



International Civil Aviation Organization

AFI Air Navigation Plan (WP/6)

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**Workshop on Development of National Performance
Framework for Air Navigation Systems**

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Objective

To enhance awareness on the requirements of Regional air navigation planning , implementation challenges and the need for methodical planning

Presentation outline

- Introduction to the ANP
- Structure
- “New” Concept of the ANP
- Format and Scope of the ANP
- States’ Responsibility
- AFI Region Planning
- Procedure for Amendment
- Basic Operational Requirements and Planning Criteria (BORPC)
- ATM/SAR
- Issues Identified within APIRG and the Regional Offices

Doc 7474



**Africa-Indian Ocean Region
Région Afrique-Océan Indien
Región África-Océano Índico**

Air Navigation Plan Plan de navigation aérienne Plan de navegación aérea

**Volume I, Basic ANP
Volume I, ANP de base
Volumen I, ANP básico**

Not to be used for operational purposes
Ne pas utiliser pour l'exploitation
No debe utilizarse para fines de operaciones

First edition – 2003
Première édition – 2003
Primera edición – 2003

DRAFT VERSION 2009 includes reviewed charts 2007

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**Volume II, FASID
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Structure of ANP

- Introduction
- Part I – Basic Operational requirements and planning criteria (BORPC)
- Part II – General Planning aspects (GEN)
- Part III – Aerodrome operational planning (AOP)
- Part IV – Communications, navigation and surveillance (CNS)
- Part V – Air traffic management (ATM)
- Part VI – Meteorology (MET)
- Part VII – Search and rescue (SAR) services
- Part VIII – Aeronautical information services and charts (AIS/MAP)

Structure of ANP

- New concept of air navigation plans
- Introduction to CNS/ATM elements into the plan
- Format and scope of the plan
- States responsibilities
- Contents of the plan
- AFI regional planning
- Principles and guidelines for the development of a CNS/ATM plan and its implementation in the region
- CNS/ATM evolution Concept
- Procedure for the amendment of regional plans, including FASID material
- Procedures for amendment of FASID
- Abbreviations
- Alphabetical index of States and territories

Introduction

The new concept of ANPs



- **Sets forth in detail** the facilities, services and procedures required for international air navigation within a specified area
- **Provide assurance to States** that they are part of an integrated system adequate for foreseeable future
- **1997** – ANP in **two Volumes**
 - Basic contains stable material: FIRs, BORPC, RAN Rec, etc
 - FASID sets forth dynamic material, additional guidance

Introduction

Format and scope of the plan



- **Format** - As discussed above:
 - Basic ANP for general planning criteria, implementation guidelines
 - FASID for dynamic specifications that States can follow as part of integrated Regional system
- **Scope** – The plan comprises statements of required facilities and services in the AOP, AIS, ATM, CNS, MET, and SAR fields in detail. It is a living document, updated by RAN and APIRG

States' Responsibilities

- **Article 28 (Convention)** – Each State is responsible for facilities and services in its territory
- **Council** -including those specified in the ANPs
- Requirements included in the ANP constitute **deficiencies** if not implemented

