AMS CHANGE REQUEST (CR) COVERSHEET

Change Request Number: 15-16

Date Received: Jan 5, 2015

Title: Revised FAST policy to incorporate new AIT organizational changes

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Initiator Organization Name / Routing Code: AFN / ASP-120 / IT Strategy

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Guidance and Policy must be submitted with separate CR coversheets

- (•) Policy

Or

- ( ) Procurement Guidance
- ( ) Real Estate Guidance
- ( ) Other Guidance

Summary of Change:

Revise non-NAS routings for AIT departments.

Reason for Change:

FAA reorganization determined new organizational codes, department descriptions were to be implemented within AIT.

Development, Review, and Concurrence:

TAIT - Technical Analysis Investment Team

Target Audience:

non-NAS programs following the AMS Acquisition Policy within AIT.

Briefing Planned: None.

ASAG Responsibilities: None.

Section / Text Location:

1.2.2; 1.2.16; 2.3.1; 2.3.3.1; 2.4.1; 2.4.3; 2.6.3; 2.7.3; Appendix A; Appendix C.

The redline version must be a comparison with the current published FAST version.

- (•) I confirm I used the latest published version to create this change / redline

Or

- ( ) This is new content

Links:

N/A

Attachments:

Redline and final versions.

Other Files:

N/A

Redlines:

15-16 AMS Policy 1.2:

1.2 Key Elements of Acquisition Management

1.2.1 Strategic Planning, Management, and Budgeting **Revised 1/2014**

The Government Performance and Results Act of 1993, requires Federal agencies to have measurable performance targets tied to agency goals and objectives. These targets serve as the basis for planning capital investments and measuring progress.

The FAA supports this requirement through a strategic management process that forecasts the future aviation environment and captures goals, objectives, and performance targets in its strategic plan, currently Destination 2025. FAA strategic planning links the long-range vision and goals for the agency directly to the service needs of customers and defines top-level performance measures and multi-year performance targets.

The NAS Concept of Operations specifies the operational capabilities that the National Airspace System will have over time. Together, the FAA strategic plan and NAS Concept of Operations set the primary context for the FAA Enterprise Architecture and all lower-level plans and budgets within the agency. FAA lines of business and staff offices align their planning to the goals and objectives in FAA strategic planning. Service organizations within the lines of business in turn align their business and operating plans to line-of-business planning. These relationships are illustrated in Figure 1.2.1-1 FAA Strategic Planning, Management, and Budgeting.

Figure 1.2.1-1 Strategic Planning, Management, and Budgeting

Service organizations develop integrated business plans and budgets across all appropriations to achieve full lifecycle support of service delivery. Planning is realistic within budgetary constraints. Success or failure in achieving performance goals influences future planning and budgeting decisions. Resources are dedicated to key activities such as service analysis, concept and requirements definition, and investment analysis.

The Administrator approves the FAA strategic plan; the NextGen Management Board approves the NAS Concept of Operations; the Joint Resources Council approves the FAA Enterprise Architecture.

The Chief Financial Officer formulates the budget across lines of business and staff offices; tracks actual performance against planned execution based on input from these organizations; records approved resource adjustments to FAA plans and budgets; and incrementally moves FAA planning and budgeting forward each year. The Chief Financial Officer also develops the Facilities and Equipment (F&E), Research, Engineering, and Development

(RE&D), and Operations (OPS) budget requests.

Planning for the Airport Improvement Program is coordinated with planning for the RE&D, F&E, and OPS appropriations so that capital assets necessary to support new and expanded airport operations are available when needed.

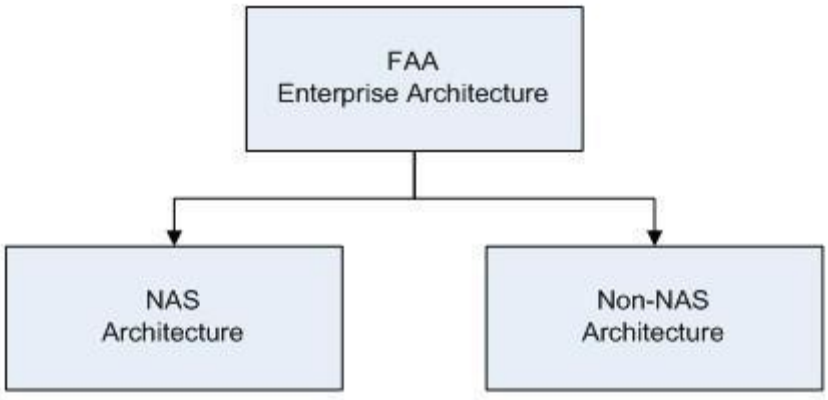
The FAA reports facility and equipment expenditures to Congress in the Capital Investment Plan; research, engineering, and development resource requirements in the National Aviation Research Plan; and operations funding requirements in the annual budget request to Congress.

1.2.2 FAA Enterprise Architecture Revised 4/2013

The FAA Enterprise Architecture (referred to as the enterprise architecture throughout AMS policy) defines the operational and technical framework for all capital assets of the FAA. It describes the agency's current and target architectures, as well as the transition strategy for moving from the current to the target architecture. The enterprise architecture is approved annually by the Joint Resources Council in support of FAA budget and strategic management processes.

The enterprise architecture has two components: the National Airspace System (NAS) architecture and the non-NAS architecture (See Figure 1.2.2-1 FAA Enterprise Architecture). The NAS architecture is comprised of the systems, people, and procedures necessary for command and control of the National Airspace System. It also includes mission-support systems that manage or design command and control components and air traffic procedures. The non-
NAS architecture is comprised of the information technology operations and investments needed for agency business administration and planning. It includes all mission-support applications, systems, policies, and procedures not directly involved in air traffic control.

Figure 1.2.2-1 FAA Enterprise Architecture



The FAA Enterprise Architecture Board governs the enterprise architecture. The Chief Information Officer maintains it. The Enterprise Architecture Service Division administers the NAS architecture. The Office of Information & Technology, Strategy & Performance Service, EA Division administers the non-NAS architecture.

1.2.3 Service Management Revised 7/2013

Acquisition management policy is structured to apply FAA investment resources to the cost- effective delivery of safe and secure services to its customers. The delivery of these services is accomplished through service

organizations, which are responsible and accountable for lifecycle management of service delivery.

A service organization is any organization that manages investment resources, regardless of appropriation, to deliver services. It may be a service unit, program office, or directorate, and may be engaged in air traffic services, safety, security, regulation, certification, operations, commercial space transportation, airport development, or administrative functions.

Service organizations bring together the stakeholders and specialists necessary to plan, obtain, manage, and sustain assigned services throughout their lifecycle. A service may be delivered directly to a customer, such as flight planning for general aviation, or to other service organizations that deliver end services to customers. Together, service organizations span the spectrum of FAA activity and responsibility.

Service organizations manage service delivery by means of integrated portfolios of capital investments and operational assets. These portfolios includes investment assets under acquisition; fielded equipment, legacy systems, infrastructure, and facilities; and all other types of resources.

Service organizations perform service analysis annually to determine what capabilities must be in place now and in the future to meet agency goals and the service needs of customers and to move planning forward each year. Results are captured in enterprise architecture roadmaps, which are the transition plans for moving the current "as is" architecture to the future "to be" state. These roadmaps are the foundation for line-of-business and staff office business plans, which in turn are the basis for service organization operating plans.

The operating plan of each service organization specifies how it will manage its operational assets and investment initiatives over time to sustain and improve service delivery. Each operating plan is maintained on a continuing basis and updated yearly to reflect progress against plan, Congressional or executive direction, emerging customer needs, and critical aviation incidents. Service organizations track performance, accomplishments, and resource expenditures relative to the operating plan, and take corrective action as necessary to achieve agreed upon goals and objectives. Service organizations work closely with each other to manage shared assets efficiently and effectively.

1.2.4 Portfolio Management **Revised 4/2013**

The FAA views and manages its investment and operational assets through multiple levels and groupings of portfolios to ensure they work together efficiently to achieve agency strategic, mission, and service goals. At the agency level, the entire FAA budget is a portfolio of planned expenditures organized to balance support of existing operational services with investment in new capability. Within this portfolio, the R&ED, F&E, and Operations appropriations are distinct portfolios that allocate research, investment, and operational funding to the most pressing service needs of the aviation community. Similarly, the enterprise architecture is a portfolio with investments and assets that make up the National Airspace System (NAS) and administrative and mission support information technology (non-NAS). The enterprise architecture can be viewed as distinct portfolios segmented in different ways for specific purposes.

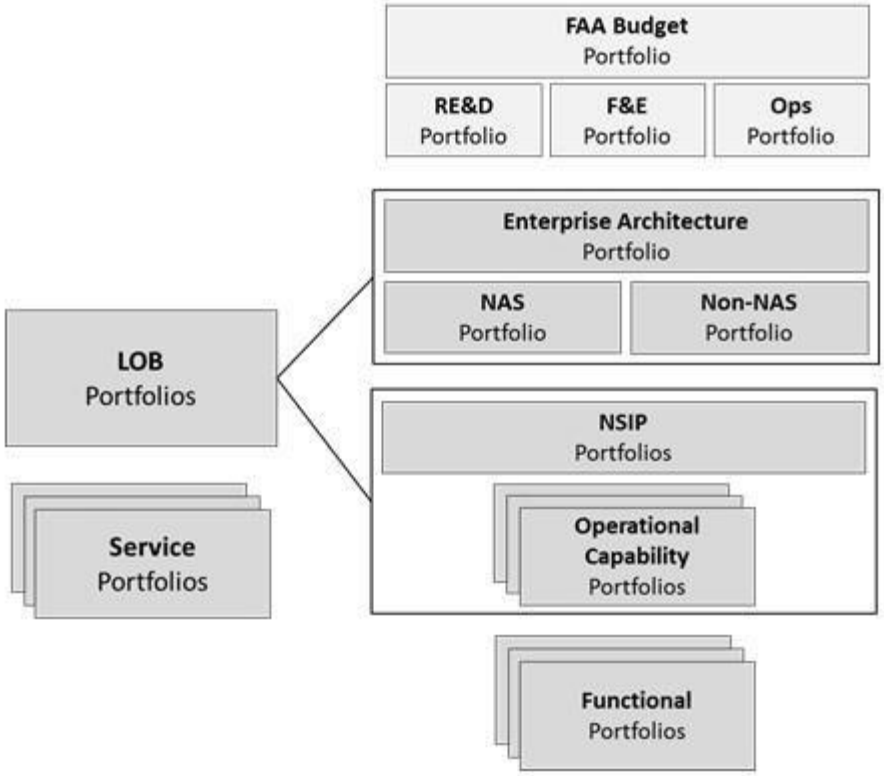
Operational capability portfolios are rational groupings of NAS investment programs proceeding through the AMS lifecycle management process that have critical interdependences which must be taken into account when making investment decisions for individual components of the portfolio.

The Joint Resources Council uses portfolio management in conjunction with strategic planning, the enterprise architecture, and outcome-based performance measures when making investment decisions and managing selected groupings of investments.

AMS policy does not create a universal definition for the term "portfolio management." It establishes the definition

and policy for several standard agency-wide portfolios (Section 1.2.4.1) and for operational capability portfolios (Section 1.2.4.2). This policy does not preclude other types of portfolios within the agency, nor does it provide policy or guidance for managing them. Figure 1.2.4-1 illustrates the levels and groupings of FAA portfolios.

Figure 1.2.4-1 Portfolio Management in FAA



1.2.4.1 Agency-Wide Portfolio Management Revised 4/2013

The FAA implements agency-wide portfolio management at multiple organizational levels and within a unified functional framework:

Corporate Portfolio Management - The FAA, through the Joint Resources Council and other means, manages the overall agency investment portfolio with the following:

Enterprise Architecture: The enterprise architecture portrays the "as is" and "to be" state of FAA operational assets along with roadmaps that lay out over time what investments will be made to achieve the end-state configuration. The enterprise architecture is developed and updated annually by analyzing the functions the FAA needs to provide based on identified gaps in needed services over time. This view of the corporate-level portfolio is presented to the Joint Resources Council each year for approval.

FAA Budget: The budget is developed using a strategic management process that ties it to the needs in the enterprise architecture and the goals in the FAA strategic plan to create a unified performance-based budget. The budget is reviewed each year considering several corporate-level portfolio measures including progress in meeting FAA strategic goals, budget allocations relative to strategic planning targets, and assessments of under-performing programs using earned value management. This information is presented to the Joint Resources Council annually when it reviews the agency budget submission.

Line-of-Business Portfolio Management - Each line of business and staff office oversees, coordinates, and integrates the service portfolios of its service organizations to achieve the greatest overall contribution to

agency strategic goals and targets.

Service Portfolio Management - Service organizations (e.g., terminal services, en-route and oceanic services, regulatory services, certification services) manage integrated sets of investment and operational assets to optimize service delivery over time.

NAS Segment Implementation Portfolio Management - The NextGen organization oversees investment portfolios that cut across service organizations to provide fully integrated operational capabilities for the National Airspace System in such areas as precision-based navigation and improved runway operations. More than one service organization may be involved with implementation and in-service management of these investment packages.

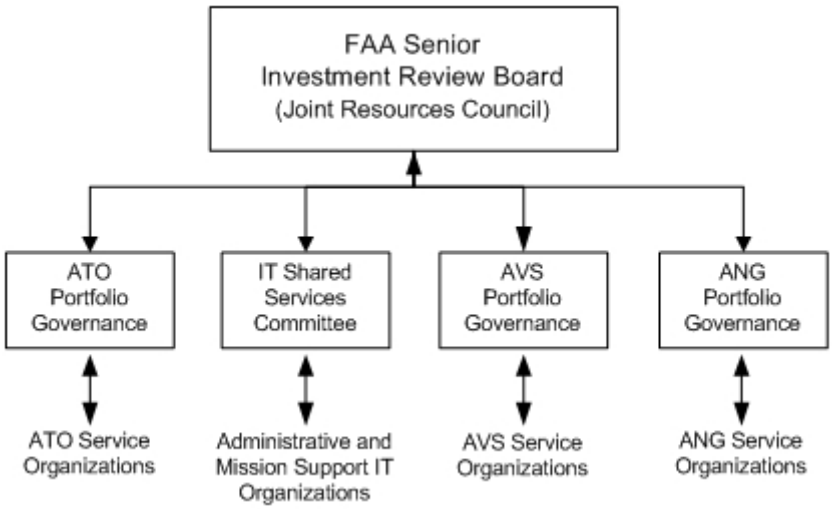
Functional Portfolio Management - The NextGen organization oversees investment packages that cut across service organizations to provide fully integrated functional capability for the National Airspace System in such areas as weather, surveillance, communications, automation, and navigation. More than one service organization may be involved with implementation and in-service management of these investment packages.

1.2.4.1.1 Portfolio Management Governance Revised 4/2013

Figure 1.2.4.1.1-1 portrays portfolio management governance within FAA.

Figure 1.2.4.1.1-1 FAA Portfolio Management Governance

(*representative depiction*)



The Joint Resources Council oversees the FAA investment portfolio as expressed in the enterprise architecture, FAA budget, and individual service portfolios. It evaluates the performance of all investment programs and operational assets within each service against quantified baseline measures. Planned initiatives for new investment are discussed along with proposals to remove, replace, or improve operational assets with declining performance that no longer satisfy service need or are nearing the end of their service life. The Joint Resources Council aligns and coordinates investment activity across the lines of business through annual review and approval of the enterprise architecture and agency budget submissions to Congress.

Line-of-Business portfolio governance aligns and coordinates investment activity across service organizations within a line of business or staff office. This governance ensures investment and operational resources support priority FAA strategic and performance goals; ensures there is no overlap, redundancy, or gap in service delivery; and reviews

progress, tracks baseline variances, and monitors remedial planning and execution within service portfolios. Specifically, Air Traffic Organization (ATO) governance oversees, reviews, and coordinates service portfolios related to the National Airspace System and the provision of air traffic control services (e.g., terminal, en- route, and technical operations). NextGen (ANG) and Aviation Safety (AVS) governance
oversee and recommend investment portfolios within their line of business.

The Information Technology Shared Services Committee reviews, oversees, and recommends administrative and mission support information technology investment portfolios.

Service organizations manage service delivery within their service area of responsibility. They evaluate service demand on a continuing basis and recommend changes to the service portfolio over time to optimize service delivery.

1.2.4.1.2 Portfolio Management Criteria **Revised 4/2013**

The FAA has standard criteria for selecting, controlling, and evaluating its investment portfolio. The Joint Resources Council uses the standard criteria when evaluating new investment opportunities for inclusion in a service portfolio, when evaluating the status of on-going investment programs, and when evaluating the efficiency and effectiveness of operational assets.

The three categories of portfolio management criteria are listed below. Details for some elements of these criteria are defined elsewhere in AMS (e.g., earned value management policy is in Section 4.16 and the standard selection criteria are located in FAST).

Selection criteria: The Joint Resources Council applies the following standard quantitative and judgmental selection criteria to assess the relative contribution of investment options for inclusion in an investment portfolio: benefits; lifecycle cost; benefit to cost ratio; consistency with the enterprise architecture; impact on FAA strategic goals; and risk.

Control criteria: The FAA employs earned value management, risk management, and testing to determine how efficiently developmental, modernization, and enhancement investment programs are performing relative to plan during solution implementation. For investment programs that do not involve development, modernization, or enhancement, the FAA applies multiple control techniques such as independent review of program cost and schedule estimates; comparison of
spend plans against budget authorization; comparison of actual cost and schedule results against planning estimates; and periodic program and data reviews against planning. These management controls identify and quantify variances to baseline cost, schedule, and performance measures as the basis for corrective action. Service organizations test and evaluate the products of investment programs against requirements in the program requirements document to determine whether they are satisfied.

Evaluation criteria: The FAA periodically measures the efficiency (technical quality) and effectiveness (business value) of operational assets to determine whether they should be upgraded, replaced, or removed from service. Service directorates evaluate in-service assets by means of post-implementation reviews and operational analyses. Post-implementation reviews determine whether performance, cost, schedule, and benefit goals are being attained. They provide the basis for corrective action, as well as lessons learned for improving agency investment management processes. Operational analysis determines trends in such factors as reliability, maintainability, supportability, obsolescence, and operating and maintenance costs.
They are the basis for validating continued support for fielded assets or some other action such as upgrade, replacement, or removal from service.

1.2.4.2 Operational Capability Portfolios Revised 4/2013

The NextGen Management Board establishes operational capability portfolios to achieve priority NAS performance and operational goals subject to concurrence by the Joint Resources Council. When an individual investment increment of the portfolio comes before the Joint Resources Council for investment decisions, the portfolio manager is present so decisions are made within context of the entire portfolio and overall corporate framework.

An operational capability portfolio may contain materiel (e.g., hardware or software deliverables) and non-materiel (e.g., airspace redesign or procedures) components. Each investment increment must receive an acquisition category designation from the Acquisition Executive Board and is managed through the AMS lifecycle according to its designation.

An operational capability integration plan (OCIP) approved by the executives responsible for each investment increment of an operational capability portfolio defines the critical interdependencies between investment increments, how they will be managed, and their interaction with each other and the overall portfolio. The OCIP specifies how cost, schedule, or performance issues will be communicated to other portfolio investment increments and how they will be resolved corporately for the benefit of the portfolio. A standard template is used to develop the OCIP, which includes measures for tracking and evaluating the portfolio (e.g., portfolio costs and benefits).

1.2.5 Acquisition Categories Revised 4/2013

Acquisition categories ensure the appropriate level of oversight and documentation requirements are applied to each FAA investment program. Acquisition categories apply to all investment programs, appropriations, and FAA organizations. This includes all capital investments in the National Airspace System and FAA administrative and mission support systems and services. The Joint Resources Council is the investment decision authority for all acquisition categories.

Investment programs are classified by investment type (new investment, technology refreshment, variable quantity, facility initiative, or support service contract) and then categorized based on qualitative and quantitative criteria. Definitions for investment type and criteria for acquisition categories are in the AMS Table of Acquisition Categories. Review organizations for investment decisions and tailoring for required documentation vary by investment type and acquisition category, as defined in the AMS Table of Acquisition Categories.

The sponsoring service organization recommends an acquisition category to the Acquisition Executive Board, which makes the categorization decision and notifies the Joint Resources Council for confirmation through the JRC Executive Secretariat. The designation of acquisition category is made before the investment analysis readiness decision. A standard readiness process applies to all acquisition category levels for AMS decision points.

1.2.6 Lifecycle Management Decision-Making Revised 7/2013

Table 1.2.6-1 specifies the decision authority for each AMS lifecycle management decision point. The Joint Resources Council is the FAA senior investment review board. It makes corporate-level resource decisions, including authorization and funding for investment programs, and approves changes to the enterprise architecture. The Joint Resources Council selects for approval and funding those investment opportunities having the highest potential for contributing to FAA strategic and performance goals, improving service delivery, increasing aviation safety, lowering operating costs, or otherwise providing value to the FAA and its customers. The Joint Resources Council may approve, disapprove, modify, or terminate an investment initiative at any AMS decision point.

