17th Meeting of the COSCAP-NA Steering Committee (SCM)
Busan, Republic of Korea 10 to 12 May 2017

Information Paper 6
Implementation of Safety Management Initiatives in Hong Kong, China

(Presented by Hong Kong, China)

SUMMARY

The Global Aviation Safety Plan (GASP) 2017-2019 sets out a global aviation safety roadmap, with specific objectives and priorities to assist States / Administrations in progressively developing an effective safety oversight system; fully implementing the ICAO State Safety Programme (SSP) framework by 2022; and having a more advanced predictive risk management system by 2028. These strategies aim to support the development of future aviation systems in a harmonized manner across regions.

While setting these global objectives, the GASP recognizes that States may take into account their safety processes in planning and establishing their own specific approaches towards meeting these objectives.

In this respect, Hong Kong, China has proactively implemented action plans for SSP activities through a systematic and coordinated approach.

This paper shares with Member States/Administrations the processes adopted by Hong Kong, China, including the periodic safety assessment process and continuous safety improvement cycle, and the roadmap developed for our implementation of safety management initiatives.

1. INTRODUCTION

1.1 The Global Aviation Safety Plan (GASP) 2017-2019 sets out a global aviation safety roadmap, with specific objectives and priorities to assist States / Administrations in progressively developing an effective safety oversight system; fully implementing the ICAO State Safety Programme (SSP) framework by 2022; and having a more advanced predictive risk management system by 2028. These strategies require the aviation community to more proactively manage safety, and harmonize safety initiatives to support the development of aviation systems of the future.

1.2 In this connection, the ICAO has published the Safety Management Manual (Doc 9859) which includes guidance on a phased approach for SSP implementation, gap analysis, data-driven surveillance concepts, etc., aiming at harmonizing the implementation approach. Yet, there is no 'one-

size-fits-all' solution for SSP implementation by States / Administrations facing different operating environments. The GASP has thus also highlighted that States / Administrations may plan and establish their own specific approaches towards meeting the objectives and priorities according to their safety oversight capabilities, SSPs and safety processes.

1.3 Hong Kong, China fully supports these global safety initiatives, and has developed and implemented action plans for SSP activities through a systematic and coordinated approach.

1.4 As the Hong Kong Civil Aviation Department (CAD) has the regulatory responsibilities for aviation safety in Hong Kong, China, it is incumbent upon the CAD to undertake the implementation of SSP related activities in Hong Kong, China. This paper shares with Member States / Administrations the processes adopted by Hong Kong, China, including the periodic safety assessment process and continuous safety improvement cycle, and the roadmap developed for our implementation of safety management initiatives.

2. DISCUSSION

2.1 Defining the SSP Roadmap in Hong Kong, China

2.1.1 In 2009, the CAD completed a review of our safety oversight system and developed the first SSP for Hong Kong, China which outlined an initial SSP implementation framework. To progressively develop the SSP, the CAD has to regularly review the safety processes and refine the SSP Action Plan as the ICAO safety management guidance is updated and enhancement opportunities are identified. Three SSP Gap Analysis exercises were conducted in 2010, 2012 and 2014. Safety oversight / management experts across the disciplines participated in taskforce meetings to explore improvement opportunities.

2.1.2 The SSP Gap Analysis questions in ICAO Doc 9859 and iSTARS were instrumental in assisting Hong Kong, China in identifying the gaps from the prevailing international best practices. For every gap or enhancement opportunity identified, a task group would be assigned to take actions. The overall progress would be monitored by a cross-disciplinary taskforce established within the CAD, namely the SSP Implementation Committee.

2.1.3 In 2013, the ICAO rolled out a number of global safety initiatives, including the new Continuous Monitoring Approach (CMA) under the Universal Safety Oversight Audit Programme (USOAP), a new Annex 19 on Safety Management, the updated GASP and Doc 9859, etc. To meet these global safety initiatives, our SSP roadmap has been significantly revamped and updated. Salient milestones are outlined below.

