The Fourth Meeting of the Aerodromes Operations and Planning Sub-Group (AOP/SG/4)

Video Teleconference, 10 to 13 November 2020

Agenda Item 4: Provision of AOP in the Asia/Pacific Region

– **Airport Collaborative Decision Making (A-CDM)**

REPORT ON THE FIFTH MEETING OF ASIA PACIFIC AIRPORT COLLABORATIVE DECISION MAKING TASK FORCE (APA-CDM/TF/5)

(Presented by Chairman of the APA-CDM/TF)

SUMMARY

This paper presents the Report of the Fifth Meeting of the Asia Pacific Airport Collaborative Decision Making Task Force (APA-CDM/TF/5) held via video teleconference from 15 to 17 June 2020. The Meeting is invited to review the Summary Report and endorse the Draft Decision formulated by the Task Force for adoption by the APANPIRG/31.

This paper relates to –

Strategic Objectives:

A: ***Safety*** *–Enhanced global civil aviation safety*

B: ***Air Navigation Capacity and Efficiency –*** *Increase Capacity and improve efficiency of the global civil aviation system*

E: ***Environmental Protection –*** *Minimize the adverse environmental effects of civil aviation activities*

1. INTRODUCTION

1.1 The Fifth Meeting of the Asia/Pacific Airport Collaborative Decision Making Task Force (APA-CDM/TF/5) was held via video teleconference from 15 to 17 June 2020.

1.2 The meeting was attended by 104 participants from 16 States/Administrations and 5 International Organizations, including Australia, Cambodia, China, Hong Kong China, Fiji, India, Indonesia, Japan, Lao PDR, Malaysia, Nepal, Philippines, Republic of Korea, Singapore, Thailand, United States, Civil Air Navigation Services Organisation (CANSO), International Air Transport Association (IATA), International Federation of Air Line Pilots' Associations (IFALPA), International Federation of Air Traffic Controllers' Associations (IFATCA) and ICAO.

1.3 The full report of the APA-CDM/TF/5 Meeting had been posted on the ICAO APAC Office website and can be accessed on the following webpage: https://www.icao.int/APAC/Meetings/Pages/2020-APA-CDM-TF5.aspx.

1.4 The **Attachment A** to this Paper provides a Summary Report on the outcomes of the APA-CDM/TF/5 Meeting including the Draft Decision for endorsement by the AOP/SG/4 and adoption by APANPIRG/31.

1.5 Appendices used in this Working Paper and **Attachment A** carry the same Appendix numbers as those in the Report of APA-CDM/TF/5 Meeting for easy reference.

2. DISCUSSION

APA-CDM/TF/5

2.1 There were nine (9) Working Papers (WP), six (6) Information Papers (IP) and one (1) presentation considered by the meeting.

2.2 Some important discussions of the APA-CDM/TF/5 Meeting were summarized below:

Outcome of APANPIRG/29 (WP/02)

2.3 The APA-CDM/TF/5 Meeting noted with particular highlights on the Conclusion and Decision related to APA-CDM/TF adopted by AOP/SG/3 and APANPIRG/30 respectively. The Report of APANPIRG/30 Meeting is available at: https://www.icao.int/APAC/Meetings/Pages/2019-APANPIRG30.aspx.

2.4 The Chairperson expressed his appreciation to APANPIRG and AOP/SG for supporting the extension of the APA-CDM/TF for two years. The meeting noted the remarks from the Chairpersons of APANPIRG and ATM/SG that the work of APA-CDM/TF would eventually be absorbed by ATM/SG at the time when APA-CDM/TF would be dissolved.

Air Traffic Flow Management Steering Group Outcomes (WP/03)

2.5 The APA-CDM/TF/5 Meeting was informed of outcomes from the 10th Meeting of the Asia/Pacific Air Traffic Flow Management Steering Group (ATFM/SG/10, Video Teleconference, 4 to 8 May 2020).

2.6 The Meeting noted that the ATFM/SG/10 had been informed of matters relevant to APA-CDM/TF including the APAC Flight Information Exchange Model (FIXM) 4.1 Extension (***Conclusion APANPIRG/30/12***) and AFTN/AMHS-Based Interface Control Document (Conclusion CNS SG/23/1), both of which were available on the ICAO APAC Regional Office eDocuments web-page (https://www.icao.int/APAC/Pages/eDocs.aspx) for use by Asia/Pacific Administrations in implementing cross-border ATFM communications. **Table 1** summarized the data attributes currently included in the FIXM extension.

