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*International Civil Aviation Organization*

**The Fourth Meeting of the South Asia, Indian Ocean and Southeast Asia ATM Coordination Group (SAIOSEACG/4)**

Bangkok, Thailand, 18-21 March 2025

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**Agenda Item 4: Implementation of CNS-ATM Systems**

**IMPLEMENTATION OF PBCS BASED SEPARATION IN OCEANIC AIRSPACE IN CHENNAI FIR**

(Presented INDIA)

**SUMMARY**

This paper presents an update on the commencement of trial operations of application of PBCS based separation minimum on ATS route N571 in the oceanic airspace of Chennai FIR. The trials commenced from 04/02/2025.

**1. INTRODUCTION**

India presented an information paper in the SAIOSEACG/3 on the proposed implementation of PBCS based separation minimum using ADS-C/CPDLC owing to the ATM infrastructure upgradation for PBCS in Chennai & Mumbai Oceanic airspace, subject to approval from the state regulator DGCA and the ANSP aviation safety directorate.

**2. DISCUSSION**

2.1 Post receiving of the approval from the DGCA, India and the ANSP aviation safety Directorate, the process of implementation of the PBCS based separation was started.

AAI conducted meeting with the airline stakeholders in July 2024 followed by another meeting on January 2025, presenting the final stages of preparation prior to implementation. At the request of Malaysia, a separate meeting was held between CAAM and AAI on the later part of January 2025.

AAI appraised airlines, other stakeholders and Malaysia of the proposal to implement the PBCS based separation minima on trial basis, within Chennai FIR. The mode of intimation to the airline community will be by the promulgation of appropriate Notam.

**Changes to the Procedures**

2.2 Certain changes in the implementation process were presented to the stakeholders based on the success of the trial operations between Mumbai ACC/OCC and Muscat ACC for the application of 20NM minimum separation.

The details of changes on the conditions of trial are as follows:

- a) The trials would be initially limited to Chennai Oceanic airspace on N571

- b) Vertical limits of application will be RVSM band
- c) Application of both 30Nm & 5min on opportunity basis
- d) No restriction on non-PBCS compliant aircraft during the trials
- e) Increase in the area of application from AGELA – IGOGU (approx. 02:40 hrs.) from the initial project of IDASO – IGOGU (approx. 01:32 hrs.)

### **Pre-Implementation analysis**

The pre implementation process consisted of the analysis of the flight plan equipage for a period of one month (January 2025). The details of the analysis based on flight plan equipage indicated nearly 60% were PBCS compliant.

| Total number of flights on ATS route N571           |                   |  | 3902                          |
|---|-------------------|--|-------------------------------|
| Total number of flights with PBCS compliance on FPL |                   |  | 2260 (57.9%)                  |
| Airlines - Major                                    | Number of flights | Number of aircrafts with PBCS compliance | PBCS compliance in percentage |
| IGO   | 587               | 0  | 0.00%                         |
| MAS   | 183               | 0  | 0.00%                         |
| AXM   | 111               | 0  | 0.00%                         |
| SVA   | 110               | 0  | 0.00%                         |
| ABY   | 90                | 0  | 0.00%                         |
| OMA   | 76                | 0  | 0.00%                         |
| GFA   | 54                | 0  | 0.00%                         |
| FDB   | 41                | 0  | 0.00%                         |
| MXD   | 32                | 0  | 0.00%                         |
| AIQ   | 20                | 0  | 0.00%                         |
| DHX   | 16                | 0  | 0.00%                         |
| AIC   | 242               | 1  | 0.41%                         |
| TGW   | 39                | 20                                       | 51.28%                        |
| QTR   | 478               | 456                                      | 95.40%                        |
| FDX   | 22                | 21                                       | 95.45%                        |
| XAX   | 24                | 23                                       | 95.83%                        |
| THY   | 124               | 119                                      | 95.97%                        |
| SIA   | 462               | 449                                      | 97.19%                        |
| BAW   | 48                | 47                                       | 97.92%                        |
| UAE   | 592               | 587                                      | 99.16%                        |
| ETD   | 283               | 283                                      | 100.00%                       |
| DLH   | 53                | 53                                       | 100.00%                       |
| SWR   | 34                | 34                                       | 100.00%                       |
| AFR   | 30                | 30                                       | 100.00%                       |
| CLX   | 29                | 29                                       | 100.00%                       |
| KLM   | 20                | 20                                       | 100.00%                       |
| QFA   | 17                | 17                                       | 100.00%                       |
| ETH   | 15                | 15                                       | 100.00%                       |

### **Trial operations**

The trials commenced from 04/02/2025 0300UTC daily between 0300UTC – 1300UTC. As desired by the Indian aviation regulator, post implementation report will be submitted at the end of three months of trial. Based on the clearances received from the regulator, the trials will be gradually extended to other RNAV/RNP 10 Ats routes within Indian FIR extension of the trials to H24 basis.

The data for the period between 04/02/2025 to 20/02/2025 was collected and the analysis is as detailed below

- a) The ATM automation system at Chennai ACC/OCC has been providing the necessary alerts as prescribed, to assist the controllers in the identification of the PBCS compliance from the flight plan data.
- b) Limited number of aircraft pairs were subjected to PBCS based separation of (min 30Nm).
- c) Some of the aircraft could not be accommodated due to the following reasons
  - i. preceding aircraft was Non PBCS compliant
  - ii. aircraft pairs were closer to the exit boundary to the east (Near IGOGU), wherein the accepting unit was not part of the trials.
  - iii. aircraft pairs were closer to the exit boundary to the west (Near AGELA), wherein the accepting unit was not part of the trials.
- d) The initial feedback from ATCOs at Chennai Oceanic is encouraging, leading to improved implementation for available pairs and also readiness to implement on other ATS routes on H24 basis as and when permitted by the regulator.

**Challenges:**

- a) The distance of application restricted on either side of the ATS route N571 limits the benefits to be passed on to the airlines.
  - i) Malaysia is encouraged to join the trials at the earliest as it also assists the controllers to handle traffic optimally.
  - ii) Oman is encouraged to join the trials on N571 to enable utilization of the on-board avionics, which would enable airlines to obtain near optimum levels.
- b) The flight plan data correlation with the actual flights had mismatch on a few flights in a day wherein the aircraft was ADS-C/ CPDLC connected during operation, but the same was not indicated in the flight plan. However, the flights were flagged by the system as NON PBCS compliant due to other issues. Such instance will further be collated during the trial period and engaged actively.

**3. ACTIONS BY THE MEETING**

3.1 The meeting is invited to:

- a) note the information contained in this paper;
- b) appreciate India's effort to implement PBCS based separation in the region to improve capacity and efficiency in oceanic airspace and
- c) discuss any relevant matters as appropriate.

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