International Civil Aviation Organization

MIDANPIRG/22 & RASG-MID/12 Meetings

(Doha, Qatar, 4 – 8 May 2025)

Agenda Item 5.3: ANS (AIM, PBN, AGA-AOP, ATM-SAR, CNS and MET)

REDUCED LONGITUDINAL SEPARATION OVER HIGH SEA BETWEEN MUMBAI AND MUSCAT FIRS

(Presented by Sultanate of Oman)

SUMMARY

This Information Paper presents the outcome of the surveillance-based 20 NM longitudinal separation trial operation conducted across the Muscat/Mumbai FIR boundary, centered around the significant point RASKI along ATS Routes L301 and L639. The paper highlights progress made since the previous presentation at the ATM SG/10 meeting and outlines the next steps, including plans to expand the implementation to adjacent cross-border oceanic routes such as N571. The implementation is expected to enhance airspace capacity, reduce controller workload, and improve operational efficiency between the two FIRs.

Action by the meeting is at paragraph 3.

REFERENCE

- PANS ATM, Doc 4444
- ICAO MID ATM SG/10-IP/3

1. INTRODUCTION

1.1 Muscat FIR plays a crucial role in enabling efficient air traffic flows between Europe, the Middle East, and Asia. The upper portion of Muscat FIR, particularly along routes connecting with Mumbai FIR, has been experiencing congestion due to the 10-minute longitudinal separation currently in place. This has resulted in the emergence of traffic hotspots, as highlighted in recent MIDRMA reports.

1.2 To appropriately address above challenges, Oman and India agreed to explore the implementation of surveillance-based 20 NM longitudinal separation in oceanic airspace, particularly at the Muscat–Mumbai FIR interface around the significant point RASKI.

1.3 Following the ICAO MID ATM SG/10 meeting in October 2024, a series of coordination meetings were held between the Oman Civil Aviation Authority (OCAA) and the Airports Authority of India (AAI) to prepare, implement, and assess the trial operation.

2. DISCUSSION

Trial Operation Overview

2.1 The trial operation was launched on 1 September 2024, initially targeting low to medium traffic periods to evaluate the operational application of the 20 NM surveillance-based longitudinal separation. Based on positive outcomes, the trial was progressively extended to longer durations and expanded to include medium to high traffic volumes. Ultimately, the trial was expanded into a full 24-hour trial to further assess its robustness under varying traffic conditions.

2.2 Feedback collected from air traffic controllers confirmed that the application of the 20 NM separation standard was both effective and safe throughout all phases of the trial. Controllers reported improved workload management and enhanced operational efficiency, with no safety-significant issues identified.

Outcome and Current Status

2.3 Overall operational feedback from ATCOs confirmed that the 20 NM surveillance-based longitudinal separation trial was smooth and effective, with normal coordination, no safety issues, and a reduction in controller workload. The trial was assessed as operationally successful.

2.4 Some challenges were noted, including temporary suspensions due to weather, initial ATCO awareness issues, and the need for a dedicated hot line. These were managed through established procedures and did not affect the overall outcome of the trial.

2.5 As the trials were successfully completed, the latest coordination meeting confirmed that both sides are, in principle, ready for the full implementation of the 20 NM surveillance-based longitudinal separation minima, subject to final regulatory approvals. Oman has already secured the necessary regulatory approval for full-fledged implementation.

2.6 Pending regulatory approval from the Indian side, the current 24-hour trial operation will continue as mutually agreed. This ongoing arrangement aims to maintain operational momentum and ensure continued controller familiarity and confidence with the separation standard until formal implementation is achieved.

Expansion to Additional Cross-Border Routes

2.7 To ensure consistency and avoid operational ambiguity, especially since the same controllers manage both RASKI (L301/L639) and PARAR (N571), the implementation of the 20 NM separation standard has been proposed for extension to route N571 as the next phase.

2.8 Further extension of this separation standard to other parallel cross-border oceanic routes within the Muscat and Mumbai FIRs is envisaged in subsequent stages. Harmonizing separation standards across these adjacent routes will help streamline ATC procedures, reduce operational complexity, and enhance overall airspace efficiency.

3. ACTION BY THE MEETING

3.1 The meeting is invited to

a) note the information contained in this paper; and

b) encourage continued collaborative efforts between States to enhance regional and cross-regional airspace safety and efficiency.

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