accuracy, validity, and confidentiality of transactions and data during application processing. They typically cover the structure, policies, and procedures that operate at a detailed business process (cycle or transaction) level and operate over individual transactions or activities across business processes.

Financial System Functionality

In recent years, we have noted that limitations in TSA's financial systems' functionality may be inhibiting the agency's ability to implement and maintain internal controls, including effective GITCs and BPACs supporting financial data processing and reporting. Many key financial and feeder systems have not been substantially updated since being inherited from legacy agencies several years ago. Therefore, in FY 2014, we continued to evaluate and consider the impact of financial system functionality on internal control over financial reporting.

Non-Technical Information Security Testing

To complement our IT controls test work, we conducted limited after-hours physical security testing and social engineering at selected TSA facilities to identify potential weaknesses in non-technical aspects of IT security. This includes those related to TSA personnel awareness of policies, procedures and other requirements governing the protection of sensitive IT and financial information and assets from unauthorized access or disclosure. This testing was performed in accordance with the FY 2014 DHS *Security Testing Authorization Letter* (STAL) signed by KPMG, DHS OIG, and DHS management.

Appendix A provides a description of the key TSA financial systems and IT infrastructure within the scope of the FY 2014 DHS financial statement audit.

SUMMARY OF FINDINGS

During FY 2014, we noted that TSA took corrective action to address certain prior year IT control deficiencies. For example, TSA made improvements over consistently implementing certain technical account security controls. However, we continued to identify GITC deficiencies related to access controls for TSA core financial and feeder systems. In many cases, new control deficiencies reflected weaknesses over controls which were historically effective.

The conditions supporting our findings collectively limited TSA's ability to ensure that critical financial and operational data were maintained in such a manner to ensure confidentiality, integrity, and availability. Of the eight IT Notices of Findings and Recommendations (NFRs) issued during our FY 2014 testing at TSA, five were repeat findings, either partially or in whole from the prior year, and three were new findings. The eight IT NFRs issued represent deficiencies and observations related to two of the five FISCAM GITC categories.

The majority of findings resulted from the lack of properly documented, fully designed and implemented, adequately detailed, and consistently implemented financial system controls to comply with the requirements of DHS Sensitive Systems Policy Directive 4300A, *Information Technology Security Program*, National Institute of Standards and Technology guidance, and TSA policies and procedures, as applicable. The most significant weakness from a financial statement audit perspective continued to include lack of review of audit logs for key financial systems.

During our IT audit procedures, we also evaluated and considered the impact of financial system functionality on financial reporting. In recent years, we have noted that limitations in TSA's financial systems' functionality may be inhibiting TSA's ability to implement and maintain effective internal control and to effectively and efficiently process and report financial data. Many key financial and feeder systems have not been substantially updated since being inherited from legacy agencies several years ago. Many key TSA financial systems were not compliant with Federal financial management system requirements as defined by the *Federal Financial Management Improvement Act of 1996* (FFMIA) and Office of Management and Budget Circular Number A-123 Appendix D, *Compliance with FFMIA*.

While the recommendations made by us should be considered by TSA, it is the ultimate responsibility of TSA management to determine the most appropriate method(s) for addressing the deficiencies identified.

FINDINGS AND RECOMMENDATIONS

Findings

During our audit of the FY 2014 DHS consolidated financial statements, we identified the following GITC deficiencies at TSA:

Access Controls

- Logs demonstrating the ongoing effectiveness of controls related to account management activities were incomplete.
- Reviews of financial application audit logs were not consistently performed in accordance with DHS policy.
- Account management activities on TSA systems were not consistently or timely documented or implemented. These activities included periodic recertification of access and revocation of access from separated or transferred Federal employees and contractors.
- Strong password requirements were not consistently enforced on databases supporting financial applications.

