



WORKING PAPER

TWELFTH AIR NAVIGATION CONFERENCE

Montréal, 19 to 30 November 2012

Agenda Item 1: Strategic issues that address the challenge of integration, interoperability and harmonization of systems in support of the concept of “One Sky” for international civil aviation

1.1: Global Air Navigation Plan (GANP) – framework for global planning

**SUPPORT FOR THE GLOBAL AIR NAVIGATION PLAN, ASBUs AND
REGIONAL IMPLEMENTATION THROUGH THE PLANNING
AND IMPLEMENTATION REGIONAL GROUPS**

(Presented by the United States)

EXECUTIVE SUMMARY

A significant outcome of the 37th Session of the ICAO Assembly was identification of the need for an advanced and globally harmonized air traffic management. The Assembly urged Member States to share air navigation modernization plans with ICAO and instructed the Council to update the Global Air Navigation Plan (GANP) to ensure global compatibility and harmonization.

The aviation system block upgrades (ASBUs) concept, presented at the Global Air Navigation Industry Symposium and updated for the Twelfth Air Navigation Conference, is the primary foundation for advancing the GANP as a scalable solution for each Member State and region. While Member States work to advance air traffic management systems, planning and implementation regional groups (PIRGs) will need to provide the regionally harmonized mechanisms to ensure success.

The United States views the ASBUs and the GANP as a step in the positive direction and as the framework for implementation of future capabilities into its National Airspace.

Action: The Conference is invited to agree with the United States on the recommendations in paragraph 3.

1. INTRODUCTION

1.1 The need for a harmonized system is important for aviation regulators, operators, and industry to coordinate a constantly advancing global air traffic management system. The planning, development, training and implementation of a globally harmonized system are contingent on a proposed framework that includes scalable plans that provide the expected operational and economic as well as safety benefits.

1.2 The proposed Global Air Navigation Plan (GANP) and aviation system block upgrades (ASBUs) provide strategic direction with clearly defined and measurable operational improvements and economic benefits. The proposed ASBUs outline the necessary air and ground equipment and timelines for standards and procedures implementation. The GANP and ASBUs help regulators, operators and industry to derive positive business cases and allow for a scalable and customized approach.

1.3 For this comprehensive system to be successful, ICAO Member States must agree that this is the best global approach and endorse the GANP and ASBUs.

2. BACKGROUND

2.1 As a nation with thousands of runways, over 400 air traffic control towers, 178 terminal control facilities and 21 domestic flight information regions, the United States supports the need to have an advanced and harmonized air traffic management (ATM) system. The United States supports the ASBUs concept and the GANP as the framework to move forward in advancing the ATM system globally.

2.2 The proposed ASBUs and GANP do not require all States to implement all advancements, rather they provide a common approach for delivering capabilities where needed.

2.3 The United States has realized many benefits in areas where it has begun to implement ASBU technology and procedures. At the Atlanta Hartsfield-Jackson International Airport, the use of global positioning system (GPS), area navigation (RNAV) and required navigation performance (RNP) allows up to ten additional aircraft per hour creating efficiencies in the entire United States National Airspace. At the Houston area Metroplex, satellite-based augmentation system (SBAS) procedures are eliminating up to 648 000 nautical miles from flight plans each year. This reduction saves up to three million gallons of fuel and reduces 31 000 metric tons of carbon emissions. Optimized profile descents (OPDs) at Phoenix Sky Harbour Airport have saved two air carriers approximately \$6.4 million per year. These advancements not only benefit the National Airspace in the United States but affect the efficiency and safety of international operations. The benefits already realized in the United States are based upon the modules found in Block 0 in the ASBUs.

2.4 The GANP, ASBUs and technical roadmaps will assist ICAO Member States and operators in envisioning an ideal system and developing a scalable plan while maintaining global harmonization. They also provide timelines for standards and recommended practices, which will aid in amending or creating regulations, practices, and needed infrastructure. Aviation industry and service providers can use the GANP, ASBUs and technical roadmaps as a means to create business cases for developing and producing technology.

2.5 As the primary mechanism for developing and implementing regional plans, planning and implementation groups (PIRGs) will need to take an active role in coordinating with their accredited States to develop a regional framework including the GANP and ASBUs. PIRGs will also need to increase the coordination between each other and may benefit from more All Planning and Implementation Regional Group (ALLPIRG) meetings or from an ALLPIRG coordination group. Regional Air Navigation Plans (ANPs) and Regional Supplementary Procedures (SUPPs) will need to be maintained and regularly updated to account for the many advancements and timelines proposed in the GANP and ASBUs.

3. **CONCLUSION**

3.1 The Conference is invited to:

- a) endorse the Fourth Edition of the Global Air Navigation Plan and technical roadmaps for endorsement at the 38th Session of the ICAO Assembly;
- b) endorse the aviation system block upgrades as a framework for the Global Air Navigation Plan; and
- c) request planning and implementation regional groups work with accredited States, regional organizations and each other to begin incorporating the Global Air Navigation Plan and aviation system block upgrades, as needed, in the Regional Air Navigation Plans.

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