

ELEVENTH AIR NAVIGATION CONFERENCE

Montreal, 22 September to 3 October 2003

**Agenda Item 2: Safety and security in air traffic management
(ATM)**

**2.1 Safety management systems and programmes
:**

MODERNIZATION OF THE AIR NAVIGATION SYSTEM OF UKRAINE

(Presented by Ukraine)

SUMMARY

Ukraine provides air navigation services in five flight information regions, over a total area of 730 480 thousand square kilometres.

Over the last five years, the air navigation system of Ukraine has undergone a great number of changes aimed at adapting national regulation and rules to the corresponding Standards and Recommended Practices of ICAO, as well as other international regional aviation organizations. This paper presents the main measures which have been taken and which play a key role at this stage in the development of the national air navigation services system. It is also a formative basis for further development.

Action by the conference is in paragraph 3.

1. INTRODUCTION

1.1 The air navigation system of Ukraine is being developed in a systems manner in accordance with the Programme for the development of the State system for the use of the airspace of Ukraine for 2002 to 2006, the EUROCONTROL Local Convergence and Implementation Plan (LCIP) and a number of other multi-level national documents that are aimed at integrating the air navigation system of Ukraine within the European system in accordance with strategic foreign policy aimed at the integration of Ukraine within the European Union.

1.2 Since 1992, there has been a clear demarcation of the functions of the regulator of aviation activities (the Ministry of Transport of Ukraine, the State Department of Aviation Transport (Ukraviatrants)) and the air navigation services provider (the Ukrainian State Air Traffic Services Enterprise (UKSATSE)).

1.3 The modernization of the air navigation system of Ukraine is based on the principles of self-financing and borrowing of the European Bank for Reconstruction and Development (EBRD).

1.4 The aviation authorities of Ukraine have over the last five years taken a significant number of measures aimed at modernizing the air navigation system. This predetermined the increase in the quality of service to the users of the airspace of Ukraine and it had a positive impact on flight safety. Today, the modernization work is continuing actively with an expanded approach to a number of priority areas for modernization. An important aspect of the development of the system is the adoption at the government level of a new document, Regulations for the use of the airspace of Ukraine, that predetermines the main institutional and regulatory provisions with respect to the use of the airspace of Ukraine. This document was developed taking into account the priority and future areas of the development of the air navigation services system of Ukraine.

2. MONITORING THE MAIN ASPECTS OF MODERNIZATION

2.1 The integrated civil/military air traffic management system of Ukraine has been in operation since 1999 in accordance with a government decree.

2.2 The purpose of this system is to satisfy to the maximum extent the requirements of all the users of the airspace of Ukraine, to ensure complete and exclusive sovereignty of the State in its own airspace and to create the conditions for the introduction of international procedures and standards. Its main parameters are integration, efficiency, flexibility and the ability to expand and improve.

2.2.1 State regulation of the activities of the subdivisions of the system is undertaken in peacetime by the Ministry of Transport and the Ministry of Defence of Ukraine on the basis of the General Agreement. This system has made it possible to solve the problem of the coordination of civil and military users and there is nothing similar, except for Sweden and Germany.

2.3 The integrated system has made it possible to expand the network of international ATC routes and to increase the volume of transit traffic. At this moment, the total length of the international routes is more than 40 000 km. For the sake of comparison, the total length of the routes in 1994 was only 6 000 km. The rational use of airspace is achieved by the phased implementation of the ECAC concept of the Flexible Use of Airspace. Today, work is being undertaken to introduce an automated airspace use planning system in Ukraine.

2.4 An important landmark in the development of the air navigation system of Ukraine was Ukraine joining ECAC in 1999 and accepting its Constitution, together with the signing in December 2001 of the Cyprus Arrangements and the Protocol consolidating the EUROCONTROL International Convention relating to Co-operation for the Safety of Air Navigation with all the amendments which was signed on 13 December 1960.

2.4.1 Additional obligations assumed vis-à-vis regional international organizations (ECAC, JAA, EUROCONTROL) also stimulated the transition to managing the airspace of Ukraine in accordance with ICAO Standards.

