DEPARTMENT OF TRANSPORTATION
INSPECTOR GENERAL
TOP MANAGEMENT CHALLENGES
FOR FISCAL YEAR 2012

FEDERAL AVIATION ADMINISTRATION
YEAR END PROGRESS REPORTS

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Management Challenge:
Ensuring effective oversight on key initiatives that can improve aviation safety

Issue:
Identifying and addressing the causes of recent increases in operational errors

Section I: Why is this issue significant?
It is unclear whether the increase of operational errors from FY 2009 to FY 2010 is due to an increased error rate or to improved FAA reporting. Through continued auditing, the OIG believes that other factors are contributing to the increase in operational errors, rather than the Air Traffic Safety Action Program.

Section II: Actions taken in FY 2012
On January 30, 2012, FAA implemented new orders and tools that support a proactive approach to safety management. These orders addressed the reporting of safety occurrences, quality assurance, quality control, voluntary safety reporting, and individual performance management.

Concurrent with these orders, FAA implemented Comprehensive Electronic Data Analysis and Reporting (CEDAR), Falcon 3, and Traffic Analysis and Review Program (TARP). CEDAR provides a transparent data repository and Falcon 3 provides replay capabilities linked in CEDAR. TARP electronically collects airborne RADAR loss of separation alerts in terminal airspace.

Potential safety occurrences are reported by operational personnel through a user interface into CEDAR. In addition, TARP alerts are collected automatically in CEDAR. This data is reviewed and validated by ATO Safety and Technical Training staff in FAA service area offices daily. From January 30 to September 1, 2012, 103,585 occurrences were entered/collected in CEDAR and 99,792 of those records were reviewed/processed. This resulted in the validation of 2,692 losses of separation during this same time frame.

The Risk Analysis Process (RAP) is a defined method of assessing severity and repeatability along with multiple sub factors associated with individual occurrences to determine the level of risk. 730 of the 2,692 validated losses of separation from January 29 to September 1, 2012 were identified as Risk Analysis Events. Of these, 22 were classified by the Risk Analysis Process as high risk. Aggregate data from risk events are used to identify the "Top 5 Hazards" each fiscal year.

On September 17, 2012, Quality Control Checks and Validations were implemented in CEDAR to support Quality Control Programs at each service delivery point. These processes and associated CEDAR modules use available data to identify issues and ensure compliance with established quality control processes.

Implementation of the TARP waterfall at all Terminal facilities was completed on September 1, 2012. TARP alerts are now collected and processed in CEDAR for all eligible Terminal radar facilities.

Seventeen of 19 interventions associated with the mitigations to the Top 5 Hazards have been implemented.

Section III: Actions remaining and expected completion date
Three additional interventions associated with the FY 2012 Top 5 Hazards have projected due dates during FY 2013:

- Determine feasibility of voice recognition software used to detect incomplete/incorrect read backs;
- Develop and provide annual refresher training on coordination requirements contained in facility standard operating procedures (SOPs) and letters of agreement (LOAs); and
- Validate and/or improve the parameters for airport surface detection equipment issuing false alerts. This will be a collaborative effort including representatives from Terminal Services (AJT), ATO Safety and Technical Training (AJI), and Technical Operations (AJW).

On October 1, 2012, ATO issued the Top 5 Hazards in the NAS for FY 2013. ATO will work collaboratively to identify corrective actions for those Top 5 Hazards and will continue efforts to complete the remaining interventions from FY 2012. Interventions implemented in FY 2012 will be monitored to assess effectiveness.

Section IV: Results or expected results

FAA expects the ongoing collection and analysis of these new, larger data streams to continue to foster the development of interventions designed to mitigate those hazards associated with the highest risk events in the NAS. These interventions will impact those specific factors associated with areas of high risk. Continued monitoring of these interventions will ensure the interventions have the desired impact within the overall framework of the Safety Management System.

Management Challenge:
Ensuring effective oversight on key initiatives that can improve aviation safety

Issue:
Maintaining momentum in addressing pilot training and fatigue

Why is this issue significant?
The February 2009 crash of Colgan Air flight 3407 underscored the importance of addressing longstanding concerns about pilot training and fatigue. In April 2010, FAA issued a supplemental notice of proposed rulemaking (SNPRM) to revise crewmember training requirements. FAA also published a notice of proposed rulemaking (NPRM) to revise flight, duty, and rest requirements for commercial carriers. The OIG believes FAA still faces challenges in terms of tracking pilots with poor performance and training deficiencies, overseeing air carrier programs aimed at improving pilot skills, and improving its awareness of the extent of pilot commuting and fatigue within the air carrier industry.

Actions taken in FY 2012:
FAA continues to work on its final rule to revise crewmember training requirements. Additionally, FAA issued an NPRM that proposed to revise the requirements to obtain an airline transport pilot (ATP) certificate and to require all pilots operating in part 121 to have an ATP. FAA has also done work in the area of stall warning and stick pusher activations training by issuing an advisory circular (AC) on Stall and Stick Pusher Training and by revising the Practical Test Standards for the ATP. Additionally, FAA has initiated a rulemaking project to revise qualification standards for flight simulators to support stall training in a simulator.

