THE FORTY-THIRD MEETING OF THE INFORMAL PACIFIC ATC CO-ORDINATING GROUP (IPACG/43)

(Tokyo, Japan 27-28 September 2017)

Agenda Item 5: Communications/Navigation/Surveillance (CNS) Issues

ADS-C CLIMB/DESCEND PROCEDURE PROJECT UPDATE

Presented by Federal Aviation Administration

SUMMARY

This paper presents the United States (U.S.) Federal Aviation Administration (FAA) activities associated with the Automatic Dependent Surveillance – Contract Climb/Descend Procedure (ADS-C CDP).

1. Introduction

1.1. The Automatic Dependent Surveillance – Contract Climb/Descend Procedure (ADS-C CDP) is designed to improve service to properly equipped aircraft by allowing an oceanic air traffic controller to have an option for granting an altitude change request when other standard separations, such as ADS-C distance-based 30 nautical miles (NM) longitudinal separation minima, do not allow for a climb or descent through the altitude of a blocking aircraft. ADS-C CDP is an air traffic control (ATC) tool to be applied between maneuvering and blocking aircraft pairs utilizing 15 NM or 25 NM longitudinal separation.

1.2 The United States (U.S.) Federal Aviation Administration (FAA) developed the ADS-C CDP to utilize existing user equipage and ATC capabilities to allow more oceanic flights to achieve their preferred vertical profiles.

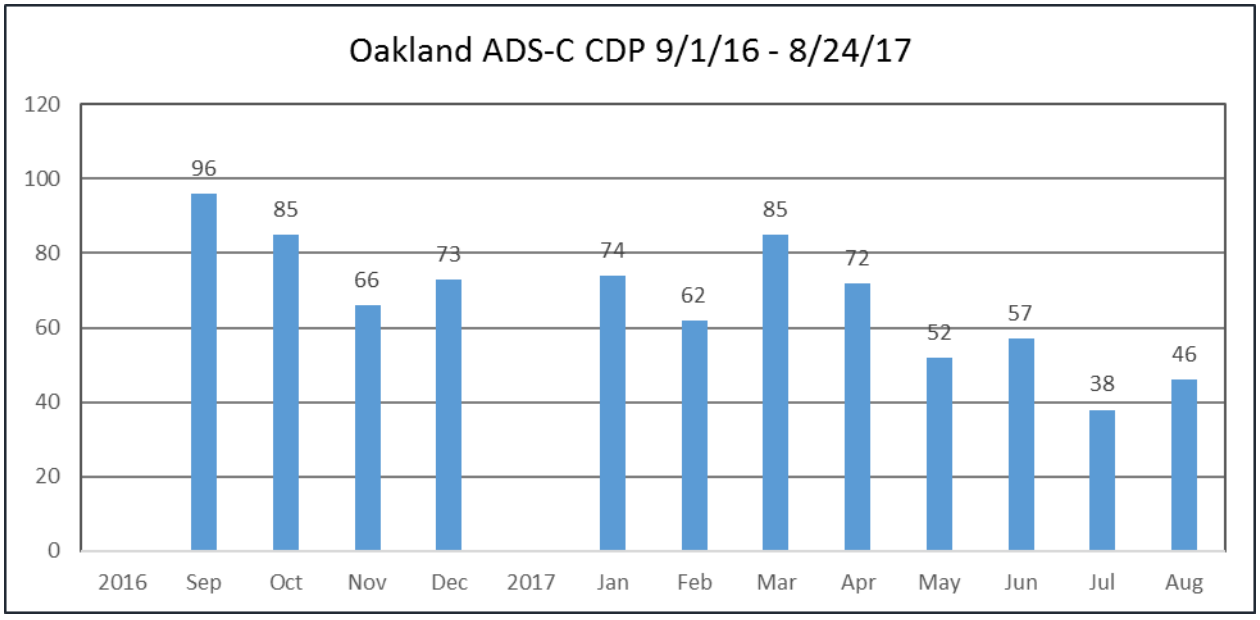
1.3 This procedure is based on in-trail Distance Measuring Equipment (DME/GNSS) rules in ICAO Doc 4444, paragraph 5.4.2.3. Aircraft pair distance verification is performed by the Advanced Technologies and Oceanic Procedures (ATOP) automation system, using near simultaneous ADS-C demand contract reports. As with the existing DME procedure, responsibility for separation assurance remains with ATC.

