

Exhibit 300 FY2011

FAAXX504: En Route Automation Modernization (ERAM)

Part I: Summary Information And Justification (All Capital Assets)

Description: In Part I, complete Sections A, B, C, and D for all capital assets (IT and non-IT). Complete Sections E and F for IT capital assets.

I.A. Overview (All Capital Assets)

Description: The following series of questions are to be completed for all investments.

I.A.1. Date of Submission:	2010-02-12
I.A.2. Agency:	021
I.A.3. Bureau:	12
I.A.4. Name of this Investment: Description: (Up to 250 characters)	FAAXX504: En Route Automation Modernization (ERAM)
I.A.5. Unique Project (Investment) Identifier: Description: For IT investment only, see section 53.9. For all other, use agency ID system.	021-12-01-11-01-1150-00
I.A.6. What kind of investment will this be in FY2011? Description: Please NOTE: Investments moving to O&M in FY2011, with Planning/Acquisition activities prior to FY2011 should not select O&M. These investments should indicate their current status.	Mixed Life Cycle
I.A.8. Provide a brief summary and justification for this investment, including a brief description of how this closes in part or in whole an identified agency performance gap; this description may include links to relevant information which should include relevant GAO reports, and links to relevant findings of independent audits. Description: (Up to 2500 characters)	
<p>The En Route Automation Modernization (ERAM) program replaces the air traffic control automation system in Air Route Traffic Control Centers (ARTCCs). It includes: new system software and hardware (replaces the Host Computer System); Enhanced Backup Surveillance (EBUS) system (which replaces the Direct Access Radar Channel, the backup system to the Host Computer System); partial replacement of the display system infrastructure; tech refresh of the Radar Position Display Processor; and En Route Information Display System (ERIDS), which distributes information to controllers to improve productivity and efficiency. ERAM will enable improvements in airspace capacity, efficiency and safety (supports DOT/FAA Strategic Goals: Reduced Congestion, Safety, Greater Capacity; see Section I.D) that cannot be realized with the current 30-year-old system. It offers flexible routing options, provides safety alerts to prevent collisions and congestion, and enables controllers to better handle unplanned events. ERAM's enhanced infrastructure will support the evolution to the next generation air transportation system, and Automatic Dependent Surveillance-Broadcast support. ERAM is both in the control and evaluate phases of the CPIC process. EBUS and ERIDS are deployed and operational at all 20 ARTCCs. ERAM Release 1 (R1) has completed government acceptance at the William J. Hughes Technical Center, FAA Academy and the 20 ARTCCs with key site IOC occurring on 6/18/09. FY2010 focus: completing R1 deployment, deployment support for Release 2 (R2), maintenance support (hardware, software, logistics) of R1 and R2, software development and test support for Release 3 (R3). FY2011 focus: completing deployment of R2 at the remaining ARTCCs, deploying R3 at all ARTCCs, deployment support for R2 and R3, maintenance and 2nd-level engineering support (software, logistics) for R2 and R3. The ERAM team collaborates regularly with DOD and DHS, both of whom rely on FAA surveillance and aircraft tracking data to achieve their missions. The FAA executive decision-making body reviewed and approved the final program baseline for DME and O&M on 6/12/03. To date no JRC rebaseline decisions have been needed. Lifecycle costs for the ERAM were risk-adjusted as part of the work breakdown structure development, addition of risk dollars in selected areas, addition of a schedule risk adjustment for the full implementation of ERAM. Expected life cycle is 10 years after the last system deployment.</p>	
I.A.8.a. Enter dates for approved rebaselining, alternative analysis, and risk management plan and risk register information. Description: Provide here the date of any approved rebaselining within the past year, the date for the most recent (or planned) alternatives analysis for this investment, and whether this investment has a risk management plan and risk register. (Up to 500 characters)	
To date no Joint Resources Council rebaseline decisions have been needed. Last alternatives analysis is dated 6/11/2003. The investment has both a Risk Management Plan and a Risk Register. The Risk Management Plan is dated 10/11/07 and the Risk Register was last updated on 8/27/09.	
I.A.9. Did the Agency's Executive/Investment Committee approve this request?	yes
I.A.9.a. If "yes," what was the date of this approval?	2003-06-12
I.A.12. If this investment is a financial management system, then please fill out the following as reported in the most recent financial systems inventory (FMSI):	
I.A.12.a. Financial Management System Table	
I.A.12.b. If this investment is a financial management system AND the investment is part of the core financial system then select the primary FFMIA compliance area that this investment addresses (choose only one):	
I.B. Summary of Funding (Budget Authority for Capital Assets)	
I.B.1. Summary of Funding Table Description: Provide the total estimated life-cycle cost for this investment by completing the following table. All amounts represent budget authority in millions and are rounded to three decimal places. Federal personnel costs should be included only in the row designated "Government FTE Cost," and should be excluded from the amounts shown for "Planning," "Full Acquisition," and "Operation/Maintenance." The "TOTAL" estimated annual cost of the investment is the sum of costs for "Planning," "Full Acquisition," and "Operation/Maintenance." For Federal buildings and facilities, life-cycle costs should include long term energy, environmental,	