The Joint Resources Council approves investment resources, regardless of appropriation, in useful and manageable

segments (e.g., development, demonstration, production, deployment, and operations). Each segment is managed within cost, schedule, and performance targets in the acquisition program baseline approved by the Joint Resources Council at the final investment
decision. The portfolio manager attends all lifecycle management decision points involving each investment increment of an operational capability to disclose the impact on an end-state
capability of not approving an investment increment.

The service team or program office must complete all phase activities and artifacts to qualify for a decision to proceed to the next lifecycle management phase, but can return to the Joint Resources Council at any time including the next decision point if the recommendation is to terminate the effort.

The Air Traffic Services Committee reviews all JRC investment decisions for procurement of air traffic control equipment of $100,000,000 or more in facilities and equipment costs.

Table 1.2.6-1 Lifecycle Management Decision-Making

Decision	Decision Body	Decision Chair
Concept and requirements definition readiness decision	FAA Enterprise Architecture Board	None
Investment analysis readiness decision	JRC	Acquisition Executive
Initial and final investment decisions *(including new programs and extension of current capability)*	JRC	Acquisition Executive
Product demonstration 1	Note 2	Note 2
Production 1 and 2	Note 2	Note 2
In-service 2	Note 2	Note 2
Program baseline change	JRC	Acquisition Executive
F&E, RE&D, and OPS budget approvals	JRC	Acquisition Executive
FAA Enterprise Architecture changes	JRC	Acquisition Executive

1 Decision required for developmental products. See AMS section 2.6.1.
2 The Joint Resources Council designates the product demonstration, production and in- service decision authorities at the final investment decision. If the JRC retains any of these decisions, the chair is the Acquisition Executive.

The JRC Executive Secretariat supports the Acquisition Executive and Joint Resources Council in executing decision-making responsibilities. The Secretariat ensures service organizations have complied with AMS policy requirements before seeking JRC approval. The Secretariat also manages the JRC decision-making processes and acquisition quarterly program reviews on behalf of the Acquisition Executive.

Service organizations make and are accountable for all service-level management decisions except those explicitly assigned otherwise by this policy or the Joint Resources Council.

1.2.7 Acquisition Quarterly Program Reviews **Revised 4/2013**

The Joint Resources Council reviews investment programs at acquisition quarterly program reviews to oversee cost, schedule, and technical performance using a standard set of program and performance measures (see AMS 2.1.6).

These standard program measures are organized into: financial, schedule, technical, resources, program manager assessment, and external interests. The status of OMB Information Technology Dashboard milestones is also reviewed along with significant program risks. The Directors of each service organization present and discuss performance for all baselined programs and those planning programs that report to the Office of Management and Budget. The reviews use SPIRE, earned-value management (or equivalent), and enterprise architecture data to assess technical, cost, and schedule issues that may impact the ability of programs to meet their acquisition program baseline values. The portfolio manager is present at the reviews to discuss the impact on an operational capability of cost, schedule, or performance shortfalls among capability investment increments and to present for consideration potential baseline adjustments among increments, when applicable.

1.2.8 TechStat Reviews **Revised 4/2013**

The FAA uses TechStat reviews when appropriate to assess underperforming investment programs. A TechStat review is an in-depth examination of program performance data from the OMB Information Technology Dashboard and SPIRE, including associated earned value management data, program management and control data, and actions for achieving the JRC- approved program baseline. The TechStat review results in a corrective action plan to improve program execution and performance within the approved program baseline, or results in other actions if the program is unlikely to improve as baselined. The Joint Resources Council determines whether a TechStat review will be conducted, and uses acquisition quarterly program reviews and investment decision meetings to identify those programs that will be subject to a TechStat review.

1.2.9 Cost Accounting **Revised 4/2013**

The FAA uses a financial management system that integrates planning, budgeting, and accounting across service organizations and appropriations. Cost accounting provides the financial basis for determining whether the FAA is meeting its performance goals within baseline costs and for determining the actual cost of service delivery.

Cost categories include all activities necessary for full lifecycle management of service delivery, including research, service analysis, concept and requirements definition, investment analysis, solution implementation, operations and support, and decommissioning. The FAA standard lifecycle work breakdown structure, cost accounting system, and labor distribution report are aligned to use the same cost categories and activities.

1.2.10 Workforce Development and Qualification **Revised 4/2013**

The FAA manages its human capital as a critical investment to ensure the agency has the capabilities it needs to achieve business goals. The FAA Acquisition Workforce Council, comprised of executives with acquisition responsibilities from across FAA, sets acquisition workforce-related requirements and oversees implementation and annual update of FAA Acquisition Workforce Plan. The Director of Acquisition Policy and Oversight, who reports directly to the Chief Acquisition Officer, chairs the Acquisition Workforce Council and leads the acquisition career management function. AMS Section 5 contains policy related to the FAA acquisition career program and associated competency, training, and certification requirements for personnel in key acquisition positions.

1.2.11 Continuous Improvement **Revised 7/2010**

The FAA continually improves its policies and guidance to increase the safety, capacity, efficiency, and

effectiveness of agency services. It does this through periodic comparison with the best practices of industry and other government organizations. The FAA integrates into its policy and guidance successful practices that save time, reduce cost, and improve customer satisfaction.

1.2.12 On-line Policy and Guidance Revised 1/2012

The FAA Acquisition System Toolset (FAST) is the official record of the Acquisition Management System. It is an information system available via the Internet at http://fast.faa.gov. FAST contains official lifecycle acquisition management policy and guidance, process flowcharts, contract clauses, document templates and instructions, checklists, practices, and other job-related aids for use by the workforce.

1.2.13 AMS Change Management Revised 1/2012

The Acquisition Executive Board reviews and authorizes development and implementation of acquisition management policy, guidance, processes, practices, procedures, and tools. The Acquisition Executive Board also directs and oversees the Acquisition System Advisory Group (ASAG).

The ASAG is a cross-organizational body that evaluates proposed changes to acquisition management policy and guidance to ensure:

- Changes contribute to FAA strategic goals;
- Policy is streamlined and effective;
- Best practices from industry and government are incorporated when beneficial;
- Information is consistent and compatible across functional disciplines;
- Quality is maintained and improved; and
- A consistent enterprise-wide view of policy.

The ASAG initiates changes or establishes working groups to develop new policy or guidance, as required. It also periodically reviews existing policy for effectiveness. Anyone may propose changes to acquisition management policy or guidance by submitting the change to their ASAG representative, who processes it in accordance with AMS change management
procedures. Originators develop proposed changes in conjunction with primary users of the policy or guidance, or in the case of a complex change, with an ad hoc workgroup.

The Administrator approves significant changes to acquisition management policy via the Acquisition Executive. The Acquisition Executive approves all other policy changes. The Director, Acquisition Policy and Oversight approves guidance changes. Approved changes are incorporated into FAST quarterly. The acquisition policy change manager maintains FAST.

1.2.14 Legal Coordination Revised 7/2006

Service organizations coordinate with agency counsel on competitive acquisitions with an estimated total value greater than $100,000 and on non-competitive acquisitions with an estimated total value greater than $10,000. In addition, certain matters, described in Procurement Guidance (T1.15), require legal coordination regardless of their dollar value. FAA counsel also advises service organizations regarding legal issues and represents service organizations in litigation and other legal matters. Service organizations document the acquisition file with agency counsel's opinion and recommendations.

At Headquarters, the Assistant Chief Counsel for Procurement, and at Regions and Centers, the Region or Center

Counsel, may make written exceptions to this coordination policy, adjust dollar minimums, or in appropriate cases, waive the coordination.

1.2.15 AMS Lifecycle Management Documentation Revised 1/2014

Table 1.2.15-1 summarizes the purpose, requirement, responsible organization, and approving official for required AMS lifecycle management planning and control documents. Appendix B contains detailed policy for investment program documents. Complete instructions and templates are in FAST. Click here to view tailoring guidelines by acquisition category.

Click here to view the official storage location of investment-related program documentation.

Table 1.2.15-1 AMS Lifecycle Acquisition Management Policy Planning and Control Documents

Agency-Level Strategic Planning Documents

Document	Purpose	Requirement	Responsible Organization(s)	Approving Official or Body
FAA Strategic Plan (currently Destination 2025)	Defines long-range vision and goals for the FAA Establishes top-level performance measures and multi-year performance targets for the FAA	Reviewed and updated annually	Strategy, Budget, and Planning Committee	Administrator
NAS Concept of Operations (ConOps)	Defines target operational capabilities of the National Airspace System	Reviewed annually and updated as needed	Advanced Concepts & Technology Development Office	extGen Management Board
NAS Operational Requirements Document (ORD)	Specifies FAA operational services consistent with the NAS ConOps	Updated annually or as necessary to remain consistent with the NAS ConOps	Advanced Concepts & Technology Development Office ATO Operational Concepts and Requirements Lines of business	NextGen Management Board Concept Steering Group endorses
NAS Requirements Document	Specifies NAS functional and performance requirements derived from the NAS ORD	Updated annually or as necessary to remain consistent with the NAS ConOps and ORD	NAS Systems Engineering Services Advanced Concepts & Technology Development Office NAS Lifecycle	NextGen Management Board NAS Systems Engineering Services endorses

			Integration Office ATO Operational Concepts and Requirements Lines of business	
FAA Enterprise Architecture	Defines the FAA target architecture and the transition strategy to reach the target Establishes the basis for service organization planning	Reviewed annually and updated as needed	Chief Information Officer Assistant Administrator for NextGen	Joint Resources Council
	Defines the strategic investment plan for the FAA			

Portfolio-Level Documents

Document	**Purpose**	**Requirement**	**Responsible Organization(s)**	**Approving Official or Body**
Operational Capability Business Case (NAS)	Defines the rough costs and benefits of an operational capability	Required as the basis for establishing a new operational capability	Advanced Concepts and Technology Development Office ATO Program Management Office Investment Analysis & Planning Service organizations	NextGen Systems Engineering & Modeling
Operational Capability Integration Plan (NAS)	Defines the relationships, responsibilities, and agreements between all organizations contributing to the achievement of an operational capability	Preliminary plan required upon formation of a capture team Final plan required when all capability elements have entered concept and requirements definition	Portfolio manager Capture team	NextGen Management Board

Program-Level Documents

Document	Purpose	Requirement	Responsible Organization(s)	Approving Official or Body
Acquisition Program Baseline	Establishes the performance, cost, and schedule baselines for an investment program segment	Required for the final investment decision	Investment analysis team headed by the service organization with the mission need	Chair of the Joint Resources Council Designated ACAT reviewers
Program Requirements Document	Defines the operational framework and performance requirements an investment program must achieve	Preliminary document at the investment analysis readiness decision Revised document at the initial investment decision Final document at the final investment decision	Implementing service organization Operating service organization	ATO: Vice Presidents of the executing service organization during solution implementation and the operating service organization Non-ATO: Second-level executive of the executing service organization during solution implementation
Business Case	Provides the analytical and quantitative basis for investment decisions	Initial business case at the initial investment decision Final business case at the final investment decision.	Investment analysis team, headed by the service organization with the mission need	ATO: Vice President of the implementing service organization Non-ATO: Director of the implementing service organization Designated ACAT reviewers
Implementation Strategy and Planning Document	Defines overall implementation strategy and planning for an investment program	For the initial investment decision, alternatives analyzed and summarized comparatively for factors in select sections of the ISPD	Implementing service organization Operating service organization	Chair of the Joint Resources Council ATO: Chief Operating Officer / Deputy Chief Operating
		Complete ISPD is required for the final investment decision		Officer Non-ATO: Second-level executive of the

		Reviewed annually		organization executing during solution implementation Stakeholder organizations approve specific sections per the ISPD template Updates approved at the same level
OMB Exhibit 300	Budgetary document required by OMB for designated investment programs	Preliminary document at the initial investment decision Final document at the final investment decision	Investment analysis team Implementing service organization	ATO: Chief Operating Officer Non-ATO: Associate or Assistant Administrator of the line of business or staff office Acquisition Executive Chief Financial Officer Chief Information Officer Deputy Administrator concurs

1.2.16 OMB Budget Documentation **Revised 4/2013**

The OMB Exhibit 300 is a budget request document updated yearly and sent to Office of Management and Budget during the annual budget cycle for designated capital investment programs. Service organizations prepare the OMB Exhibit 300, which is independently reviewed and scored by the Office of Information & Technology, Strategy & Performance Service, Investment Portfolio & CPIC Branch. The Chief Information Officer, Chief Financial Officer, and Acquisition Executive approve the OMB Exhibit 300 for designated information technology capital investments before submission to OMB. The Acquisition Executive and Chief Financial Officer approve OMB 300 Exhibits for designated non-information technology capital investments.

1.2.17 National Acquisition Evaluation Program **Added 7/2007**

The National Acquisition Evaluation Program provides oversight of FAA acquisition management through the evaluation of contracts, programs, and acquisition management practices. The goal is to ensure consistent

implementation of AMS policy and guidance by FAA offices and to identify innovative processes or opportunities for improvements. Recommendations based on findings are tracked to closure to promote continuous process improvement and procurement integrity.

1.2.18 Earned Value and Baseline Management Added 7/2013

The Office of Management and Budget (OMB) directs all Government agencies to use an earned value management (EVM) system that complies with the industry EVMS Standard, American National Standard Institute, Electronic Industries Alliances-748, for capital investment programs involving development, modernization, or enhancement. Service organizations comply with this directive, which includes an integrated baseline review of cost and schedule projections within six months of contract award or program baseline approval. The earned-value management focal point reports quarterly the earned-value status of major investment programs to the Joint Resources Council.

Service organizations manage investment programs during solution implementation within controlled acquisition program baselines approved at the final investment decision. They take action to correct negative variance from any cost, schedule, or performance baseline
measure. Negative variances that exceed 10 percent must be reported quarterly to the Joint Resources Council, along with an explanation of the cause(s), impact on service delivery, and a recovery strategy. The Administrator must notify the Congress of any program cost or schedule variance exceeding 50 percent and must either terminate the activity or justify why it should be continued and provide a recovery plan. When the Joint Resources Council determines an investment program cannot recover from a degenerating negative baseline variance, it may elect to rebaseline the effort by adding resources or changing its scope or schedule, or it may decide to terminate the activity.

15-16 AMS Policy2.3:

2.3 Service Analysis and Strategic Planning Revised 4/2013

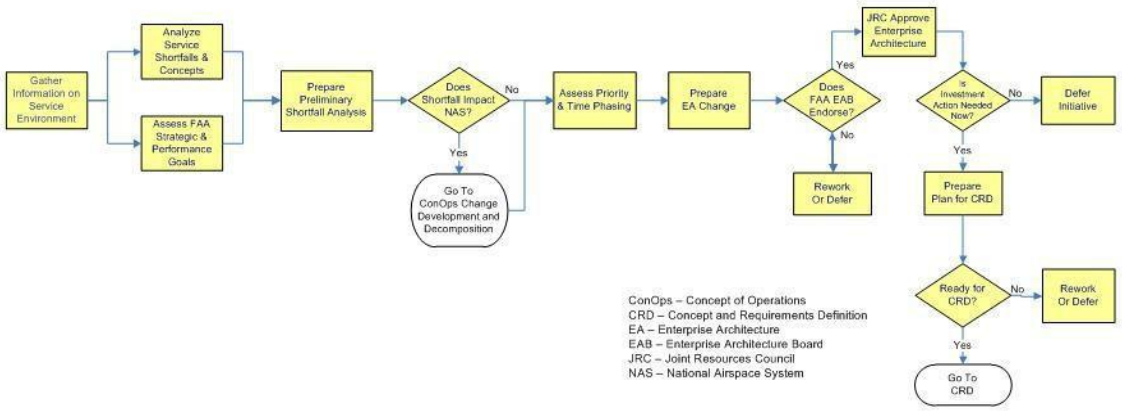
Service analysis and strategic planning determines what capabilities must be in place now and in the future to meet agency goals and the service needs of customers. Results are captured in
the “as is” and “to be” states of the enterprise architecture, as well as the roadmaps for moving from the current to the future state. Results are also captured in line-of-business business plans and service organization operating plans, which specify how each will manage its RE&D, F&E, and OPS resources over time. These plans integrate new investment initiatives with the operation and support of fielded assets and other necessary actions to optimize service delivery. Continuing analysis keeps planning current with changes in the service and operational environment.

Industry best practices (e.g., technology and service demand forecasting, portfolio management, customer surveys) are employed during service analysis to align service outcomes with actions and activities necessary and sufficient to realize benefits for the FAA and its customers. Service analysis may lead to the refocus, reduction, or elimination of ongoing investment programs, and may identify new and more productive ways of doing business. It may also identify alternative paths for achieving service goals in a dynamic environment, and may identify opportunities for improving FAA strategic planning when the service environment evolves in ways not anticipated. Some investment opportunities may require research and development to demonstrate operational concepts, reduce risk, or define requirements before proceeding further in the lifecycle management process.

2.3.1 What Must Be Done Revised 10/2013

Figure 2.3-1-1 portrays the key activities of service analysis and strategic planning. These activities develop the information necessary for determining which service shortfalls or new ideas for improving service delivery are approved for inclusion in agency strategic planning documents. When a service shortfall impacts the National Airspace System, it enters the NAS ConOps change development and decomposition process (see Figure 2.3.1-2) to determine how it fits within the National Airspace System.

Figure 2.3-1-1 Key Activities of Service Analysis and Strategic Planning

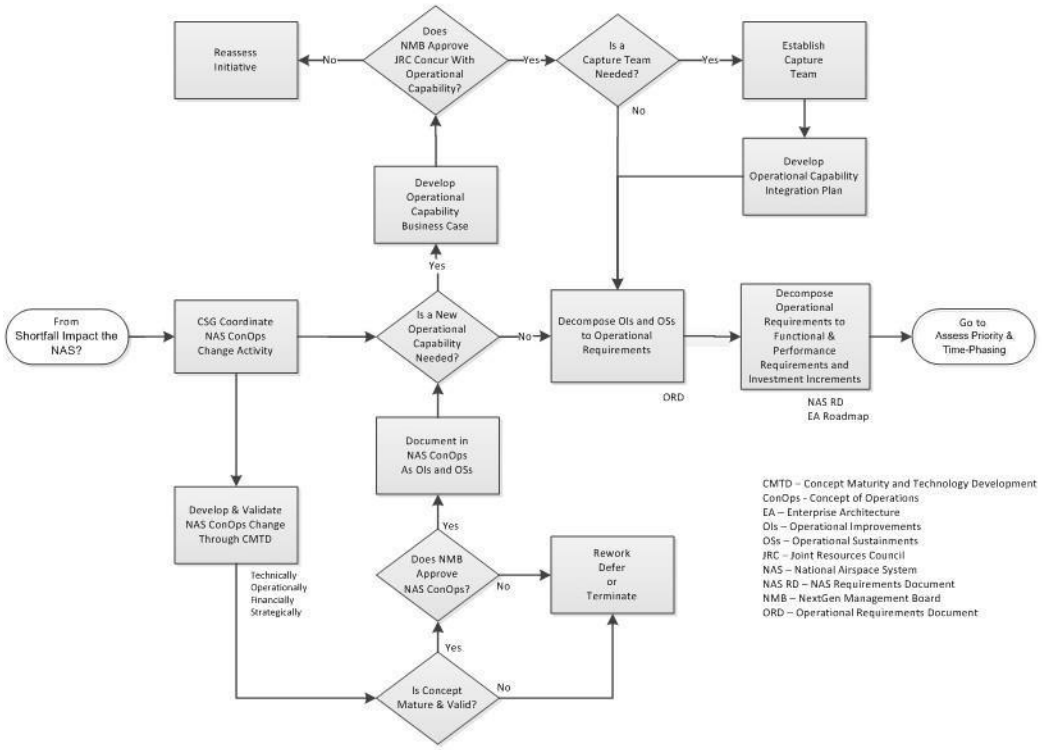


- **Gather Information on the Service Environment.** Service organizations analyze forecasts for aviation service needs and stay abreast of opportunities for improving service delivery as a basis for determining and prioritizing service needs and shortfalls. A continuing dialog with and feedback from customers (e.g., commercial air carriers, general aviation, air transport industry, state and local airport authorities) and users (air traffic and technical operations) are crucial, as is the supportability and operational outlook for fielded assets.
- **Analyze Service Shortfalls and Concepts.** Lines of business use service environment performance information to identify shortfalls and ideas for improving service delivery within their domain. Aviation research by NASA and other industry and government organizations may also identify emerging service shortfalls or technological opportunities for improving service delivery. This activity identifies business, technology, organizational, process, and personnel issues that affect service outcomes, as well as assumptions, risks, and dependencies.
- **Assess FAA Strategic and Performance Goals.** Service shortfalls or new ideas for improving service delivery should support current services or fulfillment of FAA strategic and performance goals. When they do not, the shortfall or new idea must be shown to have sufficient merit to warrant inclusion in agency strategic planning documents. Agency strategic plans and performance goals may also define service shortfalls that must be addressed in lower-level agency planning.
- **Prepare Preliminary Shortfall Analysis.** The service organization analyzes the shortfall or new idea as a foundation for understanding the problem and its urgency and impact. The shortfall is the difference between future service need and current capability. A service shortfall is usually addressed by a sustainment action for existing assets or a new service delivery idea or concept for predicted gaps. A new idea or concept should deliver existing services more efficiently or provide new services of value to the FAA and aviation industry. At this stage, the service shortfall is expressed as levels of service improvement, not by specific performance values.
- **Does Shortfall Impact the National Airspace System?** A new service need or shortfall that impacts the National Airspace System is assessed by means of the NAS ConOps Change Development and Decomposition Process (see Figure 2.3.1-2) to determine whether or how the NAS ConOps should be changed. Once NAS needs or shortfalls have been appropriately included in the NAS ConOps as operational improvements or sustainments, they move forward with non-NAS shortfalls to determine how they should be integrated within the FAA enterprise architecture.
- **Assess Priority and Time-phasing.** A new service shortfall or need must be shown to have sufficient merit to warrant inclusion in the enterprise architecture when evaluated against other service needs of the agency. The line of business works with the Technical Review Board (NAS) or the Architecture Review Board (non-NAS) and other lines of business to determine how a new service need, technology refresh, or sustainment activity should be planned, time-phased, and integrated within the architecture relative to all other agency service needs. This activity may require rework of existing shortfalls and improvements already in the architecture.