In January 2012, FAA issued its final rule on flight, duty, and rest requirements for commercial air carriers. Additionally, FAA has drafted four ACs to support the rule. The ACs address Fatigue Education and Awareness Training, On-Board Rest Facilities, Fitness for Duty, and Fatigue Risk Management Systems (FRMS). Additionally, as a result of the FAA Modernization and Reform Act of 2012, FAA initiated rulemaking to include part 91 operations into a flight duty period for part 121. Finally, FAA approved all fatigue risk management plans for part 121 air carriers and continues to review and approve revisions as proposed by the air carriers.

Actions remaining and expected completion date:
FAA anticipates issuing its final rule on crewmember training by October 2013. Additionally, FAA anticipates issuing its final rule on pilot qualification in the near future. FAA is waiting for final recommendations of an Aviation Rulemaking Committee on upset recovery. FAA will use these recommendations to update guidance on addressing and training for upset recovery.

The final rule for flight and duty time limitations becomes effective in January 2014. Furthermore, the FAA will finish its review of literature on the effects of commuting on fatigue by October 2013.

Results or expected results:
FAA anticipates that new regulations for pilot qualification and pilot training will better prepare pilots for part 121 operations. The agency believes the new flight and duty time regulations, as well as the requirements for a Fatigue Risk Management Plan (FRMP) will address commuting concerns through the requirements for fitness for duty and fatigue education and training.

Management Challenge:
Ensuring effective oversight on key initiatives that can improve aviation safety

Issue:
Advancing risk-based oversight of repair stations and aircraft manufacturers

Section I: Why is this issue significant?
Weaknesses are present in the FAA's Organization Designation Authorization (ODA) program, which is FAA's program for authorizing organizations to issue approvals and certificates on the FAA's behalf. The FAA has not adequately trained engineers on enforcement responsibilities, and some offices have not effectively tracked or addressed poorly performing ODA personnel. In addition, ODA significantly reduced the agency's role in approving individuals who perform work on FAA's behalf.

The Risk-Based Resource Targeting (RBRT) process is used by engineers and manufacturing inspectors within the Aircraft Certification Service. RBRT is an IT solution that assesses risk associated with certification projects and policy development. RBRT is a subjective analysis of risk and does not include detailed data, such as accidents, to assess the risk of non-compliances to regulations. RBRT has not been effective in measuring risk and directing oversight efforts to higher risk projects. Additionally, there has been a shortcoming in the training and preparing of the engineers in the organization to use RBRT.

Section II: Actions taken in FY 2012
FAA mandated that agency personnel review each ODA unit selection decision made by an ODA holder for at least two years after an ODA holder is appointed. After two years, the ODA holder may select unit members without FAA review if they have demonstrated satisfactory performance. Improvements to the FAA Academy's Delegation Management course were incorporated to address the mandatory review of selection decisions and the appropriate role of the agency in reviewing selection decisions.

FAA conducted additional training of the Boeing and Gulfstream Aviation Safety Oversight Offices (BASOO and GASOO) personnel to clarify the organizational roles and responsibilities of those personnel as well as the FAA organizations in which they interface.

FAA Headquarters has developed a compilation of best practices associated with ODA oversight that will be used as a baseline to assess the effectiveness of the GASOO and BASOO offices. A plan to assess those offices and identify any needed policy changes is a part of the 2013 Aircraft Certification Service (AIR) Business Plan.

Additional emphasis on ODA regulatory violations, including participation by headquarters personnel, has been added to FAA's Compliance and Enforcement training to ensure that field personnel responsible for overseeing ODA organizations are familiar with the compliance and enforcement process and tools. Although engineers from FAA field offices have not historically been involved in compliance and enforcement, all engineers with compliance and enforcement responsibilities will now attend the course.

FAA has created oversight procedures and tools that will be used by the agency to track ODA unit members who are removed for misconduct. These procedures will be incorporated into a future revision to Order 8100.15B, Organization Designation Authorization Procedures, FAA's policy for oversight of ODA organizations.

Notice (IR 8110.115) was published January 20, 2012 with an effective date of March 31, 2012, requiring all offices to use RBRT for type certification and supplemental type certification projects. Since that time, FAA has issued deviation memorandum allowing for continued voluntary use until the agency issues new certification process policy for Order 8110.4D. FAA expects to issue the new certification procedures policy in late 2013, which will include the use of RBRT in a more structured environment. A new learning module was deployed in August 2011 and designed to provide more training to the engineers and inspectors who are required to use RBRT. All required users were identified and the training was added to their learning plans for completion by March 31, 2012. Additionally, AIR conducted a series of demonstrations to show engineers and inspectors how the RBRT process works. The demonstrations include both a presentation on the purpose of the process and a live demo of the actual IT tool.

