ASA / AFRA Conference
June 2023

Federal Aviation Administration

Date: June 4th 2023

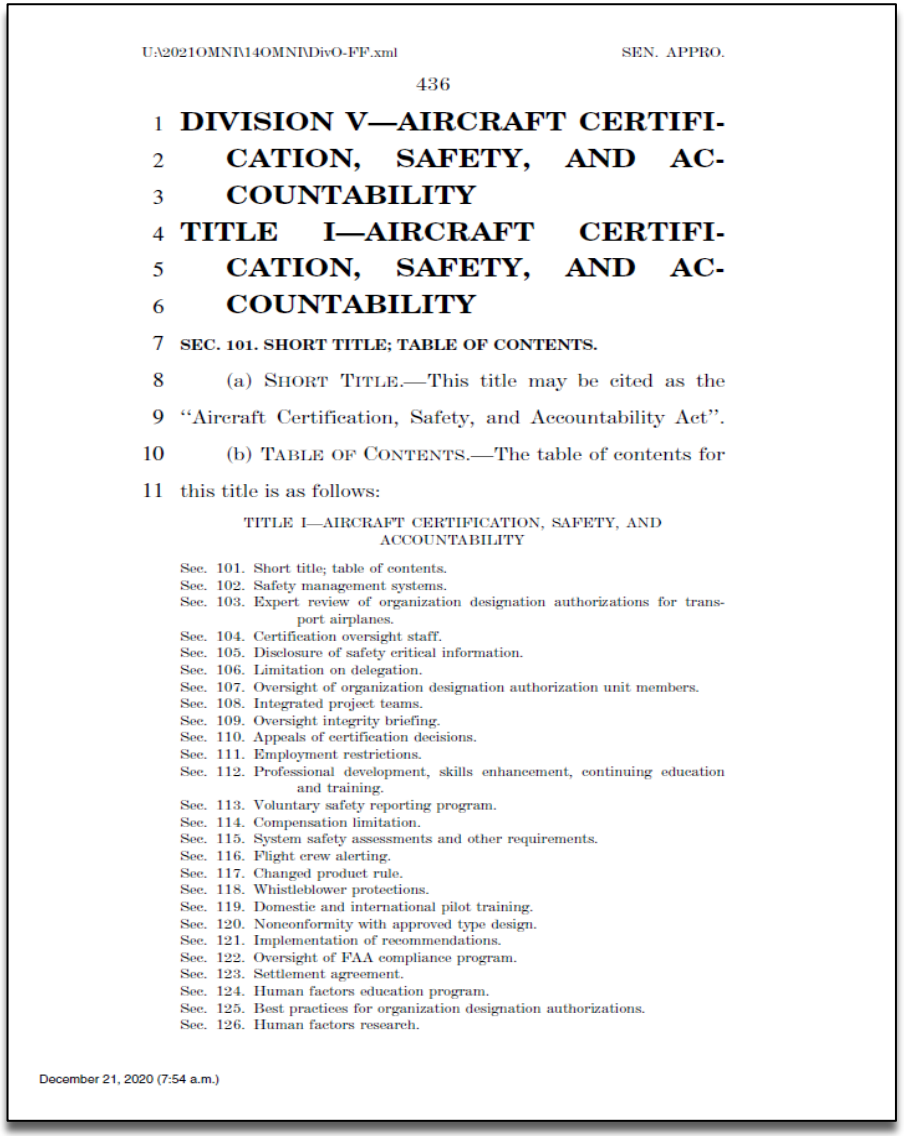
Overview

- **Aircraft Certification, Safety, and Accountability Act (ACSAA)**
- **Part 5 Safety Management System (SMS) Rulemaking**
- **Order 8130.21 rev “J” Completion of FAA Form 8130-3 under Part 21**
- **Dynamic Regulatory System (DRS)**

ACSAA Background

Aircraft Certification, Safety, and Accountability Act (ACSAA)

- Signed into law December 27, 2020
- Contains 37 sections, many pertaining to the Aircraft Certification Service
- Includes Section 102, *Safety Management Systems*



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DIVISION V—AIRCRAFT CERTIFICATION, SAFETY, AND ACCOUNTABILITY

TITLE I—AIRCRAFT CERTIFICATION, SAFETY, AND ACCOUNTABILITY

SEC. 101. SHORT TITLE; TABLE OF CONTENTS.

