



U.S. DEPARTMENT OF TRANSPORTATION

OFFICE OF INSPECTOR GENERAL

**QUALITY CONTROL REVIEW FOR DOT's
IMPLEMENTATION OF EARNED VALUE
MANAGEMENT PRACTICES**

Report No. QC2018015

January 17, 2018



Quality Control Review for DOT's Implementation of Earned Value Management Practices

Self-Initiated

Departmentwide | QC2018015 | January 17, 2018

What We Looked At

This report summarizes the results of an audit of DOT's implementation of earned value management (EVM) practices. For fiscal year 2017, DOT invested approximately \$3.4 billion in information technology (IT). The Clinger-Cohen Act of 1996 requires Federal agencies to establish effective management structures to govern IT investments and to improve their implementation and management. The Office of Management and Budget (OMB) has developed Federal policy for planning, budgeting, acquiring, and managing IT assets. OMB also directs agencies to use EVM to calculate cost and schedule variances from the approved baseline for all major IT investments.

We contracted with KPMG LLP, an independent public accounting firm, to conduct this audit subject to our oversight. The audit objectives were to assess DOT's (1) implementation of EVM policies, procedures, and practices for its IT investments and (2) use of EVM data to plan, monitor, and report the status of its IT investments and related security spending.

What We Found

We performed this QCR of KPMG's report and related documentation. Our QCR disclosed no instances in which KPMG did not comply, in all material respects, with generally accepted Government auditing standards.

Recommendations

DOT concurs with recommendations for the Maritime Administration and the Office of the Secretary of Transportation. DOT partially concurs with the recommendation for the Federal Transit Administration as written and proposes an alternative action. However, DOT's alternative action does not include sufficient information to determine whether this action will meet the recommendation's intent.

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Memorandum

Date: January 17, 2018

Subject: ACTION: Quality Control Review for DOT's Implementation of Earned Value Management Practices | Report No. QC2018015

From: Louis C. King *Louis C. King*
Assistant Inspector General for Financial and Information Technology Audits

To: Maritime Administrator
Federal Transit Administrator
Chief Information Officer, DOT

This report summarizes the results of an audit of DOT's implementation of earned value management (EVM)¹ practices. DOT relies on over 450 IT systems with an annual investment of over \$3 billion—one of the largest IT investments among Federal civilian agencies. For fiscal year 2017, DOT invested approximately \$3.4 billion in IT.

The Clinger-Cohen Act of 1996² requires Federal agencies to establish effective management structures to govern IT investments and to improve their implementation and management. OMB has developed Federal policy for planning, budgeting, acquiring, and managing IT assets, and directs agencies to use EVM to calculate cost and schedule variances from approved baselines for all major IT investments.

Due the large investment in the Department's IT systems, we conducted this audit. Our audit objectives were to assess DOT's (1) implementation of EVM policies, procedures, and practices for its IT investments and (2) use of EVM data to plan, monitor, and report the status of its IT investments and related security spending.

¹ Earned value management is a management tool that relates resource planning to technical, cost, and schedule requirements.

² The Clinger-Cohen Act, formerly the Information Technology Management Reform Act, Public Law No. 104-106 (1996), codified at 40 U.S.C § 11101 *et seq.*

We contracted with KPMG LLP, an independent public accounting firm, to conduct this audit subject to our oversight. KPMG found that DOT has inconsistently applied EVM practices and procedures across its Operating Administrations to standardize program and project data. KPMG made the following recommendations to improve DOT's EVM practices.

KPMG recommends that the Maritime Administration (MARAD):

1. Establish a work breakdown structure, consistent with the DOT Earned Value Management Implementation Guide standard, for investment projects when required by the DOT EVM Policy.

KPMG recommends that the Federal Transit Administration (FTA):

2. Establish a work breakdown structure, consistent with the DOT Earned Value Management Implementation Guide standard, for investment projects when required by the DOT EVM Policy.

KPMG recommends that the Office of the Secretary of Transportation (OST):

3. Ensure that artifacts illustrating implementation and execution of EVM are in accordance with the DOT EVM policy.
4. Retain evidence of the required EVM artifacts.

We performed a QCR of KPMG's report, dated, September 26, 2017 (see attachment), and related documentation. Our QCR, as differentiated from an audit engagement performed in accordance with generally accepted Government auditing standards, was not intended for us to express, and we do not express, an opinion on DOT's implementation of EVM practices. KPMG is responsible for its independent auditor's report and the conclusions expressed in that report. Our QCR disclosed no instances in which KPMG did not comply, in all material respects, with generally accepted Government auditing standards.

We appreciate the courtesies and cooperation of Department of Transportation representatives during this audit. If you have any questions concerning this report, please call Louis C. King, Assistant Inspector General for Financial and Information Technology Audits, at (202) 366-1407.

cc: The Secretary
DOT Audit Liaison, M-1
MARAD Audit Liaison
FTA Audit Liaison

Agency Comments and OIG Response

We provided DOT with our draft report on November 14, 2017, and received its formal response on December 18, 2017. DOT's response is included in its entirety as an appendix to this report. DOT concurs with the recommendations for MARAD and OST as written. While DOT partially concurs with the recommendation for FTA, the Department's proposed alternative actions do not include enough information to determine whether they meet the recommendation's intent.

Additionally, DOT's management response states that all of OIG's 14 recommendations from prior years have been closed and implemented. The recommendations have been closed, but, as it states in its report, KPMG identified issues related to inconsistencies in EVM documentation—such as, work breakdown structure or lack thereof—across the operating administrations.

Actions Required

We consider the recommendations for MARAD and OST resolved and open pending completion of planned actions. We consider the recommendation for FTA open and unresolved.

In accordance with DOT Order 8000.1C, we request that DOT reconsider its position on recommendation 2, and provide us with its revised response within 30 days of the date of this report.

Exhibit. List of Acronyms

DOT	Department of Transportation
EVM	earned value management
FTA	Federal Transit Administration
IT	information technology
MARAD	Maritime Administration
OIG	Office of Inspector General
OMB	Office of Management and Budget
OST	Office of the Secretary of Transportation
QCR	quality control review

Appendix. Agency Comments



**U.S. Department of
Transportation**
Office of the Secretary
of Transportation

Memorandum

INFORMATION: Management Response to the Office of
Inspector General (OIG) Draft Report—Quality Control
Subject: Review for DOT’s Implementation of Earned Value
Management Practices

Date: December 18, 2017

From: Stephen Holden
Associate Chief Information Officer
for IT Policy and Oversight

STEPHEN
HUDSON HOLDEN

Digitally signed by STEPHEN HUDSON HOLDEN
DN: c=US, o=U.S. Government, ou=OSTHQ,
ou=DOT Headquarters, cn=STEPHEN HUDSON
HOLDEN
Date: 2017.12.18 13:49:18 -05'00'

To: Louis C. King
Assistant Inspector General for
Financial and Information Technology Audits

The Department of Transportation (DOT) is committed to ensuring its Operating Administrations (OAs) comply with the Department’s current earned value management (EVM) policy, which requires American National Standards Institute (ANSI) EVM for investments with total Development, Modernization, Enhancement (DME) spending over \$20 million and a subset of those EVM requirements for investments between \$10 and \$20 million.

