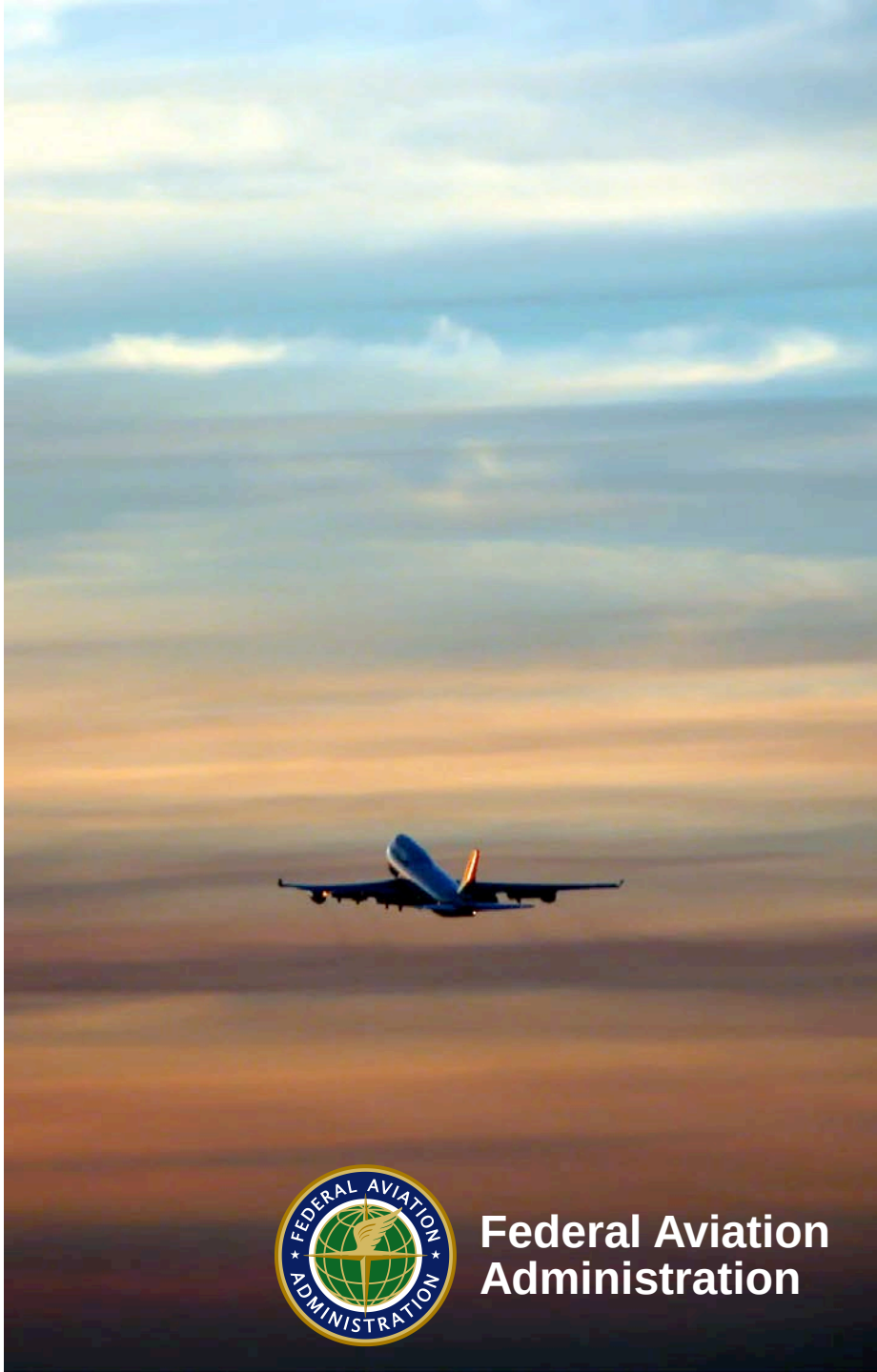
Safety Management System

The FAA Implementation

Presented to: RST/SAA workshop

By: Guillermo Felix, FAA

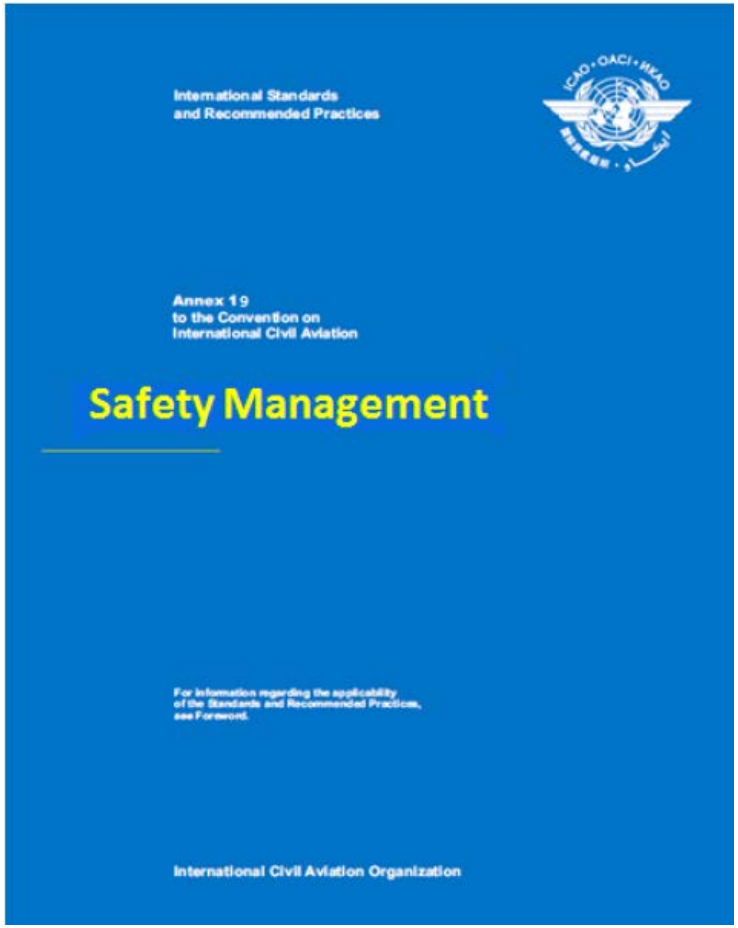
Date: October 22, 2019



Presentation outline

- **ICAO's Annex 19 and SMS Manual**
- **The FAA implementation**
- **Air Traffic Division and Airports Division**
- **Airports Division: Internal and External**

ICAO Documents



Annexes involved with Annex 19

- **Annex 1** — *Personnel Licensing;*
- **Annex 6** — *Operation of Aircraft*, Part I — *International Commercial Air Transport — Aeroplanes*, Part II — *International General Aviation — Aeroplanes* and Part III — *International Operations — Helicopters;*
- **Annex 8** — *Airworthiness of Aircraft;*
- **Annex 11** — *Air Traffic Services;*
- **Annex 13** — *Aircraft Accident and Incident Investigation*; and
- **Annex 14** —*Aerodromes*, Volume I — *Aerodrome Design and Operations*

Content of Annex 19

- **CHAPTER 1** – Definitions
- **CHAPTER 2** – Applicability
- **CHAPTER 3** – State safety management responsibilities
- **CHAPTER 4** – Safety management system (SMS)
- **CHAPTER 5** – Safety data collection, analysis and exchange
- **APPENDIX 1** –State safety oversight system
- **APPENDIX 2** – SMS Framework
- **ATTACHMENT A** – SSP Framework
- **ATTACHMENT B** – Legal guidance for the protection of information from safety data collection and processing systems