Timeline	Salient Milestones of SSP Activities
2013	• Reorganize CAD resources to provide a focused effort on global safety initiatives. • Establish the CAD CMA Coordination Committee & internal audit/health check. • Consolidate safety data from across the aviation disciplines.

2014	• Formulate SSP Action Plan by the SSP Implementation Committee. • Identify enhancement areas through the 3rd SSP Gap Analysis exercise. • Establish a **holistic** quarterly / annual Hong Kong safety review framework. • Publish the 2nd edition of **Hong Kong Safety Programme 2014-17**.
2015	• Update internal SSP guidance for CAD personnel e.g. risk-based surveillance and enhance internal process for safety management training. • Refine "Safety Risk Management" processes e.g. periodic review of industry SMS and safety performance.
2016	• Complete SSP / SMS-related protocol questions on ICAO CMA Website. • Publish the 1st issue of "Safety Links" to promote safety culture with industry. • Establish a 2016 to 2019 implementation plan of **ICAO Annex 19 2nd Edition**. • Launch a **Safety Library System**, a safety promotion tool, to effectively promulgate guidance to CAD staff and manage documentations. • Provide advanced training to regulators on evaluating the effectiveness of SMS.
2017	• Publish the 3rd edition of **Hong Kong Safety Programme 2017-20**.
Sep 2017	• Provide the 1st update of Annex 19 **Compliance Checklist** on ICAO CMA website.
Dec 2017	• Implement SSP fully.
2018 Onwards	• Continuous review and improvement of "Compliance/Performance-based" safety oversight system.

2.1.4 In summary, the ICAO guidance and SSP gap analysis has greatly assisted Hong Kong, China in defining and updating the SSP implementation roadmap. To achieve the overall safety objective, which is to fully implement SSP by 2017, actions across sectors would be needed to improve the safety processes, in particular relating to those major gaps identified, which are (i) the periodic oversight of SMS and safety performance and (ii) the refined use of safety data in surveillance programmes. In this connection, internal guidance for CAD personnel has been developed with reference to the ICAO Doc 9859, followed by internal safety promotion to facilitate harmonization of regulatory processes.

2.2 **Safety Assurance and Periodical Safety Assessments**

2.2.1 To ensure the safety processes commensurate with the scale and complexities of aviation systems, the CAD periodically reviews its internal processes and risk profile of the aviation system of Hong Kong, China, and adjusts the action plans as needed.

2.2.2 According to the SSP Component 3 - "Safety Assurance", aviation authorities are expected to have safety data-driven / risk-based surveillance processes that can target areas of higher concerns. To enable meaningful analysis, data should be sufficient in quantity as well as quality. However, aviation regulators generally face a challenge on control of data quantity or quality over safety reports supplied by third parties. In addition, the good safety record of certain aviation systems with "no" or "low" incident rates may experience a "small number" challenge in safety management.

2.2.3 For the aviation environment of Hong Kong, China, a "total systems approach" requiring the use of proactive data for safety measurement and a safety intelligence system combining safety data and regulatory knowledge is adopted for maintaining / improving aviation safety. Apart from reviewing and continuing to refine safety indicators as the SSP develops, the CAD would actively explore global or regional safety indicators and metrics for safety benchmarking. Noting that ICAO's global / regional safety management framework and SSPs are progressing, safety indicators should become more harmonized and meaningful in safety communication amongst aviation regulators and industries.

2.3 **Continuous Safety Improvement Cycle**

2.3.1 To support the SSP framework, a continuous safety improvement cycle with the Plan-Do-Check-Act elements has been incorporated in the safety oversight / safety management process. Such Cycle also helped promote the use of safety data in driving safety actions or preparing safety action plans; as well as regularly evaluating the effectiveness of safety resources to achieve the planned safety targets. The concept of periodic refinement of safety actions is emphasized and the continuous safety improvement process is applicable at all levels within the CAD.

3. ACTION BY THE MEETING

3.1 The Meeting is invited to :-

a) Note the measures taken by Hong Kong, China in support of ICAO's global aviation safety initiatives, and the experience in implementing SSP ; and

b) Exchange the experiences and challenges faced during implementation of SSPs.