Upon review of KPMG’s report, we concur with recommendations 1, 3 and 4 as written and plan to implement them by January 2, 2018. We partially concur with recommendation 2 advising that the Federal Transit Administration (FTA) should establish a Work Breakdown Structure (WBS), consistent with the DOT EVM Implementation Guide standard, for projects when required by the DOT EVM policy. Rather than establish a WBS, we provide the following alternate action for FTA. Currently, FTA is utilizing agile methodology for their on-going developmental efforts and has not created a prototypical WBS frequently used in waterfall project management. However, FTA is actively monitoring value creation using a WBS alternative. This alternative is primarily based on sprint release planning and story points tracking and will be provided by January 2, 2018.

KPMG’s report cites that 13 of the 14 prior year OIG recommendations were implemented and closed. This statement and recommendation 4 in Appendix 3 are inaccurate. DOT implemented recommendation 4, and OIG closed it with DOT’s publication of DOT Order 1351.22.1. We request that KPMG’s report reflect this fact—all 14 OIG recommendations were implemented and closed.

We appreciate the opportunity to review the OIG draft report. Please contact Stephen Holden, Associate Chief Information Officer for IT Policy and Oversight, at 202-366-2498 with any questions.

Attachment.
Independent Auditor's Report



The Department of Transportation (DOT) Earned Value Management (EVM) Performance Audit

For the Period February 23, 2017 through September 26,
2017

Prepared for: U.S. Transportation
Office of the Inspector General

As of September 26, 2017

KPMG LLP
1676 International Drive
Mclean, VA 22102

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Mr. Louis King
Assistant Inspector General for Financial and Information Technology Audits
1200 New Jersey Avenue, SE
Washington, DC 20590

KPMG LLP (KPMG) has been tasked by the Department of Transportation (DOT or Department), Office of Inspector General (OIG) to conduct a performance audit of DOT's Earned Value Management (EVM) organizational capability to assess how mature DOT is in implementing EVM and how mature the department is in EVM as it relates to guidelines referenced in legislation, policy and standards pertaining to EVM. This report presents the results of our work conducted to address the performance audit objectives relative to the independent evaluation of the United States (U.S.) Department of Transportation (DOT) Implementation of EVM in support of the Fiscal Year (FY) 2017. The engagement audit period was from September 28, 2016 through September 26, 2017. We performed our work from February 23, 2017 through September 26, 2017, and our results are as of September 26, 2017.

We conducted our audit work in accordance with Generally Accepted Government Auditing Standards (GAGAS), and the American Institute of Certified Public Accountants (AICPA) Standards for Consulting Services. 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 on our audit objectives. We believe that the evidence obtained provides a reasonable basis for our findings and conclusions based on our audit objectives.

Our audit objectives were to assess the Department's: (1) implementation of EVM policies, procedures and practices for its Information Technology (IT) investments; and (2) use of EVM data to plan, monitor, and report the status of its IT investments and related security spending. Our detailed audit objectives are outlined in the "Objectives" section of the report. To accomplish our objectives, we met with the Department and the Operating Administrations (OAs) Chief Information Officers (CIO), and OA EVM IT investment managers to determine the progress of DOT's implementation of EVM policies, procedures, and practices, DOT's use of EVM to plan, monitor IT investments and related security spending, and the status of each OAs implementation of EVM.

The DOT has established an EVM policy that contains pre-established dollar thresholds and guidance¹ for IT investment owners to consider when implementing EVM. In addition, various OAs have put more emphasis on the use of EVM by establishing supporting materials such as IT project management and EVM implementation guidance, providing EVM training and conducting EVM lessons learned discussions. While these items help provide a function of EVM guidance for OAs to follow and investments to use, there are opportunities for improvement to further implement and use EVM to help manage MITIs.

¹ Tier I: IT investments with total DME costs equal to or greater than \$20 million (then-year dollars) must implement an EVMS that fully complies with all ANSI/EIA Standard 748 Guidelines.

Tier II: IT investments with total DME costs equal to or greater than \$10 million but less than \$20 million (then-year dollars) may implement, at a minimum, an EVMS that complies with a subset of ANSI/EIA Standard 748 Guidelines as detailed in the DOT EVM Implementation Guide.

Tier III: IT investments with total DME costs less than \$10 million (then-year dollars) are not required to implement an EVMS. This does not exclude investments in this tier from performing prudent program management practices.

Based upon the performance audit procedures conducted and the results obtained, we have met our audit objectives. We conclude that for the period February 23, 2017 through September 26, 2017, DOT has taken efforts to implement EVM policies, procedures, and practices across the Department, and OAs have applied EVM to its MITIs. In addition, the Department has put EVM controls in place to monitor MITIs and related spending. However, the Department has not consistently applied EVM practices or developed procedures to standardize program and project EVM data across OAs. Therefore, we are making a series of recommendations to assist the Department in consistently implementing EVM practices across its OAs based on the three (3) below deficiencies identified during fieldwork:

1. **Maritime Administration (MARAD) lack of Work Breakdown Structure (WBS).**
2. **Federal Transit Administration (FTA) lack of WBS.**
3. **OST did not provide requested EVM documentation.**

We also reviewed fourteen (14) OIG prior year recommendations related to DOT's EVM Practices, Policies and Procedures to determine their current status. In summary, thirteen (13) of the fourteen (14) prior year recommendations were implemented and closed. Appendix 3, Status of Prior-Year Findings, provides the DOT's progress in addressing prior year recommendations from the OIG report QC-2014-065 dated July 17, 2014, Quality Control Review of the Audit of the Effectiveness of DOT's Earned Value Management Practices. Appendix 2 contains a glossary of terms used in the report.

This performance audit did not constitute an audit of financial statements in accordance with GAGAS and AICPA standards. For this performance audit engagement, we were not engaged to, and did not, render an opinion on DOT's internal controls over its financial report or financial management systems. KPMG cautions that projecting the results of our evaluation to future periods is subject to risks that controls may become inadequate because of changes in conditions or because compliance with controls may deteriorate.

