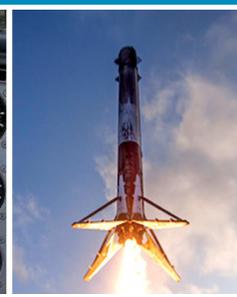
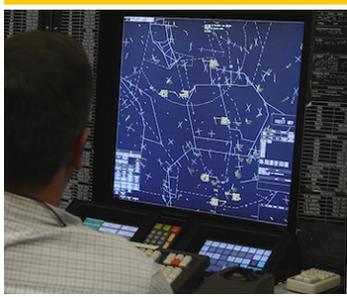




AVIATION SAFETY

2017

THE YEAR IN REVIEW



**“ Extraordinary people
produce extraordinary
results. ”**

- Ali Bahrami

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This is the safest period in the history of aviation. With over 5,000 aircraft in the sky at any given time, this is no small feat. The advent of unmanned aircraft, the growing acceptance of voluntarily shared safety data and the continued interest at large in how we operate makes for a full plate. But without your perseverance, your hard work and your dedication, none of this would have been possible.

This year, we took on ambitious strategic and [business plan](#) goals. And because of your efforts, we accomplished 95 percent of our 92 AVS level goals on time. As a team working across all services and offices throughout this organization of more than 7,200 professionals, we have indeed set a standard for the world to follow.

Our new approach to Compliance Philosophy, the reorganizations of Flight Standards and Aircraft Certification, and the launch of BasicMed all contributed to a highly productive year for AVS. That notwithstanding, the people are what make AVS a great place to work. Our FedView results bear out what each of us knows intrinsically: when it comes to getting the job done, the women and men of Aviation Safety can be counted on to make a difference.

The details about our efforts to deal with drones, which have mushroomed from a toy store novelty into what could be the fastest growing segment of aviation we've ever seen are highlighted in this report. Likewise, the strides of the entire Aviation Safety organization working in concert with the General Aviation Joint Steering Committee, the Commercial Aviation Safety Team, the U.S. Helicopter Safety Team and the Unmanned Aircraft Safety Team produced record-setting results.

As you read this report, the steps that brought us to our safety record become clear. Aviation Safety works together as a cohesive unit to identify and eliminate risk. The numbers prove it.

This has been a fantastic year. The best news of all is that even better days are ahead. I appreciate all of the hard work that has gone into making AVS a success and am happy to present this report as an opportunity to highlight the great work of our team.



Ali Bahrami
Associate Administrator for Aviation Safety

2017 Aviation Environment



As of September 30, 2017





Unifying Ideas

Individual AVS contributions to the unparalleled safety record are indeed greater than the sum of its parts. These are the people, the organizations and the programs that make it possible.



RBDM

The Risk-Based Decision Making Strategic Initiative is one of the FAA Administrator's four strategic initiatives. The goal of RBDM is to ensure that safety risk is systematically included as part of the equation when decisions are made.

Compliance Philosophy

The Compliance Philosophy represents a focus on using – where appropriate – non-enforcement methods or “Compliance Action.” AVS's objective is to identify safety issues that underlie deviations from standards and correct them as effectively, quickly and efficiently as possible.

Integrated Oversight Philosophy

The FAA Integrated Oversight Philosophy Order was signed in June 2017. It sets forth core principles for evolving safety oversight systems. The philosophy embraces interdependent principles, including transparent exchange of information, collaboration, critical thinking, risk-based decision making, compliance philosophy, safety management system integration and voluntary safety reporting programs. Implementation of these principles supports the FAA RBDM Strategic Initiative and ensures that the FAA meets the challenges of a rapidly evolving aerospace system.

Part 23 Revision

In December 2016, the FAA published one of the largest revisions to its regulations in history – known as Part 23. This was the first complete rewrite of airworthiness standards for general aviation airplanes since 1965. The rules will help streamline the approval of new technologies in type-certificated airplanes through a new performance-based regulatory structure using consensus-based industry standards – from both an industry and FAA perspective.

The Workforce Plan

AVS worked with multiple organizations throughout the Department of Transportation to make the annual AVS Workforce Plan (WFP) a more compelling and user-friendly document. The 2017 WFP provides background for current staffing levels, describes the evolving aviation safety environment and provides a staffing forecast. This report is due annually to Congress by the end of March.



A Multi-Faceted Approach to Safety

Office of Aerospace Medicine (AAM)

The Office of Aerospace Medicine is responsible for a broad range of medical programs and services for both the domestic and international aviation communities. AAM's vision is to provide global leadership for Aerospace Medicine in the 21st century. In 2017, AAM completed thousands of exams, reviews and investigations to help AVS enforce the highest possible standards for aviation safety.

