

APPENDIX C

INITIAL AIC MODEL FOR RNAV-5 IMPLEMENTATION

Telephone: Fax: E-mail: Sitatex: Telex:	STATE AERONAUTICAL INFORMATION SERVICE	AIC N° DATE
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1. Introduction

1.1. Continuous aviation growth makes it necessary to increase airspace capacity and points to the need for optimum use of available airspace. The improvement in operational efficiency deriving from the application of area navigation (RNAV) has resulted in the development of navigation applications in different regions and in all flight phases.

1.2. In planning navigation applications in specific routes or within a given airspace, it is necessary to define the requirements clearly and concisely. The reason for this is to ensure that the flight crew and the ATC are aware of the capacity and limitations of the navigation system (RNAV) and to guarantee that RNAV system performance is appropriate for airspace characteristics.

1.3. RNAV systems are used today in a way similar to ground-based conventional systems. An RNAV system is normally identified and its performance assessed through a combination of analyses and flight tests. The airspace concept is developed on the basis of information about RNAV equipment performance, being it necessary to determine whether different equipment models are appropriate for use in a given airspace.

1.4. In order to avoid this type of prescriptive RNAV specifications based on navigation equipment performance that result in delays in introducing new RNAV system capabilities and higher costs for appropriate maintenance and certification, ICAO developed the Performance-Based Navigation Concept (PBN).

1.5. This concept specifies the RNAV system performance requirements in terms of the accuracy, integrity, availability, continuity and functionality needed for the proposed operations in the context of the concept of a particular airspace. The PBN concept represents a shift away from systems-based navigation towards performance-based navigation. PBN application offers the following advantages:

- a) Reduces the need to maintain routes and procedures based on specific systems and, as a result, reduces the associated costs;
- b) Avoids the need to prepare operations based on specific systems for each new navigation system development, which would be prohibitively expensive;
- c) Allows for more efficient airspace use (fuel savings, noise reduction); and
- d) Facilitates operational approval of operators due to the application of a limited set of navigation specifications intended for global use.

1.6. The ICAO Manual on Performance-Based Navigation (Doc. 9613) establishes various different navigation specifications that can be applied globally. Given the air traffic characteristics for en-route operations in the South American Region, RNAV-5 is most appropriate for use there, inasmuch as the approval requirements will make it possible for most aircraft equipped with RNAV systems to meet those requirements. RNAV-5 use does not demand a navigation database, specify compliance with the ARINC 424 “leg types” nor require dual area navigation systems. RNAV-5 implementation aims to optimize the use of aircraft RNAV capacity as soon as possible, without requiring significant changes in airborne equipment for most aircraft.

2. Purpose

2.1. This AIC serves as a Note of Intent to implement RNAV-5 in the _____ FIR, on ___ November 2010.

3. Area of application

3.1. RNAV-5 will be implemented on all RNAV routes in the _____ FIR with the exception of routes _____ (applicable in routes which have other navigation specification – i.e.: UL780 and UL 302)

4. RNAV-5 operations within the _____ FIR.

4.1. Starting on November 18, 2010, only aircraft approved for RNAV-5 (airworthiness and operations approval) will be authorized to operate on RNAV routes in the _____ FIR.

4.2. RNAV-5 will be implemented in accordance with the Regional Air Navigation Agreements. Airworthiness and operations approval will be granted by state of operator or by state of registry, according to each case, under national regulations.

4.3. Updated documentation and information about RNAV-5 implementation may be found at the following website of the ICAO South American Office:
<http://www.lima.icao.int/submenu1.asp?Url=/ICAOSAMNET/AirNav-eDocumentsMenu.asp>.

4.4. Additional information, could be obtained through the following contacts:

- (States must add the RNAV-5 contacts for each ATS provider here)
- ICAO Lima
