



Federal Aviation
Administration

FAA SAFETY RISK MANAGEMENT GUIDANCE FOR EXTERNAL PARTICIPANTS



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FAA Safety Risk Management Guidance for External Participants

Purpose

The purpose of this document is to describe the role of non-governmental subject matter experts participating on Safety Risk Management (SRM) Teams conducting safety risk assessments in accordance with the current version of FAA Order 8040.4 and what can be expected before, during, and after the safety risk assessment is conducted.

Approval: _____

FAA SMS Committee Chair

Change Management

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Change Management Criteria

Full revisions of the FAA Safety Risk Management Guidance for External Participants will be conducted by AVP-300 and reviewed by the AVSSMS Coordination Group and FAA SMS Committee. Administrative changes may be made by AVP-300 between full revisions. All revisions and changes will be documented in the above Change Management Table. Full revision versions will be denoted by a whole number (i.e., Version 1.0, 2.0, 3.0), and administrative change versions will be denoted by a decimal (i.e., Version 1.1, 1.2, 2.1).

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Introduction

The Federal Aviation Administration's (FAA) mission is to provide the safest, most efficient aerospace system in the world. In support of this mission, the FAA uses a Safety Management System (SMS) to integrate the management of safety risk into operations, acquisitions, rulemaking, and decision making. The SMS enhances the safety of the flying public and strengthens the FAA's worldwide leadership in aviation safety.

The SMS consists of four components: Safety Policy, Safety Risk Management (SRM), Safety Assurance, and Safety Promotion. All four components work together to enable the FAA to manage safety within the national aerospace system (NAS). This document focuses on the SRM component of SRM and relates to the FAA's SRM process described in the current version of FAA Order 8040.4, *Safety Risk Management Policy*.

The objective of SRM is to provide information regarding hazards, safety risk, and safety risk controls/mitigations to decision makers and to enhance the FAA's ability to address safety risk in the aerospace system. SRM consists of conducting a system analysis; identifying hazards; and analyzing, assessing, and controlling safety risk associated with the identified hazards. SRM enhances the FAA's ability to coordinate risk-based decision making across its organizations.

When conducting SRM, it is crucial to have complete representation of all affected stakeholders within the SRM Team, including membership from FAA employees, FAA contractors, and external subject matter experts¹. Subject matter experts external to the FAA can provide the SRM Team with a wealth of information and data regarding day-to-day operating conditions to which the FAA employees may not have access. Additionally, external subject matter experts may have expertise that the FAA does not possess in-house. For these reasons, their participation is often essential to getting the best results possible when conducting SRM.

The purpose of this document is to describe the role of non-governmental (otherwise referred to in this document as external or industry) subject matter experts participating on SRM Teams conducting safety risk assessments in accordance with the current version of FAA Order 8040.4 and what can be expected before, during, and after the safety risk assessment is conducted.

¹ FAA contractors and representatives from other federal government entities are not considered external participants for the purposes of this document. FAA Order 8040.4 requires the OPR to confer with the FAA Office of the Chief Counsel (AGC) to avoid any potential data protection and Freedom of Information Act (FOIA) requirements, and/or legal/statutory issues, when subject matter expertise is needed from non-governmental entities or governmental entities outside of the FAA.

Chapter 1. Prior to the SRM/Safety Risk Assessment

1.1. Initial Planning

The FAA Office of Primary Responsibility (OPR) works with the SRM facilitation team to document a brief description of the safety issue, describe the preliminary scope of the assessment, and identify stakeholders and participating organizations. The OPR and SRM facilitation team also develop a schedule that includes high-level milestones for planning, conducting, documenting, and obtaining approvals for the safety risk assessment. This information is gathered into a package which serves as a summary outreach briefing when requesting participation on the SRM Team.

While the OPR is determining and securing the SRM Team members, the OPR and SRM facilitation team work cooperatively to draft a system analysis to understand and describe the system to the extent necessary to identify potential hazards by examining the safety issue being assessed in terms of what it affects and what is affected by the safety issue. The draft system analysis is further refined and agreed upon by the SRM Team during the SRM Team meetings.

