



Federal Aviation
Administration

FAA SAFETY MANAGEMENT



SAFETY RISK MANAGEMENT GUIDANCE: SRM APPLICABILITY

June 13, 2019

This document is located on the [Federal Aviation Administration \(FAA\) Safety Management Intranet site](#) as part of the [Safety Risk Management Guidance](#). The document was developed by the FAA Safety Management System (SMS) Committee and is owned and maintained by the Safety Management and Research Planning Division (AVP-300) in the Aviation Safety Organization (AVS). For more information, individual contacts are listed on the [contacts page](#) on the site.

Federal Aviation Administration Safety Risk Management Guidance: SRM Applicability

Purpose

This document supplements [Federal Aviation Administration \(FAA\) Order 8040.4, *Safety Risk Management Policy*](#), and provides guidance on the types of issues/situations that require initiation of Safety Risk Management (SRM). It includes information on the application of SRM across FAA Lines of Business (LOBs) and specific triggers for applying SRM within each LOB.

Scope

This guidance applies to all FAA organizations that are responsible for following FAA Order 8040.4. Specifically, this guidance helps to identify when to initiate SRM and provides clarification during the process.

Approval:

A handwritten signature in cursive script that reads "Paula Marteny". The signature is written in black ink and is positioned above a horizontal line.

FAA SMS Committee Chair

REVISION HISTORY

Revision Number	Description of Change	Effective Date
0	Original Document (Version 1.0)	August 12, 2015
1	Aligned document to FAA Order 8040.4B, <i>Safety Risk Management Policy</i> . Includes review by Aviation Safety Safety Management System (AVSSMS) Coordination Group and FAA Safety Management System (SMS) Committee.	June 13, 2019

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Overview

Safety Risk Management (SRM) is a core activity of the Safety Management System (SMS) because it incorporates decision making tools to provide a formalized approach to safety. In general, SRM is used to evaluate the need for, and to develop, safety risk controls for new and existing safety issues in the aerospace system.

The [Federal Aviation Administration \(FAA\) Order 8040.4, *Safety Risk Management Policy*](#), establishes requirements for how to conduct SRM in the FAA. It formalizes SRM guidance for FAA Lines of Business (LOBs) and Staff Offices, and describes specific steps when performing and documenting SRM. SRM as described in FAA Order 8040.4 outlines standardized principles that enhance the FAA's ability to coordinate risk-based decision making across organizations.

This *SRM Applicability* document provides further guidance and specific details regarding when to conduct SRM, whether it is within one LOB/Staff Office or across multiple LOBs/Staff Offices.

Application of SRM Across Lines of Business/Staff Offices

SRM is applied across the LOBs/Staff Offices when a hazard's effects can be experienced in parts of the aerospace system that are in the purview of more than one LOB/Staff Office or when the controls for a hazard that resides in one LOB/Staff Office need to be implemented by more than one LOB/Staff Office.

Examples of safety issues or concerns that may trigger the need to conduct a cross-LOB safety assessment include, but are not limited to:

- Safety issues assigned by the FAA SMS Committee;
- Safety issues that are present within the National Airspace System (NAS), that have safety risk that has not been accepted, and that is expected to have high risk (e.g., it is identified as a result of an accident or incident or it is assumed to have high risk but an assessment has not been completed);
- Safety issues that have high risk and a potentially systemic outcome (e.g., the outcome crosses LOBs or the outcome impacts an industry segment rather than an individual certificate holder);
- Significant, cross-organizational planned changes affecting NAS operations, for which a decision has yet to be made on funding or implementation;
- Any safety issue on which an FAA organization's management elects to conduct an FAA-level assessment;
- Data analyses that point to an issue, concern, or potential hazard in the system (e.g., analyses driven by Aviation Safety Information Analysis and Sharing [ASIAS]);
- Issues identified by industry or system users; and
- New controls deemed necessary by the FAA as a result of internal FAA safety recommendations or recommendations from other government entities such as the National Transportation Safety Board (NTSB) or Congress.

If, in the planning stages of SRM, the organization that identified the potential safety issue determines that multiple organizations will be affected, that organization contacts the appropriate SRM point(s) of contact and requests their assistance with engaging the affected LOB/Staff Office stakeholders.

Further information regarding planning cross-LOB/Staff Office SRM efforts, including the assignment of the Office of Primary Responsibility (OPR), is detailed in [Guidance for Coordinating Cross-LOB Safety Risk Assessments](#).

Application of SRM in the Air Traffic Organization (ATO)

If a change proponent is unclear as to whether a change or decision being made affects the NAS, he or she should consult a Safety & Technical Training (AJI) Safety Case Lead for assistance. [FAA Order JO 1000.37, Air Traffic Organization Safety Management System](#) and the [ATO SMS Manual](#) contain more information on this.

As stated in the ATO policy and guidance, the following list presents proposed NAS changes that will require a safety analysis. It is important to note that this list does not constitute a complete list or explanation of all NAS changes that require a safety analysis.

