*International Civil Aviation Organization*

**The Combined Tenth Meeting of the South Asia/Indian Ocean ATM Coordination Group (SAIOACG/10) and Twenty—Seventh Meeting of the South-East Asia ATS Coordination Group (SEACG/27)**

Video Teleconference, 29 March – 02 April 2021

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

# AIR TRAFFIC FLOW MANAGEMENT UPDATE

(Presented by the Secretariat)

**SUMMARY**

This paper presents the outcomes of the 10th Meeting of the Air Traffic Flow Management Steering Group (ATFM/SG/10).

## 1. INTRODUCTION

1.1 The 10th Meeting of Air Traffic Flow Management Steering Group (ATFM/SG/10) was held by Video Teleconference (VTC) from 04 to 08 May 2020.

1.2 The following information is extracted from the ATFM/SG report to the 8th Meeting of the ATM Sub-Group of APANPIRG, held by VTC from 23 to 27 November 2020.

## 2. DISCUSSION

Related Meeting Outcomes

2.1 The meeting was informed that the Asia/Pacific (APAC) Flight Information Exchange Model (FIXM) 4.1 Extension, initiated by ATFM/SG and developed by the APAC System-Wide Information Management (SWIM) Task Force (SWIM TF), had been reviewed by the FIXM Change Control Board (CCB) and subsequently published on the FIXM website at https://fixm.aero. APANPIRG 30 subsequently adopted the FIXM extension under ***Conclusion APANPIRG/30/12 (CNS SG/23/6-SWIM TF/3/4) – Asia/Pacific FIXM Extension for ATFM***. The FIXM extension was subsequently posted on the ICAO APAC Regional Office eDocuments web-page for immediate use by APAC administrations, where capability to do so existed:

https://www.icao.int/APAC/Pages/eDocs.aspx.

2.2 The 23rd Meeting of the Communications, Navigation and Surveillance (CNS) Sub-Group of APANPIRG (CNS SG/23) meeting had adopted ***Conclusion CNS SG/23/1 (ACSICG/6/1) – ATFM/AMHS-Based Interface Control Document for ATFM***, drafted by ATFM/SG/9, adopting and uploading the ATFN/AMHS-based Interface Control Document (ICD) for use by APAC Administrations in implementing cross-border ATFM communications. The ICD was also made available on the APAC Regional Office eDocuments web-page. A further update of the ICD was also considered by ATFM/SG/10 (see further discussion in this paper).

Progress Updates from Asia/Pacific Cross-Border Multi-Nodal ATFM Collaboration

2.1 The meeting was informed of progress in the Asia/Pacific Cross-Border Multi-Nodal ATFM Collaboration (AMNAC), renamed from the Distributed Multi-Nodal ATFM Network. The project, having developed a Common Operating Procedure, had now become a part of routine ATM operations by core team Administrations, supported by the other members.

2.2 Progress included the development of a network post-operations analysis portal (http://bit.ly/amnac-poa).

2.3 Key observations from the operations in 2019 were as follows.

1. The majority of the Ground Delay Programmes (GDPs) were initiated by in response to traffic congestion in the Bangkok and Sanya FIRs, and impacted more flights but with less overall ATFM delays, as proportionally compared to GDPs activated in response to airport disruptions.

2. Overall CTOT compliance rates by flights departing from Level-3 and Level-2 ATFM nodes were 73% and 70% respectively. There was room for improvement, as compliance by some ATFM nodes continued to be low. This was an ongoing issue that the AMNAC project core team still had to address through widened engagement with members and support from CANSO and IATA.

   *Note 1: **AMNAC Level 3 Nodes**: able to generate, deliver and receive CTOTs, comply with CTOTs (Cambodia, China, Hong Kong China, Singapore, Thailand). **Level 2 Nodes**: able to comply with CTOTs received (Indonesia, Malaysia, Myanmar, Philippines, Viet Nam); **Level 1 Nodes**: Observe and participate in project progress (Lao PDR).*

   *Note 2: The performance objectives of the Asia/Pacific Regional Framework for Collaborative ATFM specify the criteria for determining which States should perform at the equivalent of AMNAC Level 3, and include the expectation that all other APAC Administrations perform at the equivalent of Level 2.*

3. With more States/Administrations upgrading their ATFM capabilities over the years, the majority of flights included in the GDPs were departing from Level-3 and Level-2 ATFM nodes. AMNAC considered this was a promising sign of ATFM development in the region and showed that States/Administrations are striving to comply with performance expectations set out in the Asia/Pacific Regional Framework for Collaborative ATFM and the ASEAN ATM Master Plan.

2.4 Recognizing that ATFM-on-SWIM is a vision that requires long term development, the technical sub-group of the project had developed a Technical ICD to guide ATFM system procurement/development that would support AFTN/AMHS-based exchanges of ATFM messages, and had steered the testing of message exchange among core Air Navigation Service Providers (ANSPs), enabling the widened use of AFTN/AMHS-based ATFM messages in the region in the near term. During the transition period, States should consider bandwidth limitations of AFTN to avoid overburdening the system.

