



ICAO

International Civil Aviation Organization

The Ninth Meeting of the APANPIRG ATM Sub-Group
(ATM/SG/9)

Video Teleconference, 01 – 05 November 2021

Agenda Item 9: Any other business

PROPOSALS FOR ATM SAFETY MANAGEMENT ACTIVITIES IN THE APAC REGION

(Presented by Secretariat)

SUMMARY

ATM faces a lot of challenges owing to changes in airspace and all the modernizations of Air Navigation Systems to fulfil the needs and expectations of aviation community.

This paper aims to stimulate discussions on what activities should be undertaken in the APAC Region to support the application of safety risk management processes in ATM operations and projects.

1. BACKGROUND

1.1 The rapid rate of air traffic growth in APAC region has been creating capacity, efficiency and safety challenges for ATM. Before COVID-19 impact, according to ICAO regional traffic forecasts, significant growth of above 5 per cent per annum can be expected until 2032 in the regions of Asia/Pacific area (*From ICAO Asia/Pacific Area Traffic Forecasts*), and traffic growth after recovery from Pandemic is most likely to be likewise.

1.2 The APAC Seamless ANS Plan and Regional Aviation Safety Plan were developed based on global strategic plans (GANP ASBU, GASP Goals and Targets) to improve the overall performance of global aviation system. Consequently, ATM has been transforming amid innovative changes in both the organization and operations of such elements as core ATM infrastructures, new regulations, airspace reorganization, emerging business and new entrants, new technologies and procedures for the future ATM.

1.3 The application of safety management processes is a prerequisite when planning implementation of air navigation operational improvement. ICAO Annex 11 and Doc4444 (PANS-ATM) require that any significant safety-related change to the ATS system shall only be effected after a safety assessment has demonstrated that an acceptable level of safety will be met, users have been consulted, and post-implementation monitoring processes are implemented to verify that the defined level of safety continues to be met. ICAO Annex19 *Safety Management* and Doc 9859 *Safety Management Manual* provide States and ANSPs with the standards and recommended practices (SARPS) and strategic methodologies to manage for the safety management of changes to ATS systems and procedures.

1.4 The air navigation system and safety cannot exist separately, but rather complement each other for the optimized and sustainable development of aviation. Ever evolving changes in ATM system should be carefully managed to ensure safety in increasingly complex circumstances of ATM. . There may be a need for regional activities to provide guidance and support for States on how to include safety risk management in the overall ATM change management process.

1.5 The meeting is also invited to note that ICAO Annex 19 requires that both States and service provider promote a positive safety culture with the aim of fostering effective safety management implementation through the State Safety Plans (SSPs) and Safety Management Systems (SMS). It is also a requirement for ANSPs to define the safety policy reflecting organizational commitment regarding safety including the promotion of a positive safety culture. In the environment of a positive organizational safety culture, operational personnel will report safety concerns, their own errors and mistakes without worries about disciplinary actions or punishment and blames, which is generally described as ‘Just Culture’ or ‘Trust’ and a key indicator to matured SMS. Collaboration and contribution from operational personnel is a critical factor for effective ATM change implementation in States.

2. DISCUSSION

What has been done

2.1 To fill the gap in ATM safety management, APAC regional sub-office has conducted a series of workshops on various subjects on ANS and Safety to support APAC States to achieve safety-ensured ATM implementation using online platforms overcoming the constraints by global COVID-19 pandemic.

2.2 Among all other subjects, two rounds of workshops on *ATM Safety Risk Assessment in Change Management*, and one on *Safety Culture in ATM* were conducted with 160 participants on daily average. Workshops were planned to support States and air navigation service providers (ANSPs) to enhance the ATM safety assessment capability and safety risk management performance when implementing any significant safety-related changes into the system. States shared their practical experience and best practices, and the feedback survey showed participants appreciated the initiatives on this subject hoping for more events on ATM safety management.

2.3 Workshops focused on ICAO requirements and practical guidance (Doc 9859) on how to conduct the management of change process through the key methodologies of safety risk assessment in safety risk management. It was highlighted with the group discussion exercise on hands-on practice on a real case. A new online platform called MURAL¹ provided participants with an opportunity to proactively get engaged and interact with each other at the same time regardless of locations. States and organizations, namely Australia, India, Singapore, Republic of Korea, FAA United States, EASA, IFALPA, and IFATCA, contributed by sharing their experience and lessons learned in three workshops.

2.4 Particularly in the workshop on Safety Culture in ATM, the importance of understanding and creating a positive safety culture was emphasized with special focus on reporting culture for the consistent availability of safety data and safety information required for effective ATM safety risk management. Invited subject matter experts spotlighted on ‘just culture’ as a most important key enabler to a strong safety culture, which can be realized only with the commitment of high-level management to safety-related tasks in the organizations.

