Summary of Inspector General's Top Management and Performance Challenges

The Reports Consolidation Act of 2000 requires the Inspector General (IG) to identify and report annually on the most serious management and performance challenges that federal agencies face. The Department of Transportation (DOT) IG's report, issued at the end of each October, highlights urgent issues facing the entire DOT, of which FAA is one component organization

DOT's FY 2022 Top Management Challenges report

On October 27, 2021 — 13 days before publication of this FAA FY 2021 PAR — the DOT IG issued its forward-looking report identifying the top management and performance challenge areas that DOT would be facing in FY 2022. The IG's finalized report is available on the IG's website at https://www.oig.dot.gov/ and on the FAA's website at http://www.faa.gov/about/plans_reports. The IG identified nine challenge areas in its forward-looking FY 2022 report:

- Aviation Safety
- Surface Transportation Safety
- Air Traffic Control and Airspace Modernization
- Surface Transportation Infrastructure
- Contract and and Grant Fund Stewardship
- Information Security
- Financial Management
- Innovation and the Future of Transportation
- Evolving Operations and Workforce Management

Of these nine challenge areas, eight were also identified as top management and performance challenges for the period covered by this PAR, FY 2021. Next year, FAA's PAR will summarize the FAA's FY 2022 actions and accomplishments toward addressing these challenges, as well as what remains for FY 2023 and beyond for each key challenge. In this FY 2021 PAR, we present a summary of the agency's accomplishments and actions taken in FY 2021 toward the challenges applicable to FY 2021.

DOT's FY 2021 Top Management Challenges report

On October 21, 2020, the DOT IG issued its memorandum identifying the top management and performance challenges that DOT would be facing in FY 2021.The IG's memorandum is provided next, and while it is titled "DOT's Fiscal Year 2021 Top Management Challenges," the report addresses both management and performance challenges for the entire department. The pages immediately following contain a summary prepared by the FAA of the challenges specifically applicable to the FAA and the actions it took during FY 2021 to address those FAA-specific challenges. The FAA provides this summary in order to present a comprehensive perspective on the FAA's FY 2021 performance activities and accomplishments towards the challenges that were communicated at the beginning of the fiscal year, and what remains for FY 2022 and beyond.

Air Traffic Controller working at Portland International Airport in Oregon. FAA photo.

Of the 16 key challenges identified by the Inspector General for FY 2021, DOT tasked the FAA with addressing the following 7 challenges:

- **Improving FAA's Oversight of Aircraft Certification Processes**

- **Enhancing Aviation Safety Oversight While Working in a Collaborative Environment**

- **Modernizing New Systems While Introducing New Capabilities**

- **Implementing New Performance Based Navigation (PBN) Flight Procedures and Delivering Benefits to Airspace Users**

- **Awarding Pandemic Relief and Other DOT Contracts and Grants Efficiently, Effectively, and for Intended Purposes**

- **Enhancing Contract and Grant Management and Oversight to Achieve Desired Results and Compliance with Requirements**

- **Ensuring the Safe Integration of UAS in the National Airspace System**

After the Inspector General's report was issued, the FAA coordinated with DOT to develop an "Action Plan" that listed actions and timelines for addressing each of the challenges. The FAA then developed an "Actions Taken" report that describes the progress the FAA made throughout FY 2021 in addressing each of the challenges. These Actions Taken reports, initial Action Plans, and the Inspector General's comprehensive report identifying top management challenges for FY 2021 will be posted on FAA's website at *http://www. faa.gov/about/plans_reports/* under the DOT IG Top Management Challenges section.

Improving FAA's Oversight of Aircraft Certification Processes

Why this is a challenge

The expert reviews of the 737 MAX airplane certification and the FAA's internal analysis have highlighted a need to enhance the FAA's oversight of the aircraft certification process, with a focus on safety management systems (SMS), delegation, human factors, and workforce improvements. Advancements in aircraft automation have contributed to an unprecedented level of safety in our domestic aviation system. However, these advancements reaffirm the importance of considering human factors and the interface between pilots and such systems in the certification process. This challenge is moving the FAA toward an integrated approach to aircraft certification that further improves safety.

