U.S. DEPARTMENT OF TRANSPORTATION
FEDERAL AVIATION ADMINISTRATION

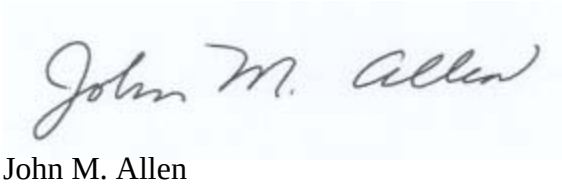
ORDER 8000.368A

National Policy

Effective Date:
12/12/12

SUBJ: Flight Standards Service Oversight

This order provides guidance for Flight Standards Service (AFS) staff and offices in meeting the requirements specified in the current edition of Federal Aviation Administration (FAA) Order 8000.369 (as revised), Safety Management System Guidance and Order VS 8000.367 (as revised) Aviation Safety (AVS) Safety Management System Requirements. It describes AFS statutory responsibilities with respect to aviation safety oversight and evolving system safety and Safety Management System (SMS) based initiatives. These initiatives contribute to enhanced methodologies for managing risk and improving safety in aviation. Additionally, this order discusses the incorporation of system safety and is inclusive of SMS concepts into the future AFS oversight approach.



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Chapter 1. General Information

1. Purpose of This Order. This order describes how the Flight Standards Service (AFS) complies with the current editions of FAA Order 8000.369, Safety Management System Guidance, and Associate Administrator for Aviation Safety (AVS-1) Federal Aviation Administration (FAA) Order VS 8000.367, Aviation Safety (AVS) Safety Management System Requirements. Order 8000.369 requires Aviation Safety (AVS) services to incorporate safety management principles into FAA oversight of the U.S. aviation industry. Order VS 8000.367 provides specific requirements to apply these principles in AVS lines of business. In support of the AVS Safety Management System (AVSSMS) guidance, this order does the following:

- Provides information for AFS divisions and offices in support of the development of implementation plans and guidance based upon and consistent with Order 8000.369. AFS divisions and offices will issue supplementary guidance, both internally and externally, to implement the principles and provide direction to aviation product/service providers.
- Explains the principles and requirements to guide the evolution of AFS oversight processes in a Safety Management System (SMS) environment.
- Standardizes terminology for AFS oversight activity consistent with AVS guidance and appropriate to each of the constituent industry segments and aviation activities under the oversight jurisdiction of AFS.
- Defines roles of AFS and the industry, specifically with respect to the responsibility for managing risk and determining acceptable levels of safety.

2. Audience. The audience for this order is principally FAA AFS personnel, including AFS divisions and branches at headquarters (HQ) and in the regions. This order will have a more significant impact on those offices that have direct responsibilities for developing policies and practices related to the oversight of the aviation industry. This order will also provide useful information for the U.S. aviation industry.

3. Where You Can Find This Order. You can find this order on the MyFAA employee Web site at https://employees.faa.gov/tools_resources/orders_notices. Inspectors can access this order through the Flight Standards Information Management System (FSIMS) at http://fsims.avs.faa.gov. Air carriers (operators) can find this order on the FAA Web site at http://fsims.faa.gov. This order is available to the public at http://www.faa.gov/regulations_policies/orders_notices.

4. What This Order Cancels. This order cancels Order 8000.368, Flight Standards Service Oversight, dated July 11, 2008.

5. Authority to Change This Order. AFS-1 has the authority to issue and modify Order 8000.368, Flight Standards Service Oversight.

6. Outcomes.

a. Process-Oriented Framework. This order establishes a process-oriented framework that will assist in adapting AFS oversight to SMS principles. This includes a foundation for industry and the FAA to analyze and determine acceptable levels of risk. This order defines roles,

responsibilities, and relationships of AFS elements with the industry and emphasizes the continuing importance of a strong safety culture within AFS and the industry.

b. Guidance. This order provides guidance on the following:

- The development of an AFS AVSSMS implementation plan in accordance with the direction of Orders 8000.369 and VS 8000.367, Aviation Safety (AVS) Safety Management System Requirements, current edition;
- The use of standardized terminology for AFS oversight activity consistent with AVS guidance;
- The conduct of AFS oversight activities under an efficient and integrated system, consistent with other AVS services/offices, sharing information and minimizing duplication;
- A basis for analyzing and determining acceptable levels of risk in different segments of the aviation industry;
- A risk management (RM) approach detailing the role of FAA oversight in relation to that of the aviation industry, recognizing the responsibilities of each; and
- The means by which AFS will support the aviation safety goals and objectives outlined in the Destination 2025.

Note: Since the beginning in FY 2012, Destination 2025 replaced the Flight Plan as the FAA's strategic plan. Destination 2025 outlines the long-term, strategic vision for the agency, addressing the transformation of our nation's aviation system and the FAA itself over the next 15 years.

7. Suggestions for Improvement. Forward any deficiencies found, clarifications needed, or suggested improvements regarding the content of this order to the Organizational Resources and Program Management Division (AFS-100), 800 Independence Avenue S.W., Washington, DC 20591; your suggestions are welcome. FAA Form 1320-19, Directive Feedback Information, is located on the last page of this order for your convenience. If you urgently need an interpretation, you may contact the Flight Standard SMS Program Office, Flight Standards National Field Office, AFS-900, at 703-661-0565, but also submit Form 1320-19 to document the conversation.

Chapter 2. Background and Supporting Requirements

1. Overview. The current edition of FAA Orders 8000.369 and VS 8000.367, provide guidance for AVS services/offices in implementing a common AVSSMS. The overall goal of these orders is to further the practice of managing safety by moving to a more process-oriented system safety approach that stresses not only dissemination and application of technical standards, but an increased emphasis on the management systems that ensure Safety Risk Management (SRM) and Safety Assurance (SA).

a. AFS Actions. Specifically, with respect to AVS services/offices, Orders 8000.369 and 8000.367:

(1) Set forth basic principles to guide AVS services/offices in their safety management and safety oversight activities. It requires them to adopt a common approach to implementing an integrated SMS.

(2) Require each AVS service/office to develop and implement a plan for its functions under the AVSSMS, including, where appropriate, the structure of its safety oversight relationship with that segment of industry for which it holds safety oversight responsibility. Each AVS service/office should provide SMS guidance to its regulated entities, where appropriate.

(3) Require each AVS service/office to regularly report on its AVSSMS implementation progress, including performance measures.

b. Basis for AFS SMS Action. This order is one of two bases for AFS SMS action. The second one is the AFS AVSSMS implementation plan. These two documents will meet the requirements of Orders 8000.369 and VS 8000.367, and implement the AFS elements of the AVSSMS. Per this order, the Director of Flight Standards Service (AFS-1) expects AFS divisions and offices to develop oversight methodologies that apply principles of safety management and quality systems. These methodologies will contribute to improving the effectiveness of AFS oversight functions and support the implementation of the AVSSMS.

c. Implementation Plan. AFS will develop a specific SMS implementation plan, to include AFS division and office level input, which should evolve AFS oversight activity so that it is consistent with the AVSSMS. This plan will have a phase-in schedule and address specific personnel competencies and training requirements, as well as an approach to achieve and maintain those competencies. The plan will provide for developing internal and external guidance on the future AFS oversight processes and on FAA expectations for the various industry segments for application of SMS at the aviation product/service provider level.