KPMG LLP

BACKGROUND

The DOT mission is to serve the United States by ensuring a fast, safe, efficient, accessible and convenient transportation system that meets our vital national interests and enhances the quality of life of the American people today and into the future. According to the FY 2017 spending IT Dashboard, DOT invested approximately 3.4 Billion in IT. The IT Dashboard provides the Department a collective view of total investments and spending across OAs. In order to derive the intended benefits of the programs and projects within the IT portfolio, project planning and execution processes should be in place to control the establishment of baseline performance measures and manage deviations from expected performance plans. EVM data is a critical component of the control phase of the IT capital planning process because it provides investment managers with the cost, schedule, and performance data necessary to help ensure that DOT investments are delivered on time and perform within budget and scope. EVM is a project management technique for measuring project performance and progress over a period of time. Additionally, a significant part of EVM is the WBS. A WBS is a key project deliverable that organizes the EVM project teams work into manageable sections. It provides a common framework for customers and management to view investment OAs and report investment data to the Department. The Department Standard WBS is the starting point for all IT investments to allow the Department and OA senior executives and Investment Review Boards (IRBs) to perform consistent, well-defined portfolio level analysis. Additionally, program managers seeking enterprise specific WBS guidance can utilize the Standard WBS as a common roadmap from which to organize or attribute their work scope.

The Department employs EVM to provide visibility into the status of the Department's investments acquired in accordance with the Department's Transportation Acquisition Manual (TAM) and Transportation Acquisition Regulation (TAR). The Department's EVM is constructed to provide an objective "early warning system" for potential cost and schedule performance risks. The EVM provides timely, valid, and auditable investment cost and schedule status information to program managers, senior managers, executive sponsors, and stakeholders. Furthermore, EVM helps program managers effectively plan, control and manage investments so they can take corrective action and re-plan project work, if necessary. Systematic implementation of EVM throughout the Department facilitates comparison of MITIs performance, enabling project managers to make better-informed decisions. EVM measures federal IT investment success against three standards (security cost, schedule, and performance).

The Office of Management and Budget (OMB) requires for Federal agencies to use EVM processes which are compliant with the American National Standards Institute / Electronic Industries Association (ANSI/EIA) 748 standard for the Development / Modernization / Enhancement (DME) phases of IT investments. These standard EVM processes are required to be integrated as part of the program management lifecycle control system for assessing performance to planned cost, schedule, and performance baselines.

It is the Department's goal to implement uniform and consistent EVM business practices in support of DOT Major IT Investments (MITIs). Each OA uses the EVM policies/practices established by the Department to further develop business processes and procedures for implementing EVM on its MITIs. The rigor of EVM used for its investments and MITIs is directly proportional to its characteristics – the priority, risk, size and complexity, the greater the rigor of the EVM².

² EVM Tier Requirements and Thresholds per ANSI/EIA-748 Guidance:

The Office of the Chief Information Office (OCIO) is responsible for establishing the requisite policies and procedures to govern the Department’s OAs for managing investments within the IT portfolio, including policies and procedures related to IT capital planning and investment control (CPIC), enterprise architecture (EA), program management, and project management. Policies and procedures should reflect OMB guidance, including provisions for using EVM. In addition, the OAs within DOT are responsible for implementing the policies and procedures promulgated by OCIO in a manner consistent with underlying EVM objectives. Furthermore, DOT on an annual basis reports to OMB on the dollar value of its investments and major MITIs department-wide, including the OAs.

KPMG accessed the OMB Federal IT Dashboard (www.itdashboard.gov) and noted that as of the final FY 2017 IT Dashboard agency submissions (June 31, 2017), the total IT Portfolio for the DOT was as follows:

Table I: DOT FY 2017 IT Portfolio

Department	Evaluation by Agency CIO ¹	Total FY 2017 IT Spending	Number of Investments	MITIFY 2017 Spending	Number of MITIs
Department of Transportation (DOT)	3	\$3.4 B	335	\$2.1 B	41

KPMG’s test procedures required us to select a sample of MITIs (refer to the “Scope” section of the report for the MITIs selected) from the total population of ten (10) OAs noted in the below Table II. To do so, we employed a risk-based approach based upon the CIO agency risk score and dollar amount invested by the Department, to determine a subset of DOT’s MITIs by OA for the EA performance audit. The population for this subset only included MITIs that are operational. Accordingly, our report recommendations are applicable to the sample we tested and were not extrapolated to the population (i.e. OAs and MITIs); which is described in Table III below. Table II provides the OA IT Investment and MITI data and investment spending by OA:

-
- Tier I: IT investments with total DME costs equal to or greater than \$20 million (then-year dollars) must implement an EVMS that fully complies with all ANSI/EIA Standard 748 Guidelines.
 - Tier II: IT investments with total DME costs equal to or greater than \$10 million but less than \$20 million (then-year dollars) may implement, at a minimum, an EVMS that complies with a subset of ANSI/EIA Standard 748 Guidelines as detailed in the DOT EVM Implementation Guide.
 - Tier III: IT investments with total DME costs less than \$10 million (then-year dollars) are not required to implement an EVMS. This does not exclude investments in this tier from performing prudent program management practices.
 - Consolidated investments: or a collection of separate projects that pool resources and capabilities together to facilitate the effective management of all the work necessary to meet strategic objectives, shall apply the Tier I, II, or III EVM requirements to each subordinate project, not at the consolidated investment level.

Table II: IT portfolio by OA

DOT OAs	Evaluation by Agency CIO ³	Total FY 2017 Spending	Number of Investments	Major FY 2017 Spending	Number of MITIs
FAA* ⁴	4	\$2.9 B	140	\$1.9 B	26
FHWA*	3	\$62.3 M	48	\$6.7 M	2
FMCSA*	3	\$75.0 M	25	\$11.5 M	2
FRA	3	\$17.0 M	16	\$1.3 M	1
FTA	5	\$21.9 M	10	\$4.9 M	2
MARAD	3	\$19.4 M	20	\$0.4 M	1
NHTSA*	4	\$51.1 M	18	\$10.6 M	2
OIG* ⁵	3	\$4.1 M	2	\$0.0 M	1 ⁶
OST*	3	\$225.8 M	56	\$135.6 M	4
PHMSA	3	\$29.4 M	13	\$0.5 M	1
SLSDC	3	\$0.8 M	3	\$0.1 M	1 ⁷
				Total: \$173.5M	

KPMG noted that FAA IT Investments constitute approximately 85% of DOT's Total FY2017 spending, and over 92% of spending for MITIs. FAA's major IT portfolio value is \$1.9 billion dollars, while the combined portfolio size of the other ten (10) OAs selected is \$173.5 million dollars.

I. OBJECTIVES

We conducted a performance audit to assess the Department's: (1) implementation of EVM policies, procedures and practices for its IT investments; and (2) use of EVM data to plan, monitor, and report the status of its IT investments and related spending. KPMG assisted the DOT OIG in evaluating the implementation of EVM policies, practices, and data for the period going February 23, 2017 through September 26, 2017. Our audit objectives are categorized in the following areas below:

EVM Governance:

- Determine if management has established/implemented an EVM framework.
- Determine if each OA has developed a roadmap for further improvements in its EVM management practices and perform subsequent assessments to ascertain the level of progress vis-à-vis the roadmap.

³ Evaluation ratings are based on a five-point risk scale. The Agency CIO rates each investment based on his or her best judgment, using a set of pre-established criteria. As a rule, the Evaluation should reflect the CIO's assessment of the risk and the investment's ability to accomplish its goals. The rankings are as follows:

5 – Low Risk, 4 – Moderately Low Risk, 3 – Medium Risk, 2- Moderately High Risk, 1 – High Risk.

