INTERNATIONAL CIVIL AVIATION ORGANIZATION

TWENTY EIGHTH MEETING OF THE ASIA/PACIFIC AIR NAVIGATION PLANNING AND IMPLEMENTATION REGIONAL GROUP (APANPIRG/28)

Bangkok, Thailand, 11 to 14 September 2017

Agenda Item 3: **Performance Framework for Regional Air Navigation Planning and Implementation**

3.2: **ATM**

ACHIEVING OPERATIONAL PREDICTABILITY FOR DEMAND AND CAPACITY IMBALANCE ON ATS ROUTES AND HARMONISATION OF AIR TRAFFIC FLOW MANAGEMENT FOR THE ASIA AND PACIFIC REGIONS

(Presented by Indonesia, Malaysia and Singapore)

SUMMARY

A proposal for managing air traffic congestions on ATS routes arising from air traffic flow restrictions from downstream Area Control Centres (ACCs) was presented at the ICAO Fifth Meeting of the ATM Sub-Group of APANPIRG and was supported by the meeting as a feasible solution. To further expand on the solution and apply it wider for regional benefits would entail commitment from States/Administrations to ensure resources are in place to support ATFM implementation. In view of the rapid development of ATFM over several areas in the region, there should be stronger emphasis to ensure harmonisation. In addition, there is also need for further guidance to be developed to assist States/Administrations to build up the necessary capabilities through training for implementation of ATFM.

1. INTRODUCTION

1.1 The South China Sea area facilitates high-density air traffic movement in the Asia/Pacific (APAC) Region. With the continued robust growth of air traffic in this region, air traffic congestions on various routes connecting the South East Asia and the North East Asia regions have become more common.

1.2 While States and ANSPs are reviewing the existing major traffic flow routes, ATFM concepts such as the Distributed Multi-Nodal ATFM Network, North Asia Regional ATFM Harmonisation Group (NARAHG) and Collaborative Miles-In-Trail Conversion Program (CMCP) can be applied to enhance the predictability of flights on ATS routes whenever flow restriction measures are imposed. While the concept of operations are available, it would require support from States and Administrations to provide the necessary resources, training and the commitment to be able to implement and support ATFM initiatives to achieve the overall objectives of balancing demand and capacity.

2. DISCUSSION

2.1 Case Study on ATS Route M771

2.1.1 A case study regarding flights experiencing lengthy delay due to flow restriction on ATS route M771 was provided during the Fifth Meeting of the ATM Sub-Group of APANPIRG (Bangkok, Thailand, 31 July – 4 August 2017), ATM/SG/5. Singapore proposed an interim solution using Multi-Nodal ATFM by providing flow resolution for the situation when 3 ATS routes merge onto waypoint DUDIS. This could provide greater predictability for airspace user's and operator's operations and allow for forward planning. The above concept was well received by ATM/SG/5.

2.2 Expansion from the Case Study Concept

2.2.1 ATM/SG/5 noted that advance submission of flight plans would enable accurate demand and capacity analysis, and cooperation from stakeholders in the form of compliance to the ATFM restriction is paramount to the success of such ATFM measure. It was also noted during ATM/SG/5 that there was a need for a better process of distributing ATFM information to upstream ACCs to enable better pre-tactical planning.

2.2.2 There is potential for the proposed concept to be applied in more parts of the region, as illustrated in Figure 2. The same concept could be applied anywhere among different States/Administrations or even domestically to address demand and capacity imbalances. States/Administrations with the capability to implement ATFM program in line with ICAO Asia Pacific Regional Framework for Collaborative ATFM should take the lead and collaborate with their neighboring ANSPs to adopt similar initiatives to meter air traffic flow on affected ATS routes. These regional ATFM initiatives not only serve to alleviate extensive delays and lack of predictability at the various nodes (airports, merging points etc.), they actually contribute to ensuring grid-lock free traffic flows at a system-wide level across a network of airways.

