



U.S. Department
of Transportation

**Federal Aviation
Administration**

MAR 3 1 2010

Office of the Administrator

800 Independence Ave., S.W.
Washington, D.C. 20591

The Honorable Daniel K. Inouye
Chairman, Committee on Appropriations
United States Senate
Washington, DC 20510

Dear Mr. Chairman:

As requested in the Consolidated Appropriations Act, 2010, the Federal Aviation Administration was asked to provide an annual safety plan to include total number of staff, estimated staff losses, and planned hires for the entire safety staff as well as individually for the Flight Standards and Aircraft Certification Offices. The FAA is pleased to provide the enclosed report.

We have sent identical letters to Chairman Obey, Senator Cochran, and Congressman Lewis.

Sincerely,

A handwritten signature in black ink, appearing to read "J. R. Babbitt".

J. Randolph Babbitt
Administrator

Enclosure



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Office of the Administrator

800 Independence Ave., S.W.
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MAR 31 2010

The Honorable Thad Cochran
Committee on Appropriations
United States Senate
Washington, DC 20510

Dear Senator Cochran:

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J. Randolph Babbitt
Administrator

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MAR 31 2010

The Honorable David R. Obey
Chairman, Committee on Appropriations
House of Representatives
Washington, DC 20515

Office of the Administrator

800 Independence Ave., S.W.
Washington, D.C. 20591

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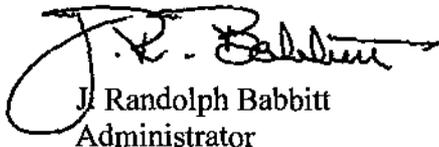
The Honorable Jerry Lewis
Committee on Appropriations
House of Representatives
Washington, DC 20515

Dear Congressman Lewis:

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J. Randolph Babbitt
Administrator

Enclosure



FEDERAL AVIATION ADMINISTRATION

AVIATION SAFETY

SAFETY is our Passion

INTEGRITY defines our Character

PEOPLE are our Strength

QUALITY is our Trademark

2010 Workforce Plan

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ACRONYMS / ABBREVIATIONS

AAM	Office of Aerospace Medicine
ACO	Aircraft Certification Office
AEG	Aircraft Evaluation Group
AFS	Flight Standards Service
AHR	Office of Human Resource Management
AIR	Aircraft Certification Service
AME	Aviation Medical Examiners
AOV	Air Traffic Safety Oversight Service
AQS	Office of Quality, Integration, and Executive Services
ARM	Office of Rulemaking
ASE	Aviation Safety Engineer
ASI	Aviation Safety Inspector
ASIAS	Aviation Safety Information Analysis and Sharing
ASTARS	AVS Staffing Tool and Reporting System
ATCS	Air Traffic Control Supervisor
ATO	Air Traffic Organization
ATSS	Airway Transportation Systems Specialist
AVIATOR	Automated Vacancy Information Access Tool for On-Line Referral
AVP	Office of Accident Investigation and Prevention
AVS	Aviation Safety Organization
AVSMT	Aviation Safety Organization Management Team
C&E	Compliance and Enforcement
CAMI	Civil Aerospace Medical Institute
CDO	Certified Design Organization
CFR	Code of Federal Regulations
CMFO	Certificate Management Field Office
CMO	Certificate Management Office
CMU	Certificate Management Unit
COS	Continued Operational Safety
CRT	Compliance Review Team
CTO	Control Tower Operator
DAR	Designated Airworthiness Representative
DER	Designated Engineering Representative
ELP	Employee Leadership Profile
EOD	Entrance on Duty
FAA	Federal Aviation Administration
FAR	Federal Aviation Regulation

FSDO	Flight Standards District Office
FSFO	Flight Standards Field Office
FTP	Full Time Permanent
FY	Fiscal Year
GAO	Government Accountability Office
GS	General Schedule
HJR	House Joint Resolution
HQ	Headquarters
ICAO	International Civil Aviation Organization
IFO	International Field Office
IFU	International Field Unit
IRT	Independent Review Team
ISO	International Organization for Standardization
MFO	Medical Field Office
MIDO	Manufacturing Inspection District Office
MIO	Manufacturing Inspection Office
MISO	Manufacturing Inspection Satellite Office
NAS	National Airspace System
NextGen	Next Generation Air Transportation System
ODA	Organization Delegation Authorization
ODAR	Organizational Designated Airworthiness Representative
OIG	Office of Inspector General
OJT	On-the-Job-Training
PC&B	Pay Compensation and Benefits
QMS	Quality Management System
SMS	Safety Management System
SRM	Safety Risk Management
S/O	Service/Office
VLJ	Very Light Jets
UAS	Unmanned Aircraft System
WBT	Web-based Training

TERMINOLOGY

Part 121	14CFR121 Domestic and Flag, Air Carrier and Commercial Operator
Part 135	14CFR135 Commuter and On-Demand Air Carrier and Commercial Operator

Executive Summary

The Federal Aviation Administration's (FAA) continuing mission is to provide the safest, most efficient aerospace system in the world. The aviation safety record in the United States reflects the dedication of safety-minded aviation professionals in all parts of our industry, including the FAA's inspector workforce. In an agency dedicated to aviation safety, any failure in the system, especially one that causes loss of life, is keenly felt. When accidents do happen, they reveal risks, and consequently, it is incumbent on all parties in the system to identify the risks in order to eliminate or mitigate them.

In June 2009, the Secretary of Transportation and the FAA Administrator initiated a "Call to Action" series of safety forums to strengthen pilot hiring, training and performance, combat fatigue, as well as improve professional standards and discipline at both major and regional airlines. Eighty-two percent of U.S. air carriers representing 99 percent of the commercial fleet and seven pilot unions responded to the Call to Action with written commitments to implement best practices and to adhere to the highest professional standards. The FAA plans to meet with labor organizations to further refine our work. More than 98 percent of air carriers have or plan to implement a program to routinely monitor safety data to identify trends and precursor events. The FAA is also pursuing both rule changes and voluntary safety enhancements,

The FAA has also implemented five short-term actions in response to Independent Review Team (IRT) and Compliance Review Team (CRT) recommendations from 2008. These recommendations dealt with how to improve aviation safety inspections while minimizing air travel disruptions.

Safety is the number one priority of the Federal Aviation Administration. The FAA's Aviation Safety Organization (AVS) is responsible for carrying out the Agency's safety mission. To meet future challenges, we are transitioning from a reactive approach to safety to a proactive, data-analysis approach. This will identify contributing factors to prevent accidents before they happen. AVS is implementing a Safety Management System (SMS) that will allow us to examine data of what's actually happening in the aviation system. Such analyses can isolate trends that could become the precursors to accidents. AVS recently integrated several safety data analysis and SMS functions within a single organization--the Office of Accident Investigation and Prevention (AVP). The aviation industry is also moving to the SMS approach to safety, and working collaboratively with them will help to ensure the success of this approach.

The foundation of the SMS approach to safety is a Quality Management System (QMS). AVS has implemented a QMS that is certified by the International Organization for Standardization (ISO), the internationally recognized standard for quality management. In August 2009, AVS successfully completed the ISO 9001:2008 Recertification Audit by strict adherence to their rigorous standards. QMS allows the organization to standardize and continually improve business and technical processes. SMS will leverage the QMS standardized processes to implement an integrated, risk-based method of oversight that will enhance the Agency's ability to improve aviation safety.

The FAA Associate Administrator for Aviation Safety is responsible for approximately 7,400 employees who accomplish the Agency's safety mission. AVS directs and manages safety programs that fall into three primary areas: Continued Operational Safety (COS), Standards and Policy, and Certification. Much of the workload generated by these safety programs is demand-driven and can be grouped into five general areas: (1) growth in aviation activity (both commercial and general aviation); (2) the introduction of new operators, new aircraft, new equipment, and new technology; (3) the introduction of new practices (e.g., the growth in maintenance outsourcing); (4) the need for heightened surveillance of financially challenged airlines and manufacturers; and (5) the globalization of the aviation industry and the increasing need for international standardization of regulations and safety criteria.

The AVS workforce plays a key role in maintaining aviation safety. The organization's primary future workforce challenge will be to hire, train, and retain a highly-qualified, high-performing workforce with skills necessary to implement and maintain the SMS that will help the Agency keep the U.S. aviation system the safest in the world.

Even though 27 percent of inspectors and 13 percent of engineers are eligible to retire, AVS's historical retirement rate has been about 2 percent. AVS experienced a spike in retirements from approximately 2 percent in FY 2005 to 3.5 percent in FY 2008. This increase contributed to our attrition growing from 6 to 8 percent annually (FY 2005 through FY 2008). In our FY 2010 Workforce Plan, the retirement rate to approximately 3 percent and our expected attrition rate is 5 percent annually (FY 2009 to FY 2011). Although the actual AVS attrition rate for FY 2009 was above 6 percent, we have forecasted a lower turnover rate within our workforce over the next two fiscal years because of higher unemployment levels and financial market volatility.

Current economic uncertainty may have a short-term effect on our workload demands. With the impact of lower employment levels contributing to continued economic unrest in the financial markets, a temporary downward shift in the production and consumption of aviation goods and services is taking place. However, long-term forecast indicates that the industry will rebound to 2008 passenger demand levels by 2012. The agency/industry forecast also identifies that air carrier and general aviation operations will return to 2008 levels by 2015. These agency/industry projections account for credit constraints, fluctuating fuel prices, employment levels and other market factors that make-up the current economic environment.

Even though we face multiple workforce challenges as we transition to the SMS approach to safety, we are confident that we have developed the strategies that will allow us to successfully meet these challenges during uncertain economic times.

1. Introduction

The Consolidated Appropriations Act, 2010, directs the FAA to prepare an annual Aviation Safety Workforce Plan. The FY 2010 Aviation Safety Workforce Plan was developed to meet this requirement. This plan is similar to the congressionally-mandated Air Traffic Control Workforce Plan. It provides a background for current staffing levels, describes the evolving safety environment, forecasts expected attrition, sets specific and realistic hiring targets over a ten-year period, and details strategies for meeting staffing needs through better management practices.

1.1 Background

Title 49 of the U.S. Code, Chapter 447- Safety Regulation, describes the authority of the FAA Administrator to promote flight safety. The Administrator issues the following safety certificates: airman, type, production, airworthiness, air carrier, airport, air agency and air navigation facility. Chapter 447 also prescribes the Administrator's authority to delegate certificate issuance to qualified individuals.

The FAA's AVS organization oversees the safety of the world's largest, most complex aviation system. AVS accomplishes its oversight responsibility by focusing on a singular mission: promoting aviation safety in the interest of the American public and the millions of people who rely on the aviation industry for business, pleasure, and commerce. The flying public is the customer of the FAA.

2. Aviation Safety Services and Facilities

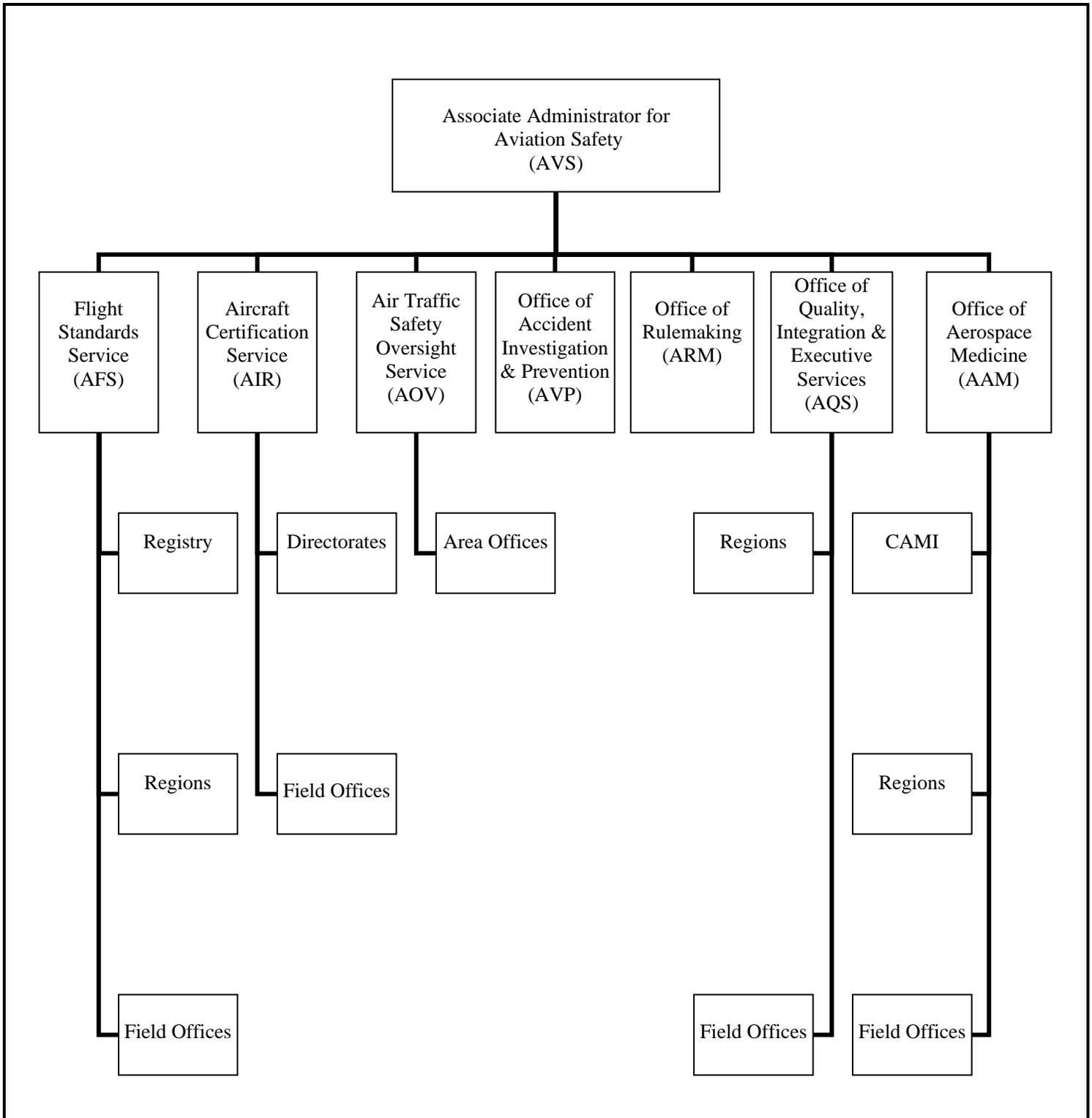
AVS is responsible for promoting aviation safety by regulating and overseeing the civil aviation industry. Among other areas, the AVS workforce is responsible for the type certification, production approval, and continued airworthiness of aircraft, as well as certification of pilots, mechanics, and others in safety-related positions. The organization's commitment to providing the world's safest aerospace system is evident in its adherence to a QMS that has been certified by the ISO. The ISO is the world's largest developer and publisher of international standards. The recent ISO 9000:2008 Recertification means that AVS has proven to outside auditors that its QMS has written processes, it has verified that it follows these processes, and it works to continuously improve its processes.