⁴ *- Indicates these OAs were included as part of our OAs sampled for MITI testing illustrated in Table IV.

⁵ *- OST and OIG are considered to be one OA; therefore the purpose of the report we're reporting 10 OAs. In addition, OST was included as part of our OAs sampled for MITI testing illustrated in Table IV.

⁶ Not Applicable (N/A) - Not considered in our scope due to the investment projects being small and limited in nature, not requiring EA. The investment requires of spending of greater than 10 million and no less than 20 million.

⁷ N/A - Not considered in our scope due to the investment projects being small and limited in nature, not requiring EA. The investment requires of spending of greater than 10 million and no less than 20 million.

EVM Implementation & Performance:

- Determine if DOT has established and implemented a performance-measurement system for the overall EVM capability, and determine if the performance-measurement system includes:
 - Clearly defined, actionable, and measurable goals that cascade from organizational mission to management and program levels;
 - Cascading of improvement measures that can be used to measure how well mission, EVM management, and program goals are being met;
 - Use of EVM to manage and measure investments to within ten percent of baseline goals;
 - Use of EVM performance measures and management processes to monitor actual versus expected outcomes;
 - Establishment of benchmark baselines from which progress toward the attainment of goals can be measured;
 - Accurate, repeatable, and verifiable data
 - Feedback system to support continuous improvement of an organization’s EVM processes, practices, and results.
- Determine if DOT is using and adhering to risk management strategy in conjunction with EVM.

We also reviewed fourteen (14) OIG prior year recommendations related to DOT’s EVM Practices, Policies and Procedures to determine their current status. In summary, thirteen (13) of the fourteen (14) prior year recommendations were implemented and closed. Appendix 3, Status of Prior-Year Findings, provides the DOT’s progress in addressing prior year recommendations from the OIG report QC-2014-065 dated July 17, 2014, Quality Control Review of the Audit of the Effectiveness of DOT’s Earned Value Management Practices. Appendix 2 contains a glossary of terms used in the report.

II. SCOPE

The performance audit procedures are designed to evaluate the implementation of EVM and reporting practices over the DOT five (5) OAs and ten (10) MITIs⁸ selected by KPMG, which are summarized in Table III and IV below. Table III depicts the five (5) OAs assessed in our EA scope, and Table IV illustrates the ten (10) MITIs selected per OA in scope.

Table III: Scope of OAs Selected for Testing

OAs
Federal Aviation Administration (FAA)
Office of the Secretary (OST)
Federal Highway Administration (FHWA)
Federal Motor Carrier Safety Administration (FMCSA)
National Highway Traffic Safety Administration (NHTSA)

⁸ “Major” investment refers to an IT investment requiring an OMB Exhibit 300 business case.

Table IV: Scope of MITIs Selected for Testing

MITIs
FAA: Instrument Flight Procedure Automation (IFPA)
FAA: Terminal Flight Data Manager (TFDM)
FAA: Terminal Automation Modernization and Replacement Program
FAA: ERAM System Enhancements and Tech Refresh
FAA: NextGen Research & Development (R&D) Portfolio
FMCSA: Unified Registration System
OST: Delphi Version Two
OST: DOT Common Operating Environment
FHWA: Fiscal Manager Information System 5.0 (FMIS 5.0)
NHTSA: Crash Data Acquisition Network

We designed the procedures to gain an understanding of how each OA and MITI we selected for testing has instituted practices related to EVM. The scope of our testing included the following areas:

- **EVM Governance** - Includes the policies and supporting guidance (i.e., project and program management) available to implement and use EVM.
- **EVM Implementation & Performance:** Includes EVM supporting standards and practices (e.g., WBS and use, contract and scope management, resource planning and management, and EVM analysis techniques), EVM certification, EVM surveillance, EVM training and EVM lessons learned.

III. METHODOLOGY

We conducted this performance audit in accordance with the performance audit standards contained in GAGAS, issued by the Comptroller General of the United States, and the AICPA Standards for Consulting Services. The engagement was performed in three phases: (1) planning, (2) testing and interviewing and (3) report writing.

The planning phase was designed to help ensure that team members developed a collective understanding of the EVM practices in place for the eleven (11) OAs and the ten (10) MITIs. We provided separate questionnaires to each OA and to each major investment project team. The questionnaires are designed to provide a foundational understanding for conducting interviews and for identifying additional documentation requests and, in some cases, provide completed and final responses to inquiries.

During the testing and interviewing phases, we conducted interviews, collected and inspected artifacts, participated in process walkthroughs, and designed and performed test procedures. We conducted these test procedures primarily at DOT headquarters and FAA facilities in Washington D.C. Testing procedures over the EVM are based on the Federal legislation, policies and industry standards.

KPMG's test procedures required us to select a sample of MITIs from a population of OAs for testing. To do so, we employed a risk-based approach including the CIO's risk score and MITI dollar amount invested by the Department to determine a subset of DOT's MITIs by OA. The population for this subset only included MITIs that are operational. Accordingly, our recommendations are applicable to the sample we tested and were not extrapolated to the population (i.e. OAs and MITIs).

The report writing phase entailed writing a draft report, conducting an exit conference, providing a formal draft report to the OIG for review, and preparing and issuing the final report. In addition, the

OIG's Quality Control Review (QCR) will include management's response to the report; which will be provided through the OIG.

IV. ANALYSIS & DATA GATHERING

In this section, we provide information gathered from our interviews and testing that is relevant to the objectives of our audit.

EVM Governance

EVM Governance consists of the policies, procedures, and practices that are in place to establish requirements for EVM implementation and performance management within project and program management practices. The OCIO is responsible for providing this guidance to the OA's, with the exception of the FAA, which utilizes its own acquisition system known as the Acquisition Management System (AMS). The AMS establishes the FAA acquisition policy and contains FAA specific EVM guidance. The FAA AMS is discussed in further detail below.

DOT EVM Policy

DOT uses Earned Value Management Implementation Guide (EVMIG) to monitor its investments, costs, schedule, and performance goals. The DOT OCIO is responsible for ensuring that all investments use an appropriate level of EVM. DOT EVM policies and procedures continue to be developed within the department and across OAs.

The degree to which EVM is applied to MITIs varies depending on the size and complexity of the IT investment. The DOT Earned Value Management Implementation Guide (EVMIG) identifies three (3) tiers of EVM rigor to be applied to IT investments.⁹ In the prior year audit, any investment with Development Modernization Enhancement (DME) costs over \$3 million were Tier II and thus subject to a subset of EVM requirements. This threshold has increased to \$10 million, thereby excluding more projects from EVM requirements. Inquiries indicated that this change resulted from an effort to align DOT EVM standards with that of the FAA, which operates an independent EVM policy as noted above. Table V below provides a summary of the OAs we selected for Governance testing and provides the applicability of EVM reporting requirements we found during our audit.

