



ICAO

International Civil Aviation Organization

Tenth Meeting of the Asia/Pacific Air Traffic Flow
Management Steering Group (ATFM/SG/10)

Video Teleconference 04 – 08 May 2020

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

REGIONAL ATFM IMPLEMENTATION STATUS

(Presented by the Secretariat)

SUMMARY

This paper presents the current reported ATFM implementation status of Asia/Pacific Administrations, reported against the performance objectives of the Regional Framework for Collaborative ATFM.

1. INTRODUCTION

1.1 ATM/SG/5 (2017) agreed to the following Conclusion:

Conclusion ATM/SG/5-3: Asia/Pacific Regional Framework for Collaborative ATFM Amendment

That,

- 1. the Regional Framework for Collaborative ATFM be amended to include the information and performance objectives in **Appendix D to the Report**; and*
- 2. the ATFM Implementation Status Report form provided in **Appendix E to the Report** be included in the Regional Framework for Collaborative ATFM as an appendix and made available on the ICAO Asia/Pacific Regional Office website; and*
- 3. Asia/Pacific Administrations are urged to report their ATFM implementation status at least once annually by no later than 30 April each year, using the ATFM Implementation Status Report Form.*

2. DISCUSSION

2.1 Reports (due by 30 April each year) were received from the following 23 Administrations in 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

2.2 Reports for the 30 April 2020 due date were received from only three APAC Administrations.

India, Indonesia, Thailand

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

2.4 The ATFM Implementation Status Report form provides for two tiers of status reporting:

A: Administrations that are expected, or intend, to implement and distribute cross-border ATFM measures under the terms of the Performance Improvement Plan of the Asia/Pacific Regional Framework for Collaborative ATFM; and

B: Administrations that are not expected to implement and distribute cross-border ATFM measures¹ as described in A.

2.5 Administrations reporting against Tier B implementation were requested to note the Regional Framework for Collaborative ATFM and Asia/Pacific Seamless ATM Plan elements referring to *ATFM Program Airports*, *High Density Airports* and *High Density FIRs*, and commence reporting against Tier A elements where any of their aerodromes or FIRs met these criteria.

2.6 The collated Regional ATFM implementation status data is provided in **Attachment A**.

2.7 In alignment with the methodology applied to assessment of implementation status in a number of significant ATM technical fields in the APAC Region, implementation status of each Administration is assessed as *Robust* (90 – 100% implementation), *Marginal* (70 – 89%) or *Incomplete* (0 – 69%).

2.8 **Table 1** summarizes current implementation status. Administrations that have filed reports against the incorrect reporting tier, or have not reported at all, are indicated accordingly. Where implementation of items 2 or 32 of the report form (handling of FPL and ATS messages in accordance with ICAO Doc 4444 *Procedures for Air Navigation Services – Air Traffic Management - PANS-ATM*), and ICAO is aware that the FPL and ATS message addressing requirements published in their AIP or otherwise promoted by the Administration concerned are not compliant with PANS-ATM provisions, the data has been deleted.

Note: All data provided will be subject to further verification by the ICAO Secretariat, on receiving or becoming aware of information indicating the data provided is not correct. Any changes arising from such verification will be reported for discussion in plenary at ATFM/SG and ATM/SG.

Administration (Tier)	% Implementation	Implementation Status
Afghanistan (B)	<i>no report</i>	Did Not Report
Australia (A)	<i>incorrect report</i>	Incorrect Report
Bangladesh (B)	14	Incomplete
Bhutan (B)	<i>no report</i>	Did Not Report
Brunei Darussalam (B)	<i>no report</i>	Did Not Report
Cambodia (A*)	75	Incomplete
China (A)	88	Marginal

¹ Administrations that are not expected to implement and distribute cross-border ATFM measures are expected to implement a number of other elements of the Regional Framework for Collaborative ATFM in order to support regional cross-border ATFM..