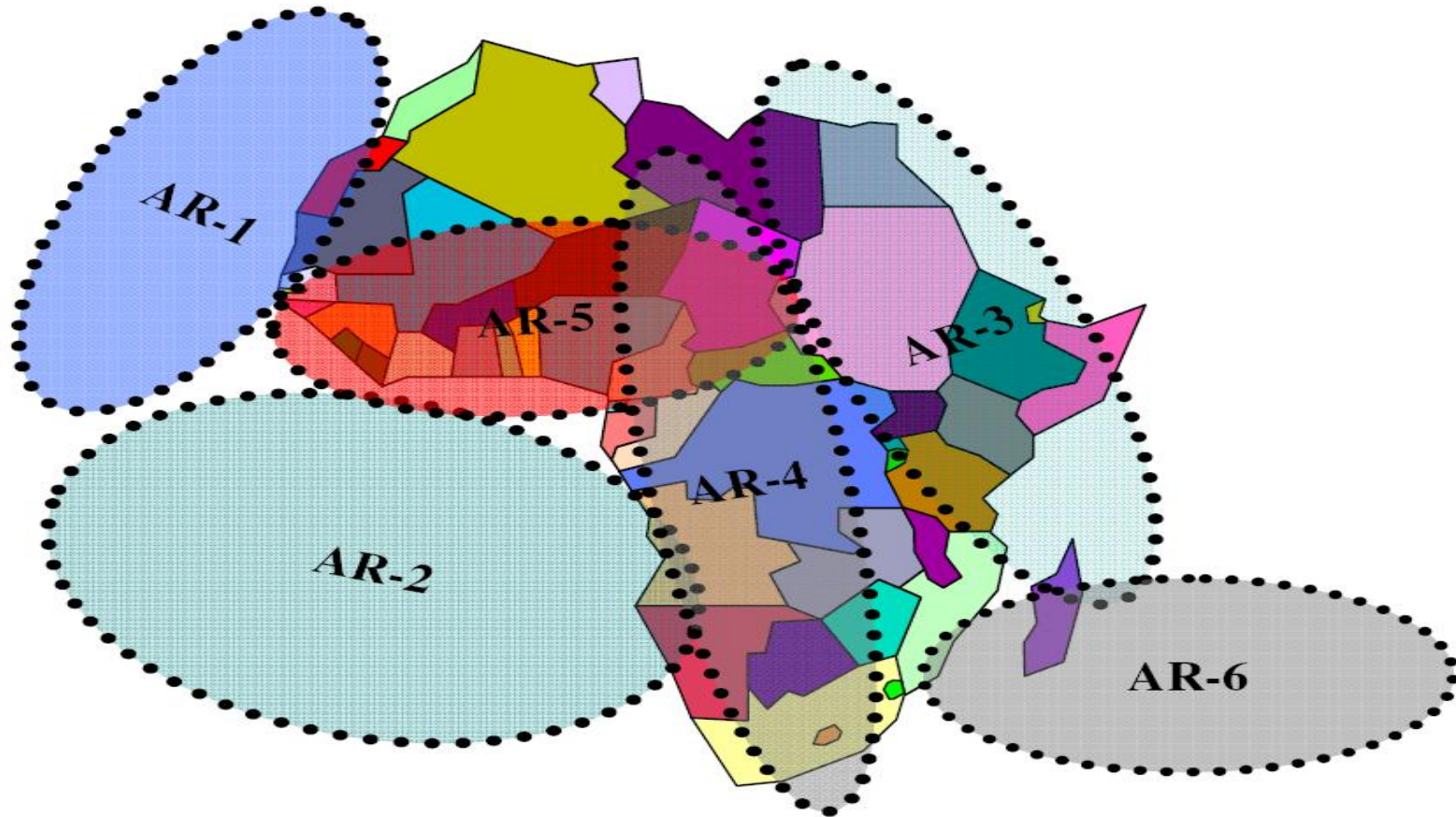
AFI Regional Planning

- Similar to other Regions, planning in AFI Region is organized largely through the **APIRG** mechanism.
- Based on **homogeneous areas** & major (international) **traffic flows** (see next slide)
- Elements of planning methodology: airspace utilization, projected traffic growth, congestion on flow, possible ATM and CNS solutions, CBA, determination of most appropriate solutions and implementation timing (timelines, etc.)

AFI Areas of Routing AR-1 to AR-6



AREAS OF ROUTING AR-1 TO AR-6



Procedure for Amendment Basic ANP



- May be amended by **RAN Meeting**, when no longer consistent with current and foreseen requirements
- Any State or group of **States** may make proposal
 - **adequately documented**
 - **to the Secretary General**
 - **through the Regional Office**
- May include additions, modifications or deletions to existing infrastructure
- Include the facts that lead the State(s) to the conclusion that the amendment is necessary

Procedure for Amendment Basic ANP (cont.)



