



Testimony

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DHS FINANCIAL MANAGEMENT

Improved Use of Best Practices Could Help Manage System Modernization Project Risks

Statement of Asif A. Khan
Director, Financial Management and Assurance

Accessible Version

Chairman Perry, Ranking Member Correa, and Members of the Subcommittee:

I am pleased to be here today to discuss the findings from our report being released today on the Department of Homeland Security's (DHS) recent financial management system modernization efforts.¹ Since DHS's creation in 2003, its ability to manage operations and reasonably assure effective financial management has been hampered by significant internal control and financial management system deficiencies. These deficiencies contributed to our decision to designate DHS's management functions, including financial management, as high risk.²

In 2013, we reported on challenges related to DHS's previous attempts to implement a department-wide integrated financial management system as well as specific actions and outcomes related to modernizing financial management systems that are critical to addressing high-risk issues.³ We also reported on the existence of certain material weaknesses that limited DHS's ability to process, store, and report financial data in a manner that ensures accuracy, confidentiality, integrity, and availability of data without substantial manual intervention.⁴ DHS subsequently adopted a

¹GAO, *DHS Financial Management: Better Use of Best Practices Could Help Manage System Modernization Project Risks*, [GAO-17-799](#) (Washington, D.C.: Sept. 26, 2017).

²GAO, *High-Risk Series: Progress on Many High-Risk Areas, While Substantial Efforts Needed on Others*, [GAO-17-317](#) (Washington, D.C.: Feb. 15, 2017), and *High-Risk Series: An Update*, [GAO-03-119](#) (Washington, D.C.: January 2003). In 2013, we changed the name of this high-risk area from "Implementing and Transforming DHS" to "Strengthening DHS Management Functions" to recognize DHS's progress in its implementation and transformation since its creation, as well as to focus on its remaining challenges in strengthening its management functions and integrating those functions across the department. The "Strengthening DHS Management Functions" high-risk area includes challenges in acquisition, information technology, human capital, and financial management.

³GAO, *DHS Financial Management: Additional Efforts Needed to Resolve Deficiencies in Internal Controls and Financial Management Systems*, [GAO-13-561](#) (Washington, D.C.: Sept. 30, 2013).

⁴A material weakness is a deficiency, or a combination of deficiencies, in internal control over financial reporting such that there is a reasonable possibility that a material misstatement of the entity's financial statements will not be prevented, or detected and corrected, on a timely basis. A deficiency in internal control exists when the design or operation of a control does not allow management or employees, in the normal course of performing their assigned functions, to prevent, or detect and correct, misstatements on a timely basis.

decentralized approach to upgrade or replace legacy financial management systems and has been evaluating various options for modernizing its systems, including the use of shared service providers (SSP). As part of this effort, DHS initiated the TRIO project, which has focused on migrating the Domestic Nuclear Detection Office (DNDO), Transportation Security Administration (TSA), and U.S. Coast Guard (Coast Guard), or “the TRIO components,” to a modernized financial management system solution provided by the Department of the Interior’s Interior Business Center (IBC). The TRIO project represents a key effort to address long-standing financial management system deficiencies, and DHS’s efforts to effectively assess and manage risks associated with this project are essential to realizing its modernization goals.

In 2013, the Office of Management and Budget (OMB) issued direction to agencies to consider federal SSPs as part of their alternatives analysis.⁵ Subsequently, in May 2014, OMB and the Department of the Treasury (Treasury) designated IBC as one of four federal SSPs for financial management to provide core accounting and other services to federal agencies.⁶ In addition, Treasury’s Office of Financial Innovation and Transformation’s (FIT) responsibilities related to the governance and oversight of federal SSPs were subsequently transferred to the Unified Shared Services Management office (USSM) after USSM was established in October 2015 as an entity within the General Services Administration.

This statement summarizes our report that examined (1) the extent to which DHS and the TRIO components followed best practices in analyzing alternatives, and the key factors, metrics, and processes used in their choice of a modernized financial management system; (2) the extent to which DHS managed the risks of using IBC for its TRIO project consistent with risk management best practices; and (3) the key factors

⁵Office of Management and Budget, *Improving Financial Systems through Shared Services*, OMB Memorandum M-13-08 (Washington, D.C.: Mar. 25, 2013). According to this memorandum, agencies must consider, as part of their alternatives analysis, the use of a federal SSP, and OMB will consider funding the use of commercial SSPs as an appropriate solution if the agency’s business case demonstrates that a commercial SSP can provide a better value to the federal government than a federal solution.

⁶Office of Management and Budget and Department of the Treasury, *Reducing Costs and Improving Efficiencies Through Federal Shared Service Providers for Financial Management* (May 2, 2014), accessed August 3, 2017, <https://www.treasury.gov/connect/blog/Pages/Shared-Service-Providers-for-Financial-Management.aspx>.

and challenges that have impacted the TRIO project and DHS's plans for completing the remaining key priorities.