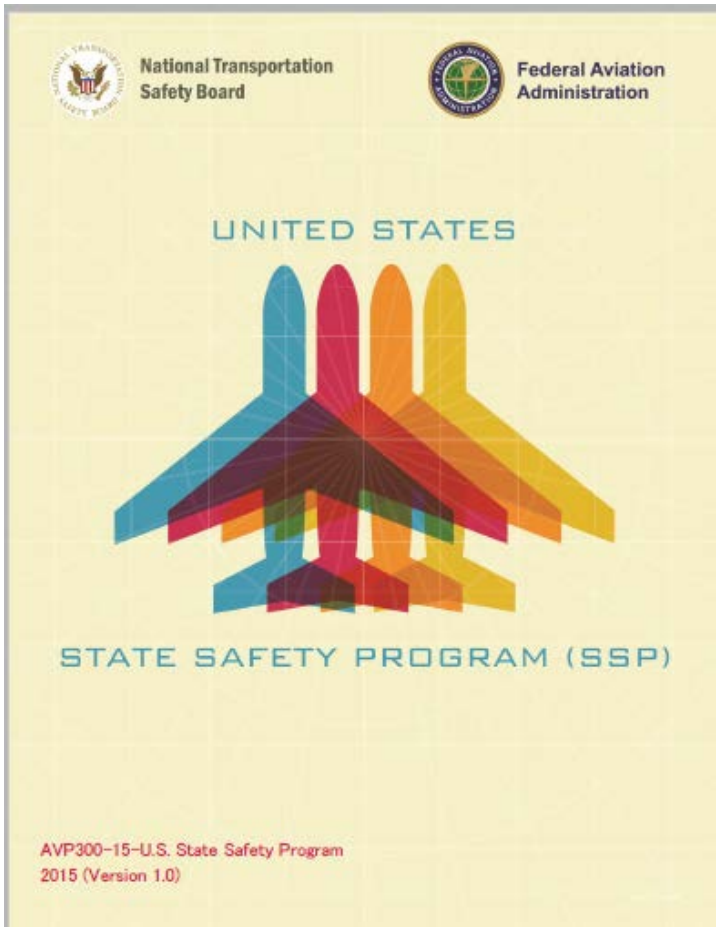
States direct responsibilities

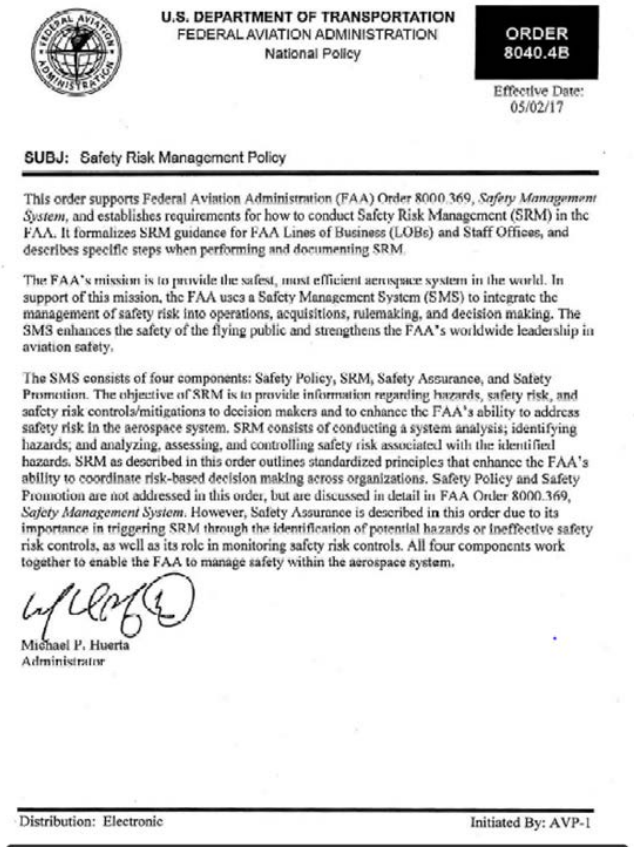
CHAPTER 3 – **State Safety Management Responsibilities**

- This chapter outlines safety management responsibilities directly applicable to the State, including the SMS requirements be implemented by the following service providers* (as described in the relevant Annexes):

1. **Approved training organizations**;
2. **Operators of aeroplanes or helicopters** authorized to conduct international **commercial air transport**;
3. **Approved maintenance organizations** providing services to operators as described in bullet 2;
4. Organizations responsible for the type **design or manufacture of aircraft**;
5. **Air traffic services (ATS) providers**, and;
6. **Operators of certified aerodromes**.