Administration (Tier)	% Implementation	Implementation Status
Hong Kong, China (A)	65	Incomplete
Macao, China (B)	22	Incomplete
Cook Islands (B)	<i>no report</i>	Did Not Report
Fiji (B)	<i>no report</i>	Did Not Report
France (French Polynesia) (B)	<i>no report</i>	Did Not Report
DPR Korea (B)	<i>no report</i>	Did Not Report
India (A)	<i>Incorrect report</i> 91	Robust
Indonesia (A)	(no change) 68	Incomplete
Japan (A)	89	Marginal
Kiribati (B)	<i>no report</i>	Did Not Report
Lao PDR (A)	<i>no report</i>	Did Not Report
Malaysia (A)	50	Incorrect Report
Maldives (B)	20	Incomplete
Marshall Islands (B)	<i>no report</i>	Did Not Report
Micronesia (B)	<i>no report</i>	Did Not Report
Mongolia (B)	<i>no report</i>	Did Not Report
Myanmar (B)	32	Incomplete
Nauru (B)	<i>no report</i>	Did Not Report
Nepal (B)	0	Incomplete
New Caledonia (B)	41	Incomplete
New Zealand (A)	44	Incomplete
Pakistan (B)	30	Incomplete
Palau (B)	<i>no report</i>	Did Not Report
Papua New Guinea (B*)	41	Incomplete
Philippines (A)	38	Incomplete
Republic of Korea (A)	78	Marginal
Samoa (B)	<i>no report</i>	Did Not Report
Singapore (A)	96	Robust
Solomon Islands (B)	<i>no report</i>	Did Not Report
Sri Lanka (B)	<i>no report</i>	Did Not Report
Timor Leste (B)	<i>no report</i>	Did Not Report
Tonga (B)	<i>no report</i>	Did Not Report

Administration (Tier)	% Implementation	Implementation Status
Thailand (A)	54 83	Marginal
Tuvalu (B)	<i>no report</i>	Did Not Report
United States (A)	97	Robust
Vanuatu (B)	<i>no report</i>	Did Not Report
Viet Nam (A)	26	Incomplete

Table 1: Asia/Pacific Region ATFM Implementation Status

2.9 The ATFM implementation of only three Administrations; India, Singapore and United States, were assessed as *Robust*.

2.10 Administrations reporting against *Tier B* implementation are requested to note the Regional Framework for Collaborative paragraphs referring to *ATFM Program Airports* and *High Density FIRs*, and commence reporting against *Tier A* elements where any of their aerodromes are identified in the Asia/Pacific Seamless ATM Plan as being among the busiest aerodromes in the Asia/Pacific Region, or where any of their FIRs are indicated as being among the busiest FIRs in the Region.

2.11 The meeting is invited to note that the reporting form provides evidence of implementation of ATFM, which States have for some time been obliged to implement in accordance with the standards of Annex 11 Section 3.7.5 and ICAO Doc 4444 PANS-ATM Section 3.2. Non-reporting would be treated in the same way as non-implementation for the purpose of ICAO reporting to ATM/SG and APANPIRG.

2.12 The *Regional ATFM Monitoring and Reporting Form* is available in MS Excel format on the ICAO Asia/Pacific Regional Office eDocuments (ATM) web-page at:

<https://www.icao.int/APAC/Pages/new-eDocs.aspx>.

2.13 The completed form should be forwarded to the Regional Office (apac@icao.int) in MS Excel format, to facilitate collation of the data.

3. ACTION BY THE MEETING

3.1 The meeting is invited to:

- a) note the information contained in this paper;
- b) provide any updates on ATFM implementation, using the status reporting form; and
- c) discuss any relevant matters as appropriate.

.....