2.5 In 1999 Ukraine started the phased implementation of RNAV routes which are part of the network of RNAV routes of the European region. The following radio beacons were installed and are in operation to create the ground RNAV infrastructure:

- VOR/DME at Borispol, Ivano-Frankovsk, Simferopol, Odessa, Dnepropetrovsk, Kharkov, Donetsk and Lvov airports;
- DME at Vinnitsa, Mariupol, Krivoy Rog and Kerch airports and the Bakhmach radar position.

2.6 The AIP Ukraine has been issued and maintained since 2001; its format meets ICAO Standards and it includes all the necessary aeronautical information.

2.7 Taking into account ICAO recommendations, an important decision was taken at the government level to move to the World Geodetic System 1984 (WGS 84).

2.8 By a separate government decree, implementation of CNS/ATM systems in Ukraine was defined as a priority area for improving the national air navigation system. At the present time, within the framework of the Grant Agreement between UKSATSE and the United States Trade and Development Agency, it is planned to undertake the technical/economic validation of the Regional plan for the implementation of CNS/ATM systems in Ukraine, Armenia, Azerbaijan, Georgia and the Republic of Moldova.

2.9 Ukraine is taking measures as part of the joint project of European States regarding implementation of the European geostationary navigation service (EGNOS).

2.10 Standard instrument departure (SID) and standard instrument arrival (STAR) procedures started to be implemented at the airports of Ukraine in 2001 using the modern software that it used for the design of similar procedures in the United Kingdom and Germany.

2.11 The functionality of the automated air traffic control systems of Ukraine, installed in all air traffic services area centres, meets the requirements of EUROCONTROL for systems with the functions of an advanced automated ATC system.

2.12 ICAO cruising levels started to be used in the airspace of Ukraine in 2001, as was the reduced vertical separation minimum (RVSM). This had a positive impact on adapting the route network from the procedural point of view with contiguous States of the European region. RVSM was introduced in two phases.

2.13 Ukraine joined the EUROCONTROL initial flight plan processing system (IFPS) in 2002 and the air traffic services-related message handling system was brought into line with the ICAO requirements.

2.14 In close cooperation with EUROCONTROL, a modern satellite voice communications system (VSAT) was developed for the interaction of the ATS control services of Ukraine, Turkey, Romania and Bulgaria.

2.15 The requirements for the traffic service personnel of Ukraine were brought into line with the EUROCONTROL requirements.

2.16 Ukraine started this year the phased introduction at the airports of Ukraine of pre-flight information services for aircraft crews, on the basis of the corresponding ICAO Standards and EUROCONTROL recommendations.

2.17 As a result of taking the measures listed above, a constant increase in traffic density was achieved in the airspace of Ukraine. For example, in the second half of 2002, the density increased by 19.7% as compared to the same period in 2001. The increase in the number of aircraft flights served in the airspace of Ukraine has stabilized. The level of the quality of service has shown a constant tendency to improve and it is significantly different from the level provided before 2000, in spite of the slump and general crisis in international aviation.

2.18 With respect to areas for further development, it should be noted that at the end of 2002, within the framework of the integrated civil/military air traffic management system, the Programme for the development of the State system for the use of the airspace of Ukraine for 2002 to 2006 was adopted at the level of the Government of Ukraine. This Programme contains a large number of far-reaching measures for the development of the technical aspects of modernization, the improvement of regulatory documents, etc.

2.18.1 One of the consequences of the implementation of the Programme has been the approval this year of the Rules of the Air and Air Traffic Services in the classified airspace of Ukraine. The Rules will be put into effect in 2004 and they provide for the classification of the airspace of Ukraine in accordance with the ICAO Standards and the Rules of the Air therein have been adapted to the international Standards.

2.18.2 The next significant stage in the modernization of the air navigation system will be the construction and fit-up of the air traffic control centre in the Dnepropetrovsk regional structural subdivision of the air navigation services provider (UKSATSE) and the reconstruction of the Simferopol air traffic control centre. It is planned for this project to be completed by 2005.

3. ACTION BY THE CONFERENCE

3.1 The conference is invited to note the information on the status of the modernization of the air navigation services system of Ukraine.

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