As shown in Figure 1, the AVS workforce is divided into seven services/offices (S/Os): Flight Standards Service (AFS), Aircraft Certification Service (AIR), Air Traffic Safety Oversight Service (AOV), Office of Accident Investigation and Prevention (AVP), Office of Rulemaking (ARM), Office of Quality, Integration, and Executive Services (AQS) and Office of Aerospace Medicine (AAM). AVP and ARM are located solely at FAA Headquarters, Washington, DC. The other five S/Os have numerous field locations, including some that are in foreign countries.

Changes in the aviation environment (commercial and general aviation) affect AVS's workforce and its work demands. Most of the organization's workforce is impacted by adjustments in the aviation industry. This includes the introduction of new aircraft and equipment, operational changes, advances in science and technology, NextGen air traffic control system and the continued globalization of the industry. New aircraft such as very light jets (VLJ), unmanned aircraft systems (UAS), and the introduction of new business models will drive changes in oversight and how AVS deploys its workforce.

Figure 1

FAA Aviation Safety Organization (AVS)



Each AVS S/O has resources in one or more of the following three primary areas: Continued Operational Safety (COS), Standards and Policy, and Certification, which are aligned with the AVS Business Plan:

Continued Operational Safety (COS)

AVS's most important function is to ensure that existing certificate holders continue to meet the safety requirements, standards, and regulations of their original certification. AVS does this through safety surveillance and oversight programs, audits, evaluations, air traffic oversight, education and training, research, and accident/incident investigations.

AVS serves both commercial and general aviation operators and oversees the full spectrum of civil aviation products and parts from safety belts and balloons to state-of-the-art transport category aircraft. In addition, AVS ensures COS by leading training programs and global safety initiatives, and by monitoring the National Airspace System (NAS).

Standards and Policy

AVS creates and amends, as necessary, the rules, regulations, policies and associated guidance material that apply to people, organizations, and equipment, operating in the U.S. civil aviation system.

AVS develops aviation safety and certification standards and policies, using input from the aviation industry, government and regulatory agencies, and FAA experts.

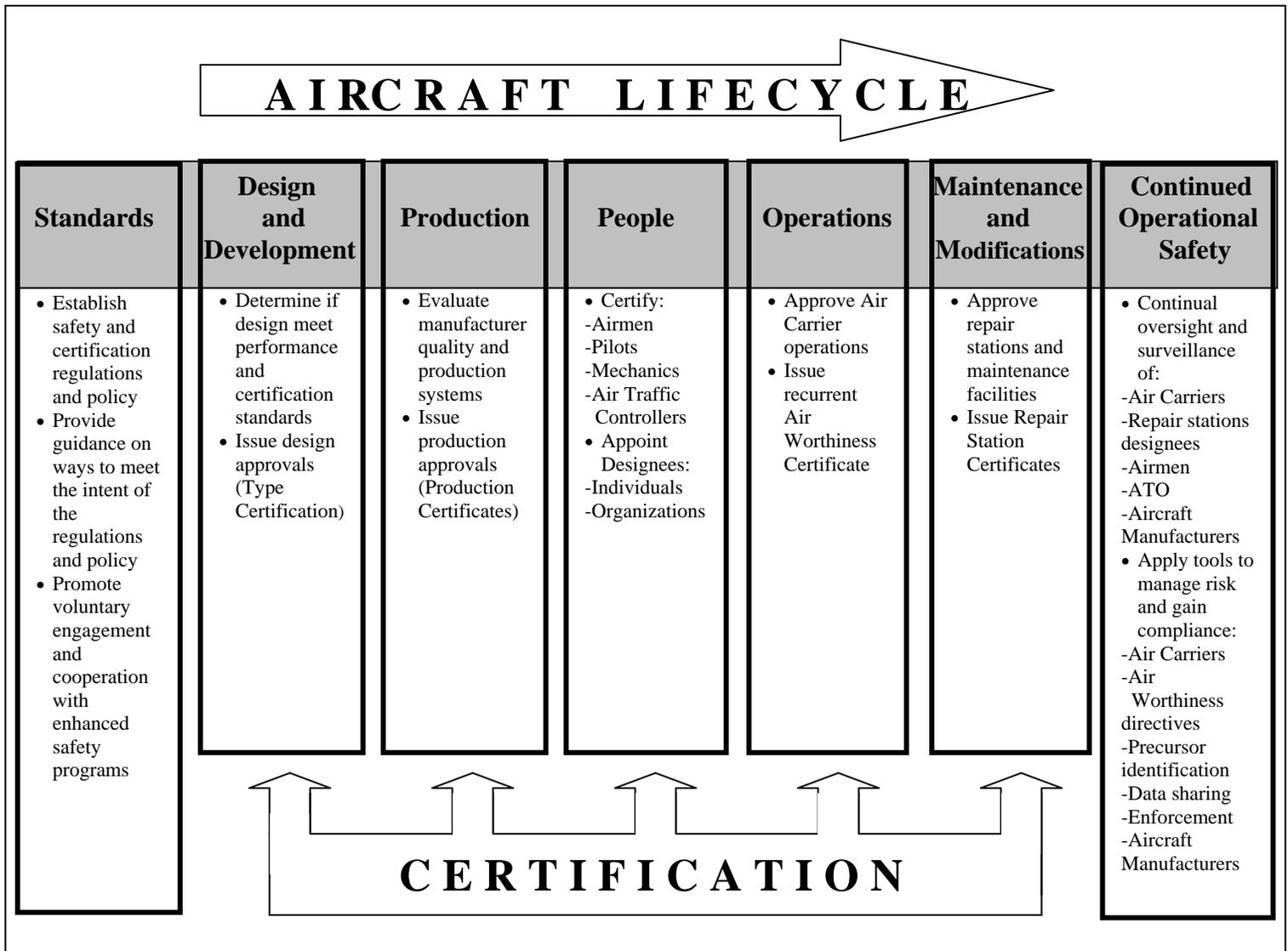
Certification

AVS determines compliance with certification standards and issues certificates based on these standards. The aviation industry depends on AVS to approve products that enhance safety and increase capacity, in order to succeed in an intensely competitive international market.

AVS issues initial certificates and renews existing certificates. It issues certificates to airmen, civil aeronautical products, aircraft repair stations, and repairmen. It issues airworthiness approvals for aircraft parts, systems, hardware and software, as well as whole individual aircraft. It also issues waivers of aviation safety regulations for special events affecting civil aviation such as air shows, flyovers, and laser-light shows.

Figure 2

Lifecycle of an Aircraft



As shown in Figure 2, each AVS goal area is aligned with achieving performance targets in commercial aviation, general aviation, international leadership, and safety infrastructure throughout the lifecycle of an aircraft.

AVS's responsibilities for keeping the U.S. aviation system safe are expansive and impact the entire system. The specific responsibilities and full-time employees assigned to each of the AVS S/Os are listed in Table 1. AVS ensures consistency among its S/Os through its ISO certification and training initiatives.

Table 1

**Aviation Safety Full-Time Employees and S/O Responsibilities
FY 2010 – 7,403 Full-Time Personnel**

Flight Standards Service (AFS): 5,221	Promotes: <ul style="list-style-type: none"> • Safety in air transportation by setting the standards for certification and oversight of airmen, air operators, air agencies, and designees. • Safety of flight of civil aircraft and air commerce by: <ul style="list-style-type: none"> - Accomplishing certification, inspection, surveillance, investigation and enforcement. - Setting regulations and standards. - Managing the system for registration of civil aircraft and all airmen records.
Aircraft Certification Service (AIR): 1,299	Develops and administers safety standards governing the design, production and airworthiness of civil aeronautical products: <ul style="list-style-type: none"> • Overseeing design, production and airworthiness certification programs to ensure compliance with prescribed safety standards. • Providing safety management oversight of the continued operational safety of aircraft. • Working with aviation authorities, manufacturers and other stakeholders to help them successfully maintain the safety of the worldwide air transportation system.
Office of Aerospace Medicine (AAM): 369	Manages medical programs and services: <ul style="list-style-type: none"> • Medical certification of airmen. • Inspection and oversight of aviation industry drug and alcohol testing programs. • Medical clearance of air traffic control specialists. • Drug and alcohol testing of FAA employees with safety sensitive jobs and jobs requiring security clearances. • Aerospace medicine and human factors research. • Employee occupational health and health awareness programs.
Office of Quality, Integration & Executive Services (AQS): 279	Supports AVS's safety mission: <ul style="list-style-type: none"> • Approving, overseeing and facilitating integration initiatives among the AVS S/Os. • Overseeing the AVS quality management system. • Providing budget, planning and human resources support. • Providing IT support, including managing the AVS National Help Desk, this gives real-time support to AVS employees, on-site contractors and other users.
Air Traffic Safety Oversight Service (AOV): 133	Oversees the Air Traffic Organization: <ul style="list-style-type: none"> • Establishing standards for certification and oversight of ATO personnel. • Ensuring continued operational safety through surveillance, such as audits, investigations and compliance enforcement. • Approving and overseeing the ATO SMS and its implementation. • Investigating major ATC-related accidents and incidents to identify safety deficiencies and unsafe conditions.
Office of Accident Investigation & Prevention (AVP): 67	Investigates aviation accidents and incidents to detect unsafe conditions and trends and to coordinate the corrective action process: <ul style="list-style-type: none"> • Investigating major or significant accidents and incidents to identify safety deficiencies and unsafe conditions, and recommend policy. • Coordinating with responsible FAA office for evaluation and corrective action. • Analyzing accident and incident data and other safety data to identify safety issues and trends. • Addressing National Transportation Safety Board Recommendations. • Managing the Aviation Safety Hotline, this provides a means for persons with knowledge to report unsafe aviation situations or safety violations.
Office of Rulemaking (ARM): 35	Manages the FAA's rulemaking program, processes and timelines: <ul style="list-style-type: none"> • Developing proposed and final rules. • Managing responses to petitions for exemption from regulatory requirements. • Overseeing rulemaking advisory committees that provide advice and recommendations on a myriad of aviation-related issues.

2.1 Geographic Locations

The mission of AVS requires a presence outside of the Washington, DC, FAA Headquarters (Table 2). Five of the seven AVS S/Os have locations throughout the United States. Additionally, AFS and AIR have locations in foreign countries (Figure 3, pages 11-12).

Table 2
AVS S/O Field Functions

Flight Standards Service (AFS)	
8	Regional Flight Standards Division Offices
82	Flight Standards District Offices (FSDO)
1	Flight Standards Field Office (FSFO)
14	Certificate Management Offices (CMO)
1	Certificate Management Field Office (CMFO)
4	Certificate Management Units (CMU)
5	Aircraft Evaluation Group Offices (AEG)
8	International Field Offices (IFO)
3	International Field Units (IFU)

Office of Aerospace Medicine (AAM)	
9	Field Locations
10	Medical Field Offices (MFO)
3	Compliance & Enforcement Centers (C&E)
1	Civil Aerospace Medical Institute (CAMI)

Air Traffic Safety Oversight Service (AOV)	
3	Area Offices

Aircraft Certification Service (AIR)	
4	Directorates
14	Aircraft Certification Offices (ACO)
4	Manufacturing Inspection Offices (MIO)
20	Manufacturing Inspection District Offices (MIDO)
4	Manufacturing Inspection Satellite Offices (MISO)
2	International Offices

Office of Quality, Integration and Executive Services (AQS)	
9	FAA Regional Offices
85	Field Locations

Aviation Safety



Locations



2.2 Demand for Services

While we anticipate a short-term downward shift in the production and consumption of aviation goods and services because of the current economic downturn, we expect that the long-term demand for FAA services will remain strong. Based on our FY 2010 forecasts, by 2023 the aviation system will expand to support 1 billion passengers compared to the approximately 704 million the system supported in 2009. As the system expands, AVS will need to adapt to meet the increased and changing demands of a more complex operating environment—an environment that will include evolving fleet composition, new aircraft, new technology, the FAA and industry transition to the NextGen air traffic control system, and environmental concerns. Table 3 shows the primary stakeholders for aviation safety.