decommissioning, and/or restoration costs. Funding for all costs associated with the entire life-cycle of the investment should be included in this report. Funding levels should be shown for budget authority by year consistent with funding levels in Exhibit 53. The Summary of Funding table shall include the amounts allocated to the investment from, and should be directly tied to, the Fiscal Year Budget. This includes direct appropriations (discretionary or mandatory accounts), user fees, and approved self-funding activities and will provide the actual annual "budget" for the investment. This "budget" will be a subset of the congressionally approved budget for each fiscal year. This will provide Departments/Agencies and OMB useful information on the actual Fiscal Year dollars being asked for and spent on an investment.

NOTE: For the multi-agency investments, this table should include all funding (both managing partner and partner agencies). Government FTE Costs should not be included as part of the TOTAL represented.

I.B.1.a. Summary of Spending for Project Phases (Reported in Millions)

	PY-1 and earlier	PY 2009	CY 2010	BY 2011
Planning	\$1.400	\$0.000	\$0.000	\$0.000
Acquisition	\$1,635.900	\$202.200	\$170.900	\$131.500
Subtotal Planning and Acquisition	\$1,637.300	\$202.200	\$170.900	\$131.500
Operations and Maintenance	\$11.516	\$25.900	\$19.100	\$45.030
Disposition Costs (Optional)	\$0.000	\$0.000	\$0.000	\$0.000
SUBTOTAL	\$1,648.816	\$228.100	\$190.000	\$176.530
Government FTE Costs	\$48.363	\$9.300	\$8.890	\$43.480
TOTAL	\$1,697.179	\$237.400	\$198.890	\$220.010

I.B.1.b. Summary of Spending for Project Phases (Government FTE Costs Only)

	PY-1 and earlier	PY 2009	CY 2010	BY 2011
Number of FTE represented by Costs	308	70	84	278

I.B.2. If the summary of funding has changed from the FY2010 President's budget request, briefly explain those changes:

Description: (Up to 2500 characters)

The total of Planning and Acquisition (\$2,141.9M) and Operations & Maintenance (\$814.9M) Budgetary Resources combined with the Government FTE total cost (\$729.5) in the Summary of Spending (SOS) is \$3,686.3M. The total lifecycle cost presented in the table in Section II.A.1 is \$3,699.0M. The delta between these two is \$12.7M and represents a net change to the funding received in past years by the ERAM program that has not been accurately reflected in the Capital Investment Plan. The value in the table in Section II.A.1 is \$49.6M more than approved by the Joint Resources Council (JRC) for the lifecycle of the program at the final investment decision (6/12/03). This delta represents the Government Acquisition FTE costs added to the program after the final investment decision. The O&M funding (to include costs for Government FTEs) needed for FY 2009 decreased by \$8.1M, decreased by \$20.5M for FY 2010, decreased by \$1.2M for FY 2011, decreased by \$7.6M in FY 2012, and decreased by \$22.0M in FY 2013 over the BY 2010 OMB Exhibit 300, however the total of the O&M lifecycle cost remains the same at \$1,494.8M. The adjustment was made to capture support from Government FTEs and changes in training needs in order to meet the current implementation schedule. The increase in FTEs for FY 2009 thru FY 2013 reflects a re-look at the O&M activities required to support the ERAM implementation schedule. The program office is continuing to review the O&M support needed for the ERAM program. Totals from the SOS table and the table in Section II.A.1 have been rounded for ease of comparison in this section.