2.5 In the most recent update of the Common Operating Procedure an important change was made to resolve the ambiguity relating to CTOT revision. The intention was to ensure that the revised CTOT issued by the Initiating ATFMU was not so early that stakeholders were unable to react to it (**Figure 1**).

4.28 A revision of CTOT should also take into consideration the operational restrictions airspace users and airport operators are subjected to. To mitigate disruptions from insufficient reaction time for the processing of revised CTOT, stakeholders should lodge CTOT revision request as soon as practicable. In issuing a revised CTOT, Initiating ATFMU should ensure that the revised CTOT is not too early as to render stakeholders unable to react to it. **Table 9** specifies conditions for the revised CTOT.

| Changes Initiated by | Earliest Revised CTOT Allowable | |
|---|---|---|
| | Revised CTOT is **EARLIER** | Revised CTOT is ***LATER*** |
| ***Airspace User*** | Current time + [max STT* + Buffer] **New CTOT > Current time + 30 minutes** | N/A |
| ***Initiating ATFMU*** | Current time + [reaction time] **New CTOT > Current time + 45 minutes** | |

Table 9 - Lead Time Requirement for CTOT Revision Processing

**Max STT refers to maximum standard taxi-out time used in CTOT calculation among the airports in the network: for current operations, the maximum STT is 20 minutes*

**Figure 1**: Revised Procedure for Revision of CTOT (Asia/Pacific Cross-Border ATFM Collaboration Common Operating Procedures)

2.6 The project core team had also participated in discussions to harmonize sub-regional ATFM projects through the ATFM/SG ATFM Information Requirements Small Working Group (ATFM/IR/SWG), and had exchanged ATFM Daily Plans with Japan and Republic of Korea on a regular basis.

2.7 In response to a query on the frequency of ATFM/CDM teleconferences, which were in some cases conducted once per fortnight, the meeting was informed that Ground Delay Programmes were not run every day. CANSO stated that ANSPs should be encouraged to conduct CDM conferences every day, regardless of whether a programme of ATFM measures was necessary.

2.8 IFALPA noted that ANSPs differed in their approach to CTOT compliance. In the case of Thailand, the ANSP was proactive in ensuring compliance, including taking action for a CTOT revision in the event that the original CTOT window could not be met, while other ANSPs did not.

NARAHG Update

2.9 The Northeast Asia Regional ATFM Harmonization Group (NARAHG – China, Japan, Republic of Korea) provided information on the activity status of the group, including the NARAHG Concept of Operations, and interoperability with other ATFM groups.

2.10 NARAHG characteristics included the establishment of ATFMUs in the participating States, the high ratio of international flights within each participating State, planning for future connection of each ATFM system and exchange of flight data at FIR boundaries, and the calculation of ATFM measures by the ATFMU for each FIR, which were shared with upstream ATFMUs.

2.11 It was noted that predicting traffic demand accurately and adjusting traffic volume according to airspace capacity was not easy, as FIR boundary information was not shared in real time, and affected flights were delayed more than necessary and, in some cases, subject to multiple restrictions.

2.12 As the first steps for interoperability, exchange of ATFM Daily Plans (ADPs) had been agreed through the ATFM/IR/SWG, and Japan had coordinated with Hong Kong ATFMU to exchange CTOT. Republic of Korea was also planning to experiment the exchange of CTOT with Hong Kong ATFMU. It was expected that this activity would help develop harmonization between NARAHG and the Multi-Nodal Collaboration.

2.13 Noting that NARAHG recognized the core concept of the Regional Framework for Collaborative ATFM, NARAHG believed that, also considering the future Trajectory-Based Operations (TBO), the time had come to develop the operation of CTO.

2.14 CANSO re-stated that, to ensure continuity of ATFM operations across the Region, different CONOPS should be avoided.

2.15 In response to a query, China advised that, following a system upgrade, Shanghai ATFMU would share ADPs with the AMNAC ATFMUs. There was no current plan for all China FIRs to share ADPs.

2.16 In discussing the different formats of ADP information shared between ATFMUs, it was noted that ATFM was currently based on available technology, and that in future ADP would be digitized for distribution in SWIM.

Hong Kong Air Traffic Flow Management Website

2.17 Hong Kong, China had informed ATFM/SG/10 of the Hong Kong ATFM website (www.atfmc.gov.hk), targeted to be operational in June 2020. The website aimed to provide stakeholders with a one-stop shop where ATFM information affecting flights to/from airports within the Hong Kong ATFM node and transiting Hong Kong FIR was readily available. CTOT information distributed by emails and Slot Allocation Messages (SAM) for airports within the Hong Kong node would be posted in the website to complement coverage and improve data accessibility (example in **Figure 2**). More automation was expected when data exchange via SWIM was implemented in the region.