Table 3

Aviation Safety Primary Stakeholders

Air Operator Certificates: 6,110		Active Pilots: 747,775	
116	Major Air Carriers (e.g. US Airways)	146,951	Airline Transport Pilot
2,350	Commuter Air Carriers/On Demand Air Taxi	139,766	Commercial
161	Commercial Operators	242,597	Private
454	Foreign Air Carriers (e.g. Lufthansa)	260	Recreational
331	External Load (e.g. Logging, Oil Platform)	2,557	Sport
2,189	Agricultural Operators	85,663	Student
509	Public Use Authorities (e.g. State/City/Police)	124,981	Foreign Pilot
Air Agency Certificates: 5,803		Non-Pilot Air Personnel: 721,400	
554	Pilot Training Schools	368,548	Mechanics/Repairmen
4,957	Repair Stations	41,948	Control Tower Operators
171	Maintenance Training Schools	154,440	Flight Attendants
121	Pilot Training Centers	74,977	Ground Instructors
Aircraft: 319,549		81,487	Other (e.g. dispatchers, flight navigators, parachute riggers, flight engineers)
7,705	Air Carrier Aircraft	ATCS Medical Clearance Exams: 17,326	
576	Commuter Air Carrier Aircraft	17,265	Air Traffic Controller Workforce
12,504	On Demand Air Taxi Aircraft	71	Flight Service Station Workforce
207,087	General Aviation	National Transportation Safety Board: 105	
91,677	Inactive Aircraft	75	Safety Recommendations (5 yr avg)
Aviation Authorities-other countries: 323		30	Major Investigations (avg/yr)
30	Bilateral Agreements	ATO Designee Examiners/ATO Credential Personnel: 22,736	
105	Foreign Carrier Aviation Authorities	269	ATCS Proficiency Managers
188	Accident Investigation Authorities	77	ATSS Proficiency Managers
Check Airmen: 7,592		1,869	ATCS Designee Examiners
5,590	Part 121	457	ATSS Designee Examiners
201	Part 121/135	4,847	ATSS Credential Holders
1,801	Part 135	14,764	ATCS Credential Holders
Designees: 11,095		426	CTO Examiner
4,656	Aircraft Certification	Airmen Medical Examinations: 438,699	
1,444	Flight Standards	21,946	Special Issuances
4,995	Aerospace Medicine	416,753	Standard Issuances
Flight Instructors: 93,612		Aviation Industry Trade Organizations: TBD	
Mechanics with Inspection Authority: 20,458		Aviation Industry Entities Covered by Anti Drug & Alcohol Programs: 7,200	
Approved Manufacturers: 1,647			

3. Aviation Safety – An Evolving Environment

This section discusses the changing aviation environment and how it will impact AVS's future workforce requirements. It also discusses AVS's aviation safety staffing categories and current and projected staffing levels.

3.1 Changes in the Aviation Industry

As business models in the aviation industry change, AVS must adjust its approach to oversight and surveillance. AVS expects that the aviation industry's business models will continue to expand in complexity faster than the AVS workforce can grow. Listed below are the significant challenges in the industry that AVS believes will impact its workforce:

- Growth and Shifting Demands:
 - Following the current economic downturn, the agency expects aircraft operations to remain below 2008 levels for ten years. Aircraft operations are projected to grow annually starting in 2011, but not expected to reach 2008 levels until 2020.
 - New aircraft and aircraft systems like the Boeing 787, Airbus A380, UAS, and VLJ will be introduced into the aviation system.
- Aviation Industry Economics:
 - Low-cost carriers will be using new aircraft, new equipment, and new technologies.
 - Financially challenged airlines are subject to changing their business processes, resulting in the need for more oversight.
 - Changes in fractional ownership will impact market demand.
 - Growth is expected in maintenance outsourcing to both foreign and domestic repair stations.
 - Fiscal constraints will drive new business models.
- Complexity:
 - Advanced manufacturing technologies (systems integration, intelligent sensors, and high performing materials) and advances in science and medicine are expected.
 - Transition to NextGen air traffic control system.
 - Industry will implement SMS.
- Globalization:
 - International competition will create new opportunities and challenges.
 - An increase in internationally distributed manufacturing and repair facilities is anticipated.

The FAA is preparing for these challenges with its Next Generation Air Transportation System (NextGen). NextGen is needed to improve efficiency, create additional capacity, and provide enhancements to safety and environmental performance. NextGen is not a single piece of equipment or a program or a system that will instantly transform the air transportation system. NextGen is a multi-component and evolutionary process. Elements of it are already providing improvements for passengers and operators. When fully implemented, NextGen will enhance safety, reduce delays and provide benefits for the environment and the economy through reductions in noise, fuel consumption, and carbon emissions.

3.2 Impact on AVS Workforce

AVS will use three primary approaches to help manage its staffing requirements, it will: implement an SMS; improve designee management programs; and enhance the Aviation Safety Information Analysis and Sharing (ASIAS) capability—an analytical tool that will aid the safety oversight of the National Airspace System. Because AVS staffing will not grow at the rate at which the industry is expected to grow, we are putting these approaches in place to “close the gap.”

Safety Management System (SMS)

The FAA must keep pace with the changes to the aviation industry. The Agency’s current processes and systems have served it well in that they have created a safe and efficient aviation system. To achieve the next level of safety, the traditional methods of analyzing the causes of an accident or incident after the fact are not enough. A more forward-thinking approach is needed to analyze trends, data, and systems to manage risk before it leads to an incident or accident.

The FAA, with other Federal agencies and operators in the NAS, is adopting a system safety approach to safety management, called SMS. This system relies on four components to manage risk:

- Safety Policy – Aligning procedures and processes in an organization to establish and meet safety objectives.
- Safety Risk Management (SRM) – Assessing risk in the system to identify and mitigate hazards.
- Safety Assurance – Continuously monitoring and updating the policies and activities to ensure that the processes work as intended.
- Safety Promotion – Creating a safety culture that permeates every area of our work at all levels of the organization.

The ISO-certified QMS is the foundation of the Agency's SMS. While the QMS is designed to manage quality, the SMS is a system designed to integrate safety into FAA's quality processes. QMS instills uniformity in AVS's safety processes, which is a requirement for an effective SMS.

Further, the SMS closes the gap between the International Civil Aviation Organization (ICAO) safety management standards and current FAA oversight systems. ICAO is a United Nations affiliated organization that is dedicated to increasing the safety and security of international civil aviation. ICAO currently requires SMS for the management of safety risk in air traffic services, airports, air operations, maintenance, and training organizations. It is reviewing expanding this requirement for design and production of aircraft. As a member of ICAO, the United States has committed to complying with the safety standards it establishes.

Designee Programs

Designees are non-governmental private persons and organizations to whom the FAA delegates the authority to perform functions on behalf of the Administrator. There are over 11,000 designees or delegated organizations that the AVS S/Os of AFS, AIR and AAM oversee.

AVS has made several improvements to its delegation system to standardize designee management. FAA Order VS 1100.2, "Managing AVS Delegation Programs," was created to define consistent requirements to manage designees across AVS. Other improvements include:

- Establishing the AVS Delegation Steering Group comprised of representatives from each of the three S/Os with a delegation program. This group reports to the AVS Management Team (AVSMT) annually to ensure delegation management remains a top priority;
- Creating the Delegation ISO process. This provides a consistent approach to managing designees across AVS. It also ensures compliance with FAA Order VS 1100.2;
- Consolidating and rewriting individual designee policies and processes to comply and align with the Delegation ISO process. This significantly simplifies the policies and procedures of the 14 individual designee types across the AVS S/Os; and
- Standardizing high-level designee management areas, including appointment, selection, review, termination, and appeals.

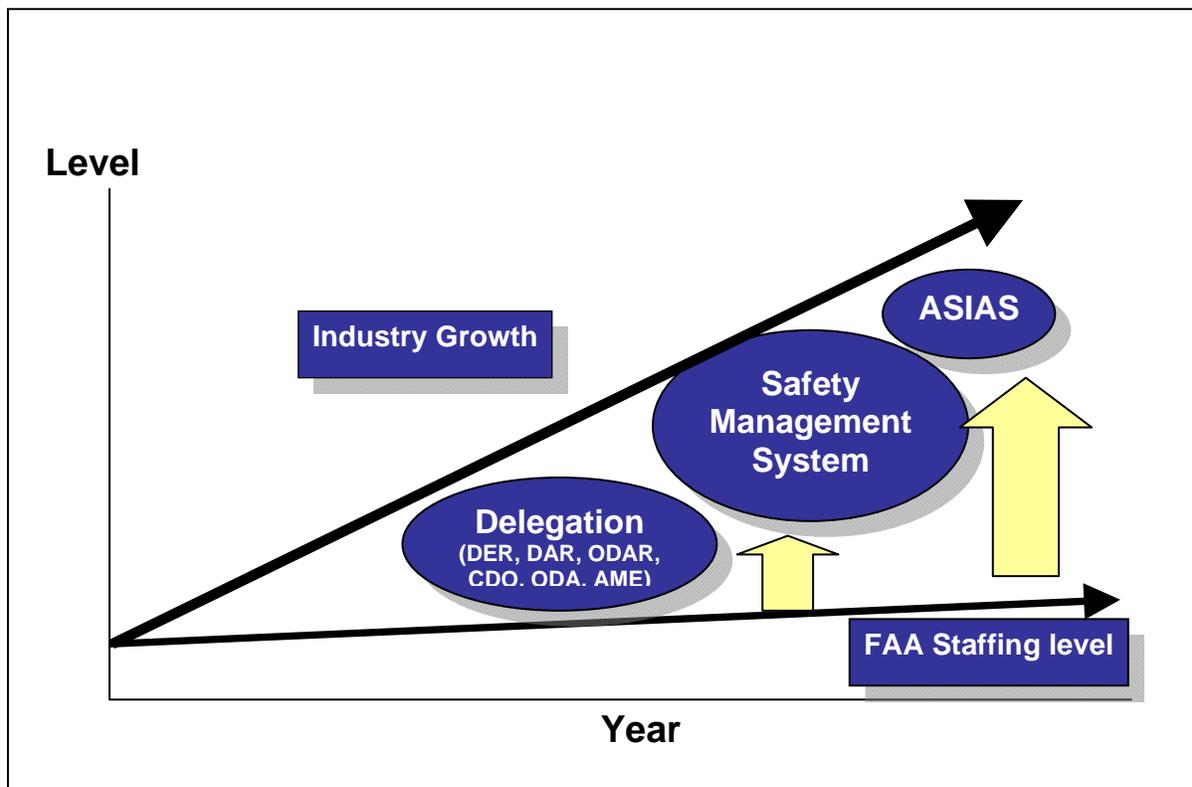
Aviation Safety Information Analysis and Sharing (ASIAS)

Based on the agency's most recent forecast (FY 2010), the projected numbers general aviation hours flown is projected to increase by 2.5 percent a year through FY 2030. This expected change in operations will require a reduction of the aviation accident rate to prevent the number of accidents from increasing. The FAA and its stakeholders recognize that the approach of "find and fix" cannot possibly provide the magnitude of safety improvement commensurate with this expected growth. To improve upon the current level of safety, we are shifting from analyzing accidents to proactively monitoring NAS operations to identify emerging threats before they lead to serious incidents or accidents.

AVS is establishing the ASIAS capability to aggregate and integrate safety information from across the aviation industry. By developing new analytical methodologies and leveraging state-of-the-art information technology, the FAA and its industry stakeholders will be able to monitor the effectiveness of implemented safety enhancements, establish baselines and trending capability using safety metrics, and identify emerging risks. As it matures, ASIAS will be an asset to the global aviation community.

As industry growth outpaces AVS workforce growth, the organization must leverage its SMS, designee programs, and the ASIAS to fill the gap. Figure 4 is a notional representation of the FAA's resource gap and the tools the FAA will use to fill it.

