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Area Navigation (RNAV) to Required Navigation Performance (RNP) Instrument Approach Chart Depiction

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FOREWORD

The emergence of performance-based navigation (PBN) is having a major impact on all aspects of the aviation industry. However, inconsistencies with the aeronautical charts, the PBN operational approvals and the avionics displays have created confusion for pilots and air traffic controllers.

As a result, ICAO has decided to rationalize the chart-naming convention in order to remove the inconsistencies and align the aeronautical approach charts with the PBN operations approval. This will reduce the confusion and provide a simpler and clearer method for procedure naming and a standardized approach to aeronautical charting.

It will take time for States to convert all of their existing area navigation (RNAV) procedures to required navigation performance (RNP) in order to transition from the current naming convention to the new designation. States therefore need to develop a transition plan that addresses all stakeholder needs, issues and concerns. This circular provides the necessary guidance to States on how to make that transition.

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GLOSSARY

DEFINITIONS

Navigation specification. A set of aircraft and aircrew requirements needed to support performance-based navigation operations within a defined airspace. There are two kinds of navigation specification:

Area navigation (RNAV) specification. A navigation specification based on area navigation that does not include the requirement for performance monitoring and alerting, designated by the prefix RNAV, e.g. RNAV 5, RNAV 1.

Required navigation performance (RNP) specification. A navigation specification based on area navigation that includes the requirement for performance monitoring and alerting, designated by the prefix RNP, e.g. RNP 4, RNP APCH.

Performance-based navigation (PBN). Area navigation based on performance requirements for aircraft operating along an ATS route, on an instrument approach procedure or in designated airspace.

RNAV operations. Aircraft operations using area navigation or RNAV applications. RNAV operations include the use of area navigation for operations which are not developed in accordance with the *Performance-based Navigation (PBN) Manual* (Doc 9613).

RNP operations. Aircraft operations using an RNP system for RNP navigation applications.

ACRONYMS AND ABBREVIATIONS

AFM	Aircraft flight manual
AIC	Aeronautical information circular
AIP	Aeronautical information publication
AIRAC	Aeronautical information regulation and control
AIS	Aeronautical information service
ALARP	As low as reasonably practical
ASBU	Aviation system block upgrade
ATCO	Air traffic control officer
CAT	Category
DME	Distance measuring equipment
FMS	Flight management system
GNSS	Global navigation satellite system
GPS	Global positioning system
HIRA	Hazard identification and risk analysis
IFPP	Instrument Flight Procedures Panel
ILS	Instrument landing system
INTL	International
LOC	Localizer
OPS	Operations
PBN	Performance-based navigation
RNAV	Area navigation

RNP	Required navigation performance
RWY	Runway
SMS	Safety management system
VHF	Very high frequency
VOR	VHF omni-directional radio range

Chapter 1

INTRODUCTION

1.1 OVERVIEW

1.1.1 Purpose

The purpose of this circular is to provide guidance to civil aviation authorities regarding the transition from area navigation (RNAV) to required navigation performance (RNP) approach procedure identification, in accordance with Amendment 6 to Doc 8168, *Procedures for Air Navigation Services — Aircraft Operations* (PANS-OPS), Volumes I and II. In particular, it provides States with direction on how to develop a transition plan that considers all stakeholder requirements, as well as hazards, risks and mitigations regarding the implementation. Although the timeline for conversion is 8 years (2022), States should plan to complete the transition as soon as possible and not wait until 2022.

1.1.2 Target audience

This publication will be useful to civil aviation authorities that oversee instrument procedure design and charting/publication organizations (both internal and external). It will also assist all stakeholders, including air operators, air navigation service providers, data houses, procedure design organizations, charting organizations and aircraft manufacturers with addressing applicable aspects of the conversion in relation to their specific areas of responsibility. Civil aviation authorities and stakeholders may use this circular as:

- a) a guide to the development of individual State transition plans; and
- b) a checklist to ensure all aspects of transition are addressed.

1.1.3 Structure

Chapter 1 — *Introduction* presents the purpose, background and context with references to other appropriate ICAO publications and guidance material.

Chapter 2 — *Change management considerations* presents the safety management system (SMS) principles and considerations that were used in determining hazard, risks and mitigations with the proposed change in approach procedure chart identification.

Chapter 3 — *Consultation* identifies stakeholders that should be consulted regarding the proposed change. It also identifies consultation and communication strategies.

Chapter 4 — *Transition plan* details the requirement for a transition plan and the key elements and activities.