Estimated	Calculated	Target	Actual
		Target Off Blocks Time (TOBT)	Actual Off Blocks Time (AOBT)
		Target Start Approval Time (TSAT)	
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Trajectory		**Aircraft Track**	
• ETO • CTO • ATO • Flight level or Altitude • Waypoint		• Ground speed • Bearing • Flight level or Altitude • Position (Designator or Latitude/Longitude or Relative Point) • Time over position	

Table 1: APAC FIXM 4.1 Extension data attributes

2.7 The APA-CDM/TF/5 Meeting was informed that any proposal to include additional attributes in the FIXM Extension must be supported by a suitable operational scenario proposed formally through ATFM/SG and/or APA-CDM/TF. It was noted that a number of attributes relevant to A-CDM process, such as Actual Landing Time (ALDT) and Actual Take-off Time (ATOT), had already been included in FIXM 4.1 Core.

2.8 Regarding the CTOT compliance windows, it was clarified that multiple compliance windows did not apply at an individual airport. Only one CTOT compliance window should be established for all flights at an airport, taking into account factors which warranted deviation from the regionally agreed -5 to +10 minutes window, and as agreed by relevant stakeholders.

Implementation of Airport Collaborative Decision Making (A-CDM) System at Mid-sized Airports in India (WP/04)

2.9 The APA-CDM/TF/5 noted that Airports Authority of India (AAI) had developed an in-house A-CDM system. After successful implementation of the system at high density Indian airports like Mumbai, Kolkata and Chennai, AAI had decided to implement this system at four more airports.

2.10 The Meeting further noted India's experience in implementing A-CDM at four of its mid-sized airports, viz. Jaipur, Ahmedabad, Guwahati and Trivandrum, in 2019-2020, and the advantage of early implementation of A-CDM at mid-sized airports for improving operational efficiency.

2.11 The Meeting appreciated AAI's proposal of providing A-CDM assistance to enthusiastic member States of South Asian Association for Regional Cooperation (SAARC) and other States in the APAC Region.

Role of Airport Operational Database (AODB) in A-CDM Systems (WP/05)

2.12 The APA-CDM/TF/5 noted the usefulness of AODB in supporting A-CDM Implementation. Some of the components required for the calculation of TSAT can easily be obtained from AODB. The information provided included the details of A-CDM Milestones which could be captured from AODB data. Brief details were provided on how the AODB data could aid in ATFM/A-CDM Integration by providing required details for DPI messages.

Implementation Plan for Interoperability of A-CDM with ATFM and Aircraft Operator Systems of Hong Kong China (WP/06)

2.13 Hong Kong China had presented (i) the implementation status of integration of A-CDM and ATFM of Hong Kong China; and (ii) the implementation plan of Hong Kong China towards full interoperability of cross-border ATFM, A-CDM, AMAN, DMAN, ATM automation and Aircraft Operator systems for meeting the proposed timeframes of the ICAO Asia Pacific A-CDM Implementation Plan, i.e. preferably before November 2025.

2.14 The APA-CDM/TF/5 Meeting encouraged States to apply the ICAO Asia Pacific A-CDM Implementation Plan as guidance for making available A-CDM systems and their integration/interoperation with other systems.

Integration of Airport Collaborative Decision Making (A-CDM) System with Air Traffic Flow Management (ATFM) in India (WP/07)

2.15 The APA-CDM/TF/5 noted a case study of the actual integration of A-CDM and ATFM in India which had proposed some measures to improve the integration process for achieving greater benefits for both systems.

2.16 The meeting also noted the benefits to A-CDM and ATFM systems achievable through their integration. As the A-CDM generates TSAT considering ATFM measures, if any, timely and reliable data from A-CDM systems would benefit the ATFM system to be able to take more accurate ATFM measures. In India, ATFM/A-CDM integration had been completed in four major airports and planned for four additional airports in 2020.

2.17 The meeting further noted that there were two levels of ATFM/A-CDM Integration: either within a node of the multi-nodal ATFM network, or between nodes. India's current ATFM/A-CDM integration activities were within the node. While the current expectation for cross-border information sharing was between nodes, in the future System-Wide Information Management (SWIM) environment, local A-CDM applications could subscribe to information such as Actual Take-Off Time (ATOT), published by A-CDM applications in other nodes.

Report on ICAO APAC A-CDM Survey (WP/09)

2.18 The APA-CDM/TF/5 noted the results of the ICAO APA-CDM Survey Questionnaire #2 jointly prepared by India and CANSO, which provided a general overview of the A-CDM status and plans at an airport level in APAC States/Administrations.

2.19 The Survey Questionnaire had been sent to 39 States (including United States) and 2 Administrations. Responses were received from 15 States / Administrations: Australia, China, Hong Kong China, India, Indonesia, Japan, Malaysia, Myanmar, Nepal, Philippines, Republic of Korea, Singapore, Thailand, Viet Nam and United States. The response rate was 37%.

2.20 The meeting also noted that, as per paragraph 7.3 of APAC Seamless ANS Plan Version 3.0, all international aerodromes should operate an A-CDM system for Airport CDM Information Sharing (ACIS) integrated with the ATM network function consistence with ASBU Elements ACDM-B0/1 & B0/2.

