U.S. DEPARTMENT OF TRANSPORTATION
FEDERAL AVIATION ADMINISTRATION

ORDER 1030.8

National Policy

Effective date:
9/15/2026

SUBJ: FAA Safety Management

1. This order establishes the safety management policy and requirements for the Federal Aviation Administration (FAA) to create a unified Safety Management System (SMS) and improve the FAA's ability to proactively identify hazards and manage risk at the enterprise level. Specifically, this order:

a. Defines the roles, responsibilities, and authorities of the Aviation Safety Management Office (ASM) as they relate to safety management.

b. Defines the roles and responsibilities of FAA Executive Leadership, Management and Personnel, the Executive Safety Council, and the ASM Integration Board regarding the unified SMS.

c. Defines and standardizes safety management terminology to ensure consistency in safety management activities across the agency.

d. Facilitates information sharing through regular updates, centralized databases, and accessible platforms, ensuring dissemination of safety-related data across the agency, to the extent that applicable law permits sharing.

e. Requires adopting a common approach to implementing and maturing a unified SMS, including fostering a positive safety culture.

2. This order is intended to align with International Civil Aviation Organization (ICAO) Annex 19 safety management Standards and Recommended Practices (SARPs) to the extent practicable.

3. This order applies to all FAA organizations. Everyone has a role in safety management activities in the FAA.

Bryan Bedford
Administrator

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Chapter 1. General Information

1. Purpose of This Order. This order establishes the safety management policy and requirements for the Federal Aviation Administration (FAA) to create a unified Safety Management System (SMS) and improve the FAA's ability to proactively identify hazards and manage risk at the enterprise level. The Aviation Safety Management Office (ASM) will lead the FAA's evolution to a unified SMS, integrating safety and risk management efforts and ensuring the FAA works collaboratively across the agency.

2. Scope. The FAA SMS focuses on managing operational safety within the aerospace system and systematically integrates the management of safety risk into planning, operations, and decision making. Accordingly, this order does not directly apply to personnel security and investigations, information security, physical security, cybersecurity, environment, or occupational safety and health, except when those affect the operational safety of the aerospace system. This order does not alter authorities or responsibilities for legislation, rulemaking, certification, surveillance, enforcement, accident or incident investigation, personnel qualification, or other governmental functions established by statute, regulation, or delegation. The FAA SMS is applicable to space transport only when launch and reentry operations have an impact on safety within the National Airspace System (NAS).

3. Audience. This order applies to all FAA organizations. Everyone has a role in safety management activities in the FAA. In this order, the term "FAA organizations" refers to the organizations that perform the functions described in this order's scope. This order is written to allow for application to other FAA organizations to account for future changes to the agency's organizational structure.

4. Where to Find This Order. You can find this order on the FAA website at: https://www.faa.gov/regulations_policies/orders_notices and the FAA's Dynamic Regulatory System (DRS) available at: https://drs.faa.gov/browse.

5. What This Order Cancels. This order cancels the orders in the list below.

a. FAA Order 8000.369C, *Safety Management System*.

b. FAA Order 8040.4C, *Safety Risk Management Policy*.

c. FAA Order JO 1000.45, *Application of the Acceptable Level of Risk to Space Missions in the National Airspace System*.

6. Action Date. A 12-month transition period is authorized from the effective date to full compliance with this order.

a. During the transition period, organizations will continue to use existing safety management materials, such as policies, guidance, standard operating procedures, and training,

while updating those existing materials and developing new materials, as necessary, to comply with this order.[1]

b. Organizations will submit to ASM new, updated, or existing safety management materials that demonstrate the organization's compliance with this order, along with any requested deviations or alternative methods of compliance for which the organization is requesting ASM approval.

c. ASM will review submitted safety management materials to ensure consistency with this order, and any requested deviations or alternative methods of compliance. All deviations from or alternative methods of compliance with the requirements in this order require ASM approval. Deviations and alternative methods of compliance will be documented and published for awareness.

[1] As part of the unified SMS and toward the goal of continual improvement, ASM and other FAA organizations will jointly evaluate the technical applicability of the safety risk analysis methods, criteria, and definitions in Chapter 6 and Appendix C.

Chapter 2. Safety Management System Overview

1. What is a Safety Management System? An SMS is the formal, top-down, organization-wide approach to managing safety risk and assuring the effectiveness of safety risk controls. It includes systematic procedures, practices, and policies for the management of safety risk.

2. FAA Safety Management System.

a. Description.

(1) To support its mission to provide the safest, most efficient aerospace system in the world, the FAA continues to evolve its internal safety management activities to better integrate the management of safety risk into planning, operations, and decision making.

(2) This evolution will leverage existing FAA safety management practices to transition to a unified SMS with improved data and information sharing resulting in enhanced safety intelligence and greater visibility of risk. The unified SMS will be supported by a governance structure that facilitates collaboration while enabling accountability.

b. Applicability.

(1) The FAA SMS covers all FAA organizations; therefore, it includes the FAA's activities that are defined in Title 49 of the United States Code (U.S.C.), as well as the Office of Commercial Space Transportation (AST) activities specified in Title 51 of the U.S.C.

(2) Product/service providers are responsible for the safety of their products and services. Therefore, they will address hazards in their operations or those hazards that are caused by the product or service, as well as changes in their operations. FAA oversight organizations conduct surveillance to assure product/service providers that are required by regulation to have an SMS have established and implemented an SMS to adequately address risk in their products and services. FAA oversight organizations use information from surveillance activities to identify systemic safety issues in the aerospace system and apply Safety Risk Management (SRM) to those issues to determine if additional risk mitigation is required, such as new or updated regulations.

c. What is Different?

(1) The FAA is evolving internal safety management activities to support greater collaboration and risk-based decision-making from an agency perspective. With this order, FAA SMS expectations are consolidated under the leadership of ASM, establishing a unified SMS, and a comprehensive system for safety management at the agency level.

(2) The unified SMS is founded on safety intelligence and an enhanced governance structure facilitating coordination across the agency and with agency stakeholders. Consistent SMS processes enhance visibility, learning and, ultimately, the mitigation of system-wide hazards and risk in the aerospace system.

3. International Standards.

a. International Civil Aviation Organization (ICAO) Annex 19, *Safety Management*, requires Member States to implement a State Safety Program (SSP) and to establish requirements for certain product/service providers to implement an SMS. As an ICAO Member State, the U.S. has committed to comply with ICAO safety management standards or file differences to those standards, as appropriate.[2]

b. FAA performs the roles of a service provider and regulator. The agency accomplishes safety management through an integrated set of activities that align with SSP and SMS Standards and Recommended Practices (SARPs) to the extent practicable. The FAA operates with two perspectives when it comes to safety: FAA focuses on the industry, while also examining FAA's internal operations. FAA's industry-facing responsibilities are carried out through SSP activities.

c. This order governs the FAA's unified SMS. For SSP-related activities, this order, and therefore the FAA's unified SMS, applies to the FAA functions that support the State safety policy, objectives, and resources; State safety risk management; State safety assurance; and State safety promotion components specified in Annex 19 to the extent those functions fall within FAA authority. This order does not establish or supersede the U.S. SSP-related activities or reassign statutory, regulatory, investigatory, or oversight authorities established elsewhere.

4. Culture and Leadership.

a. Culture.

(1) Organizational culture refers to the broader system of shared assumptions, norms, priorities, incentives, and behavioral expectations that shape how work is performed across the FAA. It has a significant impact on the efficacy of safety management activities in the agency. In safety organizations, organizational culture and safety culture are functionally aligned, as organizational factors outside the safety organization have a great impact on safety.

(2) Safety culture is the shared values, actions, and behaviors that demonstrate a commitment to safety over competing goals and demands. It reflects how people think and act in the face of hazards and their associated risk, how organizations address negative outcomes, and whether individuals are empowered with the tools, resources, and support needed to make sound decisions.

(3) Safety culture provides the foundation for the FAA SMS. A strong safety culture represents the safety-relevant expression of those broader influences, such as in how personnel report hazards, manage risk, communicate concerns, coordinate across roles, respond to uncertainty, and learn from error. The culture shapes how SMS components are interpreted and enacted across the agency and drives the employee and stakeholder behaviors required to implement SMS effectively. Safety culture is integral to each SMS component.

[2] Space transport is not addressed in ICAO Standards and Recommended Practices (SARPs); AST consults with the Department of State during the licensing process to determine if proposed space transport activities raise any concerns regarding U.S. foreign policy interests or international obligations.

(4) Culture is largely shaped by leaders' actions, including priorities, decisions, adherence to stated intent, and ultimately, established trust.

b. Leadership Responsibilities.

(1) FAA's culture depends on visible executive leadership commitment to safety over competing priorities in every organization. Decisions made across operations, policy, budgeting, human resources, legal, rulemaking, and oversight collectively shape safety outcomes and strengthen the FAA.

(2) Organizational values, leadership behaviors, and other cultural elements profoundly influence safety outcomes. Leaders carry responsibility for cultural improvement.

(3) Leaders will align organizational culture, governance, and performance management to sustain and improve safety culture.

(4) Leaders will actively manage challenges to safety culture such as efficiency pressure, complacency, normalization of deviance, inadequate resources, and poor communication to achieve optimal safety outcomes.

(5) Leaders will help change or remove old systems, such as outdated metrics, incentives, and reporting lines.

(6) Specific responsibilities are held by the FAA Administrator (AOA-1) and Deputy Administrator (ADA-1) and their direct reports as the highest level of leadership in the agency, as described in Chapter 3.

c. Safety Culture Guidance. ASM, in collaboration with other FAA organizations, will develop and maintain guidance materials to assist organizations with incorporating safety culture into their organizational policies, safety objectives, and performance metrics. The guidance will:

(1) Introduce an agency-wide safety culture model that outlines the workforce competencies and expectations related to safety culture traits;

(2) Include standards for assessing and monitoring safety culture, developing and implementing safety culture improvement plans, and measuring just culture maturity; and

(3) Establish common agency-level expectations while permitting each organization to address additional safety culture priorities relevant to its mission, workforce, operating environment, and existing organizational culture.

d. Just Culture.

(1) Just culture focuses on creating an environment that encourages individuals to report safety issues without fear of punishment. The aim is to balance accountability and learning in a way that promotes safety and trust.

(2) ASM will collaborate with organizations to create a just culture framework within the FAA that includes:

(a) A decision framework that supports leaders in their approach to decision making.

(b) A voluntary reporting system that allows FAA employees and contractors to raise safety concerns and recommendations, technical dissent, and emerging scientific concerns without fear of reprisals or termination. The FAA has existing programs to support confidential employee reporting.

(c) Leadership accountability as aligned to performance management and incentives.

(d) Protection of voluntarily provided employee data, including application of disclosure protections where appropriate (e.g., reporting programs, culture survey data, etc.).

(3) ASM will work with the appropriate organizations to implement just culture requirements into policies and procedures (e.g., FAA Human Resources Policy Manual [HRPM], reporting systems guidance).

(4) Together, ASM and other FAA organizations will:

(a) Define role-based training, responsibilities, and accountabilities for the implementation of just culture across the FAA.

(b) Evaluate individual behaviors and organizational factors as part of the regular safety culture assessment.

Chapter 3. Roles and Responsibilities

1. Introduction. This chapter establishes ASM to create a resilient system, working across interfaces and acting as the enterprise integrator of safety definitions and data across the agency. It outlines the roles and responsibilities necessary for a unified SMS and equips the FAA to identify emerging risks at system interfaces where many accidents originate but no single organization has full visibility.

2. Aviation Safety Management Office. ASM integrates safety and risk management efforts, ensuring the FAA works collaboratively across the agency to enhance the visibility and mitigation of system-wide hazards and risk.

a. ASM Authorities. To ensure a unified SMS, the AOA-1 authorizes ASM to:

(1) Create and maintain FAA-level safety management policies, guidance, and training programs, in consultation with other FAA stakeholder organizations, and periodically review these materials to ensure they remain relevant and appropriate to meet the established safety objectives.

(a) Before issuing or materially revising technical methods or criteria in FAA-level safety management policies, ASM will provide affected FAA organizations with the opportunity to engage and coordinate.

(b) ASM will establish an implementation period commensurate with the scope and complexity of FAA-level safety management policies or updates thereto.

(2) Conduct surveillance activities, such as audits, inspections, and evaluations, of safety management activities at the agency-level and within other FAA organizations and require corrective actions when potential negative safety impacts exist.

(3) Access all safety/risk-related data and information available to the agency to provide enterprise safety intelligence,[3] to the extent that applicable law permits and to the extent the agency has rights to the data for the intended use.

(4) Review safety risk assessments that support entries in the FAA Enterprise Risk Register (ERR).

(a) When ASM identifies nonconformance with this order, a material analytical deficiency, or material safety concern not addressed in the assessment or resulting risk acceptance decision, ASM will provide written feedback to include the applicable requirement or safety rationale and provide the responsible FAA organization with the opportunity to respond.

[3] Safety intelligence is an outcome of analyzing safety data and information, as well as incorporating context and applying subject matter expertise, to provide actionable information for decision making. At the agency level, this means breaking down traditional data silos to create a unified, cross-functional view of risk that informs decisions at the strategic, tactical, and operational levels.

(b) ASM may require reconsideration or revision to address the identified deficiency.

(c) This order does not authorize ASM to substitute its technical judgment for, or modify, a decision assigned by statute, regulation, delegation, or another FAA directive. Operational ownership, risk acceptance, and implementation accountability remain with the responsible organization's executive except where ASM exercises an authority specifically assigned by law, regulation, delegation, or this order.

(d) When ASM determines that an accepted risk presents an agency-level systemic safety concern that remains unresolved, ASM will elevate the matter to the Executive Safety Council.

(5) Conduct safety oversight of the Air Traffic Organization (ATO) and other organizations that provide air navigation services in the NAS, including developing standards and certification of air navigation service personnel.

b. ASM Safety Management Roles and Responsibilities. In carrying out its responsibilities (listed below), ASM will provide, in coordination with the other FAA organizations, enterprise safety intelligence, common analytical tools and methods, technical assistance, an agency strategy for safety data and intelligence, and agency-level SMS training sufficient to support risk-informed decision making and compliance with this order. ASM has the following responsibilities:

(1) In collaboration with other FAA organizations, lead agency safety culture improvement initiatives and safety promotion activities that are integrated with SRM and safety assurance processes.

(a) Develop and maintain agency-level safety culture guidance that reflects the FAA's commitment to safety, including the promotion of a positive safety culture.

(b) Conduct safety culture assessments and continually monitor safety culture using a multi-method approach that includes perceived indicators (e.g., surveys), observed indicators (e.g., behaviors and reporting actions), and structural indicators (e.g., policies and processes).