2. Statutory Basis and AFS Mission.

a. Regulations and Authority. The statutory basis of this order is derived from the authority specified in Title 49 of the United States Code (49 U.S.C.) and Title 14 of the Code of Federal Regulations (14 CFR). Title 49 U.S.C., Chapter 447, Safety Regulation, specifically directs the FAA Administrator to promote the safe flight of civil aircraft in air commerce by prescribing regulations and minimum standards for safety and security in air commerce. In adherence to this regulatory and policy basis, AFS is responsible for implementing specific

elements of the AVSSMS associated with the safety oversight of aviation certificate holders in the United States. Refer to the current edition of FAA Order FS 1100.1, Flight Standards Service Organizational Handbook, for additional details on specific AFS roles and responsibilities and the basis for its authority.

b. AFS Mission. Within the FAA Office of Aviation Safety (AVS), AFS is responsible for the safety and regulatory oversight of aviation certificate holders and service providers in the United States. The AFS Mission Statement defines functions as follows:

(1) AVS sets certification standards for air carriers, air agencies, and airmen to provide the safest, most efficient aerospace system in the world. AVS continually strives to improve the safety and efficiency of flight in the US.

(2) Directing, managing, and executing certification by inspection and surveillance activities. This ensures the adequacy of flight procedures, operating methods, airmen qualification and proficiency, and continued airworthiness of maintenance programs.

(3) Exercising oversight authority over all service providers (governmental and non-governmental) performing Instrument Flight Procedure (IFP) development, including flight inspection/flight validation services.

(4) Under the broad umbrella of safety and efficiency, AVS has several major roles:

- Regulating civil aviation to promote safety;
- Encouraging and developing civil aeronautics (including new aviation technology);
- Developing and operating a system of air traffic control (ATC) and navigation for both civil and military aircraft;
- Researching and developing the National Airspace System (NAS) and civil aeronautics;
- Developing and carrying out programs to control aircraft noise and other environmental effects of civil aviation; and
- Regulating US Commercial space transportation.

c. ICAO Interface.

(1) AFS fulfills its mission, in large part, through safety oversight activities. The International Civil Aviation Organization (ICAO), of which the U.S. is a member state, defines these activities. ICAO sets standards and recommended practices across the entire spectrum of international aviation activity and provides direction and guidance for member states.

(2) With respect to safety oversight, ICAO has defined eight critical oversight elements. AFS has direct or indirect responsibilities related to all of them (refer to ICAO Safety Oversight Manual, Doc 9734-AN/959, Part A, The Establishment and Management of a State’s Safety Oversight System):

(a) *Primary aviation legislation* consists of "comprehensive and effective aviation law" that provides the statutory basis for aviation activity in a member state. This is primarily 49 U.S.C., which establishes the roles and responsibilities for the Department of Transportation (DOT), FAA, U.S. aviation certificate holders, and other aviation entities.

(b) *Specific operating regulations* are the national-level policy, rules, regulations and other guidance standardizing aviation-related operational procedures, equipment and infrastructure, primarily 14 CFR. ICAO Doc 9859-AN/474, Safety Management Manual (SMM), describes regulations in terms of their role as risk controls, as does Order VS 8000.367.

(c) *State civil aviation system and safety oversight functions* refer to the establishment of a government authority with adequate financial resources, staffed with appropriate technical and non-technical staff, and with stated safety regulatory functions, objectives, and safety policies.

(d) *Technical personnel qualification and training* provides assurance that the technical personnel performing safety oversight have adequate knowledge and experience as well as the training necessary to maintain their competence at the desired level.

(e) *Technical guidance, tools, and the provision of safety critical information,* describes the provision of processes and procedures, facilities and equipment, and information to the technical personnel to enable them to perform their oversight function in accordance with established requirements and in a standardized manner.

(f) *Licensing, certification, authorization, and approval obligations* are the processes and procedures ensuring that personnel and organizations performing an aviation activity (i.e., an aviation-related product or service) meet established requirements before they can exercise the privileges of a license, certificate, or other approval/authorization.

(g) *Surveillance obligations* are the processes, such as inspections and audits, to ensure that aviation license and certificate holders continue to meet established requirements and function at a prescribed level of competency and safety.

(h) *Resolution of safety concerns* refers to processes and procedures to address identified deficiencies impacting aviation safety.

d. Requirement Fulfillment. As a member state of the ICAO, the United States, through the FAA and AVS/AFS, must demonstrate that it fulfills the requirements of a safety oversight system as summarized above.

e. Comprehensive Safety Oversight. The critical safety oversight elements discussed in paragraph 2c (2), define what constitutes comprehensive safety oversight; they are the basic building blocks of the FAA's oversight activities. However, these elements do not specify how the FAA implements these functions. For example, the requirement to develop specific operating regulations (refer to subparagraph 2c(2)(b) above) does not require that these regulations address wholly or in part any specific hazard or risk, nor does it require that the FAA review these regulations periodically to ensure that they continue to meet their original intent.

f. SRM. In order to meet system safety precepts, AFS will carry out the functions associated with the critical safety oversight elements within the structure of an overall safety program. This safety program, for example, characterizes regulations as safety risk controls. AFS develops regulations to address specific hazards identified in the aviation system. Through the processes of the internal SRM component, AFS establishes new regulations or amends existing regulations. In addition, using the processes of the internal SA component, AFS continuously monitors the effectiveness and efficiency of these regulations as safety risk controls.

3. AFS Responsibilities and Basis for Change.

a. Safe Operations. Title 49 U.S.C and 14 CFR specify the relationship between AFS and certificate holders. As the oversight authority, AFS is responsible for developing the policy, regulations, and other guidance to ensure that both the FAA and certificate holders establish and maintain an environment conducive to safe and efficient aviation activities. One key aspect of this relationship is that individual certificate holders, not AFS, are responsible for ensuring operational safety, properly managing hazards and the risk associated with their operations.

b. Concept of Safety. AFS recognizes that it is impossible to eliminate with certainty all possibility of injury, harm, or damage from aviation operations. ICAO's Safety Management Manual (SMM) further clarifies this precept and defines safety as "the state in which the risk of harm to persons or of property damage is reduced to, and maintained at or below, an acceptable level through a continuing process of hazard identification and risk management" (refer to ICAO SMM, Doc 9859-AN/460). The goal, therefore, is to manage inherent risk to an acceptable level commensurate with the operations and environment of the operator.

c. SRM. Risk is a function of the relative severity of hazard-related consequences and their likelihood to occur. Certificate holders maintain operational safety by managing risk with properly designed and implemented systems. Certificate holders measure success in safety management and the "level of safety" achieved in terms of how well they eliminate or control the factors that influence the likelihood or severity of injurious or loss-producing events.

d. System Safety. The FAA adopted the system safety approach. When properly designed and implemented, this approach proactively identifies hazards and mitigates associated risks before they result in incidents or accidents. This approach guides and improves traditional methods of equating direct product inspection and strict regulatory compliance with safe operations.

4. Evolving Standards and Concept of Safety Management.

a. ICAO.