Progress in meeting the challenge

Safety Management Systems (SMS)

- The FAA initiated rulemaking to mandate SMS for key aviation sectors, including design and manufacturing organizations. Until rulemaking is complete, the FAA will continue to foster and expand voluntary adoption of SMS in design and manufacturing.

- The FAA adopted two new voluntary SMS programs for design and manufacturing.

- The FAA worked with MITRE to develop a new SMS training course for Aircraft Certification Employees. The first course was held in May 2021.

Organization Designation Authorization (ODA)

- The FAA operationalized the Organization Designation Authorization (ODA) Office in April 2021. The office leads strategic efforts to achieve a consistent, risk-based approach to ODA program oversight, achieves performance efficiencies, and aligns ODA oversight policies to legislation. The office focuses on coordination between the FAA's Aircraft Certification Service (AIR) and Flight Standards Service (FS).

System Safety and Human Factors

- The FAA commissioned the Human Factors Coordinating Group (HFCG) that will coordinate with the re-invigorated Center of Excellence for Human Factors and Automation to identify opportunities for workforce training and process enhancements. The HFCG has the expertise to establish parameters and content for education and training curriculum for the broad range of aircraft technologies

and human factors considerations associated with those technologies.

- The FAA had already established a System Safety Implementation team in June 2020. This team is developing a plan to enhance standards, policy, and guidance for system safety assessments (SSAs) utilized in the type-certification of aircraft. SSAs are critical for identifying the range of hazards resulting from aircraft system failures and for mitigating risks posed by such hazards.

- The FAA completed and submitted two statements of work to the Center of Excellence for Technical Training and Human Performance on human factors awareness training; human error review; and analysis of human error methodologies, frameworks, and taxonomies.

Integrated Project Management

- In June 2020, the FAA commissioned the Integrated Program Management Team comprising subject matter experts from FS and AIR to assess current practices and policies and to make recommendations for improving FAA oversight of the integration process between design and operations.

- AIR and FS have established joint monthly program reviews to ensure integration throughout the certification process. The monthly reviews have already proven to be beneficial in increasing awareness and integration between the two services.

Enhancing Safety Oversight

- Under the Safety Oversight and Certification Aviation Rulemaking Committee (SOC ARC), the FAA created a Compliance Assurance System (CAS) working group to establish processes to provide confidence in the fulfillment of all applicable certification requirements for design approvals. The SOC ARC submitted recommendations on CAS to the FAA in spring 2021. The FAA is currently evaluating these recommendations.

Workforce Development

- The FAA updated the Aviation Safety Engineer competencies in 2020, and, in 2021, reviewed and updated the Aviation Safety Inspector competencies to emphasize the need for systems thinking and risk-based decision-making.

Enhancing Data Integration and Sharing

- The FAA initiated a proof-of-concept with a vendor to aggregate data and provide advanced analytic capability to the FAA workforce for the 737 MAX airplane. The

FAA plans to use this data to make proactive continued operational safety decisions for the 737 MAX fleet.

- The FAA also completed a number of reviews to advance aviation safety data integration and sharing. The FAA made significant progress on aviation safety data documentation, including continued work on the documentation of aircraft-level data ontology and taxonomy. The FAA also developed a data catalog playbook and data concept of operations that will be applied via the initiation of the Aircraft Stewardship Community of Practice.

What needs to be done

Safety Management Systems

- The FAA plans to issue the Notice of Proposed Rule Making for SMS applicable to 14 Code of Federal Regulations parts 21, 91, 135, and 145 by fall of 2022. The final rule is projected for 2024.

Organization Designation Authorization

- The FAA will issue a new policy in FY 2022 to address the requirements for FAA approval of ODA unit members, eliminating ODA holder interference with unit members and ensuring unrestricted communication.

- The FAA is also finalizing a policy to address the appropriate level of FAA ODA Office oversight based on the risks associated with each ODA's authorized functions, size, and complexity. The FAA will incorporate this policy, along with the policy noted above, into FAA Order 8100.15, which is projected for completion in 2023.

