



ICAO

Fifth Meeting of the Asia/Pacific Airport Collaborative Decision Making Task Force (APA-CDM/TF/5)

Video Conferencing, 15 to 17 June 2020

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

ROLE OF AIRPORT OPERATIONAL DATABASE (AODB) IN A-CDM SYSTEMS

(Presented by India)

SUMMARY

AODB holds significant information related to activities happening within the Airport.

A-CDM System brings a new method of working with increased transparency and information sharing to increase the efficiency of the Airport.

Integration of relevant systems at an Airport will increase the operational efficiency, confidence among the stakeholders and provide maximum benefits.

This paper highlights the ways in which AODB can act as an important information source for an A-CDM System.

1. INTRODUCTION

1.1 The objective of the Airport Collaborative Decision Making (A-CDM) project is to make more efficient use of resources at an Airport through improved information sharing leading to greater transparency.

1.2 A-CDM System emphasizes on information sharing to support important airside processes. An A-CDM System concentrates on improving the quality and consistency of the information shared with stakeholders.

1.3 AODB is the central repository available with Airport Operator having information about flights planned in near future. This information is updated real-time by the Airport Operator and Aircraft Operator.

1.4 AODB which has useful information can be used to ensure maximum Collaborative Decision Making capability. This paper discusses the significance of AODB data in A-CDM System.

2. DISCUSSION

2.1 A-CDM solutions aim at gathering data from the existing Airport & ATC Systems and disseminate this information to all relevant stakeholders after processing the same through complex algorithms. This processed data aids the stakeholders in making informed decisions which ultimately increases operational efficiency.

2.2 In-order to ensure harmonization across Airports that are adopting A-CDM Systems in APAC region, A-CDM Implementation Plan for ICAO's APAC Region recommends milestone approach that corresponds to significant events in the airside processes.

2.3 ICAO APAC A-CDM Implementation Plan recommends sixteen milestones that are considered core to A-CDM. All these milestones are shared with the stakeholders at the Airport, while few are shared with the Air Traffic Flow Management (ATFM) System and destination airports.

2.4 AODB contains information such as Airline Flight Schedule, Call Sign, Aircraft Registration, Origin & Destination of Flights, In-block and Off block times, Take off and Landing Times and other information relevant to Airport Operations. Certain Information relevant to A-CDM Milestones and Functionalities can be obtained directly from AODB System. Lack of integration/communication between A-CDM System and AODB might result in loss of critical information for a successful A-CDM implementation.

2.5 Wherever AODB setup is not deployed or not integrated with A-CDM System, frequent manual input and consistency checks will be required to capture certain milestones and to resolve discrepancies if any.

2.6 The information regarding the below milestones can be obtained from or compared with the details present in AODB.

2.6.1 MILESTONE1: ATC Flight Plan Activated

The Flight Plan is submitted by the Aircraft Operator and distributed to the ATC Units concerned via Aeronautical Fixed Telecommunication Network (AFTN) network. The details available in AODB may be used to carry out consistency checks with respect to Airport Slot and Airport Flight Data. This is carried out to confirm the Flight for local processing in A-CDM System and to the ATFM System. When the AFTN node of A-CDM is not receiving Flight plans concerned from Aircraft Operator due to unserviceability issues, the required information may be obtained from AODB for local processing in A-CDM and further transmission to ATFM.

2.6.2 MILESTONE6: Aircraft Landed

Airport Operator captures the aircraft landing time and updates the AODB. If AODB is integrated with A-CDM, this milestone data for A-CDM can be directly obtained from AODB. The details available in AODB may be used to confirm whether the Aircraft Operator Target Off-Block Time (TOBT) is feasible with the Actual Landing Time of the inbound leg considering the Turnaround time for that movement.

2.6.3 MILESTONE7: Aircraft In-Blocks

Aircraft In-Block Time is captured by AODB systems in multiple ways. This information can be used by A-CDM System in capturing this milestone. This milestone is important to capture the turnaround process.

2.6.4 MILESTONE11: Boarding Starts

The information is given by the Aircraft Operator or Ground Handler. Airport Systems might automatically capture this event and update the AODB. When the boarding commences, it gives the A-CDM Stakeholders a good indication whether the TOBT will be respected. Integration of AODB with A-CDM for real time data sharing may enable the dissemination of this information as soon as possible. Consistency checks may be carried out by the A-CDM System for predicting the TOBT compliance provided the input for Boarding Start time is accurate.

2.6.5 MILESTONE15: Off Block

AODB has the Aircraft Off-Block Time captured either manually or by automatic means. Real time data sharing between AODB and A-CDM System helps informing relevant A-CDM Stakeholders that the aircraft has commenced push back/ taxi from the parking position. A-CDM System also processes this information for determining TSAT compliance and for the calculation of On Time Performance (OTP).

2.7 When A-CDM Systems are integrated with Air Traffic Flow Management (ATFM), apart from other Departure Planning Information (DPI) the following data received from AODB may also be shared with ATFM for Common Situational Awareness:

- a. Airport Status
- b. Aircraft Parking Stands
- c. Actual Landing Time
- d. Actual In Block Time
- e. Actual Off Block Time

2.8 As evident from above discussions, certain information available in AODB is useful to A-CDM System. This information is captured in AODB System either automatically or manually. In the absence of AODB such information has to be obtained by A-CDM System either through manual input or by integrating with other appropriate systems.

3. ACTION BY THE MEETING

3.1 The meeting is invited to:

- a) Note the information contained in this paper;
- b) Discuss the usefulness of certain AODB data for A-CDM System; and
- c) Discuss any relevant matter as appropriate.

—END—