Figure 4
Managing the "Resource Gap"



3.2 Impact on AVS Workforce

As the aviation industry changes its business model, AVS must also change to deliver the appropriate level of oversight and surveillance. These are the major factors that affect the organization's workforce:

- New entrants—AVS averages over 12 operator applications and 30 new aircraft and aviation equipment certification requests at any given time:
 - New aircraft such as the Boeing 787 and the Airbus A380 result in new operational specifications and increase system complexity.
 - New kinds of aircraft such as UAS and VLJ mean more certification engineers are needed to handle applications from new entities. Also, new standards, policy, guidance, and regulations need to be developed to support integration of these aircraft into the NAS.
 - New equipment and additional pilots are needed by these new entrants, requiring additional oversight by AVS.
- Changing industry demands increase the complexity of our oversight and surveillance responsibilities:
 - Growth in outsourcing of certificated repair stations, both domestic and foreign, increases our surveillance workload.
 - Growth and changes in fractional ownership increases the complexity of our oversight.
 - Significant changes in the domestic business model for designing, manufacturing, and certification of airplanes require AVS's surveillance of suppliers that cover a wider area of the globe than in the past.
- FAA transition to NextGen air traffic control system will affect both industry and the AVS workforce:
 - The transition to space-based air traffic surveillance will require certification of multiple new avionics packages such as ADS-B, NextGen Data Communications, NextGen Network Enabled Weather, etc.
 - Equipage of new sensors and fusion technology for air traffic controllers will require substantial safety assessment.
 - Procedural and separation standards must be reviewed in light of emerging technology.
- The FAA's international leadership activities will impact the AVS workforce:
 - China and India are two examples of high growth in aerospace activity. AVS anticipates increased requests for its technical assistance and agreements for reciprocal acceptance of aeronautical products, as well as validation of foreign products and parts.
 - The Agency must provide timely guidance to the international community when significant U.S. safety initiatives are implemented or certification policies are changed. This need is especially critical to support the international transfer and sale of U.S. aeronautical products and services, and to increase the competency level of other aviation authorities.

3.3 Aviation Safety Staffing

AVS has two major staffing categories of employees—safety critical and operational support. The safety critical staff category consists of safety critical operational staff and safety critical program staff. The definitions of these categories are:

Safety Critical Staff

Safety Critical Operational Staff - This category includes positions where the duties have a direct operational impact on the AVS safety mission for which the S/O have responsibility. This AVS staffing category includes, but is not limited to, all AVS staff whose jobs are to:

- Certify aircraft, aircraft alterations, equipment, and avionics;
- Certify aviation personnel, air businesses, repair stations, training centers, and other air agencies;
- Monitor and enforce industry compliance with safety regulations, through inspections, data analysis, risk management, or other means;
- Monitor and enforce ATO compliance with safety regulations;
- Monitor and enforce industry drug and alcohol testing programs; and
- Investigate accidents.

Safety Critical Program Staff - This category includes all AVS staff, not included above, who directly support the safety critical operational staff, and without whose assistance the safety critical operational staff could not efficiently and effectively do their jobs. This includes, but is not limited to, AVS personnel who:

- Evaluate and analyze the effectiveness of existing AVS certification, regulatory and compliance programs, activities, and methods;
- Develop new programs, activities, and methods for improved oversight activities and enhanced industry safety, including new programs and revised approaches directed by Congress or recommended by oversight organizations (e.g., Government Accountability Office (GAO), Office of the Inspector General (OIG), and the National Transportation Safety Board (NTSB));
- Design, develop, and deliver the technical training curriculum for the safety critical operational staff;
- Oversee and monitor the AVS designee programs;
- Provide information technology support;
- Maintain the airmen and aircraft registries and the airmen medical certification system at the Aeronautical Center in Oklahoma City; and
- Guide the development and publication of FAA rules and regulations through the rulemaking process.

Operational Support Staff

This category includes all AVS staff not classified as safety critical operational staff or safety critical program staff. This includes all AVS personnel, including managers, in functions such as planning, finance, and administration.

3.4 Current Staffing

Table 4 illustrates actual staffing in FY 2009, as well as projected staffing levels for FY 2010 and FY 2011.

**Table 4
AVS Staffing (Operations Appropriation)**

End-of-Year Employment – Full Time Positions (FTP)		FY 2009 Actual	FY 2010 Enacted	FY 2011 Request
Flight Standards	Engineers	0	8	12
	Aviation Safety Inspectors	3977	4136	4162
	Safety Technical Specialist	432	425	425
	Operational Support	670	652	660
	Total	5079	5221	5259
Aircraft Certification	Manufacturing Safety Inspectors	244	248	254
	Pilots, Engineers, and CSTAs	715	727	739
	Safety Technical Specialist	166	178	180
	Operational Support	141	146	148
	Total	1266	1299	1321
Aerospace Medicine	Physicians, Physician Assistants, Nurses	57	55	56
	Alcohol/Drug Abatement Inspectors	58	68	68
	Safety Technical Specialist	208	207	210
	Operational Support	39	39	40
	Total	362	369	374
Accident Investigation	Air Safety Investigators	10	0	0
	Safety Technical Specialist	18	0	0
	Operational Support	5	0	0
	Total	33	0	0
Air Traffic Safety Oversight	Air Traffic Safety Inspectors	58	58	61
	Safety Technical Specialist	70	68	78
	Operational Support	6	7	9
	Total	134	133	148
Rulemaking	Safety Technical Specialist	28	32	33
	Operational Support	3	3	3
	Total	31	35	36
Aviation Safety Analytical Services	Safety Technical Specialist	17	0	0
	Operational Support	3	0	0
	Total	20	0	0
Accident Investigation and Prevention	Air Safety Investigators	0	10	10
	Safety Technical Specialist	0	48	48
	Operational Support	0	9	10
	Total	0	67	68
Quality, Integration, and Executive Services	Safety Technical Specialist	116	120	116
	Operational Support	154	159	163
	Total	270	279	279
Sub Total	Safety Critical Staff	6,174	6,388	6,452
Sub Total	Operational Support Staff	1,021	1,015	1,033
Grand Total	AVS Staff	7,195	7,403	7,485

NOTE: The change in number of Engineers and Inspectors in AFS and AIR was based on a transfer of Unmanned Aerial System (UAS) positions within the organization.

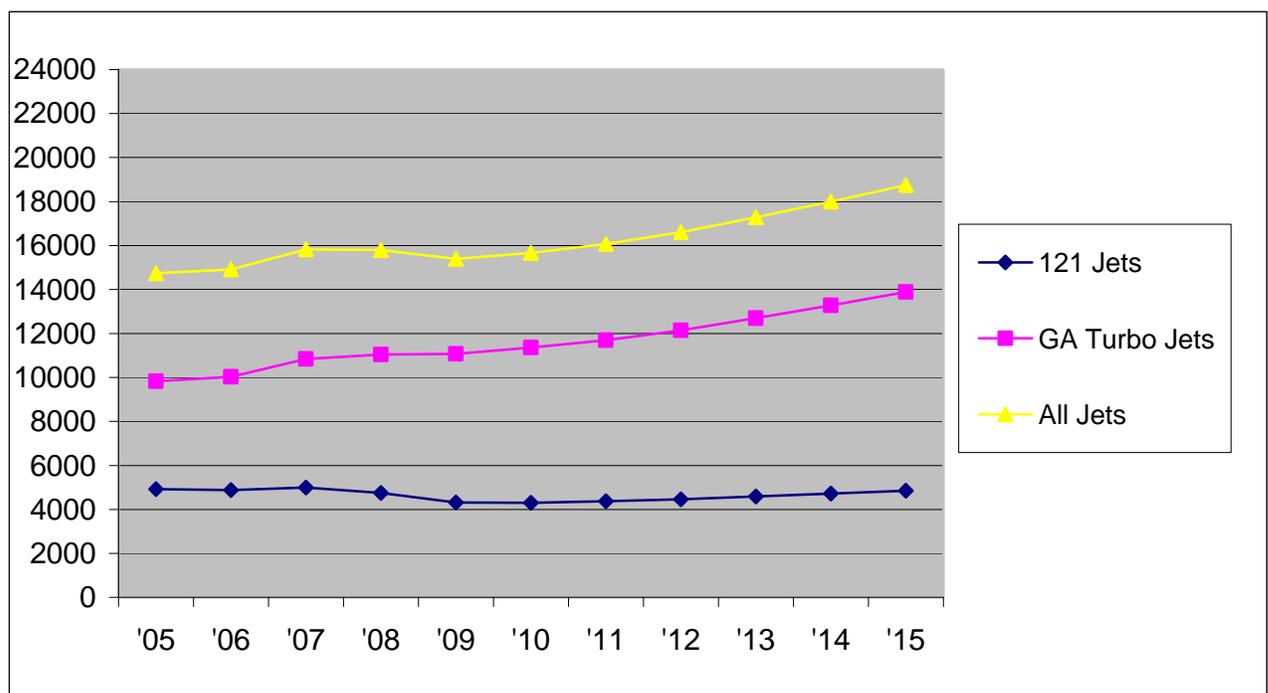
In 2009, AVS total staffing levels increased from 7,002 positions to 7,195 positions. The 2009 staff increases enabled AVS to increase safety oversight and surveillance of 116 air carriers, increase design and production certification services for applicants, and expand its safety oversight of the Air Traffic Organization (ATO). In FY 2010, AVS plans to increase total staffing levels to 7,403. The increases will enable AVS to perform additional activities such as safety attribute inspections, element performance inspections, aircraft certification design reviews, manufacturing inspections and increased oversight of ATO. In FY 2009, safety-critical staffing has increased by approximately 11.5 percent since FY 2006.

The FY 2011 budget request maintains our Aviation Safety inspector and engineer staff increases from previous years, while further increasing overall Aviation Safety staffing by 82 positions in FY 2011. Forty-two of these new positions enable FAA to review additional applications for aeronautical products and parts as well as increase air traffic oversight evaluations. The remaining forty-two positions will provide for standards development and certification and operational approvals in support of our NextGen efforts.

Figure 5 shows the Agency's near term forecast being flat with projected growth in the aviation industry, particularly in the General Aviation (GA) Turbo Jet segment in the out-years. We expect that incremental staff growth combined with AVS's SMS, delegation programs, and ASIAs system will meet industry demands and provide the necessary oversight of the expanding air transportation system. As AVS moves to a system safety approach for oversight and surveillance, the organization's hiring will not increase at the same rate as industry; therefore, AVS will focus its resources on the areas of highest risk, expand the use of designees, and increase its use of data to drive decision making.

Figure 5

Growth in Aviation (Part 121 Jets and GA Turbo Jets)



4. Workforce Gains and Losses

The agency takes many steps to monitor its staffing. This section deals with the dynamics of personnel gains and losses to ensure AVS will have qualified individuals to ensure AVS will have qualified individuals to perform its safety mission.

4.1 Gain/Loss Categories, Attrition, Retirements, Non-Attrition Losses

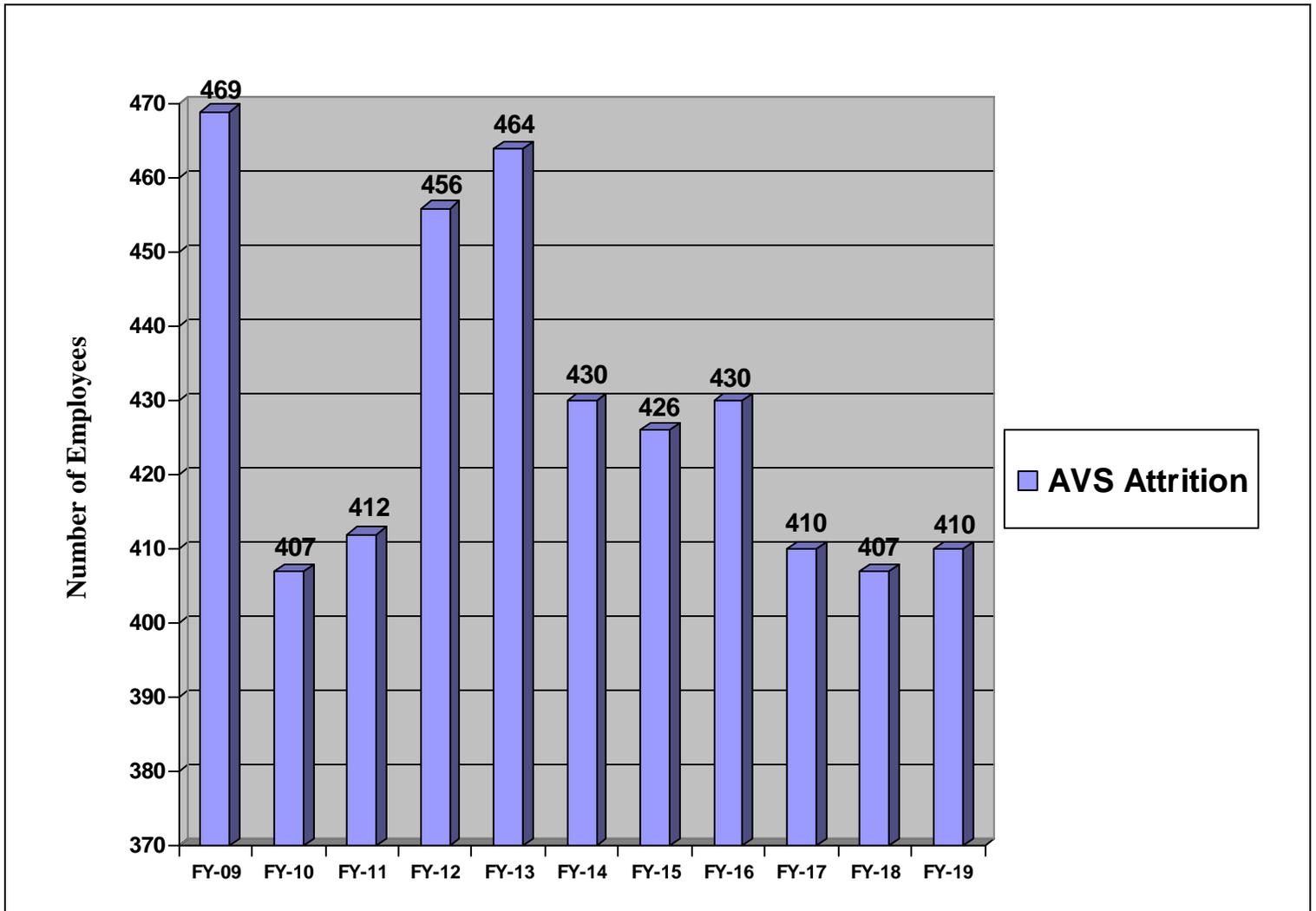
AVS's historical attrition rate ranged from 5 to 7 percent annually. However, from FY 2005 through FY 2008, AVS experienced a spike in attrition, from 6 to 8 percent annually. In FY 2009, our attrition rate reverted back to the historical rate. The majority of staff losses are due to retirements (approximately 60 percent in FY 2009). The average age of AFS and AIR Aviation Safety Inspectors (ASI) is 54 years old, while the average age for AIR Aviation Safety Engineers (ASE) is 49 years old. In FY 2009, approximately 24 percent of AVS's safety inspector workforce and 13 percent of its engineer workforce were eligible to retire. The FY 2009 attrition rate was 6 percent and AVS projects FYs 2010 and 2011 attrition rate slightly above 5 percent.