(c) Support safety culture improvement initiatives within FAA organizations and ensure consistency with agency-wide initiatives.

(d) Lead FAA's agency-wide SMS learning and engagement activities.

(2) Ensure all FAA employees have access to a confidential, non-punitive employee reporting system.

(3) Support SRM activities across the agency. For more information regarding SRM, see Chapter 5.

(a) Provide support for SRM activities within individual FAA organizations as needed.

(b) Establish and maintain the FAA ERR (see Chapter 5, Section 8).

(4) Conduct safety assurance at the agency level and document and communicate the results. For more information regarding safety assurance, see Chapter 6.

(a) Evaluate safety management activities throughout the agency to assess maturity, effectiveness, and ensure compliance.

(b) Verify implementation and monitor the performance and effectiveness of safety risk controls/mitigations and the FAA SMS.

(c) Evaluate agency-level safety management activities to drive continual improvement and establish feedback loops, capturing lessons learned that will inform the evolution of policies, guidance, training, evaluations, and inspections.

(d) Aggregate and share enterprise safety intelligence agency-wide and ensure visibility of system-level hazards and risk.

(e) Monitor safety performance against agency safety objectives.

(5) Serve as primary liaison between the FAA, National Transportation Safety Board (NTSB), and Foreign Civil Aviation Authorities (CAAs) to coordinate and resolve safety recommendation issues in the aviation accident/incident investigation context and deliver formal agency responses.

(6) Manage the U.S. SSP document and the U.S. National Aviation Safety Plan (NASP).

3. FAA Administrator. AOA-1 is the accountable executive for the FAA SMS with the responsibility to:

a. Set the tone for the FAA's safety culture by demonstrating a commitment to safety over competing goals and demands through leadership behaviors, decision-making practices, resource allocation, and reinforcement mechanisms that prioritize safety.

b. As part of the Executive Safety Council, set the strategic direction for safety management in the agency and determine the FAA's safety goals and objectives.

c. Ensure the agency is structured to fulfill its continuing mission to provide the safest, most efficient aerospace system in the world.

d. Allocate resources and funding needed to support the promotion, implementation, maintenance, and management of the FAA SMS.

e. Hold FAA executives accountable for rulemaking, implementing, operating, integrating, and continually improving safety management activities in their organizations.

f. Ensure requirements, roles, and responsibilities for a unified FAA SMS are communicated, understood, and implemented to continually improve aviation safety.

4. Associate Administrator for ASM. The Associate Administrator for ASM (ASM-1) serves as the safety champion of the FAA SMS with the responsibility to:

a. Foster a positive safety culture by demonstrating a commitment to safety over competing goals and demands through leadership behaviors, decision-making practices, resource allocation, and reinforcement mechanisms that prioritize safety.

b. Provide enterprise safety intelligence to support risk-based decision making, including routine updates to AOA-1 and ADA-1 and their direct reports.

c. Maintain the Aviation Safety Intelligence Platform (ASIP) to capture, store, aggregate, process, and analyze safety data, and provide near-real-time access across the agency.

d. As part of the Executive Safety Council, develop agency-level safety objectives, and monitor and report on the safety performance of the agency against those objectives, which may include the establishment, monitoring, and reporting on safety metrics and targets, Safety Performance Indicators (SPIs), etc.

e. Assess safety performance against established agency safety objectives and provide a report to the Executive Safety Council at least once every quarter.

f. Advise AOA-1 and FAA executive leadership on systemic safety issue trends and high-profile issues and projects.

5. FAA Management Board. Members of the FAA Management Board (i.e., executives reporting directly to AOA-1 and ADA-1) remain accountable for their organization's safety management activities. Members of the FAA Management Board are expected to:

a. Foster a positive safety culture by demonstrating a commitment to safety over competing goals and demands through leadership behaviors, decision-making practices, resource allocation, and reinforcement mechanisms that prioritize safety.

b. Ensure that their organization meets the requirements in this order and ensure those delegated the authority to perform related responsibilities on behalf of their organization (e.g., designees and contractors) meet the requirements of this order.

c. Lead operational ownership of risk management within the organization's span of control, including making risk acceptance decisions and implementing safety risk controls/mitigations.

d. Identify and address safety issues that are within their span of control and ensure stakeholder awareness of those issues.

e. Engage ASM when potential safety issues, planned changes, or ineffective controls meet Aerospace System Level (ASL) criteria. For more information regarding ASL criteria, see Chapter 5, Section 3.

f. Take action to address noncompliances, nonconformances, or potential safety issues/ineffective controls identified through organizational or ASM safety assurance and SMS effectiveness assessments.

6. FAA Manager Responsibilities. Managers are accountable for their organization's safety management activities and they are expected to:

a. Foster a positive safety culture by demonstrating a commitment to safety over competing goals and demands through leadership behaviors, decision-making practices, resource allocation, and reinforcement mechanisms that prioritize safety and encourage employees to share safety information and concerns.

b. Apply safety management principles when making safety decisions.

c. Allocate resources and funding needed for safety management activities within their organizations.

d. Hold their organization's personnel accountable for safety management activities in their organizations.

e. Lead operational ownership of risk management within the organization's span of control, including making risk acceptance decisions and implementing safety risk controls/mitigations.

f. Identify and address safety issues that are within their span of control and ensure stakeholder awareness of those issues.

7. FAA Personnel Responsibilities. All employees have a role in safety management activities in the FAA. As such, they are responsible for understanding how the FAA SMS functions, knowing how their role in aerospace safety fits into the FAA's SMS, and their contribution to safety of the component(s) of the aerospace system with which they interact. FAA employees are expected to:

a. Actively look for safety issues and ineffective controls and seek safety improvements in the component(s) of the aerospace system with which they interact.

b. Report safety issues and ineffective controls to their supervisor, through voluntary employee reporting systems, the FAA Safety Recommendation Program, or any other appropriate means, and make suggestions for safety improvements.

c. Work collaboratively to develop solutions to safety concerns.

d. Complete required safety management training.

Chapter 4. Safety Policy and Governance

1. What is Safety Policy and Governance? Safety policy provides the FAA's documented commitment to safety and defines its safety objectives, the accountabilities and responsibilities of its employees regarding safety, and documentation requirements, while governance provides the means for the agency to manage and coordinate safety management activities and ensure accountability.

2. Unified Safety Management Strategy.

a. Safety is the shared responsibility of every FAA organization, operating together as a unified SMS. Each organization holds primary accountability for the safety performance of the operations, certifications, services, and infrastructure within its mandate, and executes safety management expectations consistent with the operational realities of its domain.

b. ASM serves as the enterprise integrator and steward of the FAA's integrated agency-wide risk profile, working in partnership with the other FAA organizations to develop and maintain shared data definitions, taxonomies, calculation methodologies, and reporting structures that allow the agency's safety information to be understood across organizational boundaries. ASM and other FAA organizations will share safety data, hazards, risk assessments, mitigation actions, and lessons learned openly across the agency, recognizing that an integrated cross-agency risk picture serves the public interest more fully than any single organization's view alone.

c. ASM convenes the cross-agency conversations through which enterprise risk-tolerance criteria, as discussed in Appendix C, are calibrated across the operational domain (aviation, space transport, unmanned aircraft systems, advanced air mobility, and emerging operations), synthesizing the resulting picture into timely, defensible, actionable safety intelligence for AOA-1 and executive leadership.

d. Roles, decision rights, and escalation paths are documented, transparent, and developed jointly by ASM and other FAA organizations; trade-offs between safety and other agency equities are surfaced openly, decided at the level of authority commensurate with Chapter 5, Section 6, *Safety Risk Acceptance*, and clearly documented; and the agency's safety posture demonstrably and visibly aligns with its established safety objectives and risk-tolerance criteria over time. Together, these expectations establish that safety in the FAA is owned by every organization, integrated through partnership with ASM, and the agency is accountable to the public through a unified enterprise voice.

3. SMS Policy Requirements.

a. FAA Safety Policy Statement. The FAA will develop an FAA Safety Policy Statement that aligns with and supports:

(1) FAA's evolution to a unified SMS;

(2) Accountabilities and responsibilities identified in this order; and

(3) FAA leadership's commitment and expectation that the organization will continually improve safety.

b. FAA Organization Safety Policy. FAA organizations may create their own safety policies in alignment with this order. After the transition period:

(1) Organizations will submit to ASM any new or updated safety management materials that demonstrate the organization's compliance with this order, along with any requested deviations or alternative methods of compliance for which the organization is requesting ASM approval.

(2) ASM will review submitted safety management materials to ensure consistency with this order, and any requested deviations or alternative methods of compliance. All deviations from or alternative methods of compliance with the requirements in this order require ASM approval. Deviations and alternative methods of compliance will be documented and published for awareness.

c. Safety Objectives.

(1) Safety objectives represent the measurable strategic goals of the FAA's unified SMS. The Executive Safety Council establishes and reviews agency-level safety objectives annually in alignment with the U.S. NASP.

(2) Safety objectives and SPIs will align with and support agency strategic goals and be updated to reflect safety assurance process outputs.

d. Documentation.

(1) Agency- and organizational-level processes intended to meet the requirements of this order will be documented and managed in accordance with FAA documentation requirements.

(2) SMS outputs will be documented and retained in records in accordance with FAA's record retention requirements.[4]

4. Expanding the Use of SMS. FAA oversight organizations will promote SMS implementation for aerospace product/service providers, as appropriate.

5. Governance. Governance is the codification of organizational authorities, committee membership, data architecture/flows, escalation processes, decision rights, review cadences, and accountability lines. A governance structure enables the appropriate entities to direct and oversee the FAA's unified SMS and safety intelligence capabilities.

a. Purpose. The purpose of governance is to ensure that FAA-wide safety decisions are made consistently, using reliable information, with accountability for managing risk and

[4] SMS outputs are the results of an SMS process designed to meet the requirements specified in this order. Examples include findings from safety data analyses, safety evaluations/assessments, and SRM results.

verifying that actions are effective. This in turn creates a resilient system that improves the FAA's ability to proactively identify hazards and manage risk within the aerospace system.

b. Governance Requirements. FAA organizations will:

(1) Actively participate and continually support the unified FAA SMS.

(2) Utilize a structured process to monitor safety management effectiveness and outputs within their organization/office. At a minimum, this process will ensure a direct interface with the ASM Integration Board to allow for elevation of identified safety issues, SRM activity within the organizations, and safety intelligence outputs.

(3) Collaborate with ASM to support reciprocal information sharing and coordination on data frameworks created to support bi-directional flow of safety intelligence, decisions, and outcomes within the agency.

(4) Align guidance/procedures with ASM-developed governance standards when instructed.

c. Agency and Organization Level Governing Bodies.

(1) Executive Safety Council.

(a) Purpose. The Executive Safety Council is the decision-making forum for executives working with ASM to lead agency-level safety management activities and discuss and address agency-level safety issues.

(b) Membership. The Executive Safety Council is comprised of AOA-1, ADA-1, and executives reporting directly to the AOA-1 and ADA-1.

(c) The Executive Safety Council members' responsibilities include but are not limited to:

i. Actively participate in and communicate their commitment to the successful implementation, management, and continual improvement of FAA safety management to employees and stakeholders.

ii. Foster accountability by ensuring their organizations use SRM in support of decision making and communicate their safety management activities to ASM.

iii. Strengthen agency-wide SRM by ensuring all mitigations requiring AOA-1/ADA-1 involvement are thoroughly reviewed and effectively integrated, as appropriate.

iv. Identify safety issues and direct the application of SRM.

v. Establish, review, and communicate agency-level safety objectives annually.

vi. Monitor the safety performance of the aerospace system against its safety objectives.

vii. Review safety intelligence outputs to inform decision making.

viii. Make decisions on outstanding ASL issues, safety objectives, safety culture initiatives, and safety management activities.

ix. Provide governance for the FAA ERR, working through the ASM Integration Board.

x. Commit appropriate organizational resources to safety management activities, and when necessary, include technical and subject matter experts to represent their organization on SRM panels.

(2) ASM Integration Board.

(a) Purpose. The ASM Integration Board coordinates safety management activities across the agency. It reports to the Executive Safety Council and works with ASM to implement and maintain safety management processes within their organizations and supports ASM in agency-level safety management activities. Supporting groups or sub teams to address specific areas, such as safety culture, data governance, and SMS effectiveness, will be established by and report to the ASM Integration Board.

(b) Membership. The ASM Integration Board is comprised of:

i. ASM Executive Directors;

ii. Safety Executives from FAA organizations; and

iii. Technical experts from FAA organizations as appropriate.

(c) The ASM Integration Board responsibilities include but are not limited to:

i. Coordinate safety management activities across the agency and help resolve issues.

ii. Serve as a forum for discussion of safety culture, safety reporting, safety policy, SRM, safety assurance, and safety promotion across the FAA organizations.

iii. Serve as a forum for safety issues to be raised, discussed, and assigned for action.

iv. Work with ASM to coordinate the application of SRM on cross-organizational safety issues, planned changes, and ineffective controls, and align safety risk mitigation strategies.

v. Facilitate safety risk acceptance by the appropriate management officials.

vi. Provide governance for the FAA ERR, working with the Executive Safety Council.

vii. Facilitate the resolution of disagreements regarding safety management between FAA organizations, such as those related to SRM, and escalate unresolved disagreements to the Executive Safety Council.

viii. Ensure their organization's data feeds into ASIP, unless the data is protected by law or other agreements.

ix. Recommend organizational-level safety objectives aligned to agency-level safety objectives.

x. Report on their organization's safety performance.

xi. Recommend new safety metrics and targets for use in safety intelligence functions.

xii. Support evaluations of safety management activities.

xiii. Collaborate on responses/actions to outstanding safety issues, safety objectives, safety culture initiatives, and safety management activities.

xiv. Facilitate the incorporation of those Executive Safety Council-derived safety priorities into pertinent FAA organizations' policies, processes, and procedures.

6. Safety Reporting. ASM will ensure all FAA employees have access to confidential, non-punitive safety reporting systems to report hazards, safety issues, concerns, incidents, etc.

Chapter 5. Safety Risk Management

1. What is Safety Risk Management? SRM is the process used to manage risk in the aerospace system. The objective of SRM is to proactively mitigate safety risk before it results in accidents or incidents. SRM facilitates communication and coordination across FAA organizations for informed safety risk decision making.

2. SRM Requirements.

a. Triggers for SRM. SRM will be applied whenever any of the triggers in Table 5-1 occur. However, decisions or individual actions taken in accordance with an established policy, standard, or procedure might not require SRM; SRM is not required if the organization has an approved deviation or alternative method of compliance.