Policy and Procedures

- Operational/procedural changes or waivers that are not defined in an existing order (e.g., flight trials, tests, demonstrations, and prototypes that are live in the NAS)
- Any waiver, change to an order, or proposed new order, if the order implements a procedure that, when followed, could affect the provision of air traffic services
- Introduction of new types of navigation procedures into the NAS
- Changes to policies, procedures, or NAS equipment for which training exists
- Removal of or modifications/waivers to existing national and/or local training requirements that could affect the NAS or NAS operations, except for the purposes of individual performance management
- Establishment of or modifications to the Technical Training orders, architecture, and curricula
- Changes to separation minima

Facilities and Equipment

- Addition, modification, closure, or removal of an airport, runway, or taxiway; airport building construction; and lighting changes
Note: Many of the changes that fall into this category are proposed and sponsored by the Office of Airports (ARP); their SMS requirements are documented in [FAA Order 5200.11, FAA Airports \(ARP\) Safety Management System](#). The ATO remains vigilant to ensure an appropriate safety assessment is conducted on construction projects to maintain continued compliance with air traffic procedures and operations.
- New NAS systems used in Air Traffic Control (ATC) or pilot navigation (or new uses for such existing systems), regardless of their applicability to the Acquisition Management System (AMS)¹
- System Support Directives that introduce new requirements and/or change requirements for risk-assessed operational systems/equipment in the NAS, such as:
 - Communication, navigation, and surveillance systems
 - Weather products/services
 - Displays

¹ Refer to the [Safety Risk Management Guidance for System Acquisitions](#) document for new acquisitions where the AMS does apply.

- Alerting and advisory systems
- Service provider equipment (e.g., Automatic Dependent Surveillance–Broadcast [ADS-B], Federal Telecommunications Infrastructure)
- Local patches
- Decision support tools
- System Support Directives that are built with different levels of rigor (e.g., RTCA development assurance levels) than what was required during initial acquisition-level SRM analysis and mitigation
- Changes to system certification and maintenance standards, requirements, and practices (e.g., technical handbooks)
- Deactivation, removal, or decommissioning of ATO equipment, procedures, systems, or services
- Site adaptations, if the acceptable technical limits for such adaptations are not defined in the system-level SRM work approved prior to In-Service Decision, or if such limits are to be exceeded
- ATC facility changes, including:
 - Tower siting or relocation
 - Facility relocation
 - Cab replacement or redesign
 - Permanent consolidation or de-consolidation of facilities
 - Facility split
 - Temporary tower
 - Local changes to Generic Site Implementation Plans (GSIPs) after the GSIPs have undergone SRM

Airspace

- All charting specification changes prior to submission to the Inter-Agency Air Cartographic Committee for final signature (e.g., symbology, color changes in routes, route identifiers)
- Airspace changes, including routes, airways, sectors, and the addition or deletion of a position or sector

When a Safety Analysis May Not Be Required

The following list presents NAS changes that **may not** require a safety analysis.

- NAS changes that are compliant with policies/processes that have undergone SRM and have been documented and approved by the appropriate management official. If these policies or procedures are changed, or if any NAS change deviates from these policies or procedures, a safety analysis must be performed using SRM to manage the safety risk, according to the guidance provided in the *ATO SMS Manual*.
- FAA and/or ATO documents (e.g., policies, directives, manuals, Standard Operating Procedures, Letters of Agreement, Letters of Procedure) for developing and implementing many routine and repeatable NAS changes could be considered compliant with the SMS, meaning that SRM was performed, documented, and approved.

Example: Routine procedures such as flight inspections are conducted in accordance with [FAA Order 8200.1, United States Standard Flight Inspection Manual](#). If there are no changes to those procedures, then a safety analysis is not required. However, if there is a change to the frequency of flight inspections, a safety analysis is required.

- Modifications made to systems to meet initial operational specifications (e.g., Problem Trouble Reports) if the system specifications have undergone a documented safety assessment. In accordance with the guidance in the *ATO SMS Manual*, the modification and testing processes must also be compliant with the SMS.
Note: If functionality beyond the original system specification is being added, then SRM must be conducted on the new functionality.
- Facility layout/redline/end-state drawings (e.g., Air Route Surveillance Radar, Air Traffic Control Tower, Terminal Radar Approach Control Facility, Air Route Traffic Control Center), as identified in the Configuration Control Board Charter, Appendix A.
- System Support Directives that do not change requirements and have followed AMS development assurance processes.
- Changes to directives with no safety functionality.
- Installation or moving of equipment if defined installation siting processes are not violated, if these defined installation siting processes have undergone SRM.
- Maintenance actions, as specified in maintenance technical handbooks, if the maintenance technical handbooks have undergone SRM.

The configuration management requirements for a NAS Change Proposal (NCP) are not specifically related to safety effects. In accordance with the guidance in the *ATO SMS Manual*, when a NAS change covered by an NCP requires SRM, the appropriate safety analysis and documentation must be included in the material provided to the Configuration Control Board. In terms of SRM, an NCP can be categorized as one of the following:

- Not requiring any safety assessment, or
- Requiring a complete safety analysis by an SRM panel and documented in a Safety Risk Management Document (SRMD).

For more information on NCPs, refer to [FAA Order 1800.66, Configuration Management Policy](#).

Application of SRM in Aviation Safety (AVS)

As outlined in the current version of [FAA Order VS 8000.367, Aviation Safety \(AVS\) Safety Management System Requirements](#), SRM must be applied in order to:

- Analyze potential hazards identified through Safety Assurance processes;
- Determine the need for and develop safety risk controls to be applied in the aerospace system, which are, typically, established through rulemaking; and
- Conduct independent safety risk analyses to validate the results of a product/service provider's safety risk analysis and/or its SRM process, when necessary.

