

Safety Risk Management at the State Level

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Annex 19: Safety Management

General Content Today

- State Safety Programmes (SSP)
- SMS for Service Providers
- Protection of Safety Information

Proposed Additions to SSP

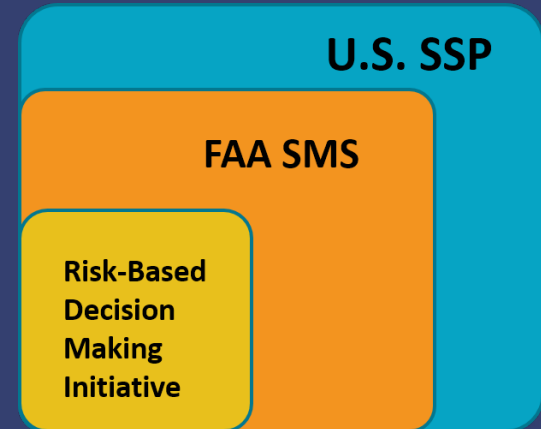
- Safety Management at the State Level
- Safety Performance Improvement
- Emergency Response Planning

Case study

**US FEDERAL AVIATION
ADMINISTRATION**

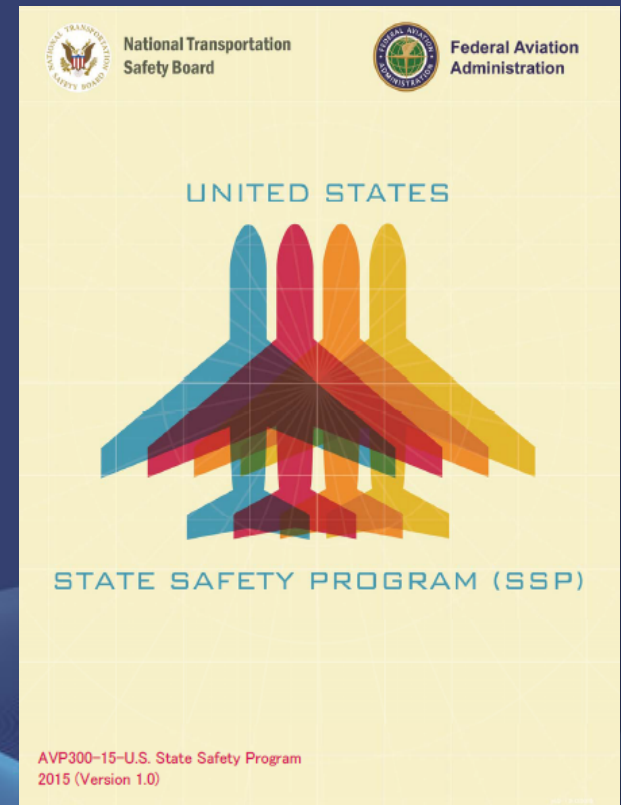
Overview of U.S. Safety Management

- The U.S. SSP provides the overarching framework for the U.S. safety system
- The FAA SMS provides the details of the FAA approach to safety management, showing how the US will meet most of the tenets of SSP
- The Risk-Based Decision Making Initiative enables the FAA SMS by putting in place the tools and processes to proactively address emerging safety risk using consistent, data-informed approaches to support system-level, risk-based decisions



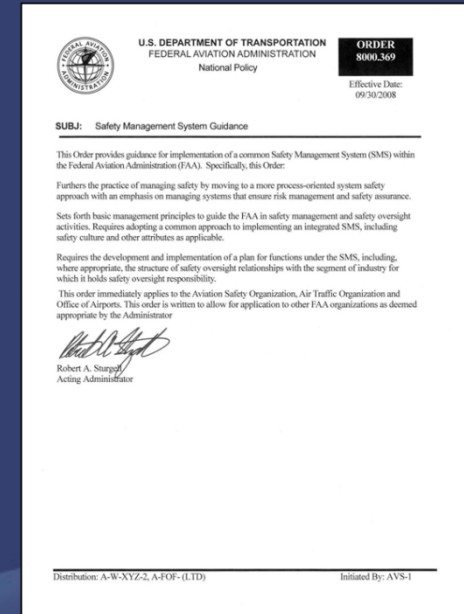
U.S. SSP Document

- Describes how the U.S. meets the 11 ICAO SSP Framework elements
 - U.S. currently meets SSP intent and most elements through implementation of FAA SMS and SMS in the Lines of Business (LOBs)
- Focuses on roles of FAA and National Transportation Safety Board (NTSB)
 - Although multiple U.S. Government agencies may contribute to U.S. SSP
- *Foreword*, signed by the FAA Administrator and NTSB Chairperson
- Will be reviewed on a regular basis to ensure it reflects evolving aviation safety standards and practices



FAA SMS Order

- FAA Order 8000.369A, *Safety Management System, Purpose:*
 - Ensure commonality and alignment of SMS implementation across the FAA
- Content:
 - Explains the SMS principles and requirements
 - Establishes the FAA SMS Executive Council and FAA SMS Committee
 - Standardizes terminology for SMS
 - Requires FAA organizations to:
 - Establish guidance for their own SMS activities and their industry segment on implementing SMS
 - Develop and maintain SMS implementation and/or continuous improvement plans



