



WORKING PAPER

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COMMITTEE B

- Agenda Item 6: Organizational safety issues**
6.2: Implementation of safety management
6.2.2: Safety management systems

**IMPROVING IMPLEMENTATION EFFICIENCY OF THE SAFETY MANAGEMENT
SYSTEM (SMS) AND SMS ASSESSMENT**

(Presented by the People's Republic of China)

EXECUTIVE SUMMARY

As ICAO requires contracting States to demand their service providers to establish a safety management system (SMS), the Civil Aviation Administration of China (CAAC) has actively fulfilled its obligations as a contracting State, having established an SMS that is compliant with the requirements of ICAO and in line with realities of China's civil aviation industry. Since 2008, CAAC has issued in succession SMS implementation requirements for airports, airlines, security entities, air traffic control (ATC) maintenance and dangerous goods transport enterprises, and is now developing SMS implementation requirements for aircraft designers and/or manufacturers, and general aviation enterprises.

In order to evaluate and improve actual performance and maturity of SMS, CAAC started assessment of SMS in 2010, having developed an SMS assessment checklist for airlines, airports and ATC entities, an SMS assessment system and tools. CAAC carried out SMS assessments of over forty airlines and airports. Certain results have been achieved over years of practice.

Action: The Conference is invited to share with China methods and experience regarding SMS, extensively collect and address problems arising in SMS implementation, jointly establish and improve SMS assessment methods and standards and work out a set of mature SMS performance evaluation methods.

1. INTRODUCTION

1.1 In 2008, ICAO conducted a new round of amendments to Annexes, detailing framework requirements for contracting States to implement a safety management system (SMS), which includes framework requirements on SMS implementation for training organizations, operators or approved maintenance organizations, helicopter operators, aircraft type designers or final assembly companies, air traffic service providers and aerodromes.

¹ Chinese version provided by China.

1.2 In compliance with requirements of ICAO, the Civil Aviation Administration of China (CAAC) has actively promoted SMS building by service providers in China, having established an SMS that is compliant with the requirements of ICAO and in line with realities of China's civil aviation industry. Since 2008, CAAC has issued in succession SMS implementation requirements for airports, airlines, security entities, air traffic control (ATC), maintenance and dangerous good transport enterprises, who, as a result, have established SMS according to relevant regulations. At present, CAAC is now developing SMS implementation requirements for aircraft designers and/or manufacturers, and general aviation enterprises.

1.3 As service providers in China carry out SMS work, we have solved many problems encountered in SMS implementation and established a set of relatively scientific SMS assessment methods, with which we can accurately and objectively evaluate maturity of SMS, and SMS implementation has reached expected objectives.

2. DISCUSSION

2.1 Since 2010, in order to scientifically and objectively evaluate SMS maturity and improve SMS implementation efficiency, CAAC launched SMS assessment, which is aimed to focus on evaluation of SMS implementation effectiveness in addition to regulations compliance.

2.2 SMS assessment is carried out in accordance with detailed SMS checklist, including three main phases of file assessment, on-site assessment and data analysis. File assessment is mainly conducted before on-site assessment to evaluate SMS related file system; on-site assessment mainly collects data on implementation and effect evaluation via record check, staff interview, relevant material consultation and platform system/management tool check. After on-site assessment, assessor will analyse data collected from file assessment and on-site assessment, and development assessment reports.

2.3 Development of SMS assessment checklist is in compliance with requirements of ICAO on SMS. Checklists include sub-checklists on safety policy, safety responsibility, designation of core safety management personnel, emergency response, file management, identification of hazard source, risk evaluation and control, safety performance monitoring and measurement, management of changes, constant improvement of SMS, safety training and education and safety information exchange. Each checklist is used to carry out examination respectively from the seven perspectives of system and procedure, responsibility, personnel, tool, implementation, control and effects.

2.4 Final assessment results will provide a quantified assessment score, rank and overall SMS maturity from aspects of SMS components, seven perspectives of system components and assessed entity, and clearly describe problems existing in SMS, analyse causes and offer detailed suggestions on improvement.

2.5 In order to assess SMS implementation effects in a more objective and comprehensive manner, CAAC detailed and improved the SMS assessment checklist in 2014, and added sub-checklists dedicated for flight quality monitoring, user difficulty report, movement area management, bird strike management and trustee management among others based on business characteristics of service providers, with the number of sub-checklists reaching twenty one. After that, CAAC has made constant improvement to the assessment checklist.

2.6 In 2014, in order to improve accessibility of SMS assessment and enhance assessment data statistics, CAAC researched and developed an SMS assessment tool system. The system consists of a server and on-site assessment tools: main functions of the server include assessment of checklist maintenance, assessment of task management, management of assessor and assessment of data statistics

and analysis; main functions of on-site assessment include on-site assessment data collection and result recording and assessment progress management.

2.7 By July 2018, CAAC had carried out in succession SMS assessments of over forty entities including airlines and airports. Through assessment, CAAC evaluated building, implementation and maturity of SMS by service providers and problems and weak links existing therein, having played an important role in promoting SMS building and improving SMS efficiency. As a result, safety input, safety management work quality and safety performance have experienced outstanding improvement by assessed service providers in their following safety management work.

2.8 In 2018, the Safety Management System International Collaboration Group (SMICG) amended its SMS evaluation methods. CAAC sent representatives to participate in the discussion on SMS evaluation methods of SMICG, and proposed suggestions on improvement of those methods. After that, CAAC will actively participate in ICAO's Safety Management Panel (SMP) and SMICG meetings, and will gradually share China's SMS practical experience and assessment methods with other countries.

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