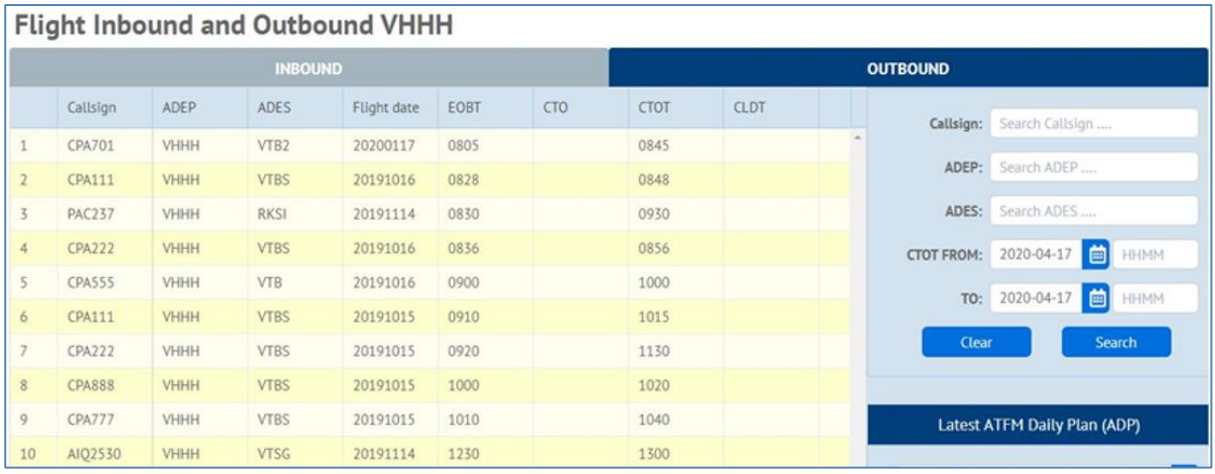


**Figure 2**: ATFM Information for Flights Outbound from Hong Kong

2.18 Stakeholders could gain better understanding of the project through the Project History, and the Regional Framework for Collaborative ATFM and Regional ATM Concept of Operations, all of which were available on the Hong Kong ATFM website.

Progress of Interoperability between Hong Kong China and Japan

2.19 The meeting was provided with a description of the operational trial of GDPs between Hong Kong China and Japan, in which Hong Kong ATFMU would notify Japan Air Traffic Management Centre (ATMC) of the CTOT based on Hong Kong International Airport (HKIA) capacity.

2.20 Operational issues to be evaluated and resolved during the trial included additional workload in in the Japan ATMC due to the requirement to manually input CTOT received from Hong Kong ATFMU, the coordinated handling of departure aircraft from airports where a curfew was in place, and post-operations analysis. A Memorandum of Understanding (MOU) was being drafted, with planned commencement of the trial in Q3 2020, in two phases:

Phase 1: Hong Kong ATFMU issues "No delay CTOT" in order to evaluate the procedure and the reliability of message connection between Hong Kong China and Japan.

Phase 2: Hong Kong ATFMU issues genuine CTOT when HKIA or HKFIR has a capacity and demand imbalance.

2.21 Flow control in the form of Minutes in Trail (MINIT) had been implemented between Hong Kong China and Japan at FIR boundary limits of adjacent FIRs for quite some time. However, this method was inefficient and created wastage in the network due to traffic imbalances, and required frequent coordination other en-route FIRs, resulting in high workload and delays. It was hoped that the trial would continue to improve and streamline cross-border air traffic management between the FIRs in East Asia to unleash potential benefits of regional ATFM.

2.22 Japan noted that even considering that the number of CTOTs would be low due to COVID-19 impact, it remained important to promote post-operations analysis and check feedback from airlines.

Cross-Border ATFM Mitigation

2.23 The ATFM/IR/SWG presented information on State collaboration to mitigate cross-border ATFM for flights bound for Da Nang, Viet Nam (ICAO Location Indicator VVDN) by reviewing LOAs, increasing airspace capacity reducing ATFM measures and introducing strategic and pre-tactical ATFM.

2.24 Republic of Korea had been receiving ATFM measures every day for approximately 14 departure flights per day bound for Da Nang. After discussion with relevant ANSPs, the situation was determined to be (**Figures 3 and 4**):

- Ho Chi Minh FIR did not apply any ATFM measures;
- Sanya FIR applied ATFM measures based on the LOA between Ho Chi Minh and Sanya FIRs;
- Other FIRs added measures to meet their own traffic situation, which were relayed to upstream FIRs.