- **Prepare Enterprise Architecture Change.** The service organization prepares change documents reflecting the service need or shortfall and submits them to the FAA Enterprise Architecture Board for endorsement. NAS service needs and shortfalls are expressed as operational improvements and operational sustainments.
- **Does FAA Enterprise Architecture Board Endorse the Change?** The FAA Enterprise Architecture Board determines whether and how to integrate new service needs within the enterprise architecture and its roadmaps. In making this determination, the board analyzes and assesses the new service need against all other service needs of the FAA using such criteria as contribution to agency strategic goals, monetary or performance benefits, compatibility with the enterprise architecture, risk, and political sensitivity. The decision to endorse and place a new service need, improvement, or sustainment within the enterprise architecture validates that this service need is an agency priority and warrants further action.
- **Joint Resources Council Approves the Enterprise Architecture.** The Joint Resources Council approves the FAA Enterprise Architecture annually. No service need can proceed further in the AMS lifecycle management process unless it is in the enterprise architecture approved by the JRC. Emergency needs not contained in the JRC-approved architecture may be presented to the FAA Enterprise Architecture Board by exception.
- **Rework or Defer.** Service needs, shortfalls, improvements, and sustainments not approved for inclusion in the enterprise architecture are reworked or deferred according to the direction of the FAA Enterprise Architecture Board or Joint Resources Council, as appropriate.
- **Is Investment Action Needed Now?** The investment increment enters concept and requirements definition at the appropriate time as determined by its time-phasing in the appropriate enterprise architecture roadmap.
- **Defer Initiative.** Investment action is deferred when action is not needed now to meet agency plans and schedules.
- **Prepare Plan for Concept and Requirements Definition.** NAS Systems Engineering Services (NAS) or Office of Informaton & Technology, Strategy & Performance Service, EA Division (non-NAS) works with the implementing and operating service organizations to prepare a plan for concept and requirements definition. This plan (1) specifies how tasks will be accomplished; (2) defines roles and responsibilities of participating organizations; (3) defines outputs and exit criteria; (4) establishes a schedule for completion; and (5) specifies needed resources. By signing the plan for concept and requirements definition, organizations that will do the work agree to provide the necessary resources.
- **Ready for Concept and Requirements Definition?** The FAA Enterprise Architecture Board makes the decision to enter concept and requirements definition or directs other action.
- **Rework or Defer.** The investment initiative is reworked or deferred when planning or organizational support is not sufficient to enter concept and requirements definition.

Figure 2.3.1-2 NAS ConOps Change Development and Decomposition Process

(Applies to the NAS only)



- **Concept Steering Group Coordinates NAS ConOps Change Activity.** The Concept Steering Group reviews the preliminary shortfall analysis to determine whether the service shortfall or new idea is addressed in the NAS ConOps. New shortfalls or ideas that are already within the scope of the NAS ConOps move to decomposition into operational requirements and investment initiatives after determining whether they should be incorporated into a new or existing operational capability. For shortfalls and ideas not addressed in the NAS ConOps, the Concept Steering Group coordinates discussion with the sponsor and the lines of business to determine what development or validation activity is needed.
- **Develop and Validate NAS ConOps Change Through Concept Maturity and Technology Development.** New ideas for improving NAS service or eliminating a shortfall must be validated to be technically and financially feasible, strategically aligned with agency goals and objectives, and have significant operational benefit to warrant inclusion in the NAS ConOps. The Concept Steering Group coordinates activity to develop and validate new ideas and concepts. Typically, the concept maturity and technology development process is applied to the point where technical risk is sufficiently low and potential benefits sufficiently high to justify inclusion. This activity includes a safety assessment to identify and characterize any hazards associated with the idea or concept.
- **Is Concept Mature and Valid?** The NAS ConOps is a stable document that evolves over time. Only the best high-value new concepts and ideas are added. The Concept Steering Group assesses development and validation results and records their findings and recommendations in a memorandum to the NextGen Management Board, which approves all changes to the NAS ConOps.
- **Does NextGen Management Board Approve NAS CONOPS?** The NextGen Management Board approves changes to the NAS ConOps. Changes are presented to the Joint Resources Council. Any JRC concerns or issues are resolved to ensure approved concepts are beneficial *and* affordable and supported by both management bodies.
- **Document Changes in NAS ConOps as Operational Improvements or Sustainments.** Service shortfalls and new concepts are documented in the NAS ConOps as operational improvements and operational sustainments.
- **Is a New Operational Capability Needed?** Grouping and managing operational improvements and sustainments with a high degree of interdependency may result in a high-value operational capability for the agency and aviation community. In such cases, one or more operational improvements will be organized and managed as a portfolio to ensure all essential elements of the operational capability are obtained and

deployed.

- **Develop Operational Capability Business Case.** Advanced Concepts and Technology Development works with the ATO Program Management Office and Investment Planning & Analysis to develop a business case for the operational capability. The business case contains a rough estimate of the costs and benefits associated with developing and deploying the operational sustainments and improvements necessary to enable the operational capability. The PMO coordinates with ATO service organizations to derive rough cost estimates for the work required to develop and deploy the investment increments necessary to achieve the operational capability. These same organizations derive a rough monetized estimate of benefits that will accrue to the FAA and aviation community when the operational capability is fully deployed. A preliminary assessment of risk, priority, affordability, and political sensitivity complete the business case.
- **Does NMB Approve and JRC Concur With the Operational Capability?** The NextGen Management Board decides whether to approve and establish the operational capability. The decision is based on the business case, contribution to agency strategic and performance goals, and affordability. The operational capability is implemented through its constituent investment increments approved and baselined individually by the Joint Resources Council. Obtaining these capabilities may require establishment of a capture team to integrate and coordinate activity by multiple program offices or service organizations providing the investment increments necessary to achieve the overall operational capability. By concurring with the NextGen Management Board decision, the Joint Resources Council acknowledges the operational capability and its constituent investment increments are agency priorities. The business case for the operational capability is a determining factor at future investment decisions for increments necessary to achieve the operational capability.
- **Reassess Initiative.** If the NextGen Management Board does not approve the operational capability, it may terminate the effort or recommend other activity to amend the concept or reduce risk. Any issues or concerns of the Joint Resources Council must be resolved before the operational capability is implemented.
- **Is a Capture Team Needed?** The NextGen Management Board decides whether to establish a capture team to coordinate the development, integration, and deployment of investment increments necessary to achieve an operational capability. In making this decision, the board evaluates the complexity and risk associated with the operational capability and the availability of resources. The capture team brings together cross-agency empowered representatives from each organization that must develop and deploy an investment increment to achieve the operational capability. The objective is informed, integrated, and coordinated decision-making by all parties.
- **Establish Capture Team.** Each line of business that must contribute to achieve the operational capability provides an empowered representative to the capture team. The capture team monitors development, integration, and deployment of all elements of the operational capability, as well as plan and oversee a post-implementation evaluation to confirm that forecast benefits are being achieved or to define and implement corrective action when they are not.
- **Develop Operational Capability Integration Plan.** The team works with the portfolio manager to develop an Operational Capability Integration Plan (OCIP) that specifies responsibilities and agreements among all team members and organizations. The OCIP also defines the lifecycle plan, performance goals and measures, and operational benefits that will accrue from implementation of the operational capability.
- **Decompose Operational Improvements and Operational Sustainments to Operational Requirements.** A cross-organizational team with members from all lines of business and led by Advanced Concepts and Technology Development decomposes the NAS ConOps narrative of operational improvements and operational sustainments into NAS operational requirements. These requirements are recorded in the NAS Operational Requirements Document.
- **Decompose Operational Requirements to Functional and Performance Requirements and Investment Increments.** A cross-organizational team decomposes NAS operational requirements to NAS functional and performance requirements. These requirements are specified with sufficient detail for allocation to investment increments that will be undertaken to achieve the operational improvements and sustainments in the NAS ConOps. The goal is clear and unambiguous traceability of requirements from the NAS ConOps to the NAS Operational Requirements Document to the NAS Requirements Document and then to the program

requirements document of specific investment increments. Each investment increment enters concept and requirements definition at the appropriate time as determined by their time-phasing in the enterprise architecture roadmap.

2.3.2 Outputs and Products Revised 4/2013

2.3.2.1 Service Analysis and Strategic Planning Revised 4/2013

- Preliminary shortfall analysis that describes qualitatively the service need, shortfall, and legacy assets;
- Enterprise architecture change notices, products, and amendments;
- Updates to the enterprise architecture; and
- Plan for concept and requirements definition.

Key work products are verified and validated according to the FAA AMS Verification and Validation Guidelines before the CRD readiness decision.

2.3.2.2 NAS ConOps Change Development and Decomposition Revised 4/2013

- White papers, research reports, and outputs from concept maturity and technology development;
- Updates to the NAS ConOps;
- Operational capability business case;
- Operational capability;
- Capture team;
- Operational Capability Integration Plan;
- Updates to the NAS Operational Requirements Document; and
- Updates to the NAS Requirements Document.

Key work products are verified and validated according to the FAA AMS Verification and Validation Guidelines before the CRD readiness decision.

2.3.3 Who Does It? Revised 4/2013

2.3.3.1 Service Analysis and Strategic Planning Revised 10/2013

Organization(s)	Responsibilities
Service organizations	• Conduct service analysis • Prepare preliminary shortfall analysis reports • Prepare EA change notices, products, and amendments
Advanced Concepts and Technology Development Office (ANG-C), NextGen Lifecycle Integration Office (ANG-D)	• Assists NAS service organizations when preparing service analysis outputs and products
Office of Information & Technology, Strategy & Performance Service, EA Division (non-NAS)	• Assists non-NAS service organizations when preparing service analysis outputs and products
Lines of Business	• Prioritize LOB service shortfalls and new ideas • Determine whether a service shortfall impacts the National

	Airspace System • Work with the Technical Review Board to time-phase operational improvements and operational sustainments in the NAS architecture roadmaps
Technical Review Board	• Works with the lines of business to time-phase operational improvements and operational sustainments in the NAS architecture roadmap
Architecture Review Board	• Works with the lines of business to prioritize non-NAS service shortfalls and needs
FAA Enterprise Architecture Board	• Manages the FAA Enterprise Architecture

2.3.3.2 NAS ConOps Change Development and Decomposition Revised 4/2013

Organization(s)	Responsibilities
Service organization with shortfall/concept, Advanced Concepts and Technology Development Office (ANG-C), NextGen Lifecycle Integration Office (ANG-D)	• Develop information needed to assess impact of shortfall/concept on the NAS ConOps
Service organization with shortfall/concept, Advanced Concepts and Technology Development Office (ANG-C), Investment Analysis and Planning (IP&A)	• Develop and validate shortfalls and new concepts technically, operationally, strategically, and financially
Advanced Concepts and Technology Development Office (ANG-C), CSG, service organization with shortfall/concept	• Present shortfall/concept to the NextGen Management Board for inclusion in the NAS ConOps
NAS Systems Engineering Services Office (ANG-B), Advanced Concepts and Technology Development Office (ANG-C), NextGen Lifecycle Integration Office (ANG-D)	• Document shortfall as operational improvements or sustainments in the NAS ConOps
ANG-B/C/D, PMO/LOB	• Determine need for new operational capability
ANG-C, ANG-5, PMO/LOB, IP&A	• Develop operational capability business case • IP&A reviews the business case for the Joint Resources Council
ANG-C, ANG-5, PMO/LOB	• Contribute to and participate in the decision to create a new operational capability
ANG-C/D, PMO/LOB	• Determine the need for a capture team to plan and oversee a new operational capability
ANG-C/D, PMO/LOB, operating organization	• Contribute to and establish a capture team
ANG-C, AJV-7, LOBs,	• Decompose operational improvements and sustainments in

service organizations	the NAS ConOps into operational requirements and investment increments
ANG-B/C/D, operating organization, capture team (if applicable)	Decompose NAS operational requirements into NAS functional and performance requirements

2.3.4 Who Approves? Revised 4/2013

2.3.4.1 Service Analysis and Strategic Planning Revised 4/2013

Artifact	Approval Authority
Preliminary shortfall analysis	NextGen Lifecycle Integration Office, Director of the service organization with the need
Enterprise architecture products and amendments	FAA Enterprise Architecture Board
Plan for concept and requirements definition	Vice Presidents (ATO) or Directors (non-ATO) of the service organization with the service need and the operating service organization and the FAA Enterprise Architecture Board chairperson
FAA Enterprise Architecture	Joint Resources Council

2.3.4.2 NAS ConOps Change Development and Decomposition Revised 4/2013

Artifact	Approval Authority
NAS ConOps	NextGen Management Board
Operational Capability Business Case	NextGen Systems Analysis and Modeling (ANG-5)
Operational capability	NextGen Management Board (JRC concurs)
Capture team	NextGen Management Board
Operational Capability Integration Plan	NextGen Management Board
NAS Operational Requirements Document	ATO Operational Concepts, Validation & Requirements (AJV-7)
NAS Requirements Document	NAS Systems Engineering Service (ANG-B)

2.3.5 Concept and Requirements Definition Readiness Decision Revised 4/2013

The concept and requirements definition readiness decision occurs when an enterprise architecture roadmap indicates action must be taken to address a critical service shortfall or opportunity. At this decision, the FAA Enterprise Architecture Board verifies: (1) the service shortfall, operational improvement, or operational sustainment is in an enterprise architecture roadmap; and (2) planning and resources for concept and requirements definition are in place. The readiness decision is the gateway between service analysis and strategic planning and concept and requirements definition.

2.3.5.1 Entrance Criteria Revised 4/2013

The following are required for the concept and requirements definition readiness decision:

- Service shortfall, operational improvement, or sustainment is in an enterprise architecture roadmap and represents a compelling need of the FAA; and the
    - Plan for concept and requirements definition is approved by the FAA Enterprise Architecture Board.

2.3.5.2 Decision Actions Revised 4/2013

The FAA Enterprise Architecture Board makes the decision to enter concept and requirements definition.

15-16AMS Policy 2.4:

2.4 Concept and Requirements Definition Added 4/2013

All investment opportunities that require funding outside the scope of an approved acquisition program baseline undergo concept and requirements definition. This includes upgrades or replacements to existing capability without approved investment funding.

Concept and requirements definition translates priority operational needs in the enterprise architecture into preliminary requirements and a solution concept of operations for the capability needed to improve service delivery. It also quantifies the service shortfall in sufficient detail for the definition of realistic preliminary requirements and the estimation of potential costs and benefits. Finally, concept and requirements definition identifies the most promising alternative solutions able to satisfy the service need, one of which must be consistent with the conceptual framework in the enterprise architecture.

Planning for concept and requirements definition begins when a roadmap in the enterprise architecture specifies action must be taken to address a priority service or infrastructure need. These needs typically relate to existing or emerging shortfalls in the "as is" architecture or

essential building blocks of the "to be" architecture. Should a service organization wish to pursue an investment opportunity not in an enterprise architecture roadmap, it must first develop architectural change products and amendments and get endorsement from the FAA Enterprise Architecture Board and approval by the Joint Resources Council.

The FAA may undertake research activity or employ research by other agencies or industry to define the operational concept, develop preliminary requirements, demonstrate and refine computer-human interfaces, reduce risk, or achieve customer buy-in to potential solutions to service need.

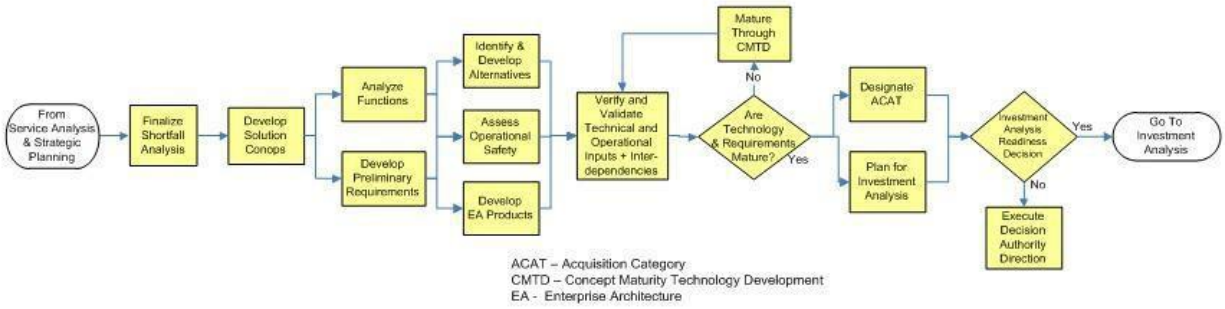
When the investment initiative entering concept and requirements definition is an element of an operational capability (NAS only), the capture team responsible for achieving the operational capability (if established) participates in and contributes to CRD activity. The capture team is populated with representatives from each service team or program office that will provide an increment of the overall operational capability. These team members ensure all preliminary alternatives emerging from concept and requirements definition for each investment increment
fit within the strategy for obtaining the capability and can provide the necessary performance and functionality.

A nonmateriel solution that emerges during concept and requirements definition may proceed to solution implementation upon approval of implementation and resource planning, provided it satisfies the need, can be achieved within approved budgets, and is acceptable to users and customers. This determination is made by the Vice President or Director of the service organization with the service need with the concurrence of the FAA Enterprise Architecture Board.

The key activities of concept and requirements definition are shown in Figure 2.4-1. They apply to all investment

initiatives seeking investment funding, whether a stand-alone investment initiative or an element of a complex operational capability.

Figure 2.4-1 Key Activities of Concept and Requirements Definition



2.4.1 What Must Be Done **Revised 10/2013**

NOTE: The plan for concept and requirements definition must be approved by the Vice Presidents (ATO) or Directors (non-ATO) of the service organization with the service need and the operating service organization and by the FAA Enterprise Architecture Board chairperson before the start of any CRD activity (see AMS Section 2.3.1). Roadmap planning in the enterprise architecture specifies when concept and requirements definition activity must begin.

- Finalize Shortfall Analysis. The service organization or program office updates, refines, and quantifies the preliminary shortfall identified during service analysis in sufficient detail to serve as the basis for (1) clearly understanding the nature, urgency, and impact of the service need; (2) defining preliminary requirements; (3) determining realistic and economic alternative solutions; and (4) quantifying likely program costs and benefits.
- Develop Solution Concept of Operations. The solution concept of operations describes how users will employ the new capability within the operational environment and how it will satisfy service need. The solution ConOps defines the roles and responsibilities of key participants (e.g., controllers, maintenance technicians, pilots); explains operational issues that system engineers must understand when developing requirements; identifies procedural issues that may lead to operational change; and establishes a basis for identifying alternative solutions and estimating their likely costs and benefits. More than one solution concept of operations may be required if proposed alternative solutions differ significantly from each other.
- Analyze Functions. The service organization or program office translates stakeholder needs in the shortfall analysis, solution concept of operations, and NAS Requirements Document (NAS only) into high-level functions that must be obtained to achieve the desired service outcome. These are then decomposed into sequentially lower level functions. For NAS investment initiatives, this decomposition may have been done during service analysis when operational improvements and sustainments in the NAS ConOps were decomposed into functional and performance requirements and investment increments.
- Develop Preliminary Requirements. The service organization prepares preliminary requirements in consultation with the NAS Systems Engineering Services organization (NAS) or the Office of Information & Technology, Strategy & Performance Service, EA Division (non-NAS). Preliminary requirements specify only function and performance, and do not define a solution. They must be expressed such that the degree to which different solutions satisfy them can be measured and evaluated. Research and analysis or even prototyping during service analysis may be necessary to define preliminary requirements adequately. When the investment increment is an element of an operational capability, preliminary program requirements must be derived from and traceable to operational capability requirements, when applicable.
- Identify and Develop Alternatives. The service organization or program office surveys the marketplace to

identify feasible and economic solutions. Both material and non- material alternatives are evaluated. One candidate solution must be the hypothesized "best" alternative in the enterprise architecture. Key factors are safety, security, operational cost efficiencies, technological maturity, and impact on the workforce and enterprise architecture. Alternatives should be qualitatively different from each other. Low risk, cost-effective, and operationally suitable commercial or non-developmental solutions are preferred. Alternatives may not meet 100 percent of preliminary

requirements. Rough lifecycle costs are developed for each alternative and compared to the monetized shortfall as a basis for determining whether it should be retained or eliminated from consideration. Rough lifecycle costs are also calculated for sustaining the legacy case in service. When a new capability involves information processing and storage, use of cloud computing is considered and results of the cloud suitability assessment are documented.

