



Regional ICAO PBN Go Team Tunisia





Objective

- The objective of the Go-Team, in close cooperation with aviation stakeholders, was to assess the status of PBN implementation and to provide a list of recommendations to further support PBN implementation activities

5 areas:

- ✓ Existing airspace concept
- ✓ Current approach procedures design and implementation
- ✓ EnRoute system EUR/ASIA and MID/POL
- ✓ PBN training
- ✓ PBN approvals



Prerequisites

- Electronic AIP public available
- GEN parts address
 - GEN 2.1.2. Temporal reference system
 - GEN 2.1.3. Horizontal reference system (WGS84)
 - GEN 2.1.4. Vertical reference system
 - Excellent abbreviation section GEN 2.2. addressing PBN abbreviations as well
 - Excellent chart symbol section GEN 2.3. addressing waypoint symbols



Prerequisites

- ENROUTE parts address
 - ENR 3.3. lists RNAV surface air navigation routes
 - RNAV requirements not further identified and explained
 - No nav specification
 - No nav application



Prerequisites

- AERODROME parts address
 - RNAV charts published
 - RNAV approach procedures referenced to sensor VORDME?
 - No RNAV specification



Recommendations

- Clearly address use of GNSS
- Clearly address available PBN specs
- Connect TMAs (approach procedures) via RNAV1 route segments to ENROUTE network
- Continue in provision of electronic terrain and obstacle databases according AIP GEN 1.7 Chapter 10



Recommendations

- AIP GEN 1.7
 - AIP GEN 1.7 Annex 2 Chapter 5 5.1.2 needs to be changed as obstacle clearance is required in a fixed radius of 8km around the aircraft estimated position.
 - 8km would prevent use of RNAV1, RNAV2, RNP1, RNP2, RNP4



Recommendations

- AIC IFR NR04/05 *Act of the “Ministre du Transport” N° 574 dated on 30/11/2004, establishing the requirements applicable to the installation of GPS equipment on-board aircraft for the use in Tunisian airspace.*
 - Include AIC IFR 04/05 regulation in AIP
 - Recheck article 8 in order to allow GPS as standalone sensor in terminal airspace
 - Recheck article 10 point B – there is no need to have a GPS based approach procedure published by state of registry
 - Recheck article 11 point C – BRNAV is set in context to RAIM which is not correct
 - Recheck article 12 – LPV procedures would not be possible



Recommendations

- AIC IFR NR04/05 *Act of the “Ministre du Transport” N° 574 dated on 30/11/2004, establishing the requirements applicable to the installation of GPS equipment on-board aircraft for the use in Tunisian airspace.*
 - Recheck article 15 – Migrate terms “GPS standalone” to meet requirements for “RNP APCH”



Recommendations

- AIC IFR NR16/05 *Act of the “order of the Minister of Transport N°157 dated on 31/08/2005, related to the airworthiness and operational approval for RNP-4 operations in RNP- 4 airspace”*
 - Recheck applicability of RNP4 AIC IFR as RNP4 is a specification designated for use in oceanic/remote areas.
 - Refer to PBN Manual ICAO DOC9613



Recommendations

- AIC IFR NR06/07 *Act of the “order of the Minister of Transport N°164 dated on 06/12/2006, laying down the requirements for the implementation of Basic RNAV (B-RNAV) in Tunisian airspace”*
 - Recheck applicability and correctness of AIC
 - AIC mixes RNP with RNAV requirements



Recommendations

- Review RNP APCH sensor specification
 - RNAV (VORDME) vs. RNAV (GNSS)