Table 5-1: SRM Triggers

SRM Trigger	Description
Discovery of a Safety Issue	Discovery of a hazard, emerging risk trend or pattern, or significant concern.
Ineffective Safety Risk Control	Discovery of a control that is ineffective, weak, or missing (or is deteriorating due to one or more escalation factors).
Planned Change	A planned change to create or modify a regulation,[a] process, procedure, design, system, standard, physical structures, resource or staff level, or organizational construct that controls, generates, or otherwise affects an aerospace hazard or the management of risk in the NAS.

[a] For rulemakings that are a result of Executive Order, Congressional Mandate, or Administration priorities where the FAA does not have discretion regarding timing or implementation, SRM will be performed to assess the impact of the rule and mitigate any residual risk.

(1) Organizations will refer to ASM any safety issue, planned change, or ineffective control for which the need for SRM is uncertain, if the issue, change, or control may affect more than one organization, or may have significant, systemic, or NAS-wide safety implications. ASM will make the determination regarding whether SRM is required and, if so, determine the appropriate Office of Primary Responsibility (OPR).

(2) Organizations will perform a preliminary safety risk assessment[5] to inform the decision on whether to perform internal SRM. If the decision is made not to conduct SRM, then

[5] A preliminary safety risk assessment is an initial *quick look* at a safety issue, planned change, or ineffective control in which the first four steps of the SRM process are conducted. It is intended to support decision makers in determining whether to direct resources toward a more detailed and complete assessment. A preliminary safety risk assessment need not be complex and should be conducted with a small group of experts or possibly even a single subject matter expert in a short amount of time.

the decision, rationale, and preliminary safety risk assessment will be documented in the ERR, unless the organization has an approved deviation or alternative method of compliance.

(3) The SRM process does not preclude FAA organizations from taking immediate interim action or preclude the FAA Administrator from issuing an emergency regulation or order, consistent with 49 U.S.C. 46105(c), to mitigate existing safety risk prior to conducting SRM activities and identifying permanent mitigations.

b. Who Conducts SRM. The SRM process is scalable depending on the nature, scope, complexity, and potential safety impact of the safety issue, planned change, or ineffective control under consideration. SRM may be conducted by an individual/small group of experts or an SRM panel of stakeholders. An SRM panel could be cross-organizational or within a single organization. SRM is best conducted by an individual/small group of experts who possess, or an SRM panel whose members possess, a diverse set of skills. SRM panels should have representation from multiple disciplines, including those with expertise in the system or operation being analyzed, as well as technical, engineering, and safety areas.

(1) SRM should be performed by an individual or small group of experts when the safety issue, planned change, or ineffective control requires a small number of resources to fully assess the issue.

(2) SRM should be performed by an SRM panel of stakeholders when the safety issue, planned change, or ineffective control:

(a) Crosses organizational boundaries;

(b) Is a complex issue requiring input from subject matter experts from multiple disciplines to adequately address the scope and complexity of the issue; or

(c) When an organization determines an SRM panel is necessary.

(3) The organization identifying or managing the safety issue, planned change, or ineffective control will not independently determine that an SRM panel is unnecessary when the matter meets the criteria established in Section 2.a.(1) of this chapter.

(4) Individuals participating in SRM activities will complete FAA SRM training provided by ASM.

c. Office of Primary Responsibility. The OPR for SRM is the organization designated to manage and track the safety issue, planned change, or ineffective control through closure.

(1) The OPR is typically the organization with the responsibility for the issue, change, or control under consideration. Ultimately, assignment of the OPR or acceptance of the responsibility is a management decision and is typically the result of discussion and agreement amongst the stakeholder organizations and, when an issue, change, or control is an ASL issue (see Section 3 of this chapter), in consultation with the ASM Integration Board. In certain cases, co-OPRs are possible.

(2) The OPR for a safety issue, planned change, or ineffective control will:[6]

(a) Elevate the safety issue, planned change, or ineffective control to the ASM Integration Board if ASL criteria are met (if it has not already been elevated to the ASM Integration Board as described in Section 3 of this chapter).

(b) Lead and manage the safety risk assessment.

(c) Ensure the appropriate subject matter expertise, affected FAA organizations, and as appropriate, external stakeholders are represented on the SRM panel.[7]

(d) Provide status updates to FAA officials and ASM, as appropriate.

(e) Identify the appropriate FAA officials to approve mitigations.

(f) Identify the appropriate FAA official to accept safety risk, as per Table 5-3 in Section 6 of this chapter.

(g) Coordinate any necessary approvals and safety risk acceptance decisions.

(h) Submit the safety risk assessment information and safety decisions with rationale to the ERR.

(i) Ensure all implemented controls, even when they cross organizations, are validated and monitored to ensure additional controls or mitigations are performing as intended.

d. FAA Participation on SRM Panels Established and Led by Non-Governmental Entities.

(1) FAA employees participating on SRM panels established and led by non-governmental entities will provide that entity with a disclosure stating that the FAA employees' participation on an SRM panel established and led by non-governmental entities does not constitute the FAA's endorsement of the findings of the SRM panel. In addition, an individual employee's participation in an outside entity's projects (e.g., an SRM panel or work with a standard-setting body) is not tantamount to an FAA approval or acceptance of the final work product. An example disclosure is in Appendix E of this order.

(2) The FAA employee will request that an authorized representative of the entity acknowledge receipt of the disclosure by signing and dating it. The FAA employee will properly document the signed disclosure in accordance with the policies and guidance within their organization.

[6] If a safety issue, planned change, or ineffective control is an ASL issue (see Section 3 of this chapter), the OPR still retains these responsibilities.

[7] If the SRM panel requires bargain unit employees, the OPR should adhere to the requirements of applicable collective bargaining agreements.

(3) Oversight organizations tasked with evaluating certificate holders' SMS programs may observe an SRM panel for the purpose of evaluating compliance with regulatory/program requirements. This would not require a disclosure.

(4) SRM panels required by FAA's safety management processes, such as third-party vendors conducting safety risk assessments as part of the acquisition of a NAS system or SRM panels conducted by an airport that is mandated by the FAA do not require a disclosure.

3. Elevating Safety Issues to the ASM Integration Board.

a. Organizations will elevate issues to the ASM Integration Board when they meet one or more of the ASL criteria in Table 5-2. Meeting an SRM trigger in Table 5-1 does not, by itself, make a safety issue, planned change, or ineffective control an ASL issue.

Table 5-2: Aerospace System Level Criteria

• The safety issue or ineffective control is present in the aerospace system, its safety risk has not been accepted, and it is expected to have medium-high or high risk based on a preliminary safety risk assessment. • The safety issue, planned change, ineffective control, or emerging concern warrants cross-organizational coordination or monitoring.

b. Elevation is for coordination and does not transfer ownership, alter the organization's technical or risk-acceptance authority, or require initiation of an additional safety risk assessment. Unless the ASM Integration Board assigned another OPR, the originating organization remains responsible for managing the issue through its established processes. However, the ASM Integration Board will determine when an issue that has been elevated can be closed. OPRs retain responsibility for safety issues, planned changes, and ineffective controls regardless of whether it is an ASL safety issue.

c. The organization elevating the issue to the ASM Integration Board will provide a preliminary safety risk assessment.

d. The Executive Safety Council and the ASM Integration Board have the discretion to identify any safety issue, planned change, or ineffective control and designate it as an ASL safety issue.

e. The ASM Integration Board will ensure that the appropriate stakeholders are involved in assessing the safety issue, planned change, or ineffective control; assign the appropriate OPR; and monitor the status of the ASL safety issue through closure.

f. OPRs of ASL safety issues and the organizations responsible for implementing mitigations will ensure that the SRM results and associated safety assurance efforts regarding the safety issue are documented in the ERR.

g. The OPR will notify the ASM Integration Board when it believes an ASL safety issue has been managed to an acceptable level and is ready to be closed.

4. Safety Risk Management Process. This section describes the steps of the SRM process. As stated previously, the SRM requirements and concepts described in this order do not preclude FAA organizations from taking immediate interim action to mitigate existing safety risk prior to conducting SRM and identifying permanent mitigations. If the decision is made not to conduct SRM, then the decision, rationale, and preliminary safety risk assessment will be documented in the ERR.

a. System Analysis. The individual or SRM panel will establish an understanding of system design and performance factors, human interface, environment, processes, and activities to the level necessary to identify hazards. The individual or SRM panel will consider the following in the system analysis step:

(1) The scope and objectives of the analysis;

(2) Relevant data;

(3) The function and purpose of the system;

(4) The system's operating environment;

(5) The interfaces of the system;

(6) An outline of the system's processes, procedures, and performance; and

(7) The personnel, equipment, and facilities necessary for the system's operation.

b. Identify Hazards. The individual or SRM panel will identify and document hazards and the effects of each hazard in sufficient detail to determine the associated safety risk (within the system description).

(1) A hazard is a condition or an object that could foreseeably cause or contribute to an incident or aircraft accident, as defined in Title 49 of the Code of Federal Regulations (CFR) § 830.2.

(2) During the hazard identification step, the individual or SRM panel identifies and documents hazards and each hazard's corresponding effects using the taxonomy that will be approved by ASM.

c. Analyze Safety Risk. The individual or SRM panel will determine and analyze the severity and likelihood of effects associated with identified hazards.

(1) The individual or SRM panel conducting the safety risk assessment will determine the appropriate severity and likelihood definitions in Appendix C to use when analyzing risk. There are additional safety requirements for space transport operations in Appendix D. When using Appendix D, the risk acceptance levels in Table 5-3 still apply.

(2) The initial safety risk of a hazard is the function of the severity and likelihood of the hazard's potential effects after considering the existing controls in the system as well as the how much of the system is exposed to the hazard.

(3) Severity is the consequence or impact of a hazard's effect in terms of degree of loss or harm. The individual or SRM panel will not consider likelihood when determining severity. There may be many effects associated with a given hazard and severity will be determined for each credible effect.

(4) Likelihood is the chance of a hazard and an effect at a specific level of severity. It is an expression of how often an effect of a hazard is predicted to occur in the future. In determining likelihood, the individual or SRM panel will consult relevant and available historic data in ASIP or other national/international databases.

(5) When available information does not support quantitative estimation (such as in human performance), quantitative estimation of likelihood may not be possible. When a quantitative risk analysis is not possible, the individual or SRM panel may use an ASM-approved structured process for qualitative analysis.

d. Assess Safety Risk. The individual or SRM panel will assess each hazard to determine the safety risk level of the hazard's effects using the agency-level risk matrix in Appendix C.

(1) The agency-level risk matrix visually displays the risk level—low (green), medium (yellow), medium-high (orange), and high (red). As the risk level increases, progressively higher levels of management will accept the risk. When conducting a qualitative analysis in which a likelihood category cannot be assigned, the individual or SRM panel will use the ASM-approved structured process referenced in Section 4.c.(5) above.

(2) Risk assessments and decisions will not rely solely on personal opinions, unverified accounts, or undisclosed information when other relevant and verifiable evidence is available. Expert judgment may be used as primary evidence if documented appropriately. All bases, assumptions, uncertainties, and corroborating information will be recorded.

(3) If a hazard with initial high risk is identified during an assessment of a safety issue or ineffective control, the OPR will elevate the issue to the Executive Safety Council working through their organization's management and ASM.

e. Control Safety Risk. The individual or SRM panel will develop safety risk control(s) for hazards to reduce the safety risk to a level acceptable to the decision maker, when possible.

(1) In this step, the individual or SRM panel will:

(a) Identify, design, develop, and evaluate additional safety risk controls when the initial risk level is estimated to be high or medium-high (while additional risk mitigation is not required when the initial risk is estimated to be low or medium, the individual or SRM panel should consider whether to propose additional risk mitigations to achieve the lowest practicable risk level);

(b) Conduct an analysis to predict the residual safety risk as if the proposed controls had been implemented;

(c) Assess the predicted residual safety risk to determine the risk level; and

(d) Perform further analysis to determine whether new hazards or effects have been introduced or whether existing safety risk controls have been compromised based on the proposed safety risk controls.

(2) The OPR will document the proposed risk controls developed by the panel for management review and approval.

(3) Only accountable FAA management officials approve new safety risk mitigation/controls. The accountable management official is the person who has the authority to implement a recommended safety risk control. The accountable management official will either approve the proposed safety risk mitigations/controls within their purview, send the assessment back for additional analysis and recommendations, transfer the safety risk mitigations/controls to another organization, or reject the proposed safety risk mitigations/controls. To properly document the approval, the approving management official will provide a signature affirming the decision.

(4) Once a new safety risk mitigation/control is approved, the OPR works with the official to establish a timeline for implementation.

(5) When ATO conducts SRM for a safety issue, planned change, or ineffective control and there are initial medium-high- or high-risk hazards identified (in the orange or red cells, respectively, in the risk matrix in Appendix C), ASM will review, for approval, controls designed for implementation in the ATO to mitigate or eliminate those hazards. ASM will also review for acceptance new cross-organizational mitigations that are owned by other FAA organizations outside the ATO.

5. Developing Plans to Monitor Safety Risk Controls.

a. Risk management involves developing a monitoring plan to track the implementation of the approved safety controls. Confirming the implementation of the safety controls is essential when evaluating the effectiveness of the safety risk controls and assessing residual risk.

b. All safety risk controls and mitigation outcomes will be continuously monitored through safety assurance processes and reported to ASM to ensure validation of effectiveness and integration into enterprise safety intelligence.

c. The OPR will develop a monitoring plan that includes:

(1) The approved safety controls and their implementation schedules;

(2) A method to track the progress of approved safety control implementation in accordance with the schedule established by the mitigation owner;

(3) Metrics or SPIs that can be used to objectively determine the effectiveness of the safety controls; and

(4) Commitment to conduct additional risk analyses if the mitigation deployment schedule is delayed.

6. Safety Risk Acceptance. Risk acceptance decisions will be made in accordance with the levels of management documented in Table 5-3.