Recommendations

We recommend that the TSA Office of the Chief Information Officer (OCIO) and Office of the Chief Financial Officer (OCFO), in coordination with the DHS OCIO and the DHS OCFO, make the following improvements to TSA's financial management systems and associated IT security program (in accordance with TSA and DHS requirements, as applicable):

Access Controls

- Implement or enhance existing technical and monitoring controls over the personnel separation process to ensure that system owners are notified and revoke access from separated or transferred personnel and contractors timely.
- Implement or enhance existing technical and monitoring controls over the account management process to ensure that activities related to financial application access are consistently tracked and that revalidation of existing access is consistently performed.
- Implement technical controls to ensure that passwords for financial databases accounts are configured in accordance with TSA and DHS requirements.

- Implement monitoring controls over the audit log generation and review process for financial systems to ensure that evidence of audit log reviews is consistently retained.

OBSERVATIONS RELATED TO NON-TECHNICAL INFORMATION SECURITY

To complement our IT controls test work during the FY 2014 audit, we performed additional non-technical information security procedures at TSA. These procedures included after-hours physical security walkthroughs and social engineering to identify instances where TSA personnel did not adequately comply with requirements for safeguarding sensitive material or assets from unauthorized access or disclosure. These procedures were performed in accordance with the FY 2014 STAL, signed by DHS OIG management, KPMG management, and DHS management (Chief Information Officer [CIO], Chief Information Security Officer, Chief Financial Officer, Chief Privacy Officer, and Chief Security Officer) on June 3, 2014, and transmitted to the DHS CIO Council on June 12, 2014.

Social Engineering

Social engineering is defined as the act of manipulating people into performing actions or divulging sensitive information. The term typically applies to trickery or deception for the purpose of information gathering or obtaining computer system access. The objective of our social engineering tests was to identify the extent to which TSA personnel were willing to divulge network or system passwords that, if exploited, could compromise TSA sensitive information.

To conduct this testing, we made phone calls from various TSA locations at various times throughout the audit. Posing as TSA technical support personnel, we attempted to solicit access credentials from TSA users. Attempts to login to TSA systems were not performed; however, we assumed that disclosed passwords that met the minimum password standards established by DHS policy were valid exceptions. During social engineering performed at TSA, we attempted to call a total of 55 employees and contractors and reached 24. Of those 24 individuals with whom we spoke, two divulged their passwords in violation of DHS policy.

The selection of attempted or connected calls was not statistically derived, and, therefore, the results described here should not be used to extrapolate to TSA as a whole.

After-Hours Physical Security Walkthroughs

Multiple DHS policies, including the DHS Sensitive Systems Policy Directive 4300A, the DHS Privacy Office *Handbook for Safeguarding Sensitive Personally-Identifiable Information (PII)*, and DHS Management Directive 11042.1, *Safeguarding Sensitive but Unclassified (FOUO) Information*, mandate the physical safeguarding of certain materials and assets which, if compromised either due to external or insider threat, could result in unauthorized access, disclosure, or exploitation of sensitive IT or financial information.

We performed procedures to determine whether TSA personnel consistently exercised responsibilities related to safeguarding sensitive materials as defined in these policies. Specifically, we performed escorted walkthroughs of workspaces – including cubicles, offices, shared workspaces, and/or common areas (e.g.: areas where printers were hosted) – at TSA facilities that processed, maintained, and/or had access to financial data during FY 2014. We inspected workspaces to identify instances where materials

designated by DHS policy as requiring physical security from unauthorized access were left unattended. Exceptions noted were validated by designated representatives from TSA, DHS OIG and DHS OCIO.

During after-hours physical security walkthroughs performed at TSA, we inspected a total of 72 workspaces. Of those, 38 were observed to have material – including, but not limited to, system passwords, information marked "FOUO", documents containing sensitive PII, and government-issued laptops or mobile devices – left unattended and unsecured after business hours in violation of DHS policy.

The selection of inspected areas was not statistically derived, and, therefore, the results described here should not be used to extrapolate to TSA as a whole.

Appendix A

Description of Key TSA Financial Systems and IT Infrastructure within the Scope of the FY 2014 DHS Financial Statement Audit

Below is a description of the significant TSA financial management systems and supporting IT infrastructure included in the scope of the FY 2014 DHS financial statement audit.

