

The future of PBN in FCL and OPS

A view from MDM.062

Julian Scarfe

Europe Air Sports

MDM.062



- Rulemaking task initiated in Q4 2012 to examine alternatives to an operational approval for PBN.
“Revision of operational approval criteria for performance-based navigation (PBN)”
- Key issues
 - Which nav specs can be removed from the requirements of Part-SPA?
 - What amendments are required to training (Part-FCL) and operational procedures (Part-CAT/NCC/NCO/SPO/ORO) to compensate?

Why operational approval?



Activities require specific approval for any combination of the following reasons:

- **Novel** procedures and activities – greater flexibility required than available under the conventional rulemaking processes
- Case-by-case analysis to determine best practices in operations – **variations in equipment, environment** etc.
- Training pilots effectively for the activity requires **access to equipment** that is **not available** to the majority of flight training organisations and/or operators
- Of interest to a **small proportion of operators** and it would be disproportionate to require all pilots to be capable

But PBN?



- Widespread use of PBN has significant **benefits** for total system **safety** and **environmental** impact;
- Requires a **simple, consistent and clear** set of procedures and responsibilities for pilots, training organisations, operators, authorities and manufacturers;
- Operating methods based on PBN are, in general, **simpler for flight crews** than conventional navigation, and are the real-world operating methods that have been used for many years by the majority of operators;
- **Commonality in operating methods** between PBN specifications;

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- Proposes most PBN specs are removed from Part-SPA
 - Removed
 - RNAV 1, RNAV 2, RNP 1, RNP 2, RNAV/RNP10, RNP 4, RNP APCH, A-RNP*
 - Retained
 - RNP **AR** APCH, A-RNP with ToAC, RNP 0.3
- Migrate operational procedure aspects of AMC-20-* on PBN into core OPS rules
- Train and test/check pilots on PBN in core IR
- Consistent with ICAO Doc 9997
- Comments welcome (deadline 20/3/2014)

Changes to OPS



Key additions to implementing rules:

- The operator shall ensure that, when performance-based navigation (PBN) is required for the route or procedure to be flown, the aircraft is **operated in conformance with the appropriate navigation specification**.
- The flight shall not be commenced unless the commander is satisfied that any **navigational database** required for performance-based navigation is **suitable and current**.
- The operator shall only select an aerodrome as a destination **alternate** aerodrome if an approach procedure that does not rely on GNSS is used for planning minima either at that aerodrome or at the destination.
- When performance-based navigation is required, **the aircraft shall meet the airworthiness certification requirements** for the appropriate navigation specification.

Corresponding AMCs



- Monitoring and verification
- Route modification
- Displays and automation
- Vectoring and positioning
- Alerting and abort
- Contingency procedures

- Flight preparation
- Database suitability and currency

Changes to Part-FCL



- Incorporate PBN into theoretical knowledge for IR (+ATPL)
 - 062 07 01 PBN Concept
 - 062 07 02 Nav specs
 - 062 07 03 Use of PBN
 - 062 07 04 PBN operations
 - 062 07 05 Specific nav spec requirements

Total about 5 questions.

- Include PBN in IR flight training syllabus
- **One** approach of the two flown on skills test / proficiency check **must** be RNP APCH

Transitional measures



By deadline (probably August 2018):

Pilots must either have TK:

- Module at ATO to cover PBN; or
- Equivalent in an operator environment

and in flight

- At least 6 RNP APCH in operations; or
- Extra training with (possibly with examiner) at first prof check.

Summary



Welcome to the 21st century!