- Assess Operational Safety. The service organization works with ATO Safety and Technical Training to assess operational safety of the proposed initiative. This assessment identifies, assesses, and documents operational hazards and risks associated with alternative solutions. No alternative is pursued whose operational risk cannot be

  mitigated to an acceptable level at affordable cost.
- Develop Enterprise Architecture Products. The service organization engages with the appropriate architecture organization to develop required products and amendments. These include the operational (business rule) and systems (engineering) view families.
- Verify and Validate Technical and Operational Inputs and Interdependencies. Key technical and operational work products are verified and validated to be complete and mature as the basis for proceeding to the investment analysis readiness decision. This includes the solution ConOps, preliminary requirements document, safety and security risk assessments, architecture products, and interdependencies with other investment increments.
- Are Technology and Requirements Mature NAS Systems Engineering Services (NAS) or Office of Information & Technology, Strategy & Performance Service, EA Division (non-NAS) evaluates preliminary requirements and the technology base of alternative solutions to ensure they are sufficiently mature for further progression in the AMS lifecycle management process. The objective is to have only low-risk investment initiatives entering investment analysis and solution implementation. Additional research and development may be prescribed when technological risk is too high or when requirements are not mature or the

  investment initiative may be deferred or terminated.
- Mature Through Concept Maturity and Technology Development (NAS only). The Technical Review Board recommends further development for NAS initiatives when technological risk is too great or requirements are not sufficiently known. Prescribed activity may take the form of simulation, analysis, operational prototyping, or field demonstration in a controlled operational environment. See the Guidelines for Concept Maturity and Technology Development for more information.
- Designate Acquisition Category. The service team or program office prepares an acquisition category determination request based on preliminary financial data, as well as subjective assessments of complexity, risk, political sensitivity, safety, and security. The request is vetted through NAS Systems Engineering Services (NAS) or Office of Information & Technology, Strategy & Performance Service, EA Division (non-NAS) and submitted to the Acquisition Executive Board for a designation.
- Plan for Investment Analysis. The plan for investment analysis: (1) defines scope and assumptions; (2) describes alternatives and their associated rough lifecycle costs; (3) describes planned activities and specifies how tasks will be accomplished; (4) defines output and exit criteria; (5) establishes a schedule for completion; (6) defines roles and responsibilities of participating organizations; and (7) estimates resources needed to complete the work. By signing the plan for investment analysis, the organizations that

  will conduct the analysis agree to provide the resources necessary to complete the work. This activity includes development of the investment analysis readiness decision package and pre-briefings to decision-makers.

2.4.2 Outputs and Products Added 4/2013

- Solution concept of operations;
- Preliminary program requirements document;
- Architecture products and amendments;
- Realistic alternatives with rough cost estimates;
- Detailed shortfall and functional analyses;
- Safety risk assessment;
- Shortfall analysis report;
- Acquisition category designation request; and
- Investment analysis plan.

Key work products are verified and validated according to the FAA AMS Verification and Validation Guidelines before the investment analysis readiness decision.

2.4.3 Who Does it? Added 4/2013

Organization(s)	Responsibilities
Implementing service organization	• Leads and completes all activities and outputs of concept and requirements definition unless otherwise specified in the plan for CRD • Prepares the acquisition category designation request
NAS Systems Engineering Services Office (ANG-B), Office of Information & Technology, Strategy & Performance Service, EA Division (non-NAS)	• Provides engineering services in such areas as specialty engineering, safety and security analysis, and architecture products • Validates technical and operational products of CRD • Assesses maturity of solution technology and requirements
NAS Lifecycle Integration Office (ANG-D), Program Management Office, lines of business, operating service organization, Office of Information & Technology, Strategy & Performance Service, EA Division (non-NAS)	• Assists the implementing service organization in completing CRD activities • Maintains guidance and acquisition aids for service analysis and concept and requirements definition
Capture team (NAS only)	• Monitors and oversees CRD activity when the investment initiative is an element of an operational capability • Ensures alternatives can provide the performance and functionality necessary to achieve the overall operational capability

Detailed roles and responsibilities of participating organizations for each CRD activity and output or product are found in the Service Analysis and Concept and Requirements Definition Guidelines.

2.4.4 Who Approves? Added 4/2013

Artifact	Approval Authority
Acquisition category	Acquisition Executive Board approves, JRC concurs

CRD outputs and products	Approval authorities are found in the Service Analysis and Concept and Requirements Definition Guidelines.

2.4.5 Investment Analysis Readiness Decision Added 4/2013

The investment analysis readiness decision determines whether the solution ConOps, preliminary requirements, architecture products and amendments, and preliminary alternatives are
sufficiently mature to warrant entry into investment analysis. The decision is made within context of all ongoing and planned investment activities to sustain and improve service delivery. It ensures proposals for new investment are consistent with overall corporate needs and planning.

2.4.5.1 Entrance Criteria Added 4/2013

The following are required for the investment analysis readiness decision:

- Preliminary program requirements document;
- Realistic alternative solutions;
- Architecture products and amendments;
- Approved shortfall analysis report;
- Signed plan for investment analysis.

The full list of work products that may be required for the investment analysis readiness decision is found on the JRC Secretariat website.

2.4.5.2 Joint Resources Council Actions Added 4/2013

The Joint Resources Council makes the decision to enter investment analysis.

15-16AMS Policy 2.6:

2.6 Solution Implementation Revised 4/2013

Solution implementation begins at the final investment decision when the Joint Resources Council approves and funds an investment program or segment, establishes the acquisition program baseline for variance tracking, and authorizes the service organization to proceed with implementation. Solution implementation ends when a new service or capability is commissioned into operational use at all sites.

Detailed program planning, including the solicitation and evaluation of offers for prime contract(s), occurs during final investment analysis and before the final investment decision. This ensures accurate contract costs, risks, and schedules are reflected in the acquisition program baseline and program planning documents. These plans and baselines are revalidated, and
updated if necessary, after contract award to ensure they can realistically serve as the management construct for program implementation. They are kept current throughout solution implementation.

The overarching goal of solution implementation is to satisfy requirements documented in the final requirements document and achieve the benefit targets in the business case. To achieve this, the service organization must work with users and stakeholders throughout solution implementation to resolve issues as they arise. Actions outside the direct control of the service organization (e.g., regulatory changes) are recorded in the implementation strategy and planning document and tracked at program reviews throughout solution implementation.

The activities undertaken during solution implementation vary widely and are tailored for the solution or capability being implemented. FAST contains tailored process flowcharts for representative types of investment program (systems and software, facilities, services) and functional disciplines (e.g., human factors, information systems security, configuration management, integrated logistics support). These flowcharts identify actions and activities the service organization may need to execute to achieve projected capability, value, and benefits. Instructions, templates, best practices, good examples, and lessons-learned are attached to many activities in the flowcharts to assist lifecycle management specialists as they plan and execute activities that make sense for their investment program.

Although service organizations are empowered to implement investment programs and manage them over their lifecycle, they must adhere to built-in checks and balances. The acquisition program baseline establishes the performance, cost, schedule boundaries within which the service organization is authorized to operate. The service organization must report all negatives variance from cost, schedule, and performance baseline measures and undertake corrective action in accordance with AMS Section 1.2.3. The assessment of critical performance requirements must be regularly reported during solution implementation and at completion.

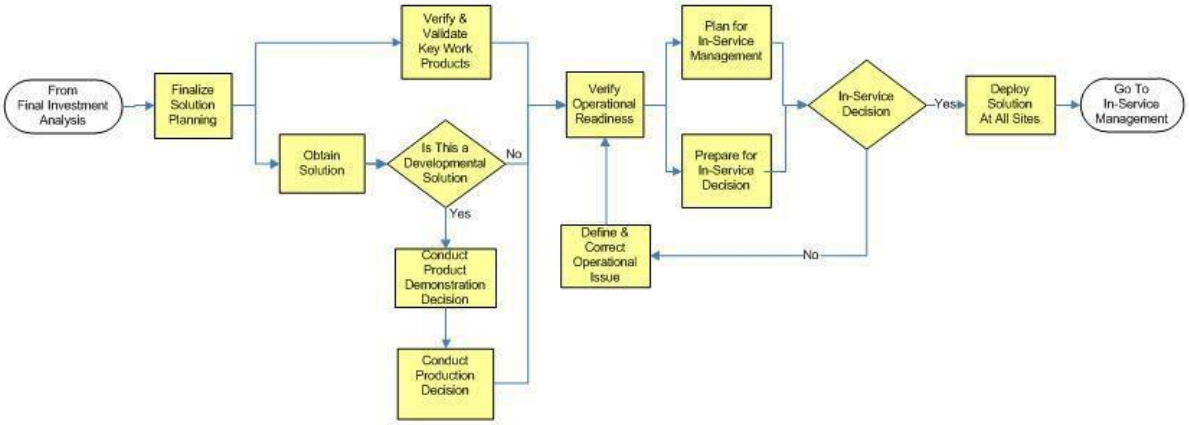
The service organization monitors cost, schedule, and performance status against targets in the acquisition program baseline on a continuing basis, and takes corrective action when variances from planning objectives arise. The service organization also reports program status at acquisition quarterly program reviews. The focus of these reviews is to identify high-risk issues requiring resolution and to ensure all actions necessary to achieve projected value and benefits are being executed satisfactorily, particularly those outside the control of the service organization. The service organization applies the principles of earned value management to development, modernization, and enhancement investment programs, and when applicable, uses audits to ensure contract costs are proper and allowable.

The service organization captures expenditures consistent with the program baseline work breakdown structure fashioned during final investment analysis.

For those NAS investment programs progressing through solution implementation as elements of an operational capability, capture team members assess and report progress of each investment increment monthly to the portfolio manager. The portfolio manager reports status of the overall capability to the NextGen Management Board quarterly. These reviews focus on cost, schedule, or performance issues associated with every element of the operational capability. The portfolio manager recommends action for correction of cost, schedule, or performance shortfalls, and may propose the transfer of funding from one investment increment to another when necessary to improve the health and prognosis of the overall capability. The Joint Resources Council
evaluates proposed baseline changes among investment increments at acquisition quarterly program reviews. Each service team or program office works with the capture team to ensure each investment increment provides the functionality and performance necessary to achieve the operational capability.

Solution implementation is organized into the activities shown in Figure 2.6-1.These activities are tailored to the special requirements of each investment program.

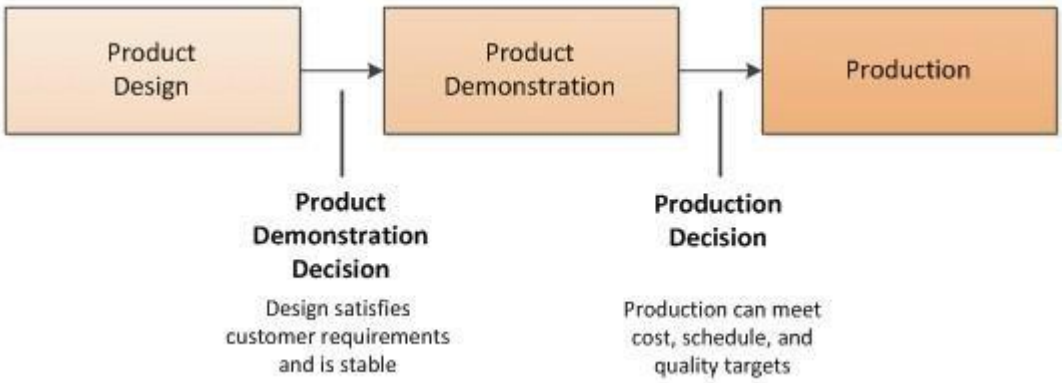
Figure 2.6-1 Key Activities of Solution Implementation



2.6.1 What Must Be Done Revised 4/2013

- **Finalize Solution Planning.** The service organization or program office reviews and updates program planning completed during final investment analysis (i.e., implementation strategy and planning document, work breakdown structure, ISR checklist). Key stakeholders participate in this activity to ensure planning is complete and realistic. For example, if new systems are to be installed or existing facilities modified, service organization planners work with service-area offices so people and resources will be available when needed.
- **Obtain the solution**. The service organization or program office oversees and coordinates execution of tasks and activities necessary to achieve the benefits projected for the investment program within approved cost and schedule baselines. This includes such activities as contract award, contract administration, program management, resource management, risk management, systems engineering, logistics support, test and evaluation, and site acquisition and adaptation. It may involve developing operational procedures and standards; obtaining physical, personnel, and information security; modifying the physical infrastructure; and coordinating collateral action by the aviation industry.
- **Is This a Developmental Solution?** Investment programs that develop, modernize, or enhance systems or software follow the knowledge-based product development process shown in Figure 2.6.1-1. The following two decisions are intended to ensure the knowledge base is sufficiently mature to warrant proceeding to the next stage of implementation.

Figure 2.6.1-1 FAA Knowledge-Based Product Development Process



- **Conduct Product Demonstration Decision.** Table 2.6.1-1 defines the timing, decision authority, and decision criteria for authorizing full development and demonstration of the product.

Table 2.6.1-1 Timing, Decision Authority, and Decision Criteria for the Product Demonstration Decision

Timing	Decision Authority	Decision Criteria
After critical design review	Vice President or Director of the implementing service organization	□ Key product characteristics are defined □ Stakeholders agree that product design and functionality satisfy program requirements □ System design reviews are complete □ Engineering drawings are complete □ Detailed software/firmware design is complete, including critical software processes and threads □ RMA goals are defined and planning is complete □ Failure modes and effects analysis is complete □ Critical manufacturing processes are identified

□ **Conduct Production Decision.** Table 2.6.1-2 defines the timing, decision authority, and decision criteria for authorizing full production of the product.

Table 2.5.1-2 Timing, Decision Authority, and Decision Criteria for the Production Decision

Timing	Decision Authority	Decision Criteria
After completion of operational testing	Vice President or Director of the implementing service organization *	□ First-article satisfies program requirements in an operational environment □ Data demonstrate that critical manufacturing processes and components will achieve RMA goals • First-article achieves contract RMA requirements • Stakeholders agree design is producible

***** Unless otherwise designated by the Joint Resources Council at the final investment decision.

□ **Verify and Validate Key Work Products and Products.** The service organization or program office incrementally verifies and validates key work products and products of solution implementation, including the contract to obtain the capability, design documents, specifications, and actual product/product components. Verification and validation activity supports contract award, product demonstration decision, production decision, product acceptance, and the in-service decision.

□ **Verify Operational Readiness.** The service organization or program office manages all activities necessary to install the solution at a designated test site(s) and test it thoroughly to verify operational readiness. Operational readiness encompasses operational effectiveness and operational suitability. Operational effectiveness measures how well the solution satisfies mission need and operational requirements. Operational suitability measures how well a product can be integrated and employed for field use, considering such factors as compatibility, reliability, human performance factors, maintenance and logistics support, safety, and training. For designated programs, operational readiness is also assessed by an independent operational assessment. The solution may be installed, as necessary, at the FAA Academy, FAA Logistics Center, and William J. Hughes Technical Center before the in-service decision. In rare cases and with proper justification, the service organization may request authority to install at other specific sites. This authorization does not affect the regular in-service review process culminating in a final in-service decision, which must be adhered to before a product can be placed into operational service through the declaration of operational readiness date (ORD) and commissioning.

□ **Plan for In-Service Management**. The service organization or program office plans how it will sustain and manage deployed assets throughout their full lifecycle. This includes in-service logistics support, post implementation review, and other evaluations of operational assets to measure performance, collection of performance data in support of acquisition quarterly program reviews, product sustainment strategy and actions, service- life extension, and eventual removal from service including site restoration.

- **Prepare for In-Service Decision.** The service organization or program office completes all activities necessary for the in-service decision. This includes resolution of all support issues identified by the operating service organization and integrated logistics management team; completion of management actions arising from the in-service review checklist and the independent operational assessment report (designated programs only); resolution of stakeholder issues; development of the in-service decision briefing and action plan; and concurrence of key stakeholders.
- **In-Service Decision Approved?** The in-service decision authority reviews operational test results, the status of in-service checklist items, the independent operational assessment (designated programs only), the perspective of key stakeholders, and other information deemed relevant to the in-service decision. If the in-service request is approved, deployment of the solution may begin. If the request is not approved, the service organization must correct any deficiency and return for the in-service decision upon verification that all outstanding issues have been resolved.
- **Define and Correct Operational Issues.** The service organization or program office takes whatever corrective action is necessary to resolve all remaining operational issues. This may involve a return to concept and requirements definition if correcting the issue involves a change to program requirements or to investment analysis if operational issues require a change to the acquisition program baseline.
- **Deploy the Solution at All Sites.** The service organization or program office manages all activities necessary to deploy the solution at each site. This includes transportation and delivery of equipment, installation and checkout, contractor acceptance and inspection, integration, field familiarization, declaration of initial operational capability, joint acceptance and inspection, dual operations, declaration of operational readiness, and removal and disposal of obsolete equipment. Post implementation reviews are conducted at deployment sites to ensure user needs are satisfied, identify systemic problems that must be corrected, and determine whether cost, schedule, and benefits objectives are being achieved. The transition from solution implementation to in-service management extends over time, occurring at each site upon declaration of operational readiness or commissioning.

2.6.2 Outputs and Products **Revised 4/2013**

The primary outcome of solution implementation is a fully deployed and supported operational capability that satisfies requirements (including program requirements and designated specifications), is accepted by users, is compatible with other products and services in the field, and realizes the benefits in the final business case by fully addressing requirements in the final program requirements document. The following are typical products of solution implementation that support the fielding of a satisfactory operational capability:

- Annual updates of the OMB Exhibit 300 for designated programs;
- Continuous evaluation of progress against targets in the acquisition program baseline (including status of critical performance requirements);
- Contracts that achieve investment objectives (i.e., cost, schedule, performance, and benefits);
- Successful operational test and evaluation including a final report on the status of critical operational issues and requirements in the final program requirements document, and passing status of critical performance requirements;
- Successful independent operational assessment and report for designated programs;
- In-service decision, including the in-service decision briefing and action plan;
- Declaration of operational readiness and commissioning at each site;
- Program reviews and reports (e.g., baseline management, variance tracking; financial, schedule, performance; earned value, logistics measures, and risk management);
- In-service management plan;
- Monthly capture team assessments, when applicable; and
- Acquisition quarterly program reviews.

Key work products are verified and validated according to the FAA AMS Verification and

Validation Guidelines before the in-service decision.