Flight Standards Service (FS)

The Flight Standards Service promotes safe air transportation by setting the standards for certification and oversight of airmen, air operators, air agencies and designees. FS also promotes civil aircraft safety and air commerce by accomplishing certification, inspection, surveillance, investigation and enforcement; setting regulations and standards and managing the system for registration of civil aircraft and certification of airmen.

Aircraft Certification Service (AIR)

The Aircraft Certification Service includes more than 1,300 engineers, scientists, inspectors, test pilots and other experts responsible for oversight of design, production, airworthiness certification and continued airworthiness programs for all U.S. civil aviation products and foreign import products. AIR continued to collaborate with the International Civil Aviation Organization and other Civil Aviation Authorities to maintain and further the safety of the international air transportation system throughout 2017.

Air Traffic Safety Oversight Service (AOV)

The Air Traffic Safety Oversight Service establishes safety standards and provides independent oversight of the Air Traffic Organization, which provides air traffic services throughout the United States. In 2017, AOV collaborated with groups across the globe to improve safety in the skies.

Office of Quality, Integration & Executive Services (AQS)

The Office of Quality, Integration and Executive Services is responsible for providing executive oversight and direction of consolidated management support services for Aviation Safety.

Office of Rulemaking (ARM)

The Office of Rulemaking provides general rule information on published regulatory documents. The public is welcome to participate in rulemaking by sending comments and petitions for exemptions. The rulemaking committees provide advice and recommendations for aviation-related issues, aging system reviews and terminal area operations.

Office of Accident Investigation and Prevention (AVP)

The Office of Accident Investigation and Prevention is the principal organization within the FAA with respect to aircraft accident investigation and all activities related to the National Transportation Safety Board. AVP spent 2017 focused on making air travel safer through investigation, data collection, risk analysis and information sharing.

Unmanned Aircraft Systems Integration Office (AUS)

The Unmanned Aircraft Systems Integration Office is the lead for facilitating the development of regulations, policies, programs, and procedures to advance the safe integration of unmanned aircraft systems (UAS) into the National Airspace System.

Risk-Based Decision Making



Partnership is at the core of our efforts to raise the safety bar. Working in concert with industry, AVS took a collaborative approach to identify and mitigate safety risk. AVS has shifted its approach to regulatory compliance from enforcement to education first as a means to improve safety. Additionally, building on safety management principles, AVS sought to proactively address emerging safety risk by using consistent, data-informed approaches to making risk based decisions.

Rulemaking Updates

Rulemaking reform initiatives were completed, which included strategic involvement, advanced stakeholder input and a scalable rulemaking process.

100 percent of rules that were met for the annual rulemaking metric were completed within 90 days of the established schedule.

Highlight of Rules Published in FY17



Final Rules:

- December: Operational Requirements for Use of Enhanced Flight Vision Systems; Pilot Compartment View Requirements for Vision Systems
- December: Airworthiness Standards for Normal, Utility, Acrobatic and Commuter Category Airplanes (Part 23)
- January: Alternative Pilot Physical Examination and Education Requirements (BasicMed)

Published Five Special Federal Aviation Regulations (SFARs) Rules

Notices of Proposed Rulemaking (NPRM):

- October: Rotorcraft Pilot Compartment View
- August: Use of Automatic Dependent Surveillance-Broadcast Out in Support of Reduced Vertical Separation Minimum Operations



Enhanced Flight Vision Systems Rule

An Enhanced Flight Vision Systems rule was published in December 2016, along with accompanying installation and operational guidance documents. The avionics system allows pilots to see through weather to the runway, enabling authorized aircraft to land in very low visibility.



Risk-Based Decision Making



Leesburg Remote Tower

- Assisted in the design and development of a safety case to test and evaluate a remote tower system at a Leesburg, VA, site
- Observed the testing and provided information to ensure testing was safely completed

Safety Operations Oversight Program

AVS fast-tracked the development and implementation of a new program for conducting safety oversight of the Air Traffic Organization. The program was modeled after Flight Standards' Safety Assurance System program for the oversight of carriers.

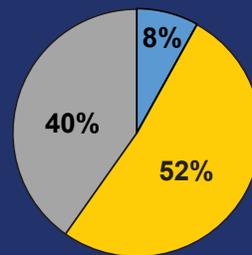
The system was developed and tested in less than one year at a fraction of the cost borne by similar efforts.

