



WORKING PAPER

TWELFTH AIR NAVIGATION CONFERENCE

Montréal, 19 to 30 November 2012

Agenda Item 4: Optimum capacity and efficiency – through global collaborative ATM

4.1: Efficient management of airspace and improved flow performance through collaborative decision-making (CDM)

IMPLEMENTATION OF ASBU MODULES RELATED TO NETWORK OPERATIONS

(Presented by the Russian Federation)

EXECUTIVE SUMMARY

This paper presents proposals concerning the implementation of aviation system block upgrade (ASBU) modules related to improved flow performance through network wide planning, including Modules B0-35, B1-35 and B2-35.

Action: The Conference is invited to take the actions indicated in paragraph 3.2.

1. INTRODUCTION

1.1 Network operations are viewed as a series of processes to manage flows of aircraft on a route encompassing a region with multiple flight information regions (FIRs) and major aerodromes in order to improve the overall traffic fluidity in the region and to make more efficient use of existing capacity. Network operations are used for capacity management and planning as well as airspace management to ensure air traffic service (ATS) and air traffic flow management (ATFM).

1.2 The efficiency of network operations in the regions can be improved if there is a transition to broad application by the concerned partners in collaborative decision making (CDM) during the process of real-time ATFM. This will make it possible to take advantage of the benefits of the functional capacities of modern systems, to take into account user preferences, and to use the airspace efficiently.

1.3 In order to integrate network operations into the aviation system block upgrade (ASBU) structure, it was proposed to include the area of air traffic flow performance improvement through network wide planning.

2. BACKGROUND

2.1 As proposed, in the first stage (Module B0-35), the implementation of the strategic and tactical processes of ATFM and the CDM principles will make it possible to ensure accurate and effective decision-making when resources are limited.

2.2 Existing Russian Federation regulatory documents govern the activities of the entities implementing the integrated ATM system for airspace use planning and air traffic flow management at the strategic, pre-tactical, and tactical stages. Currently, projects are being implemented to equip these entities with modern, automated airspace use planning systems, which will make it possible to enhance the efficiency of network operations in the Russian Federation, and to a significant degree at the regional level, in the eastern part of the ICAO European Region.

2.3 The implementation of Module B1-35 corresponds to the programme for improving CDM network operations during ATFM in the ATM system of the Russian Federation. This will be facilitated by new designs for ATFM methods and algorithms, specifically in order to increase the level of interaction among partners in real time, to track their preferences and priorities, and to further develop CDM processes.

2.4 In the framework of Module B2-35, an improved ATFM system, capacity management processes and CDM could more fully yield advantages through accurate and complete information supplied by system-wide information management (SWIM), provided that positive assessments of the impact on flight safety and cost-effectiveness are obtained (currently, there are no such assessments).

2.5 The implementation of efficient ATM network operations depends on a series of key elements involving coordination in real time among ATM units, aerodrome services and airspace users. Gradual implementation of the flight and flow – information for a collaborative environment (FF-ICE) concept and application of CDM should ensure the further development of procedures and technical tools for air traffic flow planning and management, and for capacity planning and management.

2.6 To improve airspace management, we should ensure broad implementation of the flexible use of the airspace, as well as flexible structures and route systems.

3. CONCLUSION

3.1 The Russian Federation shall:

- a) carry out, in accordance with its operational requirements, the implementation of ASBU Module B0-35, which is related to the improvement of flow performance through network wide planning;
- b) endorse ASBU Module B1-35 as a point of reference for taking the actions indicated in paragraph 3.2. to ensure the consistency of work to improve flow performance through network wide planning in the ATM system of the Russian Federation;
- c) endorse ASBU Module B2-35 as a strategic direction for activity in this area, provided that positive assessments of the impact on flight safety and cost-effectiveness are obtained.

3.2 The Conference is invited to agree to the following recommendation:

Recommendation 4/x – Implementation of the aviation system block upgrade modules related to network operations

That the Conference:

- a) recommend that ICAO accelerate the implementation of collaborative decision-making processes at the regional level, being guided by, inter alia, the principles set forth in the *Manual on Collaborative Air Traffic Flow Management (CDM)* (Doc 9971) and the *Manual on Flight and Flow Information for a Collaborative Environment (FF-ICE)* (Doc 9965); and
- b) propose that ICAO include aviation system block upgrade Modules B0-35, B1-35 and, provided that positive assessments of the impact on flight safety and cost-effectiveness are obtained, Module B2-35, which relates to improving flow performance through network wide planning, in the draft of the fourth edition of the *Global Air Navigation Plan* (Doc 9750, GANP).

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