In many cases, AVS will conduct SRM because an issue/item has been identified in the aerospace system that requires a new or modified safety risk control. Safety concerns that may trigger the need to conduct SRM include:

- Data analyses that point to an issue/item or potential hazard in the system (e.g., analyses driven by ASIAs);
- Industry or system users identifying an issue/item;
- Government entity such as the NTSB or Congress suggesting a new control is necessary;

- Accident/incident investigation that uncovers an issue/item which needs to be addressed;
- Recommended or identified system improvements, including new technologies; and
- Changes in the system causing existing risk controls to no longer be adequate.

Once a trigger becomes known, AVS Service and Office management determines the need to apply the SRM process and assigns the applicable resources. The SRM process does not vary depending on the triggering event or whether the item being analyzed is a potential issue that has been identified or is the result of a change proposal. Applying a consistent methodology ensures that the hazards can be evaluated across the system and properly prioritized for mitigation.

In some cases, it is necessary to conduct SRM prior to some type of change. Organizations can experience permanent change due to expansion; contraction; changes to existing systems, equipment, programs, products, and services; and introduction of new equipment or procedures. Hazards may inadvertently be introduced into an operation whenever change occurs. The conduct of SRM on changes ensures that such hazards are systematically and proactively identified and that strategies to manage the safety risk associated with those hazards are developed, implemented, and subsequently evaluated. In addition to introducing new hazards, change can also impact the appropriateness and/or effectiveness of existing safety risk controls.

FAA Order VS 8000.367 recognizes the uniqueness and diversity of AVS Services and Offices, so there are requirements that are directed at AVS for corporate/AVS-level solutions and at Services/Offices for individual organizational solutions, which need to align with the corporate solutions.

AVS comprises two types of organizations. There are organizations with oversight responsibilities, including the Aircraft Certification Service (AIR), the Air Traffic Safety Oversight Service (AOV), Flight Standards (FS), and the Office of Aerospace Medicine (AAM), and there are support organizations like the Office of Accident Investigation and Prevention (AVP), the Office of Rulemaking (ARM), Quality, Integration and Executive Services (AQS), and the Unmanned Aircraft Systems Integration Office (AUS). The oversight organizations have many more responsibilities around the requirements in FAA Order VS 8000.367.

Applicability of SRM in the AVS Oversight Organizations

This section provides additional information regarding when to apply SRM in the AVS Services/Offices with oversight responsibility.

Applicability of SRM in the Aircraft Certification Service (AIR)

AIR applies SRM in limited situations, because it is the product/service provider (P/SP), not the FAA, who is responsible for managing safety risk. AIR allocates its Safety Assurance resources based on risk, as required in the current version of FAA Order VS 8000.367. AIR uses several processes for risk-based decision making, including consideration of a P/SP's SRM output. SRM is applied in order to:

- Analyze potential hazards identified through Safety Assurance processes
- Determine the need for and develop safety risk controls to be applied in the aerospace system, which are, typically, established through rulemaking

- This activity is invoked by the AVS SRM triggers. Typical risk controls that are applied to the P/SP are airworthiness rules, Special Conditions, Airworthiness Directives (ADs), and responses to Safety Recommendations.
- Other non-mandatory activities that assist in controlling risk are Advisory Circulars (ACs), Workshops, and Special Airworthiness Information Bulletins (SAIBs).
- Conduct independent safety risk analyses to validate the results of a product/service provider's safety risk analysis and/or its SRM process, when necessary
 - This activity should be embedded in the Service's oversight process.
 - AIR will make a determination if the P/SPs' SRM output is what was expected based on their processes, or if there is disagreement on P/SP's SRM output.
 - With respect to Continued Operational Safety (COS), AIR often relies on the P/SP to perform SRM on in-service risk. If AIR disagrees with the P/SP's SRM outputs, AIR should perform SRM.
 - Justification for selected Alternative Methods of Compliance (AMOCs)²

Applicability of SRM in the Air Traffic Safety Oversight Service (AOV)

Under [FAA Order 1100.161, Air Traffic Safety Oversight](#), AOV is required to approve or accept ATO SRM process outputs and specifically mitigation controls (for initially identified high risk hazards) associated with NAS changes in order to ensure that hazards are identified and initial or current unacceptable risk is mitigated and approved prior to the change being made.

A NAS change is any change to or modification of airspace; airports; aircraft; pilots; air navigation facilities; ATC facilities; communication, surveillance, navigation, and supporting technologies and systems; operating rules, regulations, policies, and procedures; and the people who implement, sustain, or operate the system components.

AOV Approval of ATO SRM Process Outputs

- Approve the ATO SMS Manual and any changes to the SMS Manual
- Approve the following actions prior to implementation of a change to the NAS by ATO:
 - Controls that are defined to mitigate or eliminate initial or current high-risk hazards identified in the safety risk assessment
 - Changes or waivers to provisions of handbooks, orders, and documents, including [FAA Order JO 7110.65, Air Traffic Control](#), current edition, that pertain to separation minima
 - NAS equipment availability program and any changes to the program
- Approve the Equipment Maintenance Availability program and any changes to the program and/or equipment and service algorithms

² According to the current version of [FAA Order 8110.103, Alternative Methods of Compliance](#), the submitter of the AMOC will provide "substantiating data used to establish the acceptable level of safety." The assigned evaluator will "evaluate the data submitted along with the information (such as risk analysis) used to support the decision to issue an AD, and using your best engineering judgment, determine if the AMOC proposal provides an acceptable level of safety. You may contact the requester to obtain missing or additional information. For import products, you may consult with the CAA [civil aviation authorities] of the SoD [State of Design] for information to help in making the safety determination."

