

# INTERNATIONAL CIVIL AVIATION ORGANIZATION



## REPORT OF THE SIXTH MEETING OF THE ASIA/PACIFIC AIR TRAFFIC FLOW MANAGEMENT STEERING GROUP

(ATFM/SG/6)

BANGKOK, THAILAND, 6 – 10 June 2016

The views expressed in this Report should be taken as those of the  
Meeting and not the Organization

Approved by the Meeting

and published by the ICAO Asia and Pacific Office, Bangkok

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## **INTRODUCTION**

### **Meeting**

1.1 The Sixth Meeting of Air Traffic Flow Management Steering Group (ATFM/SG/6) was held at the Kotaite Wing of the ICAO Asia and Pacific (APAC) Regional Office, Bangkok, Thailand, from 6 to 10 June 2016.

### **Attendance**

2.1 The meeting was attended by 57 participants from Australia, Bangladesh, China, Hong Kong China, India, Indonesia, Japan, Lao PDR, Malaysia, Philippines, Singapore, Sri Lanka, Thailand, United States, Viet Nam, CANSO, IATA, IFALPA and ICAO. A list of participants is at **Appendix A** to this report.

### **Officers & Secretariat**

3.1 Mr. Peter Chadwick, Senior Operations Officer, Hong Kong China Civil Aviation Department, chaired the meeting.

3.2 Mr. Shane Sumner, Regional Officer ATM, was Secretary for the meeting.

### **Opening of the Meeting**

4.1 On behalf of Mr. Arun Mishra, Regional Director of ICAO Asia and Pacific Office, Mr. Shane Sumner welcomed all the participants to the meeting.

4.2 Mr Peter Chadwick welcomed participants to the meeting.

### **Documentation and Working Language**

5.1 The working language of the meeting and all documentation was English. There were 16 working papers, 7 information papers and 5 presentations considered by the meeting. A list of papers is included at **Appendix B** to this report.

### Draft Conclusions, Draft Decisions and Decisions of ATFM/SG – Definition

6.1 ATFM/SG records its actions in the form of Draft Conclusions, Draft Decisions and Decisions within the following definitions:

- a) **Draft Conclusions** deal with matters that, according to APANPIRG terms of reference, require the attention of States, or action by the ICAO in accordance with established procedures;
- b) **Draft Decisions** deal with the matters of concern only to APANPIRG and its contributory bodies; and
- c) **Decisions** of ATFM/SG that relate solely to matters dealing with the internal working arrangements of ATFM/SG.

### List of Draft Conclusions

7.1 List of Draft Conclusions

<b>Draft Conclusion ATFM/SG/6-1: Origination of Flight Plan and ATS Messages</b>	
<p>That, taking into account the Regional Framework for Collaborative ATFM's Performance Improvement Plan provisions relating to the submission of FPL and ATS messages, States are urged to publish in AIP the requirement that:</p> <ol style="list-style-type: none"> <li>1. Except where necessary for operational or technical reasons, FPL should be submitted not less than 3 hours before EOBT;</li> <li>2. DLA messages should be originated when the departure of an aircraft, for which basic flight plan data (FPL or RPL) has been sent, is delayed by 15 minutes or more after the EOBT contained in the basic flight plan data; and</li> <li>3. CHG and CNL messages are promptly originated in accordance with the provisions of ICAO Doc 4444 Procedures for Air Navigation Services (PANS-ATM) 11.4.2.2</li> </ol>	<p>Expected impact:</p> <p><input type="checkbox"/> Political / Global</p> <p><input type="checkbox"/> Economic</p> <p><input type="checkbox"/> Environmental</p> <p><input checked="" type="checkbox"/> Ops/Technical</p>
<p>Why: To ensure to the maximum extent possible the timely submission and update of flight plan data used for ATFM demand calculation and the formulation of ATFM measures.</p>	
<p>When: 12 November 2017</p>	<p>Status: Draft to be adopted by Subgroup</p>
<p>Who: <input checked="" type="checkbox"/> States <input type="checkbox"/> APAC RO <input type="checkbox"/> IATA <input type="checkbox"/> ICAO HQ <input type="checkbox"/> Other:</p>	

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<b>Draft Conclusion ATFM/SG/6-2: Origination and Distribution of Departure (DEP) Messages</b>	
<p>That, recognizing the importance of AFTN departure (DEP) messages in the management and coordination of flight plans in both manual and automated ATM environments, ICAO be requested to:</p> <ol style="list-style-type: none"> <li>1. Conduct an analysis of the incidence of non-receipt of DEP messages required by ICAO Doc 4444 Procedures for Air Navigation Services (PANS-ATM) Section 11.4.2.2;</li> <li>2. Request that States failing to ensure correct transmission of DEP messages promptly take corrective action and report the status of corrective actions to the ICAO APAC Regional Office by 30 April 2017; and</li> <li>3. Raise APANPIRG Air Navigation Deficiencies against failure by States to comply with Doc 4444 Section 11.4.2.2, at APANPIRG/28.</li> </ol>	<p>Expected impact:</p> <p><input type="checkbox"/> Political / Global</p> <p><input type="checkbox"/> Economic</p> <p><input type="checkbox"/> Environmental</p> <p><input checked="" type="checkbox"/> Ops/Technical</p>
<p>Why: To improve regional performance in complying with the requirements of Doc 4444, to improve ATM outcomes by ensuring activation of flight plan details in ATM systems, and to improve ATFM outcomes by improving the accuracy of demand calculation and ATFM measures.</p>	
<p>When: 30 April 2017</p>	<p>Status: Draft to be adopted by Subgroup</p>
<p>Who: <input checked="" type="checkbox"/> States <input checked="" type="checkbox"/> APAC RO <input type="checkbox"/> IATA <input type="checkbox"/> ICAO HQ <input type="checkbox"/> Other:</p>	

<b>Draft Conclusion ATFM/SG/6-3: Update Regional Framework for Collaborative ATFM</b>	
<p>That, the Asia/Pacific Regional Framework for Collaborative ATFM Version 2.0 incorporating:</p> <ol style="list-style-type: none"> <li>a) the amended text in <b>Appendix C</b> to the report ; and</li> <li>b) as an appendix, the Regional ATFM Implementation Guidance document (<b>ATFM/SG/6/WP13/Attachment A</b>)</li> </ol> <p>be made available on the ICAO Asia/Pacific Regional Office web site, replacing Version 1.0.</p>	<p>Expected impact:</p> <p><input type="checkbox"/> Political / Global</p> <p><input type="checkbox"/> Economic</p> <p><input checked="" type="checkbox"/> Environmental</p> <p><input checked="" type="checkbox"/> Ops/Technical</p>

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<b>Draft Conclusion ATFM/SG/6-3: Update Regional Framework for Collaborative ATFM</b>	
<p>Why:</p> <p>a) To amend the performance expectation relating to submission of flight plans, taking into account operational or technical limitations and ensuring the applicability for ATFM in constrained airspace as well as at constrained airports; and</p> <p>b) To incorporate the regional ATFM implementation guidance material as agreed by ATFM/SG/6 in the Asia/Pacific Regional Framework for Collaborative A</p>	
<p>When: On adoption by APANPIRG/27 – 8 September 2016</p>	<p>Status: Draft to be adopted by Subgroup</p>
<p>Who: <input type="checkbox"/> States <input checked="" type="checkbox"/> APAC RO <input type="checkbox"/> IATA <input type="checkbox"/> ICAO HQ <input type="checkbox"/> Other:</p>	

<b>Draft Conclusion ATFM/SG/6-4: State Review of the Regional Framework for Collaborative ATFM</b>	
<p>That, noting</p> <ol style="list-style-type: none"> <li>1. the need for harmonized, interoperable State and Sub-Regional ATFM implementation to achieve cross-border ATFM in the Asia/Pacific Region; and</li> <li>2. the Asia/Pacific Regional Framework for Collaborative ATFM, available on the Asia/Pacific Regional Office web site, is the primary planning document addressing ATFM implementation and operational issues in the Asia/Pacific Region;</li> </ol> <p>States are urged to:</p> <ol style="list-style-type: none"> <li>a) Review the Regional Framework for Collaborative ATFM; and</li> <li>b) Ensure that full consideration is given in all ATFM implementation planning to the provisions of the Regional Framework for Collaborative ATFM.</li> </ol>	<p>Expected impact:</p> <p><input type="checkbox"/> Political / Global</p> <p><input type="checkbox"/> Economic</p> <p><input checked="" type="checkbox"/> Environmental</p> <p><input checked="" type="checkbox"/> Ops/Technical</p>
<p>Why: To ensure that all State and sub-regional ATFM projects are aligned with the direction provided by the Regional Framework for Collaborative ATFM, facilitating future harmonization, interoperability and effective cross-border ATFM</p>	
<p>When: On adoption by APANPIRG – 18 September 2016</p>	<p>Status: Draft to be adopted by SubGroup</p>
<p>Who: <input checked="" type="checkbox"/> States <input type="checkbox"/> APAC RO <input type="checkbox"/> IATA <input type="checkbox"/> ICAO HQ <input type="checkbox"/> Other:</p>	

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## REPORT ON AGENDA ITEMS

### Agenda Item 1: Adoption of Agenda (WP01)

1.1 The provisional agenda was adopted by the meeting.

### Agenda Item 2: Review Outcomes of Related Meetings

#### Related Meeting Outcomes (WP/02)

2.1 The meeting was provided with a summary of relevant outcomes from Asia/Pacific regional meetings including

- the 26<sup>th</sup> Meeting of the Asia/Pacific Air Navigation Planning and Implementation Regional Group (APANPIRG/26), Bangkok, Thailand, 7 to 10 September 2015;
- The 5<sup>th</sup> Meeting of the Regional ATFM Contingency Plan Task Force (RACP/TF/5), Bangkok, Thailand, 1 to 4 December 2015; and
- the Combined 6<sup>th</sup> Meeting of the South Asia/Indian Ocean ATM Coordination Group (SAIOACG/6) and 23<sup>rd</sup> Meeting of the South-East Asia ATS Coordination Group (SEACG/23), Bangkok, Thailand, 29 February to 3 March 2016.