To accomplish these objectives, we interviewed key officials and reviewed relevant documents. We compared the information we obtained to (1) GAO-identified best practices for conducting an analysis of alternatives (AOA) process and related characteristics of a reliable, high-quality AOA process⁷ and (2) best practices published by the Software Engineering Institute (SEI) for preparing for risk management, identifying and analyzing risks, and mitigating identified risks.⁸ We also reviewed TRIO components' alternatives analyses documentation and evaluated their processes and related DHS guidance against the GAO-identified 22 best practices for conducting an AOA process. In addition, we reviewed DHS's and the TRIO components' risk management guidance and compared documentation and information obtained supporting their risk management efforts to best practices published by SEI. We also met with DHS, IBC, FIT, and USSM officials as well as OMB staff to obtain their perspectives on key factors and challenges that have impacted the TRIO project and DHS's plans for completing remaining priorities. The work on which this statement is based was performed in accordance with generally accepted government auditing standards. More details on our scope and methodology can be found in appendix I of our report.

In brief, we found that DHS and the TRIO components did not fully follow best practices for conducting an AOA process and managing the risks of using IBC on the TRIO project, and we made two recommendations to address these concerns. DHS agreed with both recommendations and has taken action or has plans to implement them. In addition, we found that insufficient resources, complex requirements, and other challenges

⁷GAO, *Amphibious Combat Vehicle: Some Acquisition Activities Demonstrate Best Practices; Attainment of Amphibious Capability to be Determined*, [GAO-16-22](#) (Washington, D.C.: Oct. 28, 2015). That report updated the AOA best practices initially published in GAO, *DOE and NNSA Project Management: Analysis of Alternatives Could Be Improved by Incorporating Best Practices*, [GAO-15-37](#) (Washington, D.C.: Dec. 11, 2014). These AOA best practices are based on long-standing, fundamental tenets of sound decision making and economic analysis and were identified by compiling and reviewing commonly mentioned AOA policies and guidance that are known to and have been used by government and private sector entities. App. II of our report provides additional details on GAO-identified AOA best practices and their relationship to the four characteristics of a reliable, high-quality AOA process; see [GAO-17-799](#).

⁸Software Engineering Institute, *Capability Maturity Model® Integration (CMMI®) for Acquisition, Version 1.3*, CMU/SEI-2010-TR-032 (Hanscom Air Force Base, Mass.: November 2010).

have impacted the TRIO project and contributed to a 2-year delay now expected in the implementation of Coast Guard’s and TSA’s modernized solution. In May 2017, DHS determined that migrating away from IBC to a DHS data center represented the best path forward.

DHS Did Not Always Follow AOA Best Practices

DNDO Substantially Met and Coast Guard and TSA Partially Met Best Practices for Conducting AOAs

During 2012 and 2013, the TRIO components each completed an alternatives analysis to determine a preferred alternative for modernizing their financial management systems. Based on our assessment of these analyses, we found that DNDO substantially met the four characteristics that encompass the GAO-identified 22 best practices for conducting a reliable, high-quality AOA process, while the Coast Guard and TSA both substantially met one and partially met three of these four characteristics. For example, although TSA’s alternatives analysis substantially met the “credible” characteristic, it partially met the “well-documented” characteristic, in part, because risk mitigation strategies, assumptions, and constraints associated with each alternative were not discussed in its analysis. Similarly, Coast Guard’s alternatives analysis substantially met the “comprehensive” characteristic; however, it partially met the “credible” characteristic, in part, because there was no indication that it contained sensitivity analyses on the impact of changing assumptions on its overall costs or benefits analyses. Our assessment is summarized in table 1.

Table 1: DHS TRIO Components’ Adherence to Characteristics of a Reliable, High-Quality Analysis of Alternatives Process

AOA characteristic	Overall GAO assessment		
	Coast Guard	TSA	DNDO
Well-documented	Partially met	Partially met	Substantially met
Comprehensive	Substantially met	Partially met	Substantially met
Unbiased	Partially met	Partially met	Substantially met
Credible	Partially met	Substantially met	Substantially met

Legend:

Coast Guard = U.S. Coast Guard

DHS = Department of Homeland Security

DNDO = Domestic Nuclear Detection Office

TSA = Transportation Security Administration

Source: GAO assessment of TRIO component information. For additional information on the methodology used to assess TRIO components' adherence to characteristics of a reliable analysis of alternatives process, see [GAO-17-799](#). | GAO-17-803T

