PROGRESS UPDATE ON DEVELOPMENT OF

THE REGIONAL MONITORING AND REPORTING SCHEME FOR A-CDM IMPLEMENTATION

ATFM/SG/14

PRESENTED BY ATFM/IR/SWG

CONTENT

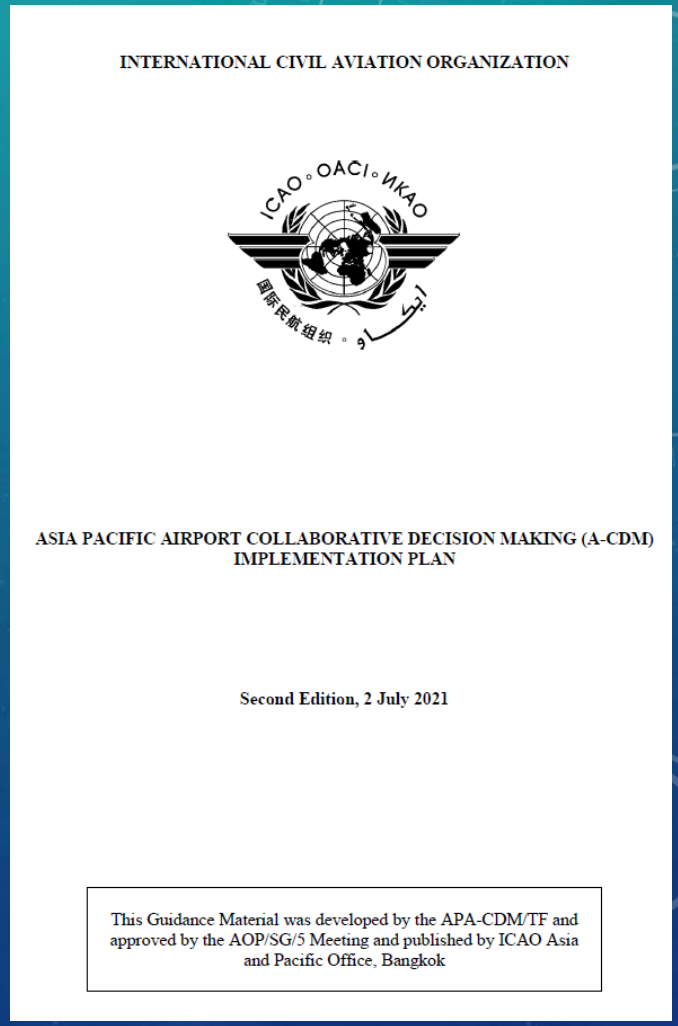
- Background

- Kick-off online meeting

- Proposed project timeline

BACKGROUND

- ICAO Asia Pacific A-CDM Implementation Plan
  - 1st Edition: 2019
  - 2nd Edition: July 2021
  - Mapping between ASBU elements, APAC Seamless ANS Plan elements and Regional Framework for Collaborative ATFM performance expectations
  - Proposed phases
    - 1: Local A-CDM
    - 2: Domestic Integration
    - 3: Cross-boundary network ATFM integration