In March 2012, AIR developed and deployed a new version of the IT solution that incorporates a number of items identified by the community of users to make the tool more user-friendly and categorize risk more appropriately. A continuous improvement team was identified in April 2012. This team reviews feedback and explores the effectiveness of the process as well as recommends any necessary changes for the tool. The team will continue to work on a long-term basis to make the process use more objective data in risk assessments. This will require other AIR programs to come on-line to develop those data sources.

Section III: Actions remaining and expected completion date

FAA plans to issue changes to the policy in Order 8100.15 between the publication date of the Annual Performance Report and August 2013. The revision will mandate review of ODA unit selection decisions (as currently required by policy memo), require procedures for removal of ODA unit members when mandated by FAA, and allow for tracking of unit members removed for misconduct in agency databases. Additional changes will include modification of the order to identify the specific procedural steps and tools necessary for tracking unit members who have been removed for misconduct.

. Headquarters personnel from the FAA will assess the Boeing and Gulfstream Aviation Safety offices in 2013 to determine whether they are compliant with Order 8100.15 and meet ODA oversight best practices. This assessment will ensure that those organizations are performing satisfactorily before adopting any similar management structures for other ODA organizations The assessment and any associated policy changes that have been deemed necessary are expected by the end of FY 2013.

Section IV: Results or expected results

Increased FAA participation in the selection of ODA unit members will help ensure that appropriate performance feedback is provided to ODA holders. This performance feedback will improve the selection processes for unit members and ultimately allow authorization to select unit members without FAA review. This will relieve workload on the agency and allow for increased systems-based oversight of the organization.

FAA tracking of ODA unit members removed for misconduct will ensure that these individuals are not appointed as FAA designees or perform functions for other ODA organizations.

Management Challenge:
Ensuring effective oversight of ARRA projects and applying related lessons learned to improve DOT's infrastructure programs

Issue:
Strengthening financial oversight of grantees through single audits and detecting improper payments

Section I: Why is this issue significant?
FAA's Airport Improvement Program (AIP)grant oversight has been reported as inadequate by the OIG despite corrective actions previously taken. Management must ensure accuracy regarding single audit findings and have mechanisms in place that effectively prevents or detects improper payments.

Section II: Actions taken in FY 2012
In FY 2012, FAA's Office of Airports (ARP) continued to track OIG findings through the OIG's Transportation Inspector General Reporting system (TIGR). TIGR is a report disseminated by DOT that provides recommendations for Operating Administrations. This report includes all closed, resolved, and unresolved findings. Once the report is received, ARP works closely with OIG to resolve single audit findings. A status report is prepared for the Office of the Associate Administrator for Airports, which discloses the status and actions taken to resolve open audit findings under the responsibility of the regional offices.

As recommended by OIG, ARP updated its guidance to field offices and airport sponsors regarding the completion of a cost analysis for AIP procurements. This guidance clarifies the elements of a price or cost analysis and becomes part of the basis for future project payments.

Although the FY 2012 Action Plan stated that reminder letters were specific steps to be taken in FY 2012, ARP opted to satisfy that need with teleconference meetings. ARP held weekly guidance teleconferences with filed office managers to discuss current issues.

On October 31, 2011, a sample was sent out to the regional offices of those sponsors that expended $500,000 or more per year in Federal awards. The regions were required to respond to ARP with a status report complete with comments. The report included documentation that showed whether a sponsor had filed with the Federal Audit Clearinghouse. ARP required a copy of the letter that was sent to the sponsor by the regions, as well as documentation from the Clearinghouse.

ARP advised the regions that the annual Internal Regional Audit will now include the single audit review. Each regional office is subject to an annual review by an analyst from a different region. Samples are pulled for the internal audit as well as the single audit. Each grant selected is compared against a checklist that includes all required information deemed necessary by ARP's guidance. At the end of each regional review, the manager is provided with a status report which serves as an alert for inadequate findings.

ARP worked with Deloitte contractors and completed a system for providing a more robust method of evaluating airport sponsor risks for managing AIP grants and funding. The system allows greater grant oversight on those sponsors that pose the highest risk for potential improper payments.

The development of a draft AIP handbook is underway and it includes updates to the grant oversight risk model and policy. This re-write gives ARP and FAA field personnel the steps that are required to properly administer the AIP-funded projects. Internal FAA procedural requirements are being removed from the handbook. These procedures will be maintained in an operations manual. FAA anticipates making the handbook available for public comment in early 2013.

Section III: Actions remaining and expected completion date
ARP will continue using the methods and tools described above to consistently improve oversight throughout its programs.

Section IV: Results or expected results
ARP has taken great strides to improve previously used techniques. The office will continue to manage the regions to obtain greater grant oversight to effectively prevent or detect improper payments.

Management Challenge:
Ensuring effective oversight of ARRA projects and applying related lessons learned to improve DOT's infrastructure programs

Issue:
Preventing and detecting transportation fraud through proactive measures

Section I: Why is this issue significant?
To avoid potential risks throughout its programs, management must ensure adequate oversight is performed and accountability is taken in order to meet its goals.