Further, we found that DHS's guidance did not fully or substantially incorporate 5 of the GAO-identified 22 best practices. For example, although the guidance addressed risk management in general terms, it did not detail the need to document risk mitigation strategies for each alternative or address the need for an independent review—one of the most reliable means to validate an AOA process. Based on these analyses and other factors, the TRIO components determined that migrating to a federal SSP represented the best alternative, and in 2014, DHS selected IBC as the federal SSP for the project. However, because Coast Guard's and TSA's alternatives analyses did not fully or substantially reflect all of the characteristics noted above, we concluded that they are at increased risk that the alternative selected may not achieve mission needs. In our report, we made a recommendation for DHS to develop and implement effective processes and improve guidance to reasonably assure that future alternatives analyses fully follow AOA process best practices and reflect the four characteristics of a reliable, high-quality AOA process. In commenting on our report, DHS concurred with GAO's recommendation and stated that it has issued guidance and instructions that addressed the recommendation. As part of our recommendation follow-up process, we will review DHS's guidance and other relevant information.

DHS Met Three and Partially Met Four Best Practices for Managing the Risks of Using IBC for the TRIO Project

Risk management best practices call for the identification of potential problems before they occur so that risk-handling activities can be planned throughout the life of the project to mitigate adverse impacts on achieving objectives. These best practices involve the following goals: preparing for risk management, identifying and analyzing risks, and mitigating identified risks.⁹ Based on our evaluation, we found that DHS's processes did not fully follow best practices for managing project risks related to its use of IBC on the TRIO project. Specifically, we determined that DHS's processes met three of seven risk management best practices but

⁹Software Engineering Institute, *CMMI® for Acquisition, Version 1.3*.

partially met the remaining four best practices largely because its guidance did not sufficiently address these best practices. For example, although DHS created joint teams with IBC and provided additional resources to IBC to help address mitigation concerns, it did not always develop sufficiently detailed risk mitigation plans that included contingency plans for selected critical risks in the event that their impacts are realized. As a result, although IBC’s capacity and experience for migrating large agencies the size of Coast Guard and TSA was identified as a risk in July 2014, a contingency plan working group to address this and other concerns was not established until January 2017. Table 2 summarizes the extent to which DHS followed these seven best practices for managing TRIO project risks.

Table 2: Department of Homeland Security’s Adherence to Best Practices for Managing TRIO Project Risks

Best practice	Practice statement	GAO assessment
Goal 1: Prepare for risk management: Preparation for risk management is conducted.		
Determine risk sources and categories	Determine risk sources and categories.	Met
Define risk parameters	Define parameters used to analyze and categorize risks and to control the risk management efforts.	Partially met
Establish a risk management strategy	Establish and maintain the strategy to be used for risk management.	Met
Goal 2: Identify and analyze risks: Risks are identified and analyzed to determine their relative importance.		
Identify risks	Identify and document risks.	Partially met
Evaluate, categorize, and prioritize risks	Evaluate and categorize each identified risk using defined risk categories and parameters, and determine each risk’s relative priority.	Met
Goal 3: Mitigate risks: Risks are handled and mitigated as appropriate to reduce adverse impacts on achieving objectives.		
Develop risk mitigation plans	Develop a risk mitigation plan in accordance with the risk management strategy.	Partially met
Implement risk mitigation plans	Monitor the status of each risk periodically and implement the risk mitigation plan as appropriate.	Partially met

Legend:

DHS = Department of Homeland Security

Met = DHS-documented processes generally satisfied all elements of the specific practice

Partially met = DHS-documented processes generally satisfied some but not all elements of the specific practice

Source: Software Engineering Institute (best practices) and GAO analysis of DHS data. For additional information on the methodology used to assess DHS’s adherence to risk management best practices, see [GAO-17-799](#). | GAO-17-803T

According to DHS officials, DHS relied heavily on IBC to manage risks associated with the TRIO project and, in particular, those for which IBC was assigned as the risk owner. They also acknowledged DHS’s responsibility for overseeing IBC’s TRIO project risk management efforts and described various actions taken to address growing concerns

regarding IBC's efforts, such as offering DHS assistance to IBC's project management functions to help reduce exposure of underlying risks. Despite these efforts, DHS officials stated that challenges associated with the interagency agreement structure and terms of the performance work statement with IBC on the TRIO project limited DHS's visibility into IBC's overall cost, schedule, and performance controls and ability to oversee IBC's risk management efforts.

Further, the issues associated with the best practices we assessed as partially met were largely attributable to limitations in DHS and TRIO project guidance and policies. We concluded that by not adopting important elements of risk management best practices into project guidance, DHS and the TRIO components increase the risk that potential problems would not be identified before they occur and that activities to mitigate adverse impacts would not be effectively planned and initiated.

In our report, we made a recommendation for DHS to improve its *Risk Management Planning Handbook* and other relevant guidance for managing risks associated with financial management system modernization projects to fully incorporate risk management best practices. In commenting on our report, DHS concurred with GAO's recommendation and identified actions it plans to take to implement it.

