

APPENDIX

CONTENTS OF THE CONCEPT OF HARMONIZATION OF THE NATIONAL ATM SYSTEMS OF THE CIS MEMBER STATES

1. ISSUES OF HARMONIZATION OF THE AIR NAVIGATION SYSTEMS OF THE MEMBER STATES OF THE COMMONWEALTH OF INDEPENDENT STATES

1.1 While estimating the present state of the national ATM systems of the CIS States, one can come to the conclusion that harmonization became an absolute necessity after the transition period of their formation had come to an end.

1.2 Taking this into account, the Interstate Aviation Committee has worked out a specialized working document — “Concept of Harmonization of the National Air Traffic Management Systems of the Member States of the Commonwealth of Independent States”.

1.3 The provisions of the Concept conform to the ICAO strategic recommendation documents.

1.4 Some provisions of the Concept, which on the whole reflect modern views on the problem of increasing transport efficiency of the states, have already begun to be realized in the CIS States, in particular, while modernizing the systems, coordinating the boundaries of flight information regions, etc.

2. ARRANGEMENTS ON THE HARMONIZATION OF THE AIR NAVIGATION SYSTEMS OF THE MEMBER STATES OF THE COMMONWEALTH OF INDEPENDENT STATES

2.1 At present national regulations and requirements in the field of air navigation of a number of the CIS member States differ from the ICAO Standards and Recommended Practices.

2.2 These are the most significant of such differences:

- a) the classification of airspace and corresponding forms of air traffic service, envisaged by ICAO, is lacking;
- b) different responsibility is allotted to the aircraft flight crew and traffic control personnel, which is determined by the differences in the forms of air traffic service;
- c) different flight operation regulations are applied (while executing manoeuvres at crossing tracks, in case of radio communication failure, while executing flights in the controlled airspace and flights according to IFR and VFR);

- d) different norms and units of measure are applied in longitudinal and vertical separation minimum;
- e) different formalized messages are used in planning airspace use and air traffic control while providing for the activity of the state aviation and other airspace users;
- f) different requirements are set to the completeness of information, presented in air navigation charts (only the part of information, which influences flight safety, is being published);
- g) different requirements are set to the accuracy of publishing the coordinates of radio navigation facilities and aerodrome reference points; and
- h) flight way points of area navigation, boundaries of some prohibited areas, restricted areas and danger areas are not published.

2.3 Minimizing differences between national ATM regulations and ICAO Standards and Recommended Practices will be achieved by means of adopting coordinated decisions on the unification of normative legal documents on the regional level, within the framework of the Commonwealth of Independent States, and on the global level, within the framework of ICAO, Eurocontrol and other international organizations.

3. UNIFICATION OF THE NORMATIVE AND LEGAL BASE

3.1 Up to 1991 a uniform in structure and contents normative and legal base, in the field of air traffic management functioned in the CIS member States.

3.2 Later on the documents, making up this base, have undergone considerable changes. For example: in a number of the CIS States responsibility for planning air traffic use was transferred from the bodies of the Ministries of Defence to civil aviation bodies or state regulation bodies, which include representatives of civil and state aviation; some CIS States are now going over to the foot separation system, etc.

3.3 The efforts of the CIS member States will be coordinated to develop appropriate normative and legal base in relation to the perspective ICAO CNS/ATM concept implementation.

3.4 All these aspects need to be coordinated with the CIS member States before they pass on to the category of effective documents from the category of projects.

**4. COORDINATING PROCESSES OF AIR TRAFFIC
PLANNING AND CONTROL IN THE MEMBER
STATES OF THE COMMONWEALTH OF
INDEPENDENT STATES**

4.1 Improvement of the coordination of the processes of air traffic planning and control in the CIS member States should be aimed at increasing the efficiency of airspace use by all the users without infringement of their interests. The States should seek to introduce the concept of flexible airspace use, which envisages a single national airspace for the optimum satisfaction of civil and military users' requirements in accordance with the priorities, set at the highest state level.

4.2 Introducing the concept of flexible airspace use will allow to increase the efficiency of the national systems' functioning during air traffic changes, as well as to increase airspace capacity, flight safety and regularity.

5. INTRODUCTION OF AREA NAVIGATION ROUTES

5.1 The existing structure of the CIS member States' airways is not optimum. Declination from the great circle in civil aircraft flights reach 12 per cent, and additional requirements are set in this case to the infrastructure of the ground radio navigation facilities. Introducing area navigation routes on the territory of the CIS States will allow not only to increase the economic efficiency of air traffic, but will also become an intermediate stage on the way to the realization of the "free flights" concept.

**6. ELIMINATION OF "WEAK POINTS" IN THE
AIRWAYS' CAPACITY OF THE MEMBER STATES OF
THE COMMONWEALTH OF INDEPENDENT STATES**

6.1 The process of harmonizing national air navigation systems envisages the elimination of "weak points" in the capacity in the directions of the main air traffic flows in the CIS member States.

6.2 Increasing airspace capacity presupposes reduction of values of the longitudinal and vertical separation between aircraft, provided that the required flight safety level is ensured.

6.3 Increase in the national ATM systems' capacity will be realized by means of the complex improvement of all its components, which will require using new technical facilities and considerable economic inputs.

6.4 In view of this, the CIS member States should also harmonize their financial inputs' activity to achieve common results in this sphere.