(a) SHORT TITLE.—This title may be cited as the ''Aircraft Certification, Safety, and Accountability Act''.

(b) TABLE OF CONTENTS.—The table of contents for this title is as follows:

TITLE I—AIRCRAFT CERTIFICATION, SAFETY, AND ACCOUNTABILITY

December 21, 2020 (7:54 a.m.)

Congressional Legislation – ACSAA

- **Safety Management Systems – Section 102**

  - **Requires the Federal Aviation Administration (FAA) to issue regulations for holders of both a type certificate and a production certificate,** such as aircraft and other aerospace industry manufacturers, **to adopt safety management systems (SMS) consistent with international standards and practices**.
  - An SMS adopted under this section ***must*** contain:
    - **Confidential Employee Reporting System** that includes non-punitive provisions through which employees can report hazards and safety concerns. The confidential employee reporting system must be implemented in a manner consistent with other voluntary reporting programs administered by the FAA Administrator.
      - Congress is serious about ensuring employee safety concerns are raised and acted upon.
    - **Code of Ethics**, emphasizing safety as the highest priority for a manufacturer's management and employees.
      - Congress mandated that the rule requires the organizational establishment of a code of ethics which confirms that safety is the organization's highest priority.

Overview of NPRM

- ACSAA requires the FAA to initiate rulemaking to require all manufacturers holding a type and production certificate (for a complete product) to adopt an SMS.

- The rulemaking committee expanded the applicability beyond design and manufacturing organizations to include Part 135 operators, and air tour operators conducting operations under 14 CFR 91.147.

- ACSAA further requires entities to have an adopted SMS by 4 years from the enactment of ACSAA (Dec. 27, 2020 + 4 = **Dec. 27, 2024**)
  - NPRM Issued, January 11, 2023
  - Comments period (extended additional 30 days) closed April 11, 2023
- FAA rulemaking team is currently adjudicating public comments and formalizing the “final” rule
- FAA policy and guidance will be updated to reflect the final rule

What is an SMS

- **References:** *(all will need to be updated to reflect the "Final" rule)*
  - **FAA Advisory Circular AC21-58**, Safety Management Systems for Part 21 Design and Production Approval Holders (Draft, provided in the NPRM)
  - **International Industry Standard SM-0001**, Implementing an SMS in Design, manufacturing and Maintenance Organizations
  - **National Aerospace Standard NAS9927**, SMS Practices for Design and Manufacturing
  - **Title 14 CFR part 5** *(final rule as amended)*

- **A systematic approach to managing safety, including the necessary organizational structures, accountability, responsibilities, policies and procedures** (*ICAO Annex 19*)
  - An organization-wide comprehensive and preventive approach to managing safety. An SMS includes a safety policy, promotion of a positive safety culture, and formal methods for identifying hazards and mitigating risk.
  - An SMS provides assurance of the overall safety performance of an organization.
  - An SMS is intended to be designed and developed by the people of an organization and should be integrated into existing operations and business decision-making processes.
  - An SMS will assist an organization's leadership, management teams, and employees in making effective and informed safety decisions.

What is an SMS (cont'd)

- **An SMS is built by structuring your safety management around four components:**
  - **Safety Policy**: Safety policy consists of defining measurable safety objectives, assigning employee responsibilities, and setting organizational standards
  - **Safety Risk Management**: Provides a proactive decision-making process for identifying hazards and mitigating risk (*more on following slides*)
  - **Safety Assurance**: Gives confidence that the system performance meets the organization's safety objectives and that risk controls developed under SRM are effective
  - **Safety Promotion**: Understanding your safety responsibilities, safety policies and expectations, reporting procedures, and a familiarity with risk controls

What is an SMS (cont'd)

- FAA guidance materials such as **AC 21-58** will outline an acceptable means of compliance to applicable Part 5 sections/requirements, implementation strategies and examples, to aid in the development and implementation of an SMS.