Section II: Actions taken in FY 2012
In FY 2012, the Office of Airports (ARP) worked with Deloitte contractors and completed a system for providing a more robust method of evaluating airport sponsor risks for managing the Airport Improvement Program (AIP) grants and funding. The system allows greater grant oversight on those sponsors that pose the highest risk for potential improper payments. A policy has been issued and implemented for FY 2013 that addresses these concerns.

As recommended by the Office of the Inspector General OIG, ARP updated its guidance to field offices and airport sponsors regarding the completion of a price cost analysis for AIP procurements. The guidance clarifies the elements of a price or cost analysis and becomes part of the basis for future project payments.

The draft AIP handbook is well underway and includes updates to the grant oversight risk model and policy. FAA anticipates making the handbook available in draft form for training purposes in FY 2013.

As an outreach and educational effort at the annual Recurrent Financial Conference, ARP discussed the importance of becoming more proactive in protecting the agency against fraud, waste, and abuse. The discussions during the conference included the types of indicators to be aware of for common fraud schemes and how to report suspected fraud.

Section III: Actions remaining and expected completion date
ARP is on track and will continue using the methods and tools described above to consistently improve oversight throughout its programs.

Section IV: Results or expected results
ARP has taken great strides to improve previously used techniques. It will continue to manage the regions to obtain greater oversight and accountability.

Management Challenge:
Managing the Next Generation Air Transportation System advancement while controlling costs

Issue:
Setting realistic plans, budgets, and expectations for the Next Generation Air Transportation System (NextGen) in a fiscally constrained environment

Section I: Why is this issue significant?
The Department of Transportation and the FAA have struggled with defining NextGen and setting realistic expectations for what can be accomplished in the near, mid-, and long-term. The current constrained budget and problems with existing projects are forcing FAA to rethink its capital investments and NextGen priorities. Therefore, FAA will face challenges in sustaining existing projects and facilities while introducing new NextGen-related capabilities. FAA has yet to make critical decisions regarding (1) what new capabilities will reside in aircraft or in FAA's ground-based automation systems, (2) the level of automation for controllers that can realistically and safely be achieved, and (3) the number and locations of air traffic facilities needed to support NextGen. Finally, FAA has not identified clear goals for performance capabilities or metrics for the NextGen initiative.

Section II: Actions taken in FY 2012
Ground Based Automation Syatem (GBAS): FAA has determined that the GBAS did not provide a strong enough benefits case to proceed with further deployment and acquisition, though FAA support and approval for production of non-Federal systems will continue to be available. Despite FAA decisions, the agency assisted two U.S. airports, Newark Liberty International (EWR) and George Bush Intercontinental Airport (IAH),that pursued non-Federal GBAS installations based on airline requests. Additionally, Moses Lake Washington and Charleston South Carolina have installed or are installing GBAS as private systems. Other airport locations currently investigating installation of GBAS include Chicago Illinois, Jackson Hole Wyoming, and Seattle Washington. FAA continues to support early implementers of GBAS within the U.S. in order to gain much needed operational experience with the system.

Human Factors: The level of automation for controllers is being addressed through on-going human factors research and through development work being supported by external research communities. FAA completed a strategic training needs analysis (STNA), and a preliminary analysis was published in June 2012. The final STNA is scheduled to be published in the near future.

FAA continues to work closely with the safety organization by performing analyses of potential hazards associated with human performance in the NextGen mid-term. The agency completed a Human Performance Hazard Assessment in February 2012 and the NextGen Human Error/Safety Database for Off-Nominal NextGen Conditions in June 2012 (an analysis of errors and other human performance issues in the National Airspace System (NAS) in off-nominal conditions in the NextGen time frame).

FAA conducted low-fidelity simulations to determine how to best integrate the environed level of automation and reduce risk by exploring the level of service that can be achieved given the introduction of automation. The agency completed these in September 2012 and the project has since been terminated due to budget constraints.

Additionally, the Human Factors Branch at the William J. Hughes Technical Center is supporting program offices in En Route and Traffic Flow Management to study automation in air traffic control and to offer guidance for implementation. This fiscal year, FAA conducted high fidelity Human-in-the-Loop (HITL) experiments that involved National Air Traffic Controllers Association (NATCA) controllers, delivered technical reports, developed a thin-specification, participated in the Future ERAM Computer-Human Interface (CHI) Team, and conducted cognitive walkthroughs. In support of Traffic Flow Management, FAA conducted analyses of where automation should be implemented and designed, and the agency developed new automation for traffic managers.

Future Facilities: FAA has been working with stakeholders on developing a plan for future facilities.

NextGen Metrics: FAA published the NextGen Performance Snapshots (NPS) website in March 2012. The NPS is designed to provide reports on operational performance as a result of the implementation of NextGen capabilities. The NPS shows both metrics data, developed in consultation with the aviation community through the NextGen Advisory Committee, as well as anecdotal information about changes in select locations. The NPS is expected to evolve to reflect ongoing progress on implementation and continuing collaboration with industry. The NPS is publicly available at http://www.faa.gov/nextgen/snapshots.