(1) Safety Management Principles and Systems. ICAO, which promotes the safe and orderly growth of international civil aviation, supports modern safety management principles and systems as a means of continuing to improve aviation safety through more proactive SRM. ICAO's SMM describes the following two concepts in detail.

(a) The State Safety Program (SSP). This is an integrated set of regulations, directives, and activities that integrate its multi-disciplinary safety activities into a coherent whole. The safety program addresses both internal FAA responsibilities as well as the responsibilities of the aviation industry it regulates, including the requirement for operators to implement SMSs.

(b) SMS. This is an organized approach to managing safety, which includes organizational structures, accountability, policies, and procedures. This includes a process to identify safety hazards, to implement remedial actions that mitigate risk, and to provide for continuous monitoring and regular assessment of the safety level achieved. ICAO describes the SMS as the function of an aviation product/service provider.

(2) ICAO Operation of Aircraft. ICAO requires these concepts (paragraphs 4a(a) & (b), above) for its Annex 6 - Operation of Aircraft – Part 1 – International Commercial Air Transport – Aeroplanes (paragraph 3.2 and appendix 2).

(3) Safety Oversight Perspective. The ICAO SMM states that safety oversight is evolving through experience beyond the traditional perspective. The traditional perspective emphasizes compliance with regulations and is largely reactive. The evolved perspective is more comprehensive, proactive, and complements and expands the approach embodied in the eight critical elements summarized in paragraph 2c (2) above. This evolved perspective assumes the presence of such factors as:

- Use of scientifically-based SRM methods,
- Safety culture,
- Sharing of safety data,
- Integrated safety training, and
- Systematic safety oversight and performance monitoring aimed at assessing safety performance and reducing or eliminating problem areas.

(a) Another aspect of oversight perspectives relates to the function of regulations. In the traditional oversight environment, the oversight authority develops regulations primarily as administrative controls that do not necessarily serve as risk controls. The oversight authority and certificate holders/service providers should employ regulations, processes, and/or procedures as safety risk controls contributing directly to the reduction of risk in the environment. Product/Service Providers will utilize operator specific mitigations that will be evaluated by AFS along with regulatory controls.

(b) The FAA has introduced its oversight approach with system safety principles, and with the adoption of the modern approach to aviation safety described in the ICAO SSP concept (which equates to the FAA’s AVSSMS), will further transition oversight to this proactive mode.

(4) State Safety Program Development and Implementation. The SMM describes the ICAO expectation for states to establish a State Safety Program that is broad in scope. The safety program includes provisions for diverse activities, such as developing regulations based upon risk, hazard reporting, safety investigations, safety audits, and safety promotion.

(a) For the State to implement an integrated safety program, service providers need to possess a coherent SMS. For that reason, ICAO has established requirements for states to require each operator, Maintenance Organization, Air Traffic Service Provider, and certificated airport operator to implement an SMS.

(b) AOA-1 issued Order 8000.369 to enable the FAA to manage safety risk (among other actions) in this changing environment by furthering the practice of managing safety. AVS-1 issued Order VS 8000.367 to provide more definitive internal and external SMS requirements to AVS lines of business. Development of the SMS concept for aviation product/service providers for which AFS has oversight responsibility will have an impact on how AFS accomplishes its oversight. The FAA will do this by moving to a more process-oriented system safety approach that stresses not only dissemination and application of technical standards, but also an increased emphasis on the management systems that ensure SRM and SA.

b. U.S. and FAA Initiatives. A number of initiatives are in development both within the FAA and in support of other government aviation organizations to encourage system safety and SMS as applied to aviation safety.

(1) Joint Planning and Development Office (JPDO). Section 709 of the Century of Aviation Reauthorization Act (Public Law 108-176) created the JPDO to manage the work related to the Next Generation Air Transportation System (NGATS), a national vision for air transportation in 2025. [1]

(2) Air Transportation Oversight System (ATOS). The Flight Standards National Field Office (AFS-900) implemented the ATOS surveillance process in October 1998 for safety oversight of 10 major 14 CFR part 121 air carriers. AFS-900 has since expanded ATOS to all part 121 air carriers. Under ATOS, the FAA assesses the design and performance of the air carrier's systems based on:

- System safety principles,
- Safety attributes,
- SRM, and
- Structured system engineering practices.

(3) System Approach for Safety Oversight (SASO). The SASO Program Office (AFS-900) is responsible for bringing into alignment AFS programs with oversight elements related to certification, surveillance, investigation, and enforcement. Order FS 1100.1 specifically describes one of the functions of SASO as moving AFS to a proactive system safety approach of oversight.

c. Safety Management Principles. SRM is a shared enterprise, with the responsibility for operational safety resting with the certificate holders. The FAA will implement a comprehensive, risk-based, and data-supported, systems approach in conducting oversight to ensure certificate holders and service providers manage risk at the expected levels to achieve safety objectives.

[1] Joint Planning and Development Office, Next Generation Air Transportation System Integrated Plan, December 12, 2004.

(1) The fundamental goal is to allow AFS to address the highest risk concerns through a system of integrated risk controls, facilitating efficient application of FAA resources. This approach permits the leveraging of resources through SRM, which focuses on safety oversight of systems and processes, so that AFS can apply its resources where they will be the most effective.

(2) AFS has oversight responsibility for a wide range of aviation activity, from individual pilots flying in the National Airspace System (NAS) to large air carriers with sophisticated equipment and management systems. To comply with statutory requirements, AFS must make sufficient use of industry and FAA resources. The relative risk of operations will vary from one segment of the industry to another and from one organization to another. AFS risk management processes (RMP) must properly account for these variations.

d. SMS Components. The AVSSMS describes four essential components of an SMS. It directs that AFS restructure its oversight activities to align with these components.

(1) Safety policy sets forth AFS's commitments for its safety management processes (the foundation for establishing the SMS) and outlines responsibilities, authority and accountability for safety.

(2) SRM focuses on the identification of hazards, the analysis and assessment of the associated risk, and the development and implementation of appropriate risk controls. For AFS, these risk controls consist principally of the national-level dissemination of rules, regulations, technical standards, and other guidance.

(3) SA is a continuous activity that evaluates the effectiveness of the prescribed risk control measures and ensures that the assumptions underlying the SRM effort remain valid and applicable. SA covers not only assurance of the risk controls for which AFS is responsible (internal SMS) but also assurance that these risk controls are being applied effectively by certificate holders. These SA activities include auditing the application and use of these risk controls, assessing their effectiveness, and identifying new hazards requiring the development of additional risk controls. SA of AAFS internal activities is closely tied to the Quality Management System (QMS), a process-oriented, internal evaluation and assurance system covering all major AVS processes. AFS will direct its safety management processes through the AVS International Organization for Standardization (ISO) 9000 QMS.

(4) Safety promotion consists of actions that create an environment where AFS can achieve its safety objectives. A key objective of this activity is the establishment and maintenance of a positive safety culture across an organization.