FAA implementation of SMS





U.S. DEPARTMENT OF TRANSPORTATION
FEDERAL AVIATION ADMINISTRATION
National Policy

ORDER 8040.4B

Effective Date: 05/02/17

SUBJ: Safety Risk Management Policy

This order supports Federal Aviation Administration (FAA) Order 8000.369, *Safety Management System*, and establishes requirements for how to conduct Safety Risk Management (SRM) in the FAA. It formalizes SRM guidance for FAA Lines of Business (LOBs) and Staff Offices, and describes specific steps when performing and documenting SRM.

The FAA's 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, SRM, Safety Assurance, and Safety Promotion. 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 as described in this order outlines standardized principles that enhance the FAA's ability to coordinate risk-based decision making across organizations. Safety Policy and Safety Promotion are not addressed in this order, but are discussed in detail in FAA Order 8000.369, *Safety Management System*. However, Safety Assurance is described in this order due to its importance in triggering SRM through the identification of potential hazards or ineffective safety risk controls, as well as its role in monitoring safety risk controls. All four components work together to enable the FAA to manage safety within the aerospace system.

Michael P. Huerta
Administrator

Distribution: Electronic — Initiated By: AVP-1

Airports Division: External/Internal SMS requirements

U.S. Department of Transportation

Federal Aviation Administration

Advisory Circular

Subject: INTRODUCTION TO SAFETY MANAGEMENT SYSTEMS (SMS) FOR AIRPORT OPERATORS **Date:** February 28, 2007 **Initiated by:** AAS-300 **AC No:** AC 150/5200-37 **Change:**

1. PURPOSE. This Advisory Circular (AC) introduces the concept of a safety management system (SMS) for airport operators.

BACKGROUND. The application of a systematic, proactive, and well-defined safety program (as is inherent in a SMS) allows an organization producing a product or service to strike a realistic and efficient balance between safety and production. The forecast growth in air transportation will require new measures and a greater effort from all aviation producers—including airport operators—in order to achieve a continuing improvement in the level of aviation safety. The use of SMS at airports can contribute to this effort by increasing the likelihood that airport operators will detect and correct safety problems before those problems result in an aircraft accident or incident. In November 2005, the International Civil Aviation Organization (ICAO) amended Annex 14, Volume I (Airport Design and Operations) to require member States to have certificated international airports establish an SMS. The FAA supports harmonization of international standards, and has worked to make U.S. aviation safety regulations consistent with ICAO standards and recommended practices. The agency intends to implement the use of SMS at U.S. airports to meet the intent of the ICAO standard in a way that complements existing airport safety regulations in 14 CFR Part 139.

The following actions are being taken in conjunction with the implementation of SMS at commercial airports in the United States:

Rulemaking. The FAA has opened a rulemaking project to consider a formal requirement for SMS at certificated airports. In the United States, about 570 airports are certificated under 14 CFR Part 139, *Certification of Airports*. The agency anticipates issuing a notice of proposed rulemaking (NPRM) for public comment in 2008. A decision on a final rule will not be made until the agency has considered all of the public and industry comments received on the NPRM. We will also take into account the experience of airports that have already implemented an SMS. In any decision to issue a final rule to have airport operators implement SMS, the FAA would:

- Consider the benefits and costs of the rule and tailor the rule to impose the minimum burden and costs necessary for effective implementation
- Consider whether the requirement should apply to all certificated airports or only to airports above a certain activity level

CHANGE

U.S. DEPARTMENT OF TRANSPORTATION
FEDERAL AVIATION ADMINISTRATION

National Policy

ORDER 5200.11 CHG 3

Effective Date: 08/29/2014

SUBJ: FAA Airports (ARP) Safety Management System

1. Purpose. This change announces the phase-in of Safety Risk Management (SRM) for medium and small hub airports. Now that the Office of Airports (ARP) Safety Management System has reached sufficient maturity, ARP will implement SRM at medium and small hub airports during Calendar Years 2015 and 2016, respectively.

2. Who this Change Affects. This Change affects ARP, at the headquarters, regional, and field levels. It also affects Air Traffic and AFS who will have to participate on more SRM panels.

3. Distribution. We will distribute an electronic version of this change to ARP headquarters, regional, and field offices. In addition, we will make this Change available on the FAA employees' website at https://employees.faa.gov/tools_resources/orders_notices/.

4. Disposition of Transmittal Paragraph. Retain this transmittal until it is superseded by another change or we revise the Order.