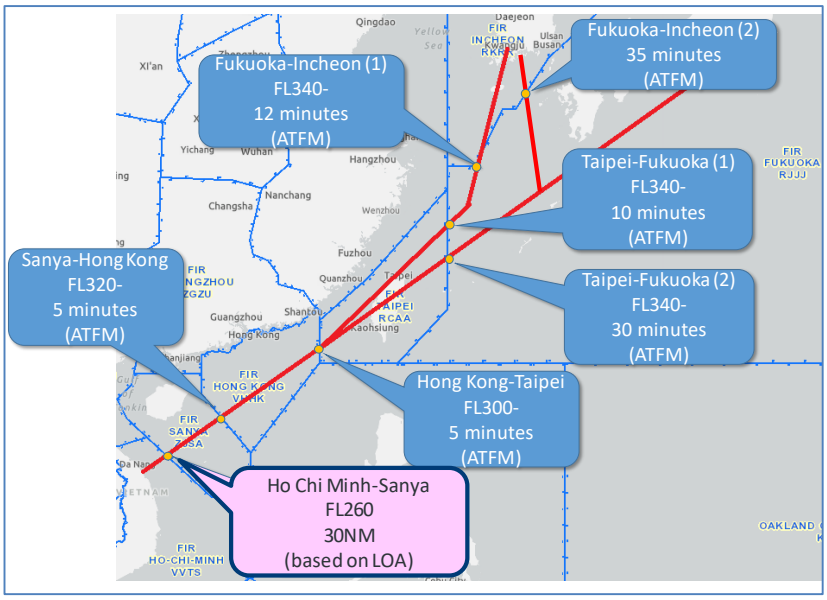


**Figure 3**: Measures applied to Flights Bound for Da Nang

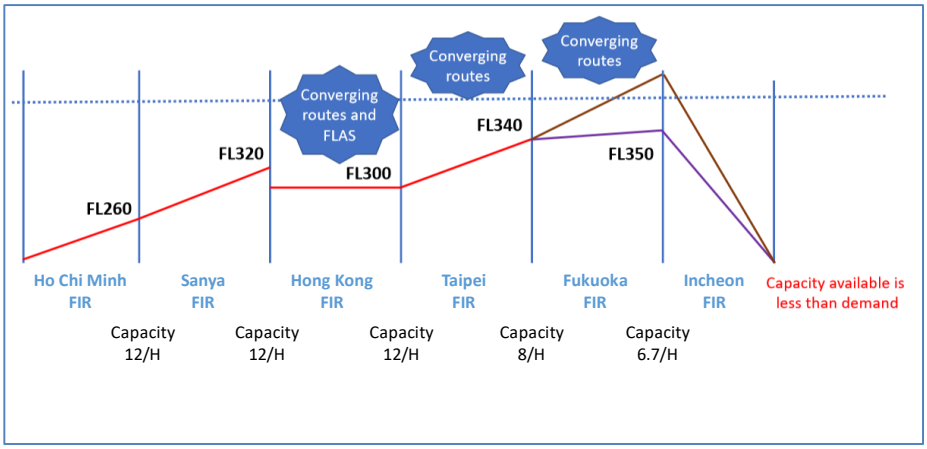


**Figure 4**: Flight Level Restrictions Applied to Flights Bound for Da Nang.

2.25 Recognizing the need to work collaboratively to mitigate the cross-border ATFM issues, the Administrations concerned reviewed LOAs, increased airspace capacity, reduced ATFM measures and introduced strategic and pre-tactical ATFM (**Figures 5 and 6**).

| FIR | Approach | Previously | Currently | When |
|---|---|---|---|---|
| Ho Chi Minh FIR<br>Sanya FIR | Increase capacity | FL260 restriction | No longer exists<br>(SLOP remains the same) | Nov 2019 |
| | Increase capacity | 30NM transfer | 20NM transfer | Mar 2020 |
| Sanya FIR<br>Hong Kong FIR | Increase capacity | 30NM transfer | 20NM transfer | Mar 2020 |
| Hong Kong FIR<br>Taipei FIR | Increase capacity | 30NM transfer | 20NM transfer | Mar 2020 |
| Fukuoka FIR | Reduce ATFM measures | (1) 12min FL340-<br>(2) 35min | (1) 10min FL340-<br>(2) 30min | Nov 2019 |
| Incheon FIR | Implement ATFM | AIP publish for ATFM<br>Tactical ATFM (CTOT) | Strategic/Pre-tactical/Tactical ATFM (CTOT, slot swapping, Reroute, etc.) | Mar 2020<br>(Jun 2019) |