REGIONAL ATFM PLAN MONITORING AND REPORTING FORM
ATFM PERFORMANCE INDICATORS

The following indicators are based on the Performance Improvement Plan of the Asia/Pacific Regional Framework for Collaborative ATFM, which should be read in conjunction with this form. The information provided will be used by the relevant Regional bodies to assess individual Administration and overall regional compliance with the Framework, and may be used by Administrations to internally evaluate their

Not implemented = 0 Partial implementation = 0.5 Full implementation = 1		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	United States	Viet nam
A. Administrations Distributing ATFM Measures																								
Indicate whether your Administration has:																								
1	Enacted regulations for the implementation of ATFM	0.0		0.5	0.5	1.0		1.0	1.0	1.0	0.0					0.5	0.0	0.0	0.5	1.0	1.0	0.5	1.0	0.5
2	Ensured the origination, distribution and processing of FPL and ATS messages in accordance with ICAO Doc 4444 PANS-ATM and the Regional Framework for Collaborative ATFM	0.0		1.0		1.0		1.0	1.0	1.0	0.0					1.0		0.5	1.0	1.0	1.0	1.0	1.0	
3	Implemented common fixes, terminology and communications in ATFM, AMAN/DMAN and A-CDM systems	0.0		0.5	0.5	1.0		0.5	0.5	0.5	0.0					1.0	0.0	0.5	0.5	0.5	1.0	1.0	1.0	0.5
4	Implemented meteorological services to support ATM in the terminal area (e.g. Meteorological Service in Terminal Area - MSTa)	0.0		1.0	1.0	1.0		1.0	1.0	1.0	0.0					0.5	1.0	1.0	0.0	1.0	1.0	0.0	1.0	0.5
5	Established ATFM capability with appropriately trained staff and operating procedures	0.0		0.5	0.5	0.5		1.0	0.5	1.0	0.0					0.0	0.5	0.5	1.0	1.0	1.0	0.5	1.0	0.5
6	Implemented local procedures for ATFM operations and communication, including phraseology and terminology for ATFM Units, ATS Units, airspace	0.0		1.0	0.5	0.5		1.0	0.5	0.5	0.0					0.5	0.0	0.0	1.0	0.5	1.0	1.0	1.0	0.5
7	Performed an analysis of current traffic demand and expected growth for the next 5 years (rolling)	0.0		1.0	1.0	1.0		1.0	0.0	1.0	0.0					0.5	1.0	1.0	0.5	1.0	1.0	0.0	1.0	0.5
8	Implemented a program of bi-annual strategic airport and airspace capacity, and strategic demand analysis	0.0		1.0	1.0	1.0		1.0	0.0	1.0	0.0					0.0	0.0	0.5	0.0	0.5	1.0	1.0	1.0	0.5
9	Commenced daily pre-tactical airport and airspace capacity-demand analysis for ATFM Program airports and associated terminal airspace as well as	0.0		0.5	0.5	0.5		1.0	0.5	1.0	0.0					0.0	0.0	0.0	0.5	1.0	1.0	1.0	0.5	0.0
10	Implemented pre-tactical modelling of airport and airspace configuration and traffic demand, and the effect of ATFM measures	0.0		1.0	1.0	0.5		1.0	0.5	1.0	0.0					0.0	0.0	0.0	1.0	1.0	1.0	0.5	1.0	0.0
11	Implemented dynamic updating of airport and airspace capacity constraints, capacity calculations and demand information	0.0		1.0	1.0	0.5		1.0	0.5	1.0	0.0					0.5	0.0	0.0	0.5	0.5	1.0	1.0	1.0	0.0
12	Implemented strategic airport slot allocation at all international airports where demand significantly exceeds airport capacity	0.0		1.0	1.0	1.0		1.0	1.0	1.0	0.0					1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
13	Made arrangements for relevant ATFMU to chair and/or participate in daily ATFM conferences for pre-tactical ATFM planning	0.0		1.0	1.0	1.0		1.0	0.5	1.0	0.0					0.0	0.0	0.0	0.0	1.0	1.0	1.0	1.0	0.0
14	Commenced daily preparation of an ATFM Daily Plan (ADP) for all ATFM Program airports and associated terminal airspace	0.0		1.0	1.0	1.0		1.0	1.0	1.0	0.0					0.0	0.0	0.0	1.0	1.0	1.0	1.0	1.0	0.5
15	Enabled sharing of relevant information between all stakeholders through implementation of CDM capability	0.0		1.0	1.0	0.5		1.0	1.0	1.0	0.0					1.0	0.0	0.0	0.0	1.0	1.0	1.0	1.0	0.0