A summary of FAA's NextGen implementation efforts during 2011 is available in the 2012 update to the NextGen Implementation Plan, which also provides an overview of planned implementation activities over the next several years. Activities documented in the Implementation Plan include work on NextGen's six core transformational programs: Automatic Dependent Surveillance–Broadcast, Data Communications, System Wide Information Management, Common Support Services-Weather, NAS Voice System, and Collaborative Air Traffic Management Technologies. The NextGen Implementation Plan is published annually and is available at https://www.faa.gov/nextgen.

Section III: Actions remaining and expected completion date

FAA NextGen GBAS work is focused on requirements validation, and it supports a long-standing need for an alternative to the Instrument Landing System (ILS), (i.e., demonstrating the feasibility of GBAS), with planned completion of FAA contracts by July 2014. The technical team will be funded through 2016 to support design approval, as required. FAA is cooperating with early GBAS implementers at Newark and Houston. The goal is to gain operational experience with GBAS to support future business case decisions. There is no current FAA GBAS acquisition, and future plans have been delayed indefinitely. Current operational needs are being met by the ILS.

For FY 2013, the Human Factors Branch is planning high fidelity HITL studies for Separation Management (SepMan) and Integrated Arrival and Departure Control Services (IADCS). The Branch will continue its involvement with the Future ERAM Computer-Human Interface (CHI) Team and the design and development of new automation for traffic managers.

FAA plans to continue working with the appropriate stakeholders on the future facilities issues. It is expected that the reports will follow when this work is complete.

Section IV: Results or expected results

Results of work conducted by the Human Factors Branch have provided FAA with valuable data that has helped refine its future research needs and develop various user interfaces and functions.

Based on post-publication feedback from key industry stakeholders, the NextGen Implementation Plan has helped the aviation community understand the activities underway that lead to the implementation of NextGen operational improvements. The NPS has been highlighted to members of the NextGen Advisory Committee, and FAA expects the NextGen Advisory Committee to provide further recommendations and continued dialogue on performance measurement. The agency will continue to update both sets of information over time.

Management Challenge:
Managing the Next Generation Air Transportation System advancement while controlling costs

Issue:
Advancing NextGen's near-term goals and realizing benefits at already congested airports

Section I: Why is this issue significant?
The NextGen Mid-Term Implementation Task Force Report emphasized the importance of focusing on near-term operational benefits, and it encouraged FAA to use existing technologies and equipment to generate real user benefits. The Task Force recommended the development of optimized Performance-Based Navigation (PBN) procedures and airspace at major metropolitan area airports. The Optimization of Airspace and Procedures in the Metroplex (OAPM) program was specifically developed in response to the recommendations of the Task Force recommendations. While the OIG identified concerns with establishing detailed milestones and providing beneficial Required Navigation Performance (RNP) procedures, these issues were resolved early in FY 2012.

Section II: Actions taken in FY 2012
In FY 2012, FAA continued to evolve the OAPM program. Tasks completed during this fiscal year include supplementing existing staff with experienced program management staff and contract support in the program office, developing a new schedule that reflects other ongoing efforts and more effective utilization of program resources, and developing a detailed Operations Plan. A systematic, metrics-based process reflecting input from FAA and industry was used to initially prioritize projects, and in FY 2012, the office developed detailed project milestones, which are being tracked by several federal organizations. Internally, OAPM management is well informed about progress, and updates are provided on a monthly basis to track progress and to ensure milestones are met.

In FY 2012, the following OAPM program actionswere undertaken:

- Completion of the Design Phase for three metroplexes (Washington DC, North Texas, and Houston);
- Completion of the Study Phase for one additional metroplex (Central/South Florida);
- Completion of studies at eight metroplexes (Washington DC, North Texas, Charlotte, Atlanta, Houston, Northern California, Southern California, and Central/Southern Florida); and
- Initiation of the Evaluation Phase for three metroplexes (Washington DC, North Texas, and Houston).

Section III: Actions remaining and expected completion date
FAA has no remaining actions to address the concerns raised by theOIG, but work will continue to advance the OAPM program and meet future milestones. Early in FY 2013, FAA expects to initiate the Design Phase at one metroplex (Southern California) and begin the Study Phase at another (Phoenix).

Section IV: Results or expected results
Going forward, FAA expects to deliver benefits to all first-round OAPM sites by 2017.

Management Challenge:
Managing the Next Generation Air Transportation System advancement while controlling costs

Issue:
Resolving problems with the ERAM program that have cost and schedule implications for critical NextGen initiatives

Section I: Why is this issue significant?
Originally planned for completion in 2010, the En Route Automation Modernization (ERAM) program has experienced delays due to software-related problems. These problems have had a significant impact on the overall schedule and program budget. The ERAM program is working to resolve these issues as cost and schedule challenges have an impact on maintenance of legacy systems and associated resources, workforce-training requirements, and other Next Gen program schedules.