2.6.3 Who Does It? Revised 10/2013

Organization	Responsibilities
Performing service organization or program office	Manages all activities necessary to plan, obtain, and deploy the solution, and to obtain the in-service decision. This includes the award and management of contracts, continuing review and evaluation of progress relative to plan, and corrective action to achieve cost, schedule, and performance targets in the acquisition program baseline. Updates program planning to address how the newly fielded capability will be sustained throughout in-service management Reports status of the investment program to the Joint Resources Council at acquisition quarterly program reviews
Operating service organization	Conducts joint acceptance and inspection or service acceptance (service contracts) at each site Declares operational readiness and commissions the solution into operational use
Key stakeholder organizations	Work with service organizations to identify and resolve all issues and concerns during solution implementation up to and including the in-service decision
Vice President of the service organization	Notifies the Vice President of ATO Safety and Technical Training when the product is ready for independent operational assessment via the independent operational assessment readiness declaration (designated programs only)
Director of Policy and Performance, ATO Safety and Technical Training	Evaluates operational readiness of the product and reports findings to the in-service decision authority (designated programs only)
Information Technology Shared Services Committee	Annually reviews OMB Exhibit 300s for designated programs as part of the annual budget process
Office of Information & Technology, Strategy & Performance Service, Investment Portfolio & CPIC Branch	Independently scores all OMB Exhibit 300s that will be submitted to the Office of Management and Budget through the Office of the Secretary of Transportation
Capture team members	Assess and report monthly to the portfolio manager the status of each investment increment contributing to an operational capability
Portfolio manager	Reports status of the operational capability to the NextGen management Board (NAS only) Recommends corrective action for cost, schedule, or performance shortfalls within all investment increments contributing to an operational capability

2.6.4 Who Approves? Revised 4/2013

Artifact	Approval Authority
Acquisition program baseline changes	Joint Resources Council
OMB Exhibit 300 (designated information technology programs) OMB Exhibit 300 (designated non-information technology capital investments)	Chief Information Officer, Chief Financial Officer, Acquisition Executive Chief Financial Officer, Acquisition Executive
Product demonstration decision (if applicable)	Vice President or Director of the implementing service organization
Production decision (if applicable)	Vice President or Director of the implementing service organization, unless otherwise designated by the Joint Resources Council at the final investment decision

2.6.5 In-Service Decision Revised 7/2013

The in-service decision (ISD) authorizes deployment of a solution into the operational environment. It occurs after demonstration of initial operational capability at the key test site(s) and before initial operational capability at any non-key site or waterfall facility. The decision is made following completion of the certification of compliance with testing, information security, and safety requirements. It establishes the foundation for operational readiness to be declared at subsequent sites. The ISD uses results from test and evaluation that report on the verification and validation of performance requirements, critical performance requirements, critical operational issues, and operational readiness (e.g., safety, effectiveness, and usability). The in-service review (ISR) checklist is used by the service organization to identify and resolve readiness issues before the ISD and to obtain concurrence from stakeholder organizations.

The Joint Resources Council is the ISD authority. At the final investment decision, the Joint Resources Council may delegate ISD authority to appropriate FAA officials. For any solutions or products that affect multiple organizations, a joint ISD authority may be designated. This decision is documented in the final investment record of decision.

Depending on the implementation strategy of the solution (e.g., phased implementation, segments, multiple releases, several smaller programs executed separately as a part of one solution), multiple ISDs may be required to ensure the operational readiness of each specific component of the overall solution. The ISD strategy is developed by the service team with help from the ISD Executive Secretariat, approved by the Joint Resources Council and documented in the implementation strategy and planning document. Follow-on revisions to the ISD strategy must be approved by the ISD authority.

The ISD is recorded in the record of decision. Action plans for resolving remaining operational readiness issues are included as an attachment to the record of decision. Status of action plans is tracked and reported to the ISD Executive Secretariat until all issues are resolved. Once all action plans are satisfactorily completed, the ISD Executive Secretariat provides a close-out memorandum.

2.6.5.1 Entrance Criteria Revised 7/2013

The following artifacts are required for each in-service decision:

- Operational test report(s);
- Independent Operational Assessment Report for designated programs;
- ISR Checklist completed or action plans for those remaining open;
- Safety Risk Management Document approved;

- Information security certification and authorization or certification and authorization;
- Stakeholder concurrence on readiness for the ISD; and
- ISD briefing and action plans.

2.6.5.2 In-Service Decision Authority Actions Added 4/2013

The ISD Authority:

- Approves the ISD strategy for phased or segmented deployments;
- Agrees to the action plans;
- Makes the ISD; and
- Approves the Record of Decision.

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2.7 In-Service Management Revised 4/2013

Activity during in-service management supports execution of the FAA mission of providing air traffic control and other services. This entails operating, maintaining, securing, and sustaining systems, products, services, and facilities in real time to provide the level of service required by users and customers. It also entails periodic monitoring and evaluation of fielded products and services, and feedback of performance data into service and investment analysis as the basis for

revalidating the need to sustain deployed assets or taking other action to improve service delivery.

Service organizations are responsible and accountable for managing service delivery within their area of responsibility throughout in-service management. They bring together the multiple engineering, logistics, and other management specialists necessary to operate and sustain fielded systems, services, products, and facilities. This includes managing resources within specific geographic areas, and may involve emergency sustainment actions in response to natural disasters or other unanticipated events.

Service organizations have flexibility to sustain and enhance fielded capability. They may implement pre-planned product improvements or block upgrades as stipulated at the investment decision, and may use sustainment resources to upgrade components of fielded products as needed (e.g., printers or processors).

In-service management planning documents focus on actions and activities that support continued operation and maintenance of deployed assets. The documents clearly define in- service management activities such as configuration management, preventive and corrective maintenance, training, infrastructure support and logistics support, along with planned activities to support post implementation reviews and operational analyses.

Service organizations evaluate the safety, efficiency, and effectiveness of operational assets throughout in-service management as a basis for improving service delivery over time. This process begins with a post implementation review at one or more early operational sites to determine whether a new investment program is achieving its performance and benefit targets and whether it is meeting the service needs of customers. The primary objective is useful information on how best to eliminate flaws and optimize performance and benefits before deployment at additional sites. This evaluation process continues throughout in-service management with the periodic evaluation of operational assets to determine whether they are continuing to contribute to agency safety, performance, and cost goals or whether they should be modernized, replaced, or removed from service. These operational analyses are the basis for out- year planning in the service organization business plan, which integrates ongoing and planned investment activity with resources for the operation and sustainment of fielded assets over their service life. The overarching goal is the continued best use of agency resources to achieve FAA strategic and performance goals. Click here for links to post implementation review and operational analysis policy and guidance.

When a fielded capability is projected to be unable to satisfy service demand or when another solution offers improved safety, lower cost, or higher performance, the service organization initiates action to enter the service analysis process leading to a new investment decision. The key is to look far enough into the future so there is enough time to approve and implement a solution before the existing capability fails or becomes obsolete.

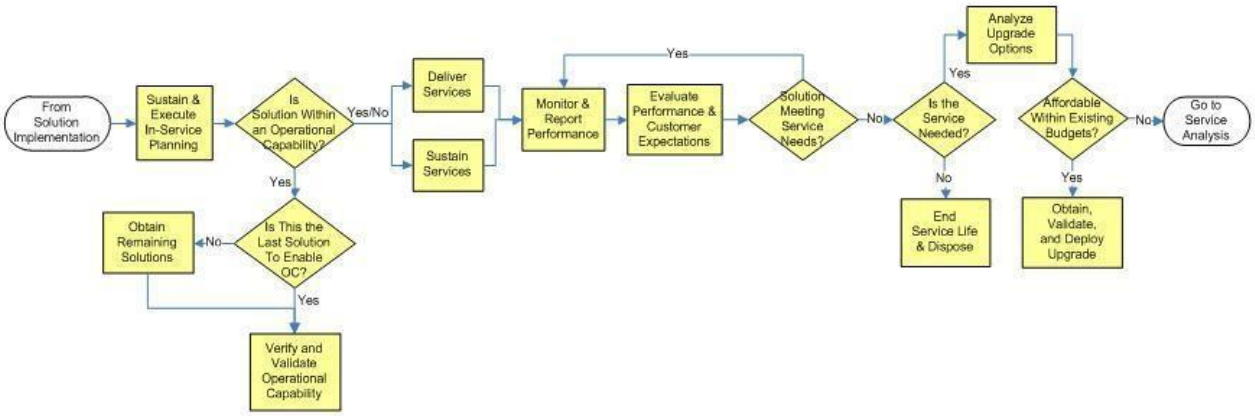
Service organizations must remove and dispose of fielded assets and services when they are no longer needed. This includes restoration of sites where obsolete products or services were deployed, disposal of government property, recovery of precious metals, and cannibalization of

useful assets. The cost of removal and restoration is included in the acquisition program baseline of the replacement program. If there is no replacement program, the cost must be otherwise factored into the service-area operating plan.

2.7.1 What Must Be Done Revised 4/2013

Figure 2.7.1-1 portrays the activities undertaken during in-service management. They are organized to deliver, sustain, and evaluate operational assets, and to take corrective action when they are projected to be unable to satisfy the service needs of users and customers or when they are becoming unsupportable or obsolete. The work flow includes actions to verify and validate achievement of projected benefits from an operational capability resulting from completion and integration of multiple investment increments.

Figure 2.7.1-1 Key Activities of In-Service Management



Sustain and Execute In-Service Planning. Service organizations review and update in-service planning documents as needed. This includes updating the OMB Exhibit 300 each year for designated programs. Annual updates reflect program changes and move the budget submission forward one year. The OMB Exhibit 300 must continue to achieve a passing score from the Office of Management and Budget.

- **Is Solution Within an Operational Capability?** When a recently deployed solution is not an increment necessary to achieve a complex operational capability, it is operated and sustained during in-service management as a stand-alone capability. When it is part of an operational capability, the agency validates that the projected benefits of the operational capability are being achieved once all supporting investment increments are in service.
- **Is This the Last Solution to Enable an Operational Capability?** If the recently deployed solution is the last investment increment necessary to implement an operational capability, a post implementation review is planned and executed to determine whether the performance and benefits projected for the operational capability are being achieved and to identify what corrective action is needed when they are not.

- **Obtain Remaining Solutions.** All investment increments necessary to achieve the operational capability are obtained and deployed before verifying and validating that the performance and benefits of the operational capability are being realized.
- **Verify and Validate Operational Capability.** When the last investment increment of an operational capability is deployed and approved for operational service, the capture team oversees the integration of investment elements necessary to achieve the operational capability and verifies achievement of operational and performance benefits in the operational capability business case. Typically, a post implementation review will be planned and executed for this purpose. Results are presented to the NextGen Management Board, which determines whether performance of the operational capability meets agency expectations or whether further action is necessary.
- **Deliver Services.** The operational workforce provides air traffic control and other business services using infrastructure, procedures, and other assets as assigned and funded. This includes all safety-related quality assurance actions such as flight inspection, aircraft certification, establishing safety standards for operations, monitoring safety performance, issuing and maintaining certificates and licenses, and developing and revalidating procedures such as approach and landing procedures. Emergency sustainment actions are planned and executed whenever required. During emergencies, highest priority services are sustained even if performance goals for lower priority services cannot be met. In addition, physical, personnel, and information security is maintained at all FAA facilities. This includes environmental threat and facility assessment and accreditation in accordance with FAA internal security planning.
- **Sustain Services.** A variety of actions are undertaken by the FAA workforce during in- service management to ensure operational assets remain in good working order. These include:
  - Corrective and preventive maintenance, supply support, second-level engineering, depot-level repair, modification of hardware and software to improve performance, test and support equipment, and transportation of supplies.
  - Management and engineering actions to sustain and improve service delivery, correct deviations from cost and performance standards, and improve quality. These actions include modifications to hardware and software to solve latent or discovered technical problems, process changes to improve performance, planned block upgrades and product improvements, and sustainment actions that lower operating costs. It involves the management of personnel, information systems, money, logistics support, spare parts, technical resources, and other assigned assets. Management techniques include fiscal and workforce planning, contract award and administration, fiscal and program control, and process management to achieve cost, performance, and benefit objectives. All modifications to fielded assets must be in accordance with the enterprise architecture. If a planned modification requires a change to the architecture, appropriate amendments and products must be developed and approved.
  - Management and control of the configuration of all services and service components. This includes submission of NAS change proposals to the appropriate approval board to baseline, install, and manage changes to NAS systems, software, and equipment. It requires coordination with the appropriate systems engineering organization to ensure changes are compatible with and reflected in the enterprise architecture.
  - Sustainment of utilities, buildings, grounds, structures, roads, telecommunications, handling of hazardous materials, lightning protection, bonding, grounding, heating, cooling, and special access.
  - Participation in cross-organizational planning to review, integrate, and prioritize the allocation of operational resources to fielded services and assets. The objective is to continue support for high-ranking service needs and reduce or terminate support for low-value or redundant assets. Recommendations are presented to the Joint Resources Council for approval.
  - Acquisition and management of FAA-owned and leased properties, as well as management of non-federal facilities with external sponsors. This activity may involve the purchase or lease of buildings, structures, and grounds, as well as removal and disposal of no longer used equipment, systems, services, products, facilities, real property, and resources.

- **Monitor and Report Performance.** Post implementation review(s) at early deployment sites help determine whether performance and benefits are being achieved. When projections are not being realized, corrective action is planned and implemented. Periodic operational evaluations of fielded assets continue throughout in-service management to identify performance shortfalls, determine trends in the cost of ownership, identify adverse support trends, and solve systemic operational or support problems.
- **Evaluate Performance and Customer Expectations.** Operational evaluations are the basis for revalidating the merit of sustaining investment assets or the need for other action. Findings are fed back into service analysis, where it is determined whether to continue to sustain existing assets or recommend new investments to solve systemic problems in the service environment.
- **Solution Meeting Service Needs?** If the solution is meeting service needs and no supportability issues have emerged, the operational workforce continues to operate and sustain the solution, as well as monitor and evaluate it periodically. If supportability issues are emerging or the solution is projected to be unable to satisfy the service need, corrective action is initiated once it is verified the service is supported by the NAS ConOps during timeframe in question.
- **Is the Service Needed?** The operating service organization determines whether the service provided by the solution is still needed. In making this determination, the service organization reviews the NAS ConOps and enterprise architecture roadmaps to confirm the service will continue to be required in the timeframe any upgrade to the operational asset would cover.
- **End Service Life and Dispose of Unneeded Assets.** When an operational asset is replaced by new capability, the program office installing the new capability removes and disposes of replaced assets. When there is no replacement asset, the operating service organization removes and disposes of unneeded assets. Removal and disposal includes decommissioning, dismantling, and demolishing of systems and equipment; restoring sites including environmental cleanup and disposal of hazardous materials; disposing of government property; recovering precious metals; and reusing surplus assets.
- **Analyze Upgrade Options.** When the service is still needed, the service organization investigates ways to upgrade at-risk assets within existing operating budgets and determines whether additional investment funds are needed.
- **Affordable Within Existing Budgets?** When the operational asset can be modernized within existing budgets (e.g., a planned and funded product improvement, operational funds), the upgrade is obtained, validated, and deployed. When new funds outside the scope of available resources are needed, the service shortfall enters service analysis to begin the search for a solution.
- **Obtain, Validate, and Deploy Solution Upgrade.** Any modification to fielded assets (e.g., block upgrade, planned product improvement, problem correction) must be accompanied by concomitant changes to key elements of the support infrastructure such as training, documentation, spare parts, and engineering support. This includes training for personnel who directly operate, maintain, or provide support functions. All key work products and products of in-service management, including NAS change proposals (includes actual changes/improvements to products and product components) and system support directives are verified and validated before an upgrade enters operational service. This includes the modified content of key work products and products that originate in other phases of the lifecycle, but are intended for use during in-service management. Verification and validation activity supports decisions to implement and deploy procedural or product improvements.

2.7.2 Outputs and Products **Revised 4/2013**

- Delivery of FAA enterprise services;
- Post implementation reviews and corrective action as needed to achieve investment performance and benefits;
- Periodic operational analysis of fielded assets including the effectiveness and efficiency of supply chain management;
- Periodic revalidation of the need to sustain fielded assets;

- Enforcement actions, baseline changes, and investment recommendations to maintain or improve service delivery;
- Change proposals to install systems, software, and equipment and to improve capability, safety, or efficiency in accordance with the enterprise architecture;
- Program technical reports and hardware discrepancy reports to correct hardware and software problems;
- Annual OMB Exhibit 300 submissions (designated programs only);
- Emergency sustainment actions to sustain high-priority capabilities and services;
- Up-to-date configuration records for fielded equipment;
- Annual report on critical operational needs;
- Periodic assessment of facility security enhancements;
- Action plans to remedy cost and performance shortfalls;
- Updated in-service management planning documents if needed; and
- Flight inspections, aircraft certification, and regulatory actions.

2.7.3 Who Does It? Revised 10/2013

Organization	Responsibilities
Service organization or program office	• Provides and sustains services • Manages resources to sustain fielded assets • Manages preplanned product improvements • Updates OMB Exhibit 300s for the annual budget cycle (designated programs only); • Reviews in-service management planning and updates as needed • Manages the configuration of fielded assets consistent with FAA policy and the enterprise architecture • Develops infrastructure for modifications to fielded assets, including training, documentation, spare parts, and repair • Periodically assesses customer satisfaction as the foundation for improving service delivery • Monitors quality, assesses performance, tracks cost, and identifies adverse support trends for fielded assets • Periodically revalidates the need to sustain fielded assets or recommends other action such as upgrade, replacement, or decommissioning and removal • Assesses the impact on sustainment of fielded assets resulting from delays in fielding a new capability • Sustains the physical infrastructure
Office of Informaton & Technology, Strategy & Performance Service, Investment Portfolio & CPIC Branch	• Reviews and scores OMB Exhibit 300s as part of the annual budget cycle (designated programs only)
PIR Quality Officer	• Oversees the quality, planning, conduct, and reporting of post implementation reviews
Integrated Logistics Management Team	• Assesses the effectiveness of supply chain management and the support concept • Recommends changes to logistics management to optimize service delivery at best value
ATO Technical	• Keeps operational assets in good working condition

Operations	Conducts operational analyses periodically and feeds results into service analysis
William H. Hughes Technical Center	Designs, develops, tests, and fields changes to operational assets that correct recurrent trouble reports and other operational issues Provides second-level engineering
Mike Monroney Aeronautical Center	Provides supply chain management, depot support, logistics services, and training for operational assets Provides second-level engineering services
Capture team	Integrates investment increments necessary to obtain an operational capability Assists in the planning and verification that an operational capability is achieving the benefits specified in the operational capability business case

2.7.4 Who Approves? Added 4/2013

Artifact	Approval Authority
OMB Exhibit 300s (designated information technology capital investments	Chief Information Officer, Chief Financial Officer, Acquisition Executive
OMB Exhibit 300s (designated non-information technology capital investments	Acquisition Executive, Chief Financial Officer
In-service management planning documents	Vice President (ATO) or Director (non-ATO) of the operating service organization

15-16 AMS Policy Appendix A:

Appendix A: Roles and Responsibilities Revised 4/2014

JOINT RESOURCES COUNCIL

- Approves the FAA investment portfolio each year as part of the budget submission process;
- Reviews and approves the FAA enterprise architecture each year;
- Concurs jointly with the NextGen Management Board on the establishment of new operational capabilities;
- Reviews updates to the NAS ConOps and works with the NextGen Management Board to resolve any issues or concerns;
- Makes investment decisions and oversees execution of investment programs;
- Establishes investment programs and assigns execution to a service organization;
- Baselines program requirements for investment programs in the final program requirements document;
- Approves and baselines all required AMS program documents (i.e., program requirements document, acquisition program baseline, business case, and implementation strategy and planning document);
- Commits the FAA to full funding of approved investment programs or program segments;
- Identifies any future corporate decisions and levels of empowerment for the service organization during

solution implementation for investment programs;
- Makes acquisition program baseline change decisions that alter program performance, cost, and schedule baselines during solution implementation for investment programs;
- Reviews and approves FAA RE&D and F&E budget submissions each year prior to review and approval by the Administrator and submission to the Office of the Secretary of Transportation and reviews the OPS appropriation. The Administrator approves the OPS budget before submission to the Office of the Secretary of Transportation;
- Makes investment program production and in-service decisions or assigns approval authority to senior management; and
- Conducts acquisition quarterly program reviews to manage ongoing investment programs, including operational assets; and
- Designates investment programs for TechStat reviews. The Joint

Resources Council has the following core members:

- Acquisition Executive;
- Chief Operating Officer;
- Chief Information Officer;
- Chief Financial Officer;
- General Counsel;
- Associate Administrator for Aviation Safety;
- Associate Administrator for Airports;
- Assistant Administrator for NextGen;
- Assistant Administrator for Policy, International Affairs, and Environment; and
- Director, Joint Planning and Development Office.

The following members attend Joint Resource Council meetings when the decision concerns their organizational responsibilities:

- Associate Administrator for Commercial Space Transportation.

INFORMATION TECHNOLOGY SHARED SERVICES COMMITTEE

- Approves non-NAS information technology and chargeback mechanism;
- Approves new non-NAS information technology projects for submission to the Joint Resources Council for funding;
- Oversees performance of information technology investments; and
- Reviews information technology shared service operational performance against baseline measures and tracks cost savings against operational baselines.

NEXTGEN MANAGEMENT BOARD

- Approves updates to NAS Concepts of Operations;
- Approves NAS Segment Implementation Plan;
- Approves NAS operational capabilities including goals, objectives, and performance targets;
- Approves alignment of NAS investments to operational capabilities;
- Approves capture teams for operational capabilities;
- Conducts portfolio review for operational capabilities; and
- Approves Operational Capability Integration Plans.

ASSOCIATE AND ASSISTANT ADMINISTRATORS AND THE CHIEF OPERATING OFFICER

- Coordinate and integrate activity across line-of-business service organizations to ensure resources are directed at priority FAA strategic and performance goals and to ensure there is no overlap or redundancy;
- Require service analysis for designated services (e.g., en-route service, terminal service, regulatory service, certification service) within the line of business or staff office;
- Provide staff support to concept and requirements definition and investment analysis activity for service needs within the line of business or staff office;
- Implement non-material solutions to a service need that emerges any time during service analysis or investment analysis; and
- Oversee investment program execution by service organizations within the line of business or staff office.

