NOTICE

U.S. DEPARTMENT OF TRANSPORTATION
FEDERAL AVIATION ADMINISTRATION
Air Traffic Organization Policy

N JO 7110.548

Effective Date:
February 15, 2011

Cancellation Date:
May 16, 2011

SUBJ: Automatic Dependent Surveillance – Contract (ADS-C) Climb Descend Procedure (CDP)

1. Purpose of This Notice. This notice transmits air traffic procedural guidance and requirements applicable to apply reduced longitudinal separation aircraft-to-aircraft during altitude change maneuvers between appropriately authorized and equipped aircraft during operational trials for ADS-C CDP throughout the Oakland ARTCC Oceanic Control Area (CTA). The operational trials will be conducted for a period of ninety (90) calendar days from the start of the trial.

2. Audience. This notice applies to the Air Traffic Organization (ATO) En Route and Oceanic Service Unit.

3. Where Can I Find This Notice? This notice is available on the MYFAA employee Web site at https://employees.faa.gov/tools_resources/orders_notices/ and on the air traffic publications Web site at http://www.faa.gov/air_traffic/publications/.

4. Explanation of Policy Change. The procedures in this notice establish the requirements for the use of ADS-C CDP during operational trials.

5. Procedures. Standard air traffic control procedures contained in FAA Order JO 7110.65 and facility orders must be applied in support of the ADS-C CDP operational trials. Oakland ARTCC will apply ADS-C CDP separation to "targets of opportunity" throughout the Oakland Oceanic CTA. "Targets of Opportunity" are proximate pairs of aircraft that are eligible for ADS-C CDP separation. To allow qualified aircraft to climb or descend through the altitude of a blocking aircraft when less than standard separation exists. ADS-C CDP requirements are as follows:

a. Ocean21 enhanced capabilities are required for application of ADS-C CDP separation. Controllers will request and receive near simultaneous ADS Demand Reports and ensure the following requirements are met to apply the ADS-C CDP procedure:

(1) Maneuvering and blocking aircraft are RNP-4 approved.

(2) The Ocean21 30nm ADS distance-based separation flags for the maneuvering and blocking aircraft are set.

(3) The maneuvering and blocking aircraft must have active FANS-1/A ADS-C and CPDLC connections.

(4) Maneuvering and blocking aircraft are in level flight.

(5) Maneuvering and blocking aircraft are same direction traffic.

(a) Neither the maneuvering nor blocking aircraft are on a deviation from course or are requesting a deviation from course.

(b) Neither the maneuvering nor blocking aircraft are out of conformance.

(6) Blocking aircraft has an assigned altitude that is 1,000 feet above or below maneuvering aircraft assigned flight level.

(7) Maneuvering aircraft will execute an altitude change of 2000 feet.

b. ADS-C CDP can be used when the Conflict Probe results for the requested altitude change show a conflict, and either of the following two distance and speed checks is passed:

(1) When the maneuvering aircraft is probed for an altitude change, the blocking and maneuvering aircraft display an ACTUAL conflict (NOW indicated in red, to the right of "LOS" in the Conflict Report Window), and all of the following checks are satisfied:

(a) The longitudinal separation distance at the conflict start time is greater than or equal to 16 NM.

(b) The leading aircraft groundspeed is greater than or equal to the trailing aircraft groundspeed, based on the displayed groundspeeds after ADS DEMAND reports are received.

(c) The leading aircraft Mach number is greater than or equal to the trailing aircraft reported Mach number.

(2) When the maneuvering aircraft is probed for an altitude change, the blocking and maneuvering aircraft have an ACTUAL or IMMINENT conflict (Red box will be displayed to the right of "LOS" in the Conflict Report Window), and all of the following checks are satisfied:

(a) The longitudinal separation distance at the conflict start time is greater than or equal to 26 NM.

(b) The trailing aircraft groundspeed is greater than the leading aircraft groundspeed by at most ten (10) knots, based on the displayed groundspeeds after ADS DEMAND reports are received.

(c) The trailing aircraft Mach number is greater than the leading aircraft reported Mach number by at most point zero two (.02) Mach.

i. The predicted longitudinal separation distance must be obtained from the Conflict Report Window (the range/bearing tool may not be used to determine the separation distance to apply ADS-C CDP).

j. The uplink clearance shall be a CPDLC message (Appendix A of ATOP Ops Manual [5]– UL Messages 26 and 28)

(1) CLIMB TO REACH (*alt*) by (*time*)

(2) DESCEND TO REACH (*alt*) by (*time*)

(3) (*time*) is not more than fifteen (15) minutes after the uplink time of the ADS Demand message for the maneuvering aircraft.

e. ADS-C CDP shall not be used if there are ACTUAL or IMMINENT conflicts with <u>other aircraft</u> at the blocking altitude or CDP target altitude.

f. Minimum ADS-C-based lateral and longitudinal separation between 30/30 eligible aircraft and RNP 10 aircraft remains unchanged. Lateral and longitudinal separation standards applied between RNP-10 and non-RNP aircraft also remains unchanged.

6. Distribution. This notice is distributed to the following ATO service units: En Route and Oceanic, and System Operations Services; the ATO Office of Safety; service center offices; the Air Traffic Safety Oversight Service; the William J. Hughes Technical Center; and the Mike Monroney Aeronautical Center.

7. Background. The FAA developed the new ADS-C CDP oceanic ATC procedure to utilize existing user equipage and ATC capabilities to allow more oceanic flights to achieve their preferred vertical profiles. Integral to ADS-C CDP is the use of advanced CNS capabilities; e.g., ADS-C, CPDLC, and RNP. To apply ADS-C CDP, oceanic controllers will utilize manual procedures, as well as Ocean21 automation system capabilities.

a. This procedure is based on in-trail Distance Measuring Equipment (DME) rules in ICAO Doc 4444, paragraph 5.4.2.3.2. Aircraft pair distance verification is performed by Ocean21, using near simultaneous ADS-C demand contract reports. As with the existing DME procedure, responsibility for separation assurance remains with air traffic control.

b. To achieve early benefits, ADS-C CDP will be demonstrated in operational trials by manually applying ADS-C CDP requirements without changes to Ocean21 and will be limited for use between RNP-4 qualified aircraft. Upon conclusion of the operational trial, ADS-C CDP may be implemented as an enhancement to Ocean21 software as an automated procedure.

8. Safety Management System. Appropriate safety management documentation, in accordance with FAA Order 1100.161, Air Traffic Safety Oversight, ATO Order JO 1000.37, Air Traffic Organization Safety Management System, and the ATO Safety Management System Manual, has been completed in support of this notice.

Luis A. Ramirez
Director, En Route and Oceanic
Safety and Operations Support
Air Traffic Organization