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DEVELOPMENT OF THE REGULATORY AND TECHNICAL DOCUMENTATION ON THE USE OF GNSS IN THE AIRSPACE OF THE RUSSIAN FEDERATION

(Presented by the Russian Federation)

EXECUTIVE SUMMARY	
This paper presents information on the development of the regulatory and technical documentation to support the introduction of global navigation satellite system (GNSS) in the airspace of the Russian Federation. This development precedes the preparation and publication in the Aeronautical Information Publication (AIP) of the Russian Federation of regulations for flights using GNSS in its airspace. It is expected that this will further the introduction of GNSS technology in order to enhance the efficiency and safety of international civil aviation aircraft in the airspace of the Russian Federation.	
Strategic Objectives:	This working paper relates to Strategic Objective A on safety.
Financial implications:	No additional resources required.
References:	Annex 10 — *Aeronautical Telecommunications*, Volume I — *Radio Navigation Aids* to the *Convention on International Civil Aviation*; Doc 9849, *Global Navigation Satellite System (GNSS) Manual*; and Doc 8168, *Procedures for Air Navigation Services — Aircraft Operations*

[1] Russian version provided by the Russian Federation.

1. INTRODUCTION

1.1 The introduction of global navigation satellite system (GNSS) in the airspace of the Russian Federation necessitates the development of relevant regulatory and technical documentation. This documentation will be the basis for the preparation of regulations for flights using GNSS and for the application of GNSS technology in the airspace of the Russian Federation.

2. DEVELOPMENT OF GNSS REGULATORY AND TECHNICAL DOCUMENTATION

2.1 The Russian State policy on satellite navigation envisages the evolution of GLONASS system integration with the navigation systems of foreign States to ensure the compatibility and complementarity of GLONASS with the global positioning system (GPS) and future Galileo system. The application of combined equipment by the user, using GPS and the GLONASS signals, and more satellite navigation systems in future, enhances the stability of the entire GNSS system by improving the integrity, reliability and accuracy of navigation support, and by mitigating the potential impact of technical as well political factors.

2.2 In the Russian Federation the development of draft regulatory and technical documentation on the use of the global navigation satellite system in its national airspace is completed. This documentation encompasses the following:

a) the use of the global navigation satellite system in the airspace of the Russian Federation;

b) the design of en-route and terminal area procedures using area navigation methods;

c) additional flight crew and air traffic service controller training to work with GNSS; and

d) specifics of the interaction between the crew and ATC controller when GNSS anomalies and equipment failure occur.

2.3 All documents were elaborated on the basis of current ICAO documents (Annex 10 — *Aeronautical Telecommunications*, Volume I — *Radio Navigation Aids* to the *Convention on International Civil Aviation*; the *Global Navigation Satellite System (GNSS) Manual* (Doc 9849); and the *Procedures for Air Navigation Services — Aircraft Operations* (Doc 8168). Thus, international civil aviation will not experience any difficulties whatsoever when using GNSS in the airspace of the Russian Federation.

2.4 It is intended that the requisite regulatory and technical documents on using GNSS in the airspace of the Russia Federation will be issued at the end of 2010 or beginning of 2011, after which the publication in the Aeronautical Information Publication (AIP) of the Russian Federation will be prepared, establishing the regulations for flights using GNSS in its airspace.

3. CONCLUSION

3.1 The development of regulatory and technical documents on the use of GNSS in the airspace of the Russian Federation will expedite the development of standard terminal arrival routes (STARs), standards instrument departures (SIDs), as well as precision and non-precision approach procedures using GNSS in the airspace of the Russian Federation, will make the latter more attractive to users, and will accelerate the introduction of the performance-based navigation (PBN) concept in the Russian Federation which is an effective factor in enhancing safety.

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