Table 5-3: Safety Risk Levels[a]

Initial Safety Risk Level	Safety Risk Acceptance Responsibility[b]	Requirements
High Risk	AOA-1 or ADA-1	Requires immediate mitigation, tracking, and monitoring
Medium-High Risk	Executives that report directly to AOA-1 and ADA-1	Requires mitigation, tracking, and monitoring
Medium Risk	Executive- or Director-level officials who have positional responsibility and authority for the issue or change being assessed	Requires tracking and monitoring; while mitigation is not required, it is desirable to achieve the lowest practicable risk level
Low Risk	Per organizational guidance for safety risk acceptance	Requires documentation

[a] For Airworthiness Directives, acceptance of safety risk may be delegated in accordance with the current version of FAA Order 1100.154, *Delegations of Authority*.
[b] Risk acceptance decisions will adhere to the criteria in this table, as well as applicable agency- and organizational-level guidance.

a. In the context of the SRM process, managers are made aware of the risk, and they are asked to decide how to proceed (i.e., whether to implement risk controls), as well as accept the risk. Risk acceptance occurs when management is informed of the risk via the results of the safety risk assessment and makes one of the following decisions:

(1) For an identified safety issue or ineffective control, management makes the decision to allow the current situation to continue without taking additional action beyond the mitigations approved for implementation. Management accepts either the initial risk indefinitely, or the initial risk until mitigations are verified after completion of the monitoring plan. The initial risk continues to exist until risk controls have been implemented unless management takes action to pause affected operations in the interim.

(2) For planned changes, management makes the decision to implement a planned change without taking additional action to mitigate risk beyond those already approved. Management is accepting the predicted residual risk when the planned change is implemented.

b. When accepting risk, the management official will also accept the monitoring plan.

c. The management official accepting risk will provide a signature affirming any risk acceptance decisions and rationale. Planned changes cannot proceed without a risk acceptance signature. These decisions will be documented in the ERR.

d. FAA management may only accept risks that the FAA has authority to control.

e. Hazards that require controls beyond FAA's authority will be elevated. For more information, see Section 7 of this chapter.

7. Risk Escalation.

a. If the safety risk requires additional engagement beyond the FAA, the ASM Integration Board will prepare a risk escalation briefing for ASM to bring to the Executive Safety Council. Depending on the nature of the risk and the level of coordination required, the Executive Safety Council may, for example:

(1) Designate an executive representative to work with other federal agencies, such as the Department of Commerce, the Department of War, or the State Department so that the FAA can consult with other relevant federal agencies in establishing an acceptable level of safety risk, including the development of additional controls.

(2) Refer the issue to the Policy Board for Federal Aviation (PBFA).

(3) Refer the issue to the United States Aviation Safety Team (USAST)[8] for safety enhancement development.

(4) Alert stakeholders through appropriate communication channels.

(5) Escalate the issue to AOA-1.

b. Unresolved safety concerns will be monitored by the OPR until the Executive Safety Council determines that an acceptable level of safety performance has been achieved.

8. FAA Enterprise Risk Register.

a. Purpose.

(1) ASM will establish and maintain the FAA ERR as the agency-wide record of risk, risk acceptance decisions, and mitigation activities to understand and manage safety risk across the aerospace system.

(2) The ERR describes and tracks safety risk, including risk associated with existing operations, changes to the NAS, acquisitions, and new capabilities.

[8] The USAST is a collaborative leadership body representing U.S. industry and government stakeholders across the aviation system. Aviation community safety teams (representing segments including commercial, drone, general aviation, and rotorcraft operators) are chartered public-private partnerships that work to improve aviation safety by collectively analyzing aviation safety data to identify emerging issues and develop strategies to address and prioritize safety issues.

(3) The ERR will serve as the FAA's principal mechanism for communicating safety risk information and supporting risk-informed decisions across the agency.

(4) Each FAA organization remains responsible for identifying, assessing, accepting, controlling, monitoring, and managing safety risk within its area of responsibility through its established safety management workflow. The ERR is connected to this workflow.

b. Use.

(1) The ERR provides a consolidated view of safety risk information to increase visibility into the areas of highest risk and support decision-making to address them.

(2) FAA organizations and external stakeholders with appropriate role-based access will use register information to identify and analyze systemic, cross-organizational, and NAS-wide safety risk.

(3) The ERR will support both organizational and enterprise uses of risk information.

(4) To ensure a complete picture of safety management in the agency, FAA organizations will submit:

(a) The results of their SRM activities to the ERR, including safety risk assessments and safety decisions with rationale.

(b) Information regarding decisions made not to conduct SRM, including rationale and the preliminary risk assessment.

(c) No agency organization will withhold required safety risk information from ASM or exclude required information from the ERR based solely on organizational ownership of the underlying system, operation, program, or data.

(5) Detailed criteria for prioritizing, elevating, displaying, and reporting risk will be provided in guidance material.

Chapter 6. Safety Assurance

1. What is Safety Assurance?

a. Safety assurance is an ongoing activity, requiring continuous monitoring of system performance data. A critical purpose of this monitoring is to understand how safety controls developed during the SRM process are working in the operation. It determines whether mitigations are effective and deliver the expected outcomes. Safety assurance and SRM are complementary and mutually reinforcing components of the FAA SMS. When safety assurance processes reveal that controls are not adequately mitigating safety risk, the accountable organization will modify the controls or develop additional controls through the SRM process.

b. Safety assurance is carried out to ensure safety objectives are met or exceeded by validating performance of operations and services provided by the FAA, through monitoring and periodic assessments. When safety assurance processes reveal vulnerabilities or risk, the SRM process is triggered to ensure that the additional controls needed to manage safety are employed.

c. The FAA has a dual safety assurance focus with an emphasis on both FAA organizations and product/service providers that the FAA oversees. Organizations perform safety assurance to ensure their systems and processes meet their intended objectives. However, oversight organizations have additional responsibilities to conduct safety assurance of product/service providers by conducting design assurance when issuing certificates and approvals and conducting performance assurance to assure continued operational safety. To meet these responsibilities, oversight organizations collect operational data and surveillance information from the segments of the aerospace system that they oversee.

2. Agency-Level Safety Assurance by ASM.

a. ASM provides the Executive Safety Council assurance that agency-level safety controls and services are performing well. FAA's dual role as regulator and air traffic service provider requires a system-wide level of safety assurance to monitor the interfaces. ASM takes on the enterprise safety assurance role, supporting all FAA organizations by verifying SMS effectiveness, while individual organizations maintain their respective safety assurance functions.

b. The safety intelligence gathered through ASM safety assurance is shared with FAA organizations to continually improve and strengthen safety. Meanwhile, each organization also performs safety assurance within their organizations to ensure that their systems and processes meet intended objectives.

3. Safety Assurance Responsibilities.

a. FAA organizations establish and maintain safety assurance processes to measure and monitor the safety performance of the organization and its progress towards achieving its safety objectives. Safety assurance processes are also used to assess the organization's operations to identify hazards and ensure that safety risk controls achieve their intended safety performance

targets. SPIs, identified in monitoring plans developed when conducting SRM, are used to evaluate the effectiveness of safety risk controls and objectively determine if safety performance targets are being met.

b. Safety assurance includes monitoring systems of interest and assessing the need for new risk controls, modification of ineffective risk controls, or elimination of those no longer needed due to changes in the operational environment, all of which would result in the application of SRM. These monitoring activities apply whether the operations are accomplished internally or outsourced (e.g., contracted activities or designees).

c. Organizations will monitor their systems and processes to:

(1) Assess their organization's conformity with SMS requirements.

(2) Assess their organization's performance against operational safety requirements developed through SRM and approved by appropriate management officials.

(3) Evaluate the effectiveness and continued relevance of controls for human performance, human behaviors, and human factors.

(4) Define and measure performance against safety objectives, metrics, and targets.

(5) Identify new hazards, ineffective risk controls, noncompliance with risk controls, and changes in the operational environment that may introduce new hazards or affect safety risk.

(6) Ensure data integrity from product output.

d. Organizations will document the outputs of safety assurance activities and take action when necessary.

4. Safety Assurance Requirements. Organizations will establish safety assurance processes that include the following.

a. Data Collection. Organizations will collect, manage, and monitor operational data and safety information of the portion of the aerospace system for which the organization is responsible. Organizations should consider and collect, if applicable and consistent with applicable law, data from sources external to the FAA. Exceptions to this would include those entities that are subject to state freedom of information laws with no safety data protection. This data collection and monitoring will include the elements listed below.

(1) Employee and stakeholder reporting.

(a) To support the FAA's ability to gather employee insights, ASM will ensure all FAA employees have access to confidential, non-punitive safety reporting systems to report hazards, safety issues, concerns, incidents, etc.

(b) To collect insights from entities that the FAA oversees, FAA oversight organizations will provide their product/service providers options for non-punitive reporting of

hazards, issues, concerns, incidents, etc., in accordance with existing reporting requirements and agreements.

(c) Employee and stakeholder reporting mechanisms will include feedback loops to ensure that submitters will be notified of actions taken as a result of their report, to the extent consistent with applicable law.

(d) FAA's integrated data platform enables organizations to consider intelligence from sources external to the FAA, while still protecting the underlying data sources from disclosure. Organizations may also consider de-identified aggregate intelligence from voluntary reporting programs for employees and stakeholders in their safety assurance process.

(2) FAA and NTSB safety recommendations. Safety recommendations provide identified safety concerns related to accident and incident prevention and associated or supporting information.

(3) Investigations.

(a) FAA organizations will have investigative functions that collect data and investigate accidents and incidents to identify hazards or ineffective safety risk controls, as well as use data and information collected through the investigation of accidents and incidents as described in the latest version of FAA Order 8020.11, *Aircraft Accident and Incident Notification, Investigation, and Reporting*.

(b) In situations where the product/service provider is responsible for conducting the investigation, the oversight organization will evaluate the specified activities and products in accordance with applicable requirements, such as those outlined in 14 CFR § 450.173 or other relevant regulations or directives.

(4) Monitoring, evaluations, and assessments of safety management processes.

(a) FAA organizations will:

i. Monitor, evaluate, or assess standards, systems, programs, and processes on a routine basis to determine the performance and effectiveness of safety risk controls, as well as evaluate what factors contribute to safe operations, both within the FAA and in aerospace product/service provider organizations for which an FAA organization has oversight responsibility.

ii. Evaluate the maturity and effectiveness of their safety management processes to ensure they meet established requirements and standards.

iii. Periodically review/monitor completed corrective actions to evaluate them for effectiveness and completeness in eliminating or mitigating the identified nonconformities.

(b) ASM will:

i. Evaluate the effectiveness of the FAA SMS to ensure processes meet established requirements and standards and to identify areas for improvement.

ii. Establish a system to track and monitor identified nonconformities to closure.

iii. Review/monitor corrective actions and evaluate the outputs for effectiveness in eliminating or mitigating the identified nonconformity before they are closed.

iv. Update the Executive Safety Council and the ASM Integration Board on the results of the SMS effectiveness assessments.

v. Use SMS effectiveness assessment findings to support enhancements to training, procedures, and requirements so that FAA's SMS matures as the aerospace system evolves.

vi. Share best practices among other FAA organizations.

b. Data/Information Analysis. Organizations will analyze the data acquired to assess system performance, identify hazards and emerging trends, measure the effectiveness of safety risk controls, and identify instances and trends of nonconformance or noncompliance.

c. System Assessment. Organizations will conduct system assessments based on the data analysis described above to identify new hazards or ineffective safety risk controls and determine conformance with requirements.

d. Corrective Action. Organizations will prioritize and implement corrective actions to mitigate or eliminate safety issues identified during system assessments.

(1) Prior to implementing corrective action, organizations will apply the SRM process when the corrective action affects safety.

(2) Organizations will periodically review/monitor completed corrective actions to evaluate the effectiveness and completeness of the original corrective actions.

e. Management Reviews.

(1) Continual improvement requires the implementation of processes to correct safety performance deficiencies identified during assessments. Continual improvement occurs when organizations go beyond compliance to evaluate effectiveness.

(2) All FAA organizations will hold periodic management reviews to address their performance, identify new hazards or ineffective safety risk controls, and identify areas for improvement. Corrective actions to address issues identified during system assessments will be prioritized, tracked, and implemented by each organization to improve safety outcomes.

(3) ASM will conduct management reviews of SMS effectiveness at the agency level. These reviews will be conducted on a consistent schedule, with results reported to the Executive Safety Council.

5. Requirements for Safety Culture Assessment and Improvements.

a. The FAA conducts safety culture assessments to understand how safety culture is perceived, valued, and practiced across the agency, beyond what is visible in operational data. These assessments provide insight into the underlying beliefs, behaviors, and conditions that influence all aspects of culture, such as reporting, decision making, and risk management. By making these factors visible, the assessments uncover gaps, inform actions to improve safety culture and performance, and strengthen trust. All culture assessment activities will be coordinated with ASM and agency safety management functions, as well as with enterprise promotion efforts to ensure alignment and transparency.

b. ASM will conduct FAA-level safety culture assessments. FAA organizations may perform targeted assessments, as needed, and report findings to ASM for enterprise monitoring. Assessments will include reviewing multiple data sources (e.g., surveys, behavioral observations, reporting data, organizational data) to monitor safety culture health. ASM will report findings to the Executive Safety Council and other FAA organizations. Safety assurance outputs should inform safety culture assessments by identifying patterns in reporting, follow-through, learning, and the implementation of controls.

(1) FAA Safety Culture Survey. ASM will conduct an employee survey of the FAA's safety culture at a minimum of every 36 months. Other methods of employee sentiment collection may also be applied (e.g., focus groups).

(2) Safety Culture Monitoring. ASM and other FAA organizations will conduct continuous safety culture monitoring. Safety culture assessments will use standardized methodologies and indicators defined by ASM. Organizations may incorporate supplementary, domain-specific culture indicators tailored to their operational environments. Organizations will share their domain-specific culture indicators with ASM for awareness.

(a) ASM and other FAA organizations will include qualitative and quantitative safety culture indicators in reports and safety data that will inform policy, procedure, and control improvements.

(b) ASM, in collaboration with other FAA organizations, will develop a safety culture maturity measurement model and safety culture indicators to support safety culture monitoring. FAA organizations will support monitoring by providing ASM access to data that may contain key culture indicators. The maturity model will inform the Executive Safety Council's enterprise strategic planning.

(c) After safety culture indicators are developed, ASM will work collaboratively with the organizations to establish acceptance thresholds for safety culture risks. ASM and organizations will monitor safety culture for degradation against designated thresholds and update improvement plans and the risk register accordingly.

(3) Improvement Plans. Organizations are responsible for implementing and tracking safety culture improvements, associated follow-up actions, and the effectiveness of those improvements, in coordination with ASM. Based on the results of ASM-led and organization-led safety culture assessments, each organization will develop, implement, and monitor improvement

plans and report progress to ASM for agency-level monitoring. ASM will ensure that the Executive Safety Council and the ASM Integration Board receive periodic updates on the status of organization improvement plans and agency-wide safety culture improvement efforts.

