International Civil Aviation Organization

Eleventh Meeting of the Air Traffic Management Sub-Group (ATM/SG/11) of APANPIRG

Singapore, 2 – 6 October 2023

Agenda Item 5: ATM Systems (Modernization, Seamless ATM, CNS, ATFM)

CONTINUOUS DESCENT OPERATIONS (CDO) TRIAL

(Presented by Australia)

SUMMARY

This paper presents information on Continuous Descent Operations (CDO) Trial currently in place in Melbourne, Australia (since December 2022) whereby the descent sequence is established prior to the top of descent. This allows for increased opportunity for uninterrupted (no controller intervention) idle cruise descent into capital city aerodromes. This trial will enable optimisation of air traffic flow including maximising use of runways and reducing travel delays. This will also provide airspace users with the ability to save fuel and reduce carbon emissions.

1. INTRODUCTION

1.1 Airservices Australia is optimising the way we manage airspace. Increased flexibility brings a great opportunity to enable better management of our skies, including volume, flow and maximising the use of runways.

1.2 Airservices CDO Project is a step towards creating a Trajectory Based Operations (TBO) environment, that will optimise sequencing processes for air traffic control and provide flight crews with predictable sequencing processes for air traffic control and provide flight crews with predictable descent into Australian airports.

1.3 When sequencing aircraft for arrival at major Australian airports, air traffic control (ATC) traditionally rely on tactical intervention techniques such as speed control, vectoring and holding – which effectively absorb delay, but do not always provide a predictable descent for flight crew.

1.4 The introduction of CDO procedures is intended to provide flight crew with a predictable, managed descent to the airport by introducing tracks used to absorb delays, enable continuous descent and limit the need for tactical speed control.

2. DISCUSSION

2.1 Airservices CDO ‘predictable sequencing’ procedure is currently being trialed for arrivals into Melbourne Airport. This involves the use of new waypoints specifically positioned to enable ATC to sequence aircraft in a way that minimises ATC workload and provides a predictable descent for flight crew.

2.2 Melbourne employs closed STARs to all runways which provides the predictability for a managed descent and has the ability to commence a Ground Delay Program to absorb airborne delays.

This CDO trial will further enhance efficiency into Melbourne by absorbing late unplanned delays through predictable track stretching rather than conventional delay strategies.

2.3 The trial uses published routes that achieve a predictable delay through additional track miles (predictable sequencing), with the finer adjustment achieved through speed control. Pilots are issued with a waypoint (feeder fix) crossing time requirement e.g. CROSS BULLA AT 0123. All aircraft fly at 250KT from the feeder fix (published on charts).

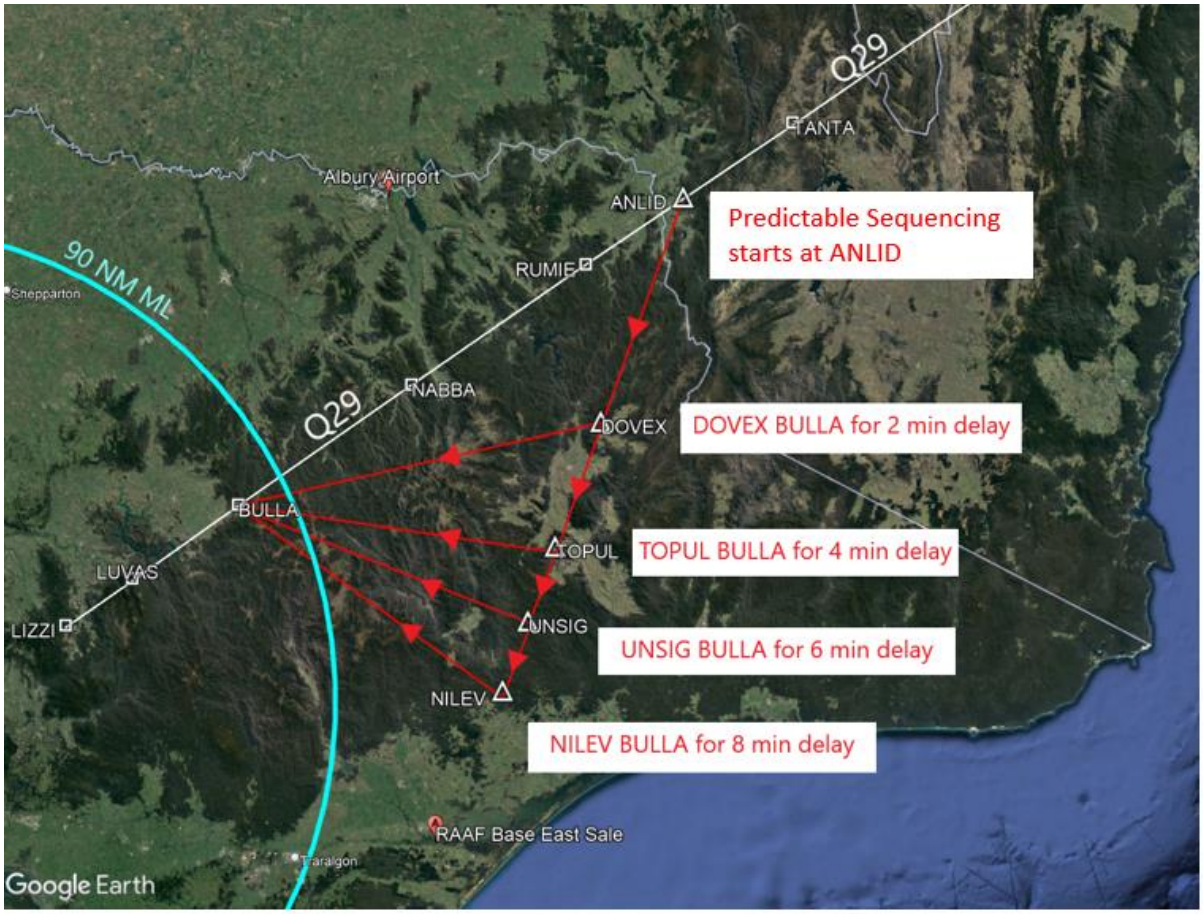
2.4 A CDO Working Group (including domestic and some international airlines, Australian airport representatives and IATA members) has been in place since November 2021 for the industry to come together to work towards identification and implementation of policies, procedures and business rules required for a national CDO roll-out. The CDO Working Group Members are currently working towards calibrating the data to quantify the performance of this trial.

2.5 Plans are in place to further expand this trial to another feeder sector into Melbourne (Grampians Group) by December 2023 with plans to further expand nationally in 2024.

2.6 Initial trial outcomes include:

- Enhanced common situational awareness for air crew and air traffic control
- Efficient task load and productivity for air crew and air traffic control
- Enhanced delay management through increased predictability of aircraft trajectories
- Fuel savings and Co2 emissions reduction

Predictable Sequencing Trial – Route Q29



3 ACTION BY THE MEETING

3.1 The meeting is invited to:

a) note the information contained in this paper; and

b) discuss any relevant matters as appropriate.

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