INTERNATIONAL CIVIL AVIATION ORGANIZATION

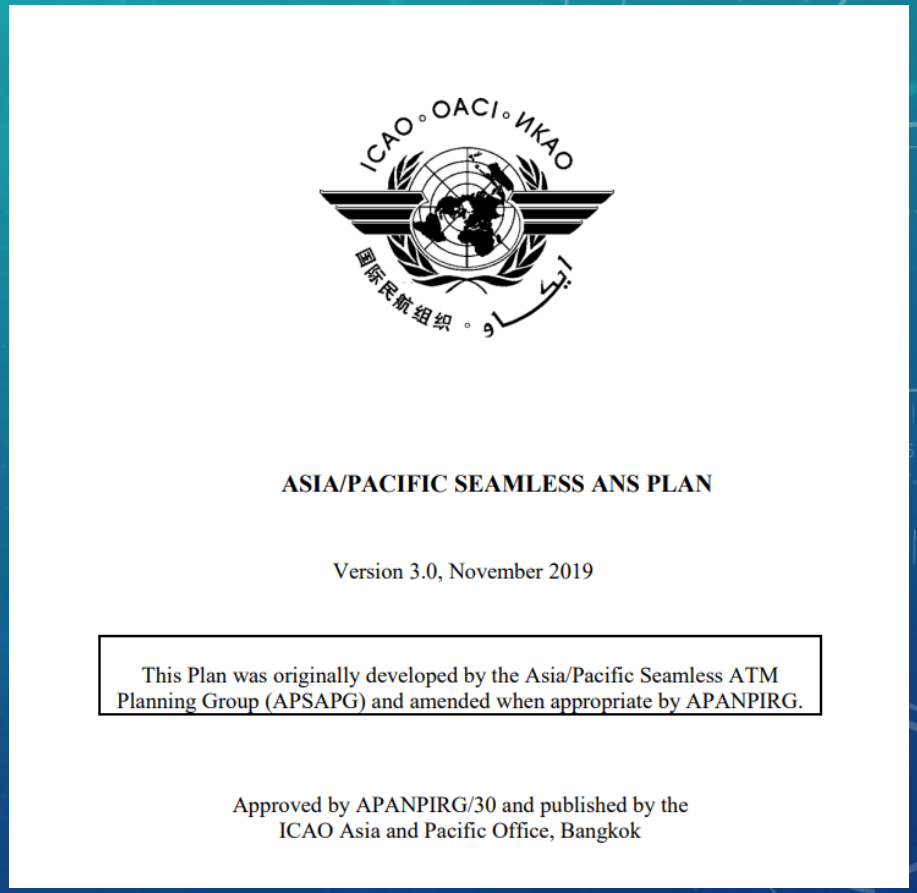
ASIA PACIFIC AIRPORT COLLABORATIVE DECISION MAKING (A-CDM) IMPLEMENTATION PLAN

Second Edition, 2 July 2021

This Guidance Material was developed by the APA-CDM/TF and approved by the AOP/SG/5 Meeting and published by ICAO Asia and Pacific Office, Bangkok

BACKGROUND

- Asia/Pacific Seamless ANS Plan
  - All international aerodromes should operate an A-CDM system for Airport CDM Information Sharing (ACIS) integrated with the ATM network function consistent with ACDM-B0/1 – 2 (Priority 1)



ASIA/PACIFIC SEAMLESS ANS PLAN

Version 3.0, November 2019

This Plan was originally developed by the Asia/Pacific Seamless ATM Planning Group (APSAPG) and amended when appropriate by APANPIRG.

Approved by APANPIRG/30 and published by the
ICAO Asia and Pacific Office, Bangkok

BACKGROUND

- ICAO ATFM/SG/13 – WP/17
  - Regional Monitoring mechanism is not yet available for the States to report the progress of ACDM Implementation and planning
  - It is essential to develop a reporting and monitoring scheme for implementation of the ACDM
  - The Meeting has agreed to the proposal of developing an annual regional monitoring and reporting scheme for the elements of the Asia Pacific A-CDM Implementation Plan
  - The task will be taken up by ATFM/IR/SWG (ATFM Information Requirements Small Working Group)

BACKGROUND

- Hong Kong China is the Rapporteur of ATFM/IR/SWG
- Reference to the ATFM regional reporting and monitoring scheme
- Propose the regional monitoring and reporting scheme for A-CDM Implementation in Asia Pacific

PHASES OF IMPLEMENTATION

- According to ICAO Asia-Pacific A-CDM Implementation Plan
- Phase 1: Local A-CDM
  - As soon as possible, preferably by Nov 2020
- Phase 2: Domestic Integration
  - Preferably by Nov 2022
- Phase 3: Cross-boundary network ATFM integration
  - Preferably by Nov 2025

KICK-OFF ONLINE MEETING

19 MAR 2024

KICK-OFF ONLINE MEETING

- 19 Mar 2024
- Background information of the project was introduced
- Proposed Questions, Reporting Metrices & Result of Response
- Participants: ACI, Hong Kong China, IATA, Indonesia, Japan, Mongolia, New Zealand, Republic of Korea, Singapore and Thailand

DISCUSSION

- Applicability of reporting scheme
  - APAC Seamless ANS Plan version 3.0 → International Airport

- Reporting on airport basis or state/ region basis

- Reporting date

REGIONAL A-CDM PLAN MONITORING AND REPORTING FORM

A-CDM PERFORMANCE INDICATORS

1. In Asia-Pacific, the **Regional Seamless ANS Plan (v3.0, 2019)** recommends that all international aerodromes consider implementing A-CDM with integration to ATFM
2. If it is considered this reporting scheme shall be applicable to ALL aerodromes, **an option of "NA"** shall be added to some of the reporting elements
3. The following indicators are based on the Performance Improvement Plan of the Asia Pacific Airport Collaborative Decision Making (A-CDM) Implementation Plan, Second Edition, 2 July 2021. Reference was made to the survey sent out by A-CDM Task Force as well.
4. 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 Administration to internally evaluate their implementation status.
5. According to the Performance Improvement Plan, there are three phases of A-CDM Implementation:
    a. Phase 1: Local A-CDM (implementation preferably before Nov 2020)
    b. Phase 2: Domestic Integration (implementation preferably before Nov 2022)
    c. Phase 3: Cross-boundary network ATFM integration (implementation preferably before Nov 2025). This will not be considered for evaluation and compliance. Therefore, response for the implementation status of such elements will be voluntary in nature.
6. The following tables show the proposed reporting elements, reference in the Asia Pacific A-CDM Implementation Plan, Phase of Implementation, Reporting Metrices to Response and Expected Outcome/ Guidance to States.
7. The Reporting Elements are for all administration who has implemented A-CDM, has plans to implement A-CDM or has not planned to implement A-CDM under the terms of the Performance Improvement Plan of the Asia Pacific A-CDM Implementation Plan.
8. Proposed responses:
    a. Not Implemented: 0%
    b. Partially Implemented: 25%, 50%, 75%
    c. Fully Implemented: 100%
9. Proposed result of responses:
    a. Incomplete: 0-69%
    b. Marginal: 70-89%
    c. Robust: 90-100%
10. Date of Reporting will be subject to further discussion.