2.2 The meeting was informed of APANPIRG Conclusions supporting ATFM/SG outcomes:

***Conclusion APANPIRG/26/8 – Regional Cross-border ATFM Implementation Support;***

***Conclusion APANPIRG/26/9 – Asia/Pacific Regional Framework for Collaborative ATFM;*** and

***Conclusion APANPIRG/26/10 – ATFM Seminars/Workshops.***

2.3 The outcomes from RACP/TF/5 included information on responses to volcanic ash events and related contingency planning principles, NOTAM, Danger Areas or Restricted Areas and pilot responsibility to assess information to determine whether to operate in or avoid the affected airspace.

2.4 RACP/TF/5 had agreed to proposed inclusions in the Regional ATM Contingency plan for response to volcanic ash cloud (VAC), including a number of recommendations arising from the Volcanic Ash Exercises Steering Group (VOLCEX/SG). Key outcomes of interest to ATFM/SG included recommendations on:

- Regulatory provisions for response to volcanic ash contingency events;
- Airspace and airport management in response to volcanic eruption and volcanic ash cloud; and
- Regular updates of volcanic ash information.

2.5 Further information on VOLCEX/SG was provided to the meeting under Agenda Item 5.



2.6 The meeting was informed of outcomes from SAIOACG/6&SEACG/23 relating to ATFM. Information was provided on ATFM measures being planned for westbound flights exiting the Delhi Flight Information Region (FIR) where capacity was limited due to the non-availability of some flight levels. The meeting was also informed of the proposed South China Sea Operational Concept (**ATFM/SG/6 WP/2 Attachment A**), which included a number of capacity enhancement initiatives and the tactical use of ATFM measures miles-in-trail (MIT) and minutes-in-trail (MINIT) when required.

Northeast Asia Regional ATFM Harmonization Group (NARAHG) Update (WP/3)

2.7 China, Japan and the Republic of Korea updated the meeting on progress the Northeast Asia Regional ATFM Harmonization Group (NARAHG). The paper presents the activities accomplished thus far as well as the outcomes of the 3<sup>rd</sup> Meeting of NARAHG that was held at the East Regional ATMB CAAC, Shanghai, China from 28 to 30 October 2015.

2.8 Outcomes of the 3<sup>rd</sup> NARAHG meeting and subsequent off-line activities included *inter alia* the exchange of a Memorandum of Cooperation (MOC) including terms of reference and points of contact, commencement of a trial exchange of ATFM Daily Plans (ADP), and an agreement to the concept of a common platform for data sharing.

2.9 The feasibility of the Cross Region ATFM Collaborative Platform (CRACP) would require in-depth technical discussion. NARAHG decided to set up a small working group to develop the harmonized message format standard for trial purposes, and develop a project plan.

2.10 The meeting noted that it was important that the work of NARAHG was harmonized with the provisions of the Regional Framework for Collaborative ATFM and the work of the Multi-Nodal ATFM Operational Trial group.

2.11 In discussing the need for States to share their ATFM Daily Plan (ADP), the meeting was reminded that a template for ADP, as agreed by ATFM/SG, was the Regional ATFM Framework.

Workshops on ATFM/CDM (IP/2)

2.12 ICAO informed the meeting of the outcomes of workshops on ATFM/CDM held in the Asia/Pacific Region during 2015 – 2016. The workshops supported **Conclusion APANPRIG/26/10 – ATFM Seminars/Workshops** in familiarizing stakeholders with the Regional ATFM Framework, assisting ATFM implementation and assisting as a forum for further development of the Regional ATFM Framework.

2.13 The meeting noted that the success of the ATFM workshops, which were well-supported by Asia/Pacific States, was due to the experience and commitment of the contributing subject matter experts and the quality of their presentations.

2.14 In response to a query, the meeting was informed that the presentation material from all workshops was available on the ICAO Asia/Pacific Regional Office and Regional Sub-Office web sites.

2.15 While no further workshops were currently planned, States that were interested in hosting future workshops should advise ICAO so they could be incorporated in future work planning.

### Agenda Item 3: ATFM/CDM Global Update

#### ATFM Global Standardization Update (WP/4)

3.1 The meeting was informed of the status of ATFM standardization under the auspices of ICAO ATM Operations Panel (ATMOPSP). The ATFM Sub-group of the ATMOPSP was convened to update ICAO Doc 9917 - *Manual on Collaborative ATFM* while identifying, in parallel, ICAO provisions that would need to be updated in Annex 11 and PANS-ATM (Doc 4444)

3.2 The ATMOPSP had also been collaborating with the Aerodrome Operations Panel (ADOP), through its Airport Collaborative Decision-Making (A-CDM) Sub-group, to develop A-CDM guidance material which would also be incorporated in the new, expanded Doc 9971.

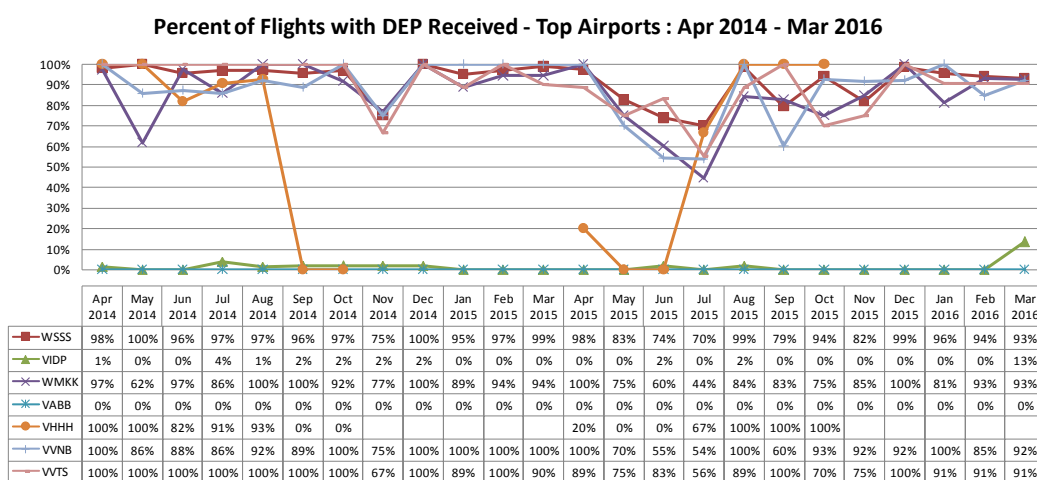
3.3 The meeting noted the importance of ensuring the linking and interoperability of ATFM and A-CDM processes and systems to ensure gate-to-gate network flow management through, for example, A-CDM delivery of aircraft to the departure runway to facilitate compliance with CTOT, and the inclusion in ATFM programs of airport constraints reported from A-CDM systems.

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

#### BOBCAT Operational Update (WP/5 and SP/2)

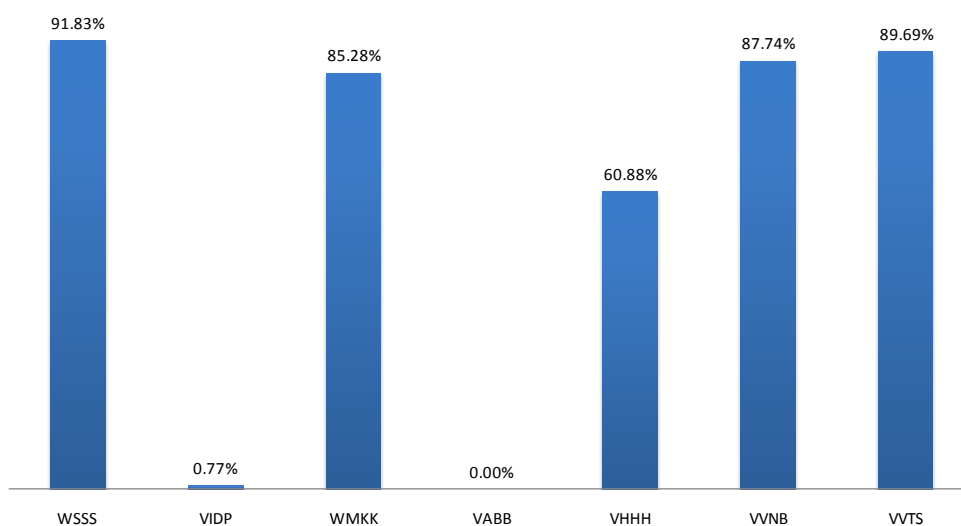
4.1 Thailand presented an operational analysis and overview of westbound flights through the Kabul FIR associated with the BOBCAT system from the commencement of its ATFM operation in July 2007 to March 2016, encompassing implementation of enhanced Flexible Use of Airspace (FUA) in Afghanistan and full implementation of RNP10 50NM Separation on 30 September 2015.

4.2 States were requested to ensure that flight plans and aircraft movement messages for flights subject to ATFM measures were sent via AFTN to Bangkok ATFMU (VTBBZDZX). Accordingly, Bangkok ATFMU continuously monitored the percentage of flights for which departure (DEP) messages were received (**Figures 1 and 2**).