ACQUISITION EXECUTIVE

- Manages AMS policy;
- Chairs the Joint Resources Council;
- Approves acquisition category designations and AMS tailoring or waivers;
- Chairs acquisition quarterly program reviews; and
- Approves OMB Exhibit 300s for designated capital investments before submission to the Department of Transportation and Office of Management and Budget.

VICE PRESIDENTS (ATO) AND SERVICE DIRECTORS (NON-ATO)

- Responsible and accountable for the delivery of services by service organizations under their management;
- Deliver status briefings for their investment portfolio to the Joint Resources Council at acquisition quarterly program reviews;
- Approve plans for concept and requirements definition and assign necessary human resources;
- Make the decision to enter concept and requirements definition after all entrance criteria are satisfied;
- Assess operational assets annually at a minimum to determine whether they should continue in service or be modified, upgraded, or removed from service;
- Approve plans for investment analysis and assign necessary human resources;
- Approve the program requirements document and the implementation strategy and planning document; and
- Oversee the annual update and submission of the OMB 300 Exhibit for designated investment programs.

JRC EXECUTIVE SECRETARIAT

- Manages the investment decision-making process for all investment decisions;
- Facilitates the efforts of service organizations seeking an investment decision to ensure timely and effective investment decision-making;
- Manages the readiness process which uses criteria based on the AMS policy to evaluate the readiness of an investment initiative seeking an investment decision prior to placing it on the JRC meeting agenda to obtain a decision;
- Coordinates JRC meeting dates and arranges logistics;
- Manages the electronic investment decision process;
- Prepares records of decision from investment decision meetings and minutes from JRC acquisition quarterly program reviews;
- Obtains JRC member signatures on the investment decision documents after approval of a final investment decision;
- Maintains the official repository of investment decision documentation, records of decision, meeting minutes and assigned action items; and
- Develops and maintains investment decision guidance documents and processes.

CAPITAL INVESTMENT TEAM

- Assesses the business justification, budget affordability, and priority of investment initiatives and provides findings to the Joint Resources Council before investment decisions;
- Performs corporate budget formulation and execution, including budget impact assessments, and recommendations of funding offsets and reprogramming due to program baseline changes, marks/pass-backs from the Office of the Secretary of Transportation, Office of Management and Budget, and Congress; and
- Establishes and maintains an up-to-date prioritization of all on-going and proposed investment programs for use in budget impact assessments and determination of offsets.

INDEPENDENT SAFETY ASSESSMENT TEAM

- Conducts independent operational assessment for programs as directed by the Vice President of ATO safety and Technical Training.

PRODUCT OR SERVICE TEAM

- Develops, procures, and delivers products or services for users or customers;
- Manages the acquisition program baseline of investment programs it is implementing and reports breaches to management;
- Updates the OMB Exhibit 300 annually for designated programs;
- Assists in development of program requirements recorded in the program requirements document;
- Develops cost and schedule baselines during final investment analysis for the solution selected for implementation;
- Acquires new or improved capability for services and products throughout their lifecycle;
- Keeps planning current during solution implementation in the implementation strategy and planning document;
- Supports the conduct of post-implementation reviews;
- Ensures coordination and obtains input from subject-matter experts in critical functional disciplines. These disciplines vary by the type of program, but typically include: management of requirements; test and evaluation; deployment planning; logistics support; procurement planning; real property; acquisition, management, and disposal; configuration management; earned value management; human factors; environmental, occupational safety and health, and energy considerations; information technology; system engineering; security; system safety management; spectrum management; risk management; regulation and certification; telecommunications. The service organization is responsible to ensure that all relevant disciplines have been contacted whether or not they appear in the above list.

PRODUCT OR SERVICE TEAM LEADER

- Serves as the source selection official for procurements subject to the JRC process unless otherwise designated by the Joint Resources Council;
- Serves as spokesperson for the team;
- Guides, encourages, and coaches team members;
- Leads and facilitates team efforts without dominating the process;
- Keeps the team focused on consensus decision-making and ensures individual team members do not dominate team deliberations;
- Ensures all stakeholders are members of the team and that they participate in team decision-making;
- Leads development of cost, schedule, and performance baselines during final investment analysis;
- Determines the management approach for an investment program and applicable contracts based on program size, complexity, risk, and FAA earned value management policy;

- Manages the acquisition program baseline and reports performance information to management, including anticipated or actual breaches with corrective actions or a request for a revised program baseline;
- In consultation with the contracting officer, determines the acquisition strategy for obtaining the selected solution and establishes the appropriate earned value management and reporting applications for each contract;
- Assures FAA program needs are acquired through the appropriate source selection process and assures screening information requests include adequate definition of requirements;
- Assures qualified technical evaluators, if required, assist the source evaluation team in the evaluation; and
- In consultation with the contracting officer, conducts the integrated baseline review, assisted by the contracting officer's representative;

CONTRACTING OFFICER

- Serves as the source selection official for procurements not subject to the JRC process;
- Ensures, when applicable, conflict of interest documentation is obtained from the source selection official and all source evaluation team members; with legal counsel, determines if any actual or apparent conflict of interest exists and if so resolves or mitigates the conflict;
- Ensures source evaluation team members are briefed on sensitivities of the source selection process, prohibition against unauthorized disclosure of information (including their responsibility to safeguard proposals and any documentation related to the source selection team proceedings), and requirements concerning conflict of interest;
- Ensures source selection official and source evaluation team members provide nondisclosure of information statements;
- Coordinates communications with industry, controls all written documentation issued to industry, and conducts all debriefings;
- Participates during screening, selection, and debriefing phases of source selection to ensure fair treatment of all offerors;
- Issues letters, public announcements, screening information requests and amendments, and other procurement documents;
- Ensures the contract is signed by a contractor representative with the authority to bind the contractor; with legal counsel, ensures all contractual documents comply with applicable laws, regulations, and policies; and
- Executes, administers, and terminates contracts and makes related determinations and decisions that are contractually binding.

SOURCE SELECTION OFFICIAL

- Assures source evaluation team competence, cohesiveness, and effectiveness;
- Assigns responsibility to a source evaluation team member to mark all source selection sensitive information with the designation "source selection sensitive information";
- Approves source evaluation plans and assures the evaluation conforms to the stated evaluation criteria; and
- Makes down-select decisions and assumes full authority to select the source for award.

SOURCE EVALUATION TEAM

- Drafts all screening information requests;
- Formulates the source evaluation plan;
- Reviews lessons-learned reports that provide meaningful insight into the procurement;
- Ensures an in-depth review and evaluation of each submitted screening document against FAA requirements and evaluation criteria;
- Prepares the source evaluation report (including recommendations, if requested) so the source selection official may make down-selection and/or award decisions, and if requested by the source selection official,

prepares documentation for the decision rationale;
- Oversees all procedural and administrative aspects of the procurement;
- Selects advisors to assist the team in its evaluation, if required;
- Participates in all debriefings; and
- Prepares a lessons learned memorandum after completing the source selection.

OFFICE OF THE CHIEF COUNSEL

- Represents FAA legal interests on product or service teams engaged in the acquisition of goods and services;
- Exercises independent professional judgment, advises teams on relevant legal, governmental, and business issues, and promotes the legality and integrity of acquisition actions;
- Represents the FAA in connection with procurement-related litigation, alternative dispute resolution, and other matters; and
- Serves as core member of the Joint Resources Council.

OFFICE OF DISPUTE RESOLUTION FOR ACQUISITION

- FAA Administrator's impartial administrative forum for adjudication of bid protests and contract disputes arising under the AMS;
- Provides dispute resolution services to the FAA and its private business partners, implementing FAA policy to utilize Alternative Dispute Resolution (ADR) to the maximum extent practicable;
- Conducts a streamlined adjudication process for matters un-resolvable through ADR;
- Provides "Findings and Recommendations", and issues orders and decisions supported by the case record and law, on behalf of the FAA Administrator;
- Promulgates and operates in accordance with rules of procedure; and
- Recommends changes to the Acquisition Management System.

SERVICE ORGANIZATIONS

- Plan and manage resources as assigned by the Joint Resources Council to deliver services within their service area of responsibility;
- Conduct service analysis for assigned services and plan service delivery;
- Maintain consistency between service planning and FAA strategic and performance goals;
- Work with the appropriate systems engineering organization to develop the solution concept of operations and requirements, as required;
- Work with the appropriate systems engineering and operating organizations to determine realistic alternative solutions to service needs; and
- Identify, justify, obtain, and manage research, study, and analysis within their service area of responsibility.

NEXTGEN ORGANIZATION

- Manages the corporate research budgeting process;
- Coordinates annual development of the National Aviation Research Plan;
- Defines research plan selection, management, and evaluation criteria for research activities in support of NextGen;
- Interfaces with Office of the Secretary of Transportation, Office of Management and Budget, Congress, trade organizations, industry, international organizations, and other government organizations for FAA-level research issues; and
- Provides test and evaluation services.

NAS SYSTEMS ENGINEERING SERVICES ORGANIZATION

- Performs corporate-level service analysis for the NAS;
- Oversees the NAS architecture;
- Develops and maintains tools for conducting service analysis;
- Work with both corporate strategic planning and service organizations to ensure consistency between service planning and the long-range strategic direction of the FAA;
- Works with service organizations to translate user needs into a sequenced and traceable architecture that defines the functions and sub-functions necessary to achieve intended services or operational capability;
- Works with service organizations to determine realistic alternative solutions to service need and assess their impact on the NAS architecture;
- Works with service organizations to conduct service analysis and incorporate associated recommendations into the NAS architecture; and
- Works with service organizations to develop the program requirements document.

NEXTGEN LIFECYCLE INTEGRATION ORGANIZATION

- Coordinates service analysis activity across service organizations to ensure alignment with FAA strategic and performance goals and to eliminate redundant activity, duplicate benefits, service gaps, and service overlap;
- Develops and maintains standard guidance for conducting service analysis and concept and requirements definition;
- Assists service organizations in establishing a service analysis capability and conducting service analysis;
- Leads planning and activities for concept and requirements definition;
- Ensures the requirements, policy, and procedures identified in the AMS and FAST are followed by stakeholders;
- Provides engineering analysis and recommendations to ensure technical integration and integrity is consistent with financial and policy goals, outcomes, and commitments;
- Ensures implementation efforts are harmonized with operations and stakeholder priorities
- Ensures risks are addressed collaboratively to facilitate delivery of operational capabilities and benefits; and
- Develops, maintains, communicates, and supports the execution of enterprise-wide planning artifacts that describe the lifecycle of the National Airspace System.

CHIEF FINANCIAL OFFICER

- Jointly approves the acquisition program baseline for investment programs with other Joint Resource Council members;
- Serves as a core member of the Joint Resources Council; and
- Approves OMB Exhibit 300s for designated capital investments before submission to the Department of Transportation and Office of Management and Budget.

CHIEF INFORMATION OFFICER

- Serves as a core member of the Joint Resources Council;
- Chairs the Information Technology Shared Services Committee;
- Approves OMB Exhibit 300s for designated capital investments before submission to the Department of Transportation and Office of Management and Budget;
- Jointly approves the acquisition program baseline for investment programs with other Joint Resources Council members; and
- Oversees the enterprise architecture.

OFFICE OF INFORMATION & TECHNOLOGY, STRATEGY & PERFORMANCE SERVICE,

INVESTMENT PORTFOLIO & CPIC BRANCH

- Provides process, guidance, training, and consultation to service organizations in the preparation of OMB Exhibit 300s;
- Independently scores OMB Exhibit 300s and provides feedback to service organizations and the JRC executive secretariat for designated investment programs;
- Consolidates and reports major program schedule and cost performance data, variance analysis, and corrective action plans to the Information Technology Shared Services Committee, Department of Transportation, and Office of Management and Budget; and
- Conducts earned value management assessments for programs requiring submission of an Exhibit 300 to the Office of Management and Budget and ensures earned value management transition plans for those programs are implemented effectively.

OFFICE OF INFORMATION & TECHNOLOGY, STRATEGY & PERFORMANCE SERVICE, EA DIVISION (non-NAS)

- Performs corporate-level non-NAS service analysis and coordinates service activity across service organizations to ensure alignment with FAA strategic and performance goals as well as to eliminate redundant activity, service gaps, and duplicate benefits;
- Oversees the non-NAS architecture;
- Develops and maintains tools and standards for conducting non-NAS service analysis;
- Works with corporate strategic planning and service organizations to ensure consistency between service planning and long-range strategic planning of the FAA;
- Works with service organizations to translate user needs into a sequenced and traceable non-NAS architecture that defines the functions and sub-functions necessary to achieve intended services or operational capability;
- Leads planning and activity for concept and requirements definition and works with non- NAS service organizations to define program requirements, determine realistic solutions to service need, and assess their impact on the non-NAS architecture;
- Ensures policy and requirements identified in AMS and FAST are followed by non-NAS stakeholders;
- Provides engineering analysis and recommendations to ensure technical integration and integrity is consistent with financial and policy goals, outcomes, and commitments; and
- Ensures implementation efforts are harmonized with operations and stakeholder priorities.

EARNED VALUE MANAGEMENT FOCAL POINT

- Serves as the FAA earned value management executive agent;
- Assists program managers and business managers to apply earned value management requirements to capital investment programs and contracts;
- Coordinates earned value management activities for FAA with other government agencies and with industry and professional associations; and
- Collects monthly schedule and cost performance data, variance analysis, and corrective action plans for major programs.

IN-SERVICE DECISION SECRETARIAT

- Manages the deployment planning process for the Joint Resources Council;
- Coordinates with the JRC executive secretariat to verify that readiness criteria for a final investment decision have been satisfied;
- Facilitates the efforts of service organizations to ensure timely and effective in-service decision-making;
- Uses AMS-based criteria to evaluate the status of each program seeking an in-service decision before

scheduling the program for a stakeholder and in-service decision meeting;
- Prepares records of decision; and
- Tracks in-service decision action plans until closure.

ACQUISITION EXECUTIVE BOARD

- Assists and supports the Acquisition Executive and Joint Resources Council by reviewing, authorizing, and overseeing development and implementation of acquisition management policy, process, practices, procedures, and tools at all organizational levels;
- For authorized change proposals, charters and provides resources for cross-functional work groups to conduct feasibility and cost/benefit analyses for proposed policy, guidance, practice, and procedure changes;
- Directs, controls, and approves all compliance processes associated with execution of any aspect of AMS; and
- Directs and oversees the Acquisition System Advisory Group.

FAA ENTERPRISE ARCHITECTURE BOARD

- Governs and administers the FAA enterprise architecture;
- Ensures the FAA adheres to Federal statutory and regulatory requirements regarding enterprise architecture;
- Aligns information technology decisions with agency business and investment strategies;
- Minimizes redundancy, fosters standardization, and promotes reuse of information technology, data, and business assets;
- Provides architecture roadmaps and decision-point recommendations to the JRC for approval;
- Approves operational improvements and operational sustainments for inclusion in the enterprise architecture;
- Communicates and champions enterprise architecture throughout FAA; and
- Approves roadmaps that guide the agency toward the target enterprise architecture; and
- Endorses readiness for concept and requirements definition.

CONCEPT STEERING GROUP

- Coordinates activity to develop and validate new concepts and ideas during service analysis; and
- Facilitates the review of new ideas and proposed changes to the NAS Concept of Operations.

TECHNICAL REVIEW BOARD

- Works with service organizations and program offices to prioritize and time-phase new operational improvements and operational sustainments within the NAS architecture roadmap.

ARCHITECTURE REVIEW BOARD

- Works with service organizations and program offices to prioritize and time-phase new operational improvements and operational sustainments within the non-NAS architecture roadmap.

PORTFOLIO MANAGER

- Oversees and reports operational capability status to the NextGen Management Board;
- Evaluates operational capability demand against resource constraints;
- Identifies and assesses operational capability risks and recommends corrective actions;
- Suggests trade-offs and recommendations within the operational capability investment increments to the NextGen Management Board; and

- Participates in program reviews and budget build processes for elements of the operational capability.

CAPTURE TEAM

- Oversees and coordinates implementation of assigned investment increments required to obtain the assigned operational capability; and
- Identifies operational capability risks and issues and recommends corrective action to the portfolio manager.

INVESTMENT PLANNING AND ANALYSIS OFFICE

- Provides leadership and expertise in the preparation of business cases for JRC decisions;
- Advises investment analysis teams during service analysis, concept and requirements definition, and investment analysis;
- Provides leadership and expertise in the exploration, development, and analysis of alternatives;
- Evaluates the business case and supporting documentation prior to investment decisions; and
- Develops and maintains policy, standards, guidance, and templates for investment analysis and business case preparation.

15-16 AMS Policy Appendix C:

Appendix C: Definitions **Revised 4/2013**

Access. In general the term "access" is defined as the ability to physically enter or pass through an FAA area or a facility; or having the physical ability or authority to obtain FAA sensitive information, materials and resources. In relation to classified information, the ability, authority or opportunity to obtain knowledge of such information or materials.

Acquisition Executive Board is the primary executive-level body that assists and supports the FAA Acquisition Executive and Joint Resources Council establish, change, communicate, and implement acquisition management policy, practices, procedures, and tools.

Acquisition planning is the process by which all acquisition-related disciplines of an investment program are developed, coordinated, and integrated into a comprehensive plan for executing the program and meeting the stated requirements within the cost and schedule boundaries. Acquisition planning is normally associated with detailed program planning during final investment analysis, but is also important at other times of the lifecycle management process.

Acquisition program baseline establishes the performance to be achieved by an investment program, as well as the cost and schedule boundaries within which the program is authorized to proceed. The acquisition program baseline is a formal document approved by the investment decision authority at the final investment decision, and is a contract between the FAA and the service organization.

Acquisition strategy. The overall concept and approach of an investment program for acquiring a capability to meet the requirements and perform within the boundaries set forth in the acquisition program baseline. The strategy considers all aspects of a program such as acquisition approach, contracting, logistics, testing, systems engineering, risk management, program management, impact on facilities, human factors, schedules, and cost. The results are documented in the implementation strategy and planning document during final investment analysis.

Affiliate business is a business that controls or has the power to control another business, or a third party that controls or has the power to control another business (contractual relationships must be considered).

Agreement with a state government, local government, and/or public authority is a written agreement between the FAA and a state or local government or public authority where the FAA agrees to receive from, or exchange supplies or services with, the other party.

Agreements with private parties are written documents executed by the parties, which call for the exchange of services, equipment, personnel, or facilities, or require the payment of funds to the FAA, or confirm mutual aid and assistance and outline the specific responsibilities of each party. The term includes agreements under which the FAA provides services, equipment, personnel, or facilities and obtains reimbursement on a negotiated basis from the other party. The term excludes procurement contracts for real estate, supplies and services.

Agreements with public entities other than Federal agencies are written documents executed by the parties which call for the exchange of services, equipment, personnel, or facilities, or require the payment of funds to the FAA, or confirm mutual aid and assistance and outline the specific responsibilities of each party. The term includes agreements under which the FAA provides services, equipment, personnel, or facilities and obtains reimbursement on a negotiated basis from the other party.

Alternative dispute resolution (ADR). Any procedure or combination of procedures voluntarily used to resolve issues in controversy without the need to resort to litigation. These procedures may include, but are not limited to, assisted settlement negotiations, conciliation, facilitation, mediation, fact-finding, mini-trials, and arbitration. These procedures may involve the use of neutrals.

Approval. The agreement that an item is complete and suitable for its intended use.

Architect-engineer services are: (1) professional services of an architectural or engineering nature, as defined by State law, if applicable, which are required to be performed or approved by a person licensed, registered, or certified to provide such services; (2) professional services of an architectural or engineering nature performed by contract that are associated with research, planning, development, design, construction, alteration, or repair of real property; and (3) such other professional services of an architectural or engineering nature, or incidental services, which members of the architectural and engineering professions (and individuals in their employ) may logically or justifiably perform, including studies, investigations, surveying and mapping, tests, evaluations, consultations, comprehensive planning, program management, conceptual designs, plans and specifications, value engineering, construction phase services, soils engineering, drawing reviews, preparation of operating and maintenance manuals, and other related services.

Associate program manager for logistics. An integrated logistics support specialist responsible for ensuring that all NAS integrated logistics support requirements are identified and satisfied for each piece of equipment in the lifecycle management process, RE&D program, and major equipment modification program.

Auctioning techniques is a method of screening vendors using commercial competition techniques, and includes such techniques as indicating to an offeror a cost or price that it must meet to obtain further considerations; advising an offeror of its price standing relative to another offeror; and otherwise furnishing information about other offerors' prices. This may only be used for commercially available products.

Baseline. (1) An agreed-to-description of the attributes of a product, at a point in time, which serves as a basis for defining change; (2) an approved and released document, or a set of documents, each of a specific revision; the purpose of which is to provide a defined basis for managing change; (3) the currently approved and released configuration documentation; or (4) a released set of files consisting of a software version and associated configuration documentation.