**Figure 5**: Initiatives introduced for Flights Bound for Da Nang.

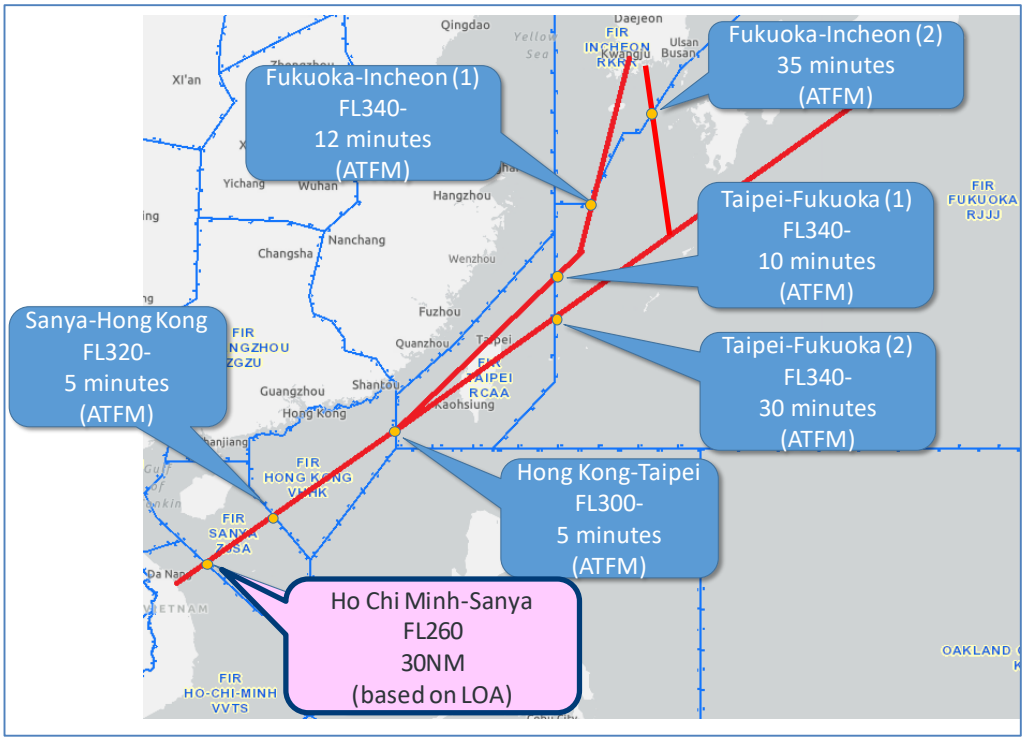


**Figure 6**: Changes to Measures Applied to Flights Bound for Da Nang

2.26 It was noted that the effect of the new initiatives had not yet been observed due to the COVID-19-related reduction in traffic volumes. However, it was important to carefully analyze the traffic flow to check for any negative impact, and the effect on Air Traffic Control (ATC) workload.

2.27 Importantly, the Administrations concerned recognized that excessive ATFM measures dramatically increased ATC workload in adjacent FIRs, and that mutual effort and cooperation among all relevant Administrations was necessary to mitigate cross-border ATFM effects.

2.28 The Republic of Korea noted that one of the difficulties was the dispersal of traffic demand at the strategic level, and highlighted the importance of increasing capacity, which could be provided by the use of conditional routes.

2.29 IATA congratulated all involved for this significant example of working together to achieve an operational improvement, and noted that it was an encouraging example of taking a network view to provide positive outcomes. Together with IATA, Hong Kong, China wished to place on record their appreciation for the considerable efforts of the ICAO Regional Officer concerned in coordinating and progressing this initiative.

India Update on ATFM Operations

2.30 India informed the ATFM/SG/10 meeting of the status of ATFM implementation and the integration of ATFM with A-CDM at major airports in India. Envisaged implementation challenges were also highlighted.

2.31 Phases I and II of the implementation included the activation of 36 Flow Management Positions (FMPs) in different Air Traffic Service (ATS) units and the application of GDP and Ground Stop (GSt) programs, and the integration of ATFM and A-CDM at four major and 12 satellite airports. ATFM and A-CDM were already integrated at the four major airports – Mumbai, Kolkata, Chennai and Delhi. Phase II also included airspace flow programs. Due to the need for proactive participation by FMPs and ATC, it had been decided to use in-trail and sequencing programs initially. FMP and ATC training for airspace flow programs was planned, to be followed by a one-month trial of operations which, after addressing and mitigating any shortcomings, would lead to fully operational airspace flow programs at identified hotspots.

2.32 A Beta version of India's ATFM portal had been developed (www.atfmaai.aero/portal), where relevant data and documentation including ADPs, execution reports of ATFM measures, revised CTOTs and post-operations analysis of daily CDM was shared with all stakeholders.

2.33 CTOT compliance had been approximately 60% from April 2019 to March 2020, within a compliance window of minus five to plus 10 minutes. Noting that a ± three minutes compliance window was considered necessary for airspace flow programs, AAI was planning to conduct table top exercises and operational trials to understand the implications of different compliance windows for CTOT and CTO. China noted that this highlighted the benefits of future Trajectory-Based Operations, which would ultimately be the way forward for airspace flow programmes.

2.34 Thailand informed the meeting that it was important that stakeholders aimed at meeting the actual CTOT time, rather than the compliance window which was meant to provide flexibility for tactical ground traffic management.

2.35 In response to a query, India informed the meeting that cross-border ATFM was planned for inclusion in Phase III of the project, for implementation in 2021 or later.

2.36 ICAO noted that several ICAO missions had requested that India explore ATFM support for Nepal. In response, India advised the meeting that an agreement for ATFM assistance to Nepal was being considered by the Ministry of Civil Aviation.

