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Twelfth Meeting of the Asia/Pacific Air Traffic Flow  
Management Steering Group (ATFM/SG/12)

Video Teleconference, 13 – 16 September 2022

#### Agenda Item 4: Review of Current CDM/ATFM Operations and Problem Areas

### PROGRESS UPDATES FROM ASIA-PACIFIC CROSS-BORDER MULTI-NODAL ATFM COLLABORATION (AMNAC)

(Presented by China, Hong Kong China, Singapore, Thailand,  
CANSO, and IATA)

#### SUMMARY

This paper presents the progress update of the *Asia-Pacific Cross-Border Multi-Nodal ATFM Collaboration (AMNAC)*, a collaborative effort to implement cross-border ATFM in the Asia-Pacific region. This paper discusses recent updates from the project in the past year, including post-operations analysis from GDP trials and GDPs activated in response to special and unforeseen events, continued situational information exchange during the COVID-19 pandemic, a proposal to expand the scope of the routine ATFM planning web-conferences, and a call for States/Administrations to ensure local procedures that enable facilitation with cross-border ATFM measures.

## 1. INTRODUCTION

1.1 The **Asia-Pacific Cross-Border Multi-Nodal ATFM Collaboration (AMNAC)** has been ongoing since 2015, laying down the foundation for cross-border ATFM in the region under the concept of *Distributed Multi-Nodal ATFM Network*. The concept, upon which the Asia/Pacific Regional Framework for Collaborative ATFM was founded, is based on a network of *ATFM Nodes* responsible for demand-capacity balancing within their area of responsibility while being connected to the network's information exchange infrastructure. The ATFM operations in each node will be based on regionally agreed principles and high-level operating procedures, with local adaptations as necessary.

1.2 The focus for this collaboration has been on building the infrastructure for information exchange and developing the common operating procedure for member States/Administrations to use **Ground Delay Program (GDP)** to balance traffic demand against ATM capacity under distributed ATFM environment. To enable participation by member States/Administrations of varying readiness levels, AMNAC has adopted a tiered level participation model for the work as shown in **Table 1**.

Tiered Level	Capabilities
Level 3	<ul style="list-style-type: none"><li>▪ Able to generate, deliver, and receive CTOTs;</li><li>▪ Able to comply with CTOTs from all Level-3 ATFM Nodes</li></ul> <p><i>Current members:</i></p> <ul style="list-style-type: none"><li>▪ <i>Cambodia, China, Hong Kong China, Singapore, Thailand</i></li></ul>
Level 2	<ul style="list-style-type: none"><li>▪ Able to comply with CTOTs from all Level-3 ATFM Nodes</li></ul> <p><i>Current members:</i></p> <ul style="list-style-type: none"><li>▪ <i>Indonesia, Malaysia, Myanmar, the Philippines, Viet Nam</i></li></ul>

Tiered Level	Capabilities
Level 1	<ul style="list-style-type: none"> <li>Observe and participate in the project's progress</li> </ul> <p><i>Current members:</i></p> <ul style="list-style-type: none"> <li><i>Lao PDR</i></li> </ul>

Table 1 - Tiered Participation in AMNAC

1.3 Core member States/Administrations of AMNAC have been reporting project progress at various forums over the years, including the regular meeting of the Air Traffic Flow Management Steering Group (ATFM/SG). This working paper continues the progress report, despite a relatively quiet year owing to the COVID-19 pandemic and significant traffic downturn reducing much of the need for ATFM measures.

## 2. DISCUSSION

### Operational Progress Updates

#### Network Post-Operation Analysis

2.1 As reported at the ATFM/SG/10 in 2020, the project core team has developed a network post-operations analysis portal to track the impact of and compliance to GDPs activated over time as the ATFM process became more widely adopted as part of the standard ATM operations for States/Administrations that are at Level 3 of the AMNAC tier. The aim of the portal is to quantitatively identify problem areas to be addressed, which is important for the continuous enhancement of ATFM, and is not intended to “name and shame” members who did not achieve the desired level of performance.