6. Safety Oversight of Product/Service Providers. The agency accomplishes safety management through an integrated set of activities that address FAA's dual role as a regulator and service provider. Therefore, the FAA's SSP responsibilities are an element of the FAA SMS, which both fall under safety management (as described in Chapter 2, Section 3). The design assurance and performance assurance provisions in this section describe functions performed by the FAA organization having applicable oversight authority and do not create ASM oversight or approval authority over other FAA organizations' certification, surveillance, enforcement, or continued operational safety decisions.

a. FAA organizations with oversight responsibilities, including those tasked with design assurance, will conduct surveillance activities and oversee product/service providers' design and performance based on functional descriptions or models of the product, service, or process, which involves assessing the effectiveness of product/service providers' safety management capabilities and safety performance, as applicable. ASM is also responsible for the safety oversight of ATO and other Air Navigation Service Providers (ANSPs) operating in the NAS.

(1) Design Assurance. Design assurance is the function of verifying that the safety of the product/service provider's designs and methods are in compliance with established requirements and standards, and that the designs include the appropriate safety risk controls to meet safety objectives. Upon receiving the product/service provider's proposed system design, FAA organizations with oversight responsibility, including those specifically tasked with design assurance, will:

(a) Use design assurance for the certification of organizations or products, and to approve or accept programs and/or processes.

(b) Confirm that product/service providers' designs comply with established requirements and include appropriate safety risk controls.

(c) If warranted, send back for further analysis/study any system design submitted by a product/service provider that does not comply with established requirements or does not include appropriate safety risk controls, with an explanation of deficiencies.

(d) When agreement cannot be reached on a proposed system design, the product/service provider will be afforded adequate opportunities to demonstrate how they meet a requirement prior to the FAA sending back the system design for further analysis/study.

(2) Performance Assurance. Performance assurance is the function of ensuring that the product/service provider's performance meets safety objectives and that their risk controls are effective. FAA organizations with oversight responsibility will:

(a) Use performance assurance to determine the continued operational safety of products and processes, including the need for corrective action on the part of the product/service provider.

(b) Confirm that the product/service provider's performance is in accordance with the design that is accepted or approved.

(c) Require that the product/service provider take appropriate corrective action if it is determined that a product/service provider's performance is not in accordance with the system design that is accepted or approved.

b. Corrective actions for nonconformance with the accepted or approved system design or noncompliance with regulatory requirements will be accomplished in accordance with the latest version of FAA Order 8000.373, *Federal Aviation Administration Compliance Program*, and the appropriate organizational orders that support FAA Order 8000.373, to ensure that emphasis is placed on conformance and compliance actions, enforcement, or other actions that will most effectively control the risk addressed in the respective regulations.

(1) Enforcement actions taken under delegated authority satisfy SMS corrective action requirements.

(2) ASM's corrective action authority does not extend to directing or delaying regulatory enforcement within FAA oversight organizations.

c. FAA organizations that perform oversight of product/service providers will conduct post-implementation surveillance after design assurance and performance assurance activities to ensure the certified, accepted, or approved process/program design is working as intended.

d. FAA organizations that perform oversight of product/service providers will allocate resources for product/service provider safety assurance with priority given to areas of highest risk. They will:

(1) Incorporate safety management principles in the processes and methods used to conduct oversight functions.

(2) Establish criteria for the types of product/service provider planned changes that require oversight organization acceptance or approval.

(3) Assess product/service providers' compliance with regulatory requirements and any other safety risk controls set by the FAA.

(4) Measure and assess the effectiveness of safety risk controls set by the FAA and determine the need for additional safety risk controls or changes to existing controls (which would be determined through the application of the SRM process), if applicable.

(5) Monitor and assess the overall performance of product/service providers' operational systems/processes for which FAA has the responsibility to oversee.

(6) Use the aggregate data collected through safety oversight activities to evaluate system-level performance and, through the FAA safety assurance processes, identify new hazards, ineffective risk controls, and changes in the operational environment that may introduce new hazards or affect safety risk.

7. Enterprise Safety Intelligence.

a. Safety intelligence is an outcome of analyzing safety data and information, as well as incorporating context and applying subject matter expertise, to provide actionable information for decision making. It is the systematic, data-driven process of collecting, analyzing, and converting raw safety data into actionable knowledge to identify risks and guide decisions. If safety intelligence includes Artificial Intelligence-generated information, that information will be verified and validated prior to its use in decision-making.

b. The objective of safety assurance is to provide the safety intelligence necessary to determine whether control strategies are adequately mitigating safety risk, to monitor safety performance, and to identify emerging hazards or latent conditions.

c. ASM will aggregate and share safety intelligence agency-wide through ASIP. In addition to individual organizational safety management activities, ASIP will be used to:

(1) Proactively identify emerging hazards, safety trends, precursors and cross-organizational patterns that may not be apparent from an individual organization's analysis.

(2) Establish a taxonomy for the agency. FAA organizations may incorporate supplementary, domain-specific taxonomies tailored to their operational environments. Organizations will share their domain-specific taxonomies with ASM for awareness and to ensure alignment.

(3) Manage the integrated system view of hazards, risk, and risk mitigations.

(4) Utilize available aerospace data and proactively identify additional data necessary to provide actionable insight to decision makers, while adhering to data protections required by law and other agreements.

(5) Provide near real-time visibility into risk across the aerospace system, subject to the timelines and constraints of the data sources.

(6) Conduct hazard analysis and safety risk assessment using the safety data, metrics, and analytic tools available on ASIP.

(7) Produce reports and other artifacts, such as data visualizations, to communicate insights into emerging risks and trends in the aerospace system, including, where relevant, culture-related factors influencing safety management.

(8) Function as an interactive analytics platform that makes data available for use by FAA employees as part of their safety work.

8. Availability of Safety Management Data and Information.

a. Data is collected through, but not limited to, employee reporting systems, investigations, auditing, evaluations, assessments, surveillance, and operations.

b. Organizations will make the data and information they collect for safety management available to ASM. ASM will provide access to the data and information through ASIP to the appropriate stakeholders in the agency, unless the data or information is protected by law or other agreements.

(1) ASM will ensure that its data collection systems are interoperable and integrated into agency safety management processes and organizations will modify or consolidate systems and governing agreements as necessary to achieve this objective.

(2) ASM will reconcile protection agreements for data in ASIP to ensure protection requirements are met when providing agency-level safety visibility. Where protections limit ASM access, data may be anonymized and integrated only when applicable legal and confidentiality requirements are satisfied, and the risk of re-identification is adequately controlled.

(a) When record-level integration is not permissible or effective de-identification is not reasonably achievable, the responsible organization will provide ASM with aggregate, derived, or other appropriately protected safety information sufficient to support agency safety management, to the extent permitted by law and governing agreements.

(b) The responsible organization's data steward will determine the permissible form, access, and handling of protected safety data, in coordination with ASM and the Office of the Chief Counsel as necessary, consistent with applicable law, FAA policy, and governing agreements.

(c) When access is limited, the responsible organization will identify the basis for the limitation and provide enterprise safety information in a permissible form.

(3) Data derived from voluntary reporting systems will be validated against verifiable, measurable, and independent pieces of information, where applicable.

(4) Personal opinions, unverified accounts, or undisclosed information will not be the sole basis for a safety assurance decision when other relevant, cross-examinable, and reasonably available evidence exists. This requirement does not preclude reliance on documented clinical, medical, human-factors, or other expert judgment when such judgment is the primary valid evidence available. The basis, material assumptions, uncertainty, and available corroborating information will be documented.

(5) ASM may collect data from sources external to the FAA; however, necessary protections will be maintained to retain integrity in accordance with data governance.

Chapter 7. Safety Promotion

1. What is Safety Promotion?

a. Safety promotion is a combination of internal and external communication of safety objectives to support the development of a culture that fosters effective and efficient safety management.

(1) Within the FAA, safety promotion means a combination of communication of safety information and learning and development to supplement formal training that supports the implementation and operation of an SMS and a positive safety culture in an organization.

(2) Outside the FAA, safety promotion supports the hazard notification function required in an SMS where stakeholders, such as aircraft operators, are informed of hazards that may affect their operation. It provides critical information designed to bridge the gaps between system interfaces. By proactively sharing knowledge, safety promotion supports a more resilient aerospace system and promotes a positive safety culture.

b. The goals of safety promotion are to:

(1) Support an informed culture, where those who manage and operate the system have current knowledge about the human, technical, organizational, and environmental factors that determine the safety of the system and the capabilities to support it.

(2) Provide timely information about the performance of the system, including results from safety culture assessments and improvement initiatives.

(3) Establish appropriate feedback loops allowing employees to proactively contribute to continual improvement of safety across the FAA.

2. Safety Management Training Requirements.

a. ASM will partner with FAA organizations to identify and develop agency-wide and cross-cutting SMS competencies. For SMS competencies unique to an FAA organization, the organizations responsible for performing FAA SMS activities or overseeing entities with an SMS will define role-specific SMS competencies internally and provide them to ASM for awareness.

b. ASM will provide agency-level, role-based safety management training to ensure employees are:

(1) Knowledgeable of the FAA SMS, and the strategic intent that underpins it.

(2) Aware of the organizational commitment to safety management, and how their safety responsibilities fit into the FAA SMS.

(3) Maintaining proficiency in conducting SRM, approving and accepting risk, and safety and SMS effectiveness functions.

c. Every FAA organization will ensure that employees are aware of the safety management practices and procedures applicable to their role in an integrated FAA SMS.

(1) Employees will be encouraged to provide feedback on SMS training effectiveness.

(2) SMS training programs will be updated routinely based on employee feedback.

d. Where appropriate, managers and employees will receive additional training on human performance impacts and limitations.

e. The ASM Integration Board will review training plans annually to ensure that FAA SMS requirements are understood and operationalized.

f. ASM will monitor the effectiveness of FAA SMS training using performance indicators and employee feedback to better understand how requirements are being operationalized in the field. ASM should also obtain feedback from organizational SMS leadership and SRM panel facilitators regarding the preparedness and effectiveness of panel participants to inform continual improvement of the training program.

3. Internal Communication and Engagement.

a. Open communication is critical to maintaining an informed culture and fostering an environment where safety comes first. Consistent, coordinated safety communication across FAA organizations and FAA-industry collaborative teams helps build trust, reduce confusion, and ensure a shared understanding of the purpose and operational effects of the FAA SMS.

(1) ASM will establish and maintain mechanisms to promote awareness of FAA safety management policy, priorities, and activities, and to facilitate communication and collaboration across FAA organizations. These mechanisms may include training, conferences, workshops, communities of practice, communication channels, and other forums for sharing safety information and addressing issues of mutual concern.

(2) During the transition to the unified FAA SMS, communications should explain the respective roles of ASM and FAA organizations, how enterprise integration is expected to improve safety decision making, and what employees should expect as implementation progresses.

(3) When appropriate, communications should include joint leadership messaging to demonstrate cross-organizational participation and shared accountability.

b. ASM will establish a communication and stakeholder engagement plan that enables coordinated dissemination of the Executive Safety Council's strategic direction, safety decisions, SRM outcomes, emerging safety issues, and other information necessary to support FAA SMS implementation. Communications should identify the enterprise services and support available from ASM, including safety intelligence, analytical tools and methods, technical assistance, safety-data integration, and agency-level SMS training.

c. ASM and FAA organizations will actively promote an open reporting culture by encouraging the identification and reporting of safety issues, including observed noncompliances and nonconformances as drivers of proactive system improvement.

d. FAA Management Board meetings should include a standing FAA SMS agenda item, to ensure FAA executive leadership maintains awareness of significant safety issues, enterprise safety initiatives, and ongoing SRM activities.

4. External Stakeholder Engagement.

a. ASM Roles and Responsibilities. ASM represents the unified FAA SMS when engaging with stakeholders to provide an agency risk picture. This includes:

(1) Serving as FAA co-chair of the USAST and ensuring FAA enterprise safety intelligence is shared with USAST and community safety teams, to the extent consistent with applicable law.

(2) Facilitating SRM activities for the USAST and coordinating with other organizations to ensure their awareness and participation when needed.

(3) Coordinating with other FAA organizations to ensure consistency in communications with external domestic stakeholders regarding safety management activities.

(4) Serving as the FAA representative for interagency, interdepartmental, or international activities focused on aviation safety management, including working groups, forums, or panels.

(5) Coordinating with AGC, AST, and ATO to ensure consistency with applicable law, U.S. Government policy, and national security interests when addressing space transport activities with ICAO, other CAAs, or other ANSPs.

(6) Communicating risk insights gained through these engagements to the appropriate FAA organizations and incorporate relevant feedback into ongoing safety risk management activities.

b. External Collaboration and Safety Awareness.

(1) FAA organizations will proactively share safety intelligence and partner with members of the aerospace community and other stakeholders to address identified and emergent safety risks. Stakeholders include, but are not limited to:

(a) Industry representatives, including through direct outreach, trade associations, and USAST and its supporting safety teams.

(b) U.S. Government agencies, including other Department of Transportation (DOT) modal administrations.

(c) U.S. Congress.

(d) International counterparts and other global forums.

(2) All offices sharing safety intelligence externally are responsible for verifying compliance with data protection laws, regulations, and FAA policy.

(3) Organizations will promote open communication with, and encourage a positive safety culture in, the organizations with which they interact within the aerospace system.

(4) ASM will publish an annual safety report.

Chapter 8. Administrative Information

1. Distribution. All FAA employees.

2. Delegation of Authority. The Administrator delegates the responsibility for enterprise FAA safety management requirements and assurance to ASM-1.

3. Authority to Change This Order. Issuance, revision, or cancellation of the material in this order is the responsibility of ASM-1.

