International Civil Aviation Organization

MIDANPIRG Air Traffic Management Sub-Group

Eleventh Meeting (ATM SG/11)
(Abu Dhabi, UAE, 19 – 23 October 2025)

Agenda Item 3: Planning and implementation issues related to ATM/SAR

PROGRESS IN THE IMPLEMENTATION OF 20 NM SURVEILLANCE-BASED LONGITUDINAL SEPARATION IN THE OCEANIC AIRSPACE AT THE INTERFACE BETWEEN MUSCAT AND MUMBAI FIRS

(Presented by Sultanate of Oman)

SUMMARY

This Information Paper provides an update on the progress made in implementing the 20 NM surveillance-based longitudinal separation in the oceanic airspace at the interface between the Muscat and Mumbai FIRs. The separation has been successfully implemented over the Transfer of Control Point (TCP) RASKI along routes L301/L639. Encouraged by this success, the two successive trials of the same separation standard commenced over PARAR along N571. The ongoing trial has shown positive ATC feedback and stable system performance, and is expected to conclude with similar success.

Action by the meeting is at paragraph 3.

REFERENCES

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

1. INTRODUCTION

1.1 Muscat FIR serves as a major gateway connecting Europe, the Middle East, and the Asia–Pacific region, with a significant portion of air traffic operating through the oceanic interface between Muscat and Mumbai FIRs.

1.2 A 10-minute longitudinal separation standard was previously applied at Transfer of Control Points (TCPs) between these FIRs, contributing to increased coordination workload and airspace congestion.

1.3 To enhance operational efficiency, the Airports Authority of India (AAI) and the Oman Civil Aviation Authority (OCAA) agreed to implement a 20 NM surveillance-based longitudinal separation over RASKI (L301/L639), followed by a trial over PARAR (N571). These initiatives aim to optimize oceanic airspace management and enhance safety through improved sequencing and reduced coordination complexity.

2. DISCUSSION

Implementation of separation over RASKI

2.1 Following preparatory coordination meetings, safety assessments, trial operations and regulatory approval, the 20 NM surveillance-based longitudinal separation was implemented over RASKI on routes L301/L639 at the Muscat–Mumbai FIR interface on 21 May 2025 (NOTAM A0263/25).

2.2 The new separation has proven effective, ensuring a smooth transition from the previous 10-minute standard, reducing controller workload, improving traffic sequencing, and maintaining safe and orderly operations with no reported issues.

2.3 The feedback and ATCO experience over RASKI are recognized as a success story, demonstrating the reliability of the supporting surveillance and communication infrastructure (ADS-B, CPDLC, and VHF) and the maturity of coordination between Muscat and Mumbai ACCs.

2.4 This achievement was supported by aircraft equipped with the required communication, navigation, and surveillance systems, including RNP 2/RNP 4, CPDLC (RCP 240), ADS-B Out, Mode S transponder, and GNSS, which ensured the necessary performance for safe and efficient application of the 20 NM separation.

Trial Operation over PARAR

2.5 Building upon the success at RASKI, both FIRs initiated two consecutive trial operations over PARAR to validate the same separation along route N571, using the following schedule:

- The first trial was conducted from 0800 to 1500 UTC, effective 20 August to 20 September 2025, under NOTAM A0524/25.
- The second trial has been conducted from 0800 to 2000 UTC, effective 21 September to 21 October 2025, under NOTAM A0584/25, and is currently ongoing.

2.6 These trials allowed the assessment of airspace and ATC performance under different traffic volumes and time periods.

2.7 Preliminary results from the ongoing trial indicate:

- Positive ATC feedback and high controller confidence;
- Stable communication and surveillance capability;
- No safety-related occurrences; and
- Noticeable improvement in operational efficiency and predictability of longitudinal spacing.

2.8 Continuous monitoring is being done jointly by OCAA and AAI to ensure compliance with safety and performance requirements. Upon successful completion, the same 20 NM surveillance-based longitudinal separation will be permanently implemented over PARAR, complementing the operational success already achieved over RASKI.

Future Planning

2.9 The implementation over RASKI and the ongoing trial over PARAR mark significant progress in harmonizing the application of reduced separation minima within the Arabian Sea airspace. Such minima will also be implemented at other TCPs along the Muscat–Mumbai FIR interface through continued close coordination and cooperation with AAI.

2.10 These initiatives will serve as a foundation for fostering similar cooperation among all neighboring FIRs, thereby enhancing regional capacity and operational safety in line with ICAO MID priorities.

3. ACTION BY THE MEETING

3.1 The meeting is invited to note the information in this Paper.

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