



**WORKING PAPER**

**TWELFTH AIR NAVIGATION CONFERENCE**

**Montréal, 19 to 30 November 2012**

**Agenda Item 6: Future direction**

**6.1: Implementation plans and methodologies**

**REGIONAL PERFORMANCE FRAMEWORK – PLANNING  
METHODOLOGIES AND TOOLS**

(Presented by the Secretariat)

**EXECUTIVE SUMMARY**

The regional planning and implementation process is facilitated through formulation of regional Air Navigation Plans (ANPs) which are developed and maintained through the Planning and Implementation Regional Groups (PIRGs). This working paper presents the strategic planning principles and next steps needed to align the regional plans with the global air navigation plan, including the aviation system block upgrade methodology and associated technology roadmaps. It also introduces a new web-based format for all regional ANPs, called electronic ANPs (eANPs), which can be updated in real time, edited online, and readily viewed by all stakeholders.

**Action:** The Conference is invited to endorse the recommendation in paragraph 5.

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| <i>Strategic Objectives:</i>   | This working paper relates to the Safety Strategic Objective by strengthening the policy framework for ICAO's activities in the air navigation field and simplifying the reporting process.                                                                                                                                                                                                                                                                                                                                                            |
| <i>Financial implications:</i> | These arrangements are expected to have minimal implementation cost impact to the States and will progressively provide significant operational and cost benefit to the entire aviation system.                                                                                                                                                                                                                                                                                                                                                        |
| <i>References:</i>             | Doc 7474, <i>Air Navigation Plan — Africa-Indian Ocean Region</i><br>Doc 7754, <i>Air Navigation Plan — European Region</i><br>Doc 7910, <i>Location Indicators</i><br>Doc 8733, <i>Air Navigation Plan — Caribbean and South American Regions</i><br>Doc 9634, <i>Air Navigation Plan — North Atlantic Region</i><br>Doc 9635, <i>Facilities and Services Implementation Document (FASID) — North Atlantic Region</i><br>Doc 9673, <i>Air Navigation Plan — Asia and Pacific Regions</i><br>Doc 9708, <i>Air Navigation Plan — Middle East Region</i> |

## 1. BACKGROUND

1.1 The regional Air Navigation Plans (ANPs) detail the facilities, services and procedures required for international air navigation within a specified geographical area. The regional performance framework and alignment of areas of applicability of ANPs and Regional Supplementary Procedures (SUPPs) are addressed under AN-Conf/12-WP/24. The development and maintenance of these regional plans is undertaken by ICAO's six Planning and Implementation Regional Groups (PIRGs) in coordination with States and supported by ICAO's regional offices and the Air Navigation Bureau. The six PIRGs are: ASIA/PAC Air Navigation Planning and Implementation Regional Group (APANPIRG); AFI Planning and Implementation Regional Group (APIRG); European Air Navigation Planning Group (EANPG); CAR/SAM Regional Planning and Implementation Group (GREPECAS); Middle East Air Navigation Planning and Implementation Regional Group (MIDANPIRG); and North Atlantic Systems Planning Group (NAT SPG). The plans associated with each PIRG are referenced in the Executive Summary of this paper.

## 2. PLANNING METHODOLOGIES

2.1 Guided by the Global Air Navigation Plan, the regional planning process starts by identifying the homogeneous ATM areas, major traffic flows and international aerodromes. An analysis of this data should lead to the identification of opportunities for performance improvement. Modules from the aviation system block upgrades (ASBUs) would be evaluated to identify which best provide the needed operational improvements. Depending on the complexity of the module, additional planning steps may need to be undertaken including regional financing (if appropriate), as well as possible regional training needs and special emphasis work groups. Finally, regional implementation plans would be developed for deployment of modules, drawing on the technology roadmaps to identify supporting technology requirements. This is an iterative planning process which may require repeating several steps until a final plan is in place. This planning requires interaction between regulators, users of the aviation system, the air navigation service providers (ANSPs) and aerodrome operators, thus ensuring commitment by all States and ANS partners for its implementation.

2.2 The online planning tools described below will assist planners in carrying out the above steps.

2.3 The successful implementation of the modules will depend on a common understanding with all stakeholders. Consequently, ICAO undertook significant efforts to familiarize States, regulators, service providers, airline operator and international organizations on the concept of ASBUs; the effort was twofold. ICAO conducted a high-level briefing for each region, in connection with another high-level meeting or symposium. Also, each region received a five-day detailed ASBU implementation workshop including hands-on exercises for the benefit of States.