Section II: Actions taken in FY 2012

- The ERAM program office has renegotiated the ERAM contract with the prime vendor for FY 2012 and FY 2013 to deploy ERAM at FAA Air Route Traffic Control Centers. This includes new contractor incentive structure(s), relationships between software milestones and the triggering of those incentive(s), and agency controls to strengthen processes around software acceptance.

- The ERAM program continues to utilize the National User Team (NUT) to develop operational requirements for new software functions, thus improving the operational suitability and maturity of software before it is delivered to the field.

- The ERAM program has developed a standing work group within the construct of the contract between FAA and the National Air Traffic Controller Association (NATCA), and the Professional Aviation Safety Specialists (PASS) to collaborate on program strategy, software content, site implementation needs, and a range of other activities.

- The Automated Issues Management System (AIMS) is used by all Air Route Traffic Control Centers (ARTCC) facilities to capture operational issues observed with ERAM. The current process for intake, analysis, and disposition of issues has been streamlined. This includes system enhancements for end-user tracking and query of issue status.

- The ERAM program has improved processes and standards for packaging builds using a newly formed National Packaging Team (NPT) to provide more transparent and timely communication to facilities about build content and to enhance collaboration across program stakeholders as part of the packaging process.

- The ERAM program has initiated a series of deep-dive architecture reviews of the system. Lockheed Martin, the prime contractor, is conducting some of the reviews and others involve an independent review, which is being led by the John A. Volpe National Transportation Center. This work focuses on areas of system stability, reliability, and interoperability with other NextGen systems.

- As a means of proactively managing cost and schedule performance, the ERAM program has expanded its existing earned value management (EVM) approach to serve as a program-wide performance reporting tool rather than solely focusing on the prime vendor activities. This will improve the ability of the program to comprehensively assess cost and schedule performance.

- ERAM's safety risk management (SRM) process has been reviewed and improvements were implemented. The focus of the improvement strengthen upstream safety analysis by Air Traffic subject matter experts increase sharing of build content early in the process to facilitate SRM planning activities, and standardize safety documentation signature processes for efficiency gains.

- A new governance planning board was implemented to establish a mechanism that allows ERAM leadership to monitor the overall health of the program from shorter-term operational and long-term strategic perspectives. The governance planning board will also assist ERAM leadership in

implementing practices that increase efficiencies in managing change, coordinating schedules, and reporting progress.

Section III: Actions remaining and expected completion date

In the near future, FAA expects to receive:

- Recommendations on the ERAM Architecture review;
- Initial recommendations on the ERAM IV&V project; and
- Recommendations from the ERAM software planning and issues analysis board review.

Section IV: Results or expected results

Based on the approach outlined above, the ERAM program is expecting to see improvements in schedule and cost performance, thus addressing the issues raised in the report. The program expects to see a decline in software and technology related issues given the strengthened controls and end-user involvement throughout the system development lifecycle.

Management Challenge:
Managing the Next Generation Air Transportation System advancement while controlling costs

Issue:
Completing an integrated master schedule for the Next Generation Air Transportation System's (NextGen) transformational programs

Section I: Why is this issue significant?
FAA has not yet developed an integrated master schedule (IMS) for implementing NextGen Transformational Programs or established total program costs, schedules, or performance baselines. Decision makers in Congress, the Department, and the agency lack sufficient information to assess NextGen progress as requirements evolve. Without a master schedule, FAA will continue to be challenged to assess progress with NextGen efforts, establish priorities, and make necessary trade-offs between programs.

Section II: Actions taken in FY 2012
FAA has made significant progress this year implementing the new Idea-to-In Service Process (i2i). The i2i process provides the necessary structure and governance to better manage changes to programs, systems, NAS policy, and procedures, while complimenting FAA's Acquisition Management System (AMS). Additionally, both the NextGen and Air Traffic Organization (ATO) organizations have completed organizational changes that improve the strategic direction of NextGen and enhance ATO program management. Both actions support the development of the NextGen IMS.

The next release of the NextGen Segment Implementation Plan (NSIP 5.0) has been drafted. NSIP 5.0 includes updates to Segment Alpha capabilities through 2015 as well as integrated planning data for Segment Bravo Operational Improvements and associated increments scheduled for implementation between 2016 and 2020. NSIP Alpha updates reflect programmatic changes resulting from recent budget constraints and technical challenges.

Initial NSIP Alpha 4.0 Operational Improvement schedules have been developed within the NextGen IMS for ten NSIP Portfolios, as well as for NextGen Solution Set pre-implementation activities funded with FY 2010, FY 2011, and FY 2012 monies.

Portfolio Management Review teams, led by recently appointed Investment Portfolio Managers (IPMs), have continued NSIP portfolio execution quarterly reviews. These reviews provide a cross agency forum to review portfolio accomplishments, identify challenges to implementation and develop mitigation strategies, and provide updates to the IMS. Summary progress reports were provided to the NextGen Management Board (NMB) following the quarterly Portfolio Reviews.