2.21 Republic of Korea updated the meeting that the A-CDM systems at Seoul Gimpo (RKSS), Busan Gimhae (RKPK) and Jeju (RKPC) would be put on trial in August 2020, with full implementation expected in 2021. In addition, Republic of Korea would like to update the Incheon A-CDM guidance material published as an Appendix to the APAC A-CDM Implementation Plan,

with additional coverage on an A-CDM mobile application and to reflect that the ATFM centre provided CTOT information instead of the previous COBT. The Chairperson requested Republic of Korea to follow up with the Secretariat subsequent to the meeting.

Note: Incheon A-CDM Operation Manual, Revision 3, 2020 has already been posted at https://www.icao.int/APAC/Documents/Incheon%20A-CDM%20operation%20manual(EN)rev3_2020.pdf

2.22 The meeting further noted that IATA Airport A-CDM Coordination Group (AACG) had been liaising with FAA to look into certain terms used in its Surface-CDM (TOBT and EOBT) as the definition of the terms were not aligned with A-CDM global guidance.

2.23 The APA-CDM/TF/5 Meeting expressed appreciation to the experts who contributed to the development of the APAC A-CDM Implementation Plan, which provided a useful reference for airports especially those in their early stages of A-CDM implementation.

APA-CDM/TF Terms of Reference and Deliverables (WP/08)

2.24 The APA-CDM/TF/5 Meeting reviewed the APA-CDM/TF Terms of Reference (ToR), which was amended by APANPIRG/30 (Bangkok, Thailand, 4 to 6 November 2019) through **Decision APANPIRG/30/3**, subsequent to an amendment proposal formulated by APA-CDM/TF/4 (Bangkok, Thailand, 22 to 26 April 2019) and endorsed by AOP/SG/3 (Bangkok, Thailand, 24 to 26 June 2019) to align the ToR with the APAC Seamless ANS Plan Version 3.0, 2019 approved by APANPIRG/30 and agreed the following Draft Decision.

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<tr><td colspan="2">What: That, the Terms of Reference (TOR) of Asia/Pacific Airport Collaborative Decision Making Task Force (APA-CDM/TF) be amended as in Appendix D to the Report of APA-CDM/TF/5.</td><td>Expected impact:
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<tr><td colspan="3">Who: ☒Sub groups ☐APAC States ☒ICAO APAC RO ☐ICAO HQ ☐Other:</td></tr>
</table>

2.25 The APA-CDM/TF/5 Meeting reviewed and updated the APA-CDM/TF Task List as contained in **Appendix E** to the Report of APA-CDM/TF/5.

3. ACTION BY THE MEETING

3.1 The meeting is invited to:

a) review the Summary Report/outcomes of the APA-CDM/TF/5 Meeting presented in **Attachment A**;

b) endorse the Draft Decision on the Proposal for Amendment of APA-CDM/TF TOR (**Appendix D**), formulated by the APA-CDM/TF/5 Meeting for further consideration and adoption by the APANPIRG/31; and

c) discuss any relevant matters as appropriate.

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Attachment – A

Summary Report of the Fifth Meeting of the Asia/Pacific Airport Collaborative Decision Making Task Force
(APA-CDM/TF/5)
Video Teleconference, 15 - 17 June 2020

1. Introduction

1.1 The Fifth Meeting of the Asia/Pacific Airport Collaborative Decision Making Task Force (APA-CDM/TF/5) was held via video teleconference from 15 to 17 June 2020.

1.2 The meeting was attended by 104 participants from 16 States/Administrations and 5 International Organizations, including Australia, Cambodia, China, Hong Kong China, Fiji, India, Indonesia, Japan, Lao PDR, Malaysia, Nepal, Philippines, Republic of Korea, Singapore, Thailand, United States, Civil Air Navigation Services Organisation (CANSO), International Air Transport Association (IATA), International Federation of Air Line Pilots' Associations (IFALPA), International Federation of Air Traffic Controllers' Associations (IFATCA) and ICAO.

1.3 The full report of the APA-CDM/TF/5 Meeting had been posted on the ICAO APAC Office website and can be accessed on the following webpage:
https://www.icao.int/APAC/Meetings/Pages/2020-APA-CDM-TF5.aspx.

Agenda Item 1: Adoption of Agenda

1.4 The provisional agenda (WP/01) was adopted by the meeting without amendment.

2. Agenda Item 2: Review Outcomes of Related Meetings/Seminars

Outcome of APANPIRG/29 (WP/02)

2.1 The APA-CDM/TF/5 Meeting noted with particular highlights on the Conclusion and Decision related to APA-CDM/TF adopted by AOP/SG/3 and APANPIRG/30 respectively. The Report of APANPIRG/30 Meeting was available at:
https://www.icao.int/APAC/Meetings/Pages/2019-APANPIRG30.aspx.