		Not implemented = 0 Partial implementation = 0.5 Full implementation = 1																					
		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	United States
16	Developed procedures for ATFMU, ATS Units, airspace users, and airport operators when ATFM program is active	0.0		1.0	1.0	0.5		1.0	1.0	1.0	0.0				0.5	0.0	0.0	0.5	0.5	1.0	1.0	1.0	0.0
17	Implemented tactical ATFM measures for flights inbound to ATFM program airports	0.0		1.0	1.0	1.0		1.0	1.0	1.0	0.0				1.0	0.0	0.0	0.5	1.0	1.0	1.0	1.0	0.0
18	Implemented tactical ATFM measures for flights inbound to constrained airspace	0.0		1.0	1.0	0.5		1.0	0.0	1.0	0.0				0.0	1.0	0.0	0.5	1.0	0.5	1.0	1.0	0.0
19	Promulgated procedures for tactical management of ATFM measures, including revision, cancellation, suspension, de-suspension, where necessary	0.0		1.0	1.0	0.0		1.0	1.0	1.0	0.0				0.5	0.0	0.0	0.0	0.5	1.0	1.0	1.0	0.0
20	Ensured tactical ATFM measures for are only applied during periods of constraint	0.0		1.0	1.0	0.5		1.0	1.0	1.0	0.0				0.5	0.0	0.0	0.5	1.0	1.0	1.0	1.0	0.0
21	Promulgated procedures to avoid subjecting individual flights to more than one tactical ATFM measure	0.0		0.0	1.0	0.5		1.0	0.5	1.0	0.0				0.5	0.0	0.0	0.0	0.5	1.0	1.0	1.0	0.0
22	Implemented local ATC procedures and, where available, CDM processes facilitating compliance with received CTOT	0.0		1.0	1.0	0.5		1.0	1.0	1.0	0.0				0.5	0.0	0.0	0.0	0.5	1.0	1.0	1.0	0.5
23	Implemented distributed multi-nodal ATFM information distribution capability	0.0		1.0	1.0	0.5		0.0	1.0	0.0	0.0				0.0	0.0	0.0	0.5	0.0	1.0	1.0	0.5	0.5
24	Ensured interoperability of implemented ATFM, A-CDM, AMAN, DMAN, ATM automation systems and airspace user systems, where operational	0.0		0.0	1.0	0.5		0.5	0.5	0.0	0.0				0.5	0.0	0.0	0.0	0.5	0.5	1.0	1.0	0.0
25	Ensured ATFM systems take long haul flights into account in demand predictions	0.0		0.0	1.0	1.0		1.0	1.0	1.0	0.0				0.0	1.0	0.0	0.0	1.0	1.0	1.0	1.0	0.0
26	Ensured ATM and ATFM systems provide timely update of estimate information for airborne aircraft	0.0		1.0	1.0	0.5		1.0	1.0	1.0	0.0				0.5	1.0	1.0	0.0	1.0	1.0	0.5	1.0	0.5
27	Commenced ATFM post-operations analysis and rectification, taking guidance from the Regional Framework as starting point	0.0		1.0	0.5	0.5		1.0	0.0	1.0	0.0				0.5	1.0	0.0	0.0	0.5	1.0	1.0	1.0	0.0
28	Developed procedures and agreements for post-operational analysis of cross-border ATFM with stakeholders	0.0		0.5	1.0	0.0		0.0	0.0	1.0	0.0				0.0	0.5	0.0	0.0	1.0	1.0	1.0	1.0	0.0
29	Ensured post-operations analyses are used for planning ATFM, airspace and ATS route improvements	0.0		0.5	1.0	0.5		1.0	0.5	1.0	0.0				0.5	0.5	0.0	0.0	1.0	0.5	0.5	1.0	0.5
30	Implemented ATS route structure improvements including CCO/CDO to reduce ATC workload and use aircraft capability to meet ATFM measures	0.0		0.0	1.0	0.0		1.0	1.0	0.5	0.0				1.0	0.5	0.5	0.5	0.5	1.0	0.5	1.0	0.0
31	Optimized ATC separation and reduced runway occupancy times at all ATFM program airports and in associated terminal airspace	0.0		0.0	1.0	1.0		1.0	1.0	1.0	0.0				0.5	0.0	0.0	0.0	0.5	1.0	0.5	1.0	0.5
B. Administrations Facilitating ATFM Measures (but not expected to																							
32	Ensured the origination, distribution and processing of FPL and ATS messages in accordance with ICAO Doc 4444 PANS-ATM and the Regional	1.0												1.0	1.0	0.0	1.0						
33	Implemented local procedure with regards to ATFM operations and communication, including phraseologies, among ATFMU, ATS Units,	1.0	0.0				0.5				0.5	0.0	0.0	0.0	1.0								
34	Educated ATM staff and stakeholders on the basic of ATFM and its connection with ATS	1.0	0.5				0.5				1.0	0.5	0.5	0.0	1.0								

