



February 2022

DOD FINANCIAL MANAGEMENT

Air Force Needs to Improve Its System Migration Efforts

Accessible Version

GAO Highlights

Highlights of [GAO-22-103636](#), a report to congressional committees

Why GAO Did This Study

The Air Force is currently modernizing and migrating its financial management systems as part of a broader effort to improve financial management operations and prepare auditable financial statements. Successful system migration is key to the Air Force addressing weaknesses that financial statement auditors have identified.

The Government Management Reform Act of 1994 includes a provision for GAO to audit the U.S. government's consolidated financial statements. This report examines the extent to which the Air Force is (1) following leading practices for its financial management system migration and (2) planning to address the financial management system-related issues that auditors identified.

GAO reviewed guidance on system migration leading practices; observed DEAMS program operations; reviewed documentation related to the Air Force's migration efforts and strategy, financial statement audit results, and efforts to resolve system deficiencies; and interviewed cognizant officials.

What GAO Recommends

GAO is making four recommendations to the Air Force, including that it develop a migration plan to more timely transition to its target core accounting systems and develop a comprehensive strategy that includes all of its financial management systems modernization efforts. The Department of Defense agreed with all four recommendations and described actions taken or planned to address them.

View [GAO-22-103636](#). For more information, contact Asif A. Khan at (202) 512-9869 or khana@gao.gov.

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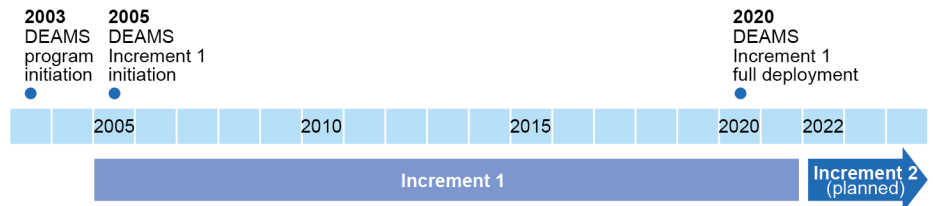
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What GAO Found

The Air Force relies on its financial management systems to help manage department operations and support core accounting activities, such as maintaining financial records and making payments. Its environment is complex and consists of multiple systems that are not fully integrated, preventing Air Force management from obtaining timely, accurate, and reliable information on the results of its business operations. To address these issues, the Air Force has been migrating from its legacy, or aging, financial management systems to more modern target systems. One such key target is the Defense Enterprise Accounting and Management System (DEAMS), which is to be the Air Force's core accounting and finance system. DEAMS has been deployed incrementally to Air Force users since 2005, and the Air Force plans to expand its use in the future (see figure).

Air Force's Defense Enterprise Accounting and Management System (DEAMS) Timeline



Source: GAO analysis of Air Force documents. | [GAO-22-103636](#)

The Air Force has not followed leading practices, such as developing a migration plan to guide its transition from the existing legacy system to DEAMS. Instead, the Air Force decided to pursue a dual processing policy in which the legacy and target systems would both continue to operate for at least the next 10 years. The continued use of the legacy system means that resolution of its deficiencies would be delayed for many years. Further, associated internal control weaknesses would also persist.

Auditors have identified numerous issues related to the Air Force's broader financial management systems, including DEAMS. For fiscal year 2020, auditors reported deficiencies including nonintegrated Air Force financial systems, an insufficient financial reporting process, and a lack of controls in the design of information systems. While the Air Force has some efforts under way to address financial management system-related deficiencies, it does not have a comprehensive strategy encompassing the entirety of its financial management systems modernization efforts. Without such a comprehensive financial management system strategy, it will be more difficult for the Air Force to report accurate and reliable financial information. Moreover, the Air Force will continue to face difficulties developing and fully implementing Air Force-wide corrective action plans to address the system-related issues that auditors identified. These issues have led to the Air Force not being able to provide sufficient, appropriate audit evidence to support the reported amounts in its financial statements.

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Abbreviations

DDRS	Defense Departmental Reporting System
DEAMS	Defense Enterprise Accounting and Management System
DFAS	Defense Finance and Accounting Service
DOD	Department of Defense
FFMIA	Federal Financial Management Improvement Act of 1996
GAFS-R	General Accounting and Finance System-Reengineered
IPA	independent public accountant
IT	information technology
MROi	Maintenance, Repair, and Overhaul initiative
NFR	notice of findings and recommendations
OMB	Office of Management and Budget
RICE	reports, interfaces, conversions, and extensions
SAF/FM	Assistant Secretary of the Air Force, Financial Management and Comptroller
SCi	Supply Capability initiative
SEI	Software Engineering Institute
USSGL	<i>U.S. Standard General Ledger</i>

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February 28, 2022

Congressional Committees

The Air Force relies on financial management IT systems to support department and financial managers. Specifically, these systems help manage department operations, maintain financial records, process transactions, and make payments, among other functions.¹

The Air Force's financial management systems environment is complex, consisting of multiple legacy financial and mixed systems.² According to the Air Force, these systems require numerous manual work-arounds to integrate data. This lack of integration prevents management from obtaining timely, accurate, and reliable information on the results of its business operations.

To address aging and outdated financial management systems, the Air Force has efforts under way to modernize them. These efforts are part of a broader Air Force initiative to improve its financial management operations, prepare auditable financial statements, and obtain an unmodified audit opinion.³ Successful migration from existing legacy systems to a modernized environment is pivotal to the Air Force

¹A financial system includes an IT system, comprising of one or more applications, that is used for collecting, processing, maintaining, transmitting, or reporting data about financial events; supporting financial planning or budgeting activities; accumulating and reporting cost information; or supporting the preparation of financial statements.

²The Department of Defense (DOD) defines a legacy system as a system to be phased out within 3 years. A mixed system is an information system that supports both financial and nonfinancial functions.

³An unmodified opinion, sometimes referred to as a clean opinion, is expressed when the auditor concludes that management has presented the financial statements fairly in accordance with generally accepted accounting principles.

addressing the material weaknesses that auditors have identified in their financial statement audits.⁴

In addition to its legacy mainframe and stand-alone feeder systems,⁵ the Air Force uses an enterprise resource planning system known as the Defense Enterprise Accounting and Management System (DEAMS).⁶ When DEAMS is fully implemented, the Air Force expects it to provide an entire range of integrated financial management capabilities, including collections, commitments and obligations, cost accounting, general ledger, funds control, receipts and acceptance, accounts payable and disbursement, billing, and financial reporting.

The Government Management Reform Act of 1994 includes a provision for us to audit the U.S. government's consolidated financial statements, which cover all accounts and associated activities of executive branch agencies, including the Department of Defense (DOD).⁷ The objectives of this engagement were to (1) determine the extent to which the Air Force is following leading practices for financial management system migration and (2) describe the financial management system-related issues identified during the Air Force fiscal year 2020 financial statement audit

⁴A material weakness is a deficiency or 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.

⁵The DOD Financial Management Regulation refers to some mixed systems as feeder systems. The regulation defines feeder systems as the manual or automated programs, procedures, and processes that develop data required to initiate an accounting or financial transaction but do not perform an accounting operation, such as personnel, property, or logistics systems.

⁶An enterprise resource planning system is an automated system using commercially available off-the-shelf software consisting of multiple, integrated functional modules that perform a variety of business-related tasks, such as general ledger accounting, payroll, and supply chain management.

⁷The Government Management Reform Act of 1994, Pub. L. No. 103-356, 108 Stat. 3410 (Oct. 13, 1994), added a requirement for government-wide financial statements, beginning with fiscal year 1997, to be prepared by the Secretary of the Treasury, in coordination with the Director of the Office of Management and Budget, and audited by GAO. See 31 U.S.C. § 331(e)(2).

and assess the extent to which the Air Force has plans to address these issues.

To address the first objective, we reviewed relevant guidance on system migration practices and risk reduction practices, such as Software Engineering Institute (SEI) guidelines⁸ and Office of Management and Budget (OMB) guidance.⁹ We also evaluated Air Force supporting documentation, such as planning, testing, and operational documents.