4. Related Publications. The latest versions of the following documents are related to this order:

a. FAA Order 8040.6, *Unmanned Aircraft Systems (UAS) Safety Risk Management (SRM) Policy*.

b. FAA Order VS 8000.367, *AVS Safety Management System (AVSSMS) Requirements*.

c. FAA Order VS 8000.370, *Aviation Safety (AVS) Safety Policy*.

d. FAA Order JO 1000.37, *Air Traffic Organization Safety Management System*.

e. FAA Order 5200.11, *FAA Airports (ARP) Safety Management System (SMS)*.

f. FAA Order SH 8000.98, *Security and Hazardous Materials Safety (ASH) Safety Management System*.

g. FAA Order NG 1000.44, *NextGen Safety Management System*.

h. FAA Order 8000.377, *Flight Standards Safety Management System (FSSMS) Requirements*.

i. FAA Order JC 1030.6, *Safety Management System Implementation for Central Service Area Technical Operations*.

j. FAA Order JE 7231.5, *Safety Management System*.

k. FAA Order 1100.161, *Air Traffic Safety Oversight*.

l. FAA Order 1220.2, *FAA Procedures for Handling National Transportation Safety Board (NTSB) Recommendations*.

m. FAA Order 7050.1, *Runway Safety Program*.

n. FAA Order 8000.72, *FAA Integrated Oversight Philosophy*.

o. FAA Order 8020.11, *Aircraft Accident and Incident Notification, Investigation, and Reporting*.

p. FAA Order 8020.17, *FAA Procedures for Handling FAA Employee- and Foreign Civil Aviation Authority-FAA Safety Recommendations*.

q. FAA Order 8110.107, *Monitor Safety/Analyze Data*.

r. FAA Order VS 8000.375, *Aviation Safety Voluntary Safety Reporting Program*.

s. FAA Order JO 1030.3, *Initial Event Response*.

t. FAA Order JO 2900.2, *Air Traffic Organization Audits and Assessments*.

u. FAA Order JO 7200.20, *Voluntary Safety Reporting Programs*.

v. FAA Order JO 7200.21, *Partnership for Safety Program*.

w. FAA Order JO 7210.632, *Air Traffic Organization Occurrence Reporting*.

x. FAA Order JO 7210.633, *Air Traffic Organization (ATO) Quality Assurance (QA)*.

y. FAA Order JO 7210.634, *Air Traffic Organization (ATO) Quality Control*.

z. 14 CFR part 5, *Safety Management Systems*.

aa. 14 CFR part 139, Subpart E, *Airport Safety Management System*.

bb. *U.S. State Safety Program*.

cc. ICAO Annex 19, *Safety Management*.

dd. ICAO Document 9859 – *Safety Management Manual*.

ee. ICAO Doc 9734 – *Safety Oversight Manual - Part A - The Establishment and Management of a State Safety Oversight System*.

ff. ICAO Document 10131 – *Manual on the Development of Regional and National Aviation Safety Plans*.

gg. ICAO Document 10161 – *Global Aviation Safety Roadmap*.

hh. ICAO Document 10162 – *Manual on Monitoring Implementation of Regional and National Aviation Safety Plans*.

ii. ICAO Document 10159 – *Safety Intelligence Manual*.

jj. ICAO Document 10004 – *Global Aviation Safety Plan*.

kk. Regional Aviation Safety Group – *Pan America (RASG-PA) Regional Aviation Safety Plan (RASP)*.

ll. 2025-AVS-078 – *U.S. National Aviation Safety Plan (NASP)*.

5. Suggestions for Improvements. Please forward all comments on deficiencies, clarifications, or improvements regarding the contents of this order to the Directives Management Officer: 9-FAA-ASM-Implementation@faa.gov.

Your suggestions are welcome. FAA Form 1320-19, *Directive Feedback Information*, is located in Appendix E of this order for your convenience.

6. Records Management. Refer to the latest versions of FAA Order 0000.1, *FAA Standard Subject Classification System*; FAA Order 1350.14, *Records Management*; or your office Records Liaison Officer (RLO)/Directives Management Officer (DMO) for guidance regarding retention or disposition of records.

Appendix A. Definitions

As used in this document, the following words or phrases are defined.

1. Accident – An unplanned event or series of events that results in death, injury, or damage to, or loss of, equipment or property.

2. Aircraft Accident – An occurrence associated with the operation of an aircraft which takes place between the time any person boards the aircraft with the intention of flight and all such persons have disembarked, and in which any person suffers death or serious injury, or in which the aircraft receives substantial damage. For purposes of this order, the definition of "aircraft accident" includes "unmanned aircraft accident," as defined in this appendix.

3. Aircraft Hazard Area (AHA) – A type of hazard area established for the protection of aircraft as required under Title 14 of the Code of Federal Regulations (CFR) § 450.101. The Federal Aviation Administration (FAA) uses an AHA to protect air traffic from launch or reentry vehicles, jettisoned stages or hardware, and debris resulting from associated failures.

4. Air Navigation Services – Air traffic management; communications, navigation, and surveillance services; aeronautical information services/aeronautical information management; meteorological services for air navigation; and search and rescue.

5. Aerospace System – All activity within the United States (U.S.), and U.S.-authorized products and services that are used outside the U.S. This includes U.S. airspace and delegated airspace, all manned and unmanned aircraft operating in that airspace, all U.S. aviation operators, airports, airfields, air navigation services, pilots, regulations, policies, procedures, facilities, equipment, all aviation-related industry and the technology and industry involved within the atmosphere and outer space collectively, including launch and reentry operations.

6. Aerospace System Level (ASL) – A safety issue, planned change, or ineffective control that meets the criteria requiring elevation to the Aviation Safety Management Office (ASM) Integration Board**.**

7. Alternative Method of Compliance – A formally documented alternate process, procedure, workflow, or technical solution implemented by an FAA organization to fulfill the underlying intent and required safety or operational outcomes using a method other than the baseline process prescribed in this order.

8. Analysis – The process of identifying a question or issue to be addressed, examining the issue, investigating the results, interpreting the results, and possibly making a recommendation. Analysis typically involves using scientific or mathematical methods for evaluation.

9. Assessment – The process of measuring or judging the value or level of something.

10. Audit – A systematic, independent, and documented process for obtaining records, statements of fact, or other information and evaluating it objectively to determine the extent to which policies, procedures, or requirements are met.

11. Aviation Safety Intelligence Platform (ASIP) – The FAA's common platform for collecting, processing, and analyzing agency-level safety data. ASIP operationalizes enterprise safety intelligence by serving as the unified technical infrastructure that implements shared workflows, integrates people and processes per defined governance, provides analytical tools, and data visualization product.

12. Control see *Safety Risk Control*.

13. Corrective Action – An action to eliminate the cause of an identified nonconformity or other undesirable condition to prevent its recurrence.

14. Design Assurance – The function of verifying that the safety of a product/service provider's designs and methods are in compliance with established requirements and standards, and that the designs include the appropriate safety risk controls to meet safety objectives.

15. Deviation – A formally documented departure by an FAA organization from a specific requirement, standard, or procedural mandate established within this order.

16. Effect – The real outcome that has occurred, or a potential outcome expected, if the hazard exists in the defined system state.

17. Enterprise – The FAA as a whole across all FAA organizations.

18. Evaluation – The process whereby data is assembled, analyzed, and compared to expected performance to aid in making systematic decisions.

19. Hazard – A condition or an object that could foreseeably cause or contribute to an incident or aircraft accident, as defined in 49 CFR § 830.2.

20. Human Factors – The multidisciplinary field that applies principles, data, and methods to the design and evaluation of systems to understand the interaction between humans and other system elements.

21. Human Performance – The human capabilities and limitations that affect the safety and efficiency of aeronautical operations.

22. Incident – An occurrence other than an accident, associated with the operation of an aircraft, which affects or could affect the safety of operations.

23. Interface – A point where two or more operations, systems, subjects, or organizations connect and interact. Interfaces can be internal (e.g., between operations and maintenance, or finance, human resources, or legal departments) or external (e.g., other States, service providers, or contracted services).

24. Just Culture – Just culture focuses on creating an environment that encourages individuals to report safety issues without fear of punishment. The aim is to balance accountability and learning in a way that promotes safety and trust.

25. Latent Condition – Flawed procedures or organizational characteristics capable of creating hazards if the right conditions or actions occur.

26. Likelihood – The chance of a hazard and an effect at a specific level of severity.

27. Malfunction – A situation during a space transport operation in which available information indicates conditions may exist that pose a hazard to the National Airspace System (NAS), allowing activation of contingency response procedures.

28. Maturity Model – A structured framework used to assess an organization's current operational capabilities, measure its effectiveness, and provide a clear roadmap for continual improvement. It is a tool used to evaluate an organization's capability to continually improve a process against a benchmark.

29. Member States – Countries that have ratified or adhered to the 1944 Chicago Convention on International Civil Aviation. Also known as *ICAO Member States* or *Contracting States*.

30. Mitigation – A means to reduce or eliminate the effects of hazards. See *Safety Risk Control*. The terms *Control*, *Mitigation*, and *Safety Risk Control* are used synonymously.

31. Monitoring – Tracking and keeping information under systematic review.

32. National Airspace System (NAS) – The common network of U.S. airspace; air navigation facilities, equipment and services, airports, or landing areas; aeronautical charts, information, and services; and rules, regulations and procedures, technical information, and manpower and material. Included are system components shared jointly with the military.

33. Noncompliance – Conduct that is contrary to a statute, regulation, or order issued under a statute or regulation.

34. Nonconformance – Non-fulfillment of an organization's requirements, policies, and procedures, as well as requirements of safety risk controls developed by the organization.

35. Office of Primary Responsibility (OPR) – The organization that manages and tracks a safety issue, planned change, or ineffective control undergoing Safety Risk Management (SRM) through closure.

36. Operational Safety Requirement – An essential characteristic or capability that must be met or exceeded in pursuit of mitigations developed through SRM.

37. Performance Assurance – The function of ensuring that a product/service provider's performance meets safety objectives and that their risk controls are effective.

38. Preliminary Safety Risk Assessment – An initial *quick look* at a safety issue, planned change, or ineffective risk control in which the first four steps of the SRM process are conducted (i.e., analyze the system, identify hazards, analyze safety risk, and assess safety risk) intended to support decision makers in determining whether to direct resources toward a more detailed and complete assessment.

39. Probability – An expression of uncertainty that quantifies the chance of something happening (e.g., the chance of an event occurring). All probability values fall between zero (no chance) and one (absolute certainty).

40. SMS Effectiveness – The structured and systematic verification that all safety-critical processes within an SMS are planned, executed, and maintained in accordance with established standards, regulations, and best practices to ensure the system's safety, reliability, and quality throughout its lifecycle.

41. Product/Service Provider – An organization engaged in the delivery of aerospace system products or services.

42. Resilience – The ability of a system to anticipate, absorb, adapt to, and recover/learn from disruptive events while maintaining safety-critical functions.

43. Risk see *Safety Risk*. The terms *Risk* and *Safety Risk* are used synonymously.

44. Risk Acceptance see *Safety Risk Acceptance*. The terms *Risk Acceptance* and *Safety Risk Acceptance* are used synonymously.

45. Risk-Informed – A decision-making approach that uses data, as well as expert judgment and experience to understand a decision's effect on safety, thereby enabling informed decision making.

46. Safety – The state in which the risk of harm to persons or property damage is acceptable.

47. Safety Assurance – Processes within the Safety Management System (SMS) that function systematically to ensure the performance and effectiveness of safety risk controls and that the organization meets or exceeds its safety objectives through the collection, analysis, and assessment of information.

48. Safety Culture – The shared values, actions, and behaviors that demonstrate a commitment to safety over competing goals and demands.

49. Safety Intelligence – An outcome of analyzing safety data and information, as well as incorporating context and applying subject matter expertise, to provide actionable information for decision making.

50. Safety Issue – Any information (e.g., event, report, data) suggesting (1) an emerging safety concern (including novel features and technologies being introduced into the aerospace system) that has not been thoroughly analyzed and requires further evaluation or (2) a concern that was identified in the past but circumstances have changed since the concern was initially identified, possibly requiring reevaluation. Some safety issues may need to be elevated to an appropriate level of management to be adequately addressed.

51. Safety Management System (SMS) – The formal, top-down, organization-wide approach to managing safety risk and assuring the effectiveness of safety risk controls. It includes systematic procedures, practices, and policies for the management of safety risk.

52. Safety Objective – A measurable goal or desirable outcome related to safety.

53. Safety Oversight – A function performed by a State to ensure that individuals and organizations performing an aerospace activity comply with safety-related national laws and regulations.

54. Safety Performance – The realized or actual safety accomplishment relative to the organization's safety objectives.

55. Safety Performance Indicator (SPI) – A data-based safety parameter used for monitoring and assessing safety performance.

56. Safety Performance Target – The planned or intended target for a safety performance indicator over a given period that aligns with the safety objectives.

57. Safety Policy – The documented commitment to safety of an FAA organization, or an aviation service/product provider, organization, or certificate holder, which defines its safety objectives and the accountabilities and responsibilities of its employees with regard to safety.

58. Safety Promotion – A combination of communication of safety information and learning and development to supplement formal training that supports the implementation and operation of an SMS and a positive safety culture in an organization**.**

59. Safety Risk – The composite of predicted severity and likelihood of the potential effect of a hazard.

a. Types of Safety Risk

(1) Initial Risk – The function of the severity and likelihood of the hazard's potential effects after considering the existing controls in the system as well as the how much of the system is exposed to the hazard.

(2) Predicted Residual Risk – The remaining predicted severity and likelihood that exists after all selected safety risk control techniques have been implemented.

(3) Residual Risk – The level of risk that has been verified by completing a thorough monitoring plan with an achieved measurable safety performance target(s).

b. Levels of Safety Risk

(1) High Risk – Severity and likelihood map to the red cells in the risk matrix in Appendix C. This safety risk requires immediate mitigation, tracking, and monitoring, and it can only be accepted by the FAA Administrator (AOA-1) or the FAA Deputy Administrator (ADA-1).

(2) Medium-High Risk – Severity and likelihood map to the orange cells in the risk matrix in Appendix C. This safety risk requires mitigation, tracking, and monitoring, and it can only be accepted by the executives that report directly to AOA-1 and ADA-1.

(3) Medium Risk – Severity and likelihood map to the yellow cells in the risk matrix in Appendix C. This risk can only be accepted at the Executive or Director levels by officials who have positional responsibility and authority for the issue or change being assessed. Although this safety risk is acceptable without additional mitigation, tracking and monitoring are required. However, it is desirable to achieve the lowest practicable risk levels (factoring in the principles of appropriate resource management).

(4) Low Risk – Severity and likelihood map to the green cells in the risk matrix in Appendix C. This safety risk is acceptable without restriction or limitation; hazards are not required to be actively managed, but they will be documented if a safety risk assessment has been performed.

60. Safety Risk Acceptance – The decision by the appropriate management official to authorize the operation without additional action beyond the mitigations approved for implementation.

61. Safety Risk Analysis – The first three steps of the SRM process (analyze the system, identify hazards, and analyze safety risk).

62. Safety Risk Assessment – The first four steps of the SRM process (analyze the system, identify hazards, analyze safety risk, and assess safety risk).

63. Safety Risk Control – A means to reduce or eliminate the effects of hazards. The terms *Control*, *Mitigation*, and *Safety Risk Control* are used synonymously.

64. Safety Risk Management (SRM) – A process within the SMS composed of analyzing the system; identifying the hazards; and analyzing, assessing, and controlling safety risk.