Issued 13,809 medical clearances for Air Traffic Controllers of which 1,889 were applicants and 11,920 were onboard ATCs

Issued 371,293 medical certificates for Pilots, FAA Airway Transportation System Specialists, and Air Traffic Control Specialists, of which 32,373 were special issuance medical certificates

Audits by the Numbers

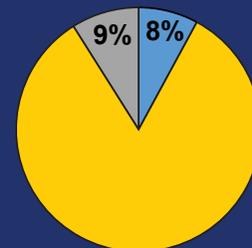
AOV FY17 Onsite Audited Locations



Percentages/Numbers/Locations

40%	35	Program Offices
8%	7	Technical Operations
52%	45	Air Traffic Control Facilities

AOV FY17 Audited Locations



Percentages/Numbers/Locations

9%	34	Program Offices
8%	30	Technical Operations
83%	316	Air Traffic Control Facilities



Risk-Based Decision Making

Securing Industry Commitment

FAA released an updated FAA & Industry Guide to Product Certification in May 2017. The new guide was created in collaboration with industry and incorporates lessons learned and process efficiencies to enhance product safety through the design approval process.

Released a report showing the success of the Organization Designation Authorization (ODA) Scorecard process used with 40 companies. The FAA and companies rated their relationships, with 72 percent "meeting expectations." This is a 9 percent increase from the first year.

Puerto Rico & U.S. Virgin Islands

AVS worked with Rulemaking, General Council and Flight Standards on the granting of a medical clearance extension for Air Traffic Controllers and Pilots operating in support of relief efforts in the U.S. Virgin Islands and Puerto Rico.

Regulatory Consistency

The Regulatory Consistency Communication Board (RCCB) was established in March 2017. RCCB provides a way for internal and external stakeholders to submit questions related to the inconsistent application of regulations or policy overseen by Flight Standards and/or the Aircraft Certification Service.



From Process to Performance

FAA published an update to Order 8040.4, Safety Risk Management to document additional specificity around the Safety Risk Management process.

The Safety Data and Analysis Team formed a cross-organizational, tactical team to develop a Runway Excursion case study and research the integration of commercial space into the aerospace system.

AVS continued engagement through industry partnership efforts such as the Commercial Aviation Safety Team, Aviation Safety Information Analysis and Sharing as well as the General Aviation Joint Steering Committee.

- Participated in the International Civil Aviation Organization Safety Management Panel
- Supported 934 accident investigations, including forensic, accident review and autopsy reports



Risk-Based Decision Making

▶ The Office of Aerospace Medicine conducted a variety of examinations and testing to support the safety of the National Airspace System:

- Completed 213 Pilot/Aircrew exams
- Reviewed 91 drugs (49 new and 42 updated) for safety in an aviation environment
- Conducted 12,889 drug and 6,021 alcohol tests on safety and security employees
- Completed 822 hearing tests and 92 respirator exams




BasicMed

effective May 1, 2017

BasicMed is an alternative method of establishing medical eligibility, allowing general aviation pilots to fly most common general aviation aircraft without a current medical certificate, provided they've held one in the past. As of September 30, 19,618 airmen had qualified to operate under BasicMed.

Credentialing & Examinations

AOV completed the inclusion of Navy and Marine Corps air traffic controllers into the FAA Air Traffic Controller Credentialing Program. AVS also signed a Memorandum of Agreement with the Army to begin its inclusion in the program.

AAM completed 619 Aviation Medical Examiner Safety Program Analyst surveillance visits.



National Airspace System

The National Airspace System is arguably the most complex interweaving of man and machine in the history of the world. Aviation Safety works with aviation professionals around the globe to develop plans and procedures that maximize how we will fly in the 21st Century.

A New Face is Set to Join Our Skies

It may have been the greatest single surge ever caused by a new entrant in aviation history. What's more, the "new entrant" was relatively unknown outside military and model aircraft operations just a few short years ago.

Unmanned aircraft systems —more popularly known as drones—prompted AVS to reshape its organization, creating a new office, the Unmanned Aircraft Systems Integration Office to coordinate the safe integration and implementation of these unconventional aircraft into the National Airspace System. In the past year, people have registered more than 274,000 drones, bringing the total number of UAS registered with the FAA to over 900,000. Despite the influx, there were zero fatalities or serious injuries related to UAS operations in FY2017. Additionally, since the implementation of Title 14 CFR Part 107 on August 29, 2016, also known as the Small UAS Rule, the FAA has issued 6,366 non-airspace waivers for more complex operations and supported hundreds of public outreach events and programs.

