



International Civil Aviation Organization

Tenth Meeting of the APIRG Air Traffic Services, Aeronautical Information Services and Search and Rescue Sub-Group

[Dakar, Senegal 13 – 15 May 2009]

Agenda Item 6: Review of the Report of the Second Meeting of the PBN Task Force

Operational Approvals for PBN Navigation Specifications

(Presented by the International Air Transport Association)

Summary

This paper informs the Sub-group on the general guidelines developed by IATA to assist operators in obtaining airworthiness and operational approvals for PBN navigation specifications, and invites the meeting to recommend that AFI Operators use these guidelines as appropriate.

References:

- ICAO PBN Manual (Doc 9613).

1. Introduction

1.1. ICAO authorized the use of Performance Based Navigation (PBN) by a State Letter AN 11/45-07/22 *Guidance material for the issuance of PBN operational approvals* issued on 27 April 2007. The letter enclosed relevant guidance to help States in the implementation of ATS routes and flight procedures based on PBN.

1.2. IATA has developed Guidelines for Operators on How to Obtain Airworthiness and Operational Approvals for all Navigation Specifications contained in Volume II of the Performance Based Navigation (PBN) Manual (Doc 9613).

2. Discussion

2.1. States are in the process of implementing ICAO Assembly Resolution A36-23 on PBN implementation, using the guidance material provided in the ICAO PBN Manual. Operators looking to benefit from the new routes first need to be 'approved' by their State of Operator/Registry. Therefore it is becoming more important than ever for Operators to understand how to go about obtaining 'Operational Approvals' for the different Navigation Specifications contained in the PBN Manual.

2.2. Navigation performance requirements are defined in terms of accuracy, integrity, continuity, availability and functionality needed for the proposed operation in the context of a particular airspace concept. Performance requirements are identified in Navigation Specifications, which also identify which navigation sensors and equipment, may be used to meet the performance requirement.

2.3. Performance Based Navigation therefore depends on:

- a) RNAV equipment and its installation on the aircraft both being approved by the State of Operator/Registry to meet the performance;
- b) Functional requirements of the Navigation Specification prescribed for RNAV operations on ATS routes or in an airspace;
- c) Air crew satisfying the operating requirements set out by the regulation of the State of the Operator for RNAV operations;
- d) A defined airspace concept which includes RNAV operations; and
- e) An available navigation aid infrastructure.

2.4. An Airspace Concept consists of the ATS route structure, separation minima and obstacle clearance, which have been developed to satisfy explicit strategic objectives e.g. safety, capacity, environment, and/or efficiency. A Navigation Application is defined to meet the needs of the Airspace Concept. It comprises a Navigation Specification (NS) and a specific navigation infrastructure. A Navigation Specification is a set of aircraft and aircrew requirements needed to support a navigation application within a defined airspace concept.

2.5. WP/15 of this meeting provides the Navigation Specifications to be implemented in the AFI Region.

2.6. PBN facilitates the operational approval process for operators by providing a limited set of Navigation Specifications intended for global use. Nevertheless, obtaining Operational Approvals may be an arduous task for those operators never having gone through such a process. The PBN manual covers many subjects as it addresses the requirements of ATM Planners, Air Navigation Service Providers (ANSPs), Air Operators, Aerodrome Operators, Regulators, Air Traffic Controllers and Procedure Designers, among others. It also discusses airworthiness and operational approvals to some extent, but may not cover every step of the approval process to the necessary level of detail.

2.7. It is believed that IATA guidelines are going to bridge that gap and provide all the essential information to make an application for an Operational Approval successful. Therefore these guidelines aim to establish a method that can be used to obtain airworthiness approval of a navigation system, and to obtain the necessary operational approval for use on designated ATS routes or in designated airspace pertaining to a particular Navigation Specification¹.

3. Conclusion

3.1. The meeting is invited to:

- a) Note the information provided in this paper on IATA Guidelines for Operators on How to Obtain Airworthiness and Operational Approvals for PBN Navigation Specifications, as a contribution to PBN educational process; and
- b) Recommend that AFI Operators use these guidelines as appropriate.

- END -

¹ Note: The intent of IATA Guidelines for Obtaining Airworthiness and Operational Approvals is not to supersede existing processes already in place, but merely to assist Operators in those States where a process has not been established.