		Not implemented = 0 Partial implementation = 0.5 Full implementation = 1																						
		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	United States	Viet nam
35	Made arrangements for relevant personnel from ATSU to participate in daily ATFM conferences for pre-tactical ATFM planning	1.0	0.5				0.0				0.0	0.0	0.0	0.0	0.0									
36	Enabled sharing of relevant information between all stakeholders through implementation of CDM capability	1.0	0.0				0.0				0.0	0.0	0.0	0.0	0.5									
37	Developed procedures for ATS units, airspace users, and airport operators when ATFM program is active	1.0	0.0				0.0				1.0	0.0	0.5	0.0	0.0									
38	Developed procedures for ATS units, airspace users, and airport operators when ATFM program is active	1.0	0.0				0.0				1.0	0.0	0.5	0.0	0.0									
39	Ensured local stakeholders are able to access CTOT information readily, either directly from the ATFMU distributing it or through local dissemination	1.0	0.0				0.5				1.0	0.0	1.0	0.0	1.0									
40	Ensured ATM systems provide timely update of estimate information for airborne aircraft	1.0	0.0				0.0				1.0	0.0	1.0	0.0	1.0									
41	Developed ATFM post-operations analysis workflow among ATFMU, ATS units, airspace users, and airport operators to ensure proper and timely	0.5	0.0				0.5				0.0	0.0	0.0	0.0	0.0									
42	Developed procedures and agreements for post-operational analysis of cross-border ATFM with stakeholders	0.0	0.0				0.0				0.5	0.0	0.0	0.0	0.0									
43	Ensured post-operations analyses are used for planning ATFM, airspace, and ATS route improvements	0.5	0.0				0.5				0.0	0.0	0.0	0.0	0.0									
44	Implemented ATS route structure improvements including CCO/CDO to reduce ATC workload and use aircraft capability to meet ATFM measures	1.0	0.0				0.5				0.0	1.0	0.0	0.0	0.5									
45	Optimized ATC separation and reduced runway occupancy times at all ATFM program airports and in associated terminal airspace	1.0	0.0				0.0				1.0	0.0	0.0	0.0	0.0									
46	Performed an analysis of current traffic demand and expected growth for the next 5 years (rolling)	0.5	0.5				0.5				1.0	0.5	0.5	0.0	0.5									
47	Implemented a program of bi-annual strategic airport and airspace capacity, and strategic demand analysis	1.0	0.0				0.0				0.0	0.0	0.0	0.0	0.0									
Total		13.5	1.5	23.0	27.0	20.0	3.5	28.0	21.0	27.5	8.0	3.0	5.0	0.0	6.5	13.5	9.0	6.5	11.5	24.0	29.5	25.5	30.0	7.5
Implementation %		X	13	75	88	65	22	91	68	89	50	19	32	0	41	44	30	41	38	78	95	83	97	25

Note: State/Administration that did not submit the reporting status are Afghanistan, Bhutan, Brunei, Cook Islands, DPRK, Fiji, French Polynesia, Kiribati, Lao PDR, Marshall Islands, Micronesia, Mongolia, Nauru, Palau, Samoa, Solomon Islands, Sri Lanka, Timor Leste, Tonga, Tuvalu, and Vanuatu