We interviewed Air Force officials in the DEAMS Program Management Office; the DEAMS Functional Management Office; and the Office of the Assistant Secretary of the Air Force, Financial Management and Comptroller (SAF/FM), regarding the Air Force's financial management system migration efforts. Further, we observed the DEAMS financial management system's functionality, migration, deployment, execution, and internal controls in operation at the DEAMS Program Management Office at Wright-Patterson Air Force Base and at the Defense Finance and Accounting Service's (DFAS) Columbus and Limestone sites.

To address the second objective, we reviewed relevant Air Force documentation, such as its fiscal year 2020 agency financial report and the notices of findings and recommendations (NFR) that the Air Force's independent public accountant (IPA) issued during the Air Force fiscal year 2020 financial statement audit.¹⁰ We also reviewed its fiscal year 2020 Type 1 report on service organization controls relevant to user entities' internal control over financial reporting.¹¹

In addition, we reviewed documentation such as the *SAF/FM IT Strategy Report* and corrective action plans to address deficiencies related to its general ledger financial systems of record—DEAMS and the General

⁸Software Engineering Institute, *DOD Software Migration Planning*, CMU/SEI-2001-TN-012 (Pittsburgh, Pa.: August 2001).

⁹Office of Management and Budget, *Appendix D to Circular A-123, Compliance with the FFMIA of 1996* (Washington, D.C.: Sept. 20, 2013).

¹⁰An NFR includes one or more findings and discusses deficiencies that the IPA identified during the audit along with a corresponding recommendation(s) for addressing the deficiencies. The IPA issued both financial and information technology NFRs.

¹¹A Type 1 report on service organization controls provides the service auditor's conclusion on the fair presentation of the system description and on the suitability of the design of controls.

Accounting and Finance System—Reengineered (GAFS-R). These deficiencies were identified during the fiscal year 2019 financial statement audit and closed as of December 2020. We also interviewed Air Force officials in the DEAMS Program Management Office and Functional Management Office and SAF/FM on the Air Force’s financial management system planning efforts.

The control activities, information and communication, and monitoring components of internal control were significant to these objectives, along with the related principles.¹² Further details on our objectives, scope, and methodology are provided in appendix I.

We conducted this performance audit from July 2019 to February 2022 in accordance with generally accepted government auditing standards. Those standards require that we plan and perform the audit to obtain sufficient, appropriate evidence to provide a reasonable basis for our findings and conclusions based on our audit objectives. We believe that the evidence obtained provides a reasonable basis for our findings and conclusions based on our audit objectives.

Background

Financial statements provide information about an organization’s financial position—such as assets (what it owns) and liabilities (what it owes)—as of a certain point in time. They also provide information on the results of the organization’s operations—such as revenue (what came in) and expenses (what went out)—over a period of time, such as a fiscal year. Several DOD subsidiary organizations, including the Air Force, Army, Navy, and Marine Corps, prepare separate, or stand-alone, financial statements.

For purposes of financial reporting, DOD collects financial information from its subsidiary organizations to produce summarized, or consolidated, financial statements. This information is provided by subsidiary organizations’ accounting systems. If this information is not accurate, the reliability of DOD’s financial reporting and the department’s ability to manage operations can be adversely affected.

¹²GAO, *Standards for Internal Control in the Federal Government*, [GAO-14-704G](#) (Washington, D.C.: September 2014).

Since enactment in 1994 of the Government Management Reform Act, auditors have not been able to express an unmodified opinion on DOD and its entities. Most recently, the military services and DOD consolidated entities received disclaimers of opinion on their fiscal year 2020 financial statements.¹³ The Air Force continued to report material weaknesses related to financial systems in its fiscal year 2020 agency financial report and its annual statement of assurance. The Air Force stated in its agency financial report that both its general fund and working capital fund financial statements continue to be largely derived from budgetary transactions. According to the Air Force, these financial statements rely on logistics management feeder systems to provide financial data to the accounting system of record. Further, the design of legacy Air Force financial management and feeder systems does not allow for the collection and recording of financial information based on a full accrual accounting basis. As such, the Air Force continued to report material weaknesses for its financial systems, which do not have the necessary security controls or comply with the *U.S. Standard General Ledger* (USSGL) at the transaction level.¹⁴

Air Force Financial Management Systems

The Air Force uses several financial management systems to provide financial information about Air Force funds and operations to the Defense Departmental Reporting System (DDRS), which DOD uses for its financial reporting. The Air Force's key legacy system, GAFS-R, processes financial information related to the Air Force General Fund and Working

¹³A disclaimer of opinion arises when the auditor is unable to obtain sufficient, appropriate audit evidence to provide a basis for an audit opinion, and the auditor concludes that the possible effects on the financial statements of undetected misstatements, if any, could be both material and pervasive and accordingly does not express an opinion on the financial statements.

¹⁴See Federal Financial Management Improvement Act of 1996, Section 803(a). The law requires DOD and certain other federal agencies to implement and maintain financial management systems that comply substantially with (1) federal financial management systems requirements, (2) applicable federal accounting standards, and (3) the USSGL at the transaction level. Pub. L. No. 104-208, div. A, § 101(f), title VIII, 110 Stat. 3009, 3009-390 (Sept.30, 1996), *codified at* 31 U.S.C. § 3512 note.

Capital Fund.¹⁵ The Air Force originally developed this system; DFAS currently maintains it.

GAFS-R lacks important accounting functionalities, such as the ability to post budgetary and proprietary transactions to the general ledger simultaneously. It can post summary-level accounting transactions generated in legacy property and logistics systems to the trial balance, but posts them without the underlying transactional activity.

DEAMS is the Air Force's target core accounting and finance system intended to replace GAFS-R. DEAMS is also to support (1) the Air Force General Fund and United States Transportation Command Working Capital Fund;¹⁶ (2) combatant commands, with the Air Force as executive agent or supporting host base; and (3) DFAS, which provides services to Air Force customers.

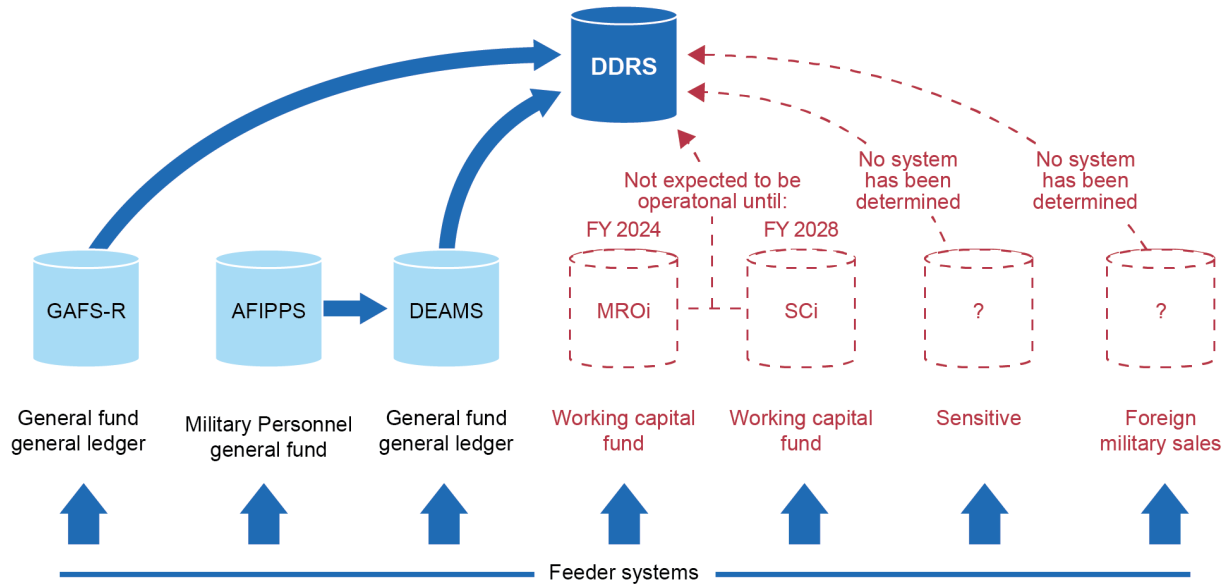
According to the Air Force, moving away from legacy processes to DEAMS and other modern financial systems will drive changes to many Air Force systems and policies currently accommodated under GAFS-R. According to Air Force officials, DEAMS and related target accounting systems are expected to meet federal financial management systems requirements and comply with accounting and financial reporting standards. Figure 1 shows Air Force's key existing and planned financial management systems.¹⁷

¹⁵General fund accounts are receipt accounts not dedicated to a specific purpose and expenditure accounts established to record transactions arising under congressional appropriations. Working capital funds are funds established to finance inventories of supplies, industrial-type activities, and commercial-type activities that provide common services within or among DOD components. Working capital funds function primarily from the fees charged for the supplies and services they provide.

