



FOURTEENTH AIR NAVIGATION CONFERENCE

Montréal, Canada, 26 August to 6 September 2024

Agenda Item 3: Air Navigation System Performance Improvement

3.1: Proposals to improve the efficiency of air navigation services contributing to LTAG

STEPPING UP COOPERATION AND INVESTMENTS IN AIR NAVIGATION SERVICES (ANS) CAPACITY AND CAPABILITIES

(Presented by China and Thailand, and Co-sponsored by Singapore)

EXECUTIVE SUMMARY

This paper presents the achievements and progress of the first work stream, under the leadership as well as cooperation framework of the Asia and Pacific Air Navigation Services Provider Committee (AAC).

1. INTRODUCTION

1.1 The first meeting of the Asia and Pacific (APAC) Air Navigation Services Provider (ANSP) Committee (AAC) was convened in Bangkok, Thailand, on 17-18 April 2023. The meeting agreed on the importance of ANSPs implementing the ICAO APAC Seamless air traffic management (ATM) Plan collaboratively, so that the concepts of operation and technologies can be adopted seamlessly on a pan-regional scale, to maximize the safety and efficiency benefits, and limited resources.

1.2 The AAC agreed to adopt a framework to organize the work of the Committee into four work streams based on areas of priority. The first work stream is “step up investments in ANS capacity and capabilities and share requirements and best practices in the procurement of ANS systems”. The second work stream is “accelerate the development and implementation Seamless ANS and collaborate on green initiatives to enhance ANS sustainability”. The third work stream is “collaborate on business continuity and contingency planning”. The fourth work stream is “formation of an Oceanic Working Group specifically focusing on the operations of the oceanic ANSPs”.

1.3 The first work stream (WS1) is led by China and Thailand, with founding members including Hong Kong SAR, China, New Zealand, Singapore, and Civil Air Navigation Services Organisation (CANSO). Subsequently, India, Macao SAR, China, and Viet Nam joined as members. Achievements have been made thanks to joint contribution of WS1 members. This paper gives a brief introduction of the work and progress of the AAC WS1.

¹Chinese and English versions provided by China.

2. DISCUSSION

2.1 Focusing on the areas of WS1 priority, nine tasks were selected to be led by the mainland of China, Thailand, Hong Kong SAR, China, and Singapore, and were approved by AAC in June 2023. Hereinafter briefly describe the contents of the tasks:

- a) Task 1: To formulate a scheme of collaboration on capacity building and technical assistance among ANSPs, for guiding ANSPs in helping each other to improve capacity and capabilities, including personnel training, technical assistance, and equipment support, etc.
- b) Task 2: To handle capacity building and technical assistance among ANSPs according to the collaboration plan, including secondment or attachment of subject matter experts among ANSPs for personnel training or onsite support.
- c) Task 3: To explore new technologies in facilitating regional Air Navigation System (ANS) modernization, with the involvement of ATM technology industry.
- d) Task 4: To create collaborative platforms in new technologies for cross-border trials, to facilitate regional ANS modernization, with the involvement of ATM technology industry.
- e) Task 5: To gather ANSPs needs and plans for ANS systems digitalization/modernization, and explore the feasibility and requirements.
- f) Task 6: To collaborate to organize an APAC Innovation and Capacity Building Symposium to build capacity and promulgate innovative technologies for ANS digitalization.
- g) Task 7: To encourage ANSPs to share experiences and best practices in ANS systems planning, procurement, implementation, maintenance, and whole-life cycle management.
- h) Task 8: To draft a common ANS system procurement guidelines, for ANSPs consideration in the APAC Region.
- i) Task 9: To take stock on the guidance materials available from ICAO, APAC, and CANSO related to ANS systems, and consolidate an e-library with classification, helping ANSPs to make references easily in ANS system planning, procurement, and implementation.

2.2 The following above-mentioned 3 tasks have been completed.

2.3 Task 1 has been completed. China and Singapore took the lead and worked closely with each other to complete drafting the “Asia and Pacific Air Navigation Service Provider Committee Collaboration Plan to Step Up Capacity and Capability for ANS System” (The Collaboration Plan for short). The Collaboration Plan (Version 0.1) had been approved by AAC in Oct. 2023, which provides guidance in collaborative activities among ANSPs, such as;

- a) Maintaining competence through the conduct of training in the domain of Communications, Navigation and Surveillance/Air Traffic Management (ATM/CNS) which is essential to create a resilient workforce. As such, it is advocated that ANSPs should commit resources to ensure the constant availability of training courses in the

region. This is exemplified by China's effort in the conduct of ATM/CNS workshop in Nanjing.