In FY 2009, AVS has continued to hire many new employees from the military as well as the aviation industry. Unlike air traffic controllers, there is no mandatory retirement age for AVS's workforce. These factors contribute to the low retirement rate, but AVS must still plan effectively for its workforce losses. In 2009, total staff losses for AVS were 469, of which 290 were retirements. In 2010, AVS assumes attrition will be 407 positions of which 265 are expected to be retirements. In 2011, AVS assumes attrition will be 5.5 percent or 412 positions, of which 270 are expected to be retirements.

Figures 6 and 7 (pages 24 and 25, respectively) are projections of the estimated staffing losses anticipated for the AVS workforce, as well as the estimated losses for the safety critical ASI and ASE categories. The charts assume that overall AVS attrition will be slightly above 5 percent over the next two years and adjust upward to 6 percent between FY 2012 and FY 2013. The charts also illustrate a reduction in the attrition in the long term, adjusting to a rate of 5 percent by FY 2017. The decline in anticipated attrition from FY 2014 and beyond (6 to 5 percent) will largely be associated with recruitment and hiring efforts that will target prospective employees at the General Schedule (GS) grades 9 to 11 or equivalent pay-band levels. Historically, employees hired at the targeted levels are interested in career promotion opportunities and are not eligible for retirement in the short term. For ASI and ASE attrition, AVS assumes a rate between 5.1 to 6.4 percent over the next five years. Based on the retirement eligibility of ASIs and ASEs, AVS projects that these employees' attrition will be slightly greater than other occupational series over the next three years.

In addition to retirement, AVS experiences staff attrition due to resignations, transfers, and other reasons. The anticipated attrition rate for non-retirement losses is 3 percent. AVS expects a decline in attrition over ten years, and if workforce losses outpace projections, AVS will hire additional people to fill safety critical positions.

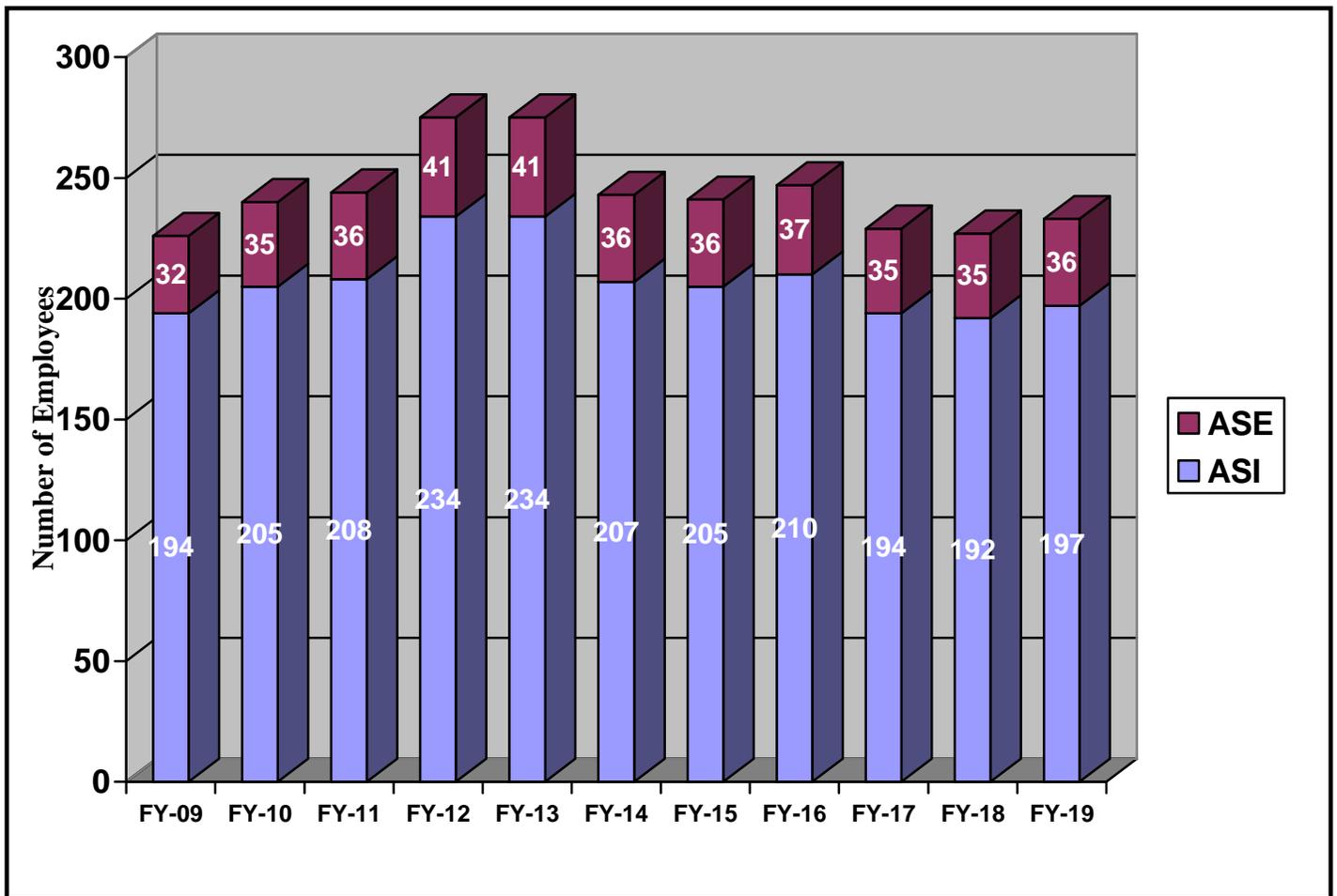
Figure 6
AVS Estimated Staffing Losses



NOTE: This chart estimates an attrition rate range of 5 percent to 6.5 percent for the 10-year period.

Figure 7

ASI and ASE Estimated Staffing Losses



NOTE: The chart estimates an ASI and ASE attrition rate range of 5.1 percent to 6.4 percent for the 10-year period.

4.2 Staffing Gains

Even with the implementation of the SMS and the increased use of designee programs, AVS needs to increase its staff to bring new entrants into the NAS. AVS is projecting the requirement for additional positions within each of the organization's S/Os based on growth and changes within the industry.

New entrants present new risk that must be identified, mitigated or managed by our workforce. Once a new entrant is operating within the NAS, AVS must maintain continued operational safety within the system. In the past, when the organization's resources declined, it delayed new entrants into the system to ensure it could maintain the continued operational safety of the current system.

The projected staffing in Figures 8 and 9 (pages 27 and 28, respectively) shows future incremental growth that is needed to adequately support new entrants and maintain continued operational safety of the NAS. AVS believes this growth is modest, incremental, and achievable at a time when the aviation industry continues to grow in both size and complexity.

Figure 8 shows projected AVS staffing from FY 2009 through FY 2019 for all AVS employees. For FYs 2011-2019, the chart assumes incremental staffing growth between 0.90 percent and 1.65 percent per year, as well as backfilling vacancies as they occur through FY 2019. AVS assumes that industry and stakeholder demands will slow over the next two years but long-term demand will continue at a reduced growth rate for FYs 2011 to 2019.

Figure 8 also assumes increased staffing for ASI, ASE, Air Traffic Safety Inspectors, physicians, and Medical Certification Analysts. Additionally, technical specialists with analytical capabilities and program support positions, which provide managerial and administrative service to the growing technical workforce, are also included in this chart. AVS assumes that industry and stakeholder demands will continue to grow during the period FY 2011 to FY 2019.

Figure 9 projects staffing growth for the two largest AVS workforce components. The two largest safety critical occupational series within AVS are ASIs and ASEs. The chart assumes incremental staffing growth beginning in FY 2010 ranging from a low of 0.6 percent to a high of 2.5 percent per year.

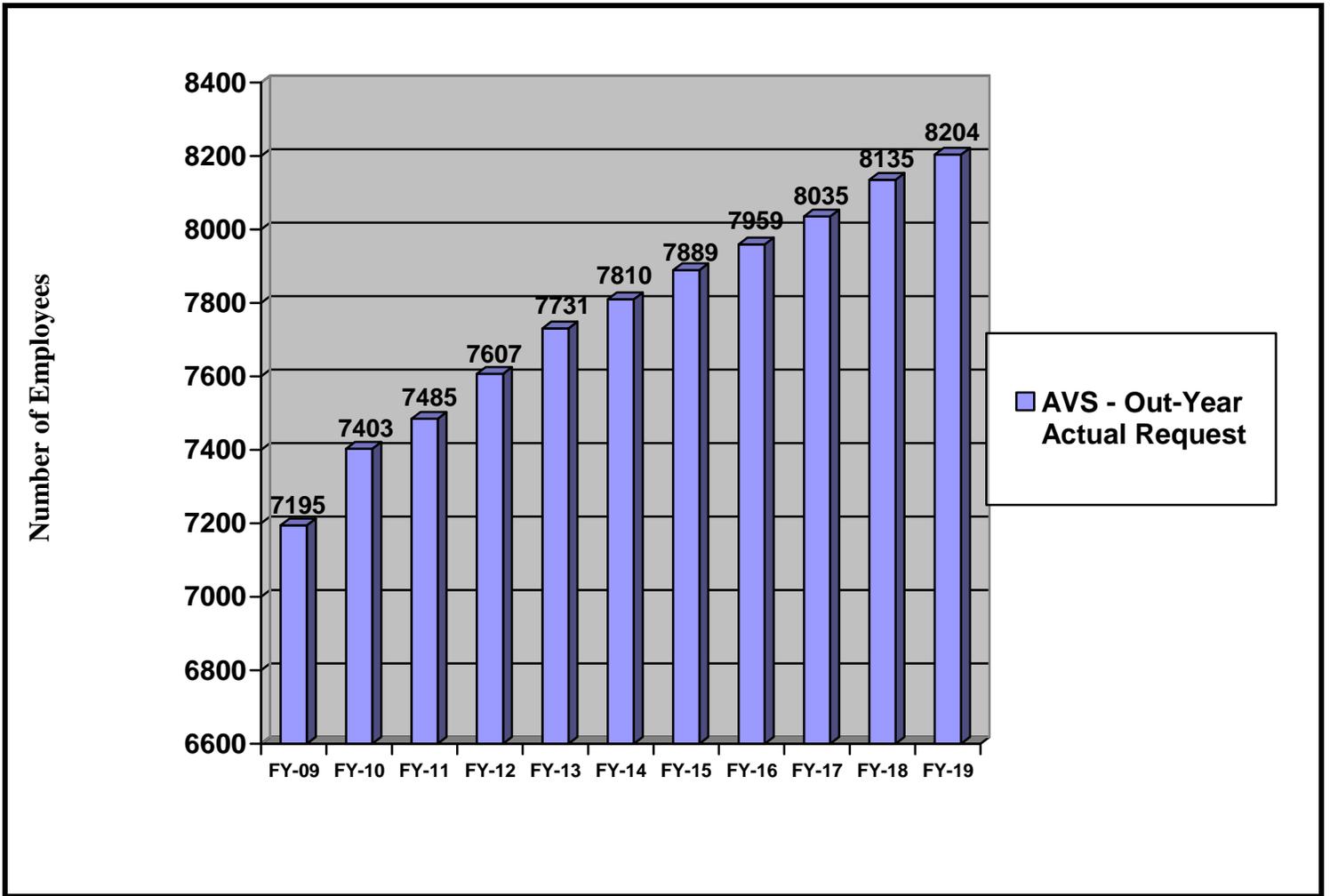
4.3 Workload Drivers

The AVS workforce will grow to approximately 7,400 employees in FY 2010. The positions will be aligned within seven S/Os. In 2010, AVS will conduct a workforce analysis focusing on the following workload drivers:

- AFS: surveillance and certification activities (both new certifications and certificate management of existing certificates), technical administration, and other duties.
- AIR: the ratio of production-approval holders to inspectors.