Performance Improvement Plan of the Asia Pacific A-CDM Implementation Plan

No.	Reporting Form Element	Reference	Implementation Phase	Response	Reporting Metrices	Expected Outcome/ Guidance to States	Comments
1	**Local** A-CDM Implementation at the Airport		1		0% - Not yet started 25% - Initial phase 50% - Implementation phase 75% - Trial phase 100% - Operation and Monitoring phase		
2	Enforcing operation of A-CDM implementation with TOBT and TSAT		1		0% - No 50% - Either TOBT or TSAT 100% - Yes for both		May change to be an optional question as it may not be required to enforce.
3	Which of the following A-CDM enabling elements are being implemented to support A-CDM operations i. Information Sharing ii. Milestone Management iii. Variable Taxi times iv. Pre-Departure Sequencing v. A-CDM in Adverse Conditions vi. Integration with Air Traffic Flow Management System		1		0% - None of the elements 25% - 1-2 elements 50% - 3 elements 75% - 4-5 elements 100% - All elements		Elements to be reported may change to optional as some airports may not need all 6 (depending on the criteria for airport that is measured). Different phases may only need some of the elements.
4	Which stakeholders are involved in the A-CDM project and process? i. Airport operator ii. Airline operators iii. Ground handlers iv. Air Navigation Service Provider v. Network Operations/ATFM unit		1		0% - None of the stakeholders 25% - 1 of the stakeholders 50% - 2-3 of the stakeholders 75% - 4 of the stakeholders 100% - All of the stakeholders		

5	Which stakeholders are having access to A-CDM Information? i. Airport operator ii. Airline operators iii. Ground handlers iv. Air Navigation Service Provider v. Network Operations/ATFM unit		1		0% - None of the stakeholders 25% - 1 of the stakeholders 50% - 2-3 of the stakeholders 75% - 4 of the stakeholders 100% - All of the stakeholders		
6	Procedures in place for A-CDM operations at the airport		1		0% - Not yet started formation of the procedures 25% - Plans confirmed to formulate procedures 50% - In the process of formulating procedures 75% - Procedures are in place for some stakeholders 100% - Procedures are in place for all stakeholders		
7	Clearly defined roles and responsibilities for each stakeholder in the local A-CDM procedures		1		0% - Not for all stakeholders 50% - Yes for some stakeholders 100% - Yes for all stakeholders		
8	Which of the below mentioned Key Performance Indicators (KPI) with reference to TOBT are monitored? i. TOBT input participation rate ii. TOBT input punctuality iii. TOBT revision rate iv. TOBT accuracy		1		0% - None of the indicators 25% - 1 of the indicators 50% - 2 of the indicators 75% - 3 of the indicators 100% - All of the indicators		"CTOT" was suggested to be used instead of "TOBT", however, CTOT is under ATFM purview instead of A-CDM purview and discussion with other ATFM/IR/SWG is needed
9	Monitor TSAT compliance		1		0% - No 50% - Sometimes 100% - Yes		

10	Use of TSAT for approving startup of aircraft		1		0% - No 50% - Sometimes 100% - Yes		
11*	Requirement for aircraft to report ready/ be ready for startup/ pushback within certain minutes prior to or after the confirmed TOBT, irrespective of TSAT		1		0% - No 50% - Sometimes 100% - Yes		More information on reporting criteria is needed
12*	Mandate pilots to request startup/ pushback clearance within certain minutes prior to or after TSAT		1		0% - No 50% - Sometimes 100% - Yes		More information on reporting criteria is needed
13*	Departure clearance to be requested within certain minutes prior to or after TOBT/ TSAT		1		0% - No 50% - Sometimes 100% - Yes		More information on reporting criteria is needed
14*	Numbers of A-CDM performance indicators commonly agreed upon amongst stakeholders for A-CDM performance monitoring i. Turnaround compliance ii. In-Block Time accuracy iii. Off-Block Time accuracy iv. Average taxi out time v. Gate/Bay/Stand occupancy time vi. Gate/Bay/Stand allocation and passenger gate freezing time vii. Gate/Bay/Stand allocation accuracy viii. Number of bay conflicts per day		1		0% - 0-2 of the indicators 25% - 3-5 of the indicators 50% - 6-8 of the indicators 75% - 9-11 of the indicators 100% - All of the indicators		Elements to be reported may change to optional as some airports may not need all More information on reporting criteria is needed