Regional ATFM Implementation Status

2.37 ICAO provided a summary of ATFM implementation status of APAC Administrations, reported against the performance expectations of the Regional Framework for Collaborative ATFM. Reports, due by 30 April each year, were received from:

2018 and/or 2019:

Australia Bangladesh, Cambodia, China, Hong Kong China, Macao China, India, Indonesia, Japan, Malaysia, Maldives, Myanmar, Nepal, New Caledonia, New Zealand, Pakistan, Papua New Guinea, Philippines, Republic of Korea, Singapore, Thailand, Viet Nam and USA; and

2020:

India, Indonesia, Singapore and Thailand submitted reports by the due date, and therefore in time for reporting to ATFM/SG/10. Reports were later received from Australia, Bangladesh, Cambodia, Hong Kong China, Japan and Malaysia.

2.38 It was noted that COVID-19-pandemic-related disruption to ICAO meeting planning and associated APAC ANSP activities may have contributed to the lack of reporting in 2020. APAC Administrations were encouraged to submit their ATFM Implementation Status Reports as soon as possible, to permit accurate reporting to ATM/SG/8 in August 2020.

2.39 Based on reports received States were assessed as having *Robust* (90-100%), *Marginal* (70-89%) or *Incomplete* (0-69%) implementation. Several States were recorded as *Incorrect Report*, where they reported against the criteria applicable to States that were not required to implement ATFM under performance expectations of the Asia/Pacific Seamless ANS Plan and Regional Framework for Collaborative ATFM. The remaining APAC States were recorded as *Did Not Report*.

India, Singapore and USA were assessed as having *Robust* implementation.

*Marginal* implementation was recorded for Australia, Cambodia, China, Japan, Republic of Korea, and Thailand.

Implementation by Bangladesh, Hong Kong China, Macao China, Indonesia, Maldives, Myanmar, Nepal, New Caledonia, New Zealand, Pakistan, Papua New Guinea, Philippines and Viet Nam was assessed as *Incomplete*.

2.40 The meeting was reminded that Annex 11 Section 3.7.5 obliged States to implement ATFM where demand exceeded, or was expected to exceed, capacity. Failure to report implementation status would be treated in the same way as non-implementation of Annex 11 standards for the purpose of ICAO reporting to ATM/SG and APANPIRG.

Progress of the Technical Sub-Group of the Distributed Multi-Nodal ATFM Network Project

2.41 China, Hong Kong China, Singapore, Thailand, CANSO and IATA shared the progress of and outputs of the Technical Sub-Group under the Distributed Multi-Nodal ATFM Network Project (now AMNAC), noting that the outputs could fulfil the objectives of the ATFM/IR/SWG.

2.42 The meeting was informed of the work of the Technical Sub-Group which had been critical to the development and adoption by the appropriate APAC technical bodies and air navigation planning of the AFTN/AMHS-based ICD for ATFM information exchange, and the APAC FIXM Version 4.1 ATFM Extension.

2.43 Most AMNAC Level 3 Nodes had completed the implementation of ATFM data exchange capability over AFTN/AMHS using Slot Allocation Messages (SAMs), Slot Revision Messages (SRMs) and Slot Cancellation Messages (SLCs) (**Table 1**).

| Level-3 ATFM nodes | Status | Remark |
|---|---|---|
| AEROTHAI | Completed | |
| SANYA ATFMU | Completed | Only SAM implemented |
| CATS | Completed | |
| HKCAD | Completed | |
| CAAS | In-Progress | Undergoing reliability testing, estimated completion by Q2 2020. |

**Table 1**: ATFM Data Exchange Capability – AMNAC Level 3 Nodes.

2.44 The Technical Sub-Group had identified an amendment to the AFTN/AMHS-based ICD that was necessary to align with provisions of Annex 10 *Aeronautical Telecommunications*. The amendment which was agreed by the meeting and incorporated in the consolidated amendment proposed and agreed under ATFM/SG/10 WP/14.

ATFM Post Operations Analysis Recommended Framework

2.45 The final draft version of the ATFM Post-Operations Analysis Recommended Framework, initially developed by the core team of the AMNAC and further improved by input from India and Japan was presented by China, Hong Kong China, Singapore, Thailand, CANSO and IATA for consideration by the meeting.

2.46 Major additions to the existing working draft document included methods to characterize assess and analyze MINIT/MIT, ATFM/CDM planning conference leveraging for sharing post-operations analysis results, issues and lessons learned, and case studies from States that had conducted post-operations analysis work.

2.47 The meeting agreed to the following Draft Conclusion for consideration by ATM/SG:

**Conclusion ATM/SG/8-1: ATFM Post-Operations Analysis Recommended Framework**

That:

1. The ATFM Post-Operations Analysis Recommended Framework Version 1.0 at **ATM/SG/8 WP11 Attachment** be uploaded to the ICAO Asia/Pacific Regional Office eDocuments web-page, to replace the existing working draft version; and

2. States are urged to utilize the guidance provided in the document when implementing ATFM post-operations analysis in accordance with the performance expectations of the Regional Framework for Collaborative ATFM.