The image shows the front cover of FAA Order 8000.369A. It features the FAA logo on the left, the title 'U.S. DEPARTMENT OF TRANSPORTATION FEDERAL AVIATION ADMINISTRATION National Policy' in the center, and a black box with the text 'ORDER 8000.369' and 'Effective Date: 09/30/2008' on the right. Below the title, the subject is 'SUBJ: Safety Management System Guidance'. The main body of text describes the purpose of the order, which is to provide guidance for implementing a common Safety Management System (SMS) within the FAA. It further states that the order furthers the practice of managing safety by moving to a more process-oriented system safety approach with an emphasis on managing systems that ensure risk management and safety assurance. It also sets forth basic management principles to guide the FAA in safety management and safety oversight activities, requiring a common approach to implementing an integrated SMS, including safety culture and other attributes as applicable. The order requires the development and implementation of a plan for functions under the SMS, including, where appropriate, the structure of safety oversight relationships with the segment of industry for which it holds safety oversight responsibility. It states that this order immediately applies to the Aviation Safety Organization, Air Traffic Organization and Office of Airports. This order is written to allow for application to other FAA organizations as deemed appropriate by the Administrator. The signature of Robert A. Sturgis, Acting Administrator, is visible. At the bottom, the distribution is listed as 'A-W-XYZ-2, A-FOF, (LTD)' and it is initiated by 'AVS-1'.

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

ORDER
8000.369
Effective Date:
09/30/2008

SUBJ: Safety Management System Guidance

This Order provides guidance for implementation of a common Safety Management System (SMS) within the Federal Aviation Administration (FAA). Specifically, this Order:

Furthers the practice of managing safety by moving to a more process-oriented system safety approach with an emphasis on managing systems that ensure risk management and safety assurance.

Sets forth basic management principles to guide the FAA in safety management and safety oversight activities. Requires adopting a common approach to implementing an integrated SMS, including safety culture and other attributes as applicable.

Requires the development and implementation of a plan for functions under the SMS, including, where appropriate, the structure of safety oversight relationships with the segment of industry for which it holds safety oversight responsibility.

This order immediately applies to the Aviation Safety Organization, Air Traffic Organization and Office of Airports. This order is written to allow for application to other FAA organizations as deemed appropriate by the Administrator.

Robert A. Sturgis
Acting Administrator

Distribution: A-W-XYZ-2, A-FOF, (LTD) Initiated By: AVS-1

FAA Strategic Initiatives

Risk-Based Decision Making

Build on SMS principles to address emerging safety risk by using consistent, data-informed approaches to make smarter, system-level, risk-based decisions

National Airspace System

Lay the foundation for the NAS of the future by accelerating prioritized NextGen benefits, integrating new user entrants, and delivering more efficient, streamlined services

Foundation for
Aviation System
of the Future

Global Leadership

Improve safety, air traffic efficiency, and environmental sustainability across the globe through an integrated, data-informed approach that shapes global standards and enhances collaboration and harmonization

Workforce of the Future

Prepare FAA's human capital for the future, by identifying, recruiting, and training a workforce with the leadership, technical, and functional skills to ensure the U.S. has the world's safest and most productive aviation sector

Summary

- The U.S. is integrating their safety management activities to have cohesive approach, whereby:
 - The U.S. SSP provides the overarching framework for the U.S. aviation safety system
 - The FAA SMS provides the details of the approach
 - The Risk-Based Decision Making Initiative enables the FAA SMS by putting in place the tools and processes to proactively address emerging safety risk.

Case study

**UK CIVIL AVIATION
AUTHORITY**

UK Approach Similar to FAA

- UK has similar structures and documents to the FAA approach
- Two features spotlighted for discussion
 - Risk Wheel
 - Safety Model





Cause(s)

Event(s)

Effect(s)