¹⁶The United States Transportation Command is a unified, functional combatant command, which provides globally integrated mobility operations support to 10 other U.S. combatant commands, the military services, defense agencies, and other government organizations.

¹⁷Currently in development, the Air Force Integrated Personnel and Pay System (AFIPPS) is planned to be a comprehensive, self-service, web-based human resources system that integrates personnel and pay processes into one system and maintains official member records for military personnel throughout their career. Military Personnel (MILPER) moved to DEAMS in fiscal year 2021 in advance of AFIPPS. The implementation of AFIPPS is not a dependency for transitioning MILPER from GAFS-R to DEAMS.

Figure 1: Air Force Key Existing and Planned Financial Management Systems



AFIPPS: Air Force Integrated Personnel and Pay System DDRS: Defense Departmental Reporting System
 DEAMS: Defense Enterprise Accounting and Management System FY: Fiscal year GAFS-R: General Accounting and Finance System-Reengineered
 MROi: Maintenance, Repair, and Overhaul initiative SCi: Supply Capability initiative

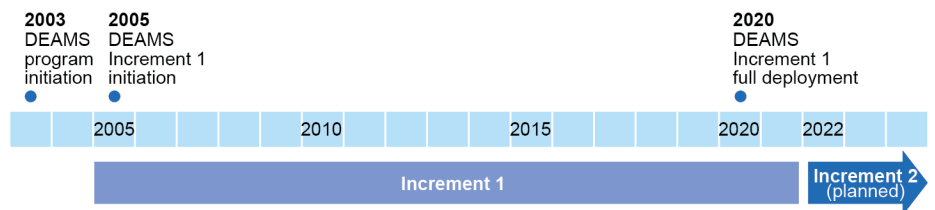
Source: GAO analysis of Air Force documentation. | GAO-22-103636

As shown in the figure, GAFS-R continues to be a general fund ledger system; as of fiscal year 2019, DEAMS is no longer a feeder system of GAFS-R. Instead, it is the Air Force’s second general ledger system that feeds directly to DDRS. The Maintenance, Repair, and Overhaul initiative (MROi) and Supply Capability initiative (SCi) are the Air Force’s planned systems for working capital fund accounting and finance systems. These planned systems are in the early development phase. The initial phase of the MROi system, focused on the accounting for the maintenance of commodity parts, is currently planned for deployment in fiscal year 2024. SCi is not expected to be operational until fiscal year 2028. The processes that these upcoming systems are intended to handle currently rely on a sub-set of systems and processes under the umbrella of GAFS-R. The Air Force has not yet identified the planned financial systems for sensitive activities and foreign military sales.

From 2005 to 2020, DEAMS Increment 1 was deployed to successive groups of users within the Air Force. In selecting Oracle Business Suite version 11i, the Air Force began obligating funds for DEAMS in 2005. The Air Force implemented a technical upgrade from 11i to R12 in 2019.

In 2020, the Air Force completed full deployment of DEAMS Increment 1 to 17,000 users at 170 active duty, Air Force Reserve, Air National Guard, Space Force, and DFAS locations. Beginning in fiscal year 2022, the Air Force plans to implement DEAMS Increment 2, which will add approximately 4,500 new users at Air Force acquisition, sustainment, lab and range locations, and is to include all of the Air Force's planned functionality for the DEAMS program going forward. Figure 2 shows the timeline for DEAMS since its program initiation.

Figure 2: Air Force's Defense Enterprise Accounting and Management System (DEAMS) Timeline



Source: GAO analysis of Air Force documents. | GAO-22-103636

Note: DEAMS Increment 1 includes the program events up to full deployment in 2020. Increment 2 begins in fiscal year 2022 and includes all of the Air Force's plans for the DEAMS program going forward.

The Air Force intends to expand its use of DEAMS Increment 2, now called Continuous Capability Development, to migrate from and eventually replace GAFS-R for its general funds. The Air Force has recently identified estimates of cost, capabilities, and schedule for the DEAMS Continuous Capability Development from fiscal years 2022 to 2031.

Prior Reports on DEAMS Have Highlighted Continuing Delays

The DEAMS program has a long history of schedule delays and estimated cost increases. GAO and the DOD Office of Inspector General have previously reported on these delays and increases.

- In October 2010, we reported that the life cycle cost increased to about \$2 billion through fiscal year 2027 with an expected full

deployment in fiscal year 2017—a 3-year slippage from the full deployment date reported at program initiation.¹⁸

- In July 2012, the DOD’s Office of Inspector General identified DEAMS as necessary for DOD to produce auditable financial statements, but reported that the Air Force continued to face delays in implementing enterprise resource planning systems such as DEAMS.¹⁹
- In February 2014, we reported that DEAMS program functionality was now to be implemented across the Air Force in a series of releases encompassing two increments. DOD approved the funding for the Air Force to proceed with the acquisition of the first increment of DEAMS, with funding of approximately \$1.6 billion. Deployment was scheduled to occur during the fourth quarter of fiscal year 2016.²⁰
- In May 2018, we reported that DEAMS Increment 1 had delayed its planned schedule for deployment by 5 years because of a change in the approach to implementation.²¹

DEAMS continues to be viewed as a problematic acquisition. On the federal IT dashboard, the DOD Chief Information Officer rated the DEAMS program as being at moderately high risk as of June 2021.²² DEAMS was the only DOD major investment on the IT dashboard with a risk rating this high as of June 2021. The dashboard also noted that DEAMS now has a total life cycle cost of \$3.4 billion.

¹⁸GAO, *DOD Business Transformation: Improved Management Oversight of Business System Modernization Efforts Needed*, [GAO-11-53](#) (Washington, D.C.: Oct. 7, 2010).

¹⁹Department of Defense, Office of Inspector General, *Enterprise Resource Planning Systems Schedule Delays and Reengineering Weaknesses Increase Risks to DOD’s Auditability Goals*, DODIG-2012-111 (Alexandria, Va.: July 13, 2012).

²⁰GAO, *DOD Business Systems Modernization: Air Force Business System Schedule and Cost Estimates*, [GAO-14-152](#) (Washington, D.C.: Feb. 7, 2014).

²¹GAO, *DOD Major Automated Information Systems: Adherence to Best Practices Is Needed to Better Manage and Oversee Business Programs*, [GAO-18-326](#) (Washington, D.C.: May 24, 2018).

²²The federal IT dashboard is a website that enables federal agencies, industry, the general public, and other stakeholders to view details regarding the performance of federal IT investments, including a Chief Information Officer rating.

Air Force Is Not Following Leading Practices for Systems Migration

Air Force Has Not Developed Systems Migration Plans

According to the Air Force, migrating legacy financial management systems to more efficient, modernized systems is key to its plan for overall financial management improvement. However, the Air Force did not prepare a plan to migrate from the GAFS-R legacy system to the target DEAMS.