I.D. Performance Information (All Capital Assets)

I.D.1. Performance Information Table.

Description: In order to successfully address this area of the exhibit 300, performance goals must be provided for the agency and be linked to the annual performance plan and the relevant Agency Segment Architecture. The investment must discuss its performance measures in support of the agency's mission and strategic goals as outlined in the corresponding Segment Architecture. Performance measures (indicators) must be provided. They are the internal and external performance benefits this investment is expected to deliver to the agency (e.g., improve efficiency by 60 percent, increase citizen participation by 300 percent a year to achieve an overall citizen participation rate of 75 percent by FY 2xxx, etc.). The goals must be clearly measurable investment outcomes, and if applicable, investment outputs. They do not include the completion date of the module, milestones, or investment, or general goals, such as "significant," "better," "improved," that do not have a quantitative measure.

Agencies must use the following table to report performance goals and measures for the major investment and use the Federal Enterprise Architecture (FEA) Performance Reference Model (PRM). Map all Measurement Indicators to the corresponding "Measurement Area" and "Measurement Grouping" identified in the PRM. There should be at least one Measurement Indicator for each of the four different Measurement Areas (for each fiscal year). The PRM is available at <http://www.whitehouse.gov/omb/e-gov/>. The table can be extended to include performance measures for years beyond the next President's Budget.

Fiscal Year	Strategic Goal(s) Supported	Measurement Area	Measurement Grouping	Measurement Indicator
2005	Reduced Congestion	Customer Results	Service Availability	Availability of weather service radar data to the Air Traffic Controllers during backup operations for planned and unplanned outages of the HOST system.
2005	Reduced Congestion	Mission and Business Results	Air Transportation	Availability of safety alerts during backup operations for planned and unplanned outages of the HOST system.