- The FAA is prioritizing policy development to meet the provisions mandated by the 2020 Aircraft Certification, Safety, and Accountability Act. Once this policy development is complete, the FAA will assess the impact on FAA Order 8100.15 revision C and make updates as applicable before starting formal coordination. Updates to the order addressing Office of the Inspector General recommendation #3, requiring applicants to submit failure probability analysis and key assumptions in certification deliverables, are anticipated by March 2023.

System Safety Assessments and Human Factors

- The FAA plans to publish a Notice of Proposed Rule Making for System Safety Assessments by December 2021. This rule will be the baseline for any future Assessments and Human Factors assumption rulemaking and policy.

- The FAA has numerous initiatives in progress and has commissioned a number of internal and external groups to conduct research and develop recommendations to meet

Other Information

the mandates in the Aircraft Certification, Safety, and Accountability Act of 2020 and various recommendations received from the Boeing 737 MAX investigations. The FAA is committed to completing these activities in a timely manner over the course of the next few years.

Integrated Project Management

- The Integrated Program Management Team will provide recommendations for policy and guidance updates by December 2021. The FAA also plans to initiate an integrated project management prototype between AIR and FS for three type certification projects in FY 2022.

- The FAA will continue the monthly program reviews initiated in FY 2021.

Enhancing Safety Oversight

- The FAA had published the FAA Integrated Oversight Philosophy in June 2017, with the objective to enhance the risk methodology for oversight; enable cross-functional data sharing; integrate oversight planning and activities; and expand the use of voluntary safety programs. Under the auspice of the Integrated Oversight Philosophy, the FAA plans to initiate a prototype with three companies who hold various approvals in 2022.

Workforce Development

- The FAA plans to finalize a program framework and structure for hiring, training, and continuing education for the AIR technical workforce by September 2022.

Enhancing Data Integration and Sharing

- The FAA will continue to enhance current data systems to promote data integration and sharing over the next few years. This includes developing robust data systems to assure feedback loops between operations and maintenance and design and manufacturing. These efforts will align with FAA Flight Plan 21, the agency's upcoming strategic plan, and Enterprise Information Management initiatives.

Enhancing Aviation Safety Oversight While Working in a Collaborative Environment

Why this is a challenge

FAA inspectors face challenges holding operators accountable for regulatory compliance.

Progress in meeting the challenge

Response to Allegiant Air Audit Recommendations

- The FAA initiated compliance actions at Allegiant Air that have improved safety for the flying public, are consistent with FAA's Compliance Program, and are in accordance with Safety Assurance System policies.

  - **Recommendation 1:** Revised FAA Order 8900.1 Volume 10, Chapter 3, Section 1 to require managers to review and validate that known risks documented in the FAA Certificate Holder Assessment Tool are tracked until mitigated. This recommendation was closed on October 23, 2020.

  - **Recommendation 2:** The FAA's Office of Aviation Safety (AVS) monitored compliance with Safety Assurance System training requirements. Safety Assurance System training is a mandatory training requirement for all inspectors. AVS has procedures in place to monitor the completion of mandatory training requirements. This recommendation was closed on November 5, 2020.

  - **Recommendation 3:** FAA updated the policy contained in FAA Order 8900.1 Volume 10 and the guidance contained in the Certificate Holder Evaluation Process, a standard operation procedure. This recommendation was closed on November 5, 2020.

  - **Recommendations 4-6 & 9:** The FAA's Flight Standards Service described how actual or potential outcomes are part of the investigative judgements that influence the decision of the Flight Standards Service investigative personnel to take a compliance or enforcement action. The Flight Standards Service notes that the FAA's action(s) remain focused on correcting the root cause of the non-compliance. The Flight Standards Service indicated how the actual or potential outcomes:

    - Are part of the overall investigation;

    - Provide insight into the root cause(s) of the event; and,

    - Indicate other areas of noncompliance or potential areas of improvement to proactive and reactive risk controls.

- The Flight Standards Service developed and implemented a resolution process to ensure that disagreements in handling non-compliances are dealt with consistently, using the most appropriate processes and all relevant information. The Flight Standards Service updated Order 8900.1, Volume 14 with resolution guidance.