	ix. Slot adherence x. Emission from aircraft, on ground xi. Number of aircraft queueing in high demand periods xii. Number of aircraft compliant with ATFM slot (CTOT)						
15	Comprehensiveness for TOBT input to update A-CDM system. i. Manual update ii. Automatic update iii. Consideration of ELDT iv. Consideration of MTTT		1		0% - TOBT is not updated 25% - 1 of the channels is available 50% - 2 of the channels are available 75% - 3 of the channels are available 100% - All of the channels are available		Elements to be reported may change to optional as some airports may not need all
16	Considerations of Variable Taxi Time (VTT) in the system		1		0% - Taxi Time is not available 25% - Fixed Taxi time between runway and parking bays 50% - Changes of runway configuration and taxi flow will be considered manually 75% - Changes of runway configuration and taxi flow will be considered automatically 100% - Dynamic taxi time by considering live ground movements		
17	Availability of Pre-Departure Sequencing (PDS) in A-CDM implementation		1		0% - No 50% - PDS at later stage 100% - Yes		
18	Which of the following required milestones captured/calculated in the A-CDM System? i. ATC Flight Plan Activated ii. Aircraft Landed		1		0% - None of the milestones 25% - 1-2 milestones 50% - 3-4 milestones 75% - 5-6 milestones 100% - All of the milestones		.

	iii. Aircraft is in-block iv. TOBT Updated v. TSAT Issued vi. Aircraft is off-block vii. Take-off time						
19*	Which of the following optional milestones captured/calculated in the A-CDM System? i. Turnaround compliance ii. In-Block Time accuracy iii. Off-Block Time accuracy iv. Average taxi out time v. Gate/Bay/Stand occupancy time vi. Gate/Bay/Stand allocation and passenger gate freezing time vii. Gate/Bay/Stand allocation accuracy viii. Number of bay conflicts per day ix. Slot adherence x. Emission from aircraft, on ground xi. Number of aircraft queueing in high demand periods xii. Number of aircraft compliant with ATFM slot (CTOT)		1		0% - 0-2 of the indicators 25% - 3-5 of the indicators 50% - 6-8 of the indicators 75% - 9-11 of the indicators 100% - All of the indicators		More information on reporting criteria is needed

20*	Means to share TOBT and TSAT with flight crew i. Visual Docking and Guidance System/ Airside Display Board ii. Web interface/ Mobile application iii. Communication between ground personnel and flight crew iv. Communication between ATC and flight crew		1		0% - None of the channels 25% - 1 of the channels 50% - 2 of the channels 75% - 3 of the channels 100% - All of the channels		More information on reporting criteria is needed
21	Periodic review of A-CDM Key Performance Indicator		1		0% - No review 50% - at leave once a year 100% - review at least every 6 months		
22	ATFM systems will take TOBT and/ or TTOT into account when determining CTOT		2		0% - No 50% - Sometimes 100% - Yes		
23	A-CDM system will take CTOT into account when determining TSAT		2		0% - No 50% - Sometimes 100% - Yes		
24	Integration of A-CDM and ATFM system		2		0% - There is no plan to integrate two systems 25% - Integration is planned 50% - Integration is planned with data exchange between systems 75% - Integration is under trial 100% - Operation and Monitoring		

25	Integration of A-CDM and ATM system		2a		0% - There is no plan to integrate A-CDM with ATM system 50% - Integration between A-CDM and ATM is planned 100% - Integration is completed with data exchange between A-CDM and ATM	Develop and implement collaborative Airport Operations Plan (AOP) a. Allow full integration with ATM b. As an upgrade of A-CDM in the Global Aviation Network c. Preparation for cross-border network of collaborative ATFM	
26 (optional)	Enabled sharing of relevant information between all ATFM stakeholders through implementation of CDM		3		0% - No 25% - Under planning 50% - Planned with implementation timeline 75% - Partially implemented 100% - Fully Implemented	Cross-boundary network ATFM integration	
27 (optional)	Adopt data exchange reference model like FIXM v4.2 extension between A-CDM and ATFM network		3		0% - No 25% - Under planning 50% - Planned with implementation timeline 75% - Partially implemented 100% - Fully Implemented	Cross-boundary network ATFM integration	

-- END --

PROPOSED PROJECT TIMELINE

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Mar 2024

- First draft of framework for the reporting scheme
- Kick-off online meeting

2024

- Refinement of framework for the reporting scheme
- Online meetings + consolidate comments

Q1 2025

- Reporting scheme will be ready

QUESTIONS?

THANK YOU