



THE ROLE OF ICAO REQUIREMENTS IN THE MAINTENANCE OF AIRWORTHINESS OF AIRCRAFT AND IN THE ORGANIZATION OF FLIGHT

**Maturazov I.S.,
Eshmatov. A. Sh**

Tashkent state transport university (Tashkent, Uzbekistan)

Annotation. This article discusses the International Civil Aviation Organization (ICAO) and its 19 annexes, which are designed to ensure the safety and reliability of flights. It covers how international relations in aviation and aircraft operation are separately organized to ensure safety, efficiency, and reliability. The 19 aviation annexes, established in 1947 under the Convention on International Civil Aviation, address Standards and Recommended Practices (SARPs) related to personnel licensing, air traffic services, environmental protection, and more. Additionally, the AR-AIR-001 aviation regulations, developed by the Civil Aviation Agency of Uzbekistan to ensure flight safety within Uzbekistan's territory, were examined in light of ICAO requirements.

Key words: ICAO requirements, aircraft airworthiness, flight organization, aviation regulations, flight safety.

Аннотация. В данной статье обсуждается Международная организация гражданской авиации (ИКАО) и ее 19 приложений, которые обеспечивают безопасность и надежность полетов. Рассматривается вопрос о том, как развивать отношения в авиации и эксплуатации воздушных судов, организованных отдельно для обеспечения безопасности, эффективности и надежности. 19 авиационных приложений, установленных в 1947 году в рамках Конвенции о международной гражданской авиации, охватывают Стандарты и Рекомендуемые практики (SARPs), касающиеся лицензирования персонала, обслуживания воздушного движения, охраны окружающей среды и многого другого. Также рассмотрены авиационные правила AR-AIR-001, разработанные Агентством гражданской авиации

Узбекистана для обеспечения безопасности полетов на территории Узбекистана, в свете требований ИКАО.

Ключевые слова: Требования ИКАО, летная годность воздушных судов, организация полетов, авиационные правила, безопасность полетов

Annotatsiya. Ushbu maqolada Xalqaro fuqaro aviatsiyasi tashkiloti (ICAO) va uning havo qatnovi xavfsizligi va ishonchliligini ta'minlaydigan 19 ta ilovasi muhokama qilinadi. Xavfsizlik, samaradorlik va ishonchlilikni ta'minlash uchun alohida tashkil etilgan aviatsiya va havo kemalarida aloqalarni qanday rivojlantirishga qaratilgan. 1947-yilda Xalqaro fuqaro aviatsiyasi to'g'risidagi konventsiyaga muvofiq tashkil etilgan 19 ta aviatsiya ilovasi xodimlarni litsenziyalash, havo harakatiga xizmat ko'rsatish, atrof-muhitni muhofaza qilish va boshqalarni o'z ichiga olgan standartlar va tavsiya etilgan amaliyotlarni (SARPs) qamrab oladi. Shuningdek, ICAO talablaridan kelib chiqib, O'zbekiston hududida parvozlar xavfsizligini ta'minlash maqsadida O'zbekiston fuqaro aviatsiyasi agentligi tomonidan ishlab chiqilgan AR-AIR-001 aviatsiya qoidalari ham ko'rib chiqilmoqda.

Kalit so'zlar: ICAO talablari, havo kemalarining parvozga yaroqliligi, parvozni tashkil etish, aviatsiya qoidalari, parvozlar xavfsizligi.

Introduction. The International Civil Aviation Organization (ICAO) is a specialized agency of the United Nations responsible for the control and standardization of international aviation practices. Its main objective is to ensure the safety, efficiency and regularity of air transport around the world. ICAO develops and maintains Standards and Recommended Practices (SARPs) for various aspects of aviation, including aircraft airworthiness and flight operations. These standards play a critical role in ensuring the safety and reliability of aircraft around the world.

ICAO was established on April 4, 1947, following the signing of the Convention on International Civil Aviation (Chicago Convention) in 1944. Its main

purpose is to promote the safe and orderly development of international civil aviation throughout the world [4].