2005	Reduced Congestion	Processes and Activities	Savings and Cost Avoidance	Maintenance Cost
2005	Reduced Congestion	Technology	Technology Improvement	Number of maintenance actions required by the HOST backup system (DARC). (Note: Measurement Area re-categorized from BY 07 to better align with performance indicator). (Previously reported MA: Customer Results).
2005	Reduced Congestion	Technology	Availability	DARC (HOST backup system) Availability
2006	Reduced Congestion	Customer Results	Service Availability	Availability of weather service radar data (at all 20 ARTCCs) during planned or unplanned HOST system outages.
2006	Reduced Congestion	Mission and Business Results	Air Transportation	Availability of safety alerts (at all 20 ARTCCs) during backup operations for planned and unplanned outages of the HOST system.
2006	Reduced Congestion	Processes and Activities	Savings and Cost Avoidance	Maintenance Cost
2006	Reduced Congestion	Technology	Technology Improvement	Number of maintenance actions required by the HOST backup system (DARC). (Note: Measurement Area re-categorized from BY 07 to better align with performance indicator). (Previously reported MA: Customer Results).
2006	Reduced Congestion	Customer Results	Delivery Time	Time required for air traffic controllers to access aeronautical information (e.g. Notice to Airmen (NOTAMS), Pilot reports, aeronautical charts, etc.).
2006	Reduced Congestion	Technology	Availability	Availability of the HOST backup system (DARC) to support planned and unplanned outages of the primary HOST system.
2007	Reduced Congestion	Mission and Business Results	Air Transportation	Increase availability of safety alerts during backup operations for planned and unplanned outages of the HOST system.
2007	Reduced Congestion	Processes and Activities	Costs	Reduced maintenance effort (Mean time to failure, number and length of service calls) of the backup system for HOST.
2007	Reduced Congestion	Technology	Technology Improvement	Number of maintenance actions required by the HOST backup system.
2007	Reduced Congestion	Customer Results	Delivery Time	Time required for air traffic controllers to access aeronautical information (e.g. Notice to Airmen (NOTAMS), Pilot reports, aeronautical charts, etc.).
2007	Reduced Congestion	Technology	Availability	Increase the availability of the backup system to support planned and unplanned outages of the HOST system.
2007	Reduced Congestion	Mission and Business Results	Information Security	Number of Intrusion Detection/Audit Features
2007	Reduced Congestion	Mission and Business Results	Air Transportation	Availability of critical flight data processing (at all 20 ARTCCs)
2007	Reduced Congestion	Mission and Business Results	Air Transportation	Number of Radar
2007	Reduced Congestion	Mission and Business Results	Air Transportation	Number of Aircraft the Air Traffic Control Radar System Can Track.
2007	Reduced Congestion	Mission and Business Results	Air Transportation	External Data Sharing
2007	Reduced Congestion	Technology	Technology Improvement	Software Lines of Code (SLOC)
2008	Reduced Congestion	Technology	Technology Improvement	Number of corrective maintenance actions by the HOST backup system (DARC).
2008	Reduced Congestion	Customer Results	Delivery Time	Time required to access NOTAMs.
2008	Reduced Congestion	Mission and Business Results	Air Transportation	Availability of critical flight data processing
2008	Reduced Congestion	Mission and Business Results	Air Transportation	Number of radars.

2008	Reduced Congestion	Processes and Activities	Savings and Cost Avoidance	Cost of Providing NOTAMs
2008	Reduced Congestion	Technology	IT Contribution to Process, Customer, or Mission	Number of Training Scenarios (Conducted)
2008	Reduced Congestion	Technology	Data Storage	Data Storage (Capacity): Increase flight plan storage capability.
2008	Reduced Congestion	Technology	External Data Sharing	Flight Plan Route Conversion and Checks
2008	Reduced Congestion	Mission and Business Results	Air Transportation	Availability of Air Traffic Automation System to Support En Route Operations.
2009	Reduced Congestion	Technology	Technology Improvement	Number of corrective maintenance actions by the HOST backup system (DARC).
2009	Reduced Congestion	Customer Results	Delivery Time	Time required to access NOTAMs.
2009	Reduced Congestion	Mission and Business Results	Information Security	Number of Intrusion Detection/Audit Features
2009	Reduced Congestion	Mission and Business Results	Air Transportation	Number of radars.
2009	Reduced Congestion	Technology	IT Contribution to Process, Customer, or Mission	Number of Training Scenarios (Conducted).
2009	Reduced Congestion	Processes and Activities	Security	Intrinsic Levels of Security to protect critical ATC radar (surveillance and flight data processing) assets supporting the NAS that ensure safe, expeditious movement of En Route aircraft.
2010	Reduced Congestion	Technology	Technology Improvement	Number of corrective maintenance actions by the HOST backup system (DARC).
2010	Reduced Congestion	Customer Results	Delivery Time	Time required to access NOTAMs.
2010	Reduced Congestion	Mission and Business Results	Air Transportation	Availability
2010	Reduced Congestion	Mission and Business Results	Air Transportation	Number of Radars
2010	Reduced Congestion	Technology	IT Contribution to Process, Customer, or Mission	Number of Training Scenarios (Conducted)
2010	Reduced Congestion	Processes and Activities	Security	Intrinsic Levels of Security to protect critical ATC radar (surveillance and flight data processing) assets supporting the NAS that ensure safe, expeditious movement of En Route aircraft.
2011	Reduced Congestion	Technology	Technology Improvement	Number of corrective maintenance actions by the HOST backup system (DARC).
2011	Reduced Congestion	Customer Results	Delivery Time	Time required to access NOTAMs.
2011	Reduced Congestion	Mission and Business Results	Air Transportation	Availability
2011	Reduced Congestion	Mission and Business Results	Air Transportation	Number of radars
2011	Reduced Congestion	Technology	IT Contribution to Process, Customer, or Mission	Number of Training Scenarios (Conducted)
2011	Reduced Congestion	Processes and Activities	Security	Intrinsic Levels of Security to protect critical ATC radar (surveillance and flight data processing) assets supporting the NAS that ensure safe, expeditious movement of En Route aircraft.
2012	Reduced Congestion	Technology	System Response Time	Time to deliver new software modules to a site.
2012	Reduced Congestion	Customer Results	Customer Satisfaction	Flight Delays
2012	Reduced Congestion	Mission and Business Results	Air Transportation	Availability
2012	Reduced Congestion	Processes and Activities	Cycle Time	Number of days.
2013	Reduced Congestion	Processes and Activities	Cycle Time	Number of days.
2013	Reduced Congestion	Technology	System Response Time	Time to deliver new software modules to a site.
2013	Reduced Congestion	Mission and Business Results	Air Transportation	Availability
2013	Reduced Congestion	Customer Results	Customer Satisfaction	Flight Delays
2014	Reduced Congestion	Processes and Activities	Cycle Time	Number of days.
2014	Reduced Congestion	Technology	System Response Time	Time to deliver new software modules to a site.
2014	Reduced Congestion	Mission and Business Results	Air Transportation	Availability
2014	Reduced Congestion	Customer Results	Customer Satisfaction	Flight Delays