2.2 The Chairperson expressed his appreciation to APANPIRG and AOP/SG for supporting the extension of the APA-CDM/TF for two years. The meeting noted the remarks from the Chairpersons of APANPIRG and ATM/SG that the work of APA-CDM/TF would eventually be absorbed by ATM/SG at the time when APA-CDM/TF would be dissolved.

Air Traffic Flow Management Steering Group Outcomes (WP/03)

2.3 The APA-CDM/TF/5 Meeting was informed of outcomes from the 10th Meeting of the Asia/Pacific Air Traffic Flow Management Steering Group (ATFM/SG/10, Video Teleconference, 4 to 8 May 2020).

2.4 The Meeting noted that the ATFM/SG/10 had been informed of matters relevant to APA-CDM/TF including the APAC Flight Information Exchange Model (FIXM) 4.1 Extension (***Conclusion APANPIRG/30/12***) and AFTN/AMHS-Based Interface Control Document (Conclusion CNS SG/23/1), both of which were available on the ICAO APAC Regional Office eDocuments web-page (https://www.icao.int/APAC/Pages/eDocs.aspx) for use by Asia/Pacific Administrations in implementing cross-border ATFM communications. **Table 1** summarized the data attributes currently included in the FIXM extension.

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Table 1: APAC FIXM 4.1 Extension data attributes.

2.5 The APA-CDM/TF/5 Meeting was informed that any proposal to include additional attributes in the FIXM Extension must be supported by a suitable operational scenario proposed formally through ATFM/SG and/or APA-CDM/TF. It was noted that a number of attributes relevant to A-CDM process, such as Actual Landing Time (ALDT) and Actual Take-off Time (ATOT), had already been included in FIXM 4.1 Core.

2.6 Information was also provided on progress of the Asia/Pacific Cross-Border ATFM Collaboration (AMNAC, formerly the Distributed Multi-Nodal ATFM Network), the progress of ATFM interoperability between Hong Kong China and Japan, and Regional ATFM implementation status, and COVID-19-related ATM information sharing.

2.7 Regarding the CTOT compliance windows, it was clarified that multiple compliance windows did not apply at an individual airport. Only one CTOT compliance window should be established for all flights at an airport, taking into account factors which warranted deviation from the regionally agreed -5 to +10 minutes window, and as agreed by relevant stakeholders.

Airport Collaborative Decision Making (A-CDM) Integration with Air Traffic Flow Management (ATFM) Workshops (IP/03)

2.8 The Meeting was provided the outcomes of A-CDM integration with ATFM Seminar/Workshop held in 2019. The main objective of the seminar/workshop was to improve understanding by all stakeholders of the benefits that A-CDM integration with ATFM could offer. The participants from the Middle East region and African region were also invited to the workshop in India as India was located at the junction of the regions.

Asia/Pacific Seamless ANS Plan (IP/04)

2.9 The Secretariat introduced the Asia/Pacific Seamless Air Navigation Service (ANS) Plan Version 3.0 published in November 2019, subsequent to being approved by APANPIRG/30 (Bangkok, Thailand, 4 to 6 November 2019). The Plan was available at ICAO APAC Office Website under APAC Electronic Documents and ATM category. URL of the webpage: https://www.icao.int/APAC/Pages/eDocs.aspx#tabs-3.

3. Agenda Item 3: State A-CDM Planning and Implementation Updates

Implementation of Airport Collaborative Decision Making (A-CDM) System at Mid-sized Airports in India (WP/04)

3.1 The APA-CDM/TF/5 noted that Airports Authority of India (AAI) had developed an in-house A-CDM system. After successful implementation of the system at high density Indian airports like Mumbai, Kolkata and Chennai, AAI had decided to implement this system at four more airports.

3.2 The Meeting further noted India's experience in implementing A-CDM at four of its mid-sized airports, viz. Jaipur, Ahmedabad, Guwahati and Trivandrum, in 2019-2020, and the advantage of early implementation of A-CDM at mid-sized airports for improving operational efficiency.

3.3 The Meeting appreciated AAI's proposal of providing A-CDM assistance to enthusiastic member States of South Asian Association for Regional Cooperation (SAARC) and other States in the APAC Region.

Role of Airport Operational Database (AODB) in A-CDM Systems (WP/05)

3.4 The APA-CDM/TF/5 noted the usefulness of AODB in supporting A-CDM Implementation. Some of the components required for the calculation of TSAT can easily be obtained from AODB. The information provided included the details of A-CDM Milestones which could be captured from AODB data. Brief details were provided on how the AODB data could aid in ATFM/A-CDM Integration by providing required details for DPI messages.

Status of A-CDM Implementation in India (IP/05)

3.5 Having successfully implemented A-CDM at high density and mid-sized airports, India presented an overview of A-CDM implementations, undertaken by Airports Authority of India's in-house experts and its plans on further implementations.

3.6 The meeting noted that India had extended the A-CDM implementation to four mid-sized airports operated by Airport Authority India (AAI), viz. Jaipur, Ahmedabad, Guwahati and Trivandrum, which was also covered in WP/04. AAI was discussing with the following airports for A-CDM implementation: Hyderabad, Bengaluru and Cochin.

