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Agenda Item 2:

Air Navigation Matters 2.3 Other Air Navigation Matters

THE UNITED STATES FEDERAL AVIATION ADMINISTRATION'S INTEGRATED SAFETY MANAGEMENT SYSTEM (ISMS)

(Presented by the United States of America)

SUMMARY

In accordance with recommendations that emanated from the March 2006 ICAO Directors General of Civil Aviation Conference on a Global Strategy for Aviation Safety, the FAA is actively and aggressively pursuing the design and implementation of a government/aviation industry Integrated Safety Management System (ISMS). This paper describes the industry aspect (SMS-P), the government aspect (SMS-O) and the status of current implementation efforts.

1. Introduction

1.1 The Federal Aviation Administration (FAA) welcomes the opportunity to move into the next generation of safety management by combining the principles of system safety and quality management into Safety Management Systems (SMSs). The FAA not only intends to design and implement SMS programs for certificate holders but also for our own oversight activities. The vision of a safety program with roles for both regulator oversight systems and operator/service provider SMSs described in recent ICAO working papers and amended Annexes will be implemented in the United States as a comprehensive Integrated Safety Management System (ISMS).

2. Discussion

2.1 <u>System Safety in Air Carrier Oversight</u>. The FAA began to shift to system safety methods of oversight several years ago with the advent of the Air Transportation Oversight System (ATOS). Under ATOS, oversight of commercial air carriers, both in initial certification and later during oversight of continuing operational safety, takes a systems approach. Operator applications for certification and subsequent changes to safety critical processes are assessed not only for basic compliance with technical standards and regulations, but also for organizational design attributes that will effectively control safety risk. After certification or program approval/acceptance, operator system performance is assessed by evaluating system performance, rather than isolated inspections for compliance. Oversight planning is conducted based upon a comprehensive risk analysis, allowing the FAA and the carrier to focus energy on areas of greatest concern.

2.2 <u>Operator/Service Provider Responsibilities</u>. The FAA further takes the stance that the primary responsibility for safety and, therefore, risk management rests with certificate holding operators and service providers. This was a fundamental precept of the basic legislation that created the agency in 1958. We feel that implementation of SMSs by air carrier managements is the next step in implementing a comprehensive systems approach to safety by the carriers themselves. The SMS provides a powerful management tool to assist managers of aviation enterprises to meet their statutory and regulatory responsibilities, as well as to ensure the safety of their customers and employees. In the FAA's ISMS, operator/service provider SMSs are titled "SMS-P."

2.3 <u>Regulator Oversight Responsibilities</u>. U.S. legislation and ICAO standards also place significant responsibilities on the FAA to promulgate regulations and standards and to certificate organizations, individual aviation practitioners and aircraft, and to support oversight functions that implement these legal processes. The FAA believes that these responsibilities should be based upon safety risk management principles. Moreover, it is incumbent upon the FAA to not only ensure the effectiveness of our processes, but to do so in a manner that gives American taxpayers the best efficiency possible for their investment. The FAA is in the process of implementing a quality management system (QMS) under ISO-9000. The combination of safety risk management methods and the ISO-9000 registered QMS allows us to build a safety focused management system – our own SMS. Oversight system SMSs are titled "SMS-O."

2.4 <u>SMS Structure and Functions</u>. The FAA's SMS concept, both for operators and for the agency itself, is based upon four fundamental components or "pillars."

• **Policy:** Including the regulations, standards, and internal polices that govern organizational activities.

• **Safety Risk Management:** Organizational process requirements are based upon careful analysis of risk in operations. For the FAA, this includes promulgation and implementation of regulations, and planning and implementing oversight programs. For operators, this affects the way that they design their organizational systems to incorporate risk controls.

• **Safety Assurance:** This function is where proven quality assurance principles are used to manage attainment of safety requirements. Performance of risk controls is assessed, corrected where necessary, and continuously improved.

• **Safety Promotion:** This pillar provides for such functions as training, communication, and maintenance of employee safety reporting and feedback systems that underpin a sound safety culture. For the FAA, it also incorporates activities to promote safe practices in un-certificated organizations and operations such as general aviation.

2.5 <u>Integration and Collaboration</u>. Another aspect of the FAA's ISMS is that we plan, to the maximum extent possible, to promote collaborative approaches to safety management. Recognizing the unique roles and responsibilities of both industry and FAA organizations and, in particular, the responsibility of the FAA to act as an industry regulator, we believe that the most effective method of safety management involves the proactive participation of both players in the endeavor. We also feel that this is the most efficient way to leverage the expertise and resources of both industry and regulator. Pilot programs are already underway in this area and more are planned to further explore this concept. Thus, the ISMS is actually a "system of systems" and not just isolated, separate operator and oversight systems. Future developments of the ISMS will stress integration of both voluntary and regulatory safety programs to provide for modular, integrated safety management systems with the objective of reducing redundancy, conflicting requirements, and gaps.

2.6 <u>SMS Standard Development</u>. The FAA will publish an introductory Advisory Circular (AC) in the early summer of this year. This circular includes an operator SMS functional standard for operators to use as a basis for SMS design. An interdisciplinary group wrote the standard after careful research of other countries' SMS programs and management standards in a variety of domains including quality, environmental protection, and occupational safety and health. It is written at approximately equivalent scope, scale, and level of detail as the ISO quality and environmental standards and contains a map to these and other standards for organizations that desire to develop integrated management programs.

2.7 <u>Proof of Concept</u>. Once the AC is published, the FAA plans to commence several proofof-concept evaluations with several air carriers, general aviation organizations and aviation training organizations. Further training and guidance materials will also be developed and published throughout the remainder of this year. The FAA is also developing SMS training at the FAA Academy in Oklahoma City and is contributing to ICAO SMS standards and training developments.

The FAA is keenly interested in the SMS concept and the furtherance of system safety methods in general. We are moving apace to develop and implement these programs in our own agency and industry systems and stand ready to assist others in similar endeavors.

3. Conclusion

3.1 The FAA is committed to system safety principles and their active implementation in both civil aviation activities and their governmental oversight. The FAA's integrated approach described above, involving both FAA and aviation industry components, is expected to yield maximum safety benefits in the coming years. As the FAA proceeds down this path, it is prepared to offer its experiences and "lessons learned" to other civil aviation authorities. The meeting is invited to note the foregoing information

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