- The FAA also revised inspector guidance to clarify how inspectors address recurring non-compliances as a factor in considering whether they should initiate compliance or enforcement actions. The FAA updated Order 8900.1, Volume 14 with this clarifying information and developed and implemented a process to incorporate historical compliance actions in the Safety Assurance System. This allows inspectors to track current and historical compliance actions. AVS also provided investigative personnel with information on how to determine an aviation personnel compliance history in Order 8900.1.

  - Recommendation 4 was closed on January 13, 2021.
  - Recommendation 5 was closed on November 5, 2020.
  - Recommendation 6 was closed on December 1, 2020.
  - Recommendation 9 was closed on December 2, 2020.

Response to Southwest Airlines Audit Recommendations

- The Southwest Airlines FAA Certificate Management Office did not perform in accordance with existing guidance by allowing 88 aircraft (the "Skyline" aircraft) to enter service through Southwest Airlines' conformity process, which lacked a comprehensive conformity inspection for used aircraft. Regarding performance weight and balance, the Southwest Airlines Certificate Management Office, at times, did not perform in accordance with existing guidance. Once FAA leadership became aware of these issues, the agency took or oversaw various actions to address the safety matters articulated in the Office of the Inspector General draft report.

  - Recommendations 2 & 3:
    - Ensured that Level One of the on-the-job training included review of courses the Aviation Safety Inspectors had already attended, pertinent sections of FAA Order 8900.1, as well as reading other articles/books/content related to Level One on-the-job training topics.
    - Ensured that Level Two of the on-the-job training consisted of Policy/Program Offices/Branches conducting presentations and briefings on the related guidance and any changes/updates that have occurred.

    - The Southwest Airlines Certificate Management Office formed a system analysis team with Southwest Airlines to collaboratively identify root causes associated with deviations in their aircraft weighing program. The team identified several root causes and then completed corrective actions to address those root causes. The team was closed on September 15, 2020 following the completion of its work.
    - Recommendation 2 was closed on February 1, 2021.
    - Recommendation 3 was closed on March 30, 2021.

  - Recommendations 4 & 5:
    - Mitigated the immediate safety concern by issuing a Notice that required Designated Airworthiness Representatives to use FAA Form 8100.1, Aircraft Conformity Inspection Record. The Notice also requires the representative to forward the record to their Managing Specialist for inclusion into the aircraft records. This action creates greater clarity in how each Designated Airworthiness Representative makes airworthiness determinations.
    - Enhanced Designee training by incorporating the requirements contained within the Notice into Designated Airworthiness Representative initial and recurrent training.
    - Updated FAA Order 8130.2J to include the requirements outlined within the Notice.
    - Recommendations 4 and 5 were closed on May 18, 2021.

  - Recommendation 6:
    - Completed a compliance review of other U.S. Standard Airworthiness Certificates for transport category aircraft issued by the Designated Airworthiness Representatives involved in the Southwest Airlines "Skyline" project aircraft. The compliance review focused on aircraft currently operated by other U.S. air carriers.
    - This recommendation was closed on February 1, 2021.

  - Recommendation 7:
    - Ensured Southwest Airlines complied with regulatory requirements that the 88 previously owned aircraft conform to U.S. aviation standards.
    - This recommendation was closed on August 3, 2020.

What needs to be done

Response to Allegiant Air Audit Recommendations

- **Recommendation 7:** AVS has revised its inspector guidance to require inspectors to determine that corrective actions taken by air carriers are implemented and have addressed known discrepancies prior to closing compliance actions. The Flight Standards Service has drafted a notice with additional clarifying information. The Notice is expected to be published by November 30, 2021.

- **Recommendation 8:** AVS will perform a comprehensive review of FAA's root cause analysis training to ensure it meets agency expectations. It will also modify training, as appropriate, based on the review, and require inspectors to complete the course(s) or offer inspectors access to industry-based training programs. AVS expects to complete this recommendation by December 31, 2022.

