

Acquisition Management Policy - (4/2016)

4.4 Test and Evaluation Revised 11/2009

4.4.1 Service Analysis, Concept and Requirements Definition, and Investment Analysis Revised 7/2015

4.4.2 Solution Implementation Revised 7/2015

4.4.3 In-Service Management Revised 11/2009

4.4 Test and Evaluation Revised 11/2009

Test and evaluation is planned and conducted in accordance with the AMS Test and Evaluation Process Guidelines found on FAST. The objectives are to:

- ☐ Provide essential information in support of decision-making;
- ☐ Provide essential information for assessing technical and investment risks;
- ☐ Verify the attainment of technical performance specifications and objectives; and
- ☐ Verify and validate that investment products are operationally effective and suitable for the intended use.

4.4.1 Service Analysis, Concept and Requirements Definition, and Investment Analysis

Revised 7/2015

During service analysis, test and evaluation activities help identify and prioritize critical FAA service needs. During concept and requirements definition, test and evaluation helps to identify the best alternative solutions to those needs. During investment analysis, the criteria for testing operational effectiveness and suitability are expressed as critical performance requirements and critical operational issues in the program requirements document.

The test strategy for the investment program is defined in the implementation strategy and planning document (ISPD). The objective of any test program is to verify achievement of technical performance requirements and to validate the operational suitability and effectiveness of the acquired solution.

Based on complexity and criticality, new investments will be required to deliver a test and evaluation master plan (TEMP) as indicated on the ACAT designation form. The TEMP provides more detail than the ISPD of test needs, scope, and plans for new investment initiatives. A preliminary TEMP is developed based upon the concepts and functions documented in the preliminary program requirements to support the initial investment decision. An initial TEMP is developed once program requirements are finalized and the identity of the most promising solution is known. The initial TEMP describes the test program and establishes the basis for test requirements in the request for offer to industry and test costs/schedules in the acquisition program baseline. The initial TEMP is required to support the final investment decision. The ISPD defines the plan and schedule for delivery of the final TEMP. All contractor and FAA testing is planned, conducted, and reported in accordance with the TEMP.

4.4.2 Solution Implementation Revised 7/2015

All system/software and facility investment programs follow a structured, disciplined T&E process appropriate to the product or facility being tested. Initially, test and evaluation in solution implementation assesses potential operational, safety, and security risks and identifies opportunities for risk mitigation. Later it examines operational readiness and supplies data to decision-makers in support of the production and in-service decisions.

A typical T&E program consists of developmental test, operational test, site acceptance testing,

and field familiarization testing, as well as independent operational assessment for designated programs (see Section 4.5). It is recorded in the final test and evaluation master plan for new investment initiatives once the contractor has completed design of all major software and hardware configuration items and once all test requirements are known. The test program for the other ACATs is defined in the program management plan. Test and evaluation of commercial and non-developmental items is tailored to account for test results already available from vendors. For example, an operational capability demonstration may reduce system test requirements. As part of field familiarization testing, all systems/software products normally require site operational testing and information security testing to support the site operational readiness decision.

4.4.3 In-Service Management Revised 11/2009

The Test and Evaluation Gold Standard and Implementation Guide defines standards for the development and implementation of all modifications to the National Airspace System during in-service management. It includes a standardized testing process that lists the phases and detailed activities to be addressed. The Gold Standard process as designed will support/ensure that the activity of safety risk management is address in the FAA.

The Test and Evaluation Gold Standard Matrix is used as a management tool to record development and test status, improve internal and external communications, and support risk assessment using best business practices. This document is applicable to all NAS modifications across all FAA organizations.