⁹ ¹ EVM Tier Requirements and Thresholds per ANSI/EIA-748 Guidance:

- Tier I: IT investments with total DME costs equal to or greater than \$20 million (then-year dollars) must implement an EVMS that fully complies with all ANSI/EIA Standard 748 Guidelines.
- Tier II: IT investments with total DME costs equal to or greater than \$10 million but less than \$20 million (then-year dollars) may implement, at a minimum, an EVMS that complies with a subset of ANSI/EIA Standard 748 Guidelines as detailed in the DOT EVM Implementation Guide.
- Tier III: IT investments with total DME costs less than \$10 million (then-year dollars) are not required to implement an EVMS. This does not exclude investments in this tier from performing prudent program management practices.
- Consolidated investments: or a collection of separate projects that pool resources and capabilities together to facilitate the effective management of all the work necessary to meet strategic objectives, shall apply the Tier I, II, or III EVM requirements to each subordinate project, not at the consolidated investment level.

Table V: OAs EVM Application and Applicability

Associated OAs	Number of MITIs	EVM Required	Additional Information
FAA	26	Yes	26 Investments require an Exhibit 300 Business Case. EVM is required for multiple FAA MITIs. 5 of 26 investments selected for testing meet the \$10 million DME cost threshold for EVM reporting.
OST	4	Yes	4 Investments require an Exhibit 300 Business Case. 1 of 4 investments selected for testing meet the \$10 million DME cost threshold for EVM reporting..
Federal Highway Administration (FHWA)	2	YEs	2 Investments require an Exhibit 300 Business Case. 1 of 2 investments selected for testing meet the \$10 million DME cost threshold for EVM reporting..
Federal Motor Carrier Safety Administration (FMCSA)	2	Yes	2 Investments require an Exhibit 300 Business Case. 1 of 2 investments selected for testing meet the \$10 million DME cost threshold for EVM reporting..
National Highway Traffic Safety Administration (NHTSA)	2	Yes	2 Investments require an Exhibit 300 Business Case. 1 of 2 investments selected for testing meet the \$10 million DME cost threshold for EVM reporting..
Federal Transit Administration (FTA)	2	No	No investments w/ Development, Modernization, and Enhancement (DME) costs > \$10 M
Maritime Administration (MARAD)	1	No	No investments w/ Development, Modernization, and Enhancement (DME) costs > \$10 M
Federal Railroad Administration (FRA)	1	No	No investments w/ Development, Modernization, and Enhancement (DME) costs > \$10 M
Pipeline and Hazardous Materials Safety Administration (PHMSA)	1	No	No investments w/ Development, Modernization, and Enhancement (DME) costs > \$10 M
Office of the Inspector General (OIG)	1	No	No investments w/ Development, Modernization, and Enhancement (DME) costs > \$10 M
Saint Lawrence Seaway Development Corporation (SLSDC)	1	No	No investments w/ Development, Modernization, and Enhancement (DME) costs > \$10 M

Table VI provides the MITIs selected for Governance testing, their associated tier threshold and whether EVM is required:

Table VI: MITI EVM Application and Applicability

Major IT Investment (MITI)	Associated OA	ANSI/EIA Standard Tier	748	EVM Required	DME Tier Threshold
Instrument Flight Procedure Automation (IFPA)	FAA	Tier II		Yes	DME Costs for FY 2017 > 10M
Terminal Flight Data Manager (TFDM)	FAA	Tier II		Yes	DME Costs for FY 2017 > 10M
Terminal Automation Modernization and Replacement Program	FAA	Tier I		Yes	EVM applied to individual investments. For each project, DME Costs < 10M
ERAM System Enhancements and Tech Refresh	FAA	Tier II		Yes	DME Costs for FY 2017 > 10M
NextGen R&D Portfolio	FAA	Tier II		Yes	DME Costs for FY 2017 > 10M
Unified Registration System	FMCSA	Tier II		Yes	DME Costs for FY 2017 > 10M
Delphi Version Two	OST	Tier II		Yes	DME Costs for FY 2017 > 10M
DOT Common Operating Environment	OST	Tier II		Yes	DME Costs for FY 2017 > 10M
Fiscal Manager Information System 5.0 (FMIS 5.0)	FHWA	Tier II		Yes	DME Costs for FY 2017 > 10M
Crash Data Acquisition Network	NHTSA	Tier II		Yes	DME Costs for FY 2017 > 10M

An additional DOT policy requirement for Tier I and Tier II investments is completing and maintaining a comprehensive WBS. Additionally, they are required to utilize the Department’s Standard WBS as the organizational foundation for their overall scope. We used this requirement (among others) during our testing and interview phase to evaluate the OA and DOTMITI compliance with DOT EVM policy.

EVM Implementation & Performance Management

One of our audit objectives was to determine DOT’s use of EVM to plan, monitor, and report the status of MITIs. To do so, DOT has established a performance measurement system for overall EVM capability. We evaluated the EVM implementation and performance management practices across selected OAs. This includes the evaluation of the following attributes:

- Whether federal employee and contractor costs resources are assigned project work elements
- Whether standard EVM requirements in contracts is used for major investments
- Whether EVM certification is or has been performed for major investments
- Whether EVM surveillance is used for contractors managing EVM for major investments
- Whether a standard WBS is used for major investments
- Whether EVM training has been provided for those using EVM

- The frequency in which EVM is analyzed
- Whether the Performance Reference Model (PRM) is used to monitor major investment performance
- Whether EVM lessons learned are being used to evaluate the use of EVM

As noted above, these EVM implementation and performance practices are required by OMB policy and DOT policy. We evaluated these EVM related attributes across each OA and MITI selected. Table VII contains a summary of the EVM implementation attributes and results of our analysis. The table shows the EVM performance measures utilized by OA and the frequency of their analysis:

Table VII: EVM Implementation & Performance Management Results

OAs (Investments)	EVM calculated based on who does work (Y/N)	Standard EVM contract language for	EVM certification	EVM contractor surveillance	Standard WBS for major investments	EVM training provided (Y/N)	EVM analysis frequency	PRM used to monitor majors performance (Y/N)	EVM lessons learned performed
EVM REQUIRED									
FAA	Y	Y	Y	Y	Y	Y	Monthly	Y	Y
FHWA	Y	Y	Y	Y	Y	Y	Monthly	Y	Y
FMCSA	Y	Y	Y	Y	Y	Y	Monthly	Y	Y
FRA	Y	Y	Y	Y	Y	Y	Monthly	Y	Y
FTA	Y	Y	Y	Y	Y	Y	Monthly	Y	Y
MARAD	Y	Y	Y	Y	Y	Y	Monthly	Y	Y
NHTSA	Y	Y	Y	Y	Y	Y	Monthly	Y	Y
OIG	N/A	N/A	N/A	N/A	N/A	N/A	Monthly	N/A	N/A
OST	N/A	N/A	N/A	N/A	N/A	N/A	Monthly	N/A	N/A
PHMSA	Y	Y	Y	Y	Y	Y	Monthly	Y	Y
SLSDC	Y	Y	Y	Y	Y	Y	Monthly	Y	Y

We determined the Department, has established and implemented Department-wide EVM policies, procedures, and practices for its MITIs utilizing the EVMIG; however the EVMIG is not consistently applied across the OAs due to the lack of WBS artifacts not being documented as notated in the Section V “Findings and Recommendations”.