**Figure 1:** Percentage of Flights for which DEP Messages were Received – Top Airports Apr 2014 – Mar 2016.

**Average Percent of Flights with DEP Received  
Top Airports : Apr 2014 - Mar 2016**



**Figure 2:** Average Percentage of Flights for which DEP Messages were Received – Top Airports – Apr – Mar 2016.

4.3 It was noted that substantial fluctuations in the DEP message statistics for Hong Kong (VHHH) were the result of very low numbers of flights which operated through the BOBCAT airspace only during the summer season.

4.4 Analysis showed the major causes for aircraft being unable to achieve preferred flight levels entering the Kabul FIR were:

- i. EET inaccuracy: 42 percent
- ii. Tactical ATC issues: 18 percent
- iii. Departures punctuality: 17 percent
- iv. Departure without Slot Allocation: 2 percent
- v. Unknown (more data required): 22 percent

4.5 It was noted that actual elapsed flight times different from flight planned EET was becoming the major cause of flights not being able to enter Afghanistan airspace at the levels specified by slot allocation. Statistical analysis of entry compliance on the traffic sample data from April 2014 to March 2016 revealed that on average only 28 percent of flights enter Afghanistan airspace within 5 minutes after ETOs (**Figure 3**). This was a significant change from previous reports when departure punctuality was the major cause.

4.6 In discussing flight times different than flight-planned EET, the meeting noted that possible causes were:

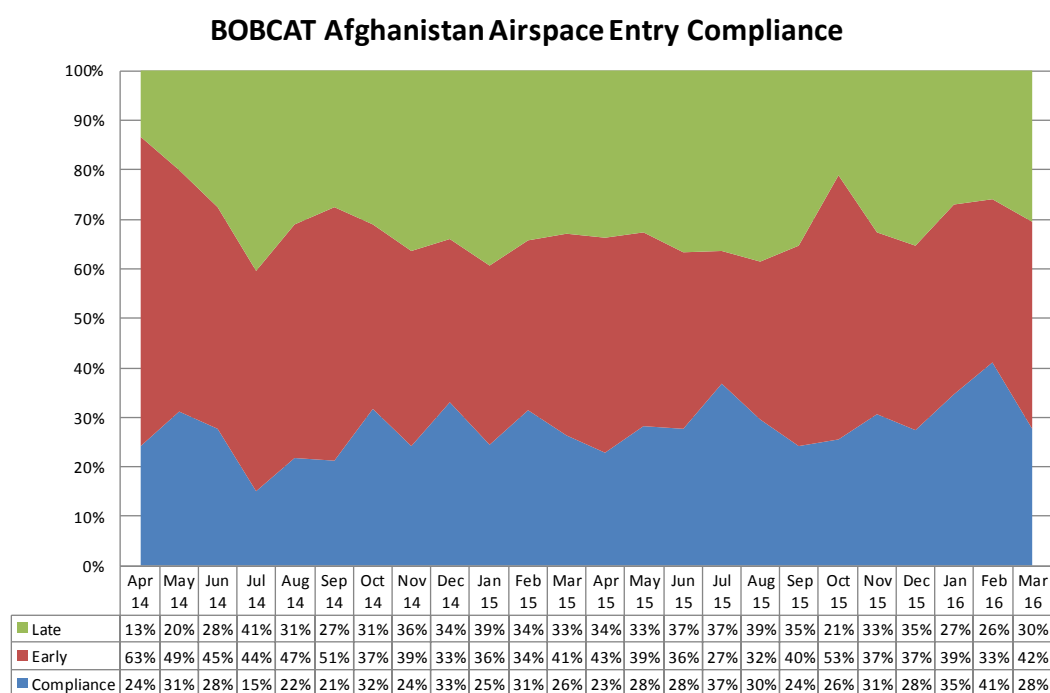
- Weather deviations;
- Amended route clearances (track shortening); and

- Departure times in AFTN DEP messages based on ATM system identification of aircraft becoming airborne from the departure runway, rather than the set-course time.

4.7 Participating airlines and ANSPs were reminded of the importance of accurate flight performance, and that aircraft should wherever possible attempt to cross the entry waypoint within the 5-minute window after the BOBCAT slot-allocated Estimated Time Over (ETO).

4.8 This was largely in line with indication that EET inaccuracy has become the most significant cause of flights not entering the Kabul FIR in accordance to allocated flight levels.

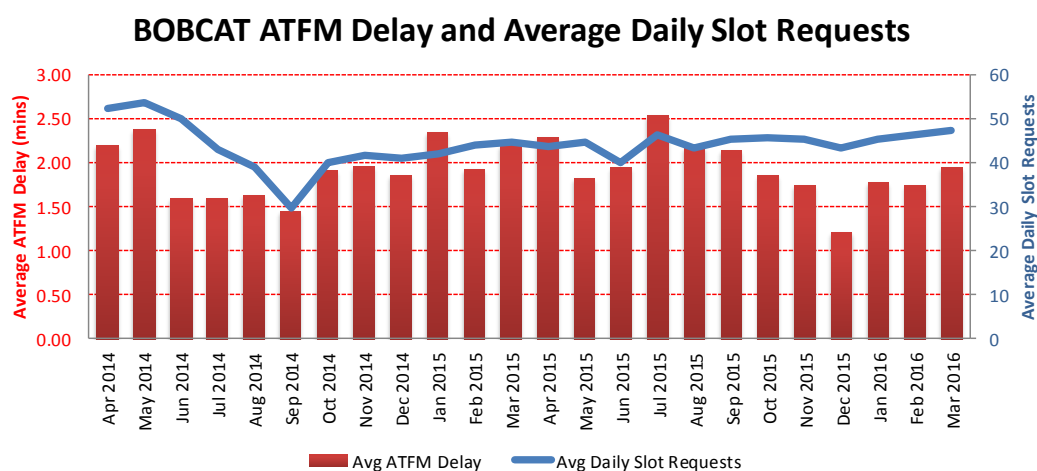
4.9 Thailand advised that a list of non-compliant entry times could be produced for further analysis.



**Figure 3:** Afghanistan Airspace Entry Compliance: Apr 2014 – Mar 2016

4.10 Despite low level of entry time compliance, however, over 80 – 90 percent of flights were still able to achieve flight levels the same as or better than those allocated by BOBCAT upon entering Afghanistan airspace.

4.11 Analysis of ATFM delay for the period October 2015 – March 2016 showed an average of 16 percent decrease of ATFM delay when compared to the same period in 2014-2015. This was associated with an average of 8 percent increase of slot request traffic demand from same period in 2014-2015 (**Figure 4**).



**Figure 4:** ATFM Delay and Average Daily Slot Request Traffic Demand: Apr 2014 – Mar 2016

4.12 The meeting was informed that compliance with an allocated wheels up time (AWUT) or CTOT was a joint responsibility of the pilot and the ATC Tower. ANSPs should ensure that local operating instructions included the requirement for ATC to facilitate compliance.

4.13 The meeting noted the difference in terminology between BOBCAT, using AWUT, and CTOT defined in the Regional Framework for Collaborative ATFM. It was agreed that the BOBCAT program should align with the Framework. Thailand advised that it would take a few weeks to make the necessary system software changes and engage in the necessary information/education activities to change the terminology in use.

4.14 It was further noted by the meeting that compliance with an AWUT or CTOT was a joint responsibility shared between the pilot/aircraft operator and the ATC Tower. States should ensure that their ATC Tower operating instructions included reference to ATC Towers' active participation in the achievement of CTOT compliance.

4.15 In discussing the capacity improvements arising from the implementation of 50 NM longitudinal separation on ATS routes within the BOBCAT program, the meeting was reminded of the ICAO performance-based communications and surveillance provisions that would become applicable in November 2016, and which were discussed at the recent meeting of the FANS Interoperability Team – Asia (FIT-Asia). Participants were requested to ensure their States were fully informed of the coming provisions and prepared to discuss the Regional PBCS transition strategy at the next meeting of the ATM Sub-Group of APANPIRG.

4.16 IFALPA informed the meeting that there were occasions when the 50 NM separation was not being applied, and ATC were instructing aircraft to reduce speed to achieve 10 minutes longitudinal separation from preceding same-level aircraft. India advised that 50 NM longitudinal separation was provided on an opportunity basis between appropriately equipped aircraft pairs. The matter would be further discussed at ATM Sub Group.

Flight Plans and ATS Messages for Effective ATFM Services (WP/6)

4.17 Australia, China, Hong Kong China, Singapore Thailand, CANSO and IATA presented information on the importance of timely submissions of flight plans and transmission of ATS messages to support an effective Air Traffic Flow Management service. The importance of correctly submitted flight plan (FPL), delay (DLA), cancellation (CNL), modification (CHG) and departure (DEP) messages was emphasized.

4.18 The meeting was reminded that the Regional Framework for Collaborative ATFM included in its performance improvement plan the expectation that States would ensure their FPL and ATS message distribution systems and processes were analysed and, where necessary, modified to ensure that FPL, CHG, DEP, DLA and CNL messages were distributed and processed in accordance with the requirements specified in ICAO Doc 4444 – *PANS-ATM*. The Framework also included expectations relating to the submission of FPL not less than 3 hours prior to EOBT, and the transmission of DLA messages for aircraft delayed by more than 15 minutes after EOBT.

4.19 While recognizing the ATFM need for early notification of the flight plan, it was also recognized that operational or technical limitations may not permit the submission of FPL not less than 3 hours before EOBT. It was also noted that the current Framework provisions for FPL submission applied only to ATFM Program Airports, and that a similar requirement should be included to support ATFM in constrained airspace, which was expected in Phase II of Regional ATFM Capability implementation. The meeting discussed the need for an amendment to the Regional Framework for Collaborative ATFM, and agreed to the following change:

7.13 Requirements should be published in all relevant State AIP, specifying that, ~~except where necessary for operational or technical reasons, FPL for flights operating to ATFM Program airports~~ should be submitted not less than 3 hours prior to EOBT.

