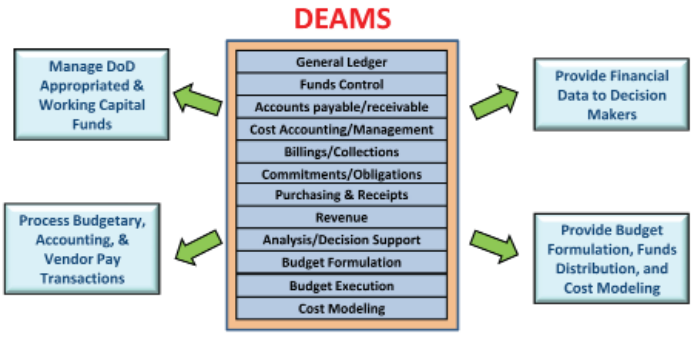
# Defense Enterprise Accounting and Management System (DEAMS)

## Executive Summary

- The Air Force Operational Test and Evaluation Center (AFOTEC) conducted Operational User Evaluation (OUE) phase two from February 26 to March 16, 2018, by observing day-to-day operations at five Air Force Bases and a Defense Finance and Accounting System (DFAS) location in the Pacific Air Force (PACAF) theater of operations.
- The Defense Enterprise Accounting and Management System (DEAMS) Increment 1 demonstrated significant, sustained improvements in operational effectiveness and suitability compared to the 2015 IOT&E. Based upon the results of the OUE, DEAMS Increment 1 is operationally effective and operationally suitable.
- Based upon the 2015 IOT&E cybersecurity testing, DOT&E assessed DEAMS as not cyber secure. The DEAMS Program Manager has made significant improvements to DEAMS cybersecurity and plans to continue to conduct cybersecurity testing in CY19.

## System

- DEAMS Increment 1 is a Defense Business System that uses commercial off-the-shelf enterprise resource planning software to provide accounting and management services.
- The DEAMS Increment 1 Program Management Office (PMO) is following an evolutionary acquisition strategy that adds additional capabilities and users incrementally. There are six scheduled releases. The Air Force anticipates over 16,900 users worldwide will use DEAMS by the end of the increment.
- DEAMS Increment 1 is intended to improve financial accountability by providing a single, standard, automated financial management system that is compliant with the Chief Financial Officers Act of 1990 and other mandates. DEAMS Increment 1 performs the following core accounting functions:
  - Core Financial System Management
  - General Ledger Management
  - Funds Management
  - Payment Management
  - Receivable Management
  - Cost Management
  - Reporting
- DEAMS interfaces with approximately 40 other systems that provide travel, payroll, disbursing, transportation, logistics, acquisition, and accounting support.
- DEAMS supports financial management requirements in the Federal Financial Management Improvement Act of 1996 and the DOD Business Enterprise Architecture.




## Mission

Air Force financial managers and tenant organizations use DEAMS Increment 1 to do the following across the Air Force, U.S. Transportation Command, and other U.S. component commands:

- Compile and share accurate, up-to-the-minute financial management data and information
- Satisfy congressional and DOD requirements for auditing of funds, standardizing of financial ledgers, timely reporting, and reduction of costly rework

## Major Contractors

- DSD Laboratories – Sudbury, Massachusetts
- Accenture Federal Services – Dayton, Ohio

## Activity

- AFOTEC conducted phase one of the OUE in 2017, and DOT&E reported on this phase in the FY17 Annual Report. AFOTEC conducted phase two of the OUE from February 26 through March 16, 2018, in accordance with a DOT&E-approved test plan. OUE phase two testing collected day-to-day operations data at the following locations: Joint Base Pearl Harbor-Hickam, Hawaii; Kadena Air Base, Japan; Osan Air Base, Korea; Andersen Air Force Base, Guam; and Yokota Air Base, Japan. AFOTEC collected data on the adequacy of help desk support at Wright-Patterson AFB, Ohio; system maintenance at Maxwell AFB-Gunter Annex, Alabama; and a DFAS location in Japan.

- During the OUE, DEAMS Increment 1 was used by 13,800 users to conduct accounting management operations out of a total user base of 16,900 for the increment.
- As part of the OUE, the Army Research Laboratory at White Sands Missile Range, New Mexico, supported the PMO in conducting a cybersecurity Cooperative Vulnerability and Penetration Assessment (CVPA) August 7 – 11, 2017, at Maxwell AFB – Gunter Annex, Alabama.
- DEAMS Increment 1 plans to field a software upgrade in FY19.

**Assessment**

- During the 2017-18 OUE, DEAMS Increment 1 demonstrated significant improvement compared to the 2015 IOT&E and the 2016 Verification of Fixes test. Based upon the results of the OUE, DEAMS Increment 1 is operationally effective and operationally suitable. Key effectiveness findings from the OUE are:
  - DEAMS supported financial operations, and all Key Performance Parameters (KPPs) were met.
    - DEAMS met the user role requirement with 99.99 percent (103,870 out of 103,877) compliant with Comptroller guidelines for segregation of duties; requirement is 90 percent.
    - DEAMS met the Business Rules requirement with 98 percent (322 out of 328) compliant with the Standard Financial Information Structure policy and procedures; requirement is 95 percent.
    - DEAMS balanced with the United States Treasury 99.8 percent of the time (38,482,144 out of 38,566,025 line items); requirement is 95 percent.
    - One hundred percent of subsidiary accounts were successfully reconciled to their respective general ledger accounts; requirement is 95 percent.
    - One hundred percent of accounts were correctly reconciled at the end of all accounting periods observed (monthly, quarterly, and annually); no requirement specified.
  - During the OUE, the transaction backlog – which had caused major operational problems during previous tests – did not adversely affect operations.
- The DEAMS Program Office has made significant progress in the area of regression testing, which helps verify that enhancements or software defect fixes do not adversely affect overall system performance. As of August 2017, regression scripts covered 22 of the 24 critical interfaces. As DEAMS completes fielding of the software upgrade, full coverage of critical interfaces will help verify that DEAMS is sending and receiving accurate data.
- Key suitability findings from the OUE are:
  - Operational availability was 97 percent; requirement is 80 percent.
  - Eighty-four percent (208 out of 247) of respondents rated DEAMS help desk support as slightly effective or better, and comments indicated that the users perceive help desk support as continuing to improve. DEAMS Help Desk initial resolutions were successful 97 percent of the time.
  - While 77 percent (230 out of 299) of respondents rated training as slightly effective or better, users continued to comment that training does not adequately prepare them for site-specific nuances in workflow.
  - Eighty-four percent (416 out of 493) of users rated documentation as slightly effective or better, which represents an improvement from surveys in previous operational tests.
- Despite good overall performance during the OUE, DEAMS exhibited 47 defects that do not have sustainable work arounds, and System Usability Scale (SUS) results indicate operators continue to have low regard for DEAMS usability with the median SUS score of 45 (with 50 considered as the limit for marginal usability).

**Recommendations**

The DEAMS Program Manager should:

1. Address cybersecurity vulnerabilities that present a high risk to DEAMS missions.
2. Continue efforts to reduce severity 2 defects in DEAMS.
3. Complete development of regression scripts to cover all 24 critical interfaces for the latest release of DEAMS.
4. Continue to improve DEAMS training, with a focus on site-specific workflows.