Best value. A term used during procurement source selection to describe the solution that is the most advantageous to the FAA, based on the evaluation of price and other factors specified by

the FAA. This approach provides the opportunity for trade-offs between price and other specified factors, and does not require that an award be made to either the offeror submitting the highest rated technical solution, or to the offeror submitting the lowest cost/price, although the ultimate award decision may be to either of these offerors.

Budget impact assessment. The process of assessing the budget impact of each alternative solution developed in the investment analysis phase against all existing programs in the FAA's financial baseline for the same years. Standard criteria are used to determine the priority of the candidate program in relation to all others. If the amount of funding available for the years in question is insufficient, offsets from lower priority programs are identified. A budget impact assessment is also performed when considering program baseline changes for existing programs that involve an increase in the cost baseline and the need to reallocate resources.

Business case analysis summarizes the analytical and quantitative information developed during investment analysis in the search for the best means for satisfying mission need. It is the primary information document supporting the initial investment decision.

Cancellation is the termination of the total requirements of all remaining program years of a multi-year contract. Cancellation results when the contracting officer notifies the contractor of nonavailability of funds for contract performance for any subsequent program year, or fails to notify the contractor that funds are available for performance of the succeeding program year requirement.

Cancellation ceiling is the maximum amount that the FAA will pay the contractor which the contractor would have recovered as a part of the unit price, had the contract been completed. The amount, which is actually paid to the contractor upon settlement for unrecovered costs (which
can only be equal to or less than the ceiling), is referred to as the cancellation charge. This ceiling generally includes only nonrecurring costs.

Capability shortfall. The difference between the projected demand for services and the ability to meet that demand with current assets.

Capital Investment Team (CIT). A team composed of representatives from budget and finance, and, as appropriate, representatives of Air Traffic Organization (ATO) vice-presidents and other FAA organizations, responsible for assessments of investment programs to determine whether
the program should be funded. The assessments involve comprehensive reviews based on cost, schedule and performance of the investments. The consolidated budget request is then reviewed and approved by the Joint Resources Council (JRC).

Capital Planning and Investment Control (CPIC). The process used by FAA management to identify, select, control, and evaluate proposed capital investments. The CPIC process encompasses all stages of capital management including planning, budgeting, procurement, deployment, and assessment. Within the FAA, the Acquisition Management System is the CPIC process. Mission analysis and investment analysis are the “select” portion of the CPIC process, solution implementation is the “control” phase, and in-service management is the “evaluate” phase.

Capture Team. Cross-organizational representatives responsible for coordinating integrated decision-making across investment increments necessary to achieve an operational capability for the NAS. Capture teams monitor implementation of each investment increment and may recommend changes in the distribution of financial assets among capability increments to optimize delivery of the operational capability. Capture teams also participate in activities to validate that an operational capability has achieved its projected benefits and to plan and execute remedial action when it has not.

Cardholder means the individual government employee with the organization who is a warranted contracting officer or to whom a written delegation of procurement authority has been issued by the cognizant Chief of the

Contraction Office or designee granting the use of purchase and credit transactions made within the established billing period.

Certified cost or pricing data refers to all facts that, at the time of the price agreement, the seller and buyer would reasonably expect to affect price negotiations. The data requires certification, and is factual, not judgmental, and therefore verifiable. While the data do not indicate the accuracy of the prospective contractor's judgment about estimated future costs or projections, they do include the data utilized to form the basis for that judgment. Certified cost or pricing data is more than historical accounting data; it is all the facts that can be reasonably expected to contribute to the soundness of estimates of all future costs and to the validity of determinations of costs already incurred.

Claim, as used herein, means a contract dispute.

Classified information. Official information or material that requires protection in the interest of national security and is classified for such purpose by appropriate classification authority in accordance with the provisions of Executive Orders 12958 "Classified National Security Information," 12968 "Access to Classified Information," and 12829 "National Industrial Security Program."

Commercial component means any component that is a commercial item. The term component means any item supplied to the Federal government as part of an end item or of another component. See **Commercial Item.**

Commercial item can mean any of the following: [Note: For purposes of this document, the term "commercial item" is interchangeable with the terms "commercially available," "commercial component(s)," "commercial product(s)," and "commercial off-the-shelf (COTS)"]:

(A) Any item, other than real property, that is of a type customarily used by the general public or by nongovernmental entities for purposes other than governmental purposes and that has been sold, leased, licensed to the general public; or has been offered for sale, lease, or license to the general public.

(B) Any item that evolved from an item described in paragraph (A) through advances in technology or performance and that is not yet available in the commercial marketplace, but will be available in the commercial marketplace in time to satisfy the delivery requirements under a government solicitation.

(C) Any item that would satisfy a criterion expressed in paragraphs (A) (B) of this definition, but for-(i) modifications of a type customarily available in the commercial marketplace; or (ii) modifications of a type not customarily available in the commercial marketplace made to meet Federal government requirements.

(D) Any combination of items meeting the requirements of paragraphs (A), (B), (C), or (E) of this definition that are of a type customarily combined and sold in combination to the general public.

(E) Installation services, maintenance services, repair services, training services, and other services if such services are procured for support of an item referred to in paragraph (A), (B), (C), or (D) of this definition, and if the source of such services--(i) offers such services to the general public and the Federal government contemporaneously and under similar terms and conditions; and (ii) offers to use the same work force for providing the Federal government with such services as the source uses for providing such services to the general public.

(F) Services of a type offered and sold competitively in substantial quantities in the commercial marketplace based on established catalog or market prices for specific tasks performed under standards commercial terms and conditions. This does not include services that are sold based on hourly rates without an established catalog or market price for specific service performed.

(G) Any item, combination of items, or service referred to in paragraphs (A) through (F), notwithstanding the fact that the item, combination of items, or service is transferred between or among separate divisions, subsidiaries, or affiliates of a contract; or

(H) An item, determined by the procuring agency to have been developed exclusively at private expense and sold in substantial quantities, on a competitive basis, to multiple state and local governments.

Commercial-off-the-shelf is a product or service that has been developed for sale, lease or license to the general public and is currently available at a fair market value. See **Commercial Item.**

Commercial product means a product in regular production that is sold in substantial quantities to the general public and/or industry at established catalog or market prices. See **Commercial Item.**

Commercially available refers to products, commodities, equipment, material, or services available in existing commercial markets in which sources compete primarily on the basis of established catalog/market prices or for which specific costs/prices established within the industry have been determined to be fair and reasonable. See **Commercial Item**.

Commonality refers to the use of identical parts, components, subsystems or systems to achieve economies in development and manufacture.

Communications, when referring to contracting, means any oral or written communication between the FAA and an offeror that involves information essential for understanding and evaluating an offeror's submittal(s), and/or determining the acceptability of an offeror's submittal(s).

Computer resources support. The facilities, hardware, system support software, software/hardware development and support tools (e.g. compilers, PROM burners), documentation, and personnel needed to operate and support embedded computer systems. These items represent the resources required for the operational support engineering functions and do not include administrative computer resources.

Concept development is the second stage in the CMTD process. This activity develops and evaluates promising concepts to determine which should undergo further development. Activities include modeling, simulation, and detailed analysis.

Concept evaluation is the third and final stage in the CMTD process. It confirms that a concept has great promise toward meeting the service needs of the agency and begins to determine operational and technical feasibility. Concept evaluation can include concept integration, evolution, or scalability. Representative activities include prototyping and field demonstration.

Concept exploration is the first stage in the CMTD process. The objective is to describe promising concepts with sufficient definition to begin development of a concept of operations and to plan follow-on activities. Outputs are promising and feasible concepts that warrant further development.

Concept maturity and technology development (CMTD). The CMTD process governs activities directed toward the production of useful materials, devices, systems, and methods, as well as advance the maturity of new concepts. Typical activities include concept feasibility studies, technical analysis, prototype demonstrations, and operational assessments that identify, develop, and evaluate opportunities for improving the delivery of NAS services. These efforts reduce risk, define requirements, demonstrate operational requirements, inform concept and requirements definition activities, and generate information required to support agency investment decisions and product lifecycle management.

Configuration. (1) The performance, functional, and physical attributes of an existing or planned product, or a combination of products; or (2) one of a series of sequentially created variations of a product.

Configuration audit. Product configuration verification accomplished by inspecting documents, products, and records; and reviewing procedures, processes, and systems of operation to verify that the product has achieved its required attributes (performance requirements and functional constraints), and the product's design is accurately documented. Sometimes divided into separate functional and physical configuration audits.

Configuration change management. (1) A systematic process which ensures that changes to released configuration documentation are properly identified, documented, evaluated for impact, approved by an appropriate level of authority, incorporated, and verified. (2) The configuration management activity concerning the systematic proposal justification, evaluation, coordination and disposition of proposed changes, and the implementation of all approved and released changes into (a) the applicable configurations of a product, (b) associated product information, and (c) supporting and interfacing products and their associated product information.

Configuration documentation. Technical documentation, the primary purpose of which is to identify and define a product's performance, functional, and physical attributes.

Configuration identification. (1) The systematic process of selecting the product attributes, organizing associated information about the attributes, and stating the attributes; (2) unique identifiers for a product and its configuration documents; or (3) the configuration management activity which encompasses selecting configuration documents; assigning and applying unique identifiers to a product, its components, and associated documents; and maintaining document revision relationships to product configurations.

Configuration management. A management process for establishing and maintaining consistency of a product's performance, functional, and physical attributers with its requirements, design, and operational information throughout its life.

Configuration status accounting. The configuration management activity concerning capture and storage of, and access to, configuration information needed to manage products and product information effectively.

Configuration verification. The action verifying that the product has achieved its required attributes (performance requirements and functional constraints) and the product's design is accurately documented.

Contract is a legal instrument used to acquire products and services for the direct benefit or use by the FAA.

Contract. As used herein denotes the document (for example, contract, memorandum of agreement or understanding, purchase order) used to implement an agreement between a customer (buyer) and a seller (supplier).

Contract dispute as used herein, means a written request seeking as a matter of right, the payment of money in a sum certain, the adjustment or interpretation of contract terms, or other relief arising under or relating to the contract. A claim arising under a contract unlike a claim relating to that contract, is a claim that can be resolved under a contract clause that provides for the relief sought by the claimant. The term does not include a request for payment of an invoice, voucher, or similar routine payments expressly authorized under the terms of the contract, which have not been rejected by the contracting officer. The term includes a termination for convenience settlement proposal and request for equitable adjustment, but does not include cost proposals seeking definitization of a letter contract or other undefinitized contract action.

Contractor. The party(ies) receiving a direct procurement contract from the FAA and who is responsible for performance of the contract requirements.

Controversy or concern. A material disagreement between the FAA and an offeror that could result in a protest.

Core policy refers to the official governing policy of the Acquisition Management System. It consists of all Sections

and Appendices A-E of this document. All other acquisition information not contained within this policy document is in the form of guidance, processes, references, and other acquisition aids, used by the lifecycle management workforce with discretion and in a manner that makes sense for individual programs. All of this information, including core policy, is considered to be the entire Acquisition Management System. This information may be found within the FAA Acquisition System Toolset on the Internet.

Cost is the contractor's expenses of contract performance, either estimated or actual.

Cost or pricing data. See "Certified Cost or Pricing Data" and "Non-certified Cost or Pricing Data".

Critical operational issue. A key operational effectiveness or suitability issue that must be examined in operational test and evaluation to determine a product's capability to perform its mission.

Critical performance requirements. Primary requirements of a solution representing attributes or characteristics considered essential to meeting the mission need that the investment program is seeking to satisfy. Critical performance requirements and associated values are specified in the program requirements document.

Customer. External users of FAA products or services, such as airlines and the flying public. See **User.**

Data. Recorded information of any nature (including administrative, managerial, financial, and technical), regardless of medium or characteristics.

Demand, as used in the context of service analysis, is the current or projected demand for FAA products, services, and capacity, based on input from diverse sources such as the aviation community, enterprise architecture, long-range planners, and operators and maintainers of the NAS and other FAA support systems.

Design to cost is a concept that establishes cost elements as management goals to best balance between lifecycle cost, acceptable performance, and schedule. Under this concept, cost is a design constraint during the design, development, and production phases, and a management discipline throughout the system lifecycle.

Direct-work maintenance staffing. The direct person-hours required to operate, maintain, and support a product for the duration of its lifecycle.

Disapproval. Conclusion by the appropriate authority that an item submitted for approval is either not complete or is not suitable or its intended use.

Discriminating criteria/key discriminators, used in procurement context, are those factors expected to be especially important, significant, and critical in the ultimate source selection decision.

Dispute as used herein, means a Contract Dispute or Claim.

Dispute resolution officer is a licensed legal practitioner who is a member of the Office of Dispute Resolution, and who has authority to conduct proceedings, which, if agreed to by the parties and concurred in by the FAA Administrator, result in binding decisions on the parties.

Dominant business is a controlling or major influence in a market in which a number of businesses are primarily engaged. Factors such as business volume; number of employees; financial resources; competitiveness; ownership or control of materials, processes, patents, and license agreements; facilities; sales territory; and nature of the business must be considered.

Economically disadvantaged individuals means disadvantaged individuals whose ability to compete in the free

enterprise system is impaired due to diminished opportunities to obtain capital and credit as compared to others in the same line of business who are not disadvantaged.

End product. A system, service, facility, or operational change that is intended for delivery to a customer or end user.

Enterprise architecture products include the operational view family (business rule) and systems view family (engineering). Operational view family components represent a set of graphical and textual products that describe the changes in tasks and activities, operational elements, and information exchanges required to accomplish NAS service delivery or ATO business processes. The business process and application views present this information in the FEAF with the data architecture providing the terms used to describe information exchanges between processes. System view family components represent a set of graphical and textual products that describe systems and interfaces that directly or indirectly support, communicate, or facilitate NAS service delivery or ATO business processes. In the FEAF, interfaces between applications are described in the application view. Also in the FEAF, there is a logical description of systems, but not a physical or geographic description in the enterprise architecture.

Evolutionary product development is the process of establishing a product designed to evolve over time, as opposed to the need for wholesale replacement, to satisfy requirements. The objective is to accommodate rapid insertion of new technology and upgrades, rather than invest in entirely new products.

FAA disputes resolution system is a process established within the FAA for resolving protests of FAA screening information request and contract awards, as well as contract disputes.

FAA Enterprise Architecture (referred to as the enterprise architecture throughout AMS) defines the operational and technical framework for all capital assets of the FAA. It describes the agency's current and target architectures, as well as the transition strategy for moving from the current to the target architecture. The enterprise architecture has two segments: the NAS architecture and the non-NAS architecture. The non-NAS segment uses the Federal Enterprise Architecture Framework (FEAF). The operational view is split between the business process, application, and data views. The systems view in the FEAF is specified in the technical view.

FAA Office of Dispute Resolution for Acquisition is an independent organization within the FAA, reporting to the FAA Chief Counsel, which is staffed with an appropriate number of dispute resolution officers.

Fee is compensation paid to a consultant for professional services rendered.

Firm, as defined for architect-engineering services, is any individual, partnership, corporation, association, or other legal entity permitted by law to practice the professions of architecture or engineering.

Firmware. The combination of a hardware device and computer instructions or computer data that reside as read-only software "burned into" the hardware device; various types of firmware include devices whose software code is erasable/re-programmable to some degree.

First-level technical support. This work comprises maintenance of the National Airspace System infrastructure and includes certifying equipment and performing periodic maintenance, restoration, troubleshooting, and corrective activities.

Functional baseline is the initially approved documentation describing a product's functional, interoperability, and interface characteristics, and the verification required to demonstrate the achievement of those characteristics.

Generic processes. Flowcharts and supporting information, including descriptions, approving officials, references, templates, and other aids that describe each event of a phase of the lifecycle management process. Generic processes are provided to service organizations for guidance to assist in the complex planning, product development,

procurement, production, testing, delivery, and implementation activities of this important phase of the lifecycle management process. Generic processes are an integral part of FAST.

Hardware products. Made of material and their components (mechanical, electrical, electronic, hydraulic, pneumatic). Computer software and technical documentation are excluded.

Historically black colleges and universities. Institutions determined by the U.S. Secretary of Education to meet the requirements of 34 CFR 608.2 and listed therein.

Human factors are a multi-disciplinary effort to generate and apply human performance information to acquire safe, efficient, and effective operational systems.

Implementation strategy and planning is the detailed planning document for all aspects of program implementation. It integrates the planning requirements of several previous FAA planning documents including the program master plan, the integrated logistics support plan, the test and evaluation master plan, the program implementation plan, the human factors plan, and the procurement plan. It is recorded in the implementation strategy and planning document.

In-service decision is the decision to accept a product or service for operational use during the solution implementation phase of the lifecycle management process. This decision allows deployment activities, such as installing products at each site and certifying them for operational use, to start.

In-service management phase of the lifecycle management process, is that period of time after a product or service begins operational use, and continues for as long as the product is in use.

Indian means any person who is a member of any Indian tribe, band, group, pueblo, or community which is recognized by the Federal Government as eligible for services from the Bureau of Indian Affairs in accordance with 25 U.S.C. 1452(c) and any "Native" as defined in the Alaska Native Claims Settlement Act (43 U.S.C. 1601).

Indian organization means any governing body of any Indian tribe or entity established or recognized by the governing body of an Indian tribe for the purposes of 25 U.S.C., chapter 17.

Indian-owned economic enterprise means any Indian-owned (as determined by the Secretary of the Interior) commercial, industrial, or business activity established or organized for the purpose of profit, provided that Indian ownership shall constitute not less than 51 percent of the enterprise.

Indian tribe means any Indian tribe, band, group, pueblo, or community, including native villages and native groups (including corporations organized by Kenai, Juneau, Sitka and Kodiak) as defined in the Alaska Native Claims Settlement Act, which is recognized by the Federal Government as eligible for services from BIA in accordance with 25 U.S.C. 1452 (c).

Integrated logistics support is the functional discipline that plans, establishes, and maintains a full lifecycle support system for FAA products and services. This applies to the sustainment and disposal of fielded products and services as well as new investment programs. The objective is the required level of service to the end user at optimal lifecycle cost to the FAA. The logistics manager is the service-team member who plans, establishes, and maintains an integrated product support package for the lifecycle of FAA products and services.

Interagency agreement is a written agreement between the FAA and another Federal agency where the FAA agrees to receive from, or exchange supplies or services with, the other agency, and FAA funds are obligated.

Interested party. An interested party is one who:

(1) Prior to the close of a solicitation, is an actual or prospective participant in the procurement,

excluding prospective subcontractors; or

(2) After the close of a solicitation, is an actual participant who would be next in line for award under the solicitations scheme if the protest is successful. An actual participant who is not in line for award under the solicitations scheme is ineligible to protest unless that party's complaint alleges specific improper actions or inactions by the agency that caused the party to be other than in line for award. Proposed subcontractors are not eligible to protest.

Where a contract has been awarded prior to the filing of a protest, the awardee may be considered an interested party for purposes of participating in the protest proceedings.

Interface. The performance, functional, and physical attributes required to exist at a common boundary.

Interface control documentation. Interface control drawing or other documentation that depicts physical, functional, and test interface characteristics between two or more related or co- functioning items.

Interim payment is a form of contract financing for cost reimbursement contracts where a contractor is paid periodically during the course of a contract for allowable costs it incurs in the performance of the contract. As interim payments are issued during the course of a contract, they do not include the final payment issued after contract completion.

Intra-agency agreement is a written agreement between the FAA and Office of the Secretary of Transportation or another Department of Transportation operating administration where the requesting organization agrees to provide or exchange supplies or services with the FAA, and FAA funds are obligated.

Investment analysis of the lifecycle management process is conducted to determine the most advantageous solution to an approved mission need. It involves: (1) a market search to determine industry capability, (2) analysis of various alternative approaches for satisfying requirements, (3) and affordability assessment to determine what the FAA can afford, and (4) detailed planning for the alternative selected for implementation.

Investment increment. A discrete activity or investment program that may provide individual benefits and or combine with other investment increments to achieve the benefits of an operational capability.

Investment program. A sponsored, fully funded effort initiated at the final investment decision of the lifecycle management process by the investment decision authority in response to a priority agency need. The goal of an investment program is to field a new capability that satisfies performance, cost, and schedule targets in the acquisition program baseline and benefit targets in the business case analysis report. Typically an investment program is a separate budgeted line-item and may have multiple procurements and several projects, all managed within the single program.

Joint Resources Council is the FAA body responsible for making corporate level decisions.

Lifecycle. The entire spectrum of activity for an FAA capital asset starting with the identification of need and extending through design, development, production or construction, deployment, operational use, sustaining support, and retirement and disposal.

Lifecycle management process. A depiction of the series of phases and decision points that comprise the lifecycle of FAA products and services.

