DEPARTMENT OF TRANSPORTATION INSPECTOR GENERAL TOP MANAGEMENT CHALLENGES FOR FISCAL YEAR 2017

FEDERAL AVIATION ADMINISTRATION ACTION PLANS

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	MANAGEMENT CHALLENGE	
	xpanding and Dynamic Unmanned Aircraft	
Systems (UAS) In	dustry	
Why is this issue	As new technologies evolve in the field of transportation and	
significant?	beyond, new safety challenges arise alongside them. Without	
8	a doubt, the growing demand for unmanned and autonomous	
	vehicles—both in the air and on the ground—represents	
Actions Planned for	substantial commercial opportunities for U.S. businesses.	
2017	• The FAA will continue its ongoing weekly Flight Standards District Offices outreach for aviation safety	
2017	inspectors to stay up to date on UAS issues and guidance.	
	• There are currently two UAS courses and one UAS	
	briefing available to FAA inspectors. Introduction to	
	Unmanned Aircraft Systems (Briefing FAA27100179), Unmanned Aircraft Systems – Initial (Course	
	FAA27100222), and Part 107 Small Unmanned Aircraft	
	Systems (sUAS) (Course FAA27100258) are in the FAA	
	eLearning Management System. Additional formal	
	courses may be developed or existing courses will be updated as UAS rulemaking progresses.	
	updated as OND fatemaking progresses.	
	• A periodic process for the performance of inspections of	
	commercial UAS operators already exists. Flight	
	Standards Service (AFS) will revise FAA Order 1800.56, National Flight Standards Work Program Guidelines in	
	FY 2018, if needed, to include UAS risk-based	
	surveillance.	
	Guidance for conducting site visits of UAS operations was	
	updated in FAA Order 8900.1, Volume 16, Chapter 5	
	prior to the part 107 implementation date. This included	
	how to conduct the surveillance and associated job aid to	
	allow offices to include UAS operations in their oversight plan immediately. AFS will revise FAA Order 1800.56,	
	National Flight Standards Work Program Guidelines, in	
	FY 2018, if needed, to include part 107.	
	AFS and the Air Traffic Organization (ATO) are working	
	with the Office of Information and Technology (AIT) to	
	improve the efficiency of the existing process for	
	receiving, processing, and issuing airspace authorizations via a new system called CAPS (Certification of	
	via a new system caned CALS (Cerumcation of	

Authorization Processing System) and Part 107 waivers. The target date for completion is November 2017.	ers.
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	MANAGEMENT CHALLENGE		
Maximizing Bene Cards	Maximizing Benefits from Personal Identity Verification (PIV)		
Why is this issue significant?	The FAA has not yet established PIV access at 530 facilities, though it plans to do so by the end of fiscal year 2018. Until DOT establishes full use of PIV cards across all its Operating Administrations, it will face increased security risks and will be unable to ensure that system users and individuals who access facilities and systems are correctly identified as authorized personnel.		
Actions Planned for 2017	The FAA uses the Cyber Security Asset Management (CSAM) tool to report their information systems' compliance with standards and policies. DOT has 445 information systems. National Air Space systems are exempted from supporting PIV authentication due to the operational nature, and publically accessible websites (e.g., www.faa.gov) are also exempted. As such, the FAA has 209 systems that need to support PIV authentication.		
	o By December 2016, FAA will PIV-enable all but 50 information systems that need to support PIV authentication with either the MyAccess platform or Windows Integrated Authentication, and of those remaining only a few outliers that have unique technical challenges (e.g., a mainframe application in the process of migrating to a different architecture). Of the remaining information systems listed in CSAM that still need to accept PIV Cards, FAA is on target to PIV-enable them by September 2017.		
	o The FAA has 516 Security Level 2, 3, and 4 facilities that are required to have PIV capability for facility access and has successfully deployed PIV at 380 facilities. The FAA has developed plans to prioritize implementation at its "Tier 1" facilities (most critical security level 2, 3, and 4 facilities) to require PIV cards, and to leverage the PIV Authentication Database (PAD). This will provide the capability for real-time access control decisions. The FAA is on target for completing the PIV implementation on the remaining facilities by the end of FY 2018.		