According to SEI guidance, DOD often faces the challenge of migrating from legacy systems to new target systems. The guidance asserts that such efforts call for a migration plan that addresses issues associated with phasing out legacy systems and moving to the new system. These issues include user interface compatibility, database compatibility, transition support, system interface compatibility, and training. The guidance adds that a system migration plan should include methods to inform each group of users how and when to transition specific tasks and workloads from legacy systems. For federal financial management systems, a migration plan should also address Federal Financial Management Improvement Act of 1996 (FFMIA) requirements, applicable federal accounting standards, and the USSGL at the transaction level.²³ In addition, OMB Circular A-11 states that the policies and standards an agency must follow in developing, operating, evaluating, and reporting on financial systems are in OMB Circular A-123, Appendix D.²⁴

Instead of developing a plan to migrate to DEAMS, in 2012 the Air Force decided to pursue a dual processing policy that it described as continuing to use GAFS-R for existing transactions while simultaneously using DEAMS for new transactions. Therefore, if a transaction such as a contract award were initiated while the legacy system was still

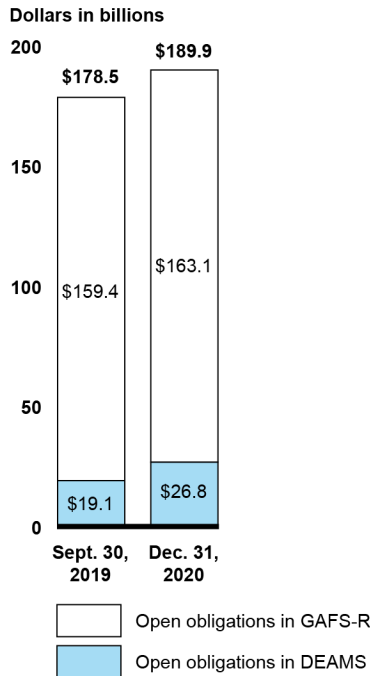
²³FFMIA requires DOD and certain other federal agencies to implement and maintain financial management systems that comply substantially with (1) federal financial management systems requirements, (2) applicable federal accounting standards, and (3) the USSGL at the transaction level. Pub. L. No. 104-208, div. A, § 101(f), title VIII, 110 Stat. 3009, 3009-390 (Sept. 30, 1996), *codified at* 31 U.S.C. § 3512 note.

²⁴Office of Management and Budget, *Preparation, Submission, and Execution of the Budget*, OMB Circular No. A-11, Section 150.4 (Washington, D.C.: Aug. 6, 2021).

operational, then subsequent transactions related to that contract, such as contract modifications, would continue to be processed in GAFS-R.

The result of this dual processing policy is that GAFS-R and DEAMS are both serving as general ledger systems of record for the general fund. As of December 31, 2020, the Air Force's open obligations in DEAMS were \$26.8 billion, or about 14 percent of the total \$189.9 billion in open obligations. The remaining 86 percent is in GAFS-R. Figure 3 shows open obligations in the two systems as of 2019 and 2020.

Figure 3: Air Force Open Obligations in Defense Enterprise Accounting and Management System (DEAMS) and General Accounting and Finance System–Reengineered (GAFS-R)



Source: GAO analysis of Air Force data. | GAO-22-103636

While figure 3 shows the obligations in DEAMS increasing, under the dual processing policy Air Force officials anticipate that GAFS-R will need to continue to be operational until at least 2031. However, the continued use of GAFS-R for at least another decade means that resolution of deficiencies associated with this legacy system will also continue for many years. For example:

-
- FFMI—related deficiencies caused by legacy system limitations increase the risk of the Air Force posting accounting transactions that do not conform to the USSGL in its general ledger.
 - Because Air Force officials accepted the risks associated with not implementing corrective actions to address assorted GAFS-R deficiencies, these weaknesses will not be remediated until the Air Force ends its use of this system.
 - In making DEAMS Increment 1 deployment a priority, Air Force officials excluded program requirements such as acquisition accounting in order to meet the revised full deployment 2020 deadline.

The development and implementation of a migration plan to move more quickly from GAFS-R to DEAMS could help result in the timely resolution of issues plaguing the legacy system. Such a plan could also help address Secretary of Defense audit priorities and allow the Air Force to focus on operational improvements to real property, inventory, and operating materials and supplies; government property in the possession of contractors; access controls for IT systems; the Fund Balance with Treasury; and financial reporting internal controls.²⁵

Program Officials Extensively Customized DEAMS

During its transition to the target system, the Air Force significantly customized DEAMS to suit legacy system processes. Among other things, the Air Force focused on building interfaces to DEAMS from legacy systems and feeder systems using the business processes already in place. Specifically, prior to the R12 upgrade in 2019, program officials added approximately 900 reports, interfaces, conversions, and extensions (RICE) that modified DEAMS. These included revisions to integrate DEAMS with Air Force, DFAS, and DOD logistics, contracting, travel, and personnel systems financial feeder systems.

The Air Force has stated that the specific objective of the DEAMS program is to transform its accounting and financial systems by applying DOD-mandated policies and processes to a commercially supported software solution. Consistent with this objective, U.S.C. title 10, section 2222, states that the Secretary of Defense shall ensure that defense

²⁵Department of Defense, *Fiscal Year 2020 Financial Statement Audit Priorities*, Secretary of Defense Memorandum (May 18, 2020).

business processes are reviewed, and as appropriate revised, through business process reengineering to match best commercial practices, to the maximum extent practicable, to minimize customization of commercial business systems.²⁶ Also, SEI guidelines state that when managing system migrations, the rollout of new capabilities needs to be carefully planned.

Air Force officials stated that they did not use the software's existing functionality and capabilities to reengineer existing business processes because they determined that the commercial software did not fully meet government policies and requirements. However, officials did not identify which of the 900 RICE modifications were implemented because commercial software did not meet specific policies and requirements.

In addition, many of the RICE modifications that were made did not automatically carry forward when the vendor upgraded the software version. Specifically, the Air Force lost some of its existing system functionality during the DEAMS R12 upgrade because the upgrade did not carry forward certain RICE objects. This in turn required additional DEAMS technical analysis and separate system programmers to restore the lost functionality and remediate any customization defects.

Upgrade to DEAMS Did Not Address Known Risks and Resulted in Additional Issues

The 2019 DEAMS R12 upgrade, implemented during the Increment 1 migration, did not address identified risks related to its financial management systems. For example, the DEAMS R12 upgrade did not address the Air Force's identified internal control risks with FFMIA compliance. In addition, during DEAMS R12 upgrade planning and testing, the Air Force identified certain risks in its existing systems.²⁷ Specifically, the Air Force test report assessed the DEAMS R12 upgrade

²⁶U.S. Code Title 10, Section 2222, includes requirements for DOD associated with establishing guidance for effectively managing its defense business system investments; developing and maintaining a defense business enterprise architecture and IT enterprise architecture; using the Defense Business Council to provide advice to the Secretary on developing the business enterprise architecture, reengineering the department's business processes, developing and deploying business systems, and developing requirements for business systems; and ensuring that covered business systems are reviewed and certified.

²⁷Air Force 45th Test Squadron, *Developmental Test and Evaluation Integrated Test Report for DEAMS Release 1.R7.0 (Oracle R12 Upgrade)* (Oct. 25, 2019).

as high risk because several test objectives were not met. These included business requirements defects, software program defects, and planned information security testing that was not completed.

After implementation of the upgrade, DEAMS users experienced several post-DEAMS R12 implementation software defects that required work-arounds. For example, users encountered defects such as DEAMS not (1) being able to produce a reliable universe of transactions, (2) producing reliable general fund trial balances because of the lack of adequate reconciliations with sub-ledger accounts, and (3) producing the systemic interfaces to DDRS in order to produce the Air Force general fund financial statements.

Further, during the Air Force fiscal year 2020 financial statement audit, the IPA found that the DEAMS R12 upgrade caused new issues and risks, including the following:

- During fiscal year 2020, the Air Force was unable to produce a balanced DEAMS trial balance because of the use of clearing accounts and invalid accounting and disbursement symbol numbers.
- The April 2020 DEAMS universe of transactions incorrectly showed a reservation of funds error and correction activity of approximately \$128 quintillion, because of a series of control gaps including the funds control being turned off.
- Management was unable to obtain sufficient data to execute key financial controls in a timely manner across the entity.

FFMIA requires agencies to comply with federal financial management systems requirements, applicable federal accounting standards, and USSGL at the transaction level. Further, OMB Circular A-123, Appendix D, requires agencies to determine, report, and identify corrective action plans to address FFMIA noncompliance issues.²⁸ In addition, federal internal control standards require management to identify, analyze, and respond to risks related to achieving the defined objectives.²⁹ To do so, management should identify risks to achieving defined objectives, analyze the identified risks to estimate their significance, and design

²⁸Office of Management and Budget, *Appendix D to Circular No. A-123, Compliance with the FFMIA of 1996*.

²⁹[GAO-14-704G](#).

responses so that risks are within defined tolerances related to the defined objectives.