PAGE CHANGE CONTROL CHART

Remove Page	Dated	Insert Page	Dated
1-1	08/30/2011	1-1	08/29/2014
1-2	05/31/2011	1-2	08/29/2014

Eduardo A. Angeles
Associate Administrator
For Airports

Distribution: Electronic Distribution Initiated By: AAS-300

Columns of the SMS

- *State safety policy and objectives*
  - 1.1 State safety legislative framework
  - 1.2 State safety responsibilities and accountabilities
  - 1.3 Accident and incident investigation
  - 1.4 Enforcement policy
- *State safety risk management*
  - 2.1 Safety requirements for service provider's SMS
  - 2.2 Agreement on service provider's safety performance
- *State safety assurance*
  - 3.1 Safety oversight
  - 3.2 Safety data collection, analysis and exchange
  - 3.3 Safety data driven targeting of oversight on areas of greater concern or need
- *State safety promotion*
  - 4.1 Internal training, communication and dissemination of safety information
  - 4.2 External training, communication and dissemination of safety information

FAA Divisions implanting SMS

- **Air Traffic Organization: Aiming at the "safety risk" pose to controllers to safely move aircraft on the airport.**
- **Flight Standards**
- **Airports Division: Two tears approach: Internal SMS (applied for projects approved by FAA) and External SMS (iriented to Part 139 regulation)**

Airports Division Internal SMS

- **Triggered for the approval of:**

a) **Airport Layout Plan: this is for airport receiving financial assistance from the FAA and with commercial service.**

b) **Construction Safety and Phasing Plan: when the construction project receive financial federal assistance**

c) **Modification of Standards: geometrical, lighting, marking, visual AIDs**

Safety Risk Assessment- Levels of discussions-Coordination with LOB

- **Project Manager: If no objection of concern is received**
- **Specific LOB**
- **SRA/SRM panel**

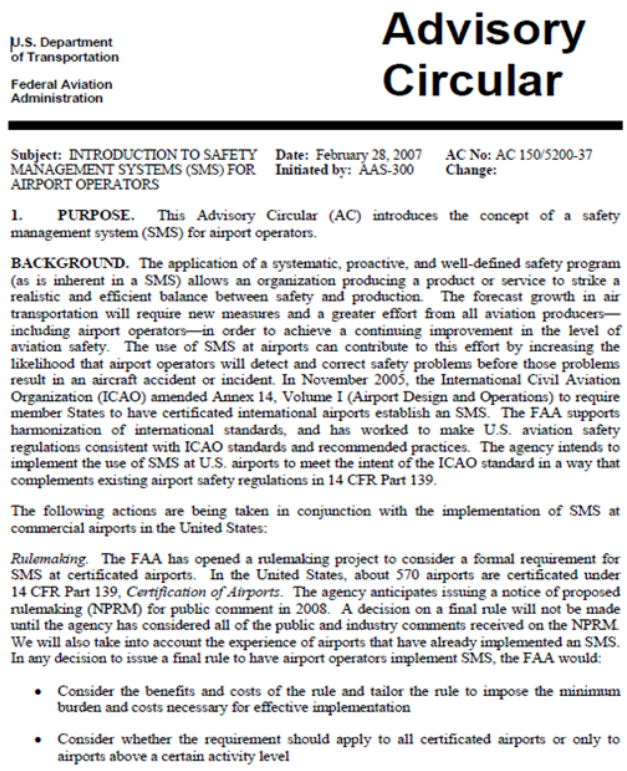
Components of an SRA

- **Selection of facilitator**
- **Establishment of system state**
- **Participation of SME**
- **Use of risk tables**
- **Acceptance level:**

a) **High risk AAS-1**

b) **Medium/Low risk: Regional Director of Airport**

External SMS



U.S. Department of Transportation

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- **Pilot Projects**
- **SMS versus Regulation**
- **Benefit cost analysis**
- **Gap analysis**
- **Future???**

Part 139 Regulation

- **Defines the systems: Training, Reports, pavement, lighting, marking, construction etc…**
- **Establish acceptance criteria**
- **Periodic inspection and correction of deficiencies**
- **Notification of malfunctioning**
- **FAA periodic inspection**

Questions