Finally, the 2012 NextGen Implementation Plan was published in March. The plan included schedule and programmatic information for NSIP 4.0 Portfolios and NextGen Solution Set Pre-implementation activities.

Section III: Actions remaining and expected completion date
- Complete the NextGen Segment Implementation Plan version 5.0 with ratification by the NextGen Management Board by December 2012. NSIP 5.0 will include Operation Improvements, capability increments, and schedule planning information for implementation activities through 2020.

- Validate and baseline all NSIP Portfolio and NextGen Solution Set IMS schedules by the end of October 2012 and identify key dependencies within and across NSIP Portfolios and Solution Sets by the end of CY 2012.

- Complete NSIP Portfolio Reviews for the remaining CY 2012 quarters and report progress and issues to the NextGen Management Board.

Section IV: Results or expected results
The NSIP Portfolio Management Framework will allow for development of an Integrated NextGen Program Plan that is baselined and progressed in the NextGen IMS. The NSIP and IMS will provide key Enterprise Management Tools for the integration and sequencing of NextGen initiatives.

Management Challenge:
Managing the Next Generation Air Transportation System advancement while controlling costs

Issue:
Controlling operating costs that could crowd out NextGen capital investments

Section I: Why is this issue significant?
In 2009, the FAA entered into a three-year collective bargaining agreement with the National Air Traffic Controllers Association (NATCA). FAA estimated that the agreement with NATCA would cost the agency $669 million more than it would have cost to extend the 2006 contract for three more years. The 2009 contract also allows FAA and NATCA to negotiate local and regional memorandum of understanding (MOUs). Given past issues with unexpected cost overruns related to collective bargaining agreements, it is essential that FAA monitor and control costs associated with the current and successor NATCA agreements.

Section II: Actions taken in FY 2012
Through the first two years of the NATCA contract (FY 2010 and FY 2011), FAA's labor cost estimates were 99.6 percent accurate compared to actual payrolls costs. Through July 2012, FY 2012 payroll costs are also consistent with FAA's original forecast.

In addition to developing and maintaining accurate pay modeling tools, FAA has also been able to keep costs in line with expectations through successful workforce planning. The agency has utilized multiple resources to develop accurate attrition forecasts and estimates on training times for new controllers. This, in turn, has allowed FAA to develop and execute new hire plans to ensure that new controllers are placed in the right place at the right time.

FAA has also shown considerable improvement in compliance with established MOU processes. Briefings and supplemental training for the labor relations staff as well as outlining and emphasizing the proper procedures to follow when negotiating an MOU (and the subsequent updating of the MOU database [LERIS]) occur on a periodic basis. In addition, the standard operating procedures (SOPs) for the MOU database were recently reissued with a reinforced section on the requirement for including MOUs and supporting documentation.

Finally, FAA recently signed an extension to the 2009 NATCA contract that will run into 2016. As part of the extension, FAA and NATCA agreed to future pay provisions that will ensure controller pay increases will be generally the same as those granted to other FAA and Federal employees. This extension not only helps maintain the collaborative labor-management relationship, but it also ensures FAA costs are maintained at expected levels in the coming years.

Section III: Actions remaining and expected completion date
In the near future, FAA will conduct an internal review to compare actual FY 2012 costs with its original estimates to identify variances. In the future, FAA will use this information to adjust and improve the models, as needed.

Section IV: Results or expected results
As a result of FAA's increased focus on labor costs, workforce planning, and controls related to the MOU process, FAA expects that near-term payroll costs for the controller workforce will grow at a slower rate over the next few years than in the years immediately following the implementation of the 2009 contract.

Management Challenge:
Managing DOT acquisitions in a more strategic manner to maximize limited resources and achieve better mission results

Issue:
Equipping DOT to perform effective management oversight of its acquisitions

Section I: Why is this issue significant?
Oversight weaknesses compounded by poor acquisition data management systems hinder DOT's ability to strategically manage its contracts and contract spending, meet reporting and transparency requirements, and ensure the billions of dollars it spends on contracting each year are used efficiently and effectively. Sustained focus on developing reliable information and data management systems will position DOT to conduct more strategic acquisitions.

Section II: Actions taken in FY 2012
The Federal Aviation Administration (FAA) performed several actions in FY 2012 to maximize oversight and its ability to effectively acquire mission requirements. The National Acquisition Evaluation Program (NAEP) continued its onsite reviews in FY 2012, evaluating contract file documentation and data consistency. NAEP onsite reviews included offices in FAA Headquarters and five of its regions (Central, Southern, Eastern, Northwest Mountain and Western-Pacific). To improve data quality further, the Procurement Information & Services Branch continues to provide contracting office managers reports detailing errors and exceptions in the acquisition data system requiring action.