	Management Challenge		
Extending Securit	Extending Security Boundaries To Cover All DOT Information		
Why is this issue significant?	DOT's Office of the Chief Information Officer (CIO) has not ensured that the Security Operations Center (Center) has access to all departmental systems or required the Center to consider incident risk, thus limiting the Center's ability to effectively monitor, detect, and eradicate cyber incidents throughout DOT. In addition, the OIG recently reported that DOT's monitoring of cybersecurity incidents is ineffective and incomplete due to lack of access to FAA's systems.		
Actions Planned for 2017	The FAA Security Operations Center (SOC) complies with DOT-wide policies, the DOT Incident Response Plan, and supporting Service Level Agreement. The DOT Chief Information Security Officer and Cyber Operations Team are responsible for:		
	 Ensuring that Information Assurance and Privacy oversight and compliance requirements are satisfied by SOC with respect to ensuring policy assessment and compliance across DOT networks and systems, to include capabilities provided through external service providers (e.g., cloud/commercial services); 		
	 Providing an inventory of and full visibility and access into all DOT networks, systems, and devices; and 		
	 Facilitating the interactions between SOC and DOT components, including access for facilitating necessary configuration changes, closure of network visibility gaps, and incident management conflicts. 		
	• FAA Air Traffic Organization (ATO) established the National Airspace System (NAS) Cyber Operations (NCO) to integrate with NAS services, programs, and infrastructure. The NCO is the focal point for all coordination of NAS cyber security activities. When NCO validates that a US-CERT reportable cybersecurity incident has occurred, NCO will notify the FAA SOC within a timeframe that ensures compliance with US-CERT Federal Incident Notification Guidelines.		

FAA is modernizing the NAS, and is changing its communications strategy from data circuits that are 'point to point' from source to user to a more dynamic routed environment using 'Internet Protocol.'

• There are thirty-nine major systems that are in operation in the NAS utilizing this IP technology; these are called the Operational IP (OPIP) NAS systems. Monitoring the 39 Operational IP (Internet Protocol) systems is a key deliverable of the NCO; currently 13 systems are being monitored. The NCO is on target for integrating remaining OPIP NAS systems for monitoring by the end of calendar year 2018.

	Management Challenge	
Strengthening Disadvantage Business Enterprise (DBE) Program Oversight		
Why is this issue significant?	The DBE program's overall effectiveness and integrity depends on sustained DOT leadership, guidance, and oversight. In the past, the OIG has recommended, among other things, that agencies develop an oversight and compliance plan. More recently they found FAA and airports do not provide adequate oversight and guidance to ensure DBE firms are paid promptly, there is very limited car rental participation, and there are challenges with regard to certification. Furthermore, the number of new firms doing business at the nation's largest airports has declined, and major barriers impede the success of new and existing disadvantaged firms.	
Actions Planned for 2017	 The FAA will continue to implement its Comprehensive DBE Oversight and Compliance Plan which includes substantial review of program documents and reports, training, technical assistance, complaint investigations, and on-site compliance reviews. Ongoing The FAA will continue to publicize information regarding resources with DOT and FAA that can assist small businesses. Ongoing The FAA will continue to provide training at a number of national conferences to include matters such as goal-setting, prompt payment and certification. Ongoing The FAA will continue to provide training on how to properly set goals for car rental companies at airports. Ongoing The FAA will issue a best practices memo for identifying opportunities for new DBEs by March 2017. The FAA will require certification reviews to assess processing timeframes for applications and ensure that staff have completed mandatory certification training by July 2017. The FAA will analyze and address any significant or noteworthy changes in DBE participation at major airports by September 30, 2017. The FAA will request that airports update their DBE programs to include mechanisms to help ensure that firms are paid promptly after work is completed. Target date for completion: end of FY 2017. The FAA will continue to roll out the compliance dashboard feature within our web-based reporting system to allow officials to review airports status before issuing a grant Target date for completion: end of 	

•	The FAA will implement new matchmaking feature within our web-
	based reporting system that matches certified DBE firms with airport
	opportunities. Target date for completion: end of FY 2017.

Keeping near-term NextGen investment priorities on track and addressing key risks

Why is this issue significant?

The NextGen Priorities are established in collaboration with FAA and industry stakeholders via the NextGen Advisory Committee (NAC). As such, there are investments from all stakeholders that are vital to the success of the priorities. The success of this effort continues to be dependent upon effective collaboration between the FAA and the industry. FAA leadership has worked closely with industry leadership to lead the effort to develop plans that will result in the delivery of tangible benefits and increase the community's confidence in NextGen by deploying these four capabilities through 2019. It is important to understand the severity of risks to the implementation of the four priorities in order to manage key decisions around risk management. Currently the FAA is successfully meeting and managing near-term NextGen NAC investment priorities at a rate of over 96 percent. A refined identification of risks can better help organize key risks to foster and maintain increased confidence in NextGen.