*The requirement for FPL submission not less than 3 hours prior to EOBT is currently stipulated in other Regions for ATFM purposes. However, it should be noted that some airspace user flight planning systems are limited to maximum prior submission less than 3 hours.*

4.20 The processing of this amendment was included in **Draft Conclusion ATFM/SG/6-3: Update Regional Framework for Collaborative ATFM**, discussed in paragraph 6.27.

4.21 To further support the need for timely and correct ATS message origination, the meeting agreed to the following Draft Conclusion:

**Draft Conclusion ATFM/SG/6-1: Origination of Flight Plan and ATS Messages**

That, taking into account the Regional Framework for Collaborative ATFM's Performance Improvement Plan provisions relating to the submission of FPL and ATS messages, States are urged to publish in AIP the requirement that:

1. Except where necessary for operational or technical reasons, FPL should be submitted not less than 3 hours before EOBT;
2. DLA messages should be originated when the departure of an aircraft, for which basic flight plan data (FPL or RPL) has been sent, is delayed by 15 minutes or more after the EOBT contained in the basic flight plan data; and
3. CHG and CNL messages are promptly originated in accordance with the provisions

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of ICAO Doc 4444 Procedures for Air Navigation Services (PANS-ATM) 11.4.2.2

4.22 The meeting discussed the importance of arrival information in the recalculation of demand and the subsequent revision or commencement of an ATFM program, and in post-operations analysis. It was noted that each participating ATFM Node should determine how *actual landing time* (ALDT) was determined and reported to the Node's ATFM system. Provisions for arrival information should be included in the operational information requirements being considered by the ATFM/IR/SWG.

4.23 The meeting further discussed the issue of a significant proportion of DEP messages that were not transmitted, as also discussed under WP/5. Failure to transmit DEP messages had operational implications not only for ATFM, but also for the broader ATM environment.

4.24 The meeting agreed to the following Draft Conclusion:

**Draft Conclusion ATFM/SG/6-2: Origination and Distribution of Departure (DEP) Messages**

That, recognizing the importance of AFTN departure (DEP) messages in the management and coordination of flight plans in both manual and automated ATM environments, ICAO be requested to:

1. Conduct an analysis of the incidence of non-receipt of DEP messages required by ICAO Doc 4444 Procedures for Air Navigation Services (PANS-ATM) Section 11.4.2.2;
2. Request that States failing to ensure correct transmission of DEP messages promptly take corrective action and report the status of corrective actions to the ICAO APAC Regional Office by 30 April 2017; and
3. Raise APANPIRG Air Navigation Deficiencies against failure by States to comply with Doc 4444 Section 11.4.2.2, at APANPIRG/28.

**C-ATFM Implementation in India (WP/12)**

4.25 India provided a brief update of collaborative ATFM (C-ATFM) implementation in India, including a description of the plan for implementation of Phase I of C-ATFM Operations.

4.26 The C-ATFM system integrated flight data from various subsystems and displayed weather information along with static information about airports, airspaces and air routes. The system processed demand and capacity information and provided decision making tools to the ATFM flow manager for collaborative decision making and to balance demand and capacity. The network architecture of the system consisted of a Central Command and Control Center (CCC) located at Delhi, supported by 21 flow management positions (FMPs) located at ATC area control centres, approach control centres and towers. It was planned to establish FMPs at 36 airports by the end of 2016.

4.27 C-ATFM was planned to be implemented in 2 phases, with a nationwide ATFM system covering all major airports in India becoming gradually operational in 2017 and also enabling India's participation in cross-border ATFM.

Cross-Border ATFM Cooperation Project – Collaborative MIT Conversion Program (WP/7)

4.28 Information was provided on the Collaborative MIT Conversion Program (CMCP) being developed by China and Thailand. MIT was used as a major flow restriction in the South China Sea area for demand and capacity balancing. Negative effects included slot waste and lack of predictability on delay, reducing the efficiency and effectiveness of cross-border ATFM.

4.29 The CMCP attempted to convert MIT into a Ground Delay Programme (GDP) through the issuance of CTOT. The main objectives were:

- i. Increased operational efficiency on the major traffic flow (MTF) that included ATS routes A1 and A202;
- ii. Increased ATFM efficiency through the use of GDP in place of traditional MIT flow restriction;
- iii. Increased ATFM delay predictability prior to departure;
- iv. Decreased ATFM delay due to inefficient MIT coordination processes; and
- v. Provision of a template to attract more stakeholders to join the program.

4.30 Initial scope of the CMCP was:

- i. Phase 1: departures from Thailand overflying the Sanya FIR to North East Asia;
- ii. Phase 2: departures from South East Asia overflying the Sanya FIR to North East Asia; and
- iii. Phase 3: departures from North East Asia to South East Asia.

4.31 It was envisaged that future CMCP operations would involve implementation of Combined ATFM Measures (ATFM/SG/6 WP/11).

4.32 Demonstration flights and an operational trial were planned for 2016, with phased implementation commencing in 2017.

4.33 It was noted progress of the CMCP would be reported to the Multi-Nodal Operational Trial group, and that the ANSPs responsible for FIRs between Thailand and China would also need to be involved to ensure that an aircraft subject to a GDP did not incur an additional flow restriction en-route.

4.34 It was clarified that, while the current application of MIT/MINIT applied at airspace entry points, the purpose was often to manage the flow of traffic into constrained airports.

4.35 The meeting further noted that the possible proliferation of different ATFM systems/procedures in the region, and that when the CMCP reached Phase 3 it should be part of the Multi-Nodal Trial. The Chair observed that it was important that the Multi-Nodal Operational Trial and NARAHG commenced harmonized operations as soon as possible.

4.36 Thailand advised that further scoping of the CMCP Phases would be conducted in the near future.



Irregular Flight and Delay Slots Application System (IP/5)

4.37 Indonesia provided the meeting with information on an application system to manage slot allocation for scheduled flights experiencing irregularity of their flight schedule. The application commenced in a trial phase at a number of airports in March – May 2016. The application had been implemented at 8 coordinated airports from 1 June 2016, and was planned to apply to 35 Indonesian airports in 2017.

**Agenda Item 5: Joint Session – Meteorology Sub-Group – ATFM Steering Group**

Meteorology-Related Provisions of Seamless ATM and ATFM Planning (WP/8)

5.1 The joint session was provided with a review of the meteorology-related provisions of the Asia/Pacific Seamless ATM Plan and the Regional Framework for Collaborative ATFM, noting the MET-related background information and APAC Regional performance improvement objectives incorporated in both documents.

5.2 The Framework document included discussion of and performance objectives for MET information for ATFM purposes, noting that the accuracy of pre-tactical and tactical demand and capacity assessments was reliant on the predictability of events impacting capacity. In the case of weather-related capacity constraints the traditional Annex 3 services did not fully address the needs of ATFM.

5.3 The Framework included examples of tailored MET information such as a detailed terminal area forecast, and convective weather prediction for significant points in terminal areas.

5.4 Regional ATFM Capability Phase II performance expectations, with implementation expected by November 2018, included the following:

*(Tactical Capacity and Demand Monitoring and Analysis)*

*7.31 Meteorological services to support ATM in the terminal area (MSTA) should be implemented, including near-term or now-casting forecasts of convective weather activity at or affecting ATFM Program Airports and associated instrument approach procedures, terminal area ATS routes and holding points and other significant locations.*

*Note: Annex 3 requires that States ensure the quality management of meteorological information.*

5.5 It was noted that future updates of the Framework may include the expectation that States also develop tailored meteorological information for the pre-tactical and tactical assessment of airspace capacity in the en-route ATC environment.

5.6 The joint session meeting noted that the Meteorological Requirements Working Group (MET R WG) had considered the ATFM Framework expectations in the development of its work program, discussed under WP MET SG/20 WP/4.

Meteorological Collaborative Decision-Making (IP/3)

5.7 Australia presented the joint session with an update on MET collaborative decision-making (CDM) processes in support of ATFM at major capital city aerodromes in Australia.

5.8 The information described MET CDM capability, process, relationships, communication and collaboration, and detailed the MET CDM trial and outcomes. Examples were provided of an Airport Reference Card, used to strengthen the collaborative process of MET CDM, and a tool developed to apply a set of agreed business rules to produce a matrix of airport acceptance rates (AAR) and associated forecast information (**ATFM/SG/6 IP/3 Attachments A and B**)

Provision of New MET Information for ATM via the WMO Aviation Research Demonstration Project (IP/4)

5.9 Hong Kong, China provided the joint session with the progress of the collaboration between MET and ATM via the World Meteorological Organization (WMO) Aviation Research Demonstration Project (AvRDP) in support of the recommendation of the ICAO Meteorology Divisional Meeting 2014 (MET/14) to include meteorological services for the terminal area in the next update of ICAO Doc 9750 – *Global Air Navigation Plan (GANP)* to demonstrate the capability of nowcasting and mesoscale modelling techniques in support of ATM.

5.10 The joint session meeting noted the importance of pilot reports in validating MET information.

Effective Meteorological Information Sharing between MET and ATM in the Terminal Area (IP/6)

5.11 Japan provided the joint session meeting with details of ATM-tailored weather information for the terminal area around the Tokyo International Airport and briefing services provided by Tokyo Metropolitan Area Team (TMAT) of the Japan Meteorological Agency (JMA) to meet requirements for dedicated briefings from Traffic Management Units (TMUs) of the Japan civil Aviation Bureau (JCAB). Examples were provided of services and tools used for efficient and timely information sharing, and an operational scenario demonstrating their collaborative work significantly reducing impacts on ATFM during adverse weather conditions.