However, during the DEAMS R12 upgrade planning and testing, DEAMS program officials did not follow leading practices to effectively identify and analyze the scope of risks and design their risk responses to meet objectives. Specifically, in January 2016, the DEAMS Program Management Office received the findings from the DEAMS R12 Risk Reduction Assessment that included a mock upgrade assessment, RICE analysis, and a functional analysis. Based on the mock upgrade, the risk reduction assessment determined that the DEAMS technical upgrade from version 11i to DEAMS R12 was possible but required extensive Air Force preparation to manage the risks. The functional analysis findings from the mock upgrade determined that the DEAMS R12 functional risks were significant and included data architecture modifications affecting many existing processes. The findings recommended additional analysis to determine which required interfaces would be affected.

However, faced with a deadline of December 2019 for the end of all Oracle support for version 11i, the program chose to complete the minimum required upgrade to the core software to extend Oracle maintenance and cybersecurity support. According to the Air Force, the DEAMS R12 upgrade was required by the end of 2019 for continued software vendor support and cybersecurity patches. Because of Air Force delays in completing the upgrade, Oracle support was scheduled to end in less than 30 days from the upgrade and necessitated a go-live decision to move forward with the known risks remaining unresolved. Also according to Air Force officials, the limited timeline to contract with and bring a system developer on board did not allow for additional risk reduction activities, complete testing, or full defect resolution prior to the live upgrade. According to DEAMS program officials, they therefore decided to defer decisions regarding any new features and functionality to be implemented, potential changes to business processes, the impact of the upgrade on customizations or interfaces in the current environment, and system downtime requirements.

If future system upgrade efforts do not address risks, the Air Force will continue to face challenges in complying with applicable accounting and financial reporting standards. Further, the Air Force will remain unable to address risks related to business processes, internal controls over financial reporting, and compliance with FFMIA requirements.

Air Force's Financial Management Systems Strategy Does Not Sufficiently Address Identified Issues

Air Force Financial Management Systems Have Numerous Issues

In November 2020, the IPA issued a disclaimer of opinion on the fiscal year 2020 Air Force general fund and working capital fund financial statements and related notes. The disclaimer was due to Air Force's continuing unresolved accounting issues and material weaknesses in internal controls. This had led to the Air Force not being able to provide sufficient, appropriate audit evidence to support the reported amounts in its financial statements.

The IPA reported 22 material weaknesses and developed 521 NFRs that were intended to broadly address the material weaknesses and internal control deficiencies that hinder financial management system migration efforts and financial statement auditability.³⁰ The reported material weaknesses for the Air Force general fund and the working capital fund affect its ability to produce reliable financial information and achieve an unmodified or clean audit opinion.

Material weaknesses reported by the IPA include the following:

- **Integration and reconciliation of financial systems.** The Air Force legacy mainframe and stand-alone systems are not fully integrated and require numerous work-arounds.
- **Accumulating and preparing financial statements.** The Air Force's financial reporting process lacks sufficient processes and internal controls to ensure that complete and accurate financial statements, including related note disclosures, are prepared on a timely basis.
- **Oversight and monitoring of internal control.** The Air Force does not have an effective OMB Circular A-123 program, which affects its ability to identify and address significant risks. OMB Circular A-123,

³⁰New NFRs issued during fiscal year 2020 may have consolidated several NFRs from prior years. An NFR is considered reissued if the weakness or inefficiency noted in the NFR was identified during a prior year audit but had not yet been corrected. The IPA determined both new and reissued NFRs.

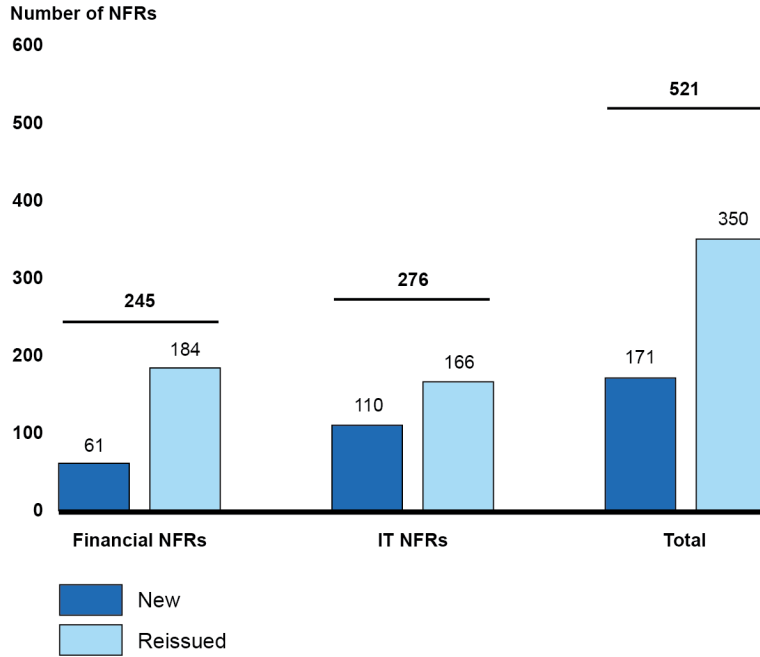
Management's Responsibility for Enterprise Risk Management and Internal Control, Appendix A, emphasizes management's responsibility for establishing and maintaining effective internal control over financial reporting.

- **Financial information systems.** The Air Force's deficiencies in IT controls and computing environment include lack of controls in the design and operation of information systems controls related to (1) access controls/user access, (2) security management, (3) configuration management/change controls, (4) segregation of duties, and (5) interface controls.

Of the 521 NFRs that the IPA issued as of November 2020, the IPA categorized 276 as related to IT issues. According to the NFRs, the most common IT deficiency related to access controls. Access controls provide reasonable assurance that access to system resources is consistent with job duties and restricted to authorized individuals.

The IPA categorized the remaining 245 NFRs as related to financial issues. These financial NFRs related to the Air Force's inability to present auditable financial statements and included deficiencies related to (1) overseeing and monitoring of internal controls, (2) integrating and reconciling of financial systems, and (3) accumulating and preparing financial statements, all of which are also repeat material weaknesses. Figure 4 shows the number of financial and IT-related NFRs issued to the Air Force for fiscal year 2020.

Figure 4: Financial and IT Notices of Findings and Recommendations (NFR) from the Audit of Air Force’s Fiscal Year 2020 Financial Statements



Source: Department of Defense Office of Inspector General. | GAO-22-103636

Note: New NFRs issued during fiscal year 2020 may have consolidated several NFRs from prior years. An NFR is considered reissued if the weakness or inefficiency noted in the NFR was identified during a prior year audit, but had not yet been corrected. The independent public accountant auditing the Air Force’s fiscal year 2020 financial statements determined new and reissued NFRs.

In fiscal year 2020, the IPA issued four financial (no new and four reissued) and 51 IT (35 new and 16 reissued) NFRs related to DEAMS.³¹ The IPA also issued 16 IT (nine new and seven reissued) NFRs related to GAFS-R, four of which the Air Force has stated that it does not plan to implement corrective actions for and has accepted the risk associated with the deficiencies even though GAFS-R does not have a specific decommission date. For example, the IPA has identified inconsistent interface integrity controls; as a result, the system may process inaccurate or incomplete data because accuracy checks are inconsistent.

For fiscal year 2020, the IPA also reported that the Air Force was not in compliance with FFMIA. FFMIA requires that agencies implement and

³¹Of the 35 new IT NFRs issued in fiscal year 2020, 30 related to the service organization controls Type 1 examination.

maintain financial management systems that substantially comply with federal financial management system requirements. The audit results disclosed instances in which the Air Force's financial management systems did not substantially comply with federal financial management systems requirements, applicable federal accounting standards, and the USSGL at the transaction level.

In fiscal year 2020, the Air Force contracted with the IPA to perform the first Type 1 examination of service organization controls over DEAMS as of June 30, 2020.³² Following its examination of DEAMS, on August 14, 2020, the IPA issued an adverse opinion on the fairness of the presentation of the DEAMS system description and on the suitability of the design of the related control objectives.³³ The IPA stated that it issued an adverse opinion because the DEAMS system description did not fairly present the system that was designed and implemented as of June 30, 2020, and the controls were not suitably designed to provide reasonable assurance that control objectives would be achieved.