Drones continue to capture the public imagination, most recently with UAS operations conducted in support of disaster relief as Hurricanes Harvey, Jose, Irma and Maria battered the Gulf and surrounding states. Telephone lines, bridges, and roads were all besieged and quickly overcome by Mother Nature. Drones significantly accelerated relief efforts. Impenetrable areas soon had a drone's eye view, allowing rescuers, relief workers and infrastructure repair organizations to move in and restore devastated districts. Drones were



also used to fight the wildfires in California. In both instances, the FAA moved quickly to modify temporary flight restrictions to facilitate quick access to the airspace for public safety officials and first responders.

Taking what many in the public view skeptically, or in some cases, negatively, and integrating the burgeoning technology into the NAS takes considerable effort. It also takes partnership, and requires establishing and maintaining a public outreach and stakeholder network that enables the industry to flourish while still respecting the longstanding safety rubric established decades ago.



National Airspace System



A Year of Firsts for Unmanned Aircraft Systems Integration

Established three Partnership for Public Safety plans

Increased outreach and improved stakeholder relationships, including:

- Conducted an Aviation Rulemaking Committee on UAS Identification & Tracking
- Held the second UAS Symposium (650 attendees, 24 presentations/panels each with stakeholder engagement component)
- Attended several industry tradeshows including the Consumer Electronics Show and AUVSI's XPONENTIAL

Held several meetings of the Drone Advisory Committee and the Unmanned Aircraft Safety Team

Concluded a pilot program on UAS Detection at airports

Collaborated with other offices throughout the FAA to:

- Process 6,366 Part 107 Non-Airspace waivers
- Issue 64,390 Remote Pilot Certificates

➤ AVS supported several rule-making teams and led one that crafted and vetted policy to define the next UAS regulation allowing safe operations of UAS at night and over people.

➤ AVS supported international efforts to align UAS regulations, trained and educated its workforce and facilitated many other teams and work groups to advance UAS integration and innovation.



Global Leadership

Spreading the net of safety and efficiency to the four corners of the planet requires both expertise and diplomacy. Given the advent of a seamless global sky, Aviation Safety has been a key player in helping other countries and foreign aviation authorities to raise the safety bar.



Global Leadership

AOV led extensive outreach including two workshops with international attendees: one in Maputo, Mozambique, on effective oversight of aeronautical information services and management programs; and another given to 33 delegates from 13 states and territories on how to be an Air Navigation Services/Air Traffic Services Inspector.

In addition to the workshops, AOV also participated in two trilateral Air Traffic Safety Oversight meetings with the Japan Civil Aviation Bureau and the Korea Office of Civil Aviation.

Refresh Certification Strategy

AIR signed safety agreements with counterparts in Europe and Canada that follow a risk-based approach and increased acceptance of approvals without technical involvement by the validating authority.

AIR formed the foundation for increased reliance on bilateral partners in China and Mexico, using a risk-based approach to production oversight.

Workforce of the Future



A vibrant workforce is the backbone of plans and programs that are designed to advance aviation safety. AVS uses recruiting, training and teleworking to bolster its staff of more than 7,200 professionals.

As aviation continues to evolve, the Offices of Aircraft Certification and Flight Standards have worked to stay in step with the brisk pace kept by industry. Creating ways to speed technology into the cockpit and building organizations aligned by function—not geographical borders—are just part of it. Aircraft Certification and Flight Standards set the bar for safety and technology and both are transforming to keep it that way.

AIR Transformation

Improve the Organization & Invest in our People

Realigned to a functionally-based organization from former product-based directorates.

The new divisions are:

- Organizational Performance
- International
- Policy & Innovation
- Compliance & Airworthiness
- Systems Oversight
- Enterprise Operations

Released the Blueprint for AIR Transformation which lays out the case for change and presents the strategic vision for AIR's future in a dynamic, global aviation industry.

Embrace Change Management

- Used a robust change management process to engage employees, answer questions and address issues through a Realignment toolkit, webinars, local office liaisons, and a Rapid Response Team

Future of Flight Standards

Structural transition completed
August 20, 2017

“A culture marked by interdependence, critical thinking and consistency.”

Legacy regional structure was replaced by four functional offices:

- Safety Standards
- Air Carrier Safety Assurance
- General Aviation Safety Assurance
- Foundational Business

► Changing the culture is what the Future of Flight Standards is all about.

► The structural change is about enabling and supporting the cultural change.



Workforce of the Future

Invest in Management Systems to Improve Performance



- Established AIR-300 to monitor AIR's performance & promote continuous improvement.
- Created and implemented a work tracking system for all Aircraft Certification Offices to standardize processes and enhance efficiencies.
- Approved IT Agility order, which allows in-house development of innovative technology solutions to enhance data-driven decision making.