65. Severity – The consequence or impact of a hazard's effect in terms of degree of loss or harm.

66. SMS Output – The results of an SMS process, designed to meet the requirements specified in this order. Examples include findings from safety data analyses, safety evaluations/ assessments, and SRM results.

67. Space Transport Operations – Activities involving the launch, ascent, reentry, recovery, or other movement of spacecraft, launch vehicles, reentry vehicles, associated stages, payloads, or related space systems that may affect aircraft, air traffic operations, aviation users, aviation infrastructure, or FAA-provided services within the NAS.

68. State Safety Program (SSP) – An integrated set of regulations and activities established by a State aimed at improving safety.

69. System – An integrated set of constituent elements that are combined in an operational or support environment to accomplish a defined objective. These elements include people, hardware, software, firmware, information, procedures, facilities, services, and other support facets.

70. Taxonomy – A standardized, hierarchical classification system used to systematically categorize, code, and structure aviation safety data—such as aircraft accident categories,

contributing human factors, and operational phases—to ensure uniform reporting, precise trend analysis, and global interoperability across aviation authorities.

71. United States Aviation Safety Team (USAST) – A collaborative leadership body representing U.S. industry and government stakeholders across the aviation system.

72. Unmanned Aircraft Accident – An occurrence associated with the operation of any public or civil unmanned aircraft system that takes place between the time that the system is activated with the purpose of flight and the time that the system is deactivated at the conclusion of its mission, in which: (1) any person suffers death or serious injury; or (2) the aircraft holds an airworthiness certificate and sustains substantial damage.

Appendix B. Acronyms

As used in this document, the following acronyms are defined.

1. **ADA-1** – Federal Aviation Administration Deputy Administrator
2. **AHA** – Aircraft Hazard Area
3. **ALR** – Acceptable Level of Risk
4. **ANSP** – Air Navigation Service Provider
5. **AOA-1** – Federal Aviation Administration Administrator
6. **ARP** – Office of Airports
7. **ASIP** – Aviation Safety Intelligence Platform
8. **ASL** – Aerospace System Level
9. **ASM** – Aviation Safety Management Office
10. **ASM-1** – Aviation Safety Management Office Associate Administrator
11. **AST** – Office of Commercial Space Transportation
12. **ATC** – Air Traffic Control
13. **ATO** – Air Traffic Organization
14. **CAA** – Civil Aviation Authority
15. **CFR** – Code of Federal Regulations
16. **DMO** – Directives Management Officer
17. **DOT** – Department of Transportation
18. **DRS** – Dynamic Regulatory System
19. **ERR** – Enterprise Risk Register
20. **FAA** – Federal Aviation Administration
21. **GA** – General Aviation
22. **HRPM** – FAA Human Resources Policy Manual
23. **ICAO** – International Civil Aviation Organization

24. NAS – National Airspace System

25. NASA – National Aeronautics and Space Administration

26. NASP – National Aviation Safety Plan

27. NOTAM – Notice to Airmen

28. NTSB – National Transportation Safety Board

29. OPR – Office of Primary Responsibility

30. PBFA – Policy Board for Federal Aviation

31. RLO – Records Liaison Officer

32. RPIC – Remote Pilot in Command

33. SARP – Standard and Recommended Practice

34. SMS – Safety Management System

35. SPI – Safety Performance Indicator

36. SRM – Safety Risk Management

37. SSP – State Safety Program

38. UAS – Unmanned Aircraft Systems

39. U.S. – United States

40. USAST – United States Aviation Safety Team

41. U.S.C. – United States Code

Appendix C. Safety Risk Definition Tables and Risk Matrix

1. Introduction. This appendix supports the Safety Risk Management (SRM) process discussed in Chapter 5. It provides severity and likelihood definitions for different aerospace segments—Commercial, Commuter and On-Demand, General Aviation (GA), Unmanned Aircraft Systems (UAS), Air Traffic, and Airports.[9] Individuals or SRM panels should use the severity and likelihood definitions in Tables C-2 and C-3 within this appendix to assess their safety issue, planned change, or ineffective control and map the resulting categories on the risk matrix in Figure C-1 to determine the risk level.

2. Criteria for Choosing a Segment. When assessing a safety issue, planned change, or ineffective control in accordance with Chapter 5, the individual or SRM panel will use Table C-1 as well as their subject matter expertise to determine the aerospace segment(s) that most accurately reflect the type of operation and potential safety effects of the hazard(s) assessed. If a safety issue, planned change, or ineffective control spans multiple segments, the individual or SRM panel will use all applicable sets of definitions in each segment. The SRM panel will document the segment definitions used in the assessment and include rationale.

Table C-1: Aerospace Segment Applicability

Segment	Applicability
Commercial	Large air transport operations and aircraft systems providing air transportation for 10 or more seats, such as those operated by Title 14 of the Code of Federal Regulations (CFR) parts 121, 125, and 129 commercial air carriers
Commuter and On-Demand	Commuter and on-demand operations under 14 CFR part 135
GA	Includes, but is not limited to, operations under 14 CFR parts 91, 133, and 137
UAS	Unmanned aircraft system operations
Air Traffic	The acquisition, operation, and maintenance of hardware and software; management of airspace and airport facilities; and development of operations and procedures (for more information see the *ATO SMS Manual*)
Airports	Airport operations, airport standards, and project-specific approvals that could impact aviation safety, including the safety of air traffic or airfield operations

3. Severity Definitions. Table C-2 contains the severity definitions for all segments.

[9] Other aerospace segments beyond those listed in this appendix may be added in the future as more information is gathered to develop those definitions.

Table C-2: Severity Definitions[a,b]

	Minimal 5	Minor 4	Major 3	Hazardous 2	Catastrophic 1
Commercial/ Commuter & On-Demand/ GA	Negligible safety effect	• 1-2 minor injuries; or • Minor damage to aircraft	• 1-2 serious injuries; or • 3 or more minor injuries; or • Substantial damage to aircraft	• 3 or more serious injuries; or • Hull loss without fatalities	1 or more fatalities
UAS[c]	Negligible safety effect	• 1-2 minor injuries	• 1-2 serious injuries; or • 3 or more minor injuries; or • Substantial damage to UAS, excluding operations under 14 CFR part 107[d]	• 3 or more serious injuries; or • Hull loss to UAS, excluding operations under 14 CFR part 107[d]	1 or more fatalities
Air Traffic[e]	Condition or event that is unintended but has little to no impact on air traffic management or communication, navigation, and surveillance services, and no immediate safety consequences	Condition or event that requires action/intervention by air traffic control, pilot, or other party (e.g., Technical Operations specialist, vehicle operator), but with ample time and/or distance to avoid an accident or incident; potential for an accident is low	Event in which there is potential for an accident if no action is taken, necessitating a timely response (e.g., an ATC safety alert or vehicle/ aircraft evasive maneuver), but the situation is managed in enough time that an accident never becomes imminent	Event in which there is little to no time available to recognize a threat and react appropriately, and an accident is imminent without immediate action (e.g., a last-second evasive maneuver or emergency procedure); an accident is narrowly avoided by chance; or an accident occurs but does not result in fatality	1 or more fatalities
Airports	Event or condition that is negligible, with no significant impact on airport operational capability or safety	• 1-2 minor injuries; or • Minor damage to facilities, aircraft, or equipment; or • Event or condition that is noticeable but does not significantly affect airport operational capability or safety	• 1-2 serious injuries; or • 3 or more minor injuries; or • Substantial damage to aircraft; or • Event or condition that is significant and disrupts airport operational capability or safety; or • Major damage to facilities, aircraft, or equipment	• 3 or more serious injuries; or • Hull loss without fatalities; or • Event or condition that causes major airport operational limitations and a serious reduction to safety; or • Severe damage to facilities, aircraft, or equipment	• 1 or more fatalities; or • Event or condition that is severe and causes prolonged closure of the airport and/or landing surfaces; or • Loss of facilities, aircraft, or equipment

[a] Excludes space flight vehicles, crew, and participants.
[b] Refer to 49 CFR § 830.2 for definitions of serious injury and substantial damage. For the purposes of this order, if an injury does not rise to the level of serious, it can be considered minor.
[c] Counter UAS systems are out of scope for the UAS segment severity definitions; the definitions may only be used for assessing counter UAS systems under executive guidance.
[d] Individuals or SRM panels should not use the UAS segment substantial damage or hull loss bullets if the panel concludes that the effect could not endanger the public.
[e] Except as relates to space transport operations. See Appendix D, *Space Transport Operations Safety Requirements*, for additional requirements for space transport operations.

4. Likelihood Definitions. Table C-3 contains the likelihood definitions for all segments. Likelihood categories represent estimated probabilities of effects based on available evidence, analytical data, and then expert judgment where empirical and analytical data are limited.

Table C-3: Likelihood Definitions[a]

	Commercial	**Commuter and On-Demand**	**GA**	**UAS**	**Air Traffic[b]**	**Airports**
	Per flight hour	***Per flight hour***	***Per flight hour***	***Per Remote Pilot in Command (RPIC) flight hour[c]***	***Per operation/flight hour/operational hour***	***N/A***
Frequent A	$\geq 1 \times 10^{-5}$	$\geq 1 \times 10^{-3}$	$\geq 1 \times 10^{-2}$	$\geq 1 \times 10^{-2}$	$\geq 1 \times 10^{-2}$	Expected to occur frequently; more than once per week or every 200 arrivals/departures, whichever occurs sooner
Infrequent B	1×10^{-5} > **(Probability)** ≥ 1×10^{-6}	1×10^{-3} > **(Probability)** ≥ 1×10^{-4}	1×10^{-2} > **(Probability)** ≥ 1×10^{-3}	1×10^{-2} > **(Probability)** ≥ 1×10^{-3}	1×10^{-2} > **(Probability)** ≥ 1×10^{-3}	Expected to occur infrequently; less than once per week or every 5,000 arrivals/departures, whichever occurs sooner
Extremely Infrequent C	1×10^{-6} > **(Probability)** ≥ 1×10^{-7}	1×10^{-4} > **(Probability)** ≥ 1×10^{-5}	1×10^{-3} > **(Probability)** ≥ 1×10^{-4}	1×10^{-3} > **(Probability)** ≥ 1×10^{-4}	1×10^{-3} > **(Probability)** ≥ 1×10^{-5}	Expected to occur rarely, about once every month or 800,000 arrivals/departures, whichever occurs sooner
Remote D	1×10^{-7} > **(Probability)** ≥ 1×10^{-8}	1×10^{-5} > **(Probability)** ≥ 1×10^{-6}	1×10^{-4} > **(Probability)** ≥ 1×10^{-5}	1×10^{-4} > **(Probability)** ≥ 1×10^{-5}	1×10^{-5} > **(Probability)** ≥ 1×10^{-7}	Unlikely to occur; about once every year or 10 million arrivals/departures, whichever occurs sooner
Extremely Remote E	1×10^{-8} > **(Probability)** ≥ 1×10^{-9}	1×10^{-6} > **(Probability)** ≥ 1×10^{-7}	1×10^{-5} > **(Probability)** ≥ 1×10^{-6}	1×10^{-5} > **(Probability)** ≥ 1×10^{-6}	1×10^{-7} > **(Probability)** ≥ 1×10^{-9}	Highly unlikely to occur; would occur only in unusual circumstances
Improbable F	1×10^{-9} > **(Probability)** ≥ 1×10^{-10}	1×10^{-7} > **(Probability)** ≥ 1×10^{-8}	1×10^{-6} > **(Probability)** ≥ 1×10^{-7}	1×10^{-6} > **(Probability)** ≥ 1×10^{-7}	1×10^{-9} > **(Probability)** ≥ 1×10^{-10}	Not expected to occur
Extremely Improbable G	1×10^{-10} > **(Probability)** ≥ 1×10^{-11}	1×10^{-8} > **(Probability)** ≥ 1×10^{-9}	1×10^{-7} > **(Probability)** ≥ 1×10^{-8}	1×10^{-7} > **(Probability)** ≥ 1×10^{-8}	1×10^{-10} > **(Probability)** ≥ 1×10^{-11}	Only conceivable under extraordinary conditions

[a] Excludes space transport flight vehicles, crew, and participants.
[b] Except as relates to space transport operations. See Appendix D, *Space Transport Operations Safety Requirements*, for additional requirements for space transport operations.
[c] RPIC flight hours are the number of hours that an individual RPIC operates one or more unmanned aircraft. For example, if an RPIC simultaneously operates 8 unmanned aircraft for an hour, that is 8 unmanned aircraft flight hours, but only 1 RPIC flight hour.

a. Expected Value Definitions. Table C-4 provides calendar-based expected value definitions; it translates the probability definitions into calendar-based metrics based on an assumed number of flight hours where the hazard could occur. Individuals or SRM panels may use this table when the same number of flight hours as listed in the table is exposed to a hazard (e.g., 10 million flight hours for Commercial operations). If the number of flight hours exposed to the hazard is determined to be different than the exposures listed in Table C-4, the individual or SRM panel may estimate annual exposure, convert the probability likelihood definitions into expected value, and document rationale. Conversion into expected value is done by multiplying the upper and lower bounds of the probability-based likelihood definitions by the annual exposure.

Table C-4: Expected Value Definitions[a]

	Commercial	**Commuter and On-Demand**	**GA**	**UAS**	**Air Traffic[b]**
	Assumed exposure of 10 million flight hours	***Assumed exposure of 1 million flight hours***	***Assumed exposure of 10 million flight hours***	***Assumed exposure of 10 million RPIC flight hours[c]***	***Assumed exposure of 10 million flight hours***
Frequent A	≥ 100/year	≥ 1,000/year	≥ 100,000/year	≥ 100,000/year	≥ 100,000/year
Infrequent B	100/year **> (Expected Value) ≥** 10/year	1,000/year **> (Expected Value) ≥** 100/year	100,000/year **> (Expected Value) ≥** 10,000/year	100,000/year **> (Expected Value) ≥** 10,000/year	100,000/year **> (Expected Value) ≥** 10,000/year
Extremely Infrequent C	10/year **> (Expected Value) ≥** 1/year	100/year **> (Expected Value) ≥** 10/year	10,000/year **> (Expected Value) ≥** 1,000/year	10,000/year **> (Expected Value) ≥** 1,000/year	10,000/year **> (Expected Value) ≥** 100/year
Remote D	1/year **> (Expected Value) ≥** 10^{-1}/year	10/year **> (Expected Value) ≥** 1/year	1,000/year **> (Expected Value) ≥** 100/year	1,000/year **> (Expected Value) ≥** 100/year	100/year **> (Expected Value) ≥** 1/year
Extremely Remote E	10^{-1}/year **> (Expected Value) ≥** 10^{-2}/year	1/year **> (Expected Value) ≥** 10^{-1}/year	100/year **> (Expected Value) ≥** 10/year	100/year **> (Expected Value) ≥** 10/year	1/year **> (Expected Value) ≥** 10^{-2}/year
Improbable F	10^{-2}/year **> (Expected Value) ≥** 10^{-3}/year	10^{-1}/year **> (Expected Value) ≥** 10^{-2}/year	10/year **> (Expected Value) ≥** 1/year	10/year **> (Expected Value) ≥** 1/year	10^{-2}/year **> (Expected Value) ≥** 10^{-3}/year
Extremely Improbable G	10^{-3}/year **> (Expected Value) ≥** 10^{-4}/year	10^{-2}/year **> (Expected Value) ≥** 10^{-3}/year	1/year **> (Expected Value) ≥** 10^{-1}/year	1/year **> (Expected Value) ≥** 10^{-1}/year	10^{-3}/year **> (Expected Value) ≥** 10^{-4}/year

[a] Excludes space transport flight vehicles, crew, and participants.
[b] Except as relates to space transport operations. See Appendix D, *Space Transport Operations Safety Requirements*, for additional requirements for space transport operations.
[c] RPIC flight hours are the number of hours that an individual RPIC operates one or more unmanned aircraft. For example, if an RPIC simultaneously operates 8 unmanned aircraft for an hour, that is 8 unmanned aircraft flight hours, but only 1 RPIC flight hour.