1.2. Inviting External Subject Matter Experts

External subject matter experts are invited to participate on an SRM Team when they are identified as key stakeholders impacted by the safety issue being assessed or their involvement would help to ensure a thorough, accurate determination of safety risk. The invitation clearly indicates that the purpose of their participation is for the SRM Team to obtain their individual input/advice rather than group or collective advice.

The invitation also includes information regarding the expectations of participants pertaining to the level of effort required to support the team. Expectations include estimates of the frequency and duration of face-to-face or virtual meetings as well as any time to complete work in between meetings (e.g., collection of data).

1.3. Non-Disclosure Agreements

The OPR confers with the Office of the Chief Counsel (AGC) to follow any data protection and Freedom of Information Act (FOIA) requirements, and/or avoid any potential legal/statutory issues. All external subject matter experts must sign a Non-Disclosure Agreement (NDA) to participate. All NDAs must be kept on file with the facilitation team throughout the length of the assessment. Additional agreements may be required when access to data or other documents is needed by the SRM Team members.

External SRM Team participants who have signed an NDA may:

- Individually participate in discussions throughout the assessment;
- Assist in identifying hazards, making risk determinations (i.e., categorize each hazard's severity and likelihood), and gathering pertinent facts such as industry data;
- Provide individual input regarding safety recommendations identified by the FAA SRM Team participants that are assigned to responsible parties within the FAA;
- Participate in predicted residual risk determinations based on implementation of the recommendations; and
- Individually review and comment on the Safety Risk Assessment Report.

1.4. SRM Team Kickoff Meeting

The purpose of the kickoff meeting is to review the SRM Team's goals and objectives, discuss the safety issue description and draft system analysis, ensure common understanding of the SRM Team roles and responsibilities, provide an overview of the SRM process, and determine whether any additional information or data should be gathered prior to the SRM Team meeting.

To ensure the quality of participation from team members, it is important that all team members have a basic understanding of SRM prior to commencing the SRM Team meetings. Therefore, a portion of the kickoff meeting is reserved for presenting an overview of the SRM process for all SRM Team members (external participants included).

External participants are reminded at the kickoff meeting that their role during the meeting and throughout participation in the SRM process is to provide their individual input and not collective advice, and that the FAA is not seeking group advice or consensus recommendations.

Chapter 2. During the SRM/Risk Assessment

The SRM Team, guided by the facilitation team, conducts the safety risk assessment in accordance with the current version of FAA Order 8040.4 by following the 5-Step SRM Process—system analysis, identify hazards, analyze safety risk, assess safety risk, control safety risk. Typically, the SRM Team completes all five SRM steps while convened together for a few days to conduct the safety risk assessment. However, there are times when SRM Teams reconvene if additional data, information, or analysis is necessary.

Results of the safety risk assessment are documented in a Safety Risk Assessment Report.

2.1. System Analysis, Identify Hazards, Analyze Safety Risk, and Assess Safety Risk

All SRM Team participants, internal and external to the FAA, deliberate collectively on the system analysis, the issue's hazards, and the determination of safety risk level (in terms of severity and likelihood associated with each hazard).

The SRM Team facilitator mediates and assists SRM Team members in working through differences of opinion. Facilitators remain neutral during these discussions, and they recognize, acknowledge, and use differences of opinion to help the SRM Team consider different points of view. The SRM Team should strive to reach consensus when determining risk, but in some cases, the SRM Team may need to put decisions to a vote. While organizations may send multiple people to participate on the Team, only one team member or participant should be given authority to vote on behalf of the organization. External subject matter experts may be permitted to vote on matters related to assessing safety risk as predetermined by the OPR. Should a vote take place, the results of the vote should be documented thoroughly in the Safety Risk Assessment Report.

2.2. Developing Safety Recommendations

After the first four steps of SRM are complete, the SRM Team shifts focus to developing safety recommendations (also referred to as mitigations or controls or safety controls) to reduce or eliminate the effects of hazards identified by the Team in the preceding SRM steps.

The development of safety recommendations is divided into two parts—recommendations for mitigations implemented by external industry stakeholders and recommendations for mitigations implemented by the FAA.