Diversity and Inclusion

AVS improved recruitment and outreach through participation in events, such as the 2017 Organization of Black Aerospace Professionals Convention and Career Expo in Orlando, FL. In FY 2017, AVS attended 25 recruitment and outreach events across the country. Participation in such events helped AVS reach a diverse audience of potential applicants and share information about career opportunities. This addresses a critical goal outlined in the AVS Diversity and Inclusion Work Plan.

AVS exceeded the goal for new hires with targeted disabilities.

AVS provided EEO training to 80 percent of AVS managers and 22 percent of AVS employees, exceeding the agency's goals of 60 percent and 10 percent, respectively.



Workforce of the Future



Quality Management Systems

Management Review Heads-Up Display

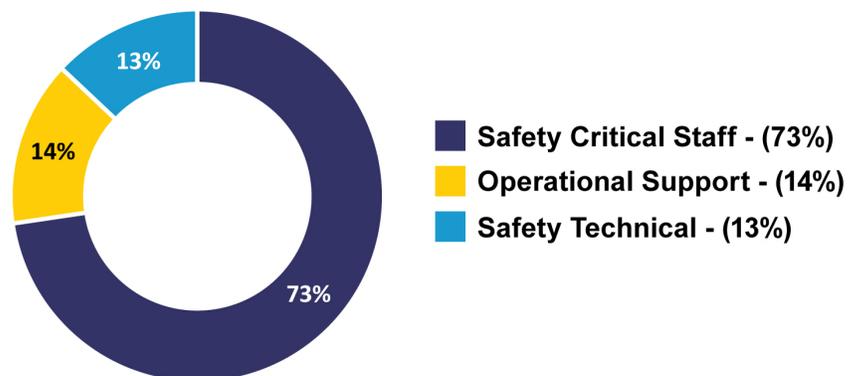
- Added a review of quality system health as part of the monthly AVS dashboard
- Offices provided and reported data analysis from audits and from Corrective Action Request trends to help identify opportunities for improvement

ISO 9001:2015 Transition

- AQS led the planning and coordination for the transition to the ISO 9001:2015 Standard, which was a multi-year effort.
- The audit of AVS to this new standard was completed in September 2017. Upon progress and acceptance of corrective action plans to the audit results, currently underway, this will be the second time that AVS will have upgraded its level of quality certification.

Budget and Staffing

AVS uses the Aviation Staffing Tool and Reporting System to work two years ahead to create budgets and manage challenges to ensure funding where needed.



AVS managed its budget within .01% of its allocation.



Workforce of the Future



Employee Engagement & Work Life Balance

The FedView Survey

This annual survey provides employees with an opportunity to share opinions about their jobs, organization, supervisors, agency leaders and many other aspects of employment at the FAA. In 2017, AVS had more respondents to FedView than any other office in DOT. The organization accounted for nearly 29 percent of DOT responses and over 37 percent of FAA responses. The survey highlighted the success of key initiatives such as telework.

2017 AVS Employee Engagement Index (EEI)

My Work Experience	73.0%*
My Supervisor	80.3%*
Leadership	59.8%*
Overall	71.0%*

* Above Government average.

Drivers for the EEI relate to the leader, supervisor, and employee behaviors and attitudes that make up a workplace supportive of engagement. The percentages reflect the positive scores for AVS in these key EEI categories.

AVS's 2017 FedView scores contributed to the Department of Transportation being ranked 4th Best Place to Work in the Federal Government by the Partnership for Public Service and Deloitte, which produce the rankings every year.

Our highest percentage increase from 2016 to 2017 was "I have trust & confidence in my supervisor" at 77.3%

While it may have only increased 0.3%, "I know how my work is related to the agency's goals & priorities" remains one of our highest-scoring questions with 84.5%

249,834
commuting
days avoided
by telework

93.9% of AVS employees
are telework eligible



Safest Year on Record for U.S. Aviation

This has been the safest year in aviation, and the women and men of Aviation Safety may rightfully take a bow. Each office worked collaboratively and consistently with stakeholders from across the world to build a system that is second to none in terms of safety, efficiency and flexibility.

It's far more than working with a handful of major airlines. AVS partnered with general aviation pilots, drone operators, flight attendants, repair station professionals, manufacturers, flight instructors—and literally everyone who touches an airplane in some fashion.

These charts are the bottom line. The fatality rate for commercial air carriers is so low that it hovers near zero. The general aviation fatal accident rate is also historically low.