Actions Planned for 2017

- The FAA currently manages risk at both the Program level and the Portfolio level through standard working groups with FAA leadership and Industry forums.
 - o The near-term NextGen Priorities established in collaboration with FAA and industry stakeholders via the NAC are included in this overall risk management framework. The NAC meets approximately three times per year. Meetings are planned for February 22, June 28, and October 9, 2017).
 - o Internally, FAA leaders meet approximately once a month with Portfolio and Program managers to receive status briefings on the priority initiatives and to identify potential risk. During these meetings, risks associated with the NextGen Priorities are briefed to leadership and mitigation strategies and solutions are identified and assigned to responsible organizations. Risks are then managed at the appropriate Program or Portfolio level. Responsible leadership then monitors the progress and success of the approved mitigation strategies.

- o In addition to the internal discussions, FAA leadership meets with NAC members and working group representatives to understand industry risk. This combination of risk identification activities results in early awareness for both the NAC participants and FAA leadership. The FAA risk management process assigns the risk to either a Program or a Portfolio for mitigation or elevates it to a higher level, such as the NextGen Management Board.
- These risks, their mitigation(s) and their status will be overseen by the NextGen Management Board, at the direction of the FAA Deputy Administrator and Chief NextGen Officer.

Defining the Costs and Benefits of the NextGen Transformational Programs

Why is this issue significant?

The FAA recognizes the importance of defining cost and benefits of transformational programs. The FAA's Next Generation Air Transportation System (NextGen) modernization effort consists of a broad set of programs in different stages of the development and acquisition lifecycle. These programs are designed to achieve the operational capabilities described in the "Future of the NAS" concept document.

Those NextGen program segments that have progressed to a Final Investment Decision by the FAA's Joint Resources Council (and thus have been "baselined") have detailed, documented cost and benefit estimates. For all program segments active in 2015, the FAA is within 6.4 percent of the cost and six percent of the schedule compared to the initial plans when the programs were approved. Baselined program segments are projected to deliver more than \$80 billion in benefits at a cost of \$18.3 billion. For non-baselined segments, the FAA continues to follow our acquisition process to reduce risk.

Additionally, through the NextGen Business Case, the FAA uses the best information available to estimate costs and benefits at an enterprise level for NextGen operational improvements described in the "Future of the NAS" through 2030. The costs and benefits in this report are segregated into JRC baselined and non-baselined program segments.

Actions Planned for 2017

- As we move forward with NextGen implementation, the FAA will continue to baseline additional NextGen program segments. When programs are baselined through the FAA Acquisition Management System (AMS), FAA's initial government cost estimates are replaced by the actual contract, cost, and schedule information.
- The FAA plans and documents its investments in the NAS Enterprise Architecture (EA) and the NextGen Implementation Plan (NGIP) annually.

- The FAA follows the Office of Management and Budget (OMB) Circular A-11 for the development and implementation and acquisition of complex programs.
- The NextGen Concept of Operations defined in the Future of the National Airspace System (NAS), the NextGen Business Case, the NAS EA and the NextGen Segment Implementation Plan (NSIP) document the FAA's long-term planning and budget projections from which all programmatic actions are then derived and presented to the Joint Resource Council (JRC) for approval to include the six NextGen Transformational Programs. (ADS-B, SWIM, DataComm, NVS, CSS-WX, and CATM-T).
- The FAA will continue to leverage the program implementation information to refine the NextGen cost and benefit analysis at the enterprise level and more details are available.

	MANAGEMENT CHALLENGE	
Enhancing Redundancy and Contingency Plans for Air Traffic Operations to Mitigate Disruptions		
Why is this issue significant?	Unexpected events and emergencies that disrupt air traffic control can have a long-lasting and devastating impact on the Nation's economy, airlines, and passengers. On September 26, 2014, an FAA contract employee deliberately started a fire that destroyed critical telecommunications equipment at FAA's Chicago Air Route Traffic Control Center (Chicago Center) in Aurora, IL. As a result of the damage, Chicago Center was unable to control air traffic for more than 2 weeks, thousands of flights were delayed and cancelled into and out of Chicago O'Hare and Midway airports, and aviation stakeholders and airlines reportedly lost over \$350 million.	
Actions Planned for 2017	 FAA Air Traffic Organization (ATO) established the ATO Operational Contingency Group (ATOC) as a permanent office, effective December 2016. ATOC will undertake efforts to unify contingency and continuity operations throughout the National Airspace System (NAS) with a focus on air traffic operations and a mission to support continuous service delivery to the flying public. ATOC aims to review and revise contingency policy and incorporate the best practices of the systems engineering industry and academia for risk mitigation, validation and verification, and iterative incorporation of lessons learned. FAA will improve processes and requirements to validate airspace divestment plans annually to ensure the plans can be executed and technical requirements are up-to-date based on current technology. Planned completion: December 31, 2017 FAA will develop a baseline methodology to ensure that, beginning in FY18, all En Route and Core 30 airport 	
	 facility contingency plans are reviewed by the Mission Support Services' Operational Support Group at least every five years on a rotating basis to ensure efficiency and executability. Planned completion: September 30, 2017 FAA will develop airspace divestment plans for oceanic airspace, and develop and implement the technical requirements needed to support all new plans. Planned completion: December 31, 2017 FAA Technical Operations will establish the NAS Resiliency Program. Resiliency is the ability of NAS systems, services, and facilities to be able to withstand and 	

