International Civil Aviation Organization

Fifteenth Meeting of the Asia/Pacific Air Traffic Flow Management Steering Group (ATFM/SG/15)

Bangkok, Thailand, 28 April – 02 May 2025

Agenda Item 5: A-CDM Operations and A-CDM/ATFM Integration

INTEGRATION OF A-CDM INTO ATFM IN AUSTRALIA

(Presented by AUSTRALIA/ AIRSERVICES AUSTRALIA)

SUMMARY

This paper presents Airservices Australia approach to integrating A-CDM into the ATFM process.

By having an integrated approach to ATFM from pre-tactical weather assessment and capacity planning through demand profiling of network impacts, to day of operation management through the integrated ANSP managed A-CDM system, we are offering operators and airport the best opportunity to maximise efficiency and effectiveness of operations.

1. INTRODUCTION

1.1 Through 2025 Airservices Australia, in partnership with our vendor and key partners, will be implementing an integrated A-CDM across our 4 major ATFM ports.

1.2 A-CDM will be integrated into the ATFM process so that pre-tactical planning for network management is able to be distributed to all participants who will enact the plan and can adjust as conditions change

1.3 Airservices Australia will be implementing an integrated single system over our four major airports of Brisbane, Perth, Sydney and Melbourne managed by the ANSP.

2. DISCUSSION

Implementation and benefits

2.1 The Pre-tactical planning for the next day of operations commences at 0400z with a complete assessment of weather within the TCU for the four ATFM ports. This assessment starts with the TAF and then uses a multitude of weather models to assess a range of elements including wind aloft, surface wind, weather phenomena, rain, cloud, visibility etc. and is the start of the MET-CDM process.

2.2 Each port has set business rules for assessing deliverable capacity for various conditions and enable Airservices to set a capacity that maximises the airport usage based on the conditions forecast. This approach enables operators to plan for the day of operations and adjust schedules if needed.

2.3 Operators are required to submit schedules for the next day into the NOMC for assessment of demand and capacity.

2.4 Once the weather assessment is complete and the hour-by-hour weather capacity is ingested into the Digital Twin, the ATFM team commence coordination with ATC to assess any infrastructure, technology or other restrictions that may impact capacity.

2.5 Once any impacts are incorporated into the Digital Twin the ATFM operator will run simulations of the capacity and demand for the next day of operations. The simulation runs approx. 3.4Million calculations assessing phases of flight, trajectory, known airline behavior, likely schedule changes etc. to arrive at the most likely impact measured as airborne delay

2.6 An assessment is made of airborne delay against set parameters and a decision by the ATM Director is made on the need to enact a Ground Delay Program or not and results in the ATFM Plan.

2.7 The ATFM Plan is input into the Metron Harmony system to allow airlines to manage COBT's and adjust their schedules around available capacity.

2.8 At set times overnight the Harmony plan is transferred to the A-CDM system for management of the ATFM plan for day of operations. The system is managed by ATC and airlines to allow for changes to the plan on the day to be integrated across multiple airports and minimize any disruption that would normally be seen through increased ground or airborne delays.

2.9 The integrated approach to using multiple systems for specific specailsed tasks will result in an optimized plan and improved efficiency and effectiveness for airports and operators while supporting workload reductions for ATC through effective use of airport infrastructure and airspace.

3. ACTION BY THE MEETING

3.1 The meeting is invited to:

a) note the information contained in this paper; and assist with information sharing to international operators scheduled to operate in Australia.

— END —