Response to Southwest Airlines Audit Recommendations

- Throughout much of 2020, due to the pandemic, inspectors at the Southwest Airlines Certificate Management Office had not been assigned onsite inspections to verify the performance weight and balance program at various locations throughout the carriers' system. In lieu of onsite inspections, the Certificate Management Office leadership team met weekly (transitioning to bi-weekly toward the beginning of FY 2021) with Southwest Airlines to examine the carriers' Safety Management System data over the past year to closely monitor the effectiveness of the weight and balance mitigations for errors while assessing the overall health of the program.

- **Recommendation 1:** By December 31, 2021 AVS will:
  - Develop a plan to conduct intensive surveillance and review of the approved performance weight and balance program.
  - Initiate a System Analysis Team with Southwest Airlines personnel working collaboratively with Southwest Airlines Certificate Management Office personnel to identify and address root causes of error.
  - Review all employee concerns shared with the Transition Leadership Team related to this topic and ensure the actions outlined will adequately address those concerns.
  - The Certificate Management Office is still monitoring the corrective actions in accordance with the Performance Weight and Balance recommendation. They are conducting bi-weekly update meetings with Southwest Airlines.

- **Recommendation 8:** AVS has accomplished the following actions and has requested the closure of this recommendation:
  - Reinforced Aviation Safety Inspector knowledge of the process contained within the Designee Management System to provide feedback on Designated Airworthiness Representative performance to the Managing Specialist through the publication of the Notice referenced in Recommendations 4 and 5.
  - Enhanced awareness of the ability of all Aviation Safety Inspectors to access the Designee Management System through dedicated communications with Air Carrier Safety Assurance leadership.
  - During the deployment of Group 3 designees within Air Carrier Safety Assurance Offices, the Designee Management System deployment team created additional awareness on the ability to provide feedback to any Management Specialist on the performance of any designee.

- **Recommendations 9 & 10:** By December 31, 2021 AVS will:
  - Strengthen existing policy and guidance in:
    - Volume 10 Safety Assurance System Policy and Procedures
    - Volume 17 Safety Management System
    - AC 120-92 Safety Management Systems for Aviation Service Providers is currently being revised.
  - Ensure instructor guide updates for Course 21000105 (Safety Management System Practical Application Workshop) and 21000150 (Safety Management System Continued Operations Oversight), which provides training on 14 Code of Federal Regulations part 5, Subpart C Safety Risk Management applications.

- **Recommendation 11:** By June 30, 2022, AVS will:
  - Integrate an assessment of safety culture into each data collection tool. While the FAA has not developed a specific inspection for "safety culture," each data collection tool contains a requirement to evaluate "safety values and objectives." All data collection tools include an assessment question on employee "safety ownership." The question's objective is to evaluate the extent to which management effectively communicates its company safety objectives to its employees.
  - Develop a safety culture assessment tool.

Modernizing New Systems While Introducing New Capabilities

Why this is a challenge

The En Route Automation Modernization (ERAM) system is a foundational NextGen system that will improve the efficiency of the nation's airspace system. Technical challenges and schedule delays have hindered FAA's efforts to replace ERAM's original computer hardware and modernize its system software. The COVID-19 pandemic is also impacting ERAM progress.

Another key NextGen capability—Data Communications (DataComm)—was scheduled to be implemented by the end of 2021. Due to the impacts of the 2019 government shutdown, latent air-to-ground interoperability issues, and the new challenge of COVID-19, that timeline has slipped to at least 2023.

Progress in meeting the challenge

- Employing COVID-19 safety precautions and protocols, ERAM technology refresh 2 installations restarted at the key sites in February 2021, and are now complete. An in-service decision was obtained in June 2021, which allowed for installations to continue at the remaining 17 ERAM operational locations.

- In February 2021, the FAA tested and released a software build to support ERAM Sustainment 3, ERAM Enhancements 2, and DataComm Initial Services.

- The FAA also generated a new strategic ERAM software release plan to minimize COVID-19 induced schedule impacts to DataComm Full Services, ERAM Sustainment 3, and ERAM Enhancements 2.

- In order to mitigate the risk of going below acceptable spare component levels, the FAA completed a mini-installation of a subset of tech refresh hardware at seven ERAM locations.