4. Agenda Item 4: Interoperability of A-CDM with ATFM and Aircraft Operator systems

Implementation Plan for Interoperability of A-CDM with ATFM and Aircraft Operator Systems of Hong Kong China (WP/06)

4.1 Hong Kong china had presented (i) the implementation status of integration of A-CDM and ATFM of Hong Kong China; and (ii) the implementation plan of Hong Kong China towards full interoperability of cross-border ATFM, A-CDM, AMAN, DMAN, ATM automation and Aircraft Operator systems for meeting the proposed timeframes of the ICAO Asia Pacific A-CDM Implementation Plan, i.e. preferably before November 2025.

4.2 The APA-CDM/TF/5 Meeting encouraged States to apply the ICAO Asia Pacific A-CDM Implementation Plan as guidance for making available A-CDM systems and their integration/interoperation with other systems.

4.3 In response to discussion of information exchange formats used for sharing (EUROCONTROL) Flight Update Message (FUM) and Departure Planning Information (DPI) data between A-CDM and ATFM/ATM systems, the meeting was informed that, while local requirements might necessitate the exchange of such information, cross-border information exchange should focus on what information was of operational benefit to the external receivers such as the ATFM units of other Administrations. The FIXM attributes identified in **Table 1** were determined for this purpose, and were currently considered sufficient. Where a need for further attributes was identified, it should be proposed through ATFM/SG and/or APA-CDM/TF. Information exchange was further discussed in Agenda Item 5.

5. Agenda Item 5: Integration of A-CDM with ATFM

Integration of Airport Collaborative Decision Making (A-CDM) System with Air Traffic Flow Management (ATFM) in India (WP/07)

5.1 The APA-CDM/TF/5 noted a case study of the actual integration of A-CDM and ATFM in India which had proposed some measures to improve the integration process for achieving greater benefits for both systems.

5.2 The meeting also noted the benefits to A-CDM and ATFM systems achievable through their integration. As the A-CDM generates TSAT considering ATFM measures, if any, timely and reliable data from A-CDM systems would benefit the ATFM system to be able to take more accurate ATFM measures. In India, ATFM/A-CDM integration had been completed in four major airports and planned for four additional airports in 2020.

5.3 The meeting further noted that there were two levels of ATFM/A-CDM Integration: either within a node of the multi-nodal ATFM network, or between nodes. India's current ATFM/A-CDM integration activities were within the node. While the current expectation for cross-border information sharing was between nodes, in the future System-Wide Information Management (SWIM) environment, local A-CDM applications could subscribe to information such as Actual Take-Off Time (ATOT), published by A-CDM applications in other nodes.

CANSO Guide on ATFM/A-CDM Integration (PPT)

5.4 CANSO provided a preview of its draft ATFM/A-CDM Integration Guide which would be published in mid-2020. The Guide identified the items of information that were considered to be the minimum for effective integration of A-CDM and ATFM. Major items to be covered in the draft Guide included: Benefits of ATFM/A-CDM Integration, ATFM/A-CDM Integration Concept, Sample Use Cases for ATFM/A-CDM Integration, SWIM and ATFM/A-CDM Information Exchange and Recommendation for ATFM/A-CDM Integration.

5.5 The meeting noted that the information exchanges between ATFM and A-CDM were divided into 3 categories, i.e. (1) Exchange of ATFM slot information to A-CDM system; (2) Exchange of flight updates information to A-CDM system; and (3) Exchange of departure information to ATFM system. Meanwhile, the information exchange should be scalable to allow a phased expansion of functionality on both systems. On interoperability, CANSO recommended using SWIM concept with the most current FIXM / FIXM Extension.

5.6 CANSO highlighted that the Guide would focus on the information exchanges between ATFM nodes and A-CDM systems. It was not intended to cover cross-border information exchanges.

5.7 The meeting noted that the information exchanges between ATFM and A-CDM were divided into 3 categories, i.e. (1) Exchange of ATFM slot information to A-CDM system; (2) Exchange of flight updates information to A-CDM system; and (3) Exchange of departure information to ATFM system. Meanwhile, the information exchange should be scalable to allow a phased expansion of functionality on both systems. On interoperability, CANSO recommended using SWIM concept with the most current FIXM / FIXM Extension.

5.8 ICAO stated that there appeared to be a need for development of information exchange scenarios for current non-SWIM and future SWIM environments, for inclusion in the review of the Regional Framework for Collaborative ATFM. In connection with this, the meeting noted that IATA had been informed by EUROCONTROL that their intention was to make FUM and DPI messaging to be SWIM-compatible in 2020, by mapping the messages to the SWIM data model under Air Traffic Management Information Reference Model (AIRM). It was also noted that this was a requirement for SWIM messaging (e.g. FIXM already mapped to the AIRM model).