Review Outcomes of MET R WG/5 (MET SG/20 WP/4)

5.12 The Chair of the MET Requirements Working Group (MET R WG) provided the joint session with a summary of the outcomes of the MET R WG/5 meeting, held in Bangkok, Thailand, from 19 to 21 April 2016.

5.13 The MET R WG/5 meeting had noted that CANSO was invited to join the WG as a member. Further strategies to encourage greater participation by experts from ATM were necessary, and future meetings of the MET R WG should be scheduled to avoid conflicts with ATM-related forums.

5.14 MET SG/20 agreed to ***MET/SG Draft Conclusion 20/11 — Membership of the MET/R WG from both MET and ATM Experts***, urging the nomination of experts, and active participation, from both MET and ATM experts, in the MET/R WG.

5.15 A regional survey of MET information provided to support ATM was conducted in October – November 2015. A summary of the results of the survey was provided at **ATFM/SG/6/WP/MET SG/20/4 Appendix 1**.

5.16 Information was provided on the development of MET information services to support end user systems, coordination between MET and ATM services.

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5.17 MET R WG/5 had revised its future work program and revised the terms of reference (TOR), and tentatively scheduled its next meeting for the 2<sup>nd</sup> half of 2017, seeking the possibility of holding the meeting conjointly with relevant ATM groups.

5.18 ICAO re-emphasized the importance of ensuring the active engagement of the ATFM community in the work of the MET R WG.

Review of the 3rd Meeting of VOLCEX/SG (MET/SG 20 WP/4)

5.19 The joint session meeting was provided with a summary of the 3<sup>rd</sup> Meeting of the Asia/Pacific Volcanic Ash Exercises Steering Group (VOLCEX/SG/3) held in Bangkok, Thailand, from 14 – 16 March 2016.

5.20 The VOLCEX/SG/3 had reviewed the outcomes of the volcanic ash exercise, VOLPHIN 16/0, held in Bali, Indonesia, from 16 – 17 February 2016, which would be used to finalize provisions of the Draft Regional ATM Contingency Plan (RACP) relating to volcanic ash events. VOLCEX/SG noted that its work program would also support the regional expectations, detailed in the RACP Performance Improvement Plan, that States conduct multi-lateral volcanic ash cloud exercises at least annually.

Recent Progress on APAC Volcanic Ash Exercises (MET SG/20 WP/6)

5.21 The joint session meeting was updated on recent progress in Asia/Pacific Volcanic Ash exercises conducted by the VOLCEX/SG.

5.22 Two volcanic ash exercises had been held during 2015 – 2016; VOLPHIN 15/01 on 11 August 2015 simulating an eruption of the Taal Volcano near Manila, Philippines, and VOLPHIN 16/01 on 17 February 2016 simulating an eruption of Mount Merapi in Central Java, Indonesia.

5.23 The 3<sup>rd</sup> exercise, VOLPHIN 16/02, would be held on 18 August 2016. Based on lessons learned and outcomes from the previous exercises, the scenario for this exercise had been elaborated to involve a volcanic ash cloud extending into multiple Flight Information Regions (FIRs). Future exercises would involve more the complex scenarios of catastrophic eruptions.

5.24 The meeting discussed ATFM responses to volcanic ash contingency events. It was noted that, while affected airspace should not be closed, States should be prepared to implement ATFM programs to managed capacity constraints in cases where traffic demand in unaffected airspace exceeded capacity due to aircraft re-routing to avoid the volcanic ash cloud.

ATM Participation in MET R WG Meetings

5.25 The meeting was reminded of the necessity for the ATM community to fully engage with the work of the MET R WG, which had been formed to develop MET information supporting ATM, including ATFM. States were strongly encouraged to provide relevant ATM expertise to MET R WG meetings to ensure the region's needs for tailored MET information for ATM and ATFM were addressed.

**Agenda Item 6: Development of Regional ATFM Framework**

Combined ATFM Measures (WP/11)

6.1 The meeting was presented with a proposed Combined ATFM Measure supporting Stage 3 transition of the Multi-Nodal Operational Trial.

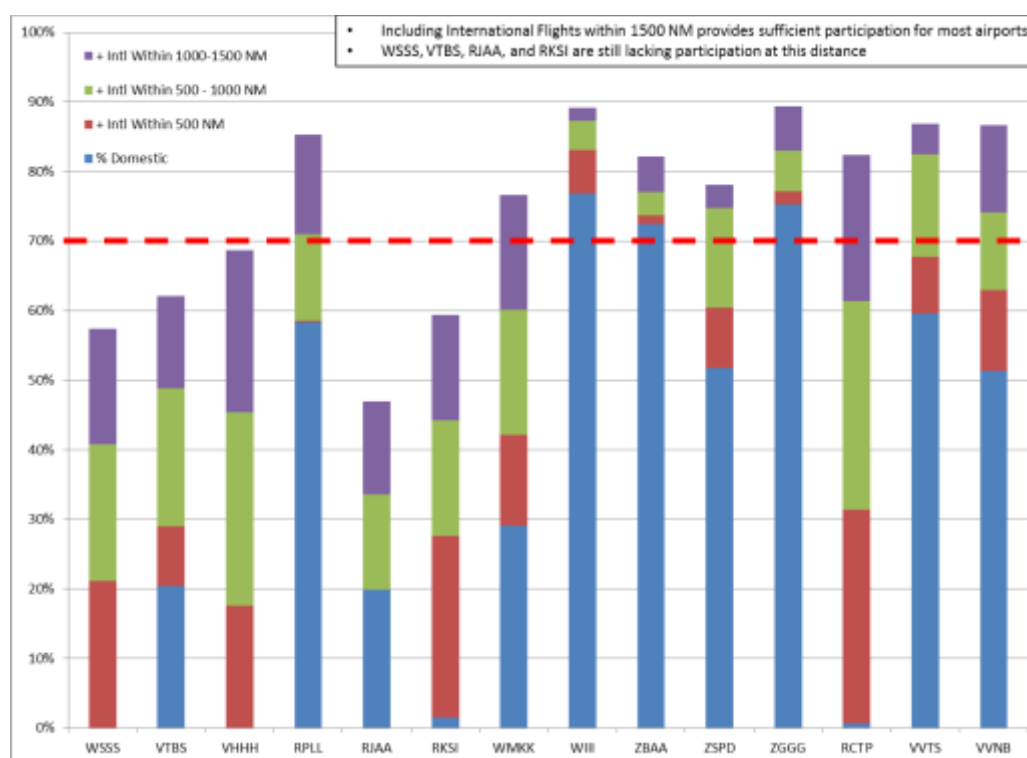
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6.2 The information noted the generally accepted criteria for effective and equitable ATFM measures:

1. Minimum of 70% participation of flights accepting new departure times; and
2. Participating flights within approximately 1,500 NM from the capacity constrained arrival airport (based on existing distances associated with proven operational ATFM deployments).

6.3 Most Asia/Pacific major airports did not satisfy the minimum participation percentage with domestic traffic; however, participation of flights within 1500 NM did achieve sufficient participation for many airports. (**Figure 5**).

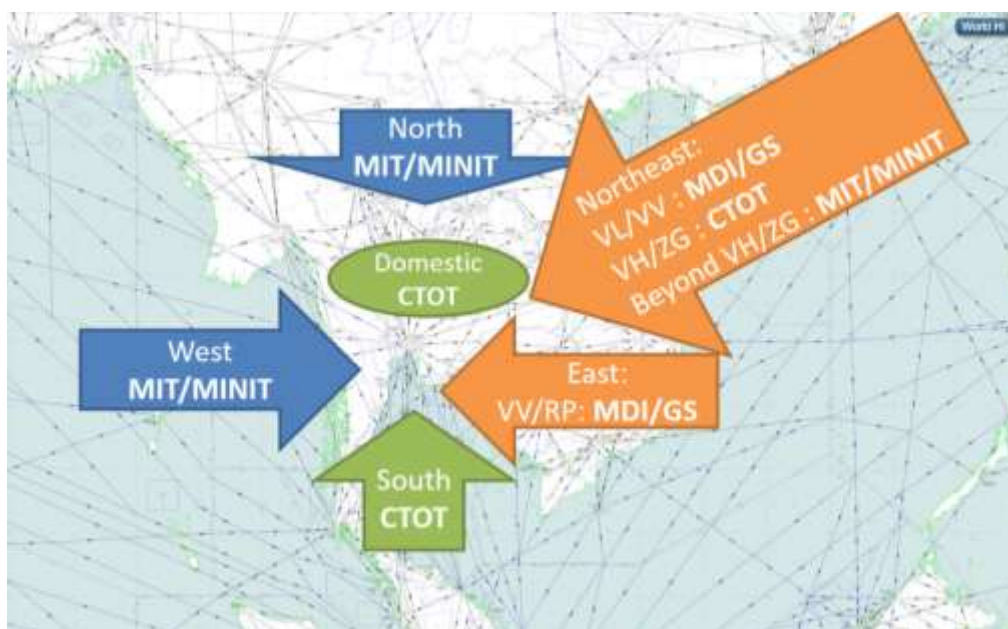


**Figure 5:** APAC Airport Demand and ATFM Participation

6.4 Some airports, including Singapore/Changi, Bangkok/Suvarnabhumi, Tokyo/Narita and Seoul/Incheon required participation from flights departing airports beyond 1500 NM from the destination. Efficient and effective demand and capacity balancing could be reached by introducing a combination of ATFM measures that included CTOT for some flights and miles-in-trail (MIT), minutes-in-trail (MINIT), minimum departure intervals (MDI) and/or ground stop for others.

6.5 Combined ATFM measures should be seen as an interim measure pending the full implementation of the provisions of the Regional ATFM Framework, including its proposed future development to include operator delay intent as described in the Regional ATFM Concept of Operations.