5. Risk Matrix. A risk matrix is a graphical means of depicting safety risk based on the risk tolerance criteria; it enables prioritization of risk. The horizontal scale in the matrix represents severity, as defined in Table C-2; the vertical scale represents likelihood, as defined in Tables C-3 and C-4. The matrix in Figure C-1 below allows hazards affecting different safety objectives to be depicted in a single, unified view and is intended to facilitate communication across the Federal Aviation Administration (FAA) and support decision-making. See Table 5-3 in Chapter 5 for the definitions of the safety risk levels and associated requirements.

Figure C-1: Agency-level Risk Matrix

		Severity				
		Minimal 5	**Minor 4**	**Major 3**	**Hazardous 2**	**Catastrophic 1**
Likelihood	**Frequent A**	Low	Medium	High	High	High
	Infrequent B	Low	Medium	Medium-High	High	High
	Extremely Infrequent C	Low	Medium	Medium-High	Medium-High	High
	Remote D	Low	Medium	Medium	Medium-High	Medium-High
	Extremely Remote E	Low	Low	Medium	Medium	Medium-High
	Improbable F	Low	Low	Low	Medium	Medium
	Extremely Improbable G	Low	Low	Low	Low	Medium

Appendix D. Space Transport Operations Safety Requirements

1. Purpose. This appendix establishes Safety Risk Management (SRM) principles and operational safety requirements for space transport operations affecting the National Airspace System (NAS) and/or international airspace in which the United States has accepted responsibility for providing air traffic services under the relevant regional air navigation agreements.[10]

a. These requirements support FAA responsibilities to identify, assess, mitigate, and respond to hazards to:

(1) Civil aviation;

(2) NAS operations;

(3) Air traffic services;

(4) Aviation users; and

(5) Critical aviation infrastructure.

2. Scope.

a. Space transport operations are activities involving the launch, ascent, reentry, recovery, or other movement of spacecraft, launch vehicles, reentry vehicles, associated stages, payloads, or related space systems that may affect aircraft, air traffic operations, aviation users, aviation infrastructure, or FAA-provided services within the NAS. This appendix applies to all such space transport operations, including those affecting the NAS and to hazards arising from those operations that may affect aircraft, air traffic operations, aviation users, aviation infrastructure, or FAA-provided services. Specifically, the appendix applies to:

(1) Commercial launch and reentry operations (activities associated with the launch and reentry processes conducted by private sector companies, as defined in Title 14 of the Code of Federal Regulations [14 CFR] § 401.7).

(2) Civil government operations (space activities conducted by governmental civil agencies, such as the National Aeronautics and Space Administration [NASA], which may include scientific missions, exploration, and technological development initiatives).

(3) Department of War operations (military-related space transport operations conducted by the Department of War or related entities).

(4) Other U.S. Government space transport operations (includes any additional space transport activities conducted by other branches or agencies of the U.S. Government that are not specifically categorized under civil or military operations).

[10] References to the NAS in this appendix include U.S. territorial airspace and any U.S.-controlled international airspace as defined in 14 CFR § 187.3.

(5) Foreign space transport operations in U.S.-controlled airspace (operations conducted by foreign entities that transit through airspace controlled by the U.S.).

b. Covered safety issues include both planned and unplanned events associated with space transport operations, including but not limited to:

(1) Hazardous debris;

(2) Planned debris release or stage jettison;

(3) Off-nominal or off-trajectory vehicle flight;

(4) Uncontrolled vehicle breakup;

(5) Uncontrolled reentry or atmospheric entry;

(6) Toxic release;

(7) Blast overpressure effects;

(8) Flight path conflicts;

(9) Contingency or emergency response events; and

(10) Other reasonably foreseeable safety issues arising from space transport operations.

c. This appendix applies throughout all phases of space transport operations that may affect the NAS, including pre-launch, launch, ascent, on-orbit operations when relevant to NAS safety, reentry, recovery, and post-flight contingency response activities.[11]

d. FAA organizations responsible for NAS safety oversight, air traffic services, operational coordination, and contingency response will ensure that hazards arising from space transport operations are appropriately identified, assessed, mitigated, monitored, and managed.

3. Aviation Safety Risk Management Principles.

a. The FAA has the authority and responsibility to maintain the capabilities and operational processes necessary to protect aircraft in the NAS, including the ability to:

(1) Identify hazards to aircraft arising from space transport operations;

(2) Assess the likelihood and severity of those hazards;

(3) Establish operational mitigations;

(4) Implement airspace protection measures;

[11] For more information, please see 14 CFR part 450.

(5) Monitor changing operational conditions; and

(6) Execute contingency response actions as appropriate when hazards are introduced to the system.

b. Space transport operations involve dynamic hazards that may rapidly evolve during flight. Safety management processes will therefore support both preplanned hazard mitigation and contingency response.

c. Hazard analysis should consider impacts to aircraft occupants, air traffic operations, flight routing, aviation infrastructure, and safety.

4. Operational Protection Criteria. The FAA uses quantitative risk criteria to limit the risk to individual aircraft from hazards due to space transport operations.

a. Aircraft Hazard Areas (AHAs) will be established to ensure that risks from hazardous debris[12] to non-participating aircraft remain within acceptable thresholds based on analyses that comply with the requirements of 14 CFR part 450.

Table D-2: Risk Categories, Metrics, and Thresholds

Risk Category	Metric	Threshold
Planned nominal debris event[a]	Probability of containment[b]	97%
Hazardous debris impact	Probability of impact capable of causing a casualty	$< 1 \times 10^{-6}$

[a] For example, planned release of parts of a space vehicle such as fuel tanks.
[b] 14 CFR § 450.101(f) requires notification (i.e., published warnings such as a Notice to Air Missions [NOTAM]) of the region that contains, with 97 percent probability of containment, all debris resulting from normal flight events capable of causing a casualty, even where the event produces risks below the 1×10^{-6} threshold for probability of impact capable of causing a casualty.

b. These thresholds may be supplemented by operational constraints, contingency procedures, or additional mitigations when necessary to maintain NAS safety when recommended by appropriate FAA organizations, such as the Office of Commercial Space Transportation (AST), the Air Traffic Organization (ATO), and the Aviation Safety Management Office (ASM). When possible, the FAA should determine whether other organizations can implement safety risk controls. If so, the FAA should seek to enter into appropriate agreements. Any operational constraints, contingency procedures, or additional mitigations that increase burden on launch or reentry operators will not be implemented unless and until those are formally promulgated in accordance with the Administrative Procedures Act.

[12] 14 CFR § 401.7 defines hazardous debris as "any object or substance capable of causing a casualty or loss of functionality to a critical asset. Hazardous debris includes inert debris and explosive debris such as an intact vehicle, vehicle fragments, any detached vehicle component whether intact or in fragments, payload, and any planned jettison bodies."

5. Aircraft Protection and Airspace Management.

a. FAA organizations responsible for NAS operations will ensure that aircraft are protected from hazardous space transport activities through:

(1) AHAs;

(2) Traffic management initiatives;

(3) Routing restrictions; or

(4) Contingency response procedures.

b. The criteria defined in Section 4 of this appendix, *Operational Protection Criteria*, must all be satisfied simultaneously to meet the space transport operations safety requirements within this appendix.

6. Space Transport Operations Safety Procedures.

a. Recent Acceptable Level of Risk (ALR) Process Changes. The Executive Safety Council memorandum, "Decision on Safety Standards for Commercial Space," dated June 8, 2026, brought several changes to existing ALR policy as follows:

(1) Removal of the 12-month rolling limit of 6,412 aircraft exposures within the 1×10^{-7} and 1×10^{-8} contour intervals.

(2) Continued requirement to conform to the 1×10^{-6} contour standard. No aircraft may enter the 1×10^{-6} contour interval.

b. Future Process.

(1) The FAA will develop and implement new procedures and technologies to facilitate the integration of the increasing number of space transport operations. These improvements will increase safety, while improving efficiency related to space operations and reducing the amount of area that will be reserved as safety buffers for AHAs.

(2) The FAA will ensure that processes for nominal and off-nominal space transport operations account for appropriate communication and coordination with all potentially affected airspace users and external Air Navigation Service Providers (ANSPs).

(3) Any changes to the ATO process and associated procedures will not be implemented before they have successfully completed the SRM process, mitigating risk as appropriate and as defined in this order. Any conditions imposed on launch and reentry operators will be consistent with the regulations in 14 CFR part 450.

7. Contingency Response Requirements.

a. The FAA will maintain robust contingency response capabilities to mitigate residual risk to aircraft arising from space transport operations.

b. Contingency response capabilities are a core component of NAS safety management for space transport operations and will support continuous operational awareness throughout mission execution to the maximum extent practical.

c. Contingency response capabilities should support:

(1) Real-time hazard identification;

(2) Real-time hazard prediction and tracking;

(3) Rapid hazard area generation;

(4) Real-time dissemination of hazard information;

(5) Dynamic airspace restriction implementation;

(6) Controller notification;

(7) Rerouting affected aircraft;

(8) Operational coordination across FAA facilities;

(9) Coordination with Department of War and civil agencies; and

(10) Restoration of normal NAS operations following an event.

d. Contingency response systems should be capable of supporting rapidly evolving events where hazards extend beyond preplanned aircraft hazard areas.

e. Where operationally feasible, contingency response processes should minimize exposure of aircraft to hazardous debris, unnecessary airspace closures, and disruption to NAS operations.

8. Hazard Identification and Monitoring. FAA organizations supporting space transport operations will maintain the capability to:

a. Monitor mission status to the maximum extent practical;

b. Assess evolving hazards during space transport operations;

c. Identify hazards outside planned hazard areas;

d. Coordinate with operational facilities;

e. Support real-time decision-making during malfunction events; and

f. Evaluate post-flight data to ensure consistency with analysis assumptions and safety targets.

9. Roles and Responsibilities.

a. Aviation Safety Management Office. Provide oversight of SMS application in the NAS by ATO and other organizations as required and approve air traffic procedures for space transport integration.

b. Air Traffic Organization.

(1) Develop and maintain additional guidance and procedures and provide Air Traffic Control (ATC) services, as required, to meet safety standards during space transport operations during nominal and off-nominal events, including capabilities for oceanic and non-radar environments.

(2) Receive mission-specific hazard information from AST or other appropriate U.S. Government partners to develop and disseminate appropriate hazard areas and contingency response areas for space transport operations, including 1×10^{-7} and 1×10^{-8} risk contours. The 1×10^{-7} and 1×10^{-8} contours represent per-aircraft probabilities of impact with hazardous debris and will be developed using an FAA-approved methodology.

(3) Protect aircraft under ATC control by excluding them from AHAs and airspace within the 1×10^{-6} risk contour, and through other validated airspace, traffic management, routing, and contingency measures. Continue to collect and retain aircraft exposure data between the 1×10^{-6} and 1×10^{-8} contours and share the data as appropriate. The data will be utilized for safety assurance, monitoring, trend analysis, and oversight of space transport operations.

(4) Conduct SRM in coordination with AST before implementing new or changed space transport procedures, technologies, or operational concepts; develop solutions to identify existing risk; and validate and monitor safety controls using operational and post-mission data. Maintain necessary coordination, contingency-response, and personnel training capabilities.

c. Office of Commercial Space Transportation. Ensure compliance with 14 CFR part 450 requirements and that the methodologies used to conduct safety risk assessments on space transport operations are valid.

d. Airspace Modernization Office. Provide the infrastructure, systems, and tools necessary to safely conduct space transport operations.

e. Office of Airports. At spaceports that are dual use with 14 CFR part 139 certificated airports, ensure that both AST and Airports (ARP) are involved with any SRM panel involving joint interest items (propellant/fuel storage, taxiway/runway changes, emergency response, etc.).

Appendix E. Example Disclosure for FAA Personnel to Participate on SRM Panels Established and Led by Non-Governmental Entities

Safety Risk Management Project Name:

_____

Convening Non-Governmental Entity:

_____

Authorized Representative for Convening Non-Governmental Entity:

_____

Participating FAA Employee(s):

_____

Proposed Project Start Date:_____

Expected Duration (in days): _____

FAA Contact: _____

Disclosure:

The Federal Aviation Administration's (FAA's) participation on a Safety Risk Management (SRM) panel established and led by non-governmental entities is voluntary, and FAA personnel can leave SRM panel meetings any time they choose.

FAA employees' participation on the SRM panel does not constitute FAA's endorsement of the findings of the SRM panel or any actions that result from the assessment conducted by the panel. Further, when an FAA employee participating on an SRM panel provides an opinion or adds to the panel's discussion or knowledge base in any way, that employee is not providing an official FAA position on the topic. For an official FAA position or interpretation, a formal request must be submitted to the FAA.

The undersigned acknowledges that he/she has received this document and understands the scope of the FAA employee's participation on the SRM panel as set forth above.

Authorized Representative (signature) **Date**

_____ _____

Appendix F. Directive Feedback Information

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: Order 1030.8, *FAA Safety Management*.

To: Directive Management Officer

(Please mark 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 order, please include coverage on the following subject:
(briefly describe what you want to be added.)

☐ Other comments:

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

Submitted by: _____ Date: _____

Telephone Number: _____ Routing Symbol: _____

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