AOV Acceptance of ATO SRM Process Outputs

- In accordance with FAA Order 1100.161, in cases where medium- or low-safety risk and/or controls/mitigations are outside of ATO (e.g., the Associate Administrator for Airports [ARP-1] and/or the Office of the Associate Administrator for Aviation Safety [AVS-1]), the mitigations must be approved by the designated management officials within each affected LOB/Staff Office and accepted by AOV.
- Changes to [FAA Order 6000.15, General Maintenance Handbook for National Airspace System \(NAS\) Facilities](#), pertaining to equipment and personnel equipment certification require acceptance by AOV.
- Changes to [FAA Order JO 3000.57, Air Traffic Organization Technical Operations Training and Personnel Certification Programs](#), require acceptance by AOV.
- Changes to areas of FAA Order 8200.1, listed below require acceptance by AOV.
 - Flight inspector's authority and responsibilities
 - Facility status classification and issuance of Notices to Airmen (NOTAM)
 - Records and reports
 - Extensions in the periodicity or interval of inspections
 - Changes in established tolerances or those proposed for new equipment or new functionality
 - Changes in required checklist items for specific areas of systems to be inspected
 - Changes in the procedures for evaluating safety and flyability of instrument flight procedures
- Changes to personnel certification requirements contained in [FAA Order JO 8240.3, Certification of Flight Inspection Personnel](#), require acceptance by AOV.
- Changes to the certification standards contained in Order JV-3 3410.2, *Aeronautical Navigation Products Career Progression and Certification Program for Aeronautical Information Specialists*, require acceptance by AOV.
- Waivers to safety standards as described above require approval by AOV.

Applicability of SRM in Flight Standards (FS)

FS has not developed a formal documented SRM process. FS intends to apply a future SRM process at the aviation system level. At the aviation system level, SRM will be used to determine if additional policy, guidance, standards, and regulations are required. FS presently develops and issues policy, guidance, regulations, and standards, primarily in the form of risk controls applicable to particular industry segments or components.³

Aviation System Level SRM

To align with FAA Order 8040.4B, FS will develop a formal SRM and ensure that SRM will be employed any time there are planned changes or discovery of potential hazards or ineffective risk controls from the Safety Assurance Process.

Planned Changes

- *Implementation of New Systems*: SRM will be conducted to assess the introduction of new technology into the national aviation system, both during the development and

³ [FAA Order 8000.368A, Flight Standards Service Oversight](#), Ch. 3, Sec. 2, par. c(2), c(3).

implementation process and prior to operational use. An example would be the deployment of unmanned aircraft systems (UASs).

- *Revision of Existing Systems:* SRM will be conducted when common safety issues or hazards are identified during the certification or when COS oversight for certificate holders requires the development of new policy, guidance, regulations, and/or standards.

Discovery of Potential Hazards or Ineffective Risk Controls

- *Discovery of Potential Hazards:* SRM will be conducted upon the identification of new safety issues where adverse trends require risk controls.
- *Ineffective Risk Controls:* SRM will be conducted when it is determined that a regulation or family of regulations, or other safety risk control, is no longer effectively mitigating safety risk and requires revision of existing regulations or systems.

The Safety Risk Management Division (AFB-400) within Foundational Business, will be the lead for SRM coordination and will engage other FS offices as required.

At the organizational level, the primary objective of FS efforts is Safety Assurance to assess how well certificate holders are implementing prescribed regulations, standards, orders, and directives. In addition, Safety Assurance efforts will focus on identifying changes in the aviation environment, presenting additional hazards requiring analysis and assessment, and possible development of new risk controls.³

At the certificate holder level, controlling risk in its operations and environment is the specific responsibility of each certificate holder. However, FS uses internal processes to identify certificate holder hazards and analyze risk as part of its responsibility to assess and verify effectiveness of the operator's SMS.³

Since regulatory compliance is the safety benchmark, safety risk controls are assessed through oversight based on existing regulations. FS assures compliance of regulations through acceptance or approval of certificate holders' operating manuals and/or established programs/procedures, as well as surveillance of the programs and procedures presented in those manuals.

The Safety Assurance System (SAS) is the process used to assess the initial certification, routine surveillance, and certificate management for Title 14 of the Code of Federal Regulations (14 CFR) parts 121, 135, and 145 certificate holders or applicants. SAS is based on system safety principles, safety attributes, and a risk management process (RMP) to identify hazards and prevent loss of equipment and other property. SAS is designed based on three roles: Initial Certification, COS, and Assurance Support.⁴

FS has additional tools to identify hazards, assess risk, and target internal resources in accordance with risk-based priorities.

⁴ [FAA Order 8900.1, Flight Standards Information Management System](#), vol. 10, Ch. 1, Sec. 2, par. (10-1-2-5)