- An SMS is designed to be ***scalable***, similar in that regard to a Part 21 compliant "Quality Management System".

Resources:

FAA Public SMS Website:
http://www.faa.gov/about/initiatives/sms/specifics_by_aviation_industry_type/.

International Civil Aviation Organization (ICAO) Safety Management website:

https://www.icao.int/safety/SafetyManagement/Pages/default.aspx.

Safety Risk Management

- **Safety Risk Management** is a formal system for identifying and mitigating risk. The aim of SRM is to prevent the occurrence of serious incidents or accidents. To that end, SRM identifies hazards, analyzes, assesses and controls safety risks.
  - Essentially, SRM is a proactive decision-making approach to identifying hazards and mitigating safety risks.
- SRM should be applied to:
  - Implementation of new systems.
  - Revision of existing systems.
  - Development of operational procedures.
  - Identification of hazards or ineffective risk controls through a safety assurance process.
- **There are five processes necessary to control and mitigate safety risk:**
  - System Analysis
  - Hazard Identification
  - Safety Risk Analysis
  - Safety Risk Assessment
  - Safety Risk Controls

Safety Risk Management (cont'd)

- **System Analysis:**
  - the first step towards proactively identifying and addressing potential problems before the new or revised systems or procedures are put into place.
    - Example: a decision to outsource a critical design activity to an external partner. This would be a change to your design and certification sub-system. As part of your examination of the design outsourcing, you may need to consider changes to your requirements management process, supplier management process, engineer training, design review processes, and compliance showing process.

- **Hazard Identification:**
  - SMS must develop and maintain processes to identify hazards within the context of the system analysis. While identification of every conceivable hazard is unlikely, it's expected to exercise due diligence in identifying hazards that could foreseeably lead to an aircraft accident or incident.
    - Example: what could go wrong with your processes, under typical or abnormal operational conditions, that could cause an incident or accident?

Safety Risk Management (cont'd)

- **Safety Risk Analysis:**
  - for each identified hazard, define the potential for an accident/incident related to operating while exposed to the hazard. In order to determine potential for an accident/incident, you need to define the likelihood of an occurrence and severity of the outcome, that may result from the accident/incident.
    - Example: if improper validation of requirements has been determined to be a hazard in the use of a new requirements management software tool, what is it about using the new software tool that would lead to errors?

- **Safety Risk Assessment:**
  - Once the risk is analyzed, you must assess whether the risk is acceptable. A common tool used in risk assessment decisions is a risk matrix. A risk matrix provides you with a way to integrate the effect of severity of the outcome and the probability of occurrence, which enables you to assess risks, compare potential effectiveness of proposed risk controls, and prioritize risks where multiple risks are present.

Safety Risk Management (cont'd)

- **Safety Risk Controls:**
  - After hazards and associated risk are fully understood, risk controls must be designed for risks that the organization deems unacceptable.
    - Examples of risk controls include new processes, equipment, training, new supervisory controls, new equipment or hardware, new software, changes to staffing arrangements, or any of a number of other system changes. In short, anything that would lessen the likelihood or severity of a potential incident/accident.

Part 21 Voluntary SMS

- Through FAA prototyping and feedback from the Part 21 SMS Aviation Rulemaking Committee (ARC), AIR developed a Voluntary Manufacturer's SMS Program.

- There are 28 participants working with AIR-800 System Oversight Division to develop and implement a voluntary SMS. (5 have received a letter acknowledging FAA acceptance of their SMS)

- The FAA encourages production approval holders to implement SMS into their regular business processes and gain FAA recognition of their SMS program. Upon acceptance of the SMS program, AIR awards a letter of acceptance stating the participating company has an SMS Program accepted by the FAA.

