



*International Civil Aviation Organization*

**The Combined Meeting of the South Asia Indian Ocean Co-ordination Group  
SAIOACG/4 and the South East Asia Co-ordination Group SEACG/21**

Hong Kong, China 24-28 February 2014

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**Agenda Item 4: Implementation of CNS/ATM Systems**

**DISTRIBUTED REGIONAL ATFM NETWORK OPERATIONAL TRIAL**

(Presented by Hong Kong China, Indonesia, Malaysia,  
Singapore and Thailand)

**SUMMARY**

This paper presents the plan to conduct an Air Traffic Flow Management (ATFM) Operational Trial between Hong Kong China, Indonesia, Malaysia, Singapore and Thailand using the concept of distributed regional ATFM network.

The initiatives aim to enhance safety and efficiency to cope with the future growth of air traffic in this region.

**1. INTRODUCTION**

1.1 At the second meeting of ATFM/SG, the concept of a distributed multi-nodal ATFM network for the Asia Pacific Region was presented. This resulted from the collaboration between Hong Kong China, Singapore and Thailand. Such interconnected ATFM nodes residing within individual ANSPs in the region could form the larger virtual ATFM for the region.

1.2 The concept involved each ANSP operating an independent, virtual ATFM node supported by an interconnected information sharing framework. Airport-Collaborative Decision Making (CDM) mechanisms, especially at busy airports could aid the CDM process between the ANSPs, and flows of air traffic would be managed effectively based on a common set of agreed principles among the participating airspace users, ANSPs and airports. ATFM/SG/2 agreed that the distributed multi-nodal network was perhaps the only viable solution to the ATFM needs of the region

**2. DISCUSSION**

2.1 Recognizing the challenges involved in developing a mature multi-nodal virtual ATFM concept, a two-part approach to this endeavour was adopted. The first approach is the CDM information sharing trial focusing on the objective of a communication framework enabling effective exchange of relevant operational information between the three parties (Hong Kong China, Singapore and Thailand) to impart predictability and confidence into operations through enabling common situational awareness which has concluded.

2.2 The outcomes of the trial brought greater awareness on the need for a robust information sharing framework based on demand capacity management and necessary to support the collaborative decision making process in future ATFM network between the three ANSPs.

2.3 For the second phase which runs concurrently focuses on concept development and exploring the potential for implementation at a sub-regional scale. The ATFM/CDM proof of concept based on concept engineering process involves concept analysis, exploration and development to deliver an eventual Concept of Operation (ConOp). Key industry stakeholders from ANSPs, airspace users, airport operators and international organisations provided operational inputs to shape the concept. The concept development has since been completed and the ConOp will be presented at the ATFM/SG/3.

2.4 The ATFM/SG/3 from 10 to 14 March 2014 will be held in Singapore and provides an opportunity for States and airspace users to get a feel of the ATFM/CDM concept as arrangement will be made for all participants of the meeting to experience the concept exploration on an integrated test bed facility that has been set-up at the Singapore Aviation Academy. Fast time and Human in the Loop (HITL) simulation on the various scenarios will be demonstrated on the test bed with aim to provide an up close experience. This simulation experience will be supported by Airbus Prosky.

2.5 Discussion between Hong Kong China, Indonesia, Malaysia, Singapore and Thailand had taken place to review the plans to conduct the ATFM operational trials in June 2015. The trial will also involve airspace users and IATA has also supported this initiative.

2.6 Based on the agreement at past meetings for sub-regional implementation, the proposal is to concentrate on the South East Asia region up to Hong Kong China before expanding to other parts of Asia Pacific. States and airspace users that are keen to observe the trial are also welcome and information will be provided at a later stage. This will allow comments to be taken into consideration during the trial for the harmonisation / convergence that are sought for ATFM implementation in the Asia Pacific Region.

2.7 Progress on the discussion of the ATFM operational trial among the States will be provided at subsequent forums.

### **3. ACTION BY THE MEETING**

3.1 The meeting is invited to:

- a) Note the plan to conduct an ATFM operational trial based on a distributed multi-nodal ATFM network.
- b) Encourage States and airspace users to participate in ATFM/SG/3.
- c) Discuss any relevant matters as appropriate

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