1. **The Analysis, Assessment, and Action (AAA)**⁵ – The AAA embodies part of the SRM process for identifying hazards. This process is designed for Performance Assessments (PAs) and Design Assessments (DAs). PAs determine if the certificate holder’s or applicant’s system performs as intended by regulations in that safety risk is being managed to an acceptable level. DAs determine if the certificate holder’s or applicant’s system design meets the standards for acceptance or approval. This process uses data collected by aviation safety inspectors (ASIs). The principal inspector (PI) or certification project manager (CPM) may use data from other sources to help make the assessment. The action process requires the PI/CPM to determine and document the appropriate course of action based on the result of the analysis and assessment.
2. **SAS Risk Management Process (RMP)**⁶ – A key component of the SRM process for managing identified hazards is the RMP. PIs also can utilize the RMP to document, track, and evaluate the status of existing hazards and their associated risks. Hazard identification is a key component of the SAS. PIs can identify a safety problem within a certificate holder’s systems throughout the SAS process. As part of the RMP process, the PI may identify hazards in the Certificate Holder Assessment Tool (CHAT), the Action part of the AAA, or data collection. The RMP contains five sections: Action Details, Hazard Details, Initial RMP Classification, RMP Mitigation, and Closure Justification.
3. **National Safety Analysis (NSA) support**⁷ – Another key component of the SRM process for managing newly identified hazards is that PIs have the option of selecting a new hazard action while utilizing CHAT, data collection, and the AAA process. When a new hazard is identified, PIs may use NSA to assist in the classification of the severity and likelihood. NSA may conduct research to see if other organizations have identified similar issues.

As depicted in the table below, there are two paths the PI can take when identifying a hazard: initiate an RMP or initiate a new hazard process. A new hazard is defined as one that is not controlled by current regulations or did not previously exist, such as something that has arisen from new technologies, operational procedures, or other changes to the certificate holder’s system (e.g., something related to ADS-B, the new Boeing B-787 aircraft, or NextGen).

Table 1. FS PI Paths to Identify a Hazard

IF	THEN
The PI identifies a hazard and there is enough information to assess the risk.	The PI initiates an RMP. See FAA Order 8900.1, Volume 10, Chapter 7, Section 1, for more information on the RMP.
The PI identifies a new hazard that is not controlled by current regulations, or did not previously exist, such as something that has arisen from new technologies, operational procedures, or other changes to the certificate holder’s system.	The PI initiates the new hazard process.

⁵ FAA Order 8900.1, *Flight Standards Information Management System*, vol. 10, Ch. 6, Sec. 1, par (10-6-1-1)

⁶ FAA Order 8900.1, *Flight Standards Information Management System*, vol. 10, Ch. 7, Sec. 1, par (10-7-1-1)

⁷ FAA Order 8900.1, *Flight Standards Information Management System*, vol. 10, Ch. 7, Sec. 2, par (10-7-2-1)

Applicability of SRM in the Office of Aerospace Medicine (AAM)

AAM activates and controls the SRM process through the AAM Safety Management Council (see [FAA Order AM 1110.155, Aerospace Medicine Safety Management Council](#)). AAM directly incorporates SRM into operational activities such as regulations, orders, directives, policies, and other activities related to:

- 14 CFR parts 61, 63, 65, 67, 91, 120, and 183;
- 49 CFR part 40;
- The medical clearance of covered positions such as air traffic controller specialists;
- The FAA's internal substance abuse program;
- The FAA's industry drug and alcohol testing program;
- Activities related to training and education of designees and airmen; and
- Requests by other FAA LOBs/Staff Offices, services, or offices.

While AAM does not directly link to the safety management systems of product or service providers, AAM does interoperate with FS as part of its role as the primary regulator for 14 CFR part 121 air carrier safety management systems required under 14 CFR part 5. Although part 135 air operators or part 145 repair station operators are not required to implement SMS, some have opted to do so; therefore, FS is the primary regulator.

Through the AAM SMS, AAM uses SRM during initial system design, when an existing system is changed, and throughout the life of the system as necessary to determine measures of system performance and the need for the development of safety risk controls for areas of AAM operational responsibility.

Specific examples of events or conditions which may trigger the SRM activity include, but are not limited to:

- Inability to meet established levels of performance;
- Indications of system ineffectiveness or under performance;
- Failure to conform to standards;
- Discovery during analysis of system design or redesign;
- Inability to predict performance;
- Issues or hazards identified through management systems and other organizations;
- Accidents and incidents;
- Employee reporting of concerns or hazards;
- Management review of major or essential business processes; and
- Detecting a potential hazard.

The methodologies and approaches used to conduct SRM will vary based on the program area and specific challenge investigated. The type, volume, and quality of the data available for analysis will require different analytical approaches to integrate the data to best define the risk determination. For example, new medical standards may involve probabilistic risk assessment techniques, while the Pharmacy and Therapeutics Committee will base acceptance of a specific medication for use by airmen on a literature review and assessments of published population-based clinical experience.

The Industry Drug Abatement Division (AAM-800), which is responsible for the Industry Drug and Alcohol Testing Program, is not represented on the AAM Safety Management Council. The

Industry Drug and Alcohol Testing Program's SRM is implemented and controlled through [FAA Order 9120.1, *Drug and Alcohol Compliance and Enforcement Inspector Handbook*](#) (as amended), the Drug Abatement Division's Strategic Compliance Monitoring Plan (SCMP), and the Automated Risk Calculation (ARC) tool incorporated in the Compliance and Enforcement Tracking Subsystem (CETS). Risk determinations that drive oversight activities for the Industry Drug and Alcohol Testing Program are based on analysis of Inspection, Investigation, and Voluntary Disclosure Activities using CETS data; annual Management Information System (MIS) reporting data; input from internal and external sources (e.g., drug and alcohol inspectors, the Department of Transportation [DOT], inspectors in FS, and industry personnel or stakeholders); or coordination with other FAA LOB/Staff Offices in accordance with the safety management activities (including the FAA's Integrated Oversight Philosophy Implementation and data integration initiatives).

Applicability of SRM in the AVS Support Organizations

AVS support organizations do not have oversight responsibilities; nor do they directly manage safety, but they support other Services/Offices and FAA organizations' ability to manage safety. In many cases, the support organizations provide corporate safety management solutions.