2.2 The network post-operations analysis is a web-based portal updated based on data submitted by ATFM Units from Level-3 tier every 3 months. The portal is maintained by Thailand and can be accessed at <https://bit.ly/amnac-poa>.

2.3 Based on the data captured in the portal, the following key observations can be made about the latter half of 2021 and the first half of 2022:

- (1) The COVID-19 pandemic and the resulting significant traffic downturn continued through 2021/2022, albeit with signs of traffic demand recovery following the lifting or easing of border restrictions by many States/Administrations in Q1/2022. The use of ATFM measure (GDP) continued to be sparse, with GDPs activated primarily in response to infrastructure disruptions and special events rather than over-demand. Specifically:
- (2) Hong Kong China continued their monthly GDP operational trial between August 2021 and July 2022, except for January and February 2022. The objectives have been to retain ATFM staff and stakeholders’ proficiency and to extend the use of distributed ATFM procedure to East Asia. Hong Kong China has done so by assigning *no-delay* CTOTs to flights bound for Hong Kong International Airport (VHHH), with the CTOTs and ATFM procedure expected to be followed by stakeholders involved. The trials affected approximately 20 flights each month, with compliance ranging between 70% - 95%. The high compliance rate is an improvement from the trials in 2020/2021. *WP14 by Hong Kong China provides more detailed report on this initiative.*
- (3) Despite the high compliance to GDP trials, Hong Kong China identified a potential issue relating to late submissions of flight plan and lapses in flight plan updates

(CHG, CNL messages) which could cause inaccurate traffic demand prediction in the ATFM system. *WP14 by Hong Kong China discusses this matter further.*

- (4) Singapore conducted a total of 6 GDPs from 12 – 18 February 2022 to cater for airspace closures at Changi Airport to facilitate flying displays for Singapore Airshow 2022. The 6 GDPs affected 21 flights in total, with an average ATFM delay of 17 minutes. The average compliance rate for the GDPs was 47.6% which is much lower than the typical compliance rate of 60% and above for GDPs conducted prior to COVID-19.
- (5) Thailand conducted several rounds of GDP in January – March 2022. The GDP activated in January was in support for the military air display at Don Mueang International Airport (VTBD), which impacted a total of 37 flights with an average ATFM delay of 17.56 minutes. The GDPs activated in February and March were in support of the large-scale military air exercises Cobra Gold 2022 and Cope Tiger 2022, which blocked a significant portion of the northeastern part of Bangkok FIR requiring traffic re-routing and GDPs to manage converging traffic at several airspace hotspots. These airspace GDPs impacted 142 flights with an average ATFM delay of 7.54 minutes. They were well-supported, with compliance rates ranging between 75% - 86% and proved effective in helping to manage traffic in the enroute airspace.
- (6) Additionally, Thailand also conducted a GDP in July 2022 in response to unplanned runway maintenance requirement at Phuket International Airport (VTSP). The GDP impacted 29 flights with a relatively large average ATFM delay of more than 86 minutes per flight. Owing to a strong support by stakeholders – both domestic and international – and a high CTOT compliance rate, the incident passed without undue and excessive airborne delay being imposed on flights to Phuket on that day. The large ATFM delays assigned, however, highlighted the possible devastating impact a major infrastructure disruption can have on flight operations even during the current low-demand period; this underscores the importance of maintaining ATFM infrastructure and readiness especially with traffic demand beginning to resume.

2.4 The relatively high compliance to GDPs conducted by Hong Kong China and Thailand is a good sign that stakeholders are still familiar with the ATFM procedure despite the reduction in its use during the pandemic years. However, there are still inconsistencies in compliance as observed in the GDP conducted by Singapore. Stakeholders are encouraged to upkeep this familiarity with the ATFM procedure consistently and the readiness to support possible GDPs and other ATFM measures especially as traffic demand begins to rise following the easing of border and travel restrictions across the region.

