



**THE FORTY-NINTH MEETING OF THE
INFORMAL PACIFIC ATC CO-ORDINATING GROUP MEETING
(IPACG/49)**

Agenda Item 5e: ATM Issues

The Outcome of Operational trial of the 23NM lateral separation minima
(Presented by JCAB)

SUMMARY

The safety evaluation of the 23NM horizontal spacing, which has been in trial operation, has been completed. It will be moved to formal operation.

1. Introduction

1.1. As for the introduction of shortened separations in oceanic airspace by applying the 23NM lateral separation minima between RNP4 aircrafts, a preliminary safety assessment determined that it could be safely introduced through the implementation of risk reduction measures, and trial operations started on June 15, 2023.

1.2. Since its introduction on June 15, 2023, we have been monitoring and verifying its operation from the viewpoint of safety management and have conducted a safety evaluation after its introduction.

1.3. A safety evaluation committee was formed by the Headquarters, Fukuoka ACC, ATMC, Electronic Navigation Research Institute, universities, and Japanese Airlines flying over the ocean.

1.4. The “results of the preliminary safety assessment for the application of 23NM for the lateral separation minima between RNP4 aircrafts in oceanic airspace”, which was judged to be safe to introduce through the implementation of risk reduction measures, was subject to post-introduction evaluation.

1.5. The hazards and mitigation identified in the preliminary safety assessment are as follows.

LSM23 (Lateral Separation Minima 23NM)					
Nr	Code	Identified Hazard	Outcome of assessment		Mitigation
ATC: Air Traffic Control					
(1)	LSM23 ATC-1	Lateral separation issues	3B	ALARP	A)/B)
FC: Flight Crew					
(2)	LSM23 FC-1	Incorrect procedure selection or loading by pilot	2B	ALARP	C)/D)/E)
(3)	LSM23 FC-2	Strategic Lateral Offset Procedure (SLOP)	3B	ALARP	B)/E)
NS: Navigation Services					

(4)	LSM23 NS-1	Error in Navigation database	3B	ALARP	B)/E)
(5)	LSM23 NS-2	Error in Flight plan information	3B	ALARP	C)/D)/E)
<i>SF: System Failures</i>					
(6)	LSM23 SF-1	Failure of onboard equipment	3B	ALARP	C)/F)/G)
(7)	LSM23 SF-1	Failure of TOPS	3B	ALARP	F)/G)
(8)	LSM23 SF-1	Misjudgment by TOPS	2B	ALARP	H)

Figure 1. NOPAC Redesign Phase 1bH

		Risk severity				
Risk probability		Catastrophic	Hazardous	Major	Minor	Negligible
		A	B	C	D	E
Frequent	5	5A Unacceptable	5B Unacceptable	5C Unacceptable	5D ALARP	5E ALARP
Occasional	4	4A Unacceptable	4B Unacceptable	4C ALARP	4D ALARP	4E ALARP
Remote	3	3A Unacceptable	3B ALARP	3C ALARP	3D ALARP	3E Acceptable
Improbable	2	2A ALARP	2B ALARP	2C ALARP	2D Acceptable	2E Acceptable
Extremely improbable	1	1A ALARP	1B Acceptable	1C Acceptable	1D Acceptable	1E Acceptable

*ALARP (As Low As Reasonably Practicable): Acceptable based on mitigation.

Figure 2 Risk Tolerability Matrix

Mitigation

- A) ATC shall use the support functions of the TOPS (automatic determination of the appropriate lateral separation minima from the flight plan information and verification of the lateral separations from the other aircraft).
- B) ATC shall check the route and distance from the FIX or waypoint, etc., as necessary.
- C) When the pilot becomes aware of a situation in which the RNP4 navigation performance cannot be maintained, the pilot shall immediately notify ATC.
- D) ATC shall properly monitor the data link connection status.
- E) ATC shall check the latest ADS and CPDLC reports appropriately.
- F) When the pilot becomes aware of a situation where the ADS-C or CPDLC connection cannot be maintained, the pilot shall immediately notify ATC.
- G) Organize the procedures for the ATC's response to the failure of the ATS datalink service, GNSS, onboard equipment, or the trajectory-based oceanic traffic data processing system during the application of the reduced control separation for the 23NM lateral separation minima.
- H) Organize procedures for modifying the program and adaptations of the oceanic control and processing system.

2. Discussion

2,1. The post-implementation evaluation showed that risk reduction measures were implemented certainly, and no new events that could affect safety other than the anticipated risks or information that could be a cause for concern in this operation were identified.

2,2. It was agreed at the post-introduction safety evaluation meeting that the application of the 23 NM lateral separation minima between RNP4 aircrafts in the Fukuoka FIR's datalink airspace over the Pacific Ocean is safely operated at an acceptable level of risk.

2,3. The transition to regular operation is scheduled on March 20, 2025.

2,4. The AIP Amendment will be issued.

3. Action by the meeting

3.1 The meeting is invited to note the information provided.