Challenges identified

2.5 APAC member States’ challenges were identified based on the results of surveys conducted during a series of workshops on ATM safety management in 2020 and 2021.

¹ Refer to the MURAL exercise by one of the participants here:
<https://app.mural.co/t/icao3243/m/icao3243/1634113820729/c5ef414c6cb55d636ecc57b47f19759aecb21466?s=ender=slee6110>

2.6 Hazard identification and safety risk mitigation were the first most difficult challenges in the processes of safety risk assessment that many participants answered. Effective safety risk assessments can be carried out only when there is sufficient safety data and information for better analysis, and qualified, competent safety personnel to correctly interpret the safety data and apply them into operational safety risk mitigation strategies with full knowledge of the processes.

2.7 Answers to the question “what are the biggest challenge you face when conducting Safety Risk Assessment in ATM?” indicated that most States and service providers suffer a lack of resources and experienced, competent experts with relevant knowledge and capabilities. Participants stated that they need more practical guidance on ‘HOWs’, methodologies, tools, and safety data to analyse when assessing and mitigating safety risks related to changes into ATM.

2.8 Majority of participants gave feedback that they would appreciate more initiatives and events by ICAO APAC regional office on ATM safety management demanding for more practical guidance and sharing between experts, organizations and States.

Current status check

2.9 The Universal Safety Oversight Audit Programme Continuous Monitoring Approach (USOAP CMA) Effective Implementation (EI) scores for APAC region have been lower against the global level in in all categories so far. (Note - Data was extracted from the iSTARS database on 15 August 2020)

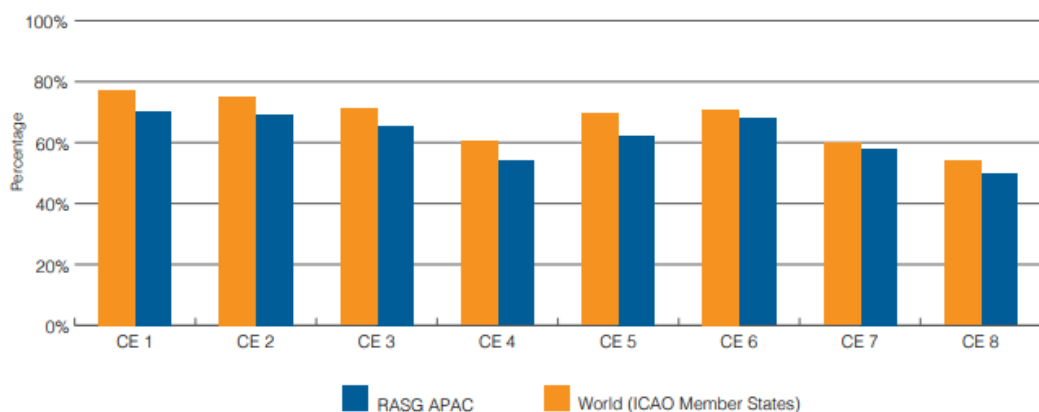


Figure 1. Overall EI of RASG-APAC by CEs from the APAC Annual Report Safety 2020

2.10 ATM is increasingly relying on safety data and information in the course of transformation toward globally interoperable harmonized operations through digitalized automation where data matters. However, overall reporting rates in APAC region are rather low in general. Airspace Safety Monitoring Agencies have been experiencing difficulties in collecting safety data reports for many years and ANS implementation reporting by States is a bit slow as well. More significantly, the results of surveys conducted in the workshops on ATM safety risk assessment showed that more safety data and safety information is needed for effective analysis and assessment of the safety risks involved when implementing ATM change management.

Proposals

2.11 The following proposals may address the challenges and difficulties faced by States and ANSPs to support safety-assured implementation of changes coming from the modernization of CNS/ATM in a safe and efficient timely manner.

2.12 An **APAC region-wide conduct of an ATM Safety Management survey** would give us better situation awareness of how APAC States and ANSPs are dealing with ATM safety-related behaviours in their organizations and how they are managing changes derived from the global and regional ANS upgrade journey while fulfilling the overarching objective of safety. Conducting a region-wide safety management survey, including safety culture, would help us get a clearer picture of the effectiveness of ATM SMS. It also may provide a valuable opportunity to understand the possible gap in perception and perspectives between the State authorities, their service providers and the aviation industry. The results of the survey may then be used to identify appropriate regional support activities.

2.13 **Keep conducting activities on ATM safety management** in the APAC region would better facilitate the effective implementation of ATM changes in the APAC member States by providing a forum for ATM stakeholders to share experience, lessons learned and best practices with exercises on real change cases in the forms of workshops and seminars.

3. ACTION BY THE MEETING

3.1 The meeting is invited to:

- a) note the information contained in this paper;
- b) discuss the proposed actions in paragraph 2.11 to 2.13; and
- c) discuss any other related matters as appropriate.

.....