In addition, we determined through inspection of the Departments and OAs EVM-required artifacts that certain OAs lacked the required documentation needed to plan, track, monitor, and report the status of its MITIs. Without an adequate EVM implementation, the Department and OAs may experience EVM execution efforts that are incomplete and inaccurate.

V. FINDINGS AND RECOMMENDATIONS

1. MARAD lack of required Work Breakdown Structure.

Condition

During our testing of OIG prior year recommendation #4, and testing with OA management, we inquired of the Department and MARAD management and noted the Department provided MARAD management with the WBS standard for investment projects. However, MARAD failed to implement the WBS standard as required. Additionally, we noted that within the questionnaire response from MARAD, they state “there isn’t a standard for WBS.”

We noted there was a lack of MARAD management oversight which led to management not formally establishing the WBS for its MITIs, per DOT EVM policy. Without a WBS, MARAD management would have limited knowledge of specific tasks, activities, and events needed to execute the program, as well as a reliable schedule that defines the timing, sequencing and duration of the tasks.

The Department requires the following:

- DOT EVM Policy – Section 1351.22.4.5 – The DOT standard for WBS requires segregation of Planning, Solution Implementation, and In-Service phases as detailed in the DOT EVM Implementation Guide. Each investment will expand the WBS to identify products, deliverables, and milestones that measure technical progress.
- DOT EVM Policy – Section 1351.22.2.3 – EVM provides DOT executives, investment managers, and contractors with reliable data from which to make responsible management decisions. EVM minimizes risk by effectively integrating the investment scope of work with cost, schedule, and performance elements for optimum project planning and control. EVM provides a quantitative measurement of project progress as measured against a performance baseline established from a project’s work breakdown structure and project plan.
- DOT EVMIG- Investments are required to complete and maintain a comprehensive WBS. Additionally, they are required to utilize the Department’s standard WBS as the organizational foundation for their overall scope.

We recommend MARAD:

- 1 Establish a WBS, consistent with the DOT EVMIG standard, for investment projects when required by the DOT EVM Policy.

2. FTA lack of Required Work Breakdown Structure.

Condition

During our testing of OIG prior year recommendation #4, and testing with OA management, we inquired of the Department and FTA management and noted the Department provided FTA management with the WBS standard for investment projects. However, FTA failed to implement the WBS standard as required. Additionally, we noted that within the questionnaire response from FTA, they state “there isn’t a standard for WBS.”

We noted, there was a lack of FTA management oversight, which led to management not implementing the WBS standard as required by DOT EVM policy.

Without a WBS, FTA management would have limited knowledge of specific tasks, activities, and events needed to execute the program, as well as a reliable schedule that defines the timing, sequencing and duration of the tasks.

The Department requires the following:

- DOT EVM Policy – Section 1351.22.4.5 – The DOT standard for WBS requires segregation of Planning, Solution Implementation, and In-Service phases as detailed in the DOT EVMIG. Each investment will expand the WBS to identify products, deliverables, and milestones that measure technical progress.

- DOT EVM Policy – Section 1351.22.2.3 – EVM provides DOT executives, investment managers, and contractors with reliable data from which to make responsible management decisions. EVM minimizes risk by effectively integrating the investment scope of work with cost, schedule, and performance elements for optimum project planning and control. EVM provides a quantitative measurement of project progress as measured against a performance baseline established from a project’s WBS and project plan.

We recommend FTA:

- 2 Establish a WBS, consistent with the DOT EVMIG standard for investment projects when required by the DOT EVM Policy.

3. OST did not provide requested EVM documentation.

Condition

During our testing of OIG prior year recommendation #4, and the testing over the EVM policy and program implementation for the DOT OST, Major Investment Delphi V2.0, we noted that the supporting documentation demonstrating the implementation and execution of the EVM processes was not provided. Specifically:

- OST Delphi V2.0 IRB recommendations and final EVM tier investment results;
- OST Delphi V2.0 EVM requirements at the investment level for all contractor and government entities in accordance with policy statement;
- Evidence of the OST’s IRB establishment of the EVM planning, monitoring, analyzing, reporting, managing, and controlling of the Delphi V2.0 performance; and
- OST Delphi V2.0 WBS.

Due to lack of documentation and supporting evidence provided by OST management, KPMG was unable to validate the EVM processes for the OST Delphi V2.0 major investment has been implemented and executed.

Without an adequate DOT EVM implementation, OST may experience EVM execution efforts that are incomplete and inaccurate.

The Department requires the following:

- 22.4.1 DOT investments within the scope of this order (Section 22.3) shall use an appropriate level of EVM for DME efforts for all resources (government and contractor), regardless of funding and contract types. Each OA IRB shall assess each investment as to the appropriate corresponding EVM tier and submit recommendations to the DOT IRB Executive Committee (ExComm) Staff. Recommendations shall address the rationale for the EVM tier determination and the proposed performance measurement baseline (PMB). The DOT IRB ExComm Staff shall review the investment and OA IRB recommendations and determine the final EVM tier for each investment.
- 22.4.2 The investment's size, complexity, priority, and level of risk shall be considered when determining and tailoring requirements for an investment's EVM practices. The ANSI/EIA-748 Guidelines shall be used as the DOT standard for EVM effort throughout the Department. Determination of an investment's EVM requirements shall be based on the following thresholds: Tier 1, Tier II, and Tier II.
- 22.4.3 EVM requirements at the investment level shall also be required for all contractor and government entities accomplishing the work in accordance with policy statement.
- 22.4.4 The IT investment program/project manager, in conjunction with the OA IRB, shall establish an EVM at the appropriate tier to plan, monitor, analyze, report, manage, and control the investment's performance.
- 22.4.5 The DOT standard for WBS requires segregation of Planning, Solution Implementation, and In-Service phases as detailed in the DOT EVM Implementation Guide. Each investment will expand the WBS to identify products, deliverables, and milestones that measure technical progress.

We recommend OST:

- 3 Ensure that the EVM artifacts illustrating implementation and execution of EVM are in accordance with DOT EVM policies.
- 4 Retain evidence of the required EVM artifacts.

CONCLUSION

Based upon the performance audit procedures conducted and the results obtained, we have met our audit objectives. We conclude that for the period February 23, 2017 through September 26, 2017, DOT has taken efforts to implement EVM policies, procedures, and practices across the Department, and the OAs to its MITIs. In addition, the Department has put EVM controls in place to monitor MITIs related spending. However, the EVMIG is not consistently applied across the OAs due to the lack of WBS artifacts not being documented. Therefore, we are making a series of recommendations to assist the Department in consistently implementing EVM practices across its OAs.