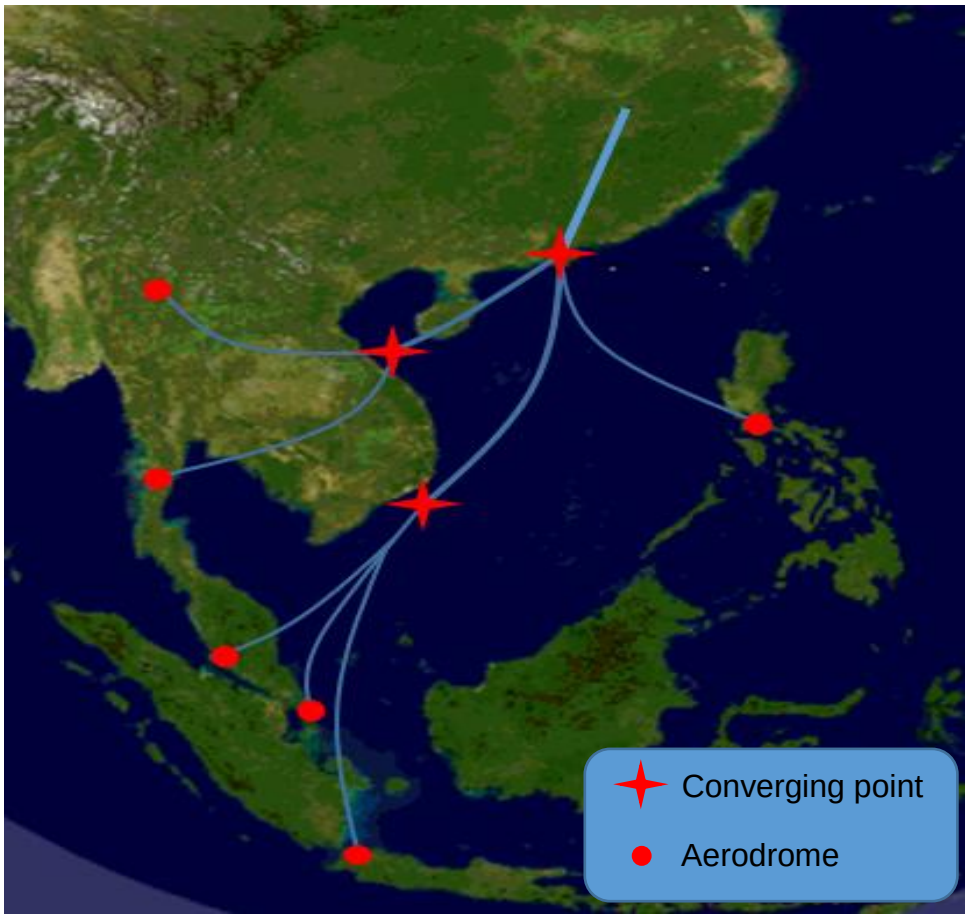

Figure 2: Illustration of Multiple Routes constraints

2.3 ATFM Harmonisation and Training

2.3.1 While the above-mentioned concept could alleviate the impact of flow restrictions prevalent at the current situation, it would require commitment from States /Administrations to support cross-border ATFM collaboration and harmonisation with the allocation of appropriate resources.

2.3.2 The need for ATFM harmonisation had been discussed in various meetings and forums further guidance in the form of ICAO Standards and Recommended Practices (SARP) and Manuals can provide concrete ways to move implementation forward. Thus, an ATFM harmonisation strategy could be incorporated in the Asia Pacific Regional Framework for Collaborative ATFM detailing requirements which include, for example, an organization's air traffic management policy, could aid States/Administrations in formulating the 'right' strategy for ATFM harmonisation.

2.3.3 With ATFM now gaining traction in the APAC region, it is only a matter of time that multiple States would acquire the capabilities to conduct cross-border ATFM operations. Without a properly harmonised framework in place, this could lead to a situation where multiple ATFM measures with possibly contradicting instructions and unachievable restrictions be imposed on a single flight as it traverses through the different FIRs. Hence, need for harmonisation of ATFM in the APAC Region cannot be understated if our aim is to provide a seamless service.

2.3.4 States/Administrations should refer to the Asia Pacific Regional Framework for collaborative ATFM when intending to conduct training for ATFM related personnel or courses. While today there are guideline material, indicating roles and responsibility of ATFM personnel and suggested training requirements, the requirements could still be subject to interpretation by the States/Administrations. As such, it is proposed that ICAO develop a "train the trainer" program to reinforce the key elements and ensure all the minimally required items are addressed in States' local training regime, and the correct intent get translated down from the trained trainers to all personnel concerned.

2.3.5 A harmonised starting platform could also shape and steer ATFM developments in the region in a certain direction that could aid future harmonisation of procedures developed by the individual States/Administrations. This is also in line with APANPIRG Terms of Reference, where the group shall examine and discuss how human resource planning and training issues affecting ATFM effectiveness might be resolved at the regional level.

3. ACTION BY THE MEETING

3.1 The Meeting is invited to:

a) request States/Administrations to consider collaborating with neighboring States/Administrations for ACCs to implement such ATFM measures to help alleviate uncertainty in operations planning;

b) urge ICAO to develop a ATFM harmonisation strategy, depicting the requirements and roadmap for ATFM harmonisation for the APAC Region for inclusion in the Asia Pacific Regional Framework for Collaborative ATFM; and

c) urge ICAO to develop a formalized training program to train the trainers, with the aim of enhancing the level of ATFM service standards in the region.

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