Planned A-CDM and ATFM Integration for Australia (IP/06)

5.9 Australia would be implementing A-CDM at Sydney (YSSY), Melbourne (YMML), Brisbane (YBBN) and Perth (YPPH) as a Partnership between Airservices (ANSP), Australia's four major domestic airline groups and the respective four airport corporations. To realise maximum benefits of A-CDM within the context of the entire ATM Network, the integration of A-CDM and ATFM in Australia had been considered both from a technical and CDM process perspective.

5.10 From a technological perspective, the proposed model integrated the multiple A-CDM systems with the centralized ATFM system to provide an improved projection of arrival and departure demand throughout the ATM Network. The integration also ensured that slot allocation logic between A-CDM and ATFM had been coupled, to prevent significant complexity from requiring aircraft operators to comply with potentially conflicting constraints. From a concept perspective, A-CDM implementation would allow CDM processes to include considerations of arrival and departure balancing; this ensured the best utilization of latent capacity across the network (Network-CDM).

5.11 Due to the downturn in air traffic as a result of COVID-19, Australia's A-CDM implementation program was currently on hold with the implementation schedule under review by the partners, while implementation was planned to commence in second half of 2020.

5.12 Upon enquiry, Australia clarified that, in the Australian configuration, TOBT would automatically be generated until the flight landed at an aerodrome (i.e. at ALDT), and from when airlines would provide TOBT input based on their assessment.

6. Agenda Item 6: APAC A-CDM Implementation Plan

Report on ICAO APAC A-CDM Survey (WP/09)

6.1 The APA-CDM/TF/5 noted the results of the ICAO APA-CDM Survey Questionnaire #2 jointly prepared by India and CANSO, which provided a general overview of the A-CDM status and plans at an airport level in APAC States/Administrations.

6.2 The Survey Questionnaire had been sent to 39 States (including United States) and 2 Administrations. Responses were received from 15 States / Administrations: Australia, China, Hong Kong China, India, Indonesia, Japan, Malaysia, Myanmar, Nepal, Philippines, Republic of Korea, Singapore, Thailand, Viet Nam and United States. The response rate was 37%.

6.3 The meeting also noted that, as per paragraph 7.3 of APAC Seamless ANS Plan Version 3.0, all international aerodromes should operate an A-CDM system for Airport CDM Information Sharing (ACIS) integrated with the ATM network function consistence with ASBU Elements ACDM-B0/1 & B0/2.

6.4 Republic of Korea updated the meeting that the A-CDM systems at Seoul Gimpo (RKSS), Busan Gimhae (RKPK) and Jeju (RKPC) would be put on trial in August 2020, with full implementation expected in 2021. In addition, Republic of Korea would like to update the Incheon A-CDM guidance material published as an Appendix to the APAC A-CDM Implementation Plan, with additional coverage on an A-CDM mobile application and to reflect that the ATFM centre provided CTOT information instead of the previous COBT. The Chairperson requested Republic of Korea to follow up with the Secretariat subsequent to the meeting.

Note: Incheon A-CDM Operation Manual, Revision 3, 2020 has already been posted at https://www.icao.int/APAC/Documents/Incheon%20A-CDM%20operation%20manual(EN)rev3_2020.pdf

6.5 The meeting further noted that IATA Airport A-CDM Coordination Group (AACG) had been liaising with FAA to look into certain terms used in its Surface-CDM (TOBT and EOBT) as the definition of the terms were not aligned with A-CDM global guidance.

6.6 The APA-CDM/TF/5 Meeting expressed appreciation to the experts who contributed to the development of the APAC A-CDM Implementation Plan, which provided a useful reference for airports especially those in their early stages of A-CDM implementation.

7. Agenda Item 7: Any Other Business

7.1 Nil.

8. Agenda Item 8: APA-CDM/TF Task List

APA-CDM/TF Terms of Reference and Deliverables (WP/08)

8.1 The APA-CDM/TF/5 Meeting reviewed the APA-CDM/TF Terms of Reference (ToR), which was amended by APANPIRG/30 (Bangkok, Thailand, 4 to 6 November 2019) through **Decision APANPIRG/30/3**, subsequent to an amendment proposal formulated by APA-CDM/TF/4 (Bangkok, Thailand, 22 to 26 April 2019) and endorsed by AOP/SG/3 (Bangkok, Thailand, 24 to 26 June 2019) to align the ToR with the APAC Seamless ANS Plan Version 3.0, 2019 approved by APANPIRG/30 and agreed the following Draft Decision.

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<tr><td>Why: To align the TOR with the APAC Seamless ANS Plan Version 3.0.</td><td colspan="2">Follow-up: ☐Required from States</td></tr>
<tr><td>When: 16-Dec-20</td><td colspan="2">Status: Draft to be endorsed by PIRG</td></tr>
<tr><td colspan="3">Who: ☒Sub groups ☐APAC States ☒ICAO APAC RO ☐ICAO HQ ☐Other:</td></tr>
</table>

8.2 The APA-CDM/TF/5 Meeting reviewed and updated the APA-CDM/TF Task List as contained in **Appendix E** to the Report of APA-CDM/TF/5.