Progress of the ATFM/IR/SWG

2.48 The meeting was provided with information on the formation of the ATFM/IR/SWG, a summary of progress made, a proposed ADP exchange procedure for inclusion in the Regional Framework for Collaborative ATFM, and a proposed amendment to the AFTN/AMHS-based ATFM ICD.

2.49 The Terms of Reference (TOR) of ATFM/IR/SWG had stated that it would conduct its activities mainly by electronic means between meetings of the ATFM/SG, with face-to-face meetings conducted only where necessary and in conjunction with other meetings where opportunity presents. **Table 2** summarizes meetings that had been held.

| | | | |
|---|---|---|---|
| 1st tele-conference | | June 2018 | |
| 1st face-to-face meeting | Beijing, China | August 2018 | |
| 2nd tele-conference | | November 2018 | |
| 2nd face-to-face meeting | Singapore, Singapore (hosted by CAAS) | November 2018 | in conjunction with Multi-Nodal core meeting |
| 3rd tele-conference | | March 2019 | |
| 3rd face-to-face meeting | Tokyo, Japan (hosted by JCAB) | April 2019 | in conjunction with NARAHG meeting |
| 4th tele-conference | | August 2019 | |
| 4th face-to-face meeting | Bangkok, Thailand (hosted by Aerothai) | November 2019 | in conjunction with A-CDM/ATFM workshop |
| 5th tele-conference | | March 2020 | |

**Table 2**: Meetings of the ATFM/IR/SWG

2.50 Difficulties associated with teleconferencing had been observed, including communications interference and reliability challenges, and the challenges of the group being largely constituted of non-native English language speakers. It had also been noted that not all participants actively cooperated, which resulted in delayed activities, especially discussion on harmonization and interoperability. Noting that it was critical and urgent to find a way of harmonizing ATFM operations in the APAC Region, commitment and active engagement of all SWG members was necessary.

*ADP Exchange Procedure*

2.51 ATFM/IR/SWG had been tasked under its TOR to draft an Operational Requirements Document for regional ATFM, including *inter alia* ADP exchange.

2.52 ATFM/IR/SWG/4 had agreed to an ADP exchange procedure including ADP content and format, ADP exchange protocols and frequency, dissemination of ADP to local stakeholders, and contact information for ADP exchange. A Draft Conclusion was proposed, to incorporate the ADP exchange procedure in the Asia/Pacific Regional Framework for Collaborative ATFM. However, noting that the Regional Framework was to be subject to a review and amendment, the meeting agreed to the following Conclusion:

***Conclusion ATFM/SG/10/-2: ADP Exchange Procedure Working Draft***

*That, noting the proposed review and amendment of the Regional Framework for Collaborative ATFM, the ATFM Daily Plan (ADP) Exchange Procedure at* ***ATFM/SG/10 WP/14 Attachment A*** *be uploaded to the ICAO APAC Regional Office eDocuments web-page in Working Draft form for immediate use by APAC Administrations, pending its inclusion in the future amendment to the Regional ATFM Framework.*

*Proposed Amendment – AFTN/AMHS-based ICD*

2.53 Following the adoption by CNS SG/23 of the AFTN/AMHS-based ICD for ATFM data exchange, further discussion at ATFM/IR/SWG and input by NARAHG member States, India and CANSO had identified the need for an amendment which would permit non-AMNAC States to move forward on the necessary system upgrade of AFTN/AMHS automation. CNS SG/24 (30 November – 04 December 2020) agreed to the following Conclusion, drafted by ATFM/SG/10:

***Conclusion CNS SG/24/3 (ACSICG/7-2 (ATFM/SG/10-3): Amendment of the AFTN/AMHS-based Interface Control Document (ICD)***

*That, the AFTN/AMHS-based Interface Control Document for ATFM Version 2.0 provided in Appendix E to the Report be adopted and posted on the ICAO Asia/Pacific Regional Office website to supersede the existing version, for use by Asia/Pacific Administrations in implementing cross-border ATFM communications in accordance with the provisions of the Regional Framework for Collaborative ATFM.*

*Approach to Interoperability*

2.54 It was noted that harmonization/interoperability of ATFM operations between the AMNAC group and NARAHG remained distant, although new initiatives were also reported to the meeting. Discussions, and studies on major traffic flows such as airway A1 between Northeast Asia and Southeast Asia had been held between Hong Kong China and Japan. A CTOT paper trial based on the Multi Nodal ATFM concept had been completed and an operational trial would commence in 2020 when the traffic demand of Hong Kong FIR and Hong Kong international airport exceeded capacity. In that case, CTOT for departures from Fukuoka FIR would be issued by Hong Kong ATFMU, communicated initially by email exchange. This could be upgraded to AFTN or AMHS based on the abovementioned draft ICD in the future.

2.55 Republic of Korea, having a significant volume of traffic to/from Southeast Asia through Fukuoka FIR, Taibei FIR, and Hong Kong FIR, sought to communicate with them to implement cross-border ATFM based on the Multi Nodal ATFM concept.