To improve the administration and oversight conducted by contracting officer's representatives (COR), FAA worked with the Federal Acquisition Institute (FAI) to establish new COR training; revised COR policy in the Acquisition Management System (AMS); established three COR certification levels; and performed training of its contracting officer (CO) and COR workforce. In FY 2012, FAA worked with FAI to establish entry-level training for new Federal CORs and revise competency levels for all levels of CORs in the government. FAA also formed a team consisting of various stakeholder organizations to analyze and revise the AMS COR policy and guidance. The result was the establishment of three COR levels in FAA, which are based on the complexity, scope, and value of acquisitions and reflect those established by the Office of Federal Procurement Policy (OFPP) for other Federal agencies. Finally, training was provided to the CO and COR workforce detailing the certification changes and how the new FAA polices are to be implemented and administered.

Section III: Actions remaining and expected completion date
No actions remaining.

Section IV: Results or expected results
Monthly exception reporting; continuous oversight by NAEP and contract management; and tailored PRISM/COR training improved the quality of FAA acquisition data in FY2012.

Management Challenge:
Managing DOT acquisitions in a more strategic manner to maximize limited resources and achieve better mission results

Issue:
Strengthening the acquisition workforce to manage DOT's contracts for goods and services

Section I: Why is this issue significant?
Modernizing the complex, highly sophisticated National Airspace System (NAS) depends on the Federal Aviation Administration's (FAA) acquisition workforce professionals and requires they be of the highest caliber. The FAA's acquisition workforce plan provides the blueprint for developing a high-performing acquisition workforce capable of successfully managing FAA acquisitions. The plan emphasizes the need for specific steps to develop the existing workforce, reflecting the realities of a Federal budget climate that constrains the agency's ability to hire additional resources. Looming retirements, competition for acquisition talent inside and outside of government, and the growing complexity of technology and related system requirements all contribute to the challenge of maintaining an adequately staffed and highly capable acquisition workforce.

Section II: Actions taken in FY 2012
FAA took several actions in FY 2012 to ensure its acquisition workforce was provided the training and tools necessary to effectively and efficiently deliver mission requirements. To ensure management and acquisition training personnel can properly assess the composition and competency of the acquisition workforce, FAA collects and reports acquisition workforce gains and losses and measures the development and certification of program managers, contract specialists, and contracting officer's representatives (COR) on a monthly basis. FAA also revalidated the composition and applicability of the Program/Project Management profession competency model and certification program as well as developed a pilot of a certification program for the Test and Evaluation profession.

Section III: Actions remaining and expected completion date
No actions remaining

Section IV: Results or expected results
In 2012, FAA expects the following results:

- At least 95 percent of Acquisition Category (ACAT) 1 and 2 programs are managed by a level 3 certified program manager;
- At least 80 percent of ACAT 3, 4, and 5 programs are managed by a level 2 certified program manager;
- 80 percent of entry-level contracting officer/specialists have achieved Level 1 certification within 15 months of hire; and
- Comparable results are expected as certification programs are developed and implemented for the remaining acquisition professions.

Management Challenge:
Improving the Department's cyber security

Issue:
Strengthening air traffic control system protections

Section I: Why is this issue significant?
FAA's planned Next Generation Air Transportation System (NextGen) relies on a number of new technologies to achieve its goals. NextGen relies on the use of Internet Protocol (IP)-based commercial products and web applications, which are inherently more vulnerable to security risks than proprietary software. FAA is also outsourcing more of its operations to contractors. Because FAA only owns the data, not the system, it may have little control over security challenges that could arise.

Section II: Actions taken in FY 2012
The Air Traffic Organization (ATO) established a formal security policy for NextGen-outsourced National Airspace System (NAS) systems and services through release of FAA Order 1370.114, "Implementation of FAA Telecommunications Infrastructure Services and Information Security Requirements in the NAS," which defines security control requirements for both FAA-owned NAS data/systems and contractor-owned NAS systems and services.

ATO has implemented a layered NAS security architecture to provide protection, detection, and response for NAS, IP-based services and systems. This defense-in-depth approach is comprised of the following layers:

- Enterprise secure boundary protection services via the NAS Enterprise Security Gateway (NESG) that have been integrated into NextGen system development;

- Enterprise NAS network cyber detection and monitoring capabilities via the FAA Telecommunications Infrastructure NAS Intrusion Detection System (IDS) that has been integrated with NAS Cyber Operations (NCO). This cyber monitoring capability provides complete cyber situational awareness for the interconnected NAS; and

- The foundation layer is anchored through governance that established an anomaly based approach to NAS real-time cyber event detection and response (1370.101A draft).

Section III: Actions remaining and expected completion date
FAA has no actions remaining to address this concern.

Section IV: Results or expected results
FAA now has a set of enforceable security requirements for non-FAA owned NAS services and systems that allows FAA to control the security of both FAA-owned NAS data and systems and contractor-owned NAS systems and services.

FAA also has a layered security architecture that provides defense-in-depth protection against IP and web-based security threats.