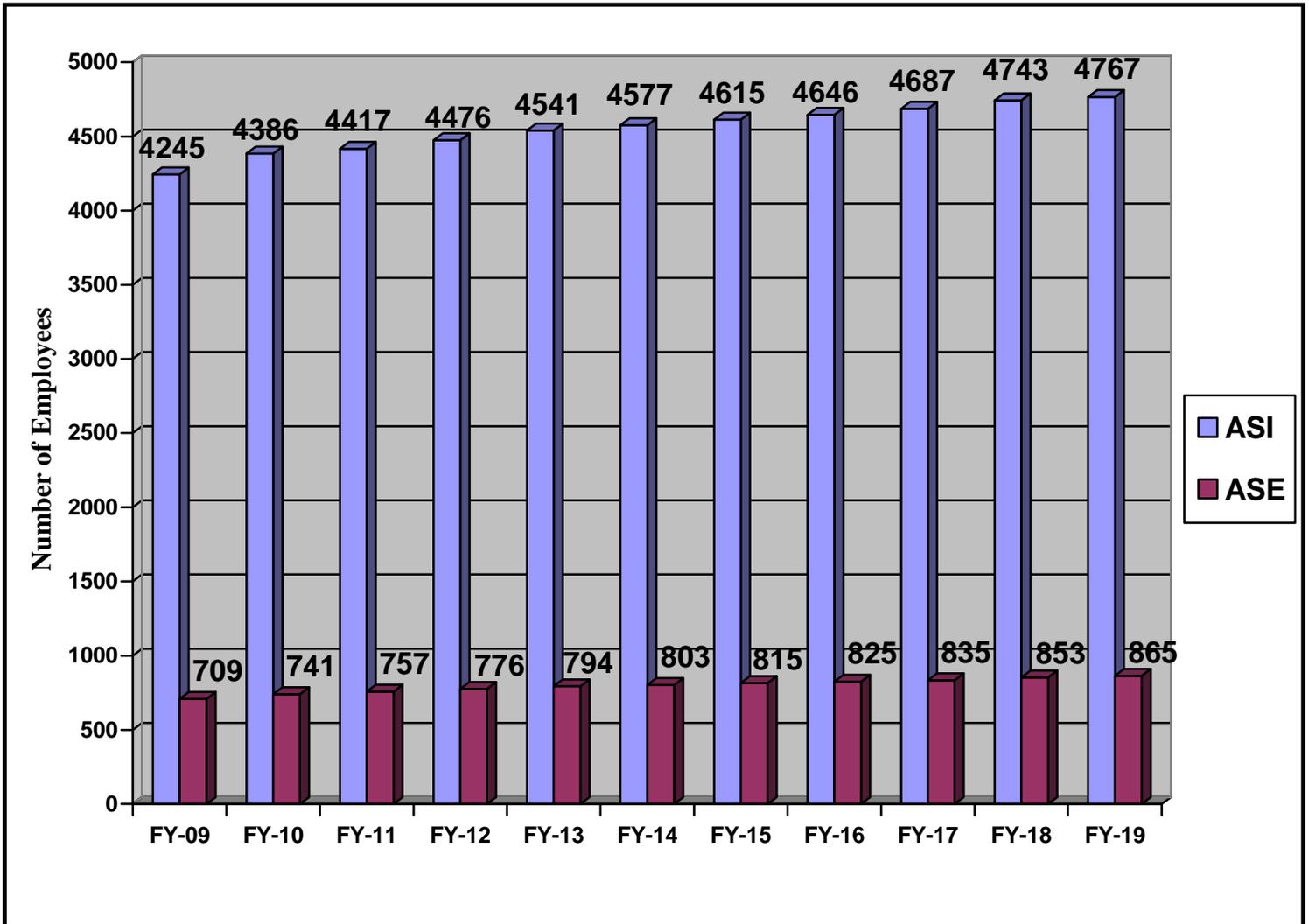
While the 2010 workforce analysis will focus on these particular workload drivers, AVS also receives product counts for other activities that require personnel and financial resources. This includes enforcement investigations, new certifications, airworthiness directives, airmen medical applications, ATO safety analysis and audits, and accident and incident investigations. These completed work products are reported annually, and when aligned with work hours will be used to assist AVS in identifying staffing trends such as labor increases or product complexity changes.

Figure 8
AVS Staffing Totals



NOTE: FY-10 Enacted, FY-11 Budget Request and Outyear Industry Requirement

Figure 9
ASI and ASE Staffing



NOTE: FY-10 Enacted, FY-11 Budget Request and Outyear Industry Requirement

5. AVS Staffing Model

In FY 2007, a National Academy of Sciences report on inspector staffing within AFS and AIR stated that the current inspector staffing model for AFS did not provide information on the number of staff required or where staff should be located. The report recommended that a new staffing model be developed to provide such information.

AVS concurred with the recommendation to create a new staffing model and determined there was a need to expand the model to include the entire safety critical workforce. AVS believed expanding the model to include all safety critical occupational components would be beneficial for projecting future resource requirements. The AVS operational support workforce will be adjusted in the out years, using staffing ratios that compare managers and administrative support personnel to safety critical staff requirements. As the model develops and variables are verified, operational support personnel may be incorporated as a component.

The AVS Staffing Tool and Reporting System (ASTARS) will initially model the AFS and AIR inspector workforces, with model forecast data used to support the FY 2012 inspector staffing budget request. In FY 2009, AVS implemented the initial prototype component for AIR inspectors and AVS conducted an end of year data analysis for the AIR prototype. Additionally, AVS began the initial identification of variables/products aligned with the AIR engineering workforce for future incorporation into ASTARS. In October 2009, AVS implemented the AFS inspector workforce component of ASTARS. Additional data analysis will occur in 2010.

6. Workforce Hiring

The FAA's tool for helping the Agency prepare for the future is its Flight Plan. This strategic plan includes goals and objectives that provide direction to accomplish the Agency's mission. Chief among the Flight Plan goals is organizational excellence. Organizational excellence is the Agency's continuous effort to align its current and future services and programs with established priorities to enhance aviation safety, provide increased capacity, both at home and internationally, in an environmentally sound manner. In other words, it is the "how" in executing all other FAA goals. Every employee is a part of this goal. Among the Flight Plan objectives to help the Agency achieve organizational excellence is an implementation of human resource management practices to attract and retain a highly skilled, diverse workforce. While AVS recognizes that it will face challenges in achieving this goal, it is confident that it will be able to successfully meet these challenges.

6.1 Workforce Challenges

AVS's workforce demographics present a key challenge to the organization—a challenge that requires careful monitoring to minimize future workforce vulnerabilities. To support its mission to keep the U.S. aviation system the safest in the world, AVS must maintain its skilled professional and technical workforce. As a result, AVS projects that the majority of its recruitment initiatives will be in attracting safety critical personnel such as ASIs, ASEs, and Air Traffic Control Specialists. AVS is reviewing its talent recruitment and diverse safety workforce initiatives to improve its workforce composition and the distribution of employee skills and technical competencies across performance levels. One of these initiatives will target developmental positions to lower the FAA's compensation costs over time, while assuring AVS has a mixed workforce of entry-level and seasoned employees.

Challenge 1: Recruitment and Retention

As AVS moves to fully implement its SMS, attracting staff with the right mix of new skills for the future is more important than ever. The skills essential for performing in a system-safety environment are different from the traditional technical skills needed in the past. While the AVS workforce will continue to need traditional technical skills, it will also need other skills in areas such as risk-based decision making and systems thinking in order for the SMS approach to succeed.

In recent years, AVS has begun to redesign many of its core work processes due to a move away from a compliance based inspection approach to safety. These changes to work processes have led to changes in job requirements and the competencies needed to be successful.

The number of people entering the aerospace industry is decreasing, especially in the engineering fields. This makes recruiting entry-level engineers more difficult. AVS anticipates that this trend will continue given the civil aviation increased demands for ASEs. Private industry is luring these engineers with higher starting salaries, greater salary growth, and benefit packages. This makes it even more challenging to recruit and retain them into the AVS workforce.

Strategy 1: Recruitment and Retention

To distinguish the FAA as an “Employer of Choice,” we must leverage attributes that both attract and retain talent. Our recruitment initiatives and practices must provide an organizational culture that promotes high performance and accountability. We must survey our workforce attitudes and Agency workforce planning practices on a regular basis to assess our progress.

AVS is committed to analyzing its workforce demographics. The organization monitors the attrition of its leadership cadre and safety-critical workforce to sustain talent in the face of increasing competition and a decreasing technical labor supply. AVS is identifying succession strategies and programs to ensure continuity in its leadership and target its recruitment in key occupations to support accomplishment of its safety mission.

AVS is analyzing trends in safety critical occupations to adjust the organization’s recruitment and retention strategy to its current and future needs. As AVS conducts its analysis, it will consider the following factors:

- Number and distribution of positions by pay plan/grade or pay band/series and geographic location;
- Diversity trends;
- Identification of skill competencies;
- Average grade/band;
- Retirement eligibility (current and expected);
- Attrition (separations, resignations, transfers, retirements); and
- Disparate pay.

In 2005, AFS concluded that it needed to review and update its selection system for ASIs. AFS wanted to ensure the selection system reflected the competencies needed by ASIs to be successful in the current and future work environment. AFS defined and validated the competencies required by ASIs, developed revisions to the ASI qualifications standards, and redesigned the overall end-to-end process for hiring ASIs.

In FY 2008, the FAA's Office of Human Resource Management and AFS successfully implemented the new hiring process for ASIs, including new assessment tools used in the Automated Vacancy Information Access Tool for On-Line Referral (AVIATOR), which is an automated hiring system. In FY 2009, AVS continued to analyze the workforce data, identify diverse positions, link competencies to these positions, and identify recommended improvements for actions.

In 2008, AVS conducted an audit to provide a summary and assessment of the current state of competency modeling within the organization. The audit found that AVS must use the FAA's 16 competency Employee Leadership Profile (ELP) as its interpersonal and business "core" competency model. The competency model for AVS would describe a baseline-mastery level of core business and interpersonal competencies, as well as specific technical competencies required across the organization.

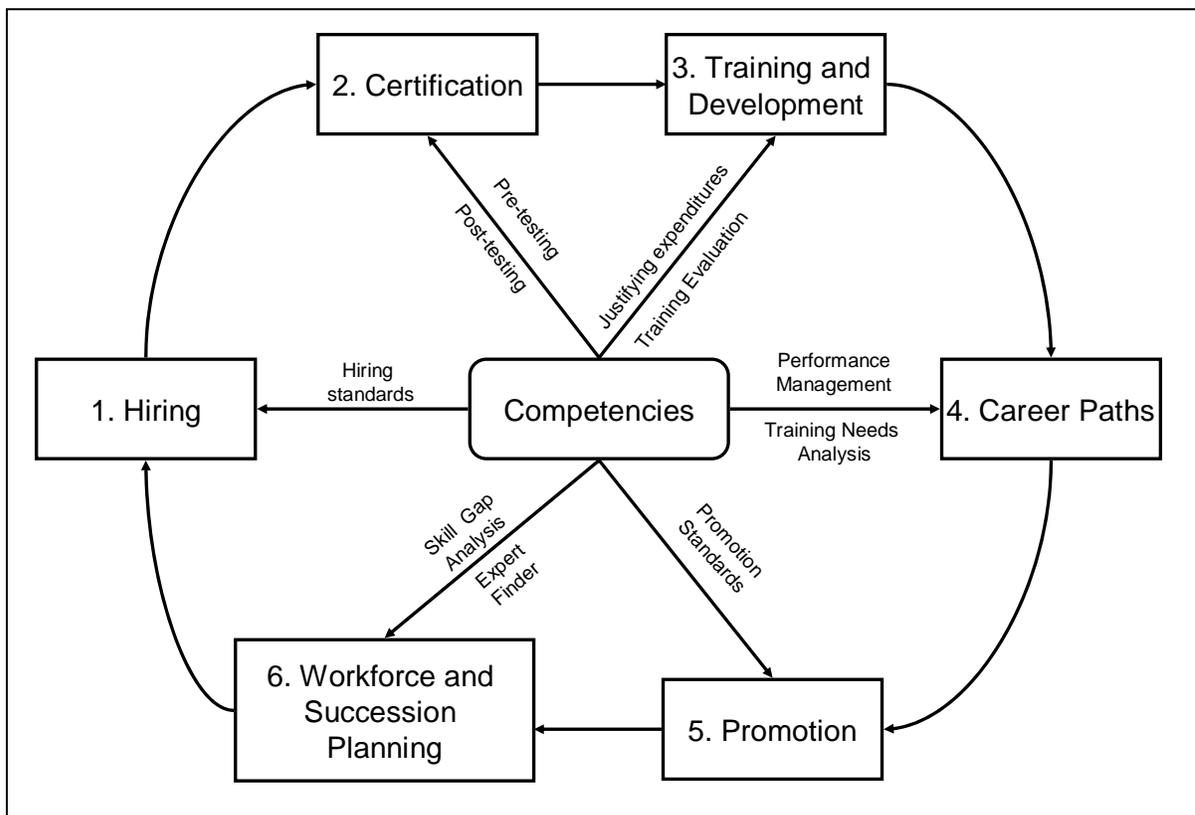
A competency model provides a common language to describe the capabilities required of the workforce. This allows the competencies of individual employees to be compared against the requirements of individual positions across the AVS S/Os. As a result, competencies allow individuals to:

- Better understand how their individual and group functions support the AVS mission by delineating the requirements of all positions within AVS; and
- Identify how their individual competency profiles compare to the competencies required across AVS.