6.6 An example of distribution of different ATFM measures is provided in **Figure 6**.



**Figure 6:** Example of Combined ATFM Measures

6.7 It was clarified that the ground stop or minimum departure intervals would not be applied to flights normally subject to CTOT. In cases where circumstances required a GS to be applied at such airports, a recalculation of CTOT would result.

6.8 The meeting was reminded that the Regional Framework for ATFM included provisions for the use of ATFM measures MIT and MINIT, together with a further provision for the use of calculated time over (CTO) a fixed point utilizing aircraft required time of arrival (RTA) capability. It was agreed that the Framework provisions may be reviewed to determine whether further development to incorporate the proposed combined ATFM measures was necessary.

6.9 Thailand advised that the combined ATFM measures concept would be shared with the ATFM Working Group of the ICAO ATM Operations Panel (ATMOPSP) for consideration and feedback.

#### Mini-Global Demonstration (SP/1)

6.10 Singapore, Thailand and USA presented information on a demonstration of the application of system-wide information management (SWIM) in ATFM, demonstrating the process of the *publishing* and *consuming* of ATFM information such as CTOT, target take-off time (TTOT) airborne track data and actual landing time (ALDT)

6.11 The process had been demonstrated using simulated track data. In response to a query the meeting was informed that Singapore had commenced work on converting ASTERIX Category 62 system track messages from the ATM automation system into Flight Information Exchange Model (FIXM) format.

Progress of the Distributed Multi-Nodal ATFM Operational Trial Project (WP/9)

6.12 Participating States provided an update on the Distributed Multi-Nodal ATFM Operational Trial Project, a collaborative effort among several States and international organizations to conduct an operational trial of regional cross-border ATFM. The project was progressing through the stages of its first phase, focusing on achieving demand and capacity balancing at constrained arrival airports through implementation of a ground delay program (GDP) by issuing calculated take-off time (CTOT) for flights prior to departure. The operational trial commenced in June 2015, following the work plan outlined in **Table 1**.

Phase 1 – DCB for Constrained Arrival Airports		
Stage 1	Stage 2	Stage 3
<ul style="list-style-type: none"> <li>✓ Communication Linkage and Protocols</li> <li>✓ Information Dissemination</li> </ul>	<ul style="list-style-type: none"> <li>✓ Demand Prediction Validation</li> <li>✓ Local Table-Top Exercises</li> <li>✓ Cross-Border ATFM Procedure Development and Validation through Demonstration Flights</li> </ul>	<ul style="list-style-type: none"> <li>➤ Limited-Scope Operational Service: Providing ATFM service for planned and ad-hoc events; introduction of Combined ATFM Measures</li> </ul>
Phase 2 – DCB for Constrained Airspace		
TBD		

**Table 1:** Multi-Nodal ATFM Trial Phase 1.

6.13 Stage 1 demonstrated timely communication of information, but the involvement of operational personnel was limited as no ATFM measures were applied. The testing highlighted differences in user experience among ATFM Nodes' support systems, resulting in the formation of a Technical Sub-Group of the Project Core Team to address the critical challenge of providing a single point of access to network information for airspace users and other stakeholders. **ATFM/SG/6 WP/10** provided information on the progress of the Technical Sub-Group.

6.14 Stage 2 demonstrated the importance of flight intent information provided in advance by airspace users, which had a direct impact on the quality of ATFM programs. The meeting discussed this issue in further detail under **ATFM/SG/6 WP/6**.

6.15 In the current trial configuration the ATFM Daily Plan and CTOT were distributed mainly by email and web service provided by the ANSP that issued the CTOT, and subsequent management of the measure was through voice or email coordination.

6.16 The first round of demonstration flights took place between 28 March and 12 April 2016, and highlighted some key issues:

- ii. *Management of CTOT in the case of delayed flight* would in the future require a higher level of automation due to workload considerations and the separated geographical locations of the airspace user and ATFM personnel involved;
- iii. *CTOT adherence on departure* – several demonstration flights (zero delay trial/demonstration CTOT issued) could not comply with the CTOT; and

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- iv. *Potentially conflicting ATFM measures*, whereby a demonstration flight issued with a zero delay trial/demonstration CTOT was subject to actual en-route constraint, illustrating the need for a clearly defined protocol for handling conflicting ATFM measures.

6.17 The review of the first round of demonstration flights resulted in the initial drafting of a Common Operating Procedure to clarify some of the processes and address some of the challenges.

6.18 The limited-scope operational service under Stage 3 of Phase 1 was planned to commence in July 2016, where ATFM measures will be used to smooth out demand and capacity imbalance prior to and after a period of closure of Singapore/Changi airport, for which strategic ATFM measures have been put in place.

6.19 Due to the impracticality of issuing CTOT to long-haul flights, particularly those from outside the APAC Region, the multi-nodal trial project had commenced exploring the concept of combining GDP with other conventional ATFM measures such as miles-in-trail, minutes-in-trail, minimum departure intervals and ground stop, discussed further by the meeting under ATFM/SG/6 WP/11.

6.20 Leading into Stage 3 the Project Core Team had prepared a Minimum Requirements, Readiness Checklist and Common Operating Procedures to provide guidance to participating States in making appropriate preparations. The checklist could serve as initial guidance for States commencing ATFM implementation projects.

Progress of the Technical Sub-Group of the Distributed Multi-Nodal ATFM Operational Trial (WP/10)

6.21 The States participating in the Multi-Nodal ATFM Operational Trial shared the progress of the Trial's Technical Sub-Group, which could contribute to the objectives of the ATFM Information Requirements Small Working Group (ATFM-IR/SWG). The Technical Sub-Group worked with the Core Team of the project to draft the technology requirement roadmap and interface control document (ICD) for system-to-system linkage.

6.22 The Technical Sub-Group focused on 3 main topics:

- i. System access to ATFM information such as CTOT, considering a range of different communications media for message distribution in the short-term but with the end-state of a single point of web-based access;
- ii. A set of minimum user requirements to be harmonized to ensure data accessibility; and
- iii. End-state ATFM system-to-system interface in a network of interconnected systems with data shared between all ATFM nodes and reducing the need for any centralized component for the multi-nodal network.

6.23 The meeting noted that the Technical Sub-Group of the Multi-Nodal trial would have a leading role in the development of minimum requirements for information exchange and the interface control document that would be developed by the ATFM Information Requirements Small Working Group (ATFM-IR/SWG). An ICD template would be provided for use by these groups.

Regional ATFM Implementation Guidance (WP/13)

6.24 ATFM/SG/4, held in Bangkok, Thailand, from 1 to 5 December 2014, had made **ATFM/SG Decision 4/3: IATA Asia Pacific Regional Air Traffic Flow Management Project – Phase Two**. Under this project phase, IATA had developed a draft Asia/Pacific Regional ATFM Implementation Guidance document for consideration by ATFM/SG.

6.25 The document, edited by ICAO to ensure alignment to the maximum extent possible with the form and structure of comparable ICAO APAC documents, was provided at **ATFM/SG/6/WP13/Attachment A**.

6.26 The meeting agreed that the document should be incorporated in the Regional Framework for Collaborative ATFM as an appendix.

Update of the Regional Framework for Collaborative ATFM

6.27 Taking into consideration the outcomes of discussions under WP/6 and WP13, the meeting agreed to the following Draft Conclusion:

**Draft Conclusion ATFM/SG/6-3: Update Regional Framework for Collaborative ATFM**

That, the Asia/Pacific Regional Framework for Collaborative ATFM Version 2.0 incorporating:

- a) the amended text in **Appendix C** to the report ; and
- b) as an appendix, the Regional ATFM Implementation Guidance document (**ATFM/SG/6/WP13/Attachment A**)

be made available on the ICAO Asia/Pacific Regional Office web site, replacing Version 1.0.

Referencing the Regional Framework for Collaborative ATFM

6.28 ICAO observed that there had been several instances in the meeting of proposed actions that were already included in the Regional Framework for Collaborative ATFM.

6.29 It was emphasized that the Framework was the primary regional ATFM planning document, and that its provisions should be included in all APAC ATFM implementation planning. This would ensure the future harmonization and interoperability of State and Sub-Regional ATFM implementation, and hence facilitate regional cross-boundary ATFM. Examination and use of the Framework by ATFM project personnel would also lead to its timely amendment, where necessary, to accommodate new or amended information as further knowledge and experience was gained in the distributed multi-nodal ATFM network environment.



6.30 The meeting agreed to the following Draft Conclusion:

**Draft Conclusion ATFM/SG/6-4: State Review of the Regional Framework for Collaborative ATFM**

That, noting

1. need for harmonized, interoperable State and Sub-Regional ATFM implementation to achieve cross-border ATFM in the Asia/Pacific Region; and
2. the Asia/Pacific Regional Framework for Collaborative ATFM, available on the Asia/Pacific Regional Office web site, is the primary planning document addressing ATFM implementation and operational issues in the Asia/Pacific Region;

States are urged to:

- a) Review the Regional Framework for Collaborative ATFM; and
- b) Ensure that full consideration is given in all ATFM implementation planning to the provisions of the Regional Framework for Collaborative ATFM.

**Agenda Item 7: Any Other Business**

Hong Kong, China Statement on ATM System Commissioning

7.1 Hong Kong, China stated that transition to the new ATM system was planned for late October – early November 2016, and that some strategic and tactical ATFM measures would be in place to manage ATC workload during the transition period.

7.2 The Strategic ATFM measures had already been taken through winter scheduling process, reducing Hong Kong International Airport hourly movements by 7 – 10%. Tactical ATFM measures such as 20 NM miles-in-trail (MIT) would be activated when necessary for overflight traffic, but these would not be excessive and would be acceptable to neighbouring ANSPs. ATFM measures would be withdrawn on completion of the transition period.