2.4 To keep the focus on the continuing process of aligning the regional plans to the GANP, it is suggested that the Conference agree to following next steps:

- a) States and PIRGs and focus on initially implementing ASBU Block 0 modules; and
- b) PIRGs finalize the development of their aligned regional plans by May 2014.

2.5 The collective regional plans will serve as the basis for the first Global Air Navigation Report, planned to be released in December 2014.

### **3. ELECTRONIC TOOLS TO SUPPORT THE PLANNING AND IMPLEMENTATION PROCESS AT THE GLOBAL AND REGIONAL LEVELS**

3.1 The modern planning environment in general, and the ability to align the GANP and the regional plans specifically, requires the implementation of a data-based online format to ensure that all stakeholders are connected to the same up-to-date information. To that end, ICAO has implemented a series of Air Navigation planning and reporting tools as outlined below.

#### **3.2 Regional Air Navigation Plans – current paper-based format**

3.2.1 In February 1997, the Council decided that the ANPs should be published in all ICAO languages comprising of two volumes; Volume I – Basic ANP and Volume II – Facilities and Services Implementation Document (FASID). The intent was to simplify the amendment process to ensure currency of information. Amendments to the Basic ANP go through an approval process by the governing body whereas the FASID is updated by the Secretariat. In July of 2011, the amendment process was automated to further reduce the process time within ICAO. But despite all these improvements, the challenge remained to keep the paper-based regional ANPs updated, particularly in view of continuous air navigation technological developments. To address this issue, an online format of the regional ANPs, called eANPs, has been launched. ICAO has developed the eANPs as an online system for maintaining, storing and displaying information contained in the regional ANPs.

#### **3.3 Regional Air Navigation Plans – new online format**

3.3.1 While the structure and table of contents of eANPs are the same as that of paper-based ANPs salient features of the new eANPs system are:

- a) a user-friendly, robust, web-based planning and editing tool for States, ICAO and, PIRGs to ensure centralization and currency of data;
- b) an immediate and collaborative approach to air navigation planning so that all partners share the quality and quantity of data and can distribute (or subscribe to) new versions or updates quickly and easily;
- c) updated versions of the text and tables of ATS routes of Volume I, the Basic ANP; and
- d) the FASID tables in Volume II are user friendly tables of CNS, AIM, AOP and MET. These FASID tables have now been standardized and harmonized across all regions and aligned with ASBU methodology.

3.3.2 To simplify its introduction, all procedures that apply to the current paper-based ANPs will continue for the eANPs. However, to make full use of the online system, ICAO will continue to simplify the workflows related to the amendment process, and related to the data within the eANP, to increase the efficiency, accuracy, and accessibility in maintaining the narrative and data in the ANPs.

### **4. INTEGRATION OF ALL AIR NAVIGATION PLANNING TOOLS INTO A SINGLE USER INTERFACE**

4.1 In addition to the ANPs in their electronic format, ICAO has been developing a wider range of safety and air navigation tools with the regional air navigation planner in mind. These tools include:

- c) a growing gallery of interactive maps that provides a high-level overview of the implementation status of global and regional priorities (see the appendix on the implementation status of the new flight plan at the time of writing). These tools will also allow much of the current paper-based reporting to be made obsolete as decision makers will have access to real-time information on a continuous basis; and
- d) an online tool for managing location indicators and other air navigation data not contained in the ANPs, which will include the ability of air navigation planners to request new or submit amendments to existing indicators online.

4.2 These ICAO tools are being demonstrated in the exhibition area during the conference and simple one-page training aids are being provided online and will be distributed during the Conference. Each regional office will have these tools in place, and the Regional Officers trained, by December 2012.