- The FAA deployed software that mitigated operational suitability issues associated with the ERAM technology refresh's display configuration identified at three key sites. These operational suitability issues were associated with off angle viewing of colors and the larger size of the new 43-inch diagonal display. The deployed software changed the color palette to improve off angle viewing and added display of information features that better utilized the 43-inch monitor footprint.

- The DataComm services are ready for activation at the remaining 17 air route traffic control centers once outside personnel are allowed back into the facilities to train the controllers and test the system. Planning for a restart commenced in April 2021. However, due to the most recent surge in COVID-19 cases, there will be additional impacts to the deployment schedule.

What needs to be done

- The ERAM Technology Refresh 2 program is on track to complete all installations at the remaining 17 operational locations by June 30, 2022.

- The next release of software in support of ERAM Sustainment 3 is on track for the March 2022 release to key sites and for ERAM Enhancements 2.

- Release of software for automated handoffs with NavCanada is on track for release to key sites in September 2022.

- For DataComm, once outside staff are allowed back into the facilities to train the controllers and test the system, installations at the remaining 17 operational locations will be completed. The June 30, 2022 milestone will continue to be dependent on access to facilities based on COVID-19 protocols.

Implementing New Performance Based Navigation (PBN) Flight Procedures and Delivering Benefits to Airspace Users

Why this is a challenge

The FAA continues to modernize the nation's airspace system through the multibillion-dollar NextGen program. The FAA still faces challenges with resolving key obstacles to PBN implementation, such as the lack of automated decision support tools for controllers, alignment with aircraft equipage, and the lengthy procedure amendment process. These challenges are being exacerbated by the ongoing impacts of the COVID-19 pandemic that has severely impacted FAA's ability to engage subject matter experts and access air traffic control facilities.

Progress in meeting the challenge

- Collaborated with industry through the NextGen Advisory Committee and developed a Minimum Capabilities List to align aircraft avionics with PBN procedure deployment that was completed in March 2021.

- Introduced automation enhancements to the procedure amendment/development process and decision support

tools to help ensure investment in new/amended procedures aligned with FAA's national strategy. These enhancements also supported the Instrument Flight Procedures Inventory Optimization process that was implemented in June 2021.

- Completed implementation of the Las Vegas Metroplex on February 25, 2021 and closed out the project on September 30, 2021. Las Vegas Metroplex implemented 45 procedures at 4 project airports.

- The South-Central Florida Metroplex implemented 130 procedures for 21 airports in two phases on April 22, 2021 and August 12, 2021. The project started the post-implementation analysis phase on August 13, 2021.

What needs to be done

- Refine sequencing tools at Denver International Airport and implement new sequencing tools at Los Angeles International Airport by August 31, 2022.

- Strengthen trajectory-based operations and PBN procedure integration to maximize benefits to users by July 31, 2022.

- Collaborate with industry to develop a five-year projection for most of the nation's busiest airports to ensure better alignment between airspace infrastructure and projected fleet equipage with an estimated completion by August 31, 2022.

- Invest in additional automation support tools to facilitate more efficient use of instrument flight procedure publication slots by September 30, 2022.

- Complete an Airspace Modernization Roadmap that describes our strategy for modernizing the nation's airspace system with improved air traffic controller tools with an estimated completion by September 30, 2022.

Awarding Pandemic Relief and Other DOT Contracts and Grants Efficiently, Effectively, and for Intended Purposes

Why this is a challenge

FAA's Office of Airports provided economic relief to airports suffering from the dramatic drop in passenger traffic during the pandemic by administering Coronavirus Aid, Relief, and Economic Security (CARES) Act Airport Grants. The top challenge was getting emergency relief funding to airports quickly in order for them to maintain smooth and safe operations.

Progress in meeting the challenge

- FAA administered CARES Act Airport Grants within a month of the enactment of the CARES Act.

- FAA created a website dedicated specifically for airport sponsors regarding their CARES Act Airport Grants frequently asked questions (*https://www.faa.gov/airports/*). Since the inception of the program, FAA has updated its FAQs three times, each time clarifying its requirements as the process matured.