A competency model would also directly support the AVS-wide goals of rapidly filling safety-critical positions and implementing NextGen. Candidates for safety critical positions must possess a specific set of competencies and it is possible the candidates may have already developed the competencies in previous positions. A competency model would facilitate a process by which individual candidates could, upon entry into AVS, "test out" of training by demonstrating that they possess these specific core competencies. Under this process, AVS could rapidly fill safety-critical positions with candidates who possess the required competencies and who are able to "test out" of training. The audit's final outcome included a recommendation that AVS develop advanced workforce management tools, which will assist AVS in integrating all aspects of human capital initiatives to recruit and retain a highly qualified workforce.

Figure 10

A Competency-Based Workforce Management System



The 2008 AVS audit recommended the following steps for the implementation of an AVS competency model for core interpersonal and business competencies, as well as technical competencies:

- Complete preliminary framework for core and technical competencies;
- Develop a competency crosswalk of AVS employees by AVS competencies. This would serve as a repository for the competencies of the AVS workforce. It would also support AVS management by allowing for systematic analysis of competency gaps identification of individuals with specialized expertise, and workforce planning; and
- Develop advanced workforce management tools, including workforce planning and workforce skill gap analysis tools; comprehensive assessments for selection and promotion; and tools for succession planning, career paths, and developmental roadmaps.

AVS management is prioritizing these recommendations and deciding which to address in 2010. The implementation of all of the recommendations will require a phased approach over several years.

FY 2009 Recruitment Measurements and Accomplishments

Measurement 1

Recruit ten percent of new hires in safety critical occupations at lower pay bands/grades. For example, target ASI recruitment efforts at grades 9 to 11 or equivalent pay bands.

Results 1

AVS met this measurement. The organization hired approximately 488 new employees: 65 or 13 percent were hired into safety critical occupations at lower pay bands/grades.

Measurement 2

Hire fifteen percent of the new workforce using vacancy announcements that include at least two identified skill competencies that support safety management. Increase this percentage by five percent per year over the next five years.

Results 2

AVS met this measurement. During 2009, AVS issued approximately 809 vacancy announcements. Of the 488 new hires, 102 or 21 percent of the vacancy announcements included two identified skill competencies.

FY 2010 Recruitment Measurements

Measurement 1

Recruit 15 percent of new hires in safety critical developmental positions or positions that lead to safety critical occupations.

New hires are defined as those employees entering duty into AVS, whether from another FAA or governmental organization or from a non-governmental source. The recruitment measure has been increased from the 2009 measure of 10 to 15 percent and now includes “positions that lead to safety critical occupations.”

AVS during FY 2010 will review and refine its definition of developmental positions and positions leading to safety critical positions. Given the expanded definition of developmental positions, there may be a need to redefine the measures baseline for FY 2011. A determination for a new baseline will not be known until the results of FY 2010 measure are known.

Measurement 2

Hire 20 percent of the new workforce using vacancy announcements that include at least 2 of the Employee Leadership Profile competencies that support the organization’s SMS and transition to NextGen. Increase this percentage by five percent per year over the next five years.

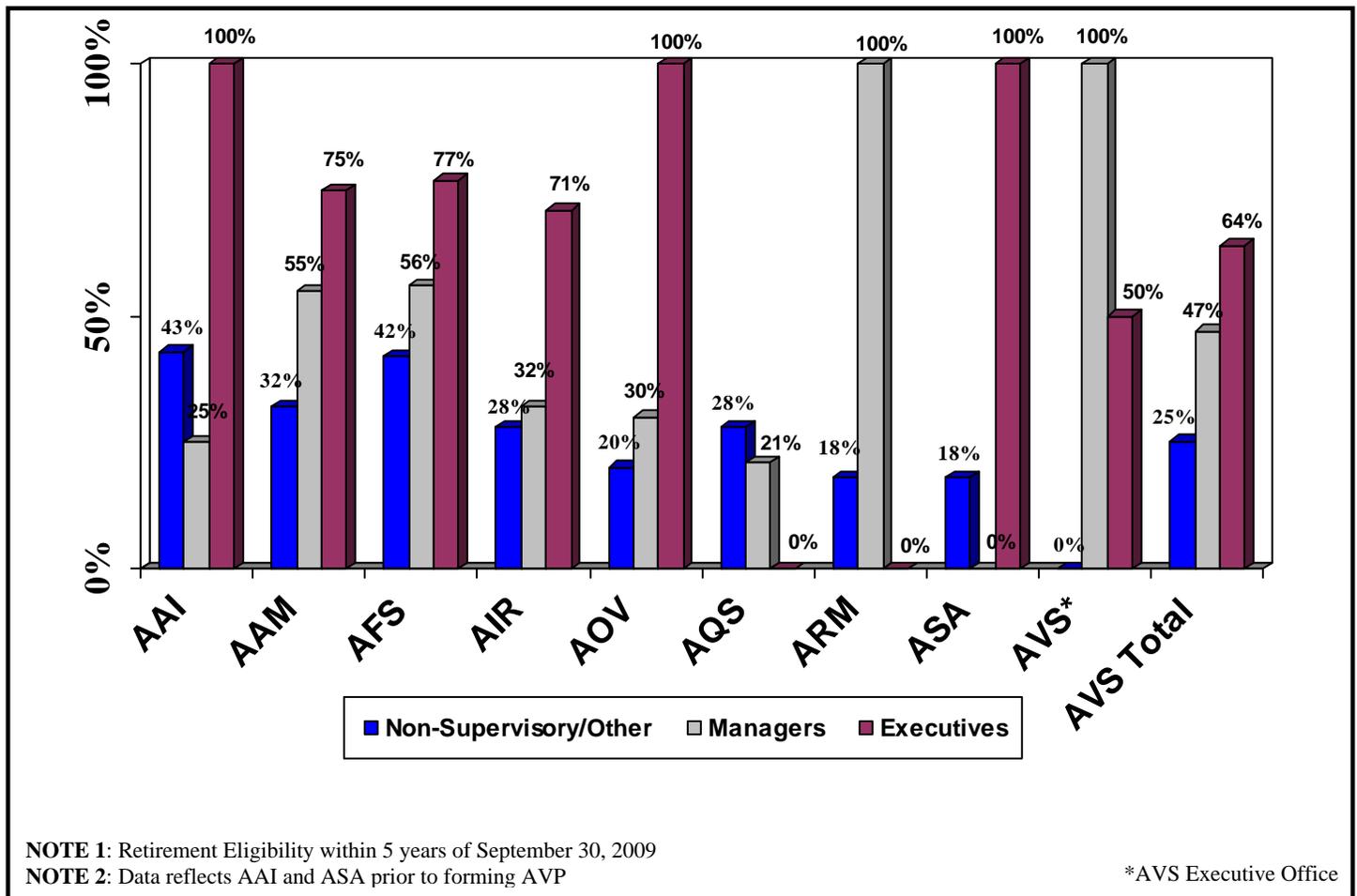
Challenge 2: Succession Planning

Succession planning is the use of a deliberate process to ensure staff are developed and are able to replace senior leadership as required. It enables selecting officials to identify the right candidate for a position.

As of September 30, 2009, AVS had 2,909 employees eligible to retire within 5 years. As Figure 11 shows, managers and executives make up the largest percentage of eligible retirees.

Figure 11

AVS Employees Eligible to Retire

**Strategy 2: Succession Planning**

AVS is committed to implementing a Leadership Succession Plan that supports the professional development of employees who have strong career aspirations for leadership. AVS has employees currently participating in the agency's Senior Leadership Development Program (SLDP) for executives and the Program for Emerging Leaders (PEL) for front-line managers. A goal is to enhance both of these structured programs to:

- Identify a manager's core curriculum of knowledge and skills, against which participants can evaluate their strengths and weaknesses;
- Educate participants on the critical role competencies in their preparation for and success in a managerial role; and
- Integrate best practices such as "SMART" goal planning and easy tracking of both knowledge-building activities and practical application activities.

AVS will meet goal through experience, exposure and education. AVS acknowledges that there is a strong business need to develop formative mid-level managerial development programs and will do so once the enhancements to the SLDP and PEL are fully implemented.

Challenge 3: Education

AVS is committed to further educating its leaders to facilitate their understanding of how personal responsibility and accountability are essential to attracting, hiring, and retaining staff with the skill sets necessary for success in the aviation environment of the future.

Strategy 3: Education

In 2007, AVS expanded its communication strategy to emphasize the mission, values, and integration across its S/Os. In 2008 and 2009, AVS continued to build on this effort by holding All Managers' Conferences. In 2009, AVS managers participated in a variety of workshops, including the following:

- Managing in A Regulatory Environment (speaker and workshop);
- Congressional Update;
- AVS Programmatic Highlights; and
- Questions & Answers with the AVS Management Team.

In FY 2007, AVS implemented a course for new employees called, "The Aviation Safety Organization: An Overview." The course is designed to help new employees transition, not only within their S/O, but within AVS and the FAA as a whole. In FY 2009, AVS added a new section to this course on what it means to be part of a regulatory Agency, how employees should view their role, and what they should expect from their managers. There have been a total of 1,086 employees trained since the inception of this course.

In FY 2008, AVS developed the AVS New Manager's Course and implemented it in FY 2009. New managers are currently defined as supervisors/managers with zero to four years of AVS management experience. The course is designed to help new managers transition, not only within their S/O, but within AVS and the FAA as a whole. The course will address areas to include the following:

- Expectations of managers;
- Performance management;
- Leadership;
- Organizational roles and responsibilities;
- Transition to management;
- Communicating effectively;
- Budget (general); and
- Labor relations (general).

The AVS New Manager's Course trained 272 employees in FY 2009 with courses conducted at least once per month.

7. Workforce Hiring Process

In FY 2009, AVS continues to develop and enhance its workforce to achieve the goals and objectives defined in this Workforce Plan. AVS implemented several initiatives between FY 2007 and FY 2009 that will have a long-term effect on its mission, as well as an impact on its employees.

AVS has identified the following strategies that will aid its efforts to recruit and retain staff with the right mix of traditional and new skills needed for the future.

Strategy 1

AVS is working with the Agency's Human Resources Corporate Recruitment and Marketing office and the Office of Civil Rights, Equal Employment Opportunity Consulting Group to:

- Continue cultivating the relationships and partnerships with college and universities to fill entry-level engineer and inspector positions;
- Implement recruitment strategies that will increase efforts to hire people with disabilities;
- Continue soliciting assistance from the FAA professional organizations such as the Technical Women's Organization, National Black Coalition of Federal Aviation Employees, National Hispanic Coalition of Federal Aviation Employees, and others;
- Recruit from our industry stakeholders, including airlines and manufacturers;
- Partner with various educational programs such as the Professional Society of Black Engineers;
- Partner with the Minority Servicing Institutions to foster professional internships from the Historically Black Colleges and Universities, Hispanic Serving Institution, etc.;
- Implement the FAA Student Intern Program; and
- Develop and implement an AVS Diversity Plan.

Strategy 2

The FAA's Office of Human Resource Management (AHR) implemented the new AFS ASI qualification standards and new hiring assessment process through the FAA's automated hiring system in FY 2008. The new process facilitates AVS's ability to hire ASIs who have the competencies needed to be successful in the current and future work environment. The new AFS ASI qualification standards were implemented for FY 2009 hiring.

Strategy 3

AVS will expand participation in the AVS Leadership, Enhancement and Development Program, the agency's Program for Emerging Leaders and the Agency's Senior Leadership Development Process. AVS is also looking at renewing its efforts with the FAA Student Intern Program and the Minority Serving Institutions Intern program.

Strategy 4

AVS will continue to offer a limited number of available recruitment flexibilities, such as recruitment bonuses, leave enhancements, and employee referral bonuses. AVS may also provide reimbursement to their employees for technical, management, or career development training. This includes: reimbursement of tuition expenses in pursuit of a formal degree program at an accredited institution of higher learning, training for the purposes of qualifying for another career field when approved under a job loss training program, and membership fees in professional societies.

Strategy 5

AVS engaged in some limited recruitment outreach activities in FY 2009. It is looking to develop and implement a recruitment plan during FY 2010. The goal of the plan is to implement a comprehensive strategy for ensuring that AVS is attracting and hiring talented applicants from diverse backgrounds, while supporting the FAA's mission to become an employer of choice.