The 3 deficiencies resulted in four (4) recommendations communicated to DOT management prior to the issuance of this report. The 4 recommendations are contained in Section V, Findings and Recommendations, of this report.

We also reviewed fourteen (14) OIG prior year recommendations related to DOT's EVM Practices, Policies and Procedures to determine their current status. In summary, thirteen (13) of the fourteen (14) prior year recommendations were implemented and closed. Appendix 3, Status of Prior-Year Findings, provides the DOT's progress in addressing prior year recommendations from the OIG report QC-2014-065 dated July 17, 2014, Quality Control Review of the Audit of the Effectiveness of DOT's Earned Value Management Practices. Appendix 2 contains a glossary of terms used in the report.

CRITERIA AND REFERENCES

KPMG considered the following criteria and references during the assessment:

Federal Laws and Regulations

1. Office of Management and Budget (OMB)
2. OMB Circular A-11, Part 7 – Planning, Budgeting, Acquisition & Management of Capital Asset
3. OMB Memorandum M-04-24, Expanded Electronic Government (E-Gov) President's Management Agenda
4. OMB Memorandum M-05-23, Improving Information Technology Project Planning and Execution
5. Applicable National Institute of Standards and Technology (NIST) Special Publications
6. DOT Earned Value Management (EVM) Policy
7. DOT EVM CPIC Implementation Guide

LIST OF ACRONYMS

Acronym	Definition
ANSI	American National Standards Institute
AMS	Acquisition Management System
CIO	Chief Information Officer
CPIC	Capital Planning Investment Control
DME	Development Modernization Enhancement
DOT	Department of Transportation
EA	Enterprise Architecture
EIA	Electronic Industries Association
EVM	Earned Value Management
EVMIG	Earned Value Management Implementation Guide
EVMS	Earned Value Management System
FAA	Federal Aviation Administration
FHWA	Federal Highway Administration
FMCSA	Federal Motor Carrier Safety Administration
FRA	Federal Railroad Administration
FTA	Federal Transit Administration
FY	Fiscal Year
GAGAS	Generally Accepted Government Accounting Standards
GAO	Government Accountability Office
IBR	Investment Business Requirements
IRB	Investment Business Review
IFPA	Instrument Flight Procedure Automation
IT	Information Technology
JRC	Joint Review Committee
KPMG	KPMG LLP
MARAD	Maritime Administration
MITIs	Major Information Technology Investments
NHTSA	National Highway Traffic Safety Administration
NIST	National Institute of Standards and Technology
OAs	Operating Administrations
OCIO	Office of the Chief Information Officer
OIG	Office of the Inspector General
OMB	Office of Management and Budget
OPPM	Oracle Primavera Portfolio Management
OBS	Organizational Breakdown Structure
OSPE	Office of the Senior Procurement Executive
OST	Office of the Secretary
PHMSA	Pipeline and Hazardous Materials Safety Administration
PRM	Performance Reference Model
SLSDC	Saint Lawrence Seaway Development Corporation
TAM	Transportation Acquisition Manual
TAR	Transportation Acquisition Regulation
TFDM	Terminal Flight Data Manager
WBS	Work Breakdown Structure
U.S.	United States

SUMMARY OF KPMG'S PRIOR YEAR OIG PII FINDINGS TO CLOSE THE QC-2014-065, QUALITY CONTROLS REVIEW FOR THE AUDIT OF THE EFFECTIVENESS OF DOT'S EARNED VALUE MANAGEMENT PRACTICES

The Office of the Inspector General (OIG) provided the audit report to KPMG for review and inspection. KPMG performed the below inquiry and inspection procedures, to determine whether the OIG prior year (PY) recommendations are open/closed. The table below dictates KPMG's procedures performed, and the detailed analysis is documented in KPMG's PY finding summary workpapers, provided to the OIG for review and retention. The following provides a high-level summary of KPMG's procedures performed, closure status, and summary of actions needed to close the PY findings (if applicable).

Recommendations	Inquiry procedures	Inspection procedures	Open/Closed
<p>OIG Recommendation</p> <p>#1- Update the DOT EVMIG to establish operational requirements and document a defined or recommended set of documents to be retained in the event of a formal project baseline change.</p>	<p><u>DOT Chief Information Officer</u></p> <ul style="list-style-type: none"> Inquired of management regarding the updates to the EVM guide and use across the DOT OAs. 	<p><u>DOT Chief Information Officer</u></p> <ul style="list-style-type: none"> Inspected the EVM guidelines to ensure they include standards, process, templates, and techniques for implementation, retention and use of EVM baseline requirements. 	<p>Closed</p>
<p>OIG Recommendation</p> <p>#2- Update policies and procedures for the validation of contractor cost estimates, and incorporate them into the DOT EVMIG and applicable DOT IBR guidance for Contracting Officers.</p>	<p><u>DOT Chief Information Officer</u></p> <ul style="list-style-type: none"> Inquired with management regarding whether policies and procedures for the validation of contractor cost estimates have been incorporated into the DOT EVMIG and applicable DOT IBR guidance for Contracting Officers. 	<p><u>DOT Chief Information Officer</u></p> <ul style="list-style-type: none"> Inspected the DOT EVMIG and applicable DOT IBR guidance for Contracting Officers to ensure they include procedures for the validation of contractor cost estimates. 	<p>Closed</p>
<p>OIG Recommendation</p>	<p><u>DOT Chief Information Officer</u></p>	<p><u>DOT Chief Information Officer</u></p>	<p>Closed</p>