In the context of aviation, airworthiness refers to the condition that ensures the safe operation of an aircraft during flight. This includes the structural integrity and functionality of systems and equipment, regular maintenance and inspections, and accurate documentation and record keeping. The International Civil Aviation Organization (ICAO) plays a critical role in setting and enforcing airworthiness requirements [3], ensuring that aircraft meet global safety standards, and contributing to the safe and orderly operation of flights around the world.

Research analysis: ICAO Requirements and Aviation Safety Standards

Research method. ICAO requirements play a crucial role in maintaining the airworthiness of aircraft and organizing flights. They set standards for maintenance procedures, including routine checks, inspections and repairs, which ensure that aircraft remain safe and serviceable. In addition, ICAO mandates due diligence on maintenance activities and monitors compliance with these standards through audits and monitoring. These efforts are making a significant contribution to improving aviation safety and air transport reliability worldwide [1].

Currently, the International Civil Aviation Organization (ICAO) contains 19 aviation annexes [4], each of which addresses important aspects of safety and operational standards. These annexes are effective for licensing of aviation professionals, rules of air navigation, acquisition and presentation of metrological data, regulation of maps important to air navigation, standardization of units of measurement, use of aircraft, aircraft nationality and registration marks, aircraft airworthiness, international air traffic and establishing safe procedures, telecommunications standards, search and rescue services and their implementation, determining the causes of aviation accidents, airfields, information services, transportation of dangerous goods, aircraft design and maintenance, air traffic control, environmental protection and encompassing everything from aviation

security protocols to the supporting pillars of a global framework for safe and efficient air transport Fig 1.