7.3 Hong Kong, China requested the understanding and cooperation of all States to ensure a smooth transition to the new ATM system.

**Agenda Item 8: Review of the Task List**

8.1 The meeting reviewed the ATFM/SG Terms of Reference (TOR), provided at **ATFM/SG/6/WP/14/Attachment A**. The ATFM/SG Task list as reviewed by the meeting is provided at **Appendix D** to the report.

**Agenda Item 9: Date and Venue of the Next Meeting**

9.1 The next meeting will be held in Fukuoka, Japan, on dates to be yet to be determined in May or June 2016. This will provide the ATFM/SG the opportunity to observe collaborative ATFM operations in a high demand environment.

**Closing of the Meeting**

10.1 The Chair thanked the meeting participants for their contributions.

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**List of Participants**

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*International Civil Aviation Organization*

**The Sixth Meeting of ICAO Asia/Pacific Air Traffic Flow Management  
Steering Group (ATFM/SG/6)**

Bangkok, Thailand, 06 – 10 June 2016

**LIST OF WORKING PAPERS (WPs) and INFORMATION PAPERS (IPs)**

(Presented by the Secretariat)

**WORKING PAPERS**

NUMBER	AGENDA	WORKING PAPERS	PRESENTED BY
WP/1	1	Provisional Agenda	Secretariat
WP/2	2	Related Meeting Outcomes	Secretariat
WP/3	2	Northeast Asia Regional ATFM Harmonization Group (NARAHG) Update	China, Japan and Republic of Korea
WP/4	3	ATFM Global Standardization Update	Australia, Thailand, United States, CANSO and ICAO
WP/5	4	BOBCAT Operational Update	Thailand
WP/6	4	Flight Plans and ATS Messages for Effective ATFM Services	Australia, China, Hong Kong China, Singapore, Thailand, CANSO and IATA
WP/7	4	Cross-Border ATFM Cooperation Project - Collaborative MIT Conversion Program (CMCP)	China and Thailand
WP/8	5	Meteorology-Related Provisions of Seamless ATM and ATFM Planning	Secretariat
WP/9	6	Multi-Nodal ATFM Trial Progress	Australia, China, Hong Kong China, Indonesia, Malaysia, Singapore, Thailand, CANSO, IATA
WP/10	6	Multi-Nodal ATFM Trial Technical Sub-Group Progress	Australia, China, Hong Kong China, Singapore, Thailand, CANSO, and IATA
WP/11	6	Combined ATFM Measures	Australia, China, Hong Kong China, Singapore, Thailand, CANSO and IATA
WP/12	4	C-ATFM Implementation in India	India
WP/13	6	Regional ATFM Implementation Guidance	Secretariat
WP/14	8	Review Task List	Secretariat
MET SG/20 WP/4	5	Review Outcomes of MET R WG/5	Chair of the MET R WG
METSG/20 WP/5	5	Review Progress on APAC Volcanic Exercises	Japan

**INFORMATION PAPERS**

<b>NUMBER</b>	<b>AGENDA</b>	<b>INFORMATION PAPERS</b>	<b>PRESENTED BY</b>
IP/1	-	List of Papers	Secretariat
IP/2	2	Workshops on ATFM and CDM	ICAO
IP/3	5	Meteorological Collaborative Decision Making	Australia
IP/4	5	Provision of New MET Information For ATM via the WMO Aviation Research Demonstration Project	Hong Kong, China
IP/5	4	Irregularity Flight and Delay Slots Application System	Indonesia
IP/6	5	Effective Meteorological Information Sharing between MET and ATM in the Terminal Area	Japan
METSG/20 IP/17	5	Review VOLCEX/SG/3	Chair of the VOLCEX/SG

**PRESENTATIONS**

<b>NUMBER</b>	<b>AGENDA</b>	<b>PRESENTATIONS</b>	<b>PRESENTED BY</b>
SP/1	6	Mini-Global Demonstration	Singapore, Thailand, USA
SP/2	4	BOBCAT Operational Update (WP/5)	Thailand
SP/3	5	New MET Information For ATM (IP/4)	Hong Kong, China
SP/4	6	Collaborative Miles-in-Trail Conversion Program (WP/7)	China and Thailand
SP/5	6	Combined ATFM (WP/11)	Australia, China, Hong Kong China, Singapore, Thailand, CANSO and IATA

**FLIMSIES**

<b>NUMBER</b>	<b>AGENDA</b>	<b>FLIMSIES</b>	<b>PRESENTED BY</b>
FLIMSY 1	6	Operational Requirements for ATFM Information Distribution	Secretariat
FLIMSY 2	4	Indonesia ATDM CDM Current Situation	Indonesia

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**AMENDMENT TO THE REGIONAL FRAMEWORK FOR COLLABORATIVE ATFM.**

**1. AMEND** paragraph 7.13 (and note) as follows:

7.13 Requirements should be published in all relevant State AIP, specifying that, except where necessary for operational or technical reasons, FPL for flights operating to ATFM Program airports should be submitted not less than 3 hours prior to EOBT.

*The requirement for FPL submission not less than 3 hours prior to EOBT is currently stipulated in other Regions for ATFM purposes. However, it should be noted that some airspace user flight planning systems are limited to maximum prior submission less than 3 hours.*

**2. ADD** new paragraphs as follows:

Regional ATFM Implementation Guidance

5.78 Under Phase II of the IATA Regional Air Traffic Flow Management Project, as agreed by ATFM/SG/4, IATA delivered the Regional ATFM Implementation Guidance document for consideration by ATFM/SG/6 (Bangkok, Thailand, June 2016).

5.79 ATFM/SG/6 noted the importance of harmonized implementation guidance to assist States in the planning and execution of ATFM implementation projects, and to the future interoperability of State and Regional ATFM programs.

5.80 The Regional ATFM Implementation Guidance, provided at **Appendix F**, includes information and guidance on:

- The background of ATFM/CDM in the Asia/Pacific Region;
- Setting up an ATFM/CDM project;
- Implementation;
- Implementation Risks and Mitigation;
- Post-implementation activities;
- Timelines; and
- Assessment of benefits.

5.81 The Guidance document should, in conjunction with this document and the Asia/Pacific Regional ATFM Concept of Operations, be examined by all APAC Region States planning ATFM implementation.

**3. ADD** as an Appendix to the Regional Framework for Collaborative ATFM:

APPENDIX F – Regional ATFM Implementation Guidance.

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**Air Traffic Flow Management Steering Group**

**Task List**

*(last updated ATFM/SG/6 10 June 2015)*

<b>ACTION ITEM</b>	<b>DESCRIPTION</b>	<b>TIME FRAME</b>	<b>RESPONSIBLE PARTY</b>	<b>STATUS</b>	<b>REMARKS</b>
<b>2/1</b>	Research guidance on qualifications and competencies for ATFM operators	<del>31 May 2015</del>	Specialist Team/Secretariat	<del>Open</del> Completed	<del>Final version of training guidance to be provided</del> Final version of training guidance now incorporated in Framework
<b>2/2</b>	Research guidance material on ATFM compliance	ATFM/SG/6 ATFM/SG/7	Specialist Team/Secretariat Australia/Secretariat	Open	Can be sourced from EUROCONTROL
<b>2/3</b>	Further develop draft Regional Framework for Collaborative ATFM.	ATFM/SG/5	Specialist Team/Secretariat	<del>Open</del> Completed	Second draft to be compiled from outcomes of ATFM/SG/4
<b>2/4</b>	Produce interim regional ATFM guidance (extracted from draft Regional Framework).	18 July 2014	Specialist Team/Secretariat	Closed	Reconsidered need for Interim Guidance. Final draft version of Framework can be used as interim guidance pending APANPIRG adoption and further concept development
<b>2/5</b>	Align Asia/Pacific BANP Volume 1 ATFM provisions with the ATFM framework and Doc 9971	ATFM/SG/6 ATFM/SG/7	Secretariat	Open	In consultation with ATFM/SG May require longer time frame due to transition to EANP.
<b>2/6</b>	Develop Regional priorities, targets and performance monitoring metrics for ASBU Module B0-NOPS	March 2014	Specialist Team/Secretariat	Completed	To be provided to APANPIRG Sub-Group Chairs by March 2014

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<b>ACTION ITEM</b>	<b>DESCRIPTION</b>	<b>TIME FRAME</b>	<b>RESPONSIBLE PARTY</b>	<b>STATUS</b>	<b>REMARKS</b>
2/7	Conduct study to establish regional baseline of ATFM capability and develop recommended implementation strategies.	ATFM/SG/4 ATFM/SG/5	IATA	<del>Open</del> Completed	Decision 2/2. Study Phase 1 completed and provided to ATFM/SG/4
3/1	Provide copy of Indonesia Manual of Runway and Airspace Capacity Measurement	28 March 2014	Indonesia	Closed	Requires translation from Bahasa Indonesia.
3/2	Provide information on airport and airspace capacity assessment methodology for framework development	ATFM/SG/4	China	Completed	ATFM/SG/4 WP/19
3/3	Coordinate with MET/R TF Secretary for information on potential Annex 3 amendments including MST A	18 July 2014	Secretariat	Completed	ATFM/SG/4 IP/02
3/4	Provide Points of Contact for IATA Study	21 March 2014	States/ATFM/SG Participants	Completed	
3/5	Coordinate with MET/R TF WG to invite appropriate Aviation Meteorology experts to participate in ATFM Specialist Team activities.	Ongoing	Secretariat	Open	
3/6	Develop a list of ATFM terminologies, definitions, their meanings and application, identifying a minimum set for interoperability	ATFM/SG/5	CANSO, India Japan Singapore, Thailand	<del>Open</del> Completed	Minor amendments to be coordinated following ATFM/SG/4 WP/06 review.
3/7	Provide list of airport and airspace capacity improvements Incorporate Thailand capacity improvement suggestions (ATFM/SG/3 WP14)	ATFM/SG/5	CANSO Secretariat	<del>Open</del> Completed	Capacity improvements suggestions received. Require some explanatory notes for inclusion in Framework.
3/8	Provide list of aptitudes, skills, experience recommended for Flow Managers and ATFMU operators	ATFM/SG/5	CANSO	<del>Open</del> Completed	Received by Secretariat. Will also be updated as part of Training guidance
3/9	Research and extract appropriate information and guidance from Eurocontrol A-CDM Manual to use as guidance material in the Regional ATFM Framework	ATFM/SG/4	ICAO/Secretariat/Specialist Team	Closed	Referred to AOP/WG
3/10	Expand and develop CDM Project assessment form to include assessment of ATFM implementation	ATFM/SG/5	Secretariat/Specialist Team	Closed	