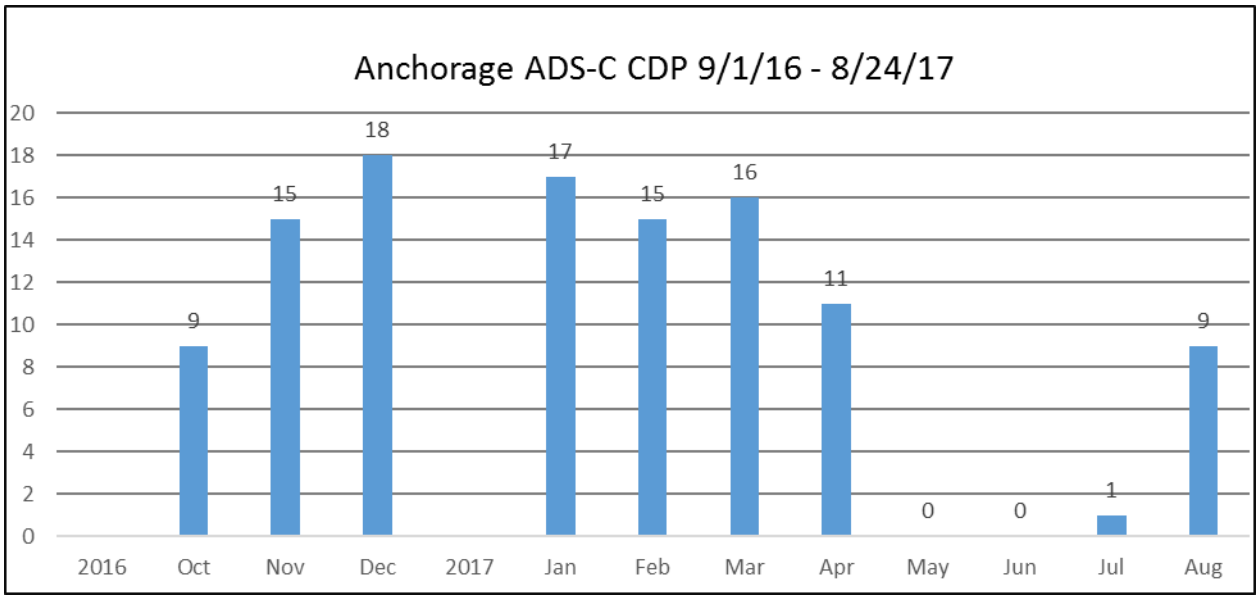
2. Discussion

2.1 Implementation of the ADS-C CDP automation will benefit ADS-C equipped aircraft. Non-equipped aircraft will continue to receive the current level of service. ADS-C CDP separation calculations will be performed by the ATOP automation system. The controller will either issue the clearance for the climb/descend or UNABLE; thus, from the controller's standpoint there will be minimal change in operations. From a systems efficiency perspective, the proposed ADS-C CDP system will allow for increased efficiency and improved flow for properly equipped aircraft.

2.2 The automation enhancements to ATOP include capabilities for a controller to select two aircraft and check that the two aircraft are eligible for ADS-C CDP, send near simultaneous on-demand position reports to two aircraft, determine if the minimum separation distance between the two aircraft is greater than the ADS-C CDP separation distance (e.g., greater than 15 NM), display the ADS-C CDP conflict probe results to the controller, and build an uplink clearance message to the ADS-C CDP requesting aircraft.