- rapidly recover from air traffic operational capacityimpacting events. This program will conduct research, studies, and assessments of critical services in the NAS to identify existing vulnerabilities and make recommendations for mitigations to those vulnerabilities. Planned publication: by December 31, 2017
- FAA will convene NextGen program officials to evaluate, expedite, and complete a report on how planned NextGen capabilities can enhance the resiliency and continuity of NAS operations and mitigate the impact of future air traffic control disruptions. Planned completion: June 30, 2017
- FAA will, contingent on the approval of funding, undertake efforts to verify redundancy of data feeds to approach control facilities to identify and eliminate singlepoints-of-failure that would disrupt the major ATC facilities' ability to provide continued air traffic services. Planned completion: December 31, 2017.

Ensuring Enough Fully Certified Controllers at Critical Air Traffic Facilities

Why is this issue significant?

The FAA employs nearly 14,000 air traffic controllers and is planning to hire over 6,300 more in the next 5 years. Although FAA's controller staffing levels at its critical facilities are generally consistent with the Agency's Controller Workforce Plan, there are unresolved issues with the validity of the plan. This was due in part to significant weaknesses with the process that FAA uses to determine the staffing ranges in its plans. Without better models, FAA will continue to face challenges in ensuring its critical facilities are well staffed.

Actions Planned for 2017

- In FY 2016, the FAA exceeded its Air Traffic Controller hiring goal of 1,619, hiring 1,680 + (3.8%).
- The FAA and the MITRE Corporation's Center for Advanced Aviation System Development (CAASD) developed a post facto controller workload model to estimate capacity and identify congestion in en route sectors in September 2015. The use of this model allows the placement of new controllers at facilities where these new controllers would have the greatest operational impact.
- FAA also implemented this model for the movement of current controllers within the system by targeting those facilities with the greatest need with controllers from facilities that would not be impacted by the movement of these controllers. This will result in movement of certified controllers to higher level facilities, with the greatest need, on average of three months compared to the previous average of two years. Ongoing
- This model has allowed FAA to place new controllers at facilities where they are more likely to certify and move our current Certified Professional Controllers to higher level facilities where the likelihood of certification is greater than a new hire. Ongoing
- In December 2016, the FAA completed its review of the model with the Office of Inspector General (OIG). The outcome of this review showed that the model allowed the FAA to prioritize the placement of controllers at critical

facilities as required by the OIG. On December 15, 2016, the OIG closed the associated recommendation.

	Management Challenge	
Keeping Current on New Acquisition Skills and Financial Tools		
Lead FAA Organization	Acquisition and Business Services	
Why is this issue significant?	The Office of Federal Procurement Policy has recognized that achieving good results from contracting tools is directly linked to the skills, judgment, and capacity of the acquisition workforce. As DOT's acquisition workload changes or increases with the growing complexity of Federal programs, it will require more resources and new skills to ensure sound acquisition management and reduce program risks—an area where our work has identified several challenges for DOT.	
Actions Planned for 2017	 Although not subject to the Office of Federal Procurement Policy (OFPP) or associated OFPP/DOT Acquisition direction/circulars, the FAA will: Revise Acquisition Management System (AMS) Guidance governing warrant requirements by April 2017 to better reflect FAA mission, process and 	
	personnel needs. O Reissue 1102 series Contracting Officer warrants to ensure all delegations reflect AMS requirements by April 2017.	
	o Publish the <i>Agile Program Management Practices for</i> the Federal Aviation Administration on the FAA Acquisition System Toolset (FAST), to be used where practicable to promote the efficient delivery of capabilities through focused iteration of planning, execution, and monitoring by June 2017.	
	o Provide Contracting Officers training on how to effectively integrate cost principles into solicitations and administer resulting awards by the end of FY 2017	

Managing New Safety Requirements from the FAA Extension Act

Why is this issue significant?