Lifecycle acquisition management system is a fully coordinated set of policies, processes, and computer-based acquisition tools that guide the lifecycle management workforce through the lifecycle management process from the determination of mission needs to the procurement and lifecycle management of products and services that satisfy

those needs.

Lifecycle cost is the total cost to the FAA of acquiring, operating, maintaining, supporting, and disposal of systems or services over their useful life. Lifecycle cost includes total investment costs, development costs, and operational costs and includes all appropriations, RE&D, F&E, and OPS.

Line of business. An informal term used to characterize the major organizations of the FAA, headed by the Chief Operating Officer (ATO) or the Assistant or Associate Administrator (non- ATO), having major roles and responsibilities in the lifecycle Acquisition Management System (FAA staff offices led by an Assistant Administrator are considered a line of business for purposes of AMS). They are: Air Traffic Organization; Aviation Safety; Airports; Commercial Space Transportation; Security and Hazardous Materials Safety; Finance and Management; NextGen and Operations Planning; Policy, International, Affairs and Environment; Human Resources; Civil Rights; Government and Industry Affairs; and Communications. See Appendix A for line of business roles and responsibilities.

Maintenance planning. The process is conducted to determine, evolve, and establish hardware and software maintenance concepts and requirements for the lifecycle of a product.

Maintenance support facility. The permanent or semi-permanent real property assets required to support a product. Maintenance support facility management includes conducting studies to define types of facilities or facility improvements, locations, space needs, environmental requirements, real estate requirements and equipment.

Market survey is used in two different contexts in AMS. In terms of the procurement and contracting process, it refers to any method used to survey industry to obtain information and comments and to determine competition, capabilities, and estimate costs. In terms of the lifecycle management process, market surveys are an integral part of investment analysis. After initial requirements are established, market surveys are used as a basis for identifying all potential material and nonmaterial solutions to mission need.

Memorandum of agreement (MOA) is a written document executed by the parties, which creates a legally binding commitment and may require the obligation of funds. However, when the FAA will acquire services, equipment, personnel, or facilities from a contractor for the direct benefit or use of the FAA, a procurement contract should be used.

Memorandum of understanding (MOU) is a written document executed by the parties which establishes policies or procedures of mutual concern. It does not require either party to obligate funds and does not create a legally binding commitment.

Metrics are measurements taken over time that monitor, assess, and communicate vital information about the results of a program or activity. Metrics are generally quantitative, but can be qualitative.

Minority Educational Institutions. Institutions verified by the U.S. Secretary of Education to meet the criteria set forth in 34 CFR 637.4. Also includes Hispanic-serving institutions as defined by 20 U.S.C. 1059c(b)(1).

Mission analysis is that part of the lifecycle management process during which continuous analytical activity is performed to evaluate the capacity of FAA assets to satisfy existing and emerging demands for services. It is conducted within the lines of business organizations of the FAA.

Multi-year contracts are contracts covering more than one year but not in excess of five years of requirements. Total contract quantities and annual quantities are planned for a particular level and type of funding as displayed in a current five year development plan. Each program year is annually budgeted and funded and, at the time of award, funds need only to have been appropriated for the first year. The contractor is protected against loss resulting from cancellation by contract provisions, which allows reimbursement of costs included in the cancellation ceiling.

Multi-year funding refers to Congressional authorization and appropriation covering more than one fiscal year. The term should not be confused with two-year or three-year funds which cover only one fiscal year's requirement but permit the Executive Branch more than one year to obligate the funds.

NAS enterprise architecture is a NAS-wide enterprise repository of views which describe the current (as-is), mid-term, and far-term (to-be) perspectives of the NAS architecture as well as the strategic planning roadmaps which depict the possible evolution path from the "as is" to the "to be".

NAS technical documentation. Any set of documents that describe the technical requirements of the National Airspace System.

Neutral means an impartial third party, who serves as a mediator, fact finder, or arbitrator, or otherwise functions to assist the parties to resolve the issues in controversy. A neutral person may be a permanent or temporary officer or employee of the federal government or any other individual who is acceptable to the parties. A neutral person shall have no official, financial, or personal conflict of interest with respect to the issues in controversy, unless such interest is fully disclosed in writing to all parties and all parties agree that the neutral person may serve.

NextGen Implementation Plan is an executive-level outline of current activities and program commitments necessary to implement new operational capabilities. The plan is published annually to reflect prior-year accomplishments and new commitments.

No-year funding refers to Congressional funding that does not require obligation in any specific year or years.

Non-certified cost or pricing data is any type of information that is not required to be certified, that is necessary to determine price reasonableness or cost realism. This includes pricing, sales, or cost information, and cost or pricing data for which certification is determined inapplicable after submission.

Non-developmental item (NDI) is an item that has been previously developed for use by federal, state, local, or a foreign government and for which no further development is required.

Non-materiel solution. A solution to an FAA capability shortfall identified during service analysis or investment analysis that is operationally acceptable to users and can be implemented within approved budgets and baselines. Non-materiel solutions typically involve regulatory change, process re-engineering, training, procedural change, or transfer of operational assets between sites.

Nonrecurring costs are those production costs which are generally incurred on a one time basis and include such costs as plant or equipment relocation, plant rearrangement, special tooling and special test equipment, pre-production engineering, initial spoilage and rework, and specialized workforce training.

Operational baseline. The approved technical documentation representing installed operational hardware and software.

Operational capability. A grouping of operational improvements and operational sustainments to achieve specified service outcomes and benefits.

Operational improvement. A change to operational assets to improve one or more NAS services.

Operational readiness refers to the state of a fielded new system in the NAS. This state is achieved after the system is tested by the FAA at a field test site where it is demonstrated that local site personnel have the ability to fully operate and maintain the new system.

Operational suitability. The capability of a product to be satisfactorily integrated and employed for field use, considering such factors as compatibility, reliability, human performance factors, maintenance and logistics support, safety, and training. The term also refers to the actual degree to which the product satisfies these parameters.

Operational sustainment. A discrete activity to maintain one or more current NAS services.

Other transaction. Transactions, as referenced in Public Law 104-264, October 9, 1996, which do not fall into the category of procurement contracts, grants, or cooperative agreements.

Owners. Within context of the Air Traffic Organization, owners of the FAA are the President, Congress, flying public, and American taxpayers.

Packaging, handling, storage and transportation. The resources, processes, procedures, design considerations, and methods to ensure that all subsystem, equipment, and support items are preserved, packaged, handled, and transported properly. Included are environmental considerations and equipment preservation requirements for short and long term storage and transportability.

Performance. A quantitative measure characterizing a physical or functional attribute relating to the execution of an operation or function. Performance attributes include quantity (how many or how much), quality (how well), coverage (how much area, how far), timeliness (how responsive, how frequent), and readiness (availability, mission/operational readiness). Performance is an attribute for all systems, people, products and processes including those for development, production, verification, deployment, operations, support, training and disposal. Thus, supportability parameters, manufacturing process variability, reliability and so forth, are all performance measures.

Personnel security. The standards and procedures utilized to determine and document that the employment or retention in employment of an individual will promote the efficiency of the service and is clearly consistent with the interests of the national security.

Portfolio manager. The individual responsible for management and oversight of an investment portfolio designed to achieve specific operational capabilities.

Prescreening. The evaluation of case files for impacts on safety, ATC services, and other intangible benefits, as well as cost/benefits implications, to determine if the proposed change should be implemented.

Price equals cost plus any fee or profit involved in the procurement of a product or service.

Primary engineer or principal consultant is a firm which is held responsible for the overall performance of the services, including that which is accomplished by others under separate or special service contracts.

Procurement strategy meeting is a meeting of organizations with vested interests in the contemplated procurement. The purpose of this meeting is to reach a consensus on the planned course of the acquisition and to obtain the necessary approvals to proceed.

Procurement team means the Contracting Officer, legal counsel, program officials and other supporting staff.

Program requirements document establishes the operational framework and requirements of the line of business with a mission need. It translates mission need into top-level performance, supportability, and benefit requirements that should be satisfied by the fielded capability. It is prepared in the concept and requirements definition phase of the lifecycle management process.

Product baseline is the initially approved documentation describing all of the necessary functional and physical characteristics of the configuration item and the selected functional and physical characteristics designated for production acceptance testing and tests necessary for support of the configuration item. In addition to this

documentation, the product baseline of a configuration item may consist of the actual equipment and software.

Product team or service team. A team with a mission, resources, leader, and cross-functional membership, which executes an element of a service organization's mission.

Program decision-making. In general, resource decision-making in the lifecycle management process is at the corporate level and program decision-making is within service organization.

Protest is a written, timely objection submitted by a protester to an FAA screening information request or contract award.

Protester is a prospective offeror whose direct economic interest would be affected by the award or failure to award an FAA contract, or an actual offeror with a reasonable chance to receive award of an FAA contract.

Rational basis. Documented facts that are: (1) objective and verifiable (not unreasonable, capricious or arbitrary), (2) understandable to a reasonable person, and (3) supported by substantial evidence that results in a logical conclusion. The AMS is a tool used to help formulate a rational basis.

Real property is defined as:

(1) Any interest in land, together with the improvements, structures, and fixtures located thereon (including prefabricated movable structures, such as Butler-type storage warehouses and Quonset huts, and house trailers with or without undercarriages), and appurtenances thereto, under the control of any Federal agency, except

(a) The public domain;

(b) Lands reserved or dedicated for national forest or national park purposes;

(c) Minerals in lands or portions of lands withdrawn or reserved from the public domain that the Secretary of the Interior determines are suitable for disposition under the public land mining and mineral leasing laws;

(d) Lands withdrawn or reserved from the public domain but not including lands or portions of lands so withdrawn or reserved that the Secretary of the Interior, with the concurrence of the Administrator of General Services, determines are not suitable for return to the public domain for disposition under the general public land laws because such lands are substantially changed in character by improvements or otherwise; and

(e) Crops when designated by such agency for disposition by severance and removal from the land.

(2) Improvements of any kind, structures, and fixtures under the control of any Federal agency when designated by such agency for disposition without the underlying land (including such as may be located on the public domain, on lands withdrawn or reserved from the public domain, on lands reserved or dedicated for national forest or national park purposes, or on lands that are not owned by the United States) excluding, however, prefabricated movable structures, such as Butler-type storage warehouses and Quonset huts, and house trailers (with or without undercarriages).

(3) Standing timber and embedded gravel, sand, or stone under the control of any Federal agency, whether designated by such agency for disposition with the land or by severance and removal from the land, excluding timber felled, and gravel, sand, or stone excavated by or for the Government prior to disposition.

Record drawings are drawings submitted by a contractor or subcontractor at any tier to show the construction of a particular structure or work as actually completed under the contract.

Recurring costs are production costs that vary with the quantity being produced, such as labor and materials.

Release. The designation by the originating activity that a document or software version is approved by an appropriate authority and is subject to configuration change management procedures.

Requirements. Conditions or capabilities that must be met or exceeded by a product or component to satisfy agency needs. Requirements form the basis for a contract, standard, specification, or other formally imposed document.

Research, engineering and development (RE&D). The RE&D process governs selection and execution of the RE&D portfolio. This portfolio includes systematic studies to gain knowledge or understanding of concepts, products, or procedures that could potentially benefit the aviation community with or without specific application or means by which a specific need may be met such as research related to materials and human factors. These activities inform the NAS enterprise architecture and CMTD activities, but do not lead directly to concept and requirements definition.

Resources. As it applies to contractor personnel security refers to FAA resources including a physical plant, information databases including hardware and software, as well as manual records pertaining to agency mission or personnel.

Screening is the process of evaluating offeror submittals to determine either which offerors/products are qualified to meet a specific type of supply or service, which offerors are most likely to receive award, or which offerors provide the best value to the FAA.

Screening decision is the narrowing of the number of offerors participating in the source selection process to only those offerors most likely to receive award.

Screening information request is any request made by the FAA for documentation, information, or offer for the purpose of screening to determine which offeror provides the best value solution for a particular procurement.

Second-level engineering support. This work comprises engineering support of the National Airspace System infrastructure and includes defining system performance standards, developing and publishing procedures, designing system improvements, and providing support to first-level technical support personnel.

Selection decision is the determination to make an award by the source selection official to the offeror providing the best value to the FAA.

Service-disabled veteran-owned small business is a small business concern that is 51% owned and controlled by a service disabled veteran(s).

Service organization. A service organization is any organization that manages investment resources regardless of appropriation to deliver services. It may be a service unit, program office, or directorate, and may be engaged in air traffic services, safety, security, regulation, certification, operations, commercial space transportation, airport development, or administrative functions.

Simplified purchases are those products or services of any nature that are smaller in dollar value, less complex, shorter term, routine, or are commercially available and are generally purchased on a fixed price basis.

Single-source contracting is to award a contract, without competition, to a single supplier of products or services.

Small business is a business, including its affiliates, that is independently owned and operated and not dominant in producing the products or performing the services being purchased, and one that qualifies as a small business under the federal government's criteria and North American Industry System Classification Codes size standards.

Small business set-aside is the reservation of an acquisition exclusively for participation by small businesses.

Small disadvantaged business means a small business concern that is at least 51 percent unconditionally owned by one or more individuals who are both socially and economically disadvantaged, or a publicly owned business that has at least 51 percent of its stock unconditionally owned by one or more socially and economically disadvantaged individuals and that has its management and daily business controlled by one or more such individuals. This term also means a small business concern that is at least 51 percent unconditionally owned by an economically disadvantaged Indian tribe or Native Hawaiian Organization, or a publicly owned business having at least 51 percent of its stock unconditionally owned by one of these entities which has its management and daily business controlled by members of an economically disadvantaged Indian tribe or Native Hawaiian Organization. The contractor shall presume that socially and economically disadvantaged individuals include Black Americans, Hispanic Americans, Native Americans, Asian-Pacific Americans, Subcontinent Asian Americans, and other minorities or any other individual found to be disadvantaged by the FAA. The contractor shall presume that socially and economically disadvantaged entities also include Indian tribes
and Native Hawaiian Organizations.

Small socially and economically disadvantaged business means a small business concern that is at least 51 percent unconditionally owned by one or more individuals who are both socially and economically disadvantaged, or a publicly owned business that has at least 51 percent of its stock unconditionally owned by one or more socially and economically disadvantaged individuals and that has its management and daily business controlled by one or more such individuals. This term also means a small business concern that is at least 51 percent unconditionally owned by an economically disadvantaged Indian tribe or Native Hawaiian Organization, or a publicly owned business having at least 51 percent of its stock unconditionally owned by one of these entities which has its management and daily business controlled by members of an economically disadvantaged Indian tribe or Native Hawaiian Organization. The contractor shall presume that socially and economically disadvantaged individuals include Black Americans, Hispanic Americans, Native Americans, Asian-Pacific Americans, Subcontinent Asian Americans, and other minorities or any other individual found to be disadvantaged by the FAA. The contractor shall presume that socially and economically disadvantaged entities also include Indian tribes and Native Hawaiian Organizations.

Socially disadvantaged individuals - individuals who have been subjected to racial or ethnic prejudice or cultural bias because of their identity as a member of a group without regard to their qualities as individuals.

Solution implementation is the phase of the lifecycle management process that begins after the investment decision authority selects a solution and establishes an investment program. It ends when the new capability goes into service. This phase is led by the service organization assigned by the IDA at the investment decision.

Solution providers. An organization (e.g., service organization or a regional office implementing a construction program) that has the responsibility for providing assets to satisfy National Airspace requirements.

Specification. A document that explicitly states essential technical attributes/requirements for product and procedures to determine that the product's performance meets its requirements/attributes.

Standardization is the practice of acquiring parts, components, subsystems, or systems with common design or functional characteristics to obtain economies in ownership costs.

Strategic sourcing. The collaborative and structured process of critically analyzing an organization's spending and using this information to make business decisions about acquiring products and services more effectively and efficiently.

Supply, as used in the context of mission analysis, is the existing or projected supply of services to its customers, based on information from field organizations that operate and maintain the NAS, from the aviation community, and from the enterprise architecture.

Supply support. All management actions, procedures, and techniques used to determine requirements that acquire, catalog, track, receive, store, transfer, issue, and dispose of items of supply. This includes provisioning for initial support, maintaining asset visibility for financial accountability, and replenishing spares.

Supportability. The degree to which product design and planned logistics resources meet product use requirements.

Support equipment. All equipment (mobile or fixed) required to support maintenance of a product. It includes associated multi-use end items, ground-handling and maintenance equipment, tools, metrology and calibration equipment, test equipment, and automatic test equipment. It includes the procurement of integrated logistics support necessary to maintain the support equipment itself. Operational engineering support systems and facilities are also integral parts of the lifecycle support equipment.

Sustainment. Those activities associated with keeping fielded products operational and maintained. Also applies to the planning, programming and budgeting for fielded products, referred to as sustainment funding.

Technical data. Recorded information regardless of form or character (such as manuals, drawings and operational test procedures) of a scientific or technical nature required to operate and maintain a product over its lifecycle. While computer programs and related software are not technical data, documentation of these programs and related software are technical data. Also excluded is financial data or other information related to contract administration.

Technical leveling is the act of helping an offeror to bring its proposal/offer up to the level of other proposals/offers through successive rounds of communication, such as by pointing out weaknesses resulting from the offeror's lack of diligence, competence, or inventiveness in preparing his proposal.

Technical transfusion is the FAA's disclosure of technical information from one submittal that results in the improvement of another submittal.

Technical opportunity. A technological opportunity exists when a product or capability not currently used in the NAS has the potential to enable the FAA to perform its mission more safely, efficiently or effectively.

Termination for convenience is a procedure that may apply to any FAA contract, including multi-year contracts. As contrasted with cancellation, termination can be effected at any time during the life of the contract (cancellation is effected between fiscal years) and can be for the total quantity or a partial quantity (whereas cancellation must be for all subsequent fiscal year quantities).

Termination liability is the maximum cost the FAA would incur if a contract is terminated. In the case of a multi-year contract terminated before completion of the current fiscal year's deliveries, termination liability would include an amount for both current year termination charges and out year cancellation charges.

Termination liability funding refers to obligating contract funds to cover contractor expenditures plus termination liability, but not the total cost of the completed end items.

Total estimated potential value. The sum of the initial award, unexercised options, the value of any indefinite delivery/indefinite quantity (IDIQ) contract line items (CLINs), estimates for unpriced CLINs, such as preplanned

product improvements, estimated value of partially priced items, and any other items the Contracting Officer deems relevant to establishing potential total contract value. The potential contract value should exclude anticipated change orders, pre- planned product improvements which are not established as CLINs, and any other anticipated actions not included in the written contract. Where duplicative or alternative options are established (i.e., if option 1 is exercised, option 2 will not be exercised) the Contracting Officer should include only the value which reflects the highest priced option. For incentive contracts, the maximum liability of the Government should be included in the potential contract value. For IDIQ contracts, the total contract value is the stated maximum amount the total of issued delivery orders cannot exceed.

Training, training support, and personnel skills. The analysis, design, development, implementation, and evaluation of training requirements to operate and maintain the product. This includes: conducting needs analyses; job and task analyses; delivering individual and team training; resident and nonresident training; on-the-job training; job aids; and logistic support planning for training aids and training installations.

Unauthorized commitment is an agreement entered into by a representative of the FAA who does not have the authority to obligate the FAA to spend appropriated funds.

Unit. One of a quantity of items (products, parts, etc.)

User. Internal FAA user of a product or service, such as air traffic controllers or maintenance technicians.

Validation. Confirmation that an end product or end-product component will fulfill its intended purpose when placed in its intended environment. The methods employed to accomplish validation are applied to selected work products as well as to the end product and end-product components. Work products should be selected on the basis of which are the best predictors of how well the end product and end-product component will satisfy the intended purpose and user needs. Validation may address all aspects of an end product in any of its intended environments, such as operation, training, manufacturing, maintenance, or support services.

Verification. Confirmation that selected work products meet their specified requirements. This includes verification of the end product (system, service, facility, or operational change) and intermediate work products against all applicable requirements. Verification is inherently an incremental process since it occurs throughout the development of the end product and work products - beginning with initial requirements, progressing through subsequent changes, and culminating in verification of the completed end product.

Version. (1) One of several sequentially created configurations of a data product. (2) A supplementary identifier used to distinguish a changed body or set of computer-based data (software) from the previous configuration with the same primary identifier. Version identifiers are usually associated with data (such as files, data bases and software) used by, or maintained in, computers.

Very small business is a business whose size is no greater than 50 percent of the numerical size standard applicable to the North American Industry System Classification Codes assigned to a contracting opportunity.

Work product. A work product in various forms represents, defines, or directs the end product (system, service, facility, or operational change). This can include concepts of operation, processes, plans/procedures, designs/descriptions, requirements/specifications, models/prototypes, contracts/invoices and other documents.

Work breakdown structure. A hierarchical decomposition of the work to be performed to accomplish an approved agency objective. It includes both internal and external work activities and each descending level represents an increasing definition of the work to be performed.