2.56 ATFM/IR/SWG had acknowledged that these initiatives could be facilitate further coordination on harmonization/interoperability.

Implementation of ATFM COVID-19 Recovery Plans

2.57 CANSO presented information with a view to encourage the APAC Region and ANSPs to develop a COVID-19 recovery plan in anticipation of increased traffic demand. CANSO considered that recovery planning required a consolidated network view of the evolution of traffic demand and planning of services delivered in the recovery phase to match the expected demand in a safe, efficient and coordinated manner.

2.58 The European Network Operations Recovery Plan 2020, was provided in **ATFM/SG/10 WP/18 Attachment A** to demonstrate an example of a recovery plan developed in a cooperative manner with all operational stakeholders. The Plan was published on the EUROCONTROL Network Manager Operations Portal, and was updated once per week. CANSO recommended that States and ANSPs develop individual recovery plans, and that a regional plan be developed and put in place through the various ATFM initiatives that were already active in the Region.

2.59 CANSO also presented information on air traffic demand prediction during COVID-19 recovery, including several State examples. Analysis could assist ANSPs in their recovery plans by anticipating the demand, merging anticipated demand with capacity data, modelling demand-capacity imbalances, preparing resources for the demand and balancing demand and capacity. Analysis could be done for any continent, region or individual State.

2.60 In discussion, it was noted that recovery planning was dependent on many factors, including *inter alia* political decisions on the opening or closure of State borders, what capacity to recommence airline operations may have (likely to be considerably less than 100% of pre-COVID-19 capacity), public confidence in the virus-related safety of air travel and associated contagion prevention and/or social distancing, and public confidence to enter States where there had been significant outbreaks. The financial ability of some airlines to recover was also a challenge. Phased recovery was the most likely future scenario, based on city pairs between States agreeing to open borders.

2.61 It was also noted that an understanding of ANSP capacity was critical, as ATS unit and centre operations would be affected by social distancing and team segregation to prevent contagion. It was also important to open frequent discussion with neighbouring States, to ensure all were informed and ready for any recovery to normal operations.

IATA ASPAC COVID-19 Recovery Coordination Centre – CRCC

2.62 IATA informed the meeting of the development of the IATA CRCC, intended to support airlines during the COVID-19 crisis and recovery through coordination of information to assist airline operations, assisting airlines to resolve operational issues, liaison with States and ANSPs regarding airlines operations, providing information to support States and Regional Groups such as Contingency Coordination Teams (CCTs), and supporting ICAO APAC.

2.63 The presentation discussed the updating of points of contact due to the essential nature of coordination and communication in restart and recovery pre-planning, an overview of CRCC activities and information services, assistance to IATA members for flight approvals and other operational matters, and an example of the planned IATA COVID-19 Situation Management dashboard.

2.64 In discussion, IATA stressed that the purpose of the CRCC was to support IATA membership in moving towards recovery, and to support any regional programs that may arise.

2.65 The meeting was also informed that, while there had been a considerable reduction in scheduled traffic, there had also been a significant increase in non-scheduled traffic, such as cargo and relief flights, with resultant challenges in obtaining flight approvals.

IATA April 2020 COVID-19 Impact Forecast

2.66 IATA provided a briefing on the current forecast impact of the COVID-19 pandemic. The information provided included a global and regional summary of the reduction in worldwide flights at end of Q1 2020, the forecast that the global economic recession resulting from the pandemic would about twice as large as the Global Financial Crisis of 2008/2009, and the expected falls in Revenue Passenger Kilometres (RPKs) and revenue for the Asia/Pacific Region and one example State (Australia).

## 3. ACTION BY THE MEETING

3.1 The meeting is invited to:

a) note the information contained in this paper;

b) note the adoption by APANPIRG/30 of the Asia/Pacific Extension for FIXM, and take this into account in ATM systems procurement and upgrade planning;

c) note the progress of the AMNAC ATFM effort, and the need for further effort by all APAC Administrations to comply with ATFM measures received;

d) note the AMNAC procedure for revised CTOT;

e) note the progress of:

i) NARAHG

ii) Hong Kong, China ATFM website;

iii) ATFM interoperability activities between Hong Kong China and Japan;

iv) ATFM implementation in India;

f) Note the benefits of collaboration between multiple administrations demonstrated by the cross-border mitigation of flights between Republic of Korea and Viet Nam;

g) Note the continued slow regional progress in implementation of the performance expectations of the Regional Framework for Collaborative ATFM;

h) Note the ***Conclusion ATM/SG/8-1: ATFM Post-Operations Analysis Recommended Framework***, and make use of the document in ATFM analysis and planning;

i) Note and make use of the working draft ADP Exchange Procedure;

j) Note ***Conclusion CNS SG/24/3 (ACSICG/7-2 (ATFM/SG/10-3): Amendment of the AFTN/AMHS-based Interface Control Document (ICD)***, and make use of the ICD in technical and procedural implementation of ATFM capability; and

k) discuss any relevant matters as appropriate.

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