Air Force's Efforts to Address Systems Issues Have Not Been Comprehensive

The Air Force has efforts under way to address deficiencies identified in the NFRs by developing corrective action plans. A corrective action plan establishes milestones to be completed, assigns responsibility for completing the milestones, and projects a completion date. The Deputy Chief Financial Officer NFR Database is the single source for tracking NFRs and related corrective action plans. During fiscal year 2020, out of the 468 Air Force NFRs from fiscal year 2019, the IPA tested and closed 118 NFRs (48 financial and 70 IT), or about 25 percent.³⁴ Further, as of December 2020, corrective action plans were not yet complete for 335

³²A Type 1 report provides the service auditor's conclusion on the fair presentation of the system description and on the suitability of the design of controls.

³³An adverse opinion in a service organization controls examination Type 1 report means that there were misstatements in management's description of the system, or deficiencies in the suitability of the design of controls that were both material and pervasive.

³⁴Closed NFRs include (1) NFRs tested to assess whether corrective actions were implemented appropriately and addressed the risk or condition, (2) NFRs closed administratively because the risk identified is included in one or multiple NFRs, and (3) prior year IT NFRs where no additional procedures will be performed because the application or control area has been removed from the fiscal year 2020 audit scope.

NFRs and the Air Force stated that it accepted the risk and will not implement corrective action plans for the remaining 15 NFRs (four related to GAFS-R) from fiscal year 2019.³⁵

Beyond specific corrective action plans, Air Force has also developed an SAF/FM IT Strategy. Under this strategy, the Air Force's long-term vision is to move from the current financial management IT environment to one characterized by uniformly effective internal controls, standardized business processes, integrated financial systems, and a workforce marked by human capital best practices. The strategy describes a collaborative cross-functional working group effort to help guide the development of a future enterprise architecture with a financial management focus. The SAF/FM IT Strategy stated that an Air Force strategy or culture exists that placed a priority on using legacy applications and systems with outdated technology for budget and execution. According to the Air Force, plans are under way to better assess an enterprise strategy to reduce its dependence on legacy systems.

Leading practices from OMB guidance and prior GAO research and experience reviewing federal agencies' IT strategic plans demonstrate that a comprehensive and effective IT strategic plan includes the following four elements:

1. aligns with the agency's strategic plan,
2. has results-oriented goals and performance metrics to determine whether the strategy is succeeding,
3. defines strategies that can be used to achieve desired results, and

³⁵Air Force management has accepted the risks associated with known deficiencies and has decided not to remediate these NFRs. Of the 15 NFRs that the IPA identified, 10 related to IT systems and five related to the working capital fund financial statements. The IT risk-acceptance deficiencies primarily affected access controls and the interface environment. The working capital fund risk-acceptance deficiencies related to internal control issues. Air Force management has completed the risk acceptance memo that outlines management's awareness of the potential risk and the impact it may have on the financial statements. The IPA considered all of these NFRs open and reissued them in fiscal year 2020.

4. identifies descriptions of dependencies within and across projects.³⁶

The SAF/FM IT Strategy has addressed aspects of these requirements. For example, the strategy aligns with the Air Force's strategic plan, identifies results-oriented goals, defines strategies that the Air Force can use to achieve desired results, and identifies some dependencies across projects.

However, the SAF/FM IT Strategy does not include performance metrics to determine whether the strategy is succeeding or describe how IT is enabling achievement of agency goals. For example, one of the Air Force's goals is to reduce the number of material weaknesses and IPA-identified NFRs, but the SAF/FM IT Strategy does not include a clear narrative on how IPA-identified NFRs will be addressed or reduced.

In addition to the SAF/FM IT Strategy, the Air Force has produced planning documents for specific upgrades and initiatives.

- October 2020 *FM Systems Roadmap and Capability Initiatives*. The roadmap's purpose is to outline the Air Force's modernization plans for the next 5 years.
- July 2020 *SAF/FM Systems Technology Roadmap SV-9*. This document defines the technology currently employed by systems and the emerging technology that will affect the Air Force architecture in the future.
- April 2020 *DEAMS Concept of Operations for Air Force Financial Management*. This document presents the concept of operations for developing, deploying and maintaining DEAMS Increment 1. This concept of operations contains approaches and responsible parties for achieving each objective that the DEAMS Functional Management Office established in its strategic plan.

However, Air Force officials at SAF/FM have acknowledged that they do not have an overarching strategy that incorporates all of the Air Force's lines of business and related systems needed for its financial management environment. For example, the strategy does not address

³⁶GAO, *Financial Management: DOD Needs to Implement Comprehensive Plans to Improve Its Systems Environment*, [GAO-20-252](#) (Washington, D.C.: Sept. 30, 2020). The leading practices for a comprehensive and effective IT strategic plan are based on OMB guidance and prior GAO research and reviews of federal agencies' IT strategic plans. Office of Management and Budget, *Preparation, Submission, and Execution of the Budget*, OMB Circular No. A-11 (Washington, D.C.: June 2018) and *Managing Information as a Strategic Resource*, OMB Circular No. A-130 (Washington, D.C.: July 28, 2016).

the planned MROi and SCi financial management systems. Also, the Air Force has yet to identify planned financial systems for sensitive activities and foreign military sales. Further, the SAF/FM IT Strategy does not describe or mention how the standardization of business processes and related internal controls over financial reporting will be achieved across the Air Force.

In addition to a strategic plan, an operational concept document can be used to communicate overall quantitative and qualitative system characteristics to the user, developer, and other organizational elements. This allows an understanding of user organizations, missions, and organizational objectives from an integrated systems point of view.

In 2019, the Air Force developed a document described as a future concept of operations that proposed an overarching technical standard that would enable Air Force business outcomes, including those relevant to financial management activities across the entire business enterprise. However, Air Force officials stated that this document has not been approved and is not to be used as a formal operational concept ready for implementation.

Without a comprehensive financial management system strategy, significant portions of the Air Force's financial management lines of business, such as sensitive activities and foreign military sales, remain unaddressed. Additionally, without a comprehensive plan to administer financial management systems, particularly those relating to preparing the financial statements, it will be difficult for the Air Force to develop and report accurate and reliable financial information. Further, the Air Force will continue to face difficulties developing and fully implementing complete Air Force-wide corrective action plans to address financial management system-related issues that auditors identified during the fiscal year 2020 financial statement audit.

Conclusions

The Air Force's systems environment is complex, consisting of multiple systems that are not fully integrated. This is preventing the Air Force from obtaining financial information from its systems that is timely, accurate, and reliable. In its transition to a more modern target system, the Air Force has not developed a migration plan. The absence of such a plan could permit FFMIA noncompliance issues and related issues to remain unresolved for at least a decade.

In addition, program officials have extensively customized DEAMS to suit legacy system processes instead of using it as an opportunity to reengineer. Further, many of the customizations did not carry forward during the most recent DEAMS upgrade, which led to the loss of existing system functionality and required additional technical development to remediate. Looking to the future, minimizing customizations could increase the Air Force's ability to leverage the centralized functionality and capabilities of the commercial software across Air Force business systems.

The Air Force also has not fully addressed risks to and issues in its financial management systems during its DEAMS Increment 1 and the most recent system upgrade. Addressing these risks and issues would help the Air Force comply with federal financial management systems requirements and accounting standards.

Although the Air Force has efforts under way to address certain financial and IT-related deficiencies that auditors identified, it does not have a comprehensive strategy, with appropriate performance metrics, for its financial management systems modernization efforts and related financial reporting. Following leading practices to develop such a comprehensive strategy, which could also consider an operational concept document, would help the Air Force to manage financial management systems that would enable it to develop and report accurate and reliable financial information, resulting in auditable financial statements.

Recommendations for Executive Action

We are making the following four recommendations to the Air Force.