- Initially, FAA had nine part-time employees with airport experience reviewing reimbursement requests and determining eligibility. The team met weekly to discuss issues. Over the past year, FAA hired three former FAA managers to concentrate full-time on reimbursement requests. This experienced team continually meets on a weekly basis with FAA management and compliance staff to discuss common issues and to deliberate on eligibility determinations.

- FAA set up a dedicated email account for CARES Act Airport Grants questions and submissions that is monitored daily. Airport sponsors can ask questions and receive timely answers.

- FAA also awarded a contract to Ernst & Young accounting firm to provide a risk assessment and oversight of program controls for CARES Act Airport Grants.

What needs to be done

- In FY 2021, FAA began reviewing addenda to CARES Act Airport Grants for sponsors seeking to use funds on airport development projects. Because these projects differ from operations and debt service expenses, FAA must spend additional time reviewing these projects and expenses. FAA headquarters works with field staff to ensure these construction projects meet applicable requirements, similar to those required for an Airport Improvement Program project.

- Given that an airport sponsor has four years after it executes a CARES Act Airport Grant agreement to draw down funding, FAA will continue to review and approve expenses for several more years.

- Along with this funding comes oversight. FAA has been working with and will continue to work with auditors to ensure no waste, fraud, and abuse of federal funds occurs.

Enhancing Contract and Grant Management and Oversight to Achieve Desired Results and Compliance with Requirements

Why this is a challenge

The additional CARES Act funding provided to the agency is presenting an additional challenge for FAA to maintain its focus on promoting efficiency and effectiveness in obligating funding through contracts while maximizing best value for taxpayers.

Progress in meeting the challenge

- FAA revised its Acquisition Management System (AMS) in January 2021 to clarify how proposal evaluations and fair and reasonable price determinations should be conducted and documented in the official contract file.

- FAA further revised its AMS in April 2021 to reinforce controls and standards for Independent Government Cost Estimates (IGCE), to include detailing standards to promote compliance and supportability within IGCEs; and reinforce reconciliation actions a program must take when an IGCE substantially varies from the potential contract award.

- Beginning in January 2021, FAA's National Acquisition Evaluation Program amended its processes and checklists to account for changes to AMS for proposal evaluations and reinforce its oversight activities of records supporting contract awards.

What needs to be done

- FAA will continue to apply AMS standards for proposal evaluations, fair and reasonable price determinations, and IGCEs to all agency contract obligations, as applicable in FY 2022 and beyond.

- National Acquisition Evaluation Program evaluations for FY 2022 and beyond will continue to account for proposal evaluations and appropriate records management.

Ensuring the Safe Integration of Unmanned Aircraft Systems (UAS) in the National Airspace System

Why this is a challenge

A top Department of Transportation (DOT) priority is to guide the country into the future of transportation through innovation. Emerging technologies and innovative approaches to such areas as financing and project delivery will ultimately transform how DOT carries out its mission, shapes its workforce, and deploys resources. One immediate challenge is stewarding the fast pace and scope of emerging technologies in vehicle automation and UAS as they are integrated into the nation's air transportation system. These technologies have the potential for long-term benefits but also pose new safety, oversight, and regulatory challenges.

Progress in meeting the challenge

UAS Integration Pilot Program (IPP)

- The IPP Final Report was developed and coordinated within FAA and with DOT's Office of the Secretary of Transportation (OST). It details progress made, accomplishments, challenges, and lessons learned from the 3-year program. Currently, FAA's Office of the Administrator is reviewing an OST-edited draft of the report.

BEYOND Program

- The BEYOND Program is focused on enabling UAS beyond visual line-of-sight operations, and collecting and utilizing data pertaining to community engagement best practices and the societal and economic benefits of UAS operations. The FAA has developed a comprehensive data analysis plan connecting data collection efforts, the lines of business requiring the data, and the policy and decision-making efforts for which the data will be used.

- The FAA worked with eight lead participants representing state, local and tribal governments, on community engagement plans to collect and address community sentiment toward UAS use, and explain UAS planned operations in their communities. FAA and the lead participants also developed societal and economic data plans to assess UAS uses and the FAA built quantitative and qualitative measures on the potential and actual societal and economic impacts of varying UAS operations.