5. Relationship Between Safety and Quality.

a. Concepts of Quality and Safety. The concepts of quality and safety are closely related, with the principal difference being one of focus. The AVSSMS has a primary focus on assuring the safety of the aviation industry and certificate holders, in the United States. In contrast, Federal Aviation Administration (FAA) AVS organization uses the AVS QMS (which meets the ISO 9001:2008 standard) to assure that the AVSSMS processes and their associated objectives are defined and managed consistently across the AVS organization. Accordingly, the QMS provides the basic management structure for AVSSMS functions.

b. The Role of a QMS. The QMS processes assure continual improvement, value employee contributions, and respond to changes in the industry. With respect to the SMS, the QMS assures the establishment of internal safety policy and objectives, the development, documentation, and proper application of efficient, effective, and safety critical processes/procedures used by AFS in oversight. QMS is not a substitute for the SMS Safely Assurance (SA) function. Rather, it complements the SA process and ensures product consistency.

Chapter 3. Integrated AFS Oversight Approach

1. General.

a. Primary Basis. In alignment with the requirements of Orders 8000.369 and VS 8000.367, and following ICAO guidelines, AFS will implement an enhanced oversight structure/approach based upon SMS principles. AFS will not implement a stand-alone SMS, but serve as an essential component of the integrated AVSSMS. This chapter summarizes this approach, and correlates the approach with the eight critical oversight elements prescribed by ICAO (Doc 9734, Part A, Chapter 3) and the four components of an SMS and SSP (Doc 9859, Chapters 8 and 11). The approach is based on a SRM foundation to achieve an acceptable level of safety. AFS strives for effective safety oversight consistent with AFS discretionary authority, resources, and practical constraints.

b. Oversight Structure. The primary structure of AFS oversight activities is the three-level model of the U.S. Air Transportation System described in Order 8000.369. These levels are not rigidly determined but provide a general foundation and basis to illustrate the application of SMS principles to the AFS oversight process. The three levels are:

(1) Aviation System Level. The Aviation System Level, begins with the overall NAS, encompasses all types of aviation activity, including aircraft operations, maintenance, airports, and air traffic management (ATM). The Aviation System Level includes national level AVS/AFS oversight activities, such as the development of policy, guidance, and regulations.

(2) Organizational Level. The Organizational Level addresses organizations that hold certificates, for example air carriers, aircraft and engine manufacturers, and maintenance organizations. This level includes certification and continued operational oversight of certificate holders. Because this level includes certificate holders providing common carriage (i.e., services to the general public) the FAA has a well-defined statutory interest and regulatory responsibility in oversight. The Organizational Level also includes recently established authorizations in the area of IFP development and flight inspection/flight validation activities.

(3) Individual Level. The Individual Level relates to activities of certificated individuals, for example pilots and mechanics. The reduced degree of interaction with the general public at this level lessens the requirement for a large FAA investment in continued operational oversight.

Note: The Three Levels of AFS Oversight, and the relationship to the four components of SMS, is discussed in detail in paragraphs 2 through 5.

(4) Interactions Between the Levels. There are also interactions between the levels. For example, pilots or mechanics who work for an air carrier must first achieve their basic certification as individual practitioners. Then, when they go to work for an air carrier, they are also subject to the carrier's training program as well as performing duties on behalf of the air carrier for which there are regulatory requirements.

c. FAA/Industry Interaction. The roles, responsibilities, and relationships of and between the industry and the FAA, in terms of safety management functions, will vary depending on the oversight level involved.

(1) In level one, the FAA applies its SRM process to identify hazards that affect large segments of the public. If the risks presented by these hazards are unacceptable, the FAA controls them through the rulemaking process (regulations).

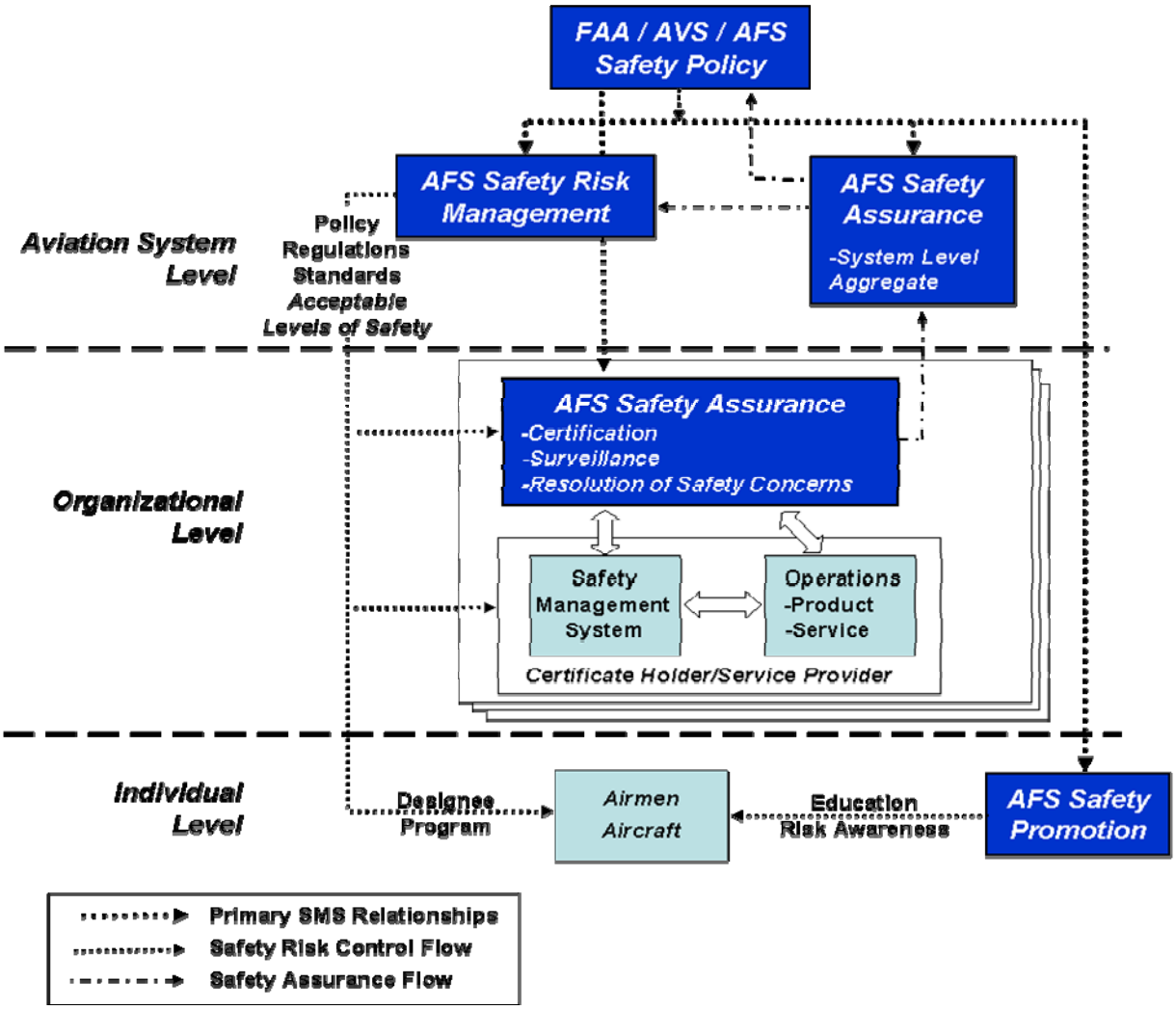
(2) In level two, certificate holders apply FAA regulations. Certificate holders are responsible for applying regulations and their own risk controls in a manner that meets the risk control intent in the design of their operational processes. This makes use of the SRM component of their SMS. The FAA analyzes these designs and, if found satisfactory, will then approve, accept, or certify the process or product.