Strategy 6

According to surveys within AVS, managers and supervisors are identified to be the communicators most trusted by employees. This means AVS must develop training to help them transition into their role as a "conduit" of information. Managers and supervisors must be able to clearly communicate to their employees the organizational vision and strategies and must be able to amplify organizational traits that positively impact employee performance. This will contribute in creating a performance culture to engage employees by:

- Providing fair and accurate informal feedback;
- Emphasizing employee strengths in Performance Reviews;
- Clarifying performance expectations;
- Leveraging employee "fit";
- Instilling the performance culture;
- Connecting employees with talented coworkers;
- Demonstrating a commitment to employee development; and
- Encouraging innovation.

Diversity Plan

Congress directed AVS to develop a Diversity Plan to ensure it was making a concerted effort to attract a diverse safety workforce. Congress further directed AVS to provide updates annually on new activities undertaken and on the plan's effectiveness. The plan articulates specific goals and objectives while ensuring compliance with existing EEO policy requirements. The plan consists of the following three components with actions and performance measures essential to achieving the goals within the plan:

- Educate managers, supervisors, and employees regarding the importance of EEO in the selection process, including the expansion of the qualified applicant pool;
- Conduct a comprehensive analysis of the current AVS workforce to include future hiring projections; and
- Work with the AHR Marketing Group to develop an AVS Recruitment Plan, incorporating the recruitment strategies and initiatives in the Workforce Plan.

8. Workforce Training

AVS is committed to developing its workforce so AVS employees have the knowledge and skills needed to respond to the future challenges of aviation safety.

The organization's workforce development includes: identifying staffing requirements; hiring a proficient staff with the required knowledge, skills, and abilities; and providing training and professional development opportunities to fill any skill or competency gap and to enhance current performance levels. The larger AVS S/Os maintain their own training organizations, each with its own administration, development, delivery, and evaluation functions, focusing mainly on technical specialty training.

In FY 2008, AVS conducted an audit of training-related resources, processes, and policies across its S/Os. The audit provided a "current-state" assessment of the AVS-wide training program and identified opportunities for improvement of AVS training operations and services. This data-driven analysis resulted in a series of best-practices recommendations for the future state of AVS training that included the following:

- Establish AVS Training Program governance structure that defines AVS-wide standards on training administration, development, delivery, and evaluation;
- Develop an interpersonal and business (core) competency model and a technical competency model, and establish competency-to-training linkages. Develop advanced workforce management tools by applying the core and technical competency models to all phases of human capital planning and management;
- Standardize training-related activities across AVS for improved efficiency, effectiveness, and satisfaction of AVS training customers, as well as for a reduction in overall training administration costs;
- Develop standards for procurement, evaluation, development, and management of training content across AVS to eliminate redundancy and to improve the currency, quality, and accessibility of all AVS training content;
- Develop processes to collect metrics for all major components of AVS training, including cost, effectiveness, efficiency, and stakeholder satisfaction to promote best practices and continuous improvement;
- Aggressively promote a variety of training delivery methods and knowledge sharing tools to expand the reach, timeliness, and value of AVS training; and
- Establish consistency, quality, and performance measurement of training for AVS designees across all AVS S/Os.

The audit revealed redundant functions in many areas that could be minimized by integrating operations. It also identified model processes and standards in the S/Os that could be applied beneficially across the organization. The audit recommended 37 strategic initiatives that AVS should undertake to integrate and improve AVS training operations and services.

The implementation of all 37 recommended strategic initiatives will require a phased approach over several years. AVS management will prioritize the recommended strategic initiatives. Key focus areas are:

- Standardize training-related activities across AVS, specifically the call for training and quota-management processes;
- Implement a vetting process for training content across the S/Os to minimize the development of redundant training content;
- Research and develop innovative “blended” learning technologies that will allow AVS to improve the quality, effectiveness, and reach of training and performance support offered to AVS employees; and
- Conduct an analysis of the designee training operations in AVS similar to the analysis done for the overall AVS training program in FY 2008.

The current state analysis and future state best-practices recommendations signal a shift in the AVS training culture. The goal is not to collapse the technical training functions of the AVS S/Os into one organization, but to integrate training operations, processes, and standards across AVS so that the S/Os can concentrate their resources on optimizing training specific to their technical specialties.

In FY 2010, the focus will be on a unified approach to planning and budgeting for training. Filling the Training Program Officer position or restructuring the ITS team plus creating a budget to support the initiatives and programs are elements for consideration this fiscal year.

8.1 Competency-based Training Model

The 2008 Aviation Safety Workforce Plan stated that AVS would implement a competency-based training model in 2008. However, the 2008 audit of AVS training significantly impacted this plan. Prior to the audit, competency management was primarily considered a function of training. AVS learned from the audit that competencies relate to all of the major components of an integrated workforce management system. As a result, AVS has begun to focus on using competencies to address all aspects of human capital management (see “6. Workforce Hiring”).

8.2 Initial Technical Training

The majority of the AVS workforce is specialized and has unique training needs. AFS has four main areas of technical specialization: General Aviation Operations; General Aviation Airworthiness; Air Carrier Operations; and Air Carrier Airworthiness. Each of these technical areas has a required series of initial courses called “string training.” Similarly, AIR has five main areas of technical specialization, each requiring a series of initial courses: Aerospace Engineering (Airframe, Propulsion, Systems, and Software) and Aviation Safety Inspection-Manufacturing. Other personnel in AVS, such as Drug Abatement Inspectors, AOV, and ARM staff, receive structured initial technical training as well. ARM considers all Rule Making staff as safety-critical staff as they create safety rules. Additionally, some safety-critical staff like the medical staff and research scientists in AAM and the IT specialists in AQS do not have specifically-assigned internal training. Much of AVS training is delivered via instructor-led classes, but more and more training is accomplished through OJT and distributed learning methods, such as Web-based training (WBT). In FY 2008, new ASIs started WBT as soon as they had access to the DOT eLearning Management System, usually within two to three weeks after entrance-on-duty (Table 5, page 40).

Table 5

AVS Technical Training FY 2009

AVS S/Os	Initial Hours of Required Training for Safety Critical Staff (Average)	Total Number Enrollments per Year*	% of Training is WBT (Average)
AVP	116	3	NA
AAM	102	27	11%
AIR	230	662	6%
AOV	80	70	NA
AFS	431.5	15,736	27%
ARM	80	25	NA
*This number represents seats filled, not students who have taken training, e.g., one person may account for several enrollments in a year.			

8.3 Recurrent Technical Training

After AVS employees complete the initial technical courses, additional training needs are identified during annual calls for training requirements. Supervisors work with their employees to determine what kind of training they need and when they need it. For example, inspectors, flight test pilots, and others are required to receive recurrent training that is tailored to their particular oversight responsibilities. Inspector training requirements are reviewed annually by the inspector's supervisor and the inspector. This process ensures that inspectors have an input for any training that they believe is needed to keep pace with changes in the aviation industry.

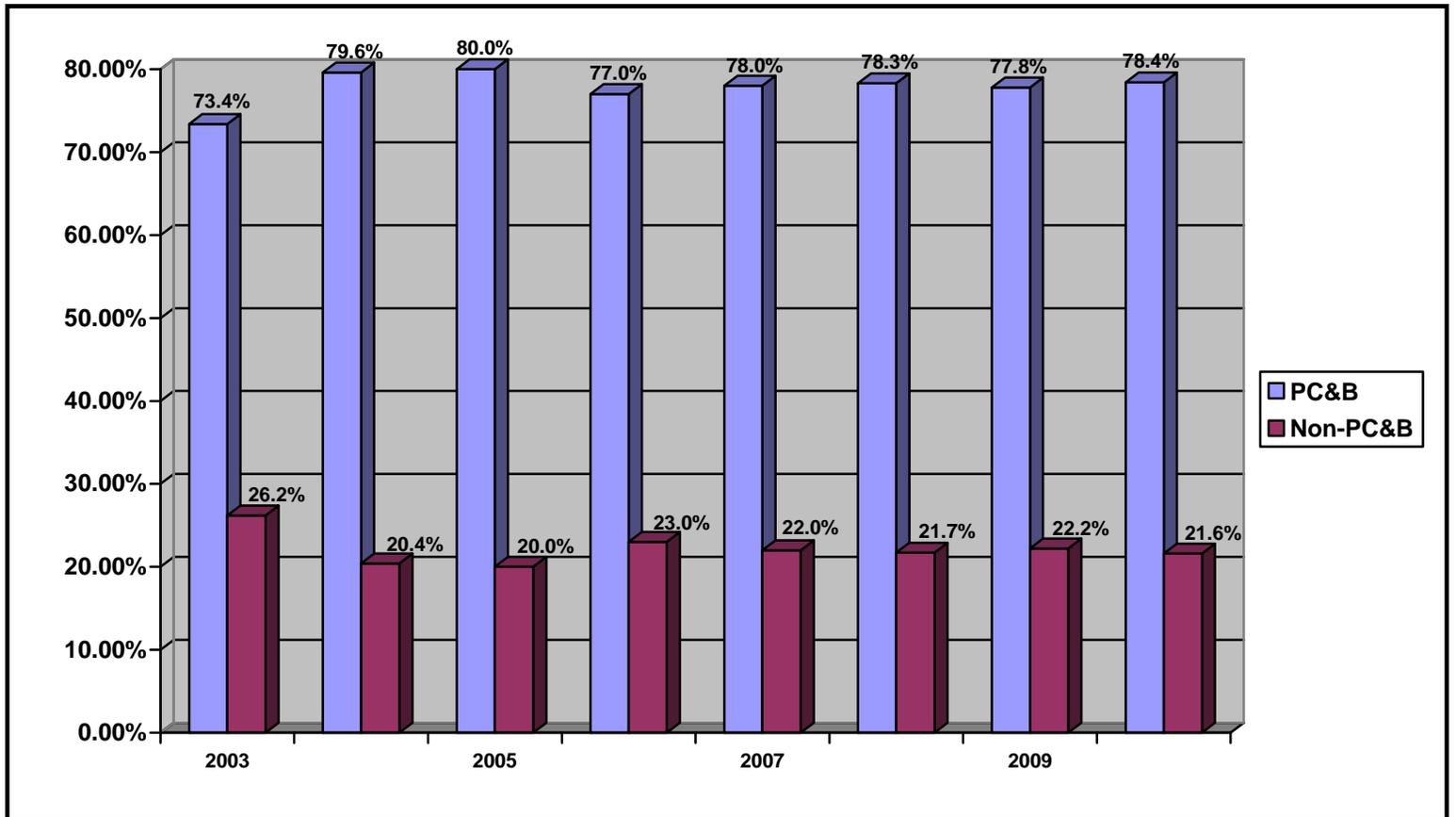
9. Workforce Funding Status

AVS's overall personnel compensation costs continue to rise because of intrinsic pay increases. The cost of pay and benefits has been growing by four to five percent per year, primarily because of pay increases and increased costs of benefits, particularly healthcare benefits. AVS has relied on attrition to manage its cost with available funding. With just under 80 percent of the operations budget going to payroll and benefits, controlling these costs is critical to the long-term sustainability of operations. AVS will continue to monitor hiring and staffing compositions to ensure that pay compensation and benefits' (PC&B) costs continue to remain under control.

Because AVS's safety workforce is highly specialized, the organization requires adequate training, equipment, supplies, travel, and other non-payroll funding for its employees. This non-payroll funding is necessary to effectively perform the organization's safety oversight and surveillance responsibilities. Rather than focusing solely on staffing levels, AVS's policy is to maintain a workforce that is adequately trained, equipped, and can travel to carry out the organization's safety mission (Figure 12, page 41).

Figure 12

AVS Pay, Compensation and Benefits (PC&B)



10. Conclusion

The 2010 Aviation Safety Workforce Plan demonstrates the Aviation Safety Organization is prepared to staff appropriately based on the expected changes in the aviation industry and attrition within its workforce. Projected industry workload and complexity changes will be mitigated by: NextGen, incremental staffing gains, the implementation of the Safety Management System and the Aviation Safety Information Analysis and System, as well as through continued use of designees. The 2010 Aviation Safety Workforce Plan is based on the following premises:

- AVS's demand for specialized technical skills cannot always be met with entry-level staff;
- Many of our highest-skilled employees join the FAA as a second career. As long as we can continue to fill vacancies we will be able to manage retirements effectively;
- AVS will continue to monitor its workforce and industry trends and will adjust its strategies as needed;
- As the aviation industry evolves, AVS recognizes that it must evolve with it;
- AVS's future workforce requirements will grow, but not at a rate commensurate with industry growth. In order to meet this demand and maintain safety, AVS will implement a risk-based approach to oversight and surveillance, as well as increase delegation;
- As the FAA transitions to the SMS approach to safety, the skills required for both AVS's current and future workforce will change;
- AVS has started to hire employees with the new skills needed in the future, and the organization is embarking on training strategies for its current workforce; and
- AVS will collaborate with industry as well as external and internal governmental representatives to understand and request resources necessary to support the implementation of NextGen.