9. Agenda Item 9: Date and Venue of Next Meeting

9.1 The next Task Force meeting was tentatively planned for April 2021. States/ Administrations interested to host APA-CDM/TF/6 were requested to contact the Secretariat. The venue of APA-CDM/TF/6 would be communicated to States/Administrations through ICAO APAC Invitation Letter.

9.2 Subject to further coordination, it was proposed that the next Task Force meeting could be held in conjunction with ATFM/SG. In any case, A-CDM experts were strongly encouraged to attend ATFM/SG and/or SWIM/TF.

10. Closure of Meeting

10.1 Mr George Tak Yuen Wong, Chairperson of the APA-CDM/TF, expressed sincere thanks to the participants from States and International Organisations for their contribution and cooperation to APA-CDM/TF/5.

—END—

Asia/Pacific Airport Collaborative Decision-Making Task Force (APA-CDM/TF)

TERMS OF REFERENCE

(As amended by **Decision APANPIRG/30/3**)

The scope and objective of the APA-CDM/TF is to assist States in implementation of A-CDM at high density international aerodromes (100,000 scheduled movements per annum or more as per Asia/Pacific Seamless ATM Plan) by fostering harmonized A-CDM implementations and promoting best practices to achieve performance expectations as per Asia/Pacific A-CDM Implementation Plan.

To achieve the above objective, the Task Force shall:

1) Monitor and assist States in implementation of A-CDM at high density international aerodromes to foster harmonized implementations as per Asia/Pacific A-CDM Implementation Plan;

2) Encourage States to share their experiences and best practices in implementing A-CDM through Workshop /Seminar;

3) Monitor the progress of achieving the performance expectations as per Asia/Pacific A-CDM Implementation Plan and review them as needed;

4) Foster the interoperability of A-CDM with ATFM and Aircraft Operator systems; and

5) Establish and continue close working arrangements with other relevant ICAO Regional groups such as the Air Traffic Flow Management Steering Group (ATFM/SG), System-Wide Information Management Task Force (SWIM/TF) and other groups working on related issues.

Composition: The APA-CDM Task Force will be a multidisciplinary group composed of subject matter experts in aircraft operations, air traffic management, aerodrome operations and systems engineering, supplemented with other members as and when required.

Working Methods: The Task Force will hold at least one three-day face-to-face meeting each year.

Time Lines: Deliverables addressing the objective of the Task Force are required to be developed and delivered to APANPIRG/32.

Asia/Pacific Airport Collaborative Decision-Making Task Force (APA-CDM/TF)

TERMS OF REFERENCE

~~(As amended by **Decision APANPIRG/30/3**)~~
(Proposed Amendment by APA-CDM/TF/5)

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APA-CDM/TF TASK LIST

(Updated ~~26 April 2019~~ 16 June 2020)

	ACTION ITEM/PLANNED ACTIVITIES	RESPONSIBLE PARTY	TIME FRAME	STATUS	REMARKS
1/1	Update group of expert names and contact details	Group of Expert States	8 December 2017	**Completed**	Prepared and posted as IP/02 at ICAO APAC Meeting Webpage
1/2	Examine available guidance material for clear definition of what is A-CDM and what is not	Secretariat	Ongoing	**Completed**	To be included in Draft Implementation Plan
1/3	Check with ICAO HQ whether APA-CDM/TF Participants can be provided with a copy of Draft Doc 9971 3rd Edition	Secretariat	28 April 2017	**Completed**	For use only on APA-CDM/TF work.
1/4	Conduct survey of State A-CDM implementation status	India/CANSO/Group of Experts/Secretariat	Before November 2017	**Completed**	Results of Survey to be analyzed by APA-CDM/TF/2
1/5	Offline analysis of ICAO Doc 9971 Part 3, when available, and report recommendations to APA-CDM/TF/2	China/Group of Experts	APA-CDM/TF/2	**Completed**	Gap analysis between Doc 9971 and any identified needs.
1/6	Review the effectiveness of existing A-CDM programmes in the APAC Region	CANSO/IATA	Ongoing	**Completed**	Dependent on the development of a set of metrics
1/7	Develop a set of metrics for measurement of effectiveness of A-CDM implementation	CANSO/IATA/ Group of Experts/	APA CDM/TF/4	**Completed**	Incorporated in Draft APAC A-CDM Implementation Plan
2/1	Re-circulate A-CDM implementation survey questionnaire to non-respondent States, seek clarification from States where information provided was unclear, and make the questionnaire (i.e. in MS Word file) available in the webpage for APA-CDM/TF/2	Secretariat/CANSO	15 December 2017	**Completed**	Survey questionnaires and supplementary questionnaires had been sent to States.

