



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

ISSUES ON THE REALIZATION OF AVIATION SYSTEM BLOCK UPGRADES IN THE RUSSIAN FEDERATION

(Presented by the Russian Federation)

EXECUTIVE SUMMARY

In this paper general information on the aviation system block upgrades in the Russian Federation is presented in view of the readiness and availability of required technical communication, navigation and surveillance aids as well as automation of air traffic control. Attention is drawn to the fact that there is a lack of Standards, Recommended Practices and appropriate guidance material on modules from Blocks 0 and 1 needed for the upgrades; also it is necessary to develop documentation for Blocks 2 and 3 beforehand.

Action: The Conference is invited to note the conclusions presented in paragraph 3.

1. INTRODUCTION

1.1 In order to provide a unified policy in the field of aviation system block upgrades (ASBU) in different regions with the main goal to establish a global interoperable infrastructure of air navigation support, ICAO suggests using the block upgrades and implementation of ground and on-board equipment.

1.2 An evolutionary method of transition to this system is suggested with step-by-step implementation of the respective modules upgrades programme. At that, the wide use of ground and onboard information exchange systems is provided on the basis of the system-wide information management (SWIM), flight and flow information for the collaborative environment (FF-ICE), improvement of weather data, digital air navigation and ATM data management system, improvement of onboard and ground flight safety systems, redistribution of a number of functions between controllers and pilots.

1.3 An extremely important provision here is that the new (fourth) revision of the Global Air Navigation Plan includes a provision, according to which ASBU modules (that are specialized upgrade packages) must be used when specific operational needs or possible benefits are present.

¹ English and Russian translation provided by the Russian Federation

2. MAIN PROVISIONS

2.1 The ICAO ASBU methodology allows unifying technical aids and technologies, which are used in different regions and States in order to establish a global harmonized ATM system. Simultaneous use of this methodology in different parts of the world means that the following is available: adopted and approved Standards, Recommended Practices, appropriate guidance materials and other regulatory documentation, which relate to ASBU use and are developed in accordance with the time constraints for the development of respective technical aids and technologies.

2.2 Implementation of the global plan in regions and in single States is bound to the availability of developed and appropriately approved technical aids and technologies and necessary material resources. It seems important to solve necessary procedural, institutional and legal issues before the initiation of the upgrades process.

2.3 In the Russian Federation, the main upgrades activities for ASBU Blocks 0 and 1 are conducted within the framework of the Federal Investment Programmes “Modernization of the unified ATM system in the Russian Federation (2009-2015)” and “Support, development and use of the GLONASS system for 2012-2020”; and for Blocks 2 and 3 – within the framework of next national ATM system modernization programs. In accordance with the above-mentioned programmes, it is provided that all flight support technical aids must be implemented, which are necessary to conduct work and which are stipulated within the contents of Blocks 0 and 1 of the block upgrades.

2.4 Automated ATM management systems play an important role in the implementation of ASBU in view of their readiness to provide fulfillment of necessary tasks during the implementation of modules from Blocks 0 and 1.

2.5 Russian industrial manufacturers have already developed and now continue to develop a new generation of automated ATC systems, which are fit for implementation of modules from Blocks 0 and 1. These complexes of aids are meant for equipage of ATC centers with low, medium and high air traffic density. Russian manufacturers have developed and produced all types of ground technical aids, which are needed for implementation of the majority of modules from Blocks 0 and 1.

2.6 In future, complexes of automated ATC aids can be used in the frame of implementation of all modules from ASBU Blocks 0 and 1, which relate to ATC automation. Particularly the automation aids can support implementation of functions of Modules B0-102, B1-102, B0-25, B1-25, B0-30, B1-30, B0-10, B1-10, B0-15, B1-15, B0-35, B1-35, B0-40, B1-40, B0-70, B1-70, B0-05, B1-05, B0-84, B0-86, B1-81, B0-85 and B1-85.

2.7 Implementation of some modules from Blocks 0 and 1 is restrained by the lack of a number of Standards, which does not allow judging of the implementation of the required functions of these blocks' modules in full. It is apparently necessary to develop lacking Standards in order to provide enough time to improve the equipment (if necessary) prior to the initiation of the implementation process for these blocks.

3. CONCLUSION

3.1 Activities conducted in the Russian Federation in the field of ATC automation correspond with the principles of the ASBUs for national ATM and support implementation of the majority of functions provided by respective modules from Blocks 0 and 1.

3.2 Attention is drawn to the identified need for:

- a) coordination of all developed regulatory documents of ICAO on implementation of modules from Blocks 0 and 1 with the time constraints for implementation of these modules; and
- b) timely preparation of regulatory documents of ICAO on implementation of modules from Blocks 2 and 3, so that manufacturers could develop the necessary equipment in a timely manner.

3.3 The Conference is invited to consider the information and conclusions of this paper in its work.

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