Applicability of SRM in the Office of Accident Investigation and Prevention (AVP)

As a support organization, AVP manages the FAA SMS and the Aviation Safety Safety Management System (AVSSMS) and provides policies (AVP is the OPR for FAA Orders 8000.369, 8040.4, VS 8000.370, and VS 8000.367), tools, guidance materials, etc., to enable Services'/Offices' safety management activities. AVP provides corporate, AVS-level solutions and capabilities such as the Hazard Identification, Risk Management & Tracking (HIRMT) Tool, accident investigation, and the FAA Safety Recommendations program. Also, AVP is responsible for ASIAs and the Integrated Safety Assessment Model (ISAM) and works with and conducts outreach to Industry through the Commercial Aviation Safety Team (CAST), the General Aviation Joint Steering Committee (GAJSC), InfoShare, etc.

Roles and responsibilities specific to the Safety Management and Research Planning Division (AVP-300) include:

- Managing the FAA SMS and its supporting policies, processes, guidance, and tools in support of the Associate Administrator for Aviation Safety (AVS-1), the FAA SMS Executive Council, and the FAA SMS Committee;
- Managing the AVSSMS and its supporting policies, processes, guidance, and tools in support of AVS-1, the AVSSMS Management Board, the AVSSMS Coordination Group, and the AVSSMS Steering Group;
- Chairing the AVSSMS Coordination Group and the AVSSMS Steering Group;
- Managing and supporting the HIRMT tool, including its usage and oversight;
- Performing safety issue identification/elevation staff work on behalf of the FAA SMS Committee;
- Managing the subject matter expertise component and the data analysis component of the Issue Identification Function;
- Assisting the FAA SMS Committee in coordinating safety risk assessment efforts for safety issues, tracking approved safety risk mitigations, and measuring safety performance for the FAA using the HIRMT tool;
- Ensuring that the safety issue assessment activities are managed through the SRM/Safety Assurance processes on behalf of the FAA ;

- Providing consultative services and guidance to assist organizations regarding SRM and facilitating SRM teams, if requested; and
- Developing a methodology/model to identify safety performance indicators for measuring and monitoring safety performance.

Applicability of SRM in the Office of Rulemaking (ARM)

The mission of ARM is to effectively manage the FAA's rulemaking program. This includes oversight of the Rulemaking and Exemption Processes. ARM works with offices across the FAA to accomplish its mission.

Rulemaking is how the FAA makes changes to the parts of 14 CFR for which the agency has regulatory responsibility. These changes may include additions to, deletions from, or amendments to existing regulations. Exemptions are used by individuals or organizations subject to regulatory requirements to seek relief from a regulatory requirement. Although ARM manages both of these processes, the FAA office with regulatory responsibility for the CFR part(s) involved, referred to as the OPR, actually has the lead in making regulatory changes (rulemaking) or granting relief from a regulatory requirement (exemption).

Safety risk is a critical consideration in determining whether to proceed with a regulatory change, or provide relief from a regulatory requirement.

Rulemaking

Each OPR that seeks to pursue rulemaking submits an Application for Rulemaking (Application) to the FAA Rulemaking Management Council. An Application requires the OPR to explain and justify the need for the proposed rulemaking, and to explain alternatives it has considered before deciding that regulatory change is the most appropriate solution to the problem it is seeking to address. Completion of a safety assessment by the OPR, together with other impacted FAA offices as appropriate, supports an OPR's Application.

ARM's rulemaking process was updated in fiscal year (FY) 2018 in the form of a new rulemaking governance platform titled Rulemaking Information Management System (RIMS). The RIMS platform allows ARM to query whether an OPR has conducted an SRM analysis at the start of a proposed rule. While ARM does not dictate whether an SRM analysis is required or not, RIMS provides OPRs an opportunity to address whether the SRM has been done, and perhaps in some cases needs to be done, at the initiation phase of the rulemaking process. RIMS, from a reporting standpoint, allows ARM (or a requesting entity) to create reports on which rules have (or have not) had an SRM analysis conducted. Ultimately, RIMS functions as a check in regard to SRM, supporting OPRs by providing an additional opportunity to address the potential need for an SRM analysis.

Exemptions

As SMS becomes more widespread among the aerospace industry product and service providers regulated by the FAA, it is becoming more common for petitioners to include safety risk analyses in support of their exemption requests. Submission of a safety risk analysis is not an FAA requirement under 14 CFR part 11, which sets forth requirements for petitioners. It is, however, appropriate for an OPR to consider such a submission in its evaluation of the exemption request to determine if an equivalent level of safety would be achieved should relief from a regulatory requirement be granted.

For more information on how ARM manages FAA rulemaking and exemption activities, see [ARM-002-001, *Rulemaking Process*](#), and [AVS-002-009, *Exemption Process*](#).

Applicability of SRM in Quality, Integration and Executive Services (AQS)

As a support office, AQS does not perform SRM and does not oversee product or service providers. AQS employees adhere to the OPR's SRM and Safety Assurance processes. AQS is responsible for the Quality Management System (QMS) and provides a corporate solution to other organizations by conducting internal audits to assure AVS Service/Office compliance with requirements.

AQS performs audits on FAA Order VS 8000.367 requirements in accordance with AVS-01-006, *AVS Internal Audit Process*, on a three-year schedule (meaning every location is audited every three years). The Executive Director of AQS (AQS-1) is updated quarterly on the results of the AVS Internal Audits. AVS Internal Audit results are presented to the AVS Management Team during the Management Review/Heads Up Display (MR/HUD) meetings.