2.3 Oakland ARTCC implemented the ATOP automated procedure on August 29, 2016. Anchorage ARTCC implemented the ATOP automated procedure on October 12, 2016. New York ARTCC implemented the ATOP automated procedure on February 14, 2017.

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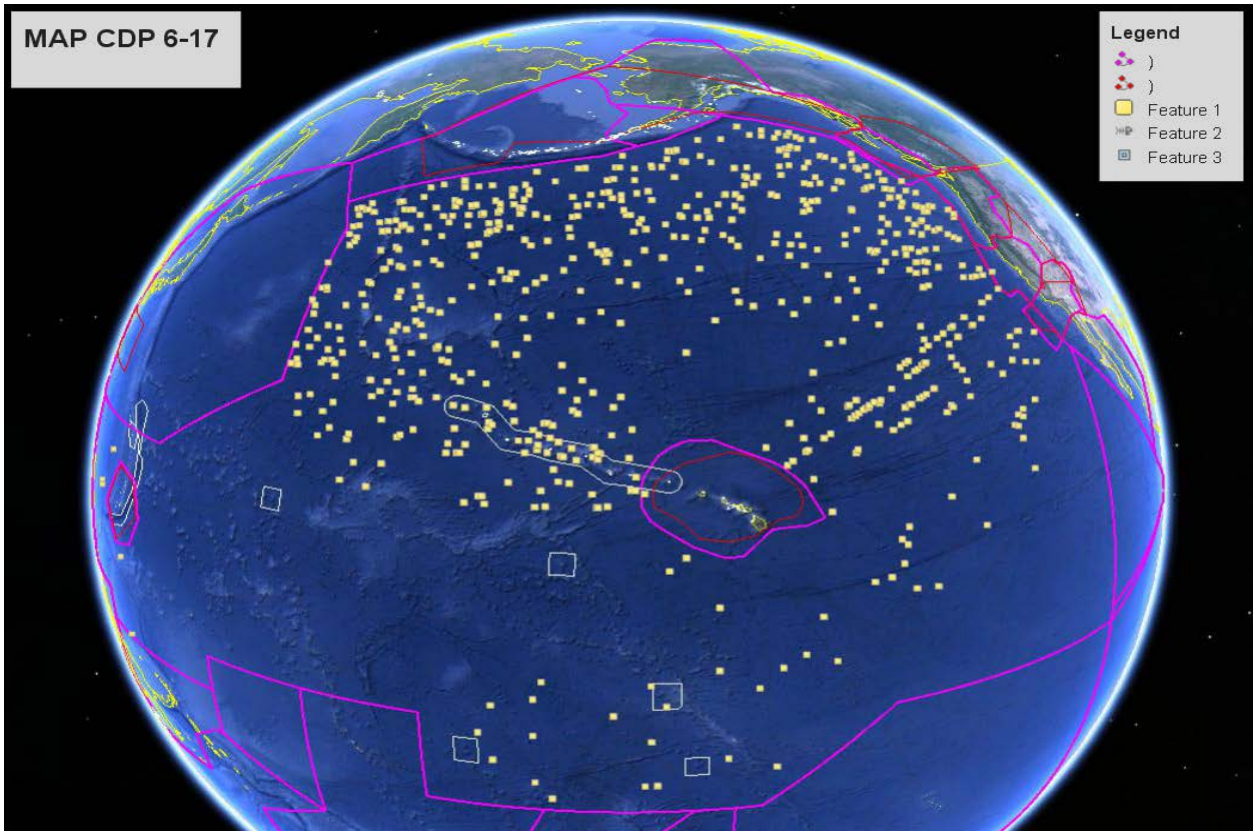
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Legend
Feature 1
Feature 2
Feature 3

3. Conclusion

3.1 The meeting is invited to:

a) Note the information contained in this paper;

b) Discuss CDP implementation strategies for the Asia/Pacific; and

c) Discuss any relevant matters as appropriate.