Rulemaking

- On December 28, 2020, the FAA issued the final rules for Remote Identification (ID) and Operations Over People; both were effective April 21, 2021. These rules are crucial to the agency's UAS integration efforts of moving toward longer-term, more routine, and complex operations, including package delivery services and urban air mobility.

- On June 8, 2021, the FAA chartered a UAS Beyond Visual Line of Sight Aviation Rulemaking Committee. This committee is tasked with providing recommendations for safe, scalable, economically viable and environmentally advantageous beyond-visual-line-of-sight operations. The recommendations are due to the FAA by November 30, 2021.

Enhance Outreach

The FAA initiated several programs to provide support to stakeholders, including:

- The UAS Support Center case management system to gather improved and more actionable data that will be used to inform targeted outreach initiatives.

- DroneZone Application: FAA successfully launched major updates to the application to implement UAS Remote ID requirements. We are also developing an application that community based organizations can use to request recognition by the FAA. An additional application is being developed for community based organizations and educational institutions that want to apply for FAA-Recognized Identification Areas in order to comply with the Remote ID rule. Both efforts are on schedule to deploy on time.

- College Training Initiative (CTI): Launched April 30, 2020, the newest college training initiative program was designed to prepare students for careers in UAS.

  - 150 requests to participate have been received since April 2020 (includes the number of schools currently participating).

  - Of the 84 colleges and institutions currently participating in the program, 21 are minority serving institutions.

  - The FAA has held approximately 125 meetings, conferences, and webinars with interested colleges and universities, organizations/associations, industry and UAS educational service providers since April 2020.

  - An online resource portal for the UAS-CTI is hosted by the National Center for Autonomous Technologies, a National Science Foundation Advanced Technological Education grant-funded center.

- Droning On Initiative: The FAA is meeting twice per month with public safety and recreational flyer stakeholders to share best practices and collaborate on targeted outreach initiatives. Topics focus on UAS safety culture and building UAS programs. The initiative Droning On After Dark is rolling out as part of Drone Safety Awareness Week to include special emphasis on UAS racing and input from UAS social media influencers.

- The Connected by Drones Initiative is a grass-roots approach for bringing governments together to discuss all things UAS. A vision for this group is to learn and understand what types of operations are happening in their jurisdictions and to share best practices. The first meeting of the group had 135 persons in attendance; a planning committee was established; and 6 meetings and webinars have occurred since, covering topics such as new FAA rules, the Public Aircraft Operations/Certificate of Authorization process, and public safety. An online resource portal for Connected by Drones is hosted by the National Center for Autonomous Technologies for sharing information.

What needs to be done

BEYOND Program

- The FAA will continue to work with lead participants on the following challenges:

  - Current detect-and-avoid solutions cannot provide adequate detection at long ranges, do not meet size, weight, and power requirements for smaller UAS, and are cost-prohibitive.

  - New Operations Over People/Operations Over Moving Vehicle regulations are slowing the advancement of operations.

  - FAA policy for use, dissemination, and security remains unclear for public lead participant access to FAA Radar Data.

  - Challenges navigating certification compliance.

  - FAA's reluctance to provide clear guidance on its acceptance of industry standards impedes operations.

  - Lead participants would like to see progress in updated FAA systems, policies, and procedures to enable larger UAS (above 55 lbs.), or optionally piloted aircraft which is a hybrid between a conventional piloted aircraft and an unmanned aerial vehicle.

Rulemaking

- Remote ID Implementation

  - By September 16, 2022: UAS manufacturers must comply with the final rule's requirements for them.

  - By September 16, 2023: All UAS pilots must meet the operating requirements of the Remote ID rule. For most operators, this will mean flying a standard Remote ID UAS, equipped with a broadcast module, or flying at an FAA-recognized identification area.

- The FAA will receive/review recommendations for performance-based regulatory requirements to normalize safe, scalable, economically viable, and environmentally advantageous UAS beyond-visual-line-of-sight operations that are not under positive air traffic control. The FAA proposes taking recommendations, initiating rulemaking, and having concurrence on all major policy decisions by the end of FY 2022.