Applicability of SRM in the Unmanned Aircraft Systems Integration Office (AUS)

AUS does not have oversight responsibility for product or service providers, but is responsible for integration. The AUS office coordinates, harmonizes, and provides technical support for the safe integration of UAS into the NAS.

As a support office, AUS does not perform SRM but participates in other Service/Office and LOB/Staff Office processes for conducting analysis of potential hazards (e.g., participating in ATO's SRM panels in accordance with the SMS and SRM policies). AUS supports the OPR (e.g., ATO, FS, AIR) in identifying potential new hazards, ineffective risk controls, and changes to the operational environment that may introduce new hazards or affect safety risk. Additionally, since AUS is not an OPR, it does not accept safety risk into the system.

AUS supports other organizations and conducts analysis of potential hazards by serving on the Aviation Rulemaking Committee (ARC), AVSSMS Coordination Group, chairing the UAS Safety Team (UAST), co-chairing the Data Analysis Review Team (DART), supports the Executive Review Board (ERB), and leading the Partnership Safety Programs (PSPs) with industry.

Generally, as a support/coordinating office for SRM activities, AUS employees adhere to the FAA, AVS, and OPR policies, processes, procedures, and tools that relate to the SRM activity they are supporting. Such processes include, but are not limited to, Exemptions (AVS process), Type Certification (AIR process), Part 107 Waivers (FS process), Experimental Certification (AIR process), Waivers and Authorizations (FS and ATO processes), Rulemaking (AVS process), etc.

Application of SRM in the Office of Airports (ARP)

Under [FAA Order 5200.11, *FAA Airports \(ARP\) Safety Management System*](#), seven actions require an airport to apply SRM. According to the order, SRM must occur for:

1. Submittal of new or revised Airport Layout Plans (ALPs) for FAA approval. SRM requirements do not apply to ALP submittals received prior to the dates identified for each category of airport listed under paragraph 1-4b of FAA Order 5200.11.

2. FAA airspace determinations for construction safety plans in accordance with [FAA Order JO 7400.2, Procedures for Handling Airspace Matters](#).
3. FAA airspace determinations for airport sponsor requests for non-construction airport changes submitted by FAA Form 7480-1, *Notice for Construction, Alteration and Deactivation of Airports* (see paragraph 4-3f of FAA Order 5200.11).
4. FAA approval of 14 CFR part 150 noise compatibility programs and program changes that may affect aviation safety.
5. FAA approval of an airport sponsor's request for a Modification of Standards.
6. Final FAA approval of new and updated airport planning, design, or construction standards.
7. FAA decisions on operational or safety-related issues.

Airport Layout Plan (ALP)

Note: At this time, ARP limits the application of SRM to applicable projects at Large, Medium, and Small hub airports. Application of SRM for projects at all other airports is voluntary on the part of the FAA Regional Airports Division or Field Offices.

- The ALP depicts existing airport facilities and proposed development as determined from planners' review of aviation activity forecasts, facility requirements, and alternative analysis. An ALP creates a blueprint for airport development by depicting proposed facility improvements. The ALP provides a guideline by which the airport sponsor can ensure that development maintains airport design standards and safety requirements, and is consistent with airport and community land use plans.
- The ALP is a public document that serves as a record of aeronautical requirements, both present and future, and as a reference for community deliberations on land use proposals and budget resource planning.
- The approved ALP enables the airport sponsor and the FAA to plan for development improvement projects at the airport. It allows the FAA to anticipate budgetary and procedural needs.
- A current ALP that depicts the proposed project and which has FAA approval from the standpoint of safety, utility, and efficiency of the airport shall be required before a development project is approved. An ALP remains current for a five-year period, or longer, unless major changes at the airport are made or planned.
- Federal law requires, in part, a current ALP approved by both the airport sponsor and the FAA prior to the approval of Federal assistance for an airport development project.
- For airports not included in the National Plan of Integrated Airport Systems (NPIAS) (not Federally obligated under the Airport Improvement Program [AIP]), ALPs are not required. The same guidance may be applicable, but refer to the State aeronautical agency for requirements.
- The approved ALP will also allow the FAA to protect the airspace required for facility or approach procedure improvements.

Construction Safety Phasing Plans (CSPP)

- The CSPP is a document that outlines procedures, coordination, and control of safety issues during construction activity on an airport.
- In accordance with the requirements in [AC 150/5370-2, Operational Safety on Airports During Construction](#), a CSPP must be developed for each on-airfield construction project funded by the AIP. A CSPP represents an acceptable method for complying with 14 CFR part 139 requirements for construction activity on the airfield.

- SRM does not apply to all airfield construction projects. Consult FAA Order 5200.11 for further information.
- However, extraordinary circumstances may trigger the need for a Safety Assessment and a CSPP, such as a project in the movement area that may impact the line of site between the ATC Tower and the movement area.

Modification of Standards

- According to [FAA Order 5300.1, Modifications to Agency Airport Design, Construction, and Equipment Standards](#), a Modification of Standard is “any deviation from, or addition to standards, applicable to airport design, material, and construction standards, or equipment projects resulting in an acceptable level of safety, useful life, lower costs, greater efficiency, or the need to accommodate an unusual local condition on a specific project through approval on a case-by-case basis.” FAA Order 5300.1 establishes the process for the initiation, revision, coordination, and management of Modifications of Standards.
- SRM is required for approval of requests for project-specific Modifications of Standards (excludes [AC 150/5370-10, Standards for Specifying Construction of Airports](#)).