(3) This makes use of the FAA's SA process. This level one and level two oversight cycle is ongoing. Much of SMS is simply efficient management of aviation operations. Thus, SMS functions to bolster effective safety management practices that lead to improvements where needed.

d. Management of Risk. A key objective of this approach is to ensure that AFS elements have a common definition and understanding of risk and employ a consistent process for analyzing and assessing risk associated with a hazard. This includes:

- The use of common SRM techniques;
- A set of consistent, continual, closed-loop SA procedures; and
- A common approach to establishing acceptable levels of safety and risk.

Figure 3-1. The Three Levels of AFS Oversight



2. Aviation System Level Oversight.

a. At the Aviation System Level, AVS and AFS oversee activities in the NAS and major components or classes within that system, such as:

- Air carrier and commercial aviation,
- General Aviation (GA),
- The pilot training system,
- IFP service providers, or
- Maintenance, repair, and overhaul.

(1) Oversight at the Aviation System Level involves both SRM and SA functions. SRM includes the development of national level risk controls—primarily policy, regulations, and standards. SA involves continuous assessment of the effectiveness of the prescribed risk controls and identifying new/evolving hazards that may require the development of additional risk controls.

(2) An important element of these activities is the establishment of procedures for specifying acceptable levels of safety for the various segments of the aviation industry. As shown, the FAA/AVS/AFS safety policy provides overall direction and guidance for AFS SRM, SA, and safety promotion functions.

b. Correlation to the ICAO Critical Oversight Elements. At this level, the FAA's primary focus is the development and enacting of legislation and regulations, as well as the collection and provision of safety critical information. These correspond to the ICAO critical elements:

- Primary aviation legislation;
- Specific operating regulations;
- State civil aviation system and safety oversight functions;
- Technical personnel qualification and training;
- Technical guidance, tools, and the provision of safety critical information; and
- Resolution of safety concerns.

c. Relationship to the AVSSMS. AFS HQ staff and divisions are responsible for SMS efforts at the aviation system level. These efforts support all four SMS components.

(1) Safety Policy. At this level, AFS is responsible for establishing the safety policy and basic structure that underlie and support all of its safety oversight efforts. The AVS Management Team develops this safety policy, which all major AVS and AFS directives and implementation plans reflect.

(2) SRM. AFS is responsible for SRM at the Aviation System Level. Specifically, AFS identifies hazards and implements safety risk controls to address these hazards. AFS develops and issues risk controls primarily in the form of policy, guidance, regulations, and standards applicable to particular industry segments or components, as well as to individual certificate holders such as pilots, dispatchers, and mechanics. AFS regulates individuals through the establishment of national competency standards and related requirements such as practical test standards. This guidance and regulation addresses identifiable hazards and, in turn, specifies boundaries for industry compliance in meeting the intent of the regulation. AFS coordinates its SRM efforts with other AVS services and offices to ensure seamless, comprehensive, and fully integrated AVS-wide efforts.

(3) Safety Assurance. At the National Level, AFS will continually evaluate the effectiveness of its risk control measures. Based principally on data collected at the Organizational Level, AFS will assess how well, both quantitatively and qualitatively, certificate holders are implementing prescribed regulations, standards, orders, and directives; and if these risk controls, as implemented, have their intended effects. This will identify weak or obsolete

risk controls, and will facilitate refining, eliminating, or replacing ineffective risk controls. In addition, SA efforts will focus on identifying changes in the aviation environment presenting additional hazards requiring analysis and assessment and the possible development of new risk controls. At the local level, AFS field organizations assure the safety performance of certificate holders safety management activities. Information from these activities is fed back to the national level to assure continuous improvement of regulations, directives, and programs for which AFS is responsible.

(4) Safety Promotion. At the Aviation System Level, safety promotion focuses on providing AFS employees with the training and communication of safety critical information. This enables AFS processes and personnel to support system safety and SMSs in the aviation community.

(5) AVSSMS Core. AFS SRM and SA efforts are at the very core of the AVSSMS, and the products of the SRM effort (regulations and guidance) are the most visible manifestation of the SMS to the aviation community. AFS will fully integrate its SRM activities into the AVSSMS. This integration will ensure that AFS-developed risk controls work together with risk controls that other AVS services and offices have developed.

3. Organizational Level. The Organizational Level addresses FAA oversight of certificate holders, such as air carriers, repair stations, and flight schools, as well as other aviation organizations such as IFP service providers. Figure 3-1 shows the three levels of oversight.

a. AFS Objective. The primary objective of AFS efforts at this level is SA. Specifically, this means to assure that the certificate holders are properly implementing the safety risk controls that AFS has developed and promulgated at the national level, and that these risk controls are also effective. This includes both certification activities and ongoing operational oversight. In addition, SA efforts at the organization level identify changes in the environment that could result in additional hazards not previously examined.

b. Correlation to the ICAO Critical Oversight Elements. At the Organizational Level, SRM is primarily the responsibility of the certificate holder. AFS is responsible for the SA function, directed at ensuring the certificate holder adequately performs its SRM role. The AFS activity corresponds to the ICAO oversight elements:

- Licensing, certification, authorization, and approval obligations;
- Surveillance obligations; and
- Resolution of safety concerns.

c. Relationship to the AVSSMS. As noted above, the primary AFS role at the Organizational Level is SA, the overall function of the AFS Safety Assurance System (SAS). Order VS 8000.367, Chapter 5, addresses SA of aviation service providers - certificate holders. There are two basic types of SA; design assurance and performance assurance. AFS personnel perform a variety of data collection, analysis, and assessment activities to assure that certificate holders' systems meet regulatory and safety management requirements and objectives.

(1) The AFS SAS provides a comprehensive, standardized approach to the oversight of aviation certificate holders. This system provides a set of business processes to meet AFS safety responsibilities for both design and performance assurance. The SAS is a decision support system based on system safety principles and reflects the evolution of oversight to a more proactive approach. This system not only allows aviation safety inspectors (ASI) to make independent assessments, but also supports data sharing, collaboration, and open communication. The three primary SAS functions, listed below, use a common toolset structured in accordance with safety attributes derived from system engineering and quality concepts.

(a) Design Assurance. The ASI accomplishes assessments of the design of an applicant's systems during the initial certification of an organization and during program approvals or acceptance. The ASI also conducts Design Assessments (DA) of operational systems to assess their effectiveness. The intent is to determine whether the organization's systems' design will enable the organization to meet applicable regulatory requirements and safety standards, and provide an acceptable level of safety.

(b) Performance Assurance. The ASI accomplishes assessments of the performance of the certificate holder's systems through such surveillance activities as systems evaluations, program reviews, inspections and safety audits, and evaluations of environmental changes. The intent is to determine whether the certificate holder is using its systems as designed, and if they are effective in enabling the organization to meet applicable regulatory requirements and safety standards.

