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Agenda Item 2: Air Navigation Services
2.1 Air Navigation Matters

**THE FEDERAL AVIATION ADMINISTRATION, OFFICE OF AIRPORTS,
IMPLEMENTATION OF SAFETY MANAGEMENT SYSTEMS**

(Presented by the United States of America)

SUMMARY

The primary objective of this paper is to outline the current efforts being undertaken to implement Safety Management Systems (SMS) at certificated airports within the United States.

Like many aviation authorities throughout the world, the Federal Aviation Administration (FAA) is undertaking efforts to implement Safety Management Systems (SMS) and Safety Risk Management (SRM) processes with its regulatory and oversight framework. While similar efforts are being pursued across multiple lines of business within the FAA, including the Office of Aviation Safety and the Air Traffic Organization, this paper speaks to programs and process initiated by the FAA's Office of Airports.

In addition, this paper will provide an overview of the FAA's philosophy regarding Safety Management Systems, Risk Management, and rulemaking processes.

1 Introduction

1.1 In November 2005, the International Civil Aviation Organization (ICAO) amended Annex 14, Volume I (Aerodrome Design and Operations), to require member States to have certificated international airports establish a Safety Management System (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.

1.2 The FAA is committed to implementing SMS throughout the agency and having Part 139 certificated airport operators implement SMS. The Office of Airports (ARP) is currently working on an FAA Order that will establish the framework for ARP's SMS and an implementation plan for SMS throughout the organization. The new guidance is planned to be available in early 2009.

2 Safety Management Systems and Safety Risk Management

2.1 The FAA shares a view similar to ICAO regarding the philosophical underpinnings of SMS. In short, a safety management system is an integrated collection of processes, procedures, and programs that ensure a formalized and proactive approach to system safety through risk management. SMS is a closed-loop system ensuring all changes are documented and all problems or issues are tracked to their conclusion.

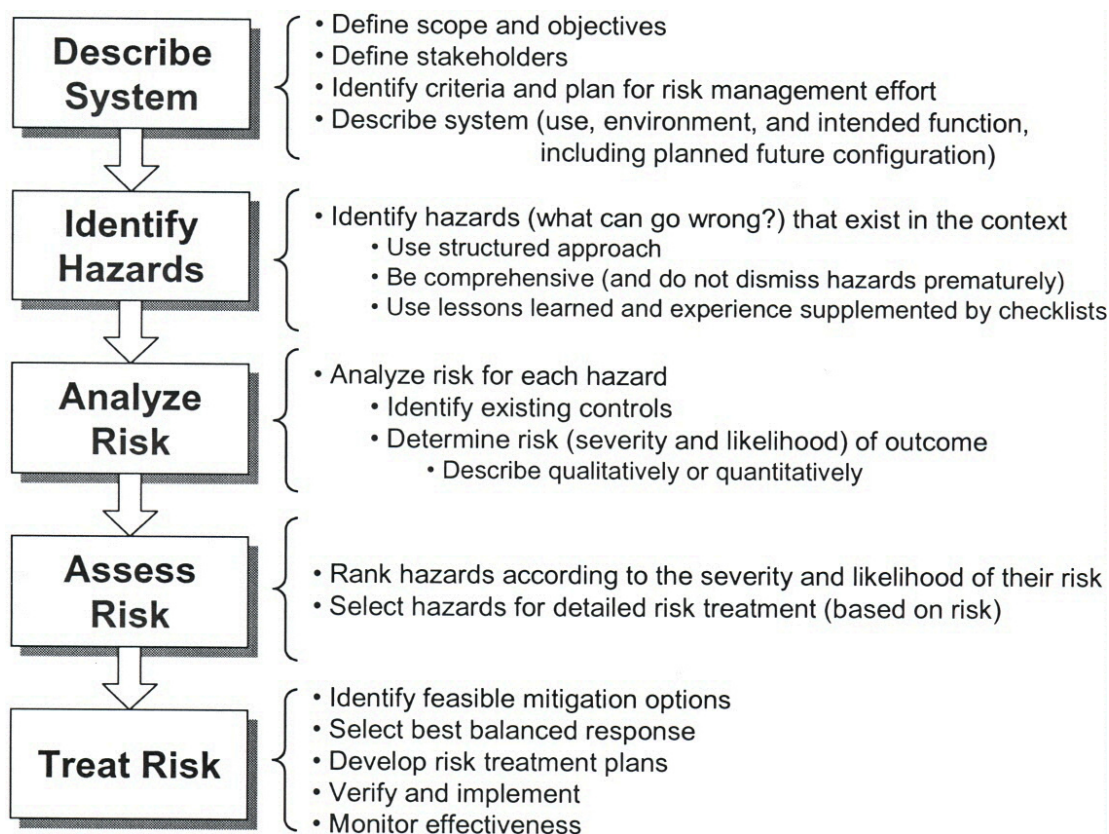
2.2 A typical Safety Management System is comprised of four main components or pillars.

