



International Civil Aviation Organization

WORKING PAPER

A36-WP/189
TE/54
13/9/07
(Information paper)
English only

ASSEMBLY — 36TH SESSION

TECHNICAL COMMISSION

Agenda Item 30: Other safety matters

SINGAPORE'S CONTRIBUTION TO AVIATION SAFETY THROUGH TRAINING

(Presented by Singapore)

EXECUTIVE SUMMARY

This paper outlines Singapore's contribution to aviation safety through the comprehensive range of safety-related conferences and courses organized by the Singapore Aviation Academy.

<i>Strategic Objectives:</i>	This working paper relates to Strategic Objective A.
<i>Financial implications:</i>	Not applicable.
<i>References:</i>	Not applicable.

1. INTRODUCTION

1.1 With the rapid growth of air transportation globally, aviation safety has become a top priority to air transport regulators and operators alike. While technology and infrastructure form the backbone of the civil aviation value chain, the human factor remains a crucial element of the chain. Thus, in establishing sound safety management systems, the industry needs to understand how to systematically, explicitly and comprehensively manage safety risks while integrating operations and technical systems with human resource management.

1.2 The Singapore Aviation Academy (SAA) through its various safety-related training programmes, aims to play its part to help the industry build up a proficient pool of safety managers and technical personnel with a safety mindset. SAA has since 1997 developed and conducted over 50 safety programmes, many of them in support of ICAO's aviation safety initiatives such as the Universal Safety Oversight Audit Programme (USOAP), ICAO's requirement for safety management systems (SMS) to be implemented in air traffic services and aerodromes, and the expanded ICAO safety audits. To-date, some 2000 participants from over 100 countries have attended the various safety-related courses and conferences conducted by SAA.

2. SAFETY OVERSIGHT CONFERENCE AND COURSES

2.1 In response to the launch of ICAO's USOAP in 1999, SAA organized a Safety Oversight Management Conference in October 1999. Following the conference, a Special Curriculum Development Panel, comprising experts who spoke at the conference, was formed to deliberate and identify training needs arising from the ICAO initiative.

2.2 The work of the Panel bore fruit when SAA introduced four safety oversight courses viz Safety Oversight Managers; Safety Oversight Airworthiness Inspectors (Maintenance); Safety Oversight Airworthiness Inspectors (Engineering) and Safety Oversight Flight Operations Inspectors in 2001. As demand for these courses continue to be strong, SAA will continue to offer these courses annually. The next series of courses will be held in August 2008.

3. SAFETY MANAGEMENT CONFERENCE AND COURSES

3.1 In line with ICAO's requirement for SMS to be implemented in the areas of air traffic services and aerodrome operations, SAA organized a Conference on Implementing Aviation SMS in September 2002. A Curriculum Development Panel convened after the conference came up with a comprehensive SMS training programme.

3.2 In April 2003, SAA launched its inaugural two-week Integrated Safety Management Systems (ISMS) course to provide an understanding of the theory and practice of designing, implementing and maintaining an operationally effective integrated SMS. Owing to the overwhelming response, this course is held two times a year. So far, eight runs have since been conducted. The next run will be conducted in November 2007.

3.3 In September 2007, SAA will host ICAO's five-day Safety Management Systems (SMS) course. This course will complement SAA's existing courses to enhance the knowledge of safety managers with SMS concepts and ICAO Standards and Recommended Practices (SARPs) on safety management in Annex 6 – *Operation of Aircraft*, Annex 11 – *Air Traffic Services* and Annex 14 – *Aerodromes* and related guidance materials.

3.4 SAA has also been conducting ATS Safety Management and Investigation Workshops since 1997. The workshop examines key issues relating to safety management in ATS such as principles of safety oversight, risk and hazard management, investigation techniques and human factors in ATS incidents. Common linkages between ATS safety management and incident investigation will also be covered. The next course will be held in May 2008.

4. SAFETY AUDIT CONFERENCE AND COURSES

4.1 In response to ICAO's expansion of the ICAO USOAP to include Annex 11 – *Air Traffic Services*, Annex 13 – *Aircraft Accident and Incident Investigation*, and Annex 14 – *Aerodromes*, as well as the subsequent move towards a systems approach to safety audits, SAA organized a Conference on Expanded ICAO Safety Audits in April 2004 to prepare States to meet the new requirements. A curriculum development exercise was again carried out following the conference, with the experts to develop a training outline on safety audits.

4.2 SAA introduced a five-day course on Safety Audits of Air Traffic Services (ATS) in April 2005 to provide participants with an in-depth understanding of the principles and skills to effectively plan and conduct safety audits of ATS. This course aims to meet ICAO's requirement for States to implement formal and systematic safety management programmes, in particular, the regular conduct of safety audits of ATS by qualified personnel. The next course will be in December 2007.

4.3 A new Safety Audit and Lead Auditor course was introduced in February 2006. This course will provide an understanding of new legislation and the requirements for safety management systems and quality assurance systems in the aviation industry. It will cover the interface between safety and quality systems, organizational factors, identifying latent failures and use of aviation safety management control systems. This hands-on course allows participants to experience an audit in a "real environment" from planning and initiating to writing the report and follow-up. Two runs have already been conducted and the next course will be held in September 2007.

5. RUNWAY SAFETY CONFERENCE AND COURSE

5.1 SAA organized its first-ever Conference on Runway Safety jointly with the United States Federal Aviation Administration (FAA) on 25 to 27 July 2005. Fifteen speakers from seven countries, international organizations and leading manufacturers participated in the conference which attracted over 100 delegates eager to exchange views and experiences with experts and stakeholders on critical areas of runway safety. Following the conference, a curriculum development panel of expert speakers was formed. SAA and FAA are currently developing a runway safety workshop.

6. ACCIDENT INVESTIGATION COURSES

6.1 SAA organized its first-ever Chief Aircraft Accident Investigators Programme in August 2007. This programme was held conjunction with ISASI's 38th Annual International Seminar in Singapore.

6.2 SAA has been conducting aircraft accident investigation course since 1997. Its current 2-week course, which has been enhanced over the years, covers investigation techniques and understanding of a State's responsibilities in accident investigation as required under ICAO Annex 13 as well as the management of accident investigations and organisational factors in safety. Depending on the areas of interest, participants can attend either the module focusing on techniques and regulations or the second one focusing on organisational factors and major issues. A panel of five instructors, highly experienced in accident investigation and specialising in various aspects of accident investigation, will share their expertise and experience during the course. The next run of this course will be in February 2008.

7. CONCLUSION

7.1 Aviation safety training will continue to be of top priority at the Academy. SAA will continually review and enhance its training programmes to meet the changing regulatory and industry needs. To facilitate the participation by developing countries, fellowships are provided by the Singapore Government under the Singapore Cooperation Programme for some of these courses. SAA will continue to play an active role to promote a safe, secure and efficient air transport system, through the training of safety personnel worldwide.

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