The FAA has several ongoing initiatives to enhance aviation safety. Under the FAA Extension, Safety, and Security Act of 2016, FAA must ensure the Agency's safety assessment system prioritizes inspections at foreign repair stations performing heavy maintenance for U.S. carriers, using risk-based oversight and data to track corrective actions. The Extension Act also requires FAA to consider the recommendations of a Pilot Fitness Aviation Rulemaking Committee in determining whether to implement additional screening for mental health conditions. Further, the Extension Act requires FAA to issue a rulemaking on alcohol and controlled substances testing and ensure completion of preemployment background checks for safety-sensitive repair station employees.

Actions Planned for 2017

Repair Stations

- The FAA and European Aviation Safety Agency (EASA) will continually work together to identify areas in the aviation safety agreement between the U.S. and EU that may need clarification and improvements. When changes are warranted, they are incorporated as needed in collaboration with EASA. The Maintenance Annex Guidance (MAG) most recent revisions included audit reporting developments that provide foreign aviation authority (AA) and FAA inspector's ability to collect data for risk assessments. This activity is ongoing.
- The FAA will publish FAA inspector guidance material in the Order 8900.1 that provides consistency with the oversight and audit reporting requirements specified in the aviation safety agreement and the MAG, which will enhance its ability to assess risk. Completion Date: June 2017.
- The FAA plans to develop a briefing/workshop for FAA aviation safety inspectors to attend that will provide an overview of the requirements specified in the revised FAA guidance material in the Order 8900.1 as related to the oversight and audit reporting of part 145 repair stations located outside of the United States. Completion Date: June 2017.

- The FAA is reviewing the existing FAA aviation safety inspector guidance and policy to further integrate the FAA International Fields Office's (IFO) into an expanded oversight role for part 145 repair stations located outside of the United States. Target date for completion: June 2017.
- The FAA is conducting a review of the Safety Assurance System (SAS) to ensure it contains the tools and resources necessary for considering inspections and accounts for frequency and corrective actions of part 145 repair stations that conduct scheduled heavy maintenance work on part 121 air carrier aircraft. In addition, to utilize this information in assessing risk. Completion Date: September 2017.

Pilot Training

• The FAA will continue to work with carriers to address questions and other challenges carriers may experience with conforming to the new requirements of the Qualification, Service and Use of Crewmembers and Aircraft Dispatchers final rule which becomes applicable in March of 2019. The rule addresses previous recommendations for pilot training by including 6 additional manual flying requirements to include training in the prevention and recovery from stalls and upsets, manually flown slow flight and manually flown arrivals and departures. Further, the final rule also requires training on loss of reliable airspeed. Completion Date Ongoing

The FAA has published the following guidance:

- AC 120.114 Pilot Training and Checking, 29, 2016 http://www.faa.gov/documentLibrary/media/Advisory_Circular/AC_120-114.pdf
- AC 120.109A CHG1 Stall Prevention and Recovery Training, published January 4, 2017
 http://www.faa.gov/documentLibrary/media/Advisory-Circular/AC_120-109A_CHG_1.pdf
- AC 120.111A Upset Prevention and Recovery Training, published January 4, 2017 http://www.faa.gov/documentLibrary/media/Advisory-Circular/AC 120-111 CHG 1.pdf

 AC 120.71B – Standard Operating Procedures for Pilot Monitoring Duties for Flight Deck Crewmembers, published January 10, 2017 http://www.faa.gov/documentLibrary/media/AdvisoryCircular/AC_120-71B.pdf

Pilot Records Database

- The FAA submitted a rulemaking package to the Office of the Secretary of Transportation for review on December 15, 2016
- The FAA projects the following timeline for issuance of final Pilot Records Database requirements:

Transmittal to OMB
 OMB Approval
 Publication
 Close of Comment Period
 January 2017*
 May 2017*
 August 2017*

Pilot Mental Fitness

- The OIG expects to conduct an audit on pilot mental fitness later this year. Therefore, specific actions to respond to this issue will be address upon completion of the review.
- The Notice of Proposed Rulemaking "Drug and Alcohol Testing of Certain Maintenance Provider Employees Located Outside of the United States" is currently under FAA review.

^{*} Anticipated date due to change in Administration.