(c) SRM. Controlling risk in its operations and environment is the specific responsibility of each certificate holder, but AFS uses internal processes to identify certificate holder hazards and analyze risk as part of its responsibility to assess and verify effectiveness of operator's SMS. AFS field staff provide assistance to certificate holders in assessing risk and developing appropriate risk control measures. If necessary, and generally as a last resort, AFS has a set of options available to manage certificate holder risk, including enforcement action and certificate amendment (modification, suspension, revocation). In addition, AFS uses its SRM function to assess risk and target internal resources in accordance with risk-based priorities. However, as previously discussed, the primary responsibility for SRM rests with the certificate holder.

(2) As SMS experience in industry and the FAA progresses, the AFS SA role will increasingly expand from ensuring the certificated organization performs SRM to ensuring the organization performs its own SA.

d. Organizations with Limited Resources. Experience will show how small certificated organizations with limited resources for such activities as risk analysis, independent auditing, and data collection and analysis should approach SMS, including their own SRM and SA functions.

e. Organizations Not Holding FAA Certificates. The industry also contains many organizations that do not hold FAA certificates. These include corporate flight departments, certain flight schools, maintenance facilities that do not hold certificates under 14 CFR part 145, and IFP service providers. These operations come in all sizes, from single-person operations to

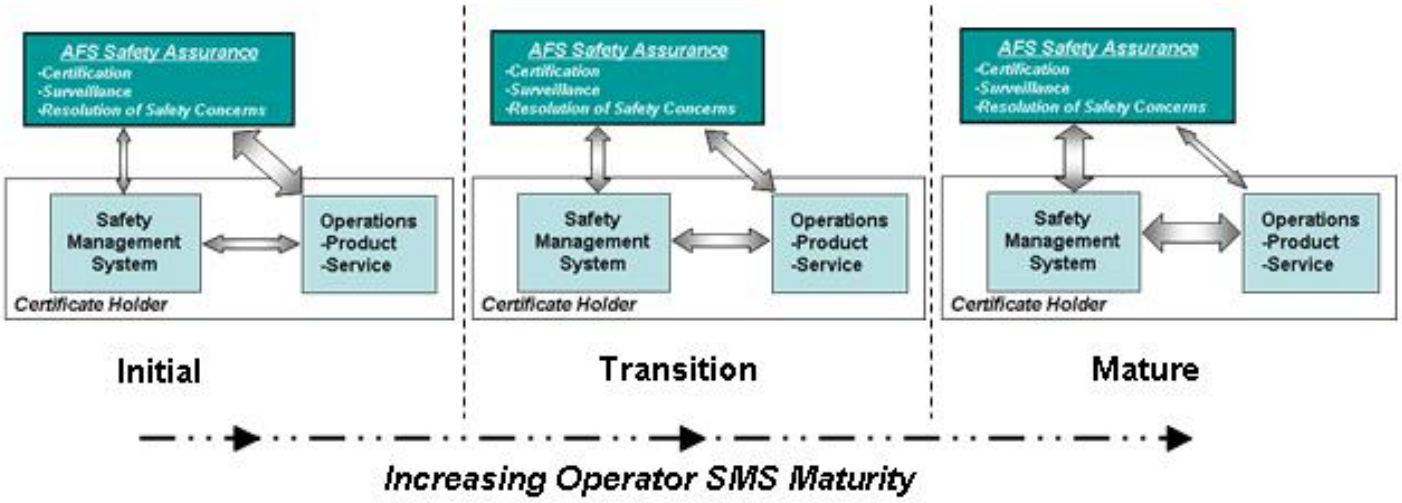
large and complex organizations, but the AFS relationship with them primarily occurs through the certification of their individual employees. While ongoing surveillance of individuals within noncertificated organizations is limited, appropriate application of safety management principles by both AFS and these organizations offers important safety enhancement potential.

(1) Figure 3-2, Evolution of FAA and Organization Certificate Holders Roles, depicts the evolution of FAA oversight activity in relation to organizational certificate holders as a function of the maturation of the organization's SMS. The maturity of the organization's SMS will affect how AFS plans and accomplishes system DA and system Performance Assessment (PA).

(2) Figure 3-2 provides a notional depiction of the maturation of a certificate holder's SMS and the changing relationship between the certificate holder and the FAA along this progression.

f. Evolution of SMS Function. As illustrated in Figure 3-2, as the SMS becomes more established, FAA oversight concentrates less on traditional surveillance and regulatory compliance inspections, such as directly examining certificate holder products and services, and more on assessing and evaluating the certificate holder's SMS; which plays an ever-increasing role in the organization's safety capability. Direct observation/surveillance changes from a goal in itself to a quality assurance verification of a certificate holder's SMS functions.

Figure 3-2. Evolution of FAA and Organization Certificate Holder's Roles



4. Individual Level.

a. Acceptable Levels of Safety. The third level addresses oversight of individual certificate holders, most of whom are pilots and mechanics. Some of these individuals work within the realm of certificated organizations, while others operate independently. Establishment of acceptable levels of safety for this level consists primarily of the establishment of national safety goals and objectives. The management of acceptable levels of safety at the individual level is the responsibility of each individual.

b. Elements of SRM and SA. While AFS realizes that organizations with the resources necessary to identify hazards, analyze risks, and collect and analyze data can more readily apply the elements of SRM and SA, AFS does promote the application of SRM principles at the individual level. This process will contribute to the assessment of applying SMS at the small organizational level.

c. Issuance of Individual Certificates. Occasionally, in conjunction with other duties, FAA ASIs provide oversight of individual airmen. Normally though, ongoing operational oversight at the individual level consists primarily of the initial issuance of individual certificates (i.e., pilot, mechanic, dispatcher, etc.) in accordance with guidance and standards developed at the national level. AFS commonly issues certificates through a designee, a third party authorized by the administrator. Individuals at this level are responsible for their own personal SRM, and initially AFS does not expect these individuals to conduct SA activities as envisioned in an SMS. As the use of SMS principles increases among individuals, AFS does expect that these individuals will implement more SA-related efforts.

d. Ongoing Operational Oversight. Ongoing operational oversight of individuals concentrates primarily on safety promotion efforts, with increasing respect to education on SMS basics and SRM techniques in particular.

e. Correlation to the ICAO Critical Oversight Elements. The activities at this level are identical to those at the organizational level:

- Licensing, certification, authorization, and approval obligations;
- Surveillance obligations; and
- Resolution of safety concerns.

f. Relationship to the AVSSMS. At the individual level, efforts connected to two of the four SMS pillars apply.

(1) Safety Assurance. AFS accomplishes SA at the individual level primarily via surveillance and enforcement.

(2) Safety Promotion. Safety promotion through various education and safety outreach programs, such as currently conducted by the FAA Safety Team (FAASTeam), constitutes the primary means of endorsing system safety and furthering safe practices at this level. This information assists airmen by educating them on the hazards and risk factors associated with their operations and environment and equipping them with the skills and knowledge to manage risk properly.