2.3. Recommendations for Mitigations Implemented by External Industry Stakeholders

All SRM Team participants, internal and external to the FAA, deliberate collectively to develop and agree on a set of safety recommendations to be implemented by external industry stakeholders. Safety recommendations assigned to external organizations are not tracked by the FAA.

2.4. Recommendations for Mitigations Implemented by the FAA²

For this part of the meeting, only FAA SRM Team members deliberate openly to develop safety recommendations to be implemented by FAA organizations. External participants may listen and observe during the FAA-only deliberations.

After the FAA Team members deliberate and agree on their list of FAA recommendations, the facilitators solicit individual input from each external participant based on their subject matter expertise. Individual input from external participants regarding the FAA recommendations is documented for FAA consideration.

External participants may not vote on FAA recommendations or decisions. Should a vote take place, the results of the vote should be documented thoroughly in the Safety Risk Assessment Report.

2.5. Determining Predicted Residual Risk and Monitoring Plan

Once the complete set of recommendations is established, the SRM Team (including the external participants) deliberate collectively to follow the initial steps of the SRM process again to ensure that the safety risk has been sufficiently reduced. Further analysis is performed to ensure that no new hazards have been introduced and that existing safety risk controls have not been compromised based on the proposed safety risk controls. The SRM Team assesses the hazards and corresponding effects, utilizing the likelihood and severity definitions in FAA Order 8040.4, as if all safety recommendations have been implemented. The resulting risk level is the predicted residual risk.

In this part, all SRM Team participants deliberate collectively to develop a Monitoring Plan which is included in the Safety Risk Assessment Report. A Monitoring Plan is established to confirm the risk controls have the desired effect; enable monitoring of the effectiveness of those controls; and confirm that safety performance targets are met.

In the event that a risk control is determined to be ineffective (i.e., safety performance targets in the monitoring plan are not met), the OPR will assess to see whether a reconvene of the SRM Team is necessary or if additional justification/rationale can be added to ensure the original assumptions in the assessment are being met. If a follow up recommendation is needed, the process will follow Section 2.3., *Recommendations for Mitigations Implemented by External Stakeholders* or Section 2.4., *Recommendations for Mitigations Implemented by the FAA* previously mentioned in this document again as applicable.

² There may be instances in which mitigations are assigned to another governmental agency (e.g., Environmental Protection Agency, United States Postal Service). In those cases, development of recommendations pertaining to those governmental entities is facilitated in the same way that FAA recommendations are developed.

Chapter 3. After the SRM/Safety Risk Assessment

3.1. Safety Risk Assessment Report

The results and recommendations from the safety risk assessment are documented in a Safety Risk Assessment Report. External participants are invited to provide individual comments on the report for FAA consideration.

There may be instances in which SRM Team members wish to submit their opinions in writing, including dissenting opinions. Only FAA team members may submit a written opinion on a recommendation or decision for the FAA. In those cases, the team documents the results of the assessment, records the comments and other opinions, and delivers the results to the decision makers. Records of comments and other opinions are appended to the Safety Risk Assessment Report, if necessary.

Once the report is finalized by the SRM Team, it is delivered to decision makers within the FAA. Safety Risk Assessment Reports developed by SRM Teams with external participants may be made public.

3.2. Approval of Risk Controls and Monitoring

Safety risk controls established by the FAA must be approved by the appropriate FAA management officials who are responsible for their implementation and effectiveness.

Monitoring the effectiveness of the mitigations is typically accomplished through safety assurance functions within the FAA.

Appendix A. Acronyms

AGC - Office of the Chief Counsel

AVP - Accident Investigation and Prevention

AVP-300 - Safety Management Division

AVS - Aviation Safety

AVSSMS - Aviation Safety Safety Management System

FAA - Federal Aviation Administration

FOIA - Freedom of Information Act

NAS - National Airspace System

NDA - Non-Disclosure Agreement

OPR - Office of Primary Responsibility

SME - Subject Matter Expert

SMS - Safety Management System

SRM - Safety Risk Management

Appendix B. Related Documents

B.1. FAA Orders

8000.369, *Safety Management System*

8040.4, *Safety Risk Management Policy*

B.2. Guidance and Other Documents

FAA Safety Risk Management Guidance