I.F. Enterprise Architecture (EA) (IT Capital Assets only)

Description: In order to successfully address this area of the capital asset plan and business case, the investment must be included in the agency's EA and Capital Planning and Investment Control (CPIC) process and mapped to and supporting the FEA. The business case must demonstrate the relationship between the investment and the business, performance, data, services, application, and technology layers of the agency's EA.

Have the requisite investment-level architecture documentation requirements (e.g., reference model mappings, FTF mappings, etc.) for this investment been documented in the corresponding Segment Architecture? For detailed guidance regarding segment architecture requirements, please refer to <http://www.whitehouse.gov/omb/e-gov/>. See this guidance also regarding the reporting of six digit codes corresponding to agency segment architectures in Exhibit 53, and, for limited cases determined by the Chief Architect, reporting an investment alignment with multiple segments.

I.F.1. Is this investment included in your agency's target enterprise architecture? yes

Part IV: Planning for "Multi-Agency Collaboration" ONLY

Description: Part IV should be completed only for investments identified as an E-Gov initiative, a Line of Business (LOB) Initiative, or a Multi-Agency Collaboration effort. The "Multi-Agency Collaboration" choice should be selected in response to Question 6 in Part I, Section A above. Investments identified as "Multi-Agency Collaboration" will complete only Parts I and IV of the exhibit 300.

IV.A. Multi-Agency Collaboration Oversight (All Capital Assets)

Description: Multi-agency Collaborations, such as E-Gov and LOB initiatives, should develop a joint exhibit 300.

IV.A.1. Stakeholder Table

Description: As a joint exhibit 300, please identify all the agency stakeholders (all participating agencies, this should not be limited to agencies with financial commitment). All agency stakeholders should be listed regardless of approval. If the partner agency has approved this joint exhibit 300 please provide the date of approval.

IV.A.5. Does this investment replace any legacy systems investments?

Description: Disposition costs (costs of retirement of legacy systems) may be included as a category in Part I, Section B, Summary of Funding, or in separate investments, classified as major or non-major. For legacy system investments being replaced by this investment, include the following data on these legacy investments.