Core Accounting System (CAS)

CAS is a web-based major application and the official accounting system of record for TSA. It is used to record all income and expenses and create income statements, balance sheets, and other financial reports to show financial condition. Accounting and financial management functions supported by CAS include accounts payable, accounts receivable, general and expense ledgers, and asset (including capital asset) management. It contains interfaces with internal TSA feeder systems and external service providers (including the Department of Treasury Bureau of the Fiscal Service).

CAS is hosted and supported by the Coast Guard Office of the Director of Financial Operations/Comptroller and Coast Guard OCIO on behalf of TSA (under the terms established through an interagency agreement between the two Components) exclusively for internal use by the TSA user community and, on a limited basis, Coast Guard personnel performing support services for TSA.

Finance Procurement Desktop (FPD)

FPD is a web-based major application that supports TSA funds management processes by creating and managing simplified procurement documents and maintaining accurate accounting records agency wide. Functions performed by FPD include ledger management, budgeting and funds distribution, procurement requests and simplified acquisitions, receipt of goods/services (accruals), and program element status reporting. It is integrated with CAS and contains interfaces with other internal TSA feeder systems, including the Contract Management Information System, and external service providers (including the Department of Treasury Bureau of the Fiscal Service).

FPD is hosted and supported by the Coast Guard Office of the Director of Financial Operations/Comptroller and Coast Guard OCIO on behalf of TSA (under the terms established through an interagency agreement between the two Components) exclusively for internal use by the TSA financial management and acquisitions user community and, on a limited basis, Coast Guard personnel performing support services for TSA.

Sunflower Asset Management System

Sunflower is a web-based commercial off-the-shelf (COTS) major application used by TSA for property management. It is comprised of modules which include the management of inventory assets, excess assets, agreement assets, and inactive assets, and is integrated with FPD and the fixed assets module within CAS to create assets from purchase orders or receipts.

Sunflower is hosted and supported by the Coast Guard Office of the Director of Financial Operations/Comptroller and Coast Guard OCIO on behalf of TSA (under the terms established through an interagency agreement between the two Components) exclusively for internal use by the TSA financial management and property management user community.

MarkView

MarkView is a web-based COTS major application used by TSA to manage invoice imaging and workflow activities and interfaces with the accounts payable module within CAS.

MarkView is hosted and supported by the Coast Guard Office of the Director of Financial Operations/Comptroller and Coast Guard OCIO on behalf of TSA (under the terms established through an interagency agreement between the two Components) exclusively for internal use by the TSA financial management and procurement user community and Coast Guard Finance Center support personnel.

Electronic Time Attendance and Scheduling (eTAS)

eTAS is a web-based major application that provides an automated and standardized labor management solution for scheduling, recording, and reporting TSA Transportation Security Officer (TSO) employee work and leave hours via interface to WebTA, and subsequently to TSA's payroll provider, the United States Department of Agriculture National Finance Center.

eTAS is hosted at the DHS OCIO Enterprise Data Center (DC-2) and is supported by DC-2 contract technical support – including Computer Sciences Corporation, Inc., operating under the TSA Information Technology Infrastructure Program contract; and International Business Machines, Inc., operating under the Operational Application Support and Information Services contract – on behalf of the TSA Office of Human Capital exclusively for internal use by the TSA TSO user community.

Appendix B

FY 2014 IT Notices of Findings and Recommendations at TSA

Department of Homeland Security
Information Technology Management Letter
Transportation Security Administration
September 30, 2014

FY 2014 NFR #	NFR Title	FISCAM Control Area	New Issue	Repeat Issue
TSA-IT-14-01	Physical Security and Security Awareness Issues Identified During After Hours Testing at TSA	Security Management		X
TSA-IT-14-02	Security Awareness Issues Identified During Social Engineering Testing at TSA Headquarters	Security Management		X
TSA-IT-14-03	eTAS user account management	Access Controls		X
TSA-IT-14-04	Weakness in eTAS review of audit logs	Access Controls		X
TSA-IT-14-05	eTAS Database Profile Security Configurations	Access Controls	X	
TSA-IT-14-06	Weakness in eTAS Access Recertification Process	Access Controls		X
TSA-IT-14-07	FPD and Sunflower Audit Log Reviews	Access Controls	X	
TSA-IT-14-08	Markview Account Termination	Access Controls	X	

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