The Assistant Secretary of the Air Force (Financial Management and Comptroller) should develop a systems migration plan based on leading migration practices to more timely transition from the Air Force's General Accounting and Finance System—Reengineered environment to the Defense Enterprise Accounting and Management System (DEAMS). (Recommendation 1)

During future DEAMS upgrades, the Assistant Secretary of the Air Force (Financial Management and Comptroller) should minimize the number of reports, interfaces, conversions, and extensions modifications and instead maximize the centralized functionality and capabilities of the

target accounting system to reengineer business processes. (Recommendation 2)

The Assistant Secretary of the Air Force (Financial Management and Comptroller) should ensure that future financial management system version upgrades are planned to address identified deficiencies and provide functionality that promotes Air Force compliance with federal financial management systems requirements, applicable federal accounting standards, and the *U.S. Standard General Ledger* at the transaction level. (Recommendation 3)

The Assistant Secretary of the Air Force (Financial Management and Comptroller) should develop a comprehensive strategy with appropriate performance metrics and consideration of a concept of operations, for its entire financial management systems modernization effort in support of the financial statement audit. (Recommendation 4)

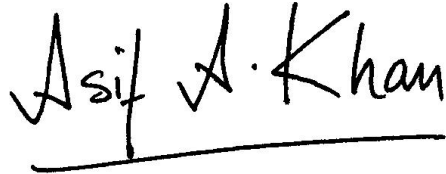
Agency Comments

We provided a draft of this report to DOD for review and comment. In written comments provided by the Air Force, reproduced in appendix II, DOD concurred with our recommendations. In its written comments, the Air Force described actions it has taken and plans to take to address and mitigate the conditions we identified in our audit concerning the Air Force's target accounting system. The Air Force further stated that it is conducting a technical assessment and developing a system migration plan to transition to a modern system environment.

We are sending copies of this report to the appropriate congressional committees, the Secretary of Defense, the Secretary of the Air Force, and other interested parties. In addition, the report is available at no charge on the GAO website at <https://www.gao.gov>.

If you or your staff members have any questions on matters discussed in this report, please contact me 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 report. Key contributors to this report are listed in appendix III.

Letter

A handwritten signature in black ink that reads "Asif A. Khan". The signature is written in a cursive style and is underlined with a single horizontal line.

Asif A. Khan
Director
Financial Management and Assurance

List of Committees

The Honorable Jack Reed
Chairman
The Honorable James M. Inhofe
Ranking Member
Committee on Armed Services
United States Senate

The Honorable Gary C. Peters
Chairman
The Honorable Rob Portman
Ranking Member
Committee on Homeland Security and Governmental Affairs
United States Senate

The Honorable Adam Smith
Chairman
The Honorable Mike Rogers
Ranking Member
Committee on Armed Services
House of Representatives

The Honorable Carolyn Maloney
Chairwoman
The Honorable James Comer
Ranking Member
Committee on Oversight and Reform
House of Representatives

Appendix I: Objectives, Scope, and Methodology

Our objectives were to (1) determine the extent to which the Air Force is following leading practices for financial management system migration and (2) describe the financial management system–related issues identified during the Air Force fiscal year 2020 financial statement audit and assess the extent to which the Air Force has plans to address identified issues.

To address our first objective, we reviewed relevant criteria on leading IT system migration practices and risk reduction that included guidance on developing and documenting plans and strategies as well as on reengineering business processes, phasing out legacy systems, and moving to target accounting systems. These criteria included the Software Engineering Institute’s (SEI) guidelines,¹ the Office of Management and Budget’s (OMB) Appendix D to Circular A-123,² and federal standards on internal control.³

We reviewed Air Force documentation related to system migration, including documents related to the Defense Enterprise Accounting and Management System (DEAMS); the Maintenance, Repair, and Overhaul initiative (MROi); and Supply Capability initiative programs. Those documents included the Office of the Assistant Secretary of the Air Force for Financial Management and Comptroller (SAF/FM) Chief Information Officer’s *SAF/FM IT Strategy Report*, the Air Force Financial Systems Evolution Migration Strategy (*SV-8 – Systems Evolution Description*), the *Air Force Working Capital Fund Future Financial System Capabilities Initiative*, and the *MROi Maintenance Financials Stream 1 Study Final Report*.

¹Software Engineering Institute, *DOD Software Migration Planning*, CMU/SEI-2001-TN-012 (Pittsburgh, Pa.: August 2001).

²Office of Management and Budget, *Appendix D to Circular A-123, Compliance with the FFMIA of 1996* (Washington, D.C.: Sept. 20, 2013).

³GAO, *Standards for Internal Control in the Federal Government*, [GAO-14-704G](#) (Washington, D.C.: September 2014).

We also reviewed Air Force documentation related specifically to the DEAMS migration, deployment and upgrade, plans, and testing. This documentation included the *DEAMS System Capabilities Document, Test and Evaluation Master Plan for DEAMS Increment 1 Full Deployment Decision, DEAMS Developmental Test and Evaluation Integrated Test Report, DEAMS Concept of Operations for Air Force Financial Management*, and DEAMS program performance measures.

Further, we evaluated the Air Force's progress and incident and defect management for migrating, deploying, and upgrading DEAMS to Air Force active duty, Air Force combatant commands, Air Force Reserve, Air National Guard, and Defense Finance and Accounting Service (DFAS) installations. We also reviewed documentation on the outcomes and achievement of the Air Force's objectives for DEAMS functionality and operation of systemic processes, controls, and system-to-system interfaces. In doing so, we reviewed DEAMS Incident and Manual Workaround Listing, DEAMS interfaces, and the DEAMS R12 Defect Summary Report.

In addition, we reviewed DEAMS documentation related to planning, operation, and testing of internal controls to include completed internal management risk and risk reduction assessment results. Specifically, we reviewed the *Air Force Financial Improvement and Audit Remediation FFMIA Compliance Assessment fiscal year 2019 DEAMS Findings Report*, and the Air Force fiscal year 2020 statement of assurance to identify risks and ongoing financial management systems control issues. We also reviewed the DEAMS R12 Risk Reduction Assessment that included a mock upgrade assessment; reports, interfaces, conversions, extensions analysis; and a functional analysis associated with upgrading application versions.

We also reviewed the Air Force agency financial reports for fiscal years 2019 and 2020. We attended biweekly DEAMS Service Organizations Controls status meetings, observed the DEAMS fiscal year 2020 service organization controls examination process,⁴ and met with Air Force officials to discuss the financial management system migration efforts and challenges resulting from the transition to target accounting systems. In particular, we conducted in-person and virtual visits to observe the DEAMS financial management system functionality, migration,

⁴The service organization controls examination Type 1 report provides information on controls at a service organization relevant to user entities' internal control over financial reporting.

deployment, execution, and internal controls in operation at the program office at Wright-Patterson Air Force Base and at user operational sites at Joint Air Force Base Andrews, DFAS Columbus, and DFAS Limestone.

To address our second objective, we reviewed the notices of findings and recommendations (NFR) that the independent public accountant (IPA) issued as part of their fiscal year 2020 audit of the Air Force's financial statements and the fiscal year 2020 service organization controls examination Type 1 report over DEAMS. We met with staff from the Project Management Office and the Functional Management Office to discuss the status of NFRs. We also reviewed the Air Force fiscal year 2020 agency financial report to identify the material weaknesses that the IPA reported and the Department of Defense Office of Inspector General report transmitting the results of its audits during fiscal year 2020. We also reviewed the management representation letter to obtain management's assertions about the reliability of its financial reporting in accordance with generally accepted accounting principles.

In addition, we reviewed the *SAF/FM IT Strategy Report*, which identifies the Air Force's plan to achieve a modernized, sustainable, and audit compliant portfolio of financial management systems. We reviewed corrective action plans related to DEAMS and General Accounting and Finance System-Reengineered related deficiencies the IPA identified during the fiscal year 2019 financial statement audit that were closed by December 2020. In response to our request for documentation related to any overarching operational concept document, we received an operational concept for DEAMS, an October 2020 Air Force SAF/FM Financial Improvement Audit Remediation, a Financial Management Systems Roadmap, and the *SAF/FM Systems Technology Roadmap SV-9*.⁵ We reviewed the documentation provided. We also interviewed Air Force officials in the DEAMS Program Management Office and Functional Management Office and in SAF/FM to obtain an understanding of the Air Force's financial management system planning efforts.

⁵The *SAF/FM Systems Technology Roadmap SV-9* defines the technology currently employed by systems and the emerging technology that will affect the architecture in the future. The specific periods selected and the trends being tracked are coordinated with architecture transition plans supported by the SV-8, Systems Evolution Description, and the SAF/FM IT Strategy.

The control activities, information and communication, and monitoring components of internal control were significant to these objectives, along with the related principles.⁶

We conducted this performance audit from July 2019 to February 2022 in accordance with generally accepted government auditing standards. Those standards require that we plan and perform the audit to obtain sufficient, appropriate evidence to provide a reasonable basis for our findings and conclusions based on our audit objectives. We believe that the evidence obtained provides a reasonable basis for our findings and conclusions based on our audit objectives.

⁶[GAO-14-704G](#).