FAA Order 8130.21 Revision Update and Related Documents

- **Streamline and standardize policy for issuance of FAA Form 8130-3**
  - Renamed Order to Completion of FAA Form 8130-3 under Part 21
  - Removed many prescriptive statements in block 12 “remarks” to eliminate confusion
  - Simplified terminology in the block-by-block instructions
- **Eliminate redundancy and content that departs from the primary intent of the form**
  - One set of block-by-block instructions versus three
- **Reduce page volume (from 74 to ≈11 pages)**
  - Removed all sample figures
  - Merged airworthiness approval and export block-by-block instructions
  - Transferred policy on prepositioning prototype products and articles to FAA Order 8120.22, *Production Approval Procedures*
  - Transferred policy on Return to Service (RTS) for products and articles to AC 43-ARTS, *Use of FAA Form 8130-3 for Approval for Return to Service Under Part 43*
- **Remove burdensome administrative functions**
  - A user friendly document

Order 8130.21 Related Project Documents (cont'd)

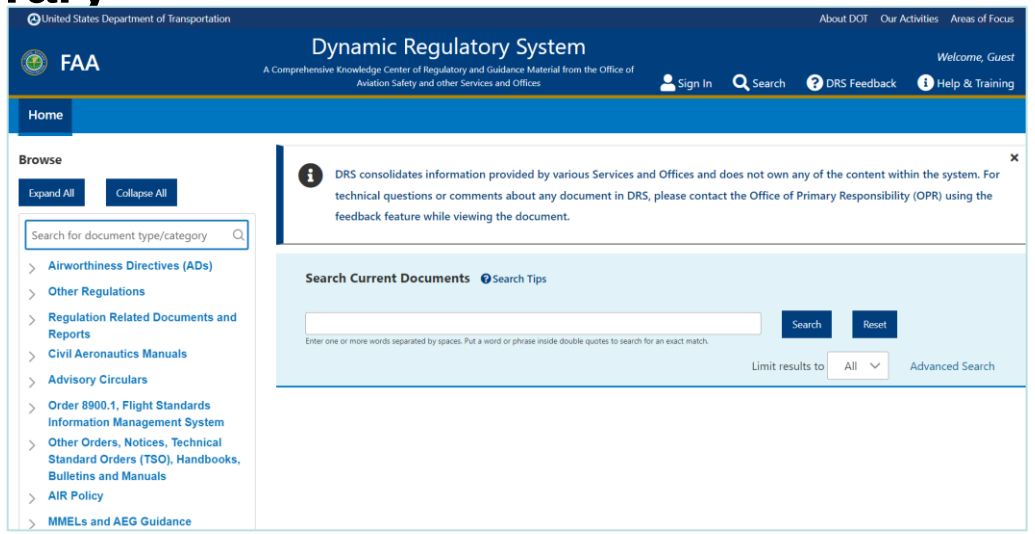
- **FAA Order 8120.18A (*Production Approval Holders Who Rebuild or Alter Their Own Products and/or Articles Under 43.3(j)*))**
  - Provide instructions on how to complete 8130-3 for PAHs Returning to Service. (consolidate relevant policy on the subject matter / one stop shop)
- **FAA Order 8120.22, Change 1, (*Production Approval Procedures*)**
  - Now contains the "Prepositioning Prototype Products and Articles process.
- **FAA Advisory Circular (AC) 21-32C (*Control of Products and Parts Shipped Prior to Type Certificate Issuance*)**
  - Updated to align with the 8130-3 policy/package.
- **FAA AC 43-ARTS (*Use of FAA Form 8130-3 for Approval for Return to Service Under Part 43*) – Original draft document**
  - Flight Standards is the OPR
  - Document will be assigned a number at publication

Dynamic Regulatory System (DRS)

- https://drs.faa.gov/browse
  - DRS consolidates information provided by various Services and Offices and does not own any of the content within the system. For technical questions or comments about any document in DRS, please contact the Office of Primary Responsibility (OPR) using the feedback feature while viewing the document.

- **Replacement for RGL – Regulatory Guidance Library**
  - Decommissioned September 30, 2022

- **Future Enhancements Planned**



Questions