5. Linkages Among the Levels.

a. Inter-Related Levels. The system, organization, and individual levels of FAA oversight are inter-related. One important linkage is that AFS sets certification standards and training and qualification requirements for individuals who work for certificated organizations. This example of a linkage among the three levels involves prescribing requirements for airmen at the aviation system level, issuing certificates at the individual level, often through designees, and then

conducting SA at the organizational level to ensure the individuals continue to meet the standards.

b. SRM and SA Activities. Once the certificate holder, such as an air carrier, hires the eligible personnel, the operator must continuously accomplish the appropriate SRM and SA activities to ensure it continuously meets its training, qualification, and operational requirements, with respect to its airmen employees. At this point, the AFS SA role is not only concerned with the air carrier's SRM function but also with the air carrier's accomplishment of SA. The air carrier should ensure it complies with the applicable regulations and has the systems in place to ensure compliance occurs reliably.

6. Establishing an Acceptable Level of Risk.

a. Quantifying Levels of Risk. ICAO requires that states establish a safety program to achieve an acceptable level of safety in aviation operations. ICAO leaves it to each state to determine what level is acceptable.[2]

(1) AFS takes the position that safety is managed though the management of risk. In other words, you cannot directly manage safety but you can manage risk. The AFS approach to satisfying this requirement is therefore based on a comprehensive RMP, and both AFS and aviation product/service providers will use the concept of acceptable level of risk to express safety goals or expectations.

(2) AFS uses two factors to define acceptable levels of safety:

- Safety performance indicators, and
- Safety performance targets.

(a) Safety performance indicators are qualitative and quantitative parameters by which AFS can measure the overall level of safety of an organization or industry. AFS will also use these parameters as a measure of effectiveness to evaluate the overall AFS RMP and to assess the effectiveness of existing risk controls. Safety performance indicators include well-known measures such as fatal accidents per 100,000 departures or accidents per 1,000,000 passenger miles.

(b) Safety performance targets are quantitative expressions of the safety performance indicator goals. For example, the FAA introduced a new safety performance indicator, fatalities per 100 million persons on board, in the 2008-2012 Flight Plan. The associated safety performance target is to reduce the 2007 rate (8.8828 fatalities per 100 million persons on board) by half, reaching a rate of 4.4414 by 2025.

b. Approach. In accordance with the provisions of 49 U.S.C. and 14 CFR, the individual certificate holder manages the risk associated with its particular operations and environment. As the oversight authority, AFS assures that each individual certificate holder manages its risk to an

[2] ICAO, International Standards and Recommended Practices, Annex 6 to the Convention on International Civil Aviation, Operation of Aircraft, Part I, International Commercial Air Transport-Aeroplanes, and ICAO Doc 9859, Chapter 6.

acceptable level and that the aggregate risk across industry segments remains at acceptable levels.

(1) At the national level, AFS establishes an acceptable level of risk for particular industry segments and types of operations, and continuously monitors aggregate, industry level risk to ensure that it remains at an acceptable level. This aggregate level is translated to a limit of acceptability for individual certificate holders. At the organizational level, AFS evaluates the design and performance of the operator's systems to assure that these systems manage risks in accordance with the full intent of the national guidance and that operators manage risk to acceptable levels. Overall, AFS:

(a) Establishes national policy and standards for achieving and maintaining an acceptable level of risk at the national, aggregate level;

(b) Establishes national policy and standards for achieving and maintaining limits of acceptability for individual certificate holders' risk;

(c) In collaboration with industry, specifies safety performance indicators and safety performance targets for particular industry segments;

(d) Establishes regulations, policy, and guidance with respect to:

- The application of national policy and standards,
- The assessment of the application of national policy and standards, and
- The provision of feedback with respect to the effectiveness of national policy and standards.

(e) Evaluates the process that underlies the industry assessment of risk and the procedures for mitigating risk that has become unacceptable;

(f) Verifies that the level of acceptable risk established is consistent with overall safety goals, taking into account the statutory obligation and the public's interest that certificate holders operate at the highest level of safety in the public interest; and

(g) Establishes applicable standards as the foundation for the certificate holder's determination of an acceptable level of risk; the certificate holder must meet or exceed such standards.

c. Consideration of Differences. The statutes that govern civil aviation require the FAA Administrator to consider the duty of an air carrier to provide service with the highest possible degree of safety in the public interest and to consider the differences between air transportation and other air commerce. Within the non-air carrier portion of air commerce, acceptable levels of risk will differ. As a result, aviation operations will have different acceptable levels of risk.

7. Process Measurements. As part of AFS QMS functions, and consistent with the system safety principles and ISO evaluation and audit processes, AFS will continuously measure its oversight activities. SA uses system safety principles to ensure a sound design that fulfills its

requirements. SA, for certificated organizations and the FAA's internal processes, has three principal elements: DA, PA, and effectiveness measurement. AFS uses traditional processes of certification and certificate management to assess aviation product/service provider processes and organization designs. AFS uses surveillance and investigation processes throughout all SA processes.

a. AFS Oversight Process Design. This assessment focuses on the design of AFS oversight processes to ensure that they remain consistent with AFS policies, are internally consistent within AFS and AVS, and remain coherent with respect to the various industry segments.

b. AFS Oversight Performance. This assessment evaluates the degree to which AFS applies the oversight processes in the field. The intent is to determine if there are systemic weaknesses in the application of the AFS oversight approach.

c. AFS Oversight Effectiveness. This evaluation determines whether AFS policies, procedures, controls, and corrective actions are achieving the objectives of oversight-related SRM and system safety at the aviation system, organization, and individual levels. The ICAO SMM describes this as safety performance monitoring that validates the SMS, confirming not only that people are performing the processes correctly, but also that their collective efforts have achieved the organization's safety objectives. Through regular review and evaluation, management can pursue continuous improvements in safety management and ensure that the SMS remains effective and relevant to the organization's operation.

> **Note:** ICAO uses the term "validate" to encompass both measuring performance and measuring effectiveness.

Chapter 4. Implementation

1. AFS-1 Expectations of AFS Divisions and Offices.

a. Operational Safety Oversight-Related Elements. AFS, in accordance with Orders 8000.369 and VS 8000.367, will implement the operational safety oversight-related elements of the integrated AVSSMS. The AFS oversight approach and processes will follow the principles of Order 8000.369, the requirements of Order VS 8000.367, and other guidance, as appropriate. This ensures that AFS safety oversight activities complement the operational SRM responsibilities of certificate holders and other operators, and that AFS safety oversight directly and efficiently contributes to the enhancement of safety in the U.S. aviation industry.

b. AVSSMS Implementation Plan. AFS will develop an AFS AVSSMS Implementation Plan in accordance with the requirements of Order 8000.369, chapter 5, paragraph 2b, implementation plans and the requirements of Order VS 8000.367. This implementation plan will detail the tasks, activities, schedules, and responsibilities associated with implementing the concepts documented in this order.

c. Approaches to Continuous Improvement. The AFS AVSSMS implementation plan will address approaches to continuous improvement of the AFS safety culture and methods of communication at all levels throughout the FAA.

d. Approaches for Industry Segments. AFS divisions and offices will develop and implement a common approach to ensure that all industry segments establish and maintain acceptable levels of risk. This will require AFS actions to promote the implementation of SMS by aviation product/service providers through appropriate standards or guidance. AFS divisions and offices will work with the following individual industry segments in establishing levels of risk:

(1) Operators operating under 14 CFR parts, 91, 101, 125, 129, 133, 135, 136, or 137.