#### Continued Collaboration during the COVID-19 Pandemic

2.5 Another practice that AMNAC initiated during the COVID-19 pandemic was the regular sharing of *ATM/ATFM Status Update* document, with ATFM Units providing their information on ATM and ATFM status, weather outlook, and pandemic-related regulations or restrictions into a collective document giving a network-wide view of pandemic responses in the region. With support from ICAO, the updated document is hosted on the regional [COVID-19 information sharing webpage](#).

2.6 Along with the written updates, ATFM Units also participated in the regular bi-weekly ATFM planning web conferences during which the updates are discussed. The web conferences are hosted once every 2 weeks on Thursdays at 0800 UTC by Hong Kong China, Singapore, and Thailand

in rotation, and have been a primary venue at which key regional updates such as ATM capacity limitations and possible ATFM measures are discussed. They are participated by ATM/ATFM representatives from many other States/Administrations and will continue to be hosted.

#### Proposal for Asia/Pacific Bi-Weekly ATFM Web Conference

2.7 In recent few months, the invitation to the bi-weekly web conference has been extended to other States/Administrations outside AMNAC, and Japan has been joining the web conference and updating their ATM/ATFM status regularly.

2.8 Recognizing the benefits of having a regular avenue for States/Administrations to provide updates on their ATM and ATFM status as well as any other pertinent information, the AMNAC core team would like to propose that the regular bi-weekly web conference be renamed to **APAC Bi-Weekly ATFM Web Conference** and be opened to all States/Administrations in the Asia/Pacific region. The web conference follows a roundtable discussion format, in which a representative from each State/Administration will provide their update following the structure outlined in the ATM/ATFM Status Update document.

2.9 With the reduction in traffic demand and the need for ATFM measures due to the COVID-19 pandemic, some of the web conference sessions have been brief. However, it is necessary to continue with the web conference sessions for the establishment of a regional CDM routine. The establishment of a regional CDM routine would be beneficial for cross-border ATFM collaboration when traffic demand returns to the region.

2.10 States/Administrations are therefore requested to consider the concept of the *APAC Bi-Weekly ATFM Web Conference* and consider participating in the practice.

#### Expansion of the Distributed ATFM Network

2.11 In line with the outcomes from the recent 57<sup>th</sup> Conference of Directors General of Civil Aviation, Asia and Pacific Region to strengthen regional cooperation and making sure no country is left behind, expanding the distributed ATFM network in APAC is essential for traffic recovery and growth in the future.

2.12 At the core of ATFM network expansion, it is to ensure that ATFM measures can be facilitated by all States/Administrations in the region. In that regard, it is important that each State/Administration attempts to facilitate ATFM measures initiated by any State/Administration in the region regardless of ATFM implementation status. This is in line with the Regional ATFM Capability Phase IB expectation (Asia/Pacific Framework for Collaborative ATFM, v3.0, para 7.25). For States/Administrations that have yet to establish any ATFM unit, CTOT information should be made available to the aircraft operator and/or the first ATS unit providing services to the flights for compliance.

2.13 To familiarize personnel with ATFM procedures, States/Administrations in the region can conduct GDP operational trials with the assignment of “zero-delay CTOTs” while the traffic volume is lower during the current pandemic. AMNAC member States/Administrations along with Republic of Korea (ROK) and Japan have been participating in such trials throughout the pandemic; the experience is shared in a *joint working paper by Hong Kong China, Japan, Philippines and Republic of Korea (WP07)*.

**3. ACTION BY THE MEETING**

- 3.1 The meeting is invited to
- a) note the information contained in this paper,
  - b) consider supporting and participating in the APAC Bi-Weekly ATFM Web Conference,
  - c) ensure local procedures to facilitate the compliance with CTOT initiated by any States/Administrations in the region are established, and
  - d) discuss any relevant matters as appropriate.

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