PRIORITY ROOT CAUSES

KEY PRECURSOR SCENARIOS

ACCIDENT TYPES

PEOPLE

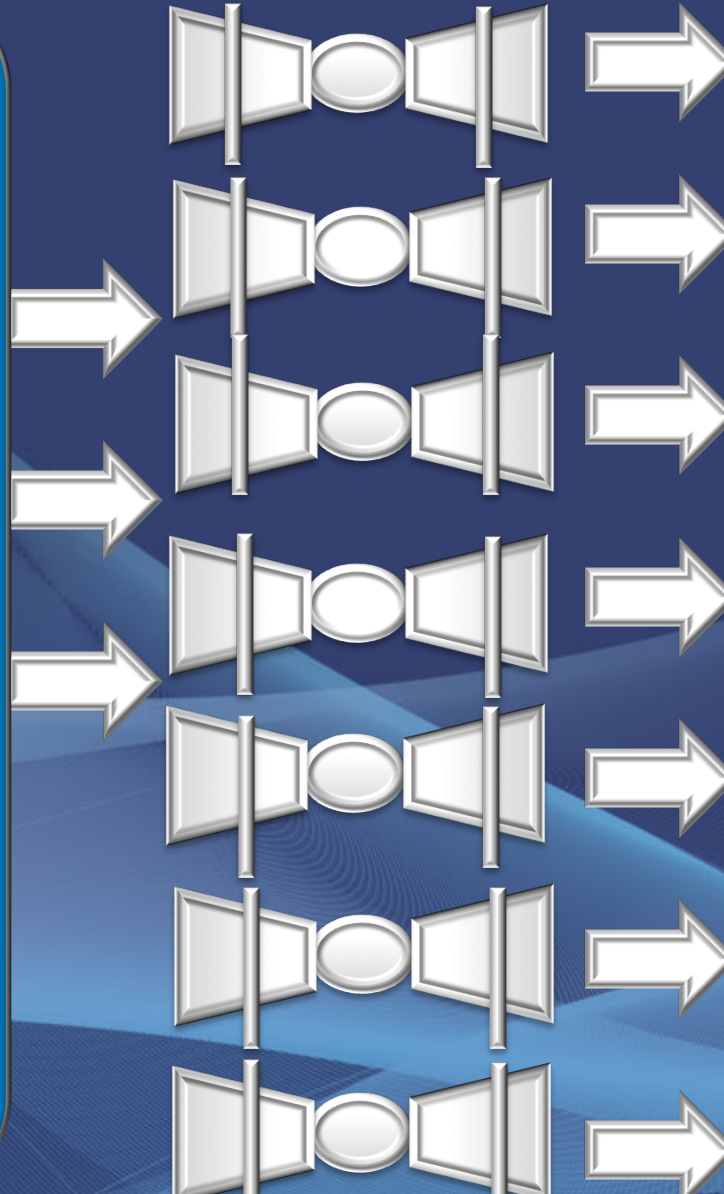
Pilot Performance
Fatigue Management
ATCO Performance
Engineer Performance
Ground Staff Performance
Automation / HMI

TECHNOLOGY

Helicopter Tech Reliability
Precision Approaches
Un-stabilised Approaches
TCAS / EGPWS Available/
Correct Response
Pilot Information
Production Supply Chain
Lithium Batteries

OPS ENVIRONMENT

Helicopter Ops Environment
CAT in Class G
Ground Operations/ De-Icing
Some Foreign Operators
Destination Hotspots
Weather /Turbulence
New Business Models
CAS Infringement
Laser Threat



Loss of Control
Flight Management

Runway Excursion

Mid Air Collision

Loss of Control due
Ground Services

Collision on Ground
Runway Incursion

Controlled Flight into
Terrain

Aircraft Environment
Un-survivable

State Level Safety

SRM Level	US Examples	UK Examples
Strategic Planning	<ul style="list-style-type: none"> Strategic Initiatives to allow for a more cohesive approach to enhance safety 	<ul style="list-style-type: none"> Strategic initiatives to improve actions targeted to risk and better integrated internationally
Systematic Annex 19 Amdt 1 max interpretation	<ul style="list-style-type: none"> FAA SMS including hazard identification and risk mitigation Integrates SMS in core activities Performance Based Oversight 	<ul style="list-style-type: none"> CAA SMS including hazard identification and risk mitigation Integrates SMS in core activities Performance Based Oversight
Collaborative Annex 19 Amdt 1 max interpretation	<ul style="list-style-type: none"> US CAST FAA - Industry International work e.g. SM ICG ASIAS 'big data' system 	<ul style="list-style-type: none"> Significant 7 TFs CAA - Industry International Partners/ Hotspots EASA participation: data, ECAST
Proactive Annex 19 Amdt 1	<ul style="list-style-type: none"> Strategic Initiatives 	<ul style="list-style-type: none"> Safety Improvement Projects
	<ul style="list-style-type: none"> Measure Continuous Improvement 	<ul style="list-style-type: none"> Measure Continuous Improvement
	<ul style="list-style-type: none"> Safety data analysed & shared 	<ul style="list-style-type: none"> Safety data analysed & shared
Reactive Annex 19 SSP	<ul style="list-style-type: none"> Clear FAA & NTSB responsibilities 	<ul style="list-style-type: none"> Clear CAA & AAIB responsibilities
	<ul style="list-style-type: none"> Event causes investigated, analysed and addressed 	<ul style="list-style-type: none"> Event causes investigated, analysed and addressed
	<ul style="list-style-type: none"> Safety Oversight focus on risk 	<ul style="list-style-type: none"> Safety Oversight focus on risk
	<ul style="list-style-type: none"> Training & Publications 	<ul style="list-style-type: none"> Training & Publications



Case study

SMALLER STATES

What if I am a Small State: Scalability

Larger / Mature

- Use extensive data analysis from own industry reports to determine risk profile
- Programmes to generate best practice/ technology for all areas of aviation
- Programmes to explore where issues may arise in (inter) national systems

Smaller/ Emerging

- Use internationally published data analysis for main risks and add key local hazards
- Apply internationally published best practice/ tools to target selected risks
- Workshop with all front line disciplines present to discuss local hotspot situation

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