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ACTION ITEM	DESCRIPTION	TIME FRAME	RESPONSIBLE PARTY	STATUS	REMARKS
3/11	Further develop concept of ATFM Categories of Airspace	ATFM/SG/5	Secretariat/Specialist Team	Closed	Refinement/simplification commenced. Further refinement following ATFM/SG/4 review
3/12	Develop draft training curriculum topics based on Thailand suggested. ATFM/SG/3 IP05	ATFM/SG/5	Secretariat/Specialist Team	Completed	Draft Training Document presented to ATFM/SG/4. Undergoing further development before inclusion in Framework
3/13	Research best practice for development of ICD by ICAO regional groups.	ATFM/SG/6	Secretariat	Open Completed	<del>Requires specialist skills. May require formation of a technical group.</del> Template to be provided under Task XX. Development of ICD coordinated through ICAO APAC ACSICG
3/14	Adapt Thailand CDM/ATFM Concept of Operations for inclusion in Regional Framework (ATFM/SG/3 WP15)	ATFM/SG/5	Secretariat/Thailand/Specialist Team	Completed	Initial work done. Minor amendments to be made to render charts generic.
3/15	Adapt multi-nodal distributed network concept for inclusion in Regional Framework. Add discussion of airspace capacity constraints and emphasis on <i>cross-border</i> ATFM.	ATFM/SG/5	Secretariat/Specialist Team	Completed	Initial work done and reviewed by ATFM/SG/4.
4/1	Provide draft guidance on CDM processes for inclusion in Framework	ATFM/SG/5	India/Secretariat	Completed	
4/2	Develop simple guidance on capacity assessment .	ATFM/SG/5	Secretariat/Specialist Team	Completed	ATFM/SG/4 WP/19
4/3	Further refinement of ATFM Principles	ATFM/SG/5	Secretariat/Specialist Team	Completed	ATFM/SG/4 WP/10
4/4	Update ASBU Applicability (Framework Background Info)	ATFM/SG/5	Secretariat/Specialist Team	Completed	ATFM/SG/4 WP/11
4/5	Further develop concept of minimum information exchange interaction, ATFM phrases, AFTN messages, and exchange mechanisms for information such as capacity constraints and ATFM daily plan	ATFM/SG/5	Secretariat/CANSO	Closed	ATFM/SG/4 WP/12

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ACTION ITEM	DESCRIPTION	TIME FRAME	RESPONSIBLE PARTY	STATUS	REMARKS
4/6	Coordinate ATFM terminology and proposed communications formats/protocols with AOP/WG	30 April 2015	Secretariat	<del>Open</del> Completed	ATFM/SG/4 WP/14
4/7	Develop guidance for factors to be considered when determining MET products to support ATFM	ATFM/SG/5	Secretariat/specialist Team	<del>Open</del> Completed	ATFM/SG/4 WP/21
4/8	Clarify ATFM/SG Terms of Reference and other APANPIRG information relating to the expected term of the Steering Group	ATFM/SG/6	Secretariat	<del>Open</del> Completed	Firm view of the group that ATFM/SG should continue beyond the production of Version 1.0 of the Framework.
5/1	<p>Poor on time performance of BOBCAT aircraft subject to ATFM procedures has direct impact on efficiency of ATFM procedures. All parties to undertake investigation as to reason for poor on-time performance including:</p> <ul style="list-style-type: none"> <li>a) Incorrect flight planned EET,</li> <li>b) Non compliance with BOBCAT AWUT – early and late departures</li> <li>c) Non compliance with BOBCAT Kabul entry time – early and late at Kabul entry fix.</li> </ul>	ATFM/SG/6 Ongoing	Affected States, IATA	Open	<p>Transferred to ATFM/SG by SAIOACG/5</p> <p>Poor punctuality performance is actively being monitored and rectified where possible by IATA/States.</p> <p>SAIOACG/5: this is still problematic.</p>
5/2	More information from BOBCAT to be made available for tactical decisions in addition to the Kabul FIR entry	ATFM/SG/6 ATFM/SG/7	Thailand, India	Open	<p>Transferred to ATFM/SG by SAIOACG/5</p> <p>Thailand will communicate with stakeholders about an upgrade in terms of sharing information more like a CDM system. It needs to be clear that the extra information was not a ‘controlling’ tool.</p>

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ACTION ITEM	DESCRIPTION	TIME FRAME	RESPONSIBLE PARTY	STATUS	REMARKS
5/3	<p>BOBCAT slot allocation may be considered beyond 2000 – 2359UTC</p> <p>ATFM/SG/5: Need information on what the problems are: e.g. incomplete implementation of 50NM separation, concentration of flights on too few routes.</p> <p>Capacity constraints.</p>	<p>ATFM/SG/6</p> <p>ATM/SG/4</p>	India/Thailand	Open	<p>Transferred to ATFM/SG by SAIOACG/5</p> <p>India to provide data to support an extension.</p> <p>All involved to consider operational impact. Thailand to consider operational impact of the extension – need to share data and airlines to look at impact. Such change will require a 90-day notice.</p>
5/4	Cross-boundary restrictions on flights through the Sanya FIR (several States)	<p>ATFM/SG/6</p> <p>Ongoing</p>	China/Hong Kong China/RSO	Open	<p>Transferred to ATFM/SG by SEACG/22</p> <p>The SEACG/21 meeting was apprised of concerns that the Sanya FIR was occasionally imposing increased longitudinal spacing requirements. The parties to meet and discuss a resolution plan.</p>

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ACTION ITEM	DESCRIPTION	TIME FRAME	RESPONSIBLE PARTY	STATUS	REMARKS
5/5	Finalize Training Requirements Guidance Document for inclusion in Draft Framework	31 May 2015	EU(AATIP), supported by Thailand	<del>Open</del> Completed	EU/AATIP advised ATFM/SG/5 that the document would be finalized by 31 May 2015, following inclusion of other material presented at the meeting and final consultation with EUROCONTROL.
5/6	Circulate Framework for Collaborative ATFM in whole form for final ATFM/SG comment.	17 April 2010	Secretariat	<del>Open</del> Completed	All document sections finalized at ATFM/SG/5
5/7	State Letter to provide States with prior notification of Framework presentation to ATM/SG	30 April 2010	Secretariat	<del>Open</del> Completed	
5/8	FIXM extension to support CTO at AFIX and any other requirements identified	30 November 2018	SWG	Open	May be needed to support CTO at RFIX/AFIX, for Framework Performance Improvement Plan Phase II (Nov 2018)
5/9	Provide names/contact details of ATFM/IR/SWG contacts	17 April 2015	SWG States	<del>Open</del> Completed	
5/10	Develop Draft Operational Requirements Document	ATFM/SG/6 ATFM/SG/7	ATFM/IR/SWG	Open	Dependent on meeting schedule cycle
5/11	In cooperation with the ACS ICG, develop an a draft interface control document (ICD) for cross border ATFM described in the Regional Framework for Collaborative ATFM	ATFM/SG/6 ATFM/SG/7	ATFM/IR/SWG	Open	Dependent on meeting schedule cycle
5/12	Research and Development (from Framework)	ATFM/SG/8	ATFM/SG/7	Open	Dependent on meeting schedule cycle
5/13	Research ATFM for long range flights	ATFM/SG/6 ATFM/SG/8	India-ATFM/SG	Open	

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ACTION ITEM	DESCRIPTION	TIME FRAME	RESPONSIBLE PARTY	STATUS	REMARKS
5/14	Review of Regional Collaborative Framework for ATFM	Ongoing	ATFM/SG	Open	
5/15	IATA Study Phase 2 Development of Detailed Implementation Recommendations	ATFM/SG/6	IATA	<del>Open</del> Completed	
5/16	WP to ATM SG relating to the continuance of the ATFM/SG	ATM/SG	Co-Chairs and IATA	<del>Open</del> Completed	
6/1	Analysis of failure to send DEP messages, and State Letter/follow-up	30 April 2017	ICAO, States XX??	Open	Subject to Agreement of APANPIRG to DC ATFM/SG/6-2 States to provide data, ICAO to conduct analysis and follow-up
6/2	Detailed list of non-compliance with BOBCAT entry times	ATFM/SG/7	Thailand	Open	
6/3	Update BOBCAT system and procedures to use CTOT instead of AWUT	ATFM/SG/7	Thailand	Open	
6/4	States to ensure ATC Tower local operating procedures include reference to ATC active participation in the achievement of CTOT compliance	ATFM/SG/7	States	Open	
6/5	Proposal for Framework amendment to include further development of existing MIT and MINIT in performance improvement plan	ATFM/SG/7	IATA/Thailand	Open	
6/6	ICD template to SWG and Multi-Nodal Trial Tech Sub-Group	30 June 2016	ICAO	Open	