**7. UNIFICATION OF REQUIREMENTS TO THE
AIRBORNE EQUIPMENT OF THE AIRCRAFT FLEET
OF THE MEMBER STATES OF THE
COMMONWEALTH OF INDEPENDENT STATES**

7.1 Differences in requirements to the aircraft airborne equipment may become a serious obstacle to executing international flights. In this connection, main requirements to the composition and characteristics of the airborne pilot/navigation equipment complexes of the aircraft of the CIS member States, as well as the terms of their introduction should be coordinated within the framework of the harmonization programme and announced in time in compliance with the ICAO requirements.

**8. JOINT USE OF NATIONAL RADIO NAVIGATION
SYSTEMS**

8.1 National plans of modernization and development of the CIS member States' air navigation systems should take into account the possible use on their territory of radio navigation systems of the other country. The issues concerning joint use of technical facilities should be planned in advance with the aim of reducing expenditures and providing conditions for the subsequent integration of systems.

**9. ORGANIZATION OF JOINT RESEARCH AND
DEVELOPMENT**

9.1 Organization and realization of arrangements related to the national ATM systems harmonization requires deep scientific substantiation, covering organizational, tactical, technical and ergonomical ways of solving this task in the CIS States, and equal initial conditions for the subsequent integration of the national systems into the regional air navigation system.

9.2 For this purpose the CIS member States need to organize among them close cooperation in the most topical problems, connected with the effective solution of air traffic service tasks in the field of air navigation.

9.3 This will make it possible to broaden the scope of scientific research, reduce the terms of putting its results into practice, bring down financial expenditures by means of uniting efforts, and to deepen international cooperation.

**10. UNIFICATION OF AERONAUTICAL SPECIALISTS'
TRAINING PROGRAMMES**

10.1 Uniform approach to the training of specialists for the work in the national air navigation systems is an indispensable condition of harmonizing the systems' activity. Guidelines worked out by ICAO, should form the basis of the specialists' training programmes. Unification and practical training of specialists

in the CIS member States should also be realized through the certification of training centres according to uniform norms.

11. EXCHANGING EXPERIENCE OF ESTABLISHING NATIONAL AIR NAVIGATION SYSTEMS

11.1 Implementation of the ICAO CNS/ATM Concept, based on the use of global communication, navigation and surveillance structures, integration of ground airborne and space systems with the aid of digital data link service, the increased role of meteorological service, air navigation information, search and rescue led to the necessity to go over to a higher level of interstate interaction in establishing air navigation systems.

11.2 On the national level this process may develop according to different versions, determined by peculiarities of aviation infrastructure, economics, methods of management and financing, the state of economics at large.

11.3 In this connection, exchanging experience in carrying out the indicated work will allow to avoid repetition of errors and will give the possibility to use positive experience of other countries. Uniformity of approach to this important issue will also allow to considerably simplify the process of harmonization.

11.4 As regards setting up prerequisites for the integration of national air navigation systems into the European and world air navigation infrastructure, working out their single technical architecture, which is a whole complex of basic technical facilities, determined by the CNS/ATM Concept, takes important place in this process. All this presupposes a common approach to formation and management, ensuring a unified interaction of systems and services, which are part of air navigation systems, with the aim of coordinated development of separate elements and ensuring automated interaction.

12. COORDINATION OF PERSPECTIVE PLANS AND PROGRAMMES ON THE DEVELOPMENT OF NATIONAL AIR NAVIGATION SYSTEMS

12.1 Air navigation plans of the CIS member States should reflect main provisions of the ICAO Global Air Navigation Plan in relation to the CNS/ATM systems (Doc. 9750-AN/963) and the European Air Navigation Plan (Doc. 7754).

12.2 However, taking into consideration peculiarities of development of air navigation service systems of the CIS member States, air traffic performance and the state of economics, transition to the CNS/ATM systems in these countries will have its local features and differ in terms.

12.3 In this connection, coordination of plans will allow to avoid irregularity of air navigation systems' development and, therefore, eliminate weak points in capacity, which will improve air traffic safety and efficiency.

13. REALIZATION OF PROJECTS ON THE INTRODUCTION OF NEW TECHNICS AND TECHNOLOGIES

13.1 International experience demonstrates high effectiveness of combining the countries' efforts in the realization of joint perspective projects.

13.2 In strategical way, the most important projects, which require joint efforts of the CIS member States, are the development and implementation of the concept of the set air traffic safety level, methods of air traffic service "from gate to gate" and "free flights".

14. CONDUCTING JOINT ECONOMIC RESEARCH

14.1 The realization of the programme of national air navigation systems' harmonization should have economic advantages for all the CIS member States, for the bodies, providing air navigation services, and airspace users. In view of this, it is necessary to ensure collecting information, required for the economic analysis, its processing and presenting results, which visually demonstrate the advantages of the realization of the air navigation systems' harmonization programme to the community of the states concerned.

14.2 Harmonization of air traffic management systems is being realized by the CIS member States proceeding from a concrete situation, determined by the different state of the national systems' elements, as well as by the possibilities of financing the required arrangements.

14.3 Financing of the works on the harmonization of national ATM systems is conducted independently by every CIS State according to the order, specified by the national legislative acts, both at the expense of the state budget means, and within the framework of the realization of the projects and programmes at the expense of the involved investors.

14.4 The function of coordinating the works on the harmonization of the national air traffic management systems of the member States of the Commonwealth of Independent States is performed by the Interstate Aviation Committee as their authorized body.

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