- b) Realising the ability for ANSPs to request and assist with technical support for one another. The plan advocates the benefits for ANSPs to render on-site technical support which will enable the process of effective knowledge transfer and efficient sharing of experience. To which, secondment or attachment of subject matters experts should also be considered by the participating ANSPs.
- c) Spare parts and procurement support were recommended. Spare part support advocates for ANSPs to aid in the domain of providing spare hardware to other suitable ANSPs. This would enhance resources management and aid in ensuring a continued level of operational readiness in the region. As for procurement support, suitable ANSPs could collaborate or contribute their developed technical requirements and lifecycle cost management with other ANSPs, thus enabling a more cost-effective process of acquiring a new ANS system.

2.4 Task 5 has been completed. Led by Singapore, WS1 and WS2 conducted a combined survey on capacity building and system modernization plans and challenges faced by ANSPs in the implementation of seamless ANS within the APAC Region. The initial survey result was analysed in the AAC online meeting on 14 March 2024. A full presentation of the result was made at AAC/3 at Chengdu in July 2024. One finding indicated that most ANSPs who responded have started their planning for the implementation of Flight and flow information for a collaborative environment (FF-ICE) and system-wide information management (SWIM) in support of the seamless ANS plan. These implementations would be the enablers for more advanced ANS functions and collaboration. The findings of this survey have provided the AAC with deeper insights on the needs of the ANSPs within APAC Region, and guided WS1 to refine its work with the identified avenues and areas of support. It has also guided WS2 in developing strategies to accelerate the development and implementation of seamless ANS and enhance ANS sustainability.

2.5 Task 6 has been completed. The Asia and Pacific Regional Innovation and Capacity Building Symposium 2023 (APICS 2023) was successfully organized by the Civil Aviation Administration of China (CAAC), Civil Aviation Department of Hong Kong (HKCAD), and Hong Kong International Aviation Academy (HKIAA), on 14-15 December 2023. The theme of the symposium was "Uniting the Strength of Innovation for Building a Seamless Sky". It provided an important platform for strengthening exchanges and cooperation in civil aviation technology innovation.

2.6 Besides the completed tasks mentioned above, the other tasks are proceeding according to the schedule, and the following two tasks have made substantial progress.

- a) For Task 2: The Air Traffic Management Bureau of CAAC (ATMB of CAAC) and China Electronics Technology Group Corporation LES Information System Company Limited (CETC LES) have co-hosted the first CNS/ATM workshop from 12 to 25 May 2024, in Nanjing, China. The workshop was provided at no cost to all ANSPs in the APAC Region and was structured with one week of training, followed by one week of technical discussion. The workshop helped to kick start the strengthening of technical exchanges and cooperation among APAC ANSPs under the collaboration framework of AAC. Participating ANSPs commended the opportunity to allow the sharing of planning development and experiences, including challenges encountered in making concerted efforts to the timely implementation of the ICAO APAC seamless ANS plan.

- b) Task 9: Hong Kong SAR, China has completed the draft template of ANS system's e-library guidance materials and would continue to update and provide a comprehensive list of materials that would aid ANSPs in their journey to acquire new systems and ANS capabilities.

2.7 Moreover, the following three tasks have been planned and discussed to a certain extent and to be carried out:

- a) Task 3: Co-lead by Thailand and Singapore. Three groups of new technologies for the region have been defined. And tentatively, a workshop to make the ANSPs collaboratively understand new technologies is to be carried out by the end of this year (2024).
- b) Task 4: Co-lead by China and Thailand. Cross border collaboration on International Route, which also includes a number of relevant components such as air traffic flow management (ATFM), trajectory-based operation (TBO), airport collaborative decision-making (A-CDM), is to be initiated and to focus primarily on ATFM.
- c) Task 7: Co-lead by ICAO and Thailand. An approach to do this task has been discussed. A questionnaire/survey is to be distributed, compiled, and concluded.

2.8 WS1 will further strengthen cooperation and exchanges with the other three work streams under the guidance of AAC, and carry out all tasks according to plan. This would include but not limited to the refinement of the collaboration plan, and the continuous exploration of new technologies with the involvement of industry partners, that could facilitate the regional ANS modernization.

3. CONCLUSION

3.1 The meeting is invited to:

- a) note the progress and achievement of AAC WS1; and
- b) discuss any other related issues, or provide any recommendations.

— END —