



**THE FORTY-EIGHTH MEETING OF THE
INFORMAL PACIFIC ATC COORDINATING GROUP
(IPACG/48)**

FAA Northwest Mountain Regional Office - Des Moines, Washington
September 25 - 28, 2023

Agenda Item 5: ATM Issues

23-NM Performance Based Lateral Separation

(Presented by the United States)

SUMMARY

The following paper provides information on the FAA's plans for implementation of the 23 NM lateral separation standard in the in the U.S. delegated oceanic control areas of New York East, New York West, Oakland, and Anchorage air traffic facilities.

1. Introduction

1.1 In November 2016, the International Civil Aviation Organization (ICAO) published the sixteenth edition of the ICAO Doc 4444, Procedures for Navigation Services – Air Traffic Management (PANS-ATM). The amendments included the addition of the performance-based 23 NM lateral separation standard. The safety benefit “enable[s] States to ensure that safe application of air traffic management (ATM) operations predicated on communication and/or surveillance performance to eligible operators and that non-compliance is detected and corrected in a timely manner” (ICAO State letter AN 11/1.3.29-16/12, 8 April 2016).

1.2 A 23 NM lateral separation standard will be applied in FAA controlled airspace in the three Oceanic OCA/FIRs, excluding the Arctic.

1.3 In U.S. oceanic airspace, performance-based separation standards are enabled using the Advanced Technologies and Oceanic Procedures (ATOP) system, an upgradable flight data processing system used by the FAA to support oceanic air traffic control.

2. Discussion

2.1 The PBCS concept characterizes the communication and surveillance capability, through required communication performance (RCP) and required surveillance performance (RSP) specifications associated with application of reduced lateral and longitudinal separation standards.

2.2 The FAA implemented PBCS on 29 March 2018. Performance-based separation standards, including 23 NM lateral, will only be authorized for turbojet aircraft that are certified and approved for Reduced Vertical Separation Minima (RVSM); relevant Required Navigational Performance (RNP); Automatic Dependent Surveillance Contract (ADS-C) the appropriate RSP and RCP approvals; and Controller Pilot Data Link Communication (CPDLC).

- 2.3 When an aircraft does not satisfy a performance requirement, the operator must not include those corresponding qualifiers in the filed flight plan.
- 2.4 To inform the FAA's oceanic automation system, ATOP, that an aircraft is approved and eligible for the application of the 23 NM lateral separation standard, operators are required to include the appropriate codes for PBCS certification in the ICAO flight plan:
- 2.5 As specified by ICAO Doc 4444, for a minimum spacing between tracks of 23 NM, a navigational performance of RNP4 or RNP2 is prescribed. The communication system shall satisfy RCP240 and the surveillance system shall satisfy RSP180.
- 2.6 U.S.-delegated airspace is in compliance with RCP240 and RSP180, as defined in Appendices B and C of ICAO Doc 9869, Edition 2, Performance-based Communication and Surveillance (PBCS) Manual.
- 2.7 The ATOP system will only allow controllers to apply reduced separation to aircraft that are logged on and indicate proper equipage in their flight plan. A logon attempt will be rejected by the ATOP system, if the ICAO flight plan does not contain at least one of the J-codes indicating satellite communications (SATCOM) capability (J5 or J7).
- 2.8 To be eligible for application of the 23 NM lateral separation standard, the most recently received ADS position report for the flight, must contain a Figure of Merit (FOM) that meets or exceeds the adapted minimum RNP4 threshold.
- 2.9 The 23 NM lateral separation standard will only be applied to appropriately equipped pairs of aircraft that have filed in accordance with the flight-plan provisions as previously stated in this document and are logged on to the communications/surveillance system through a communications service provider.
- 2.10 Conformance monitoring shall be ensured by establishing an ADS-C event contract specifying a lateral deviation change event with a maximum of 5-NM threshold and a waypoint change event.
- 2.11 Implementation of the 23 NM lateral standard is contingent on successful installation and application of the necessary ATOP software updates. It is expected that all three oceanic facilities will have the update by the end of October 2023.
- 2.12 The following should be noted in association with implementation of the 23 NM lateral standard:
- 2.12.1 When two aircraft are eligible for different reduced separation minima, the larger standard shall be applied between the pair.
- 2.12.2 No changes resulting from this implementation will be required by adjacent air traffic service providers.
- 2.12.3 No changes resulting from this implementation will be required by aircraft operating in airspace adjacent to the FAA oceanic OCAs.
- 2.13 Strategic Lateral Offset Procedures (SLOP) are approved procedures that allow aircraft to fly a lateral offset in increments of .1 NM up to a maximum of 2 NM to the right of route centerline. In

accordance with ICAO Doc 4444, SLOP shall be authorized only in en-route airspace where the lateral separation minima or spacing between route centerlines is 28 km (15 NM) or more.

2.14 Under the plan for the implementation of the 23 NM lateral standard. Aircraft not authorized for RCP240 and RSP180, and those not communicating with ADS-C and CPDLC will still be allowed to fly within the OCAs; however, the 23 NM lateral separation standard will not be applied between pairs of such aircraft nor between pairs in which only one aircraft is approved for application of the 23 NM standard.

2.15 Under the FAA's plan for implementation, appropriate lateral and longitudinal separation standards, will continue to be provided during transfers with adjacent Air Navigation Service Providers (ANSPs).

2.16 For inbound transfers, the application of performance-based separation standards is allowed when a CPDLC connection has been established in advance. Current data authority is confirmed as soon as practicable upon entry into the airspace.

2.17 For outbound transfers to ANSPs supporting CPDLC, the application of performance-based separation standards will be allowed to continue if the receiving ANSP supports the minima.

3. Conclusion

3.1 The meeting is invited to note the information provided.

Attachment A – PANS-ATM PBLs excerpt

5.4.2.9 PERFORMANCE-BASED LONGITUDINAL SEPARATION MINIMA

Note.— Guidance material for implementation and application of the separation minima in this section is contained in the Performance-based Communication and Surveillance (PBCS) Manual (Doc 9869), the Global Operational Data Link (GOLD) Manual (Doc 10037), the Satellite Voice Operations Manual (SVOM) (Doc 10038), the Guidelines for the Implementation of Performance-based Longitudinal Separation Minima (Doc 10120) and the Manual on Monitoring the Application of Performance-Based Horizontal Separation Minima (Doc 10063).

5.4.2.9.1 Within designated airspace, or on designated routes, separation minima in accordance with the provisions of this section may be used.

5.4.2.9.2 The following separation minima may be used for aircraft cruising, climbing or descending on:
a) the same track; or
b) crossing tracks provided that the relative angle between the tracks is less than 90 degrees.

<i>Separation minima</i>	<i>RNP</i>	<i>RCP</i>	<i>RSP</i>	<i>Maximum ADS-C periodic reporting interval</i>
93 km (50 NM)	10	240	180	27 minutes
	4	240	180	32 minutes
55.5 km (30 NM)	2 or 4	240	180	12 minutes
37.0 km (20 NM)	2 or 4	240	180	192 Seconds (3.2 Minutes)
5 minutes	2 or 4 or 10	240	180	14 minutes

Note.— The 192 Seconds (3.2 minute) maximum ADS-C periodic reporting interval is intended for use during application of the 37 km (20 NM) separation minimum between specific aircraft pairs and is not intended for use as a default periodic reporting interval for all aircraft. Attention is drawn to the guidance regarding ADS contract – periodic in the Global Operational Data Link (GOLD) Manual (Doc 10037).