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Following supplement is issued for information, guidance and necessary action.



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OFFICIATING CHAIRMAN
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[EFFECTIVE DATE: 15 DEC 2011]

PHASE 2A - IMPLEMENTATION OF RNP 10 OPERATIONS
(50 NM REDUCED LONGITUDINAL SEPARATION)
ON ATS ROUTES L301, L507, L509, L510, L759, M300, M770,
N563, N877, N895, P570, P574, P628 and P646

1. INTRODUCTION

- 1.1 50 NM Reduced Longitudinal Separation was implemented in first phase on two RNP 10 ATS routes namely **N571 and P762** with effect from 30th June, 2011. As part of ICAO regional programme, 50 NM longitudinal separation is implemented in Phase 2A from AIRAC date 15th December 2011.
- 1.2 The purpose of this AIP Supplement (SUP) is to provide details on the implementation of RNP 10 (50NM longitudinal separation) operations on ATS routes **L301, L507, L509, L510, L759, M300, M770, N563, N877, N895, P570, P574, P628 and P646** in Chennai, Mumbai, Kolkata and Delhi FIRs involving Chennai, Kolkata, Mumbai, Delhi, Ahmedabad, Nagpur, Varanasi, Mangalore, Trivandrum, Hyderabad and Bangalore Area Control Centres.
- 2. IMPLEMENTATION OF RNP10 OPERATIONS ON ATS ROUTES L301, L507, L509, L510, L759, M300, M770, N563, N877, N895, P570, P574, P628 and P646**

2.1 With effect from AIRAC Date 15th December 2011, RNP 10 based 50NM longitudinal separation may be applied to aircraft which are approved for RNP10 operation on ATS routes as mentioned above.

2.2 Operating restrictions applicable within Chennai, Mumbai, Kolkata and Delhi FIRs are detailed in appropriate paragraphs below.

3. RNP 10 NAVIGATION REQUIREMENT

3.1 ATC will apply 50NM longitudinal separation minima between suitably equipped aircraft which are approved for RNP10 operations on those segments of the routes which fall within the Chennai, Mumbai, Kolkata and Delhi FIRs.

- a) **L301*** - (between RINDA and RASKI)
- b) **L507** - (between TEBOV and CEA)
- c) **L509*** - (between GAYA and ASARI)
- d) **L510*** - (between EMRAN and IBANI)
- e) **L759** - (between MIPAK and DPN)
- f) **M300** - (between ATETA and LOTAV)
- g) **M770*** - (between MEPEL and JJS)
- h) **N563*** - (between MEMAK and REXOD)
- i) **N877** - (between LAGOG and PRA)
- j) **N895** - (between SAGOD and PARTY)
- k) **P570** - (between BASUR and KITAL)
- l) **P574** - (between NOPEK and TOTOX)
- m) **P628*** - (between IGREX and VIKIT) **and**
- n) **P646*** - (between IBITA and BBN)

** - Time restrictions and special procedures applicable to these routes are mentioned in AIP Amendment India 2009 ENR 3.1 L, M, N & P and NOTAMs issued in this regard.*

3.2 Pilots are to advise ATC of any deterioration or failure of navigation system below the navigation requirements for RNP10. ATC shall then provide alternate separation and/or alternative routing.

3.3 Pilots of aircraft meeting RNP10 navigation requirements are to indicate 'R' in Item 10 of the ICAO Flight Plan.

4. LONGITUDINAL SEPARATION MINIMA

4.1 10 minutes or 80 NM RNAV distance based separation based on Mach Number Technique (MNT) shall be applicable on all RNP 10 routes.

- 4.2 However, 50 NM longitudinal separation may be applied between RNP 10 approved aircraft which either LOGON to CPDLC or are having two way VHF communication i.e. direct controller pilot communication (DCPC).
- 4.3 The mixed mode of 80 NM and 50 NM RNAV distance based longitudinal separation and 10 minutes time based separation minima shall be in practice until such time the DCPC requirements are fully met in the area under consideration.
- 4.4 Differential Mach Number Technique (MNT) shall not be employed while providing RNAV distance based 80/50 NM separation.
- 4.5 15 minutes time based separation shall be applicable between aircraft on crossing tracks.

5. OPERATIONS BY AIRCRAFT NOT MEETING RNP 10 REQUIREMENTS

- 5.1 A Non-RNP 10 aircraft that is unable to meet the minimum navigational requirements for RNP 10 should file a flight plan only for Non-RNP 10 routes.
- 5.2 However, ATC units receiving a special request for a Non-RNP 10 approved aircraft to operate below the lower limit of the RNP 10 ATS routes as specified in paragraph 3.1, may consider such requests in coordination with the adjacent ATC units affected by the flight. In deciding whether or not to approve the flight, each ATC unit will take into consideration:
 - a) Traffic density;
 - b) Communications, including the non-availability of normal communication facilities;
 - c) Weather conditions en-route;
 - d) Airspace Restrictions notified from time to time for the route;
 - e) Any other factors pertinent at that time.

6. MONITORING OF AIRCRAFT NAVIGATION PERFORMANCE

- 6.1 Monitoring of aircraft navigation performance is a joint responsibility between Operators, States of Registry or States of Operators (as applicable), regulatory authorities and the ATS providers. The detection and reporting of non conformance with the navigation requirements against the following parameters will rely primarily on monitoring by ATC units.
- 6.2 Large Lateral Deviation (LLD):
LLD is classified as any deviation of 15 NM or more to the left or right of the current flight-plan track.

6.3 Large Longitudinal Error (LLE):

Any unexpected change in longitudinal separation between an aircraft pair, or for an individual aircraft the difference between an estimate for a given fix and the actual time of arrival over that fix, as applicable, in accordance with the criteria set out below:

| Type of Error | Category of Error | Criterion for Reporting |
|------------------------|--|--|
| Longitudinal Deviation | Aircraft-pair (Time-based separation applied) | Infringement of longitudinal separation standard based on routine position reports |
| Longitudinal Deviation | Aircraft-pair (Time-based separation applied) | Expected time between two aircraft varies by 3 minutes or more based on routine position reports |
| Longitudinal Deviation | Individual-aircraft (Time-based separation applied) | Pilot estimate varies by 3 minutes or more from that advised in a routine position report |
| Longitudinal Deviation | Aircraft-pair (Distance-based separation applied) | Infringement of longitudinal separation standard, based on ADS-C, radar measurement or special request for RNAV position report |
| Longitudinal Deviation | Aircraft-pair (Distance-based separation applied) | Expected distance between an aircraft pair varies by 10NM or more, even if separation standard is not infringed, based on ADS-C, radar measurement or special request for RNAV position report |

6.4 ATC will advise the pilot-in-command when such deviations are observed and implement the required investigation procedures in conjunction with the aircraft operator and State of Registry, or the State of the Operator, as applicable.

7. OPERATORS PROCEDURES

7.1 The operator shall ensure that in-flight procedures, crew manuals and training programmes are established in accordance with RNP 10 navigation requirements.

8. SPECIAL PROCEDURES

8.1 Special procedures for in-flight contingencies, in oceanic airspace of Chennai, Kolkata and Mumbai FIR given in AIP India, ENR 1.9, Para 8 shall be applicable.

8.2 Weather deviation procedure: - Procedures given in AIP India ENR 1.9, Para 9.1, 9.2 and 9.3 shall be applicable.