

MID RNP/RNAV TF/5
Appendix 2A to the Report on Agenda Item 2

**Proposal for Amendment of Regional Supplementary Procedures (SUPPs) Doc 7030
for the Inclusion of Procedures for RNP 5 Operations.
(Serial No. MIDS 00/1 MID/ASIA RAC/1)**

a) **Proposing States:**

Bahrain; Egypt ; Iran, Islamic Republic of; Jordan; Oman; Saudi Arabia; and the United Arab Emirates

b) **Proposed amendment:**

(cf. *Regional Supplementary Procedures*, Doc 7030/4 MID/ASIA, Part 1, Rules of the Air, Air Traffic Services and Search and Rescue, incorporating Amendment No. 200)

1. **Amend** MID/ASIA, Part 1, as follows:

Insert the following new section:

**14.0 OPERATIONS ON ATS ROUTES IN THE MIDDLE EAST REGION
WHERE AN RNP TYPE IS SPECIFIED**

14.1 Application of RNP 5 to ATS routes in the Middle East

14.1.1 Requirements for RNAV capability and aircraft navigation accuracy meeting RNP 5 will be progressively introduced in FIRs of the Middle East Region.

14.1.2 RNP 5 requirements may be specified on a route by route basis, or by designation of airspace within which all routes are RNP 5.

14.1.3 Within the FIRs specified in 14.2.1, only RNAV equipped aircraft having a navigation accuracy meeting RNP 5 may plan for operations under IFR on those ATS routes, and within those level bands, which have been specified as requiring RNP 5 in the relevant State AIP or NOTAM.

14.1.4 Aircraft operating under IFR on designated RNP 5 routes shall be equipped with, as a minimum, RNAV equipment meeting the following requirements:

a) a system use accuracy equal to, or better than, 4.6 km (2.5 NM) for one standard km (5 NM), thereby meeting the accuracy requirements for RNP 5; and

b) an average continuity of service of 99.99 per cent of flight time.

14.1.5 For the period until at least 2005 or until such time as VHF omnidirectional radio range (VOR) or distance measuring equipment (DME) facilities cease to be available, the carriage of a single RNAV system having a navigation accuracy meeting RNP 5 but not meeting the above continuity of service requirements may be approved for RNAV operations if the aircraft is also carrying VOR and DME equipment.

14.2 Area of applicability

14.2.1 The above provisions shall apply to operations conducted under IFR on designated RNP 5 routes within the following FIRs:

Amman, Baghdad, Bahrain, Beirut, Cairo, Damascus, Jeddah, Kabul,

14.3 Means of compliance

14.3.1 Conformance to the navigation requirement shall be verified by the State of Registry or the State of the Operator, as appropriate.

Note. Guidance material concerning navigation accuracy requirements is contained in the Manual on Required Navigation Performance (RNP) (Doc 9613), Chapter 5.

14.4 Flight planning

14.4.1 Operators of aircraft fitted with RNAV having a navigation accuracy meeting RNP

14.5 Procedures for operation in RNP 5 routes

14.5.1 Correct operation of the aircraft RNAV system shall be verified before joining and during operation on an RNP 5 route. This shall include confirmation that:

- a) the routing is in accordance with the clearance; and
- b) the aircraft navigation accuracy meets RNP 5.

14.5.2 If, as a result of failure of the RNAV system or its degradation to below RNP 5, an aircraft is unable to enter either an ATS route designated as RNP 5 or to continue operations in accordance with the current air traffic control clearance, a revised clearance shall, wherever possible, be obtained by the pilot.

14.5.3 Subsequent air traffic control action in respect of that aircraft will be dependent upon the nature of the reported failure and the overall traffic situation. Continued operation in accordance with the current ATC clearance may be possible in many situations. When this cannot be achieved, a revised clearance may be required to revert to VOR/DME.

14.6 ATC procedures for aircraft experiencing failure or degradation of the RNAV system

14.6.1 If, as a result of a failure or degradation of the RNAV system, detected either before or after departure, the aircraft cannot meet the requirements of 14.1.4, the following ATC procedures are applicable.

14.6.1.1 *Coordination messages*
(P-RAC, Part IX - 4.2.3)

- a) *Computer-assisted coordination of estimate messages.* In the case of automated messages not containing the information provided in Item 18 of the flight plan, the sending air traffic control unit shall inform the receiving air traffic control unit by

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- b) *Verbal coordination of estimate messages.* When a verbal coordination process is being used, the sending ai

14.6.1.2 *Pilot phraseology*
(P-RAC, Part X)

14.6.1.2.1

pilot immediately following the aircraft call sign whenever initial contact on an air traffic control frequency is established.

14.7 ATC procedures for State aircraft not equipped with RNAV equipment but meeting RNP 5 requirements

14.7.1 *Instructions for completion of the flight plan*
(A2 3.3.3; P-RAC, Part II 8.1 and Appendix 2)

14.7.1.1 Operators of State aircraft not equipped with RNAV equipment meeting RNP 10 of the flight plan.

14.7.1.2 Since such flights require special handling by air traffic control,

14.7.2 *Air traffic control clearances*
(A11 3.7; P-RAC, Part III 11 and 12 and Part IX .2.5.2.1)

14.7.2.1 Within TMAs, State aircraft not equipped with RNAV approved for RNP 5 should be routed via non-RNAV SIDs and STARs.

14.7.2.2 Such aircraft operating en-route should be routed via VOR/DME-defined ATS routes.

14.7.2.3 When the above procedures cannot be applied, the air traffic control unit shall provide the aircraft with radar vectors until the aircraft is capable of resuming its own navigation.

14.7.3 *Coordination messages*
(P-RAC, Part IX - 4.2.3)

a) *Computer-assisted coordination of estimate messages.* In the case of automated messages not containing the information provided in Item 18 of the flight plan, the sending air traffic control unit shall inform the receiving air traffic control unit by after the call sign of the aircraft concerned.

b) *Verbal coordination of estimate messages.* When a verbal coordination process is being used, the sending air traffic control unit shall include the phrase e.

14.7.4 *Pilot phraseology*
(P-RAC, Part X)

14.7.4.1

immediately following the aircraft call sign whenever initial contact on an air traffic control frequency is established.

14.8 Protected airspace for RNP 5 ATS routes
(A-11, Attachment B; P-RAC, Part III 7.2.1.2 d))

14.8.1 The provisions of Annex 11, Attachment B, Section 2.2 (Protected airspace for RNAV ATS routes based on RNP 4) shall apply equally to RNP 5 routes, except that the cross-track distances required to achieve a given level of containment shall be as specified in the following table:

<i>Percentage Containment for RNP 5</i>						
	95	96	97	98	99	99.5
Km	9.3	10.2	10.2	11.1	12.0	13.9
NM	5.0	5.5	5.5	6.0	6.5	7.5