Application of SRM in the Office of Commercial Space Transportation (AST)

AST applies a safety risk management framework through the commercial space transportation regulations and AST’s processes. Per the current version of [FAA Order 8000.373, Federal Aviation Administration Compliance Philosophy](#), “The aviation and aerospace communities have a statutory obligation to comply with established regulatory standards. This obligation includes a duty to develop and use processes and procedures that will prevent deviation from regulatory standards.” AST ultimately evaluates each application’s demonstration of public safety through compliance with the applicable regulations using a risk-informed process that accounts for the hazards and the environment in which the operation will occur.

14 CFR Chapter III contains the regulations that apply to all phases of the commercial space transportation regulatory lifecycle. These regulations stipulate the process for rulemaking, the requirements for preapplication consultation and application submission, the criteria for application evaluation, and the standards for monitoring commercial space operations. It is important to note that the regulations comprise a minimum set of safety requirements governing commercial space operations. AST may not compel an operator to exceed the safety requirements set forth in the commercial space transportation regulations. Operators may exceed these minimum safety standards at their discretion, but they have no obligation to do so. A commercial space operator is responsible for ensuring the safe conduct of an FAA-authorized operation and for ensuring public safety and the safety of property at all times during the conduct of an authorized operation.

AST issues non-binding guidance to assist applicants and potential applicants in understanding and complying with the commercial space transportation regulations. AST’s process and procedure documents provide instructions for staff in meeting their responsibilities and top-level expectations.

AST uses processes for assessing and controlling risks that are objective, transparent, and open to all AST employees. AST’s procedures highlight the means for any AST employee to

raise potential safety issues or concerns. AST uses technical review board (TRB) meetings to assess, discuss, and make decisions regarding the development, application, and adequacy of AST's policies and regulations as they relate to potential safety issues and evaluations. AST documents the results of TRB meetings and makes them available to AST's staff for review. AST uses management review board (MRB) meetings to make decisions regarding the issuance of authorizations. All AST employees are invited to attend and raise issues or concerns at MRB meetings. The results of MRB meetings are documented and made available to AST's staff.

For more information, refer to the [AST Safety Management System Manual](#).

Application of SRM in the Office of the Next Generation Air Transportation System (ANG)

Under the current version of [FAA Order NG 1000.44, NextGen Safety Management System](#), all ANG-generated safety work requires SRM, with the ANG Safety Manager being the review and approval authority for all ANG-generated SRMDs, and safety assessments by any other name.

This applies to:

- All safety documents that are generated at any stage within the research, AMS, and NCP processes, as well as to any other safety documents for which ANG is a stakeholder, including for trials, tests, prototypes, and demonstrations that are planned to be conducted in the NAS; and
- Safety assessments or SRMDs done in collaboration with other LOBs/Staff Offices

SRM is triggered and applied for the following:

- All safety assessments, including SRMDs, generated by ANG employees or their contractors;
- All draft NCPs, including test NCPs, generated within ANG;
- Any ANG-sponsored or -involved trial, test, prototype, or demonstration that has the potential to be conducted live in the NAS (the SRM is conducted by the owning LOB/Staff Office, but the documentation is reviewed and approved by the ANG Safety Manager before the trial, test, prototype, or demonstration is conducted); and
- All safety assessments generated for the ANG-sponsored program during the Concept and Requirements Definition (CRD) phase of the AMS (the ANG Safety Manager reviews and approves all SRMDs and safety assessments by any other name that are conducted by any FAA organization, as required by the CRD phase of the AMS, before they leave ANG en route to the parent organization or for further review; this review ensures compliance with the safety policies and processes contained within the AMS' CRD process).

Application of SRM in the Office of Security and Hazardous Materials Safety (ASH)

The Office of Hazardous Materials Safety (AXH), an organization within ASH, is developing a formal documented SRM process. The primary objective of AXH is to assess how effective certificate holders are implementing operational controls to address system risks. The AXH

SRM process closely mirrors that of FS, with a reliance on Safety Assurance and the same data systems. When developed, the AXH SRM process, like FS, will be at the aviation system level. AXH's SRM will aid in the discovery of new or potential hazards, to include ineffective risk controls. In addition, the AXH SRM will be used to assess new technology (e.g., UAS, automation). Further, it will address common safety issues or hazards within the aviation system.

At the certificate holder level, AXH uses internal processes to identify certificate holder hazards and oversee the controls implemented as part of its responsibility. The program also relies on this process to assess and verify effectiveness of operator's SMS as it relates to the transportation of hazardous material and cargo. AXH collaborates with FS through acceptance or approval of certificate holders' operating manuals and/or established programs/procedures, as well as surveillance of the programs and procedures presented in those manuals.

SAS allows the assessment of the initial certification, routine surveillance, and certificate management for 14 CFR parts 121, 135, 129, and 145 certificate holders or applicants. Relying on the functionality provided by the SAS is key for the development of the AXH SRM. As a result, the key components of the SRM process for AXH are:

- Identification of hazards through AAA and analysis of this data to identify the appropriate course of action;
- Management of hazards through the SAS RMP by documenting, tracking, and evaluating the status of existing hazards and their associated risks; and
- NSA functionality for analyzing hazards or safety issues, assessing adverse trends in safety performance, and evaluating the effectiveness of existing safety risk controls.