Appendix II: Comments from the Department of Defense



DEPARTMENT OF THE AIR FORCE
WASHINGTON DC

OFFICE OF THE ASSISTANT SECRETARY

2 February 2022

MEMORANDUM FOR UNITED STATES GOVERNMENT ACCOUNTABILITY OFFICE
ATTN: MR. ASIF KHAN

FROM: SAF/FM
1130 Air Force Pentagon
Washington, DC 20330

SUBJECT: GAO Draft Report, "DOD FINANCIAL MANAGEMENT: Air Force Needs to
Improve Its System Migration Efforts" (GAO Code 103636)

1. This is the Department of Defense (DoD) response to the GAO Draft Report, GAO-22-103636 "DOD FINANCIAL MANAGEMENT: Air Force Needs to Improve Its System Migration Efforts" dated February 2022. The DoD concurs with the report as written and welcomes the opportunity to continue to partner with the GAO on its financial management system migration strategy. The DoD has already undertaken actions to address and mitigate the conditions identified in this audit concerning the Air Force's target accounting system and is conducting a technical assessment as well as developing a system migration plan to transition to a modern system environment.
2. The DAF proposed responses to the subject report recommendations are attached. The SAF/FM point of contact is Mr. Todd Baker who can be reached at 937-656-8554 or via email at todd.baker.3@us.af.mil.

HERRERA.STEPH
EN.R.1231144966
STEPHEN R. HERRERA, SES, DAF
Acting Assistant Secretary of the Air Force
(Financial Management and Comptroller)

Digitally signed by
HERRERA STEPHEN R.1231144
966
Date: 2022.02.02 13:50:52 -0500'

Attachments:

1. GAO Recommendations to GAO-22-103636 Draft Report
2. Congressional-Media Interest Items_GAO-22-103636

Financing the Fight

**GAO DRAFT REPORT DATED JANUARY 7, 2022
GAO-22-103636 (GAO CODE 103636)**

**“DOD FINANCIAL MANAGEMENT: AIR FORCE NEEDS TO IMPROVE ITS SYSTEM
MIGRATION EFFORTS”**

**DEPARTMENT OF DEFENSE COMMENTS
TO THE GAO RECOMMENDATIONS**

RECOMMENDATION 1: The Assistant Secretary of the Air Force for Financial Management and Comptroller should develop a systems migration plan based on leading migration practices to more timely transition from the Air Force's General Accounting and Finance System-Reengineered environment to the Defense Enterprise Accounting and Management System (DEAMS).

DoD RESPONSE: Concur. The Department is developing a systems migration plan to transition transactions from the General Accounting and Finance System-Reengineered to the target general ledger systems including DEAMS and the Maintenance Repair and Overhaul initiative (MROi). The plan includes identifying dependencies on personnel, logistics and other business area management applications necessary to transition to a modern system environment.

RECOMMENDATION 2: During future DEAMS upgrades, the Assistant Secretary of the Air Force for Financial Management and Comptroller should minimize the number of reports, interfaces, conversions, and extensions modifications and instead maximize the centralized functionality and capabilities of the target accounting system to reengineer business processes.

DoD RESPONSE: Concur. The Department will focus any future system upgrades and sustainment of the existing system to minimize modifications to allow the program to maximize centralized functionality and capabilities of the target accounting system. Since the last upgrade, the DEAMS program has removed a total of 56 reports, interfaces, conversions, and extensions with ongoing reduction efforts.

RECOMMENDATION 3: The Assistant Secretary of the Air Force for Financial Management and Comptroller should ensure that future financial management system version upgrades are planned to address identified deficiencies and provide functionality that promotes Air Force compliance with federal financial management systems requirements, applicable federal accounting standards, and the USSGL at the transaction level.

DoD RESPONSE: Concur. The Department will focus any future system upgrades to address identified deficiencies and provide functionality that promotes Air Force compliance with federal financial management systems requirements through its agile software development methodology. Furthermore, future financial system upgrades plans will include a review of functionality in accordance with the Federal Financial Management Improvement Act of 1996 (FFMIA) to provide accurate, reliable, and timely financial management information.

**Appendix II: Comments from the Department
of Defense**

RECOMMENDATION 4: The Assistant Secretary of the Air Force for Financial Management and Comptroller should develop a comprehensive strategy with appropriate performance metrics and consideration of a concept of operations, for its entire financial management systems modernization effort in support of the financial statement audit.

DoD RESPONSE: Concur. The Department will develop a comprehensive strategy with appropriate performance metrics and consideration of a concept of operations, for its entire financial management systems modernization effort establish an enterprise roadmap to enable greater auditability of systems and reduce duplicative and number of total systems. The Department has recently undertaken an optimal technical roadmap assessment to drive the consolidation planning activity to form the basis of a consolidation strategy.

Text of Appendix II: Comments from the Department of Defense

MEMORANDUM FOR UNITED STATES GOVERNMENT ACCOUNTABILITY
OFFICE ATTN: MR. ASIF KHAN

FROM: SAF/FM

SUBJECT: GAO Draft Report, "DOD FINANCIAL MANAGEMENT: Air Force Needs
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STEPHEN R. HERRERA, SES, DAF

Acting Assistant Secretary of the Air Force (Financial Management and Comptroller)

Attachments:

1. GAO Recommendations to GAO-22-103636 Draft Report
2. Congressional-Media Interest Items_GAO-22-103636

GAO DRAFT REPORT DATED JANUARY 7, 2022 GAO-22-
103636 (GAO CODE 103636) "DOD FINANCIAL MANAGEMENT:

AIR FORCE NEEDS TO IMPROVE ITS SYSTEM MIGRATION EFFORTS”

DEPARTMENT OF DEFENSE COMMENTS TO THE GAO RECOMMENDATIONS

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DoD RESPONSE: Concur. The Department is developing a systems migration plan to transition transactions from the General Accounting and Finance System-Reengineered to the target general ledger systems including DEAMS and the Maintenance Repair and Overhaul initiative (MROi).

The plan includes identifying dependencies on personnel, logistics and other business area management applications necessary to transition to a modern system environment.

RECOMMENDATION 2: During future DEAMS upgrades, the Assistant Secretary of the Air Force for Financial Management and Comptroller should minimize the number of reports, interfaces, conversions, and extensions modifications and instead maximize the centralized functionality and capabilities of the target accounting system to reengineer business processes.

DoD RESPONSE: Concur. The Department will focus any future system upgrades and sustainment of the existing system to minimize modifications to allow the program to maximize centralized functionality and capabilities of the target accounting system. Since the last upgrade, the DEAMS program has removed a total of 56 reports, interfaces, conversions, and extensions with ongoing reduction efforts.

RECOMMENDATION 3: The Assistant Secretary of the Air Force for Financial Management and Comptroller should ensure that future financial management system version upgrades are planned to address identified deficiencies and provide functionality that promotes Air Force compliance with federal financial management systems requirements, applicable federal accounting standards, and the USSGL at the transaction level.

DoD RESPONSE: Concur. The Department will focus any future system upgrades to address identified deficiencies and provide functionality that promotes Air Force compliance with federal financial management systems requirements through its

agile software development methodology. Furthermore, future financial system upgrades plans will include a review of functionality in accordance with the Federal Financial Management Improvement Act of 1996 (FFMIA) to provide accurate, reliable, and timely financial management information.

RECOMMENDATION 4: The Assistant Secretary of the Air Force for Financial Management and Comptroller should develop a comprehensive strategy with appropriate performance metrics and consideration of a concept of operations, for its entire financial management systems modernization effort in support of the financial statement audit.

DoD RESPONSE: Concur. The Department will develop a comprehensive strategy with appropriate performance metrics and consideration of a concept of operations, for its entire financial management systems modernization effort establish an enterprise roadmap to enable greater auditability of systems and reduce duplicative and number of total systems. The Department has recently undertaken an optimal technical roadmap assessment to drive the consolidation planning activity to form the basis of a consolidation strategy.

Appendix III: GAO Contact and Staff Acknowledgments

GAO Contact

Asif A. Khan, (202) 512-9869 or khana@gao.gov

Staff Acknowledgments

In addition to the contact named above, Chanetta Reed (Assistant Director), Beatrice Alff, Jason Kelly, Edward Romesburg, and Althea Sprosta made key contributions to this report.

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