- Regional Director (on behalf of Secretary General) **will circulate the proposal with request for comments** to all provider and user States of the Region and international organizations, which may be concerned with the proposal;
- Secretary General may refer the proposal to ANC if he considers that it may **conflict with ICAO policy**
- If no objection is raised, the proposal is submitted to the President of the Council, who may approve on behalf of the Council

Procedure for Amendment Basic ANP (cont.)



- if any objection is raised and remains after further consultation, the matter will be documented for formal consideration by the Commission
- If the Commission concludes that the amendment is acceptable in its original or other form, it will present appropriate recommendations to the Council

Procedure for Amendment FASID



- Procedure for proposal and circulation for comments is **similar to the Basic ANP** procedure
- **If no objection is raised**, it will be deemed that a regional agreement has been reached and the proposal shall be **incorporated into the FASID**
- If it is considered that it **conflicts with ICAO policy** or has raised questions which should be brought to attention of the ANC, the proposal will be presented to the **ANC for decision**

Basic Operational requirements and planning criteria (BORPC)



- Approved by ANC for all Regions in 1999
- For international air transport and GA traffic
- Planning horizon 5 years. 5 years not a limit e.g. CNS/ATM planning goes beyond 5 years
- Traffic forecasts have a special role
- Aircraft grouped into:
 - Supersonic, subsonic turbojet, multi-engine turboprop, single-engine, helicopters, others (gliders, VSTOL, balloons, etc.)

BORPC (cont.)

- **Aerodromes:** Air transport, GA
- **ATM:** Airspace management, ATS, ATFM
- **SAR:** SRRs, SPOC, Org, Plans, Procedures (ref. IAMSAR)
- **COM:** AFS, AMS & AMSS, Freq. Assignment Plan
- **NAV:** General, Int. Commercial, Int. GA, Flight testing
- **Surveillance**
- **MET:** WAFS. MET services to be provided, observations and reports, air reports and SIGMET, IAVW, Tropical cyclone watch
- **AIS and Aeronautical Charts**

Part V

Air Traffic Management (ATM)



- Introduction
- Objectives of air traffic management
- Part V.I – Airspace management (ASM)
 - Objectives of airspace management
 - Plan of ATS airspaces, FIRs, ATS routes, TMAs and CTRs
- Part V.II – Air Traffic Services
 - Flight information service
 - ATS requirement for AFS communications
 - ATS requirements for operational flight information.
- Part V.III – Air traffic flow management
 - General concept
 - Application of ATFM in the AFI region

Air Traffic Management (ATM) (cont.)

- **Appendix – Table ATS 1** – Basic ATS Route network in the lower and upper airspaces
- **Charts ATS 1** – Flight Information Service
- **Charts ATS 2A and 2B** – Area Control Service – Lower airspace
- **Charts ATS 3A and 3B** – Area Control Service – Upper airspace
- **(The only dynamic Table and Charts in Basic ANP)**

Part VII

Search and rescue (SAR) services



- Introduction
- Plan of search and rescue regions (SRRs)
- Search and rescue services
- Search and rescue operations
- Chart SAR 1 – Search and rescue service (Related Table SAR 1 in FASID)

Issues Identified



Within the APIRG Framework & ROs

- High level of deficiencies - Clear plans required to eliminate them
- Limited awareness in States about ANP Requirements and obligations
- Changes made in ANP Requirements, without following established ANP amendment procedures
- **What else?**

Issues Identified (Cont.)



- Need to update strategies, e.g. for introduction and application of non-visual aids
- Means of implementing AFS circuits (BANP): interface with public systems, tariffs, etc.
- CNS/ATM planning and implementation
- **Need to update tables:**
 - **AOP, ATS, CNS, etc.**
- Navigation systems implementation, and implementation timelines
- Planning and implementation of surveillance systems (radar, ADS, etc.)
- ...Many other updates

Summary

- Introduction to the ANP
 - Structure
 - Concept of the ANP
 - Format and Scope of the ANP
- States' Responsibility
- AFI Regional Planning
- Procedure for Amendment
- Planning is based the Basic Operational Requirements and Planning Criteria (BORPC)
- The AFI ANP is due for more significant update
- States need methodical planning to meet the requirements

AFI ANP