(2) Repair facilities or certificated individuals operating under 14 CFR part 43 or part 91.

(3) Repair stations operating under 14 CFR part 145.

(4) Flight schools, training centers, and aviation maintenance technician schools operating under 14 CFR parts 141, 142, or 147, respectively.

(5) Representatives of the Administrator designated in accordance with 14 CFR part 183.

(6) Individuals exercising the privileges granted in accordance with certification under 14 CFR parts 61, 63, or 65 (which may overlap with operating regulations listed above).

(7) Appropriate entities addressing special considerations for operations in Alaska.

(8) Other segments or classes of aviation product/service providers as determined by the appropriate division and office, such as high-end business aircraft operations, very light jets, or IFP service providers.

e. Interface with Other FAA Programs. The industry and the FAA have in place many systems and programs that will comprise basic components of an SMS. As the industry implements the use of SMSs, the industry and FAA will determine how best to integrate those existing systems and programs into the aviation product/service provider's SMS, if applicable, and within the corresponding FAA oversight.

(1) These systems and programs include both mandatory and voluntary tools and systems such as:

- The Air Transportation Oversight System (ATOS),
- The Advanced Qualification Program (AQP),
- The Aviation Safety Action Program (ASAP),
- Flight operations quality assurance (FOQA),
- The Internal Evaluation Program (IEP),
- Repair Station Assessment Tools (RSAT),
- The Continuing Analysis and Surveillance System (CASS), and
- The Voluntary Disclosure Reporting Program (VDRP).

(2) The FAA incorporates the handling and protection of data and information generated under such systems and programs into SMSs and applicable risk analysis.

f. Voluntary Industry Programs. The FAA believes that aviation safety is best served by providing incentives in order to correct regulatory noncompliance and investing more resources in efforts to preclude recurrence of noncompliance. The FAA recognizes the safety value of a cooperative relationship with the industry, fostering compliance, safety, and the sharing of information that will provide the widest possible safety benefits. A number of policy and guidance documents and voluntary programs reflect this approach. FAA policy will continue to encourage industry participation in these vital collaborative programs. The FAA will continue to apply statutory and regulatory protections from inappropriate disclosure of information supplied under these programs, and will explore methods of integrating these programs and protections when an aviation product/service provider implements an SMS that includes one or more of these programs.

2. Integration.

a. Organizational Integration. The key to success for the AVSSMS and for AFS oversight is integration of the multiple disciplines involved in producing an environment for safe aviation operations across the design, development, and operational life cycles of aircraft. To accomplish this, AFS will focus on:

- Developing a strong and continuously improving safety and learning culture,
- Ensuring AFS personnel have the knowledge, skills, and abilities to support the AVSSMS, and
- Developing the appropriate communications processes to facilitate continuous improvement.

b. Sharing Information. Order 8000.369 emphasizes that a support system for information collection, analysis, and sharing is essential to the success of the FAA SMS.

(1) All SMSs rely heavily on the appropriate offices developing or receiving timely and relevant data and information regarding hazard identification and SRM. AFS recognizes that a myriad of sources for such data and information exists, and that this information is not consistently available to the appropriate users in a timely or opportune fashion.

(2) This is true for an air carrier or other aviation product/service providers with multiple disciplines to coordinate, and it is true and particularly challenging within the FAA. The AFS AVSSMS implementation plan will address issues of data and information collection, analysis, and sharing throughout the FAA.

(3) AFS Responsibilities:

- Specify the outcomes of the AFS safety mission,
- Manage the AFS implementation of Orders 8000.369 and VS 8000.367, as described in this order,
- Coordinate development and implementation of the evolving AFS oversight processes,
- Oversee data and information systems integration and sharing,
- Produce meeting minutes and directives to AFS elements as necessary to implement this order, and
- Verify and coordinate internal and external audits and evaluations within AFS.

3. Phase In.

a. Implementation Schedule. This order is effective from the date of approval. AFS recognizes that it will take a period of three to five years for all personnel to become adequately trained to provide guidance to the industry and to implement the enhanced RMPs within AFS. Therefore, the AFS AVSSMS implementation plan should be realistic in terms of timetables, implementation of data and information systems, and integration.

b. Evolution of Priority Areas. For many years, AFS has been making progress in the priority areas of SRM principles, system safety, internal and external coordination, information sharing, and integration. The evolution of these processes in accordance with Order 8000.369 will further standardize many of these processes across the AFS organizations and ensure the increasingly critical need for data-supported risk analysis on a systematic and consistent basis. As technology and systems in the aviation industry grow increasingly complex, the integration issues within the FAA also become more critical.

c. Identify Guidance. AFS elements should identify the SMS guidance needed for various aviation industry segments. AFS will issue these guidance documents to the industry appropriately.

4. AFS External Relationships. FAA and AFS policy continues to promote a vibrant, safe, competitive, and efficient U.S. aviation industry. In furtherance of this policy, AFS divisions and offices should continuously examine how to conduct oversight activities in a manner that supports the industry; especially as the development and implementation of new technology improves the aviation environment. Over the years, there have been numerous examples of technology enhancing safety, increasing system capacity, and mitigating the environmental impact of aviation. It is incumbent upon AFS to ensure that its oversight efforts fully support these developments.

Appendix A. Acronyms

1. Acronyms. The abbreviations/acronyms used in this order are listed below as follows:

a. AFS. Flight Standards Service.

b. AFS-1. Director of Flight Standards Service.

c. ATC. Air Traffic Control.

d. ATOS. Air Transportation Oversight System.

e. AVS. Aviation Safety.

f. AVS-1. Associate Administrator for Aviation Safety.

g. AVSSMS. AVS Safety Management System.

h. CFR. Code of Federal Regulations.

i. DOT. Department of Transportation.

j. FAA. Federal Aviation Administration.

k. FSIMS. Flight Standards Information Management System.

l. HQ. Headquarters.

m. ICAO. International Civil Aviation Organization.

n. IFP. Instrument Flight Procedure.

o. JPDO. Joint Planning and Development Office.

p. NGATS. Next Generation Air Transport System.

q. SASO. System Approach for Safety Oversight.

r. SMM. Safety Management Manual.

s. SMS. Safety Management System.

t. SRM. Safety Risk Management.

u. SSP. State Safety Program.

v. U.S. United States.

w. U.S.C. United States Code.

U.S. Department
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Federal Aviation
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FAA Form 1320-19, Directive Feedback Information

Please submit any written comments or recommendations for improving this directive, or suggest new items or subjects to be added to it. Also, if you find an error, please tell us about it.

Subject:

To: Directive Management Officer, _____

(Please check all appropriate line items)

☐ An error (procedural or typographical) has been noted in paragraph _____ on page _____.

☐ Recommend paragraph _____on page _____ be changed as follows:
(attach separate sheet if necessary)

☐ In a future change to this directive, please include coverage on the following subject
(briefly describe what you want added):

☐ Other comments:

☐ I would like to discuss the above. Please contact me.

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