1. **Safety Policy** - All management systems must define policies, procedures, and organizational structures to accomplish their goals. Policy establishes the structure of the SMS.
2. **Safety Risk Management** - A formal system of hazard identification, analysis and risk management is essential in controlling risk to acceptable levels.
3. **Safety Assurance** - Once controls are identified, the SMS must ensure they are continuously practiced and continue to be effective in a changing environment.
4. **Safety Promotion** - The organization must promote safety as a core value with practices that support a positive safety culture.

2.3 When properly implemented, an SMS establishes a safety philosophy or culture that permeates the entire organization in the monitoring and continuous improvement of safety of the operation.

2.4 Within an SMS, safety risk management provides a formalized system of identifying hazards, analyzing risk, and providing a means for managing risk to acceptable levels as established by the organization. Normally, a safety risk management process is implemented when any of the following three conditions exist: (1) during initial system & task analysis; (2) for all proposed changes, like new or modified systems, procedures, equipment, or environments; or (3) when new hazards are discovered during daily operations or during safety assurance activities.

2.5 Once initiated, the safety risk management process typically consists of five steps as shown in the table below.



3 SMS Implementation Process

3.1 The FAA is moving forward with both external and internally focused programs for the implementation of SMS.

3.2 The FAA is undertaking a rulemaking change to part 139. This part prescribes the requirements for airports who host certain commercial aeronautical activities. This change to our airport certification regulation will require certificated airports to implement an SMS at their airport.

3.3 Because of the variety of commercial service airports throughout the United States, it is critical to determine how best to scale rule making efforts in consonance with airport size and complexity. To do this, FAA's Office of Airports developed a pilot study program involving over twenty airports. The program provided funding for each of these airports to undertake a gap analysis, and to begin codifying the elements of their safety management system. While this is an ongoing study, the FAA has already received feedback beneficial to its rulemaking efforts. For example, many of the pilot study participants expressed difficulty in developing and implementing a non-punitive reporting system for the airport. Their concerns focused on the fact that a large number of potential reporters to the system are not airport employees and there appears to be no way to protect those non-airport employees from punishment outside the airport's non-punitive reporting system.

3.4 We have also seen variations in the manner of SMS program development. For example, many smaller airports elected to use consultants in the development of their programs, while larger airports seemed to have the resources to develop these using internal resources. However, we were encouraged that in all cases, participants concluded that SMS would benefit their facilities in terms of safety.

3.5 This program provided information critical to the success of future rulemaking efforts. FAA Office of Airport's goal is to publish a notice of proposed rulemaking by the end of next year and to have a final rule in place within two to three years.

3.6 Concurrent with its rulemaking efforts, the Office of Airports is developing an internal SMS process. The philosophy is simple; if the SMS process is the best way to manage risk, why shouldn't we as regulators implement the same approach?

3.7 In addition to defining how the Office of Airports will interface with other lines of business within the FAA on complex projects, SMS will also drive the improvement of internal work processes. For example, activities such as the production of guidance materials, the approval of modifications to airport standards, and the approval of airport construction plans will all be subject to the safety risk management process. The goal is to have all office employees trained and all work processes subject to an SMS process within five years.

4 Conclusion

4.1 The evolution to SMS represents the next great regulatory movement to improve aviation safety. With the rapid pace of technical development, and the growing capacity demands being placed on the air transportation system, a safety management system is needed to effectively integrate risk mitigation into current management processes. SMS as a risk mitigation tool prescribes processes that are essential for identifying those deficiencies most likely to lead to accidents. Implementing SMS in the airport environment is an important next step forward in making air transportation even safer.

5 Recommendation

Delegates are requested to note the contents of this paper and encouraged to implement SMS at their international airports.

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