## 5. CONCLUSION

5.1 The Conference is invited to note the regional performance framework for the implementation of air navigation infrastructure and agree on the following recommendation:

### **Recommendation 6/x – Regional performance framework– planning methodologies and tools**

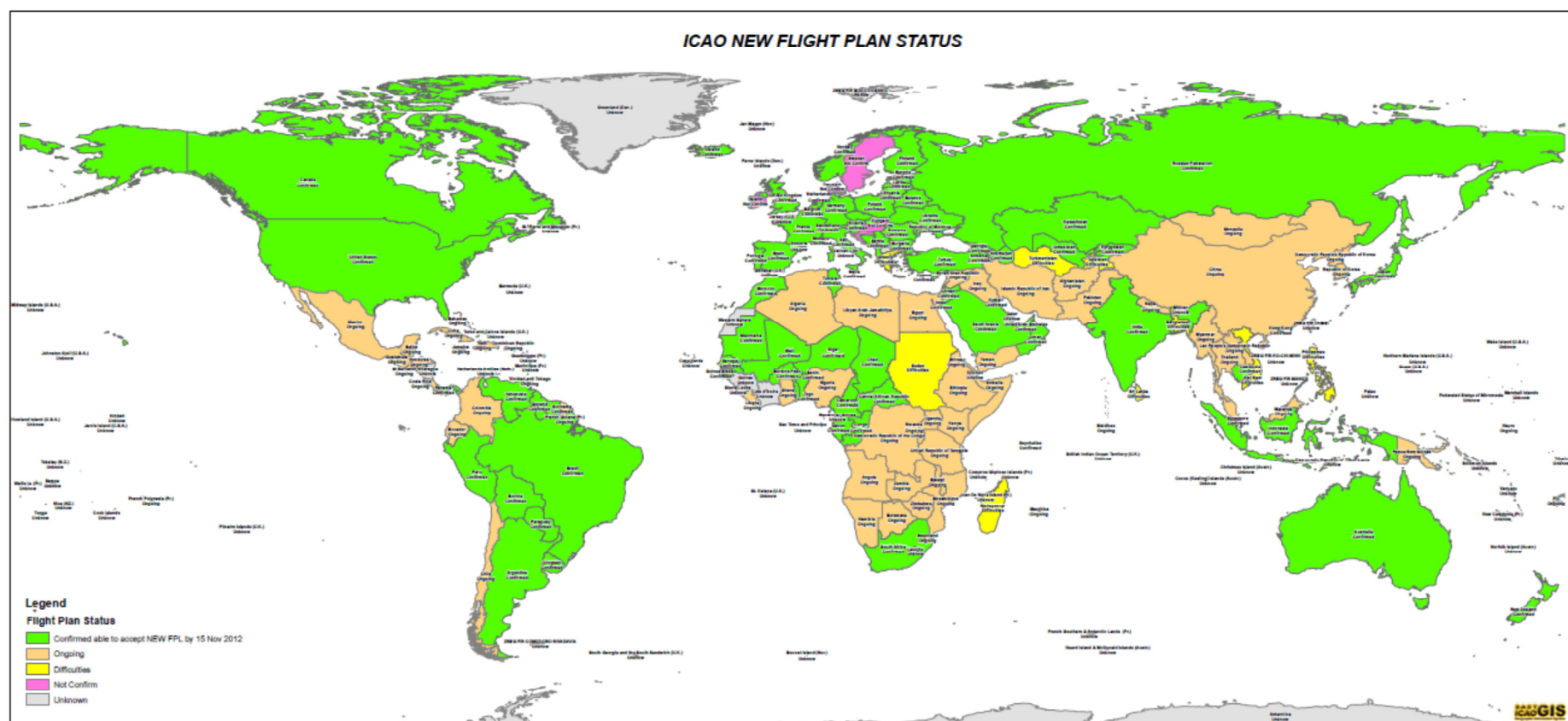
The Conference recommends that:

- a) the planning and implementation regional groups develop and maintain regional plans consistent with the Global Air Navigation Plan;
- b) the planning and implementation regional groups finalize the alignment of regional air navigation plans with the Fourth Edition of the *Global Air Navigation Plan* by May 2014;
- c) according to their operational needs, States and planning and implementation regional groups implement aviation system block upgrade, Block 0 Modules, recognizing that these modules are ready for deployment;
- d) States and planning and implementation regional groups, use the electronic air navigation plans as the primary tool to assist in the implementation of the agreed regional planning framework for air navigation services and facilities; and
- e) ICAO review the current air navigation plan (ANP) amendment process and recommend to Council improvements to increase efficiencies related to the approval and maintenance of the data in the regional ANPs.

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## APPENDIX

### STATUS OF IMPLEMENTATION OF THE NEW FLIGHT PLAN (AS OF 27/2/2012)



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