Recommendations	Inquiry procedures	Inspection procedures	Open/Closed
#3- Develop policies and procedures for the retention of COTR and Procurement documented conclusions on the validity of provided contractor cost estimates.	<ul style="list-style-type: none"> Inquired with management regarding whether policies and procedures for the retention of COTR and Procurement documented conclusions on the validity of provided contractor cost estimates have been created and implemented. 	<ul style="list-style-type: none"> Inspected the DOT EVMIG and applicable DOT IBR guidance for Contracting Officers to ensure they include procedures for the retention of COTR and Procurement conclusions on the validity of contractor cost estimates. 	
<p>OIG Recommendation</p> <p>#4 Develop procedures of standardize program and project EVM data for all OAs.</p>	<p><u>DOT Chief Information Officer</u></p> <ul style="list-style-type: none"> Inquired with management regarding whether procedures have been created for the standardization of the EVM program across all OAs. 	<p><u>DOT Chief Information Officer</u></p> <ul style="list-style-type: none"> Inspected EVM program procedures to determine if an enterprise approach has been taken for EVM across the DOT OAs. Selected a sample of EVM reports to determine if there is standardize process in place. 	Open, Findings #1-3
<p>OIG Recommendation</p> <p>#5 Provide a platform or mechanism for ensuring appropriate personnel managing programs that require EVM reporting must obtain OCIO and/ or Office of the Senior Procurement Executive (OSPE) sponsored training prior to awarding contract.</p>	<p><u>DOT Chief Information Officer</u></p> <ul style="list-style-type: none"> Inquired with management regarding whether DOT has created a training program pertaining to EVMS. 	<p><u>DOT Chief Information Officer</u></p> <ul style="list-style-type: none"> Inspected training materials to ensure that they are adequate and have been distributed within the DOT OAs. Selected a sample of EVM training reporting metrics to determine if OCIO and/ or Office of the Senior Procurement Executive (OSPE) sponsored training prior to awarding contract. 	Closed
<p>OIG Recommendation</p> <p>#6 Work with appropriate DOT personnel to ensure training qualifications are maintained in a designated repository.</p>	<p><u>DOT Chief Information Officer</u></p> <ul style="list-style-type: none"> Inquired with management regarding whether DOT EVMS training qualifications are maintained in a repository. 	<p><u>DOT Chief Information Officer</u></p> <ul style="list-style-type: none"> Inspected the training repository to ensure records are being captured and updated consistency. Select a sample of training records to ensure training qualifications are documented and are reflected in the repository. 	Closed

Recommendations	Inquiry procedures	Inspection procedures	Open/Closed
<p>OIG Recommendation</p> <p>#7 Further develop the FAA EVMS Training Module to promote consistency of reporting and awareness of EVMS requirements, specifically program and contractor IBR requirements.</p>	<p><u>FAA Chief Information Officer</u></p> <ul style="list-style-type: none"> Inquired with management regarding whether the FAA EVMS Training Module promote consistency of reporting and awareness of EVMS requirements, specifically program and contractor IBR requirements. 	<p><u>FAA Chief Information Officer</u></p> <ul style="list-style-type: none"> Inspected the FAA EVMS Training Module to determine if the reporting and awareness promote consistency. 	<p>Closed</p>
<p>OIG Recommendation</p> <p>#8 Require that the program teams attend corresponding trainings and EVM Focal Point staff will be responsible for the development and implementation of training.</p>	<p><u>FAA Chief Information Officer</u></p> <ul style="list-style-type: none"> Inquired with management regarding whether program teams are required to attend EVM trainings and that the EVM Focal Point staff will be responsible for the development and implementation of training. 	<p><u>FAA Chief Information Officer</u></p> <ul style="list-style-type: none"> Inspected the FAA EVMS Training attendee list to determine if program teams are keeping records accurately. 	<p>Closed</p>
<p>OIG Recommendation</p> <p>#9 Develop a method for holding the program manager responsible for ensuring the timely execution of the IBR.</p>	<p><u>FAA Chief Information Officer</u></p> <ul style="list-style-type: none"> Inquired with management regarding whether a method for holding the program manager responsible for ensuring the timely execution of the IBR has been implemented. 	<p><u>FAA Chief Information Officer</u></p> <ul style="list-style-type: none"> Inspected documentation that supports the program manager's timely execution of the IBR has been implemented. Select a sample of investments to determine if the IBR has been completed prior to contract award. 	<p>Closed</p>
<p>OIG Recommendation</p> <p>#10 Retain evidence of requests for IBR deferrals past the required 180 day threshold. Require this evidence to be presented during the IBR Status</p>	<p><u>FAA Chief Information Officer</u></p> <ul style="list-style-type: none"> Inquired with management regarding whether evidence of requests for IBR deferrals past the required 180 day threshold has been implemented. 	<p><u>FAA Chief Information Officer</u></p> <ul style="list-style-type: none"> Inspected evidence of request for the IBR deferrals past the required 180 day threshold and presented in the IBR status reports Select a sample of IBR deferrals and status reports to determine if IBRs are tracked consistently. 	<p>Closed</p>

Recommendations	Inquiry procedures	Inspection procedures	Open/Closed
Reports conducted with JRC.			
<p>OIG Recommendation</p> <p>#11 Develop policies and procedures documenting time requirements for certification of Contractor EVMS, as well as follow-up requirements to occur in the event contractor EVMS is unable to achieve certification.</p>	<p><u>FAA Chief Information Officer</u></p> <ul style="list-style-type: none"> Inquired with management regarding whether policies and procedures for documenting time requirements for the certification of Contractor EVMS, as well as follow-up requirements to occur in the event contractor EVMS is unable to achieve certification have been created. 	<p><u>FAA Chief Information Officer</u></p> <ul style="list-style-type: none"> Inspected documentation to determine if policies and procedures documenting time requirements for certification of Contractor EVMS, as well as follow-up requirements to occur in the event contractor EVMS is unable to achieve certification have been documented. 	Closed
<p>OIG Recommendation</p> <p>#12 Certify the Crown EVMS for NEXCOM.</p>	<p><u>FAA Chief Information Officer</u></p> <ul style="list-style-type: none"> Inquired with management regarding whether the Crown Consulting (EVMS Contractor) for the NEXCOM segment is certified. 	<p><u>FAA Chief Information Officer</u></p> <ul style="list-style-type: none"> Inspected evidence that supports management's validation of EVMS contractors are certified and meet the ANSI/EIA Standard 748 requirements. 	Closed
<p>OIG Recommendation</p> <p>#13 Perform analysis of investments under development and associated contractor EVMS to identify non-certified systems currently being used to report EVM data and perform analysis to determine impact of utilization of non-certified EMVS.</p>	<p><u>FAA Chief Information Officer</u></p> <ul style="list-style-type: none"> Inquired with management regarding whether an analysis of investments under development and associated contractor(s) EVMS to identify non-certified systems currently being used to report EVM data and whether an analysis was performed to determine impact of utilization of non-certified EMVS. 	<p><u>FAA Chief Information Officer</u></p> <ul style="list-style-type: none"> Inspected documentation for investments under development and associated contractor EVMS to identify non-certified systems currently being used to report EVM data and perform analysis to determine impact of utilization of non-certified EMVS. Select a sample of investments to determine if non-certified systems are currently being used and their impact. 	Closed
<p>OIG Recommendation</p>	<p><u>FAA Chief Information Officer</u></p> <ul style="list-style-type: none"> Inquired with management regarding 	<p><u>FAA Chief Information Officer</u></p> <ul style="list-style-type: none"> Inspected documentation to determine if the timely and 	Closed

Recommendations	Inquiry procedures	Inspection procedures	Open/Closed
<p>#14 Incorporate the timely and consistent tracking of EVMS certification into year-end performance metrics for EVM Focal Point Staff.</p>	<p>whether has they have incorporate the timely and consistent tracking of EVMS certification into year-end performance metrics for EVM Focal Point Staff.</p>	<p>consistent tracking of EVMS certifications are captured in year-end performance metrics.</p> <ul style="list-style-type: none"> • Select a sample of performance metrics to determine the accuracy of the EVMedS certification tracking. 	

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