	ACTION ITEM/PLANNED ACTIVITIES	RESPONSIBLE PARTY	TIME FRAME	STATUS	REMARKS
2/2	Finalize the interim report of the survey results incorporating information provided by States who have not responded to survey questionnaire and additional clarifications received from States	India/CANSO/Group of Experts/Secretariat	28 February 2018	**Completed**	Presented in APA-CDM/TF/3 meeting.
2/3	First draft of Asia/Pacific Regional A-CDM Implementation Plan	India/Singapore/CANSO/IATA/ Group of Experts	31 March 2018	**Completed**	First draft of Asia/Pacific Regional A-CDM Implementation Plan presented in APA-CDM/TF/3 meeting.
3/1	Interoperability Milestones: 1. Develop Interoperability Operational Concept 2. Identify minimum A-CDM milestones for interoperability with cross-border ATFM; and 3. Prepare Operational Scenarios for FIXM Extension;	Hong Kong, China/India/Singapore/Thailand/CANSO/IATA/Group of Experts	APA-CDM/TF/4	**Completed**	Developed FIXM v4.1 Extension based on A-CDM operational scenarios developed under the SWIM in ASEAN Demonstration project
3/2	Coordinate with SWIM TF for inclusion of A-CDM attributes in FIXM Extension	Thailand/Secretariat	31 August 2018	**Completed**	SWIM TF Chair and Task Leaders web-conference planned for August 2018
3/3	Examine availability of A-CDM-specific MET information for inclusion by reference in A-CDM Plan.	Secretariat	APA-CDM/TF/4	**Completed**	Reference is made to the *Asia/Pacific Regional Guidance for Tailored Meteorological Information and Services to support Air Traffic Management Operations* and included in the Asia/Pacific A-CDM Implementation Plan

	ACTION ITEM/PLANNED ACTIVITIES	RESPONSIBLE PARTY	TIME FRAME	STATUS	REMARKS
3/4	Provide examples of A-CDM guides, AIP Supplement, AIC for notification of A-CDM operational trial/ implementation	Republic of Korea, Hong Kong China, other States that have implemented A-CDM	28 February 2019	**Completed**	ROK has provided Incheon A-CDM Operational Manual
3/5	Provide examples of A-CDM performance measurement	States that have implemented A-CDM	28 February 2019	**Completed**	
3/6	Finalize Asia/Pacific Regional A-CDM Plan	India/Singapore/Thailand/CANSO /IATA/Group of Experts	APA-CDM/TF/4	**Completed**	Informal face-to-face meeting was held from 4 to 8 March 2019. DRAFT Asia/Pacific Regional A-CDM Implementation Plan submitted to the APA-CDM/TF/4 for endorsement.
4/1	Develop frequently asked questions as live document	CANSO/IATA	September 2020	**In progress**	
4/2	Develop new survey questionnaire based on APAC A-CDM Implementation Plan	CANSO/India/Hong Kong, China	APA-CDM/TF/5	**Completed**	State Letter AN 3/3 – AP109/20 (AGA) dated 12 May 2020
4/3	Analysis of the completed survey	CANSO/India/Hong Kong, China	APA-CDM/TF/5	**Completed**	APA-CDM/TF/5 WP/09
4/4	Interoperability of A-CDM with ATFM in collaboration with ATFM/SG Experts and SWIM TF	Hong Kong China/Thailand/Singapore/India/ CANSO/IATA	APA-CDM/TF/5	**Completed**	APA-CDM/TF/5 WP/06 Continue in Tasks 5/2 & 5/3.
5/1	Develop a monitoring framework and monitor the progress of achieving the performance expectations as per Asia/Pacific A-CDM Implementation Plan and review the expectations as needed, in consultation with ATFM/SG	India to lead CANSO	Framework: November 2020 Progress Monitoring Report: APA-CDM/TF/6		TOR item 3

	ACTION ITEM/PLANNED ACTIVITIES	RESPONSIBLE PARTY	TIME FRAME	STATUS	REMARKS
5/2	Develop joint operational procedure guidance for the integration of ATFM and A-CDM operations, focusing the integration between A-CDM and "cross-border" ATFM in collaboration with Experts from ATFM/SG and SWIM TF.	Hong Kong China to lead China, India, Republic of Korea, Thailand, Group of Experts, CANSO	APA-CDM/TF/6		
5/3	Identify any other data attributes which are necessary to support the A-CDM and ATFM integrated operations (from A-CDM perspective), in addition to the ones already included in the current version of the FIXM v4.1 Extension in collaboration with Experts from ATFM/SG and SWIM TF.	Thailand to lead Hong Kong China, India, Group of Experts, CANSO	APA-CDM/TF/6		
5/4	Update the Asia/Pacific A-CDM Implementation Plan	India to lead Thailand, CANSO	Editorial Changes: November 2020 Other Changes: APA-CDM/TF/6		