Key Factors and Challenges Impacting the TRIO Project and DHS's Path Forward

DHS, IBC, FIT, and USSM officials and OMB staff identified several key factors and challenges that have impacted the TRIO project, which we grouped into five broad categories: project resources, project schedule, complex requirements, project costs, and project management and communications. Examples of the key factors and challenges that were identified for each of these categories include:

- **Project resources:** Concerns about IBC's experience and its capacity to handle a modernization project involving agencies the size of Coast Guard and TSA were identified as significant risks in July 2014, prior to DHS and IBC's entering the TRIO project implementation phase in August 2014. According to DHS officials and documentation, IBC encountered federal employee hiring challenges and was unable to ramp up and deploy the resources necessary to meet required deliverables and experienced significant turnover in key leadership and TRIO project positions over the course of the project.

IBC officials acknowledged these challenges and that staff assigned early in the project lacked the experience and expertise necessary for managing large-scale projects and, as a result, many of the risks initially identified were not effectively addressed.

- **Project schedule:** Migrating the TRIO components to IBC within original time frames was a significant challenge given the overall magnitude and complexity of the TRIO project. DHS identified delays in stabilizing the production environment after DNDO's migration to IBC and in meeting proposed baseline schedules for implementing Coast Guard and TSA on the modernized solution.
- **Complex requirements:** DHS, IBC, FIT, and USSM officials acknowledged the overall complexity of the TRIO project and that the lack of a detailed understanding of the components' requirements earlier in the project affected IBC and DHS's ability to satisfy the requirements as planned. USSM and FIT officials told us that under the shared services model, the approach for onboarding new customers usually involves migrating to a proven configuration of a solution that is already being used by the provider's existing customers. However, rather than taking this approach, DHS and IBC agreed to implement a more recent version of Oracle Federal Financial software (version 12.2) with integrated contract life cycle and project modules, increasing the complexity of TRIO project requirements. A FIT official told us that the functionality of this more recent version of software is very different than that of the version IBC's existing customers used and that IBC did not have the needed government personnel with knowledge and experience associated with it.
- **Project costs:** Estimated costs of the TRIO project significantly increased because of schedule delays, unanticipated complexities, and other challenges. According to a January 2017 summary prepared by DHS, estimated IBC-related TRIO project implementation costs through fiscal year 2017 increased by approximately \$42.8 million (54 percent) from the \$79.2 million provided in the original August 2014 interagency agreement with IBC, in part, to address challenges affecting the project.
- **Project management and communication:** DHS officials expressed concerns regarding the effectiveness of IBC's project management efforts, including cost, schedule, and change management. They also stated that DHS provided significant time and resources to make up for fundamental project management activities that were under IBC's control and not performed. They also acknowledged challenges in DHS's project management and communication efforts and identified

lessons learned to help improve future efforts, such as being more prepared for organizational changes and centralizing program management functions to help reduce duplicate efforts across components. According to USSM officials, the TRIO project team focused an unbalanced portion of its efforts on the delivery of technology at the expense of organizational change management, communication management, and other project management areas. An OMB staff member concurred with the lessons learned identified by DHS and noted the importance of DHS having well-defined requirements for the project and better coordination to achieve the desired outcomes.

These challenges contributed to a 2-year delay now expected in the implementation of Coast Guard's and TSA's modernized solution. To help address them, DHS and IBC established review teams and have taken other steps to assess potential mitigating steps. For example, in January 2017, DHS and IBC established a joint contingency plan working group (CPWG) to assess viable options for addressing stakeholder concerns and key TRIO priorities moving forward. In February 2017, DHS and IBC presented two options for addressing these concerns, and in April 2017, the CPWG recommended moving away from IBC to a commercial service provider as the best course of action to complete TRIO project implementation. In May 2017, DHS determined that this option was not viable and that migrating the solution from IBC to a DHS data center represented the best option and initiated discovery efforts to further assess this as its path forward for the TRIO project. As of August 2017, results of these efforts were under review by DHS leadership. As the path forward is still evolving, it is too early to determine the extent to which these challenges, and DHS's efforts to effectively address them, will impact DHS's ability to achieve TRIO project goals.

In commenting on our report, DHS stated that it remains committed to its financial system modernization program and that it will continue to apply sound program and risk management best practices to achieve its modernization goals.

Chairman Perry, Ranking Member Correa, and Members of the Subcommittee, this concludes my statement. I would be pleased to respond to any questions you may have at this time.

GAO Contact and Staff Acknowledgments

If you or your staff have any questions about this testimony, please contact Asif A. Khan at (202) 512-9869 or khana@gao.gov. Contact points for our Offices of Congressional Relations and Public Affairs may be found on the last page of this statement. GAO staff who made key contributions to this testimony are James Kernen (Assistant Director) and Valerie Freeman.

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