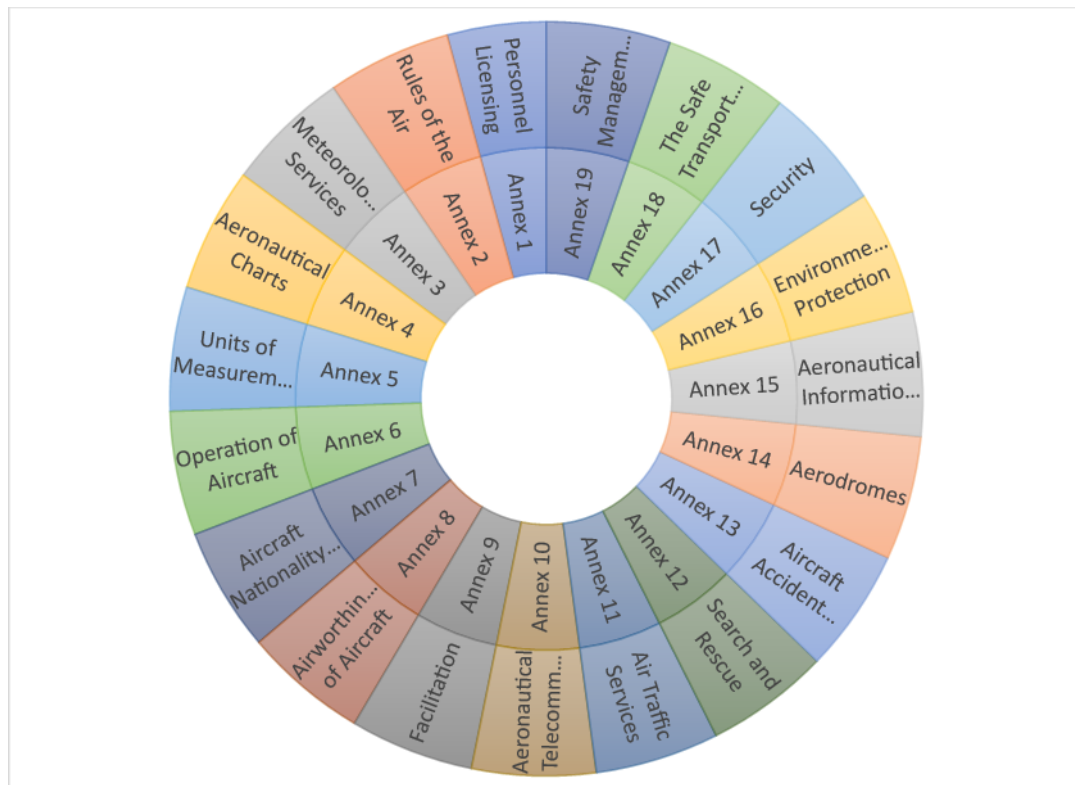


Fig. 1. ICAO annexes

As aviation continues to evolve and innovate, ICAO Annexes [5] play an important role in ensuring harmonized practices and regulations within the international aviation community. They reflect the collaborative efforts of nations, industry stakeholders and regulatory authorities to uphold the highest standards of safety and sustainability in air transport worldwide. With the development of modern technologies, some applications are being updated by ICAO. (Table 1). [2].

ICAO Annexes and Their Standards

Table 1.

ICAO annexes		Short explanation
1	Personnel Licensing	Covers standards and recommended practices (SARPs) for licensing pilots, flight engineers, navigators, and air traffic controllers.
2	Rules of the Air	Focuses on rules and procedures for air navigation, including right-of-way rules,

		airspace classifications, and air traffic control procedures.
3	Meteorological Services	Addresses standards for providing meteorological information and services essential for safe air navigation.
4	Aeronautical Charts	Specifies requirements for the design and production of aeronautical charts used in aviation.
5	Units of Measurement to be Used in Air and Ground Operations	Establishes standard units of measurement for aviation operations.
6	Operation of Aircraft	Sets standards for aircraft operations, including flight rules, performance, and airworthiness requirements.
7	Aircraft Nationality and Registration Marks	Details standards for aircraft registration markings, nationality marks, and related procedures.
8	Airworthiness of Aircraft	Covers standards for aircraft design, certification, maintenance, and airworthiness requirements.
9	Facilitation	Focuses on procedures to facilitate international air travel, including customs, immigration, and security processes.
10	Aeronautical Telecommunications	Sets standards for aeronautical telecommunications systems and procedures, including radio communications and navigation aids.
11	Air Traffic Services	Defines standards for air traffic control services, airspace management, and air traffic flow management.
12	Search and Rescue	Addresses standards and procedures for coordinating international search and rescue operations for aircraft and maritime incidents.
13	Aircraft Accident and Incident Investigation	Covers standards for the investigation of aircraft accidents and incidents to improve aviation safety.
14	Aerodromes	Sets standards for aerodrome design, operations, safety management, and environmental protection.
15	Aeronautical Information Services	Covers standards for the provision of aeronautical information, charts, and publications essential for aviation operations.

16	Environmental Protection	Addresses aircraft noise, emissions, and fuel efficiency to minimize aviation's environmental impact.
17	Security	Focuses on aviation security measures, including security screening, access control, and threat assessment procedures.
18	The Safe Transport of Dangerous Goods by Air	Covers standards for the safe handling, packaging, and transport of dangerous goods by air.
19	Safety Management	Establishes standards and requirements for safety management systems (SMS) to enhance aviation safety.

ICAO Standards and Uzbekistan's Commitment to Aviation Safety: A Case Study of AR-AIR-001.

Based on the guidelines and recommendations set by the International Civil Aviation Organization (ICAO), in May 2023, the Civil Aviation Agency of the Republic of Uzbekistan in order to regulate the aviation industry and ensure flight safety in the territory of Uzbekistan.[3]

Developed document AR-AIR-001. This document serves as a comprehensive resource describing various aspects of aviation airworthiness [3]. It covers the standards, procedures and protocols necessary to ensure the safety, reliability and regulatory compliance of aircraft flying in the airspace of Uzbekistan [1].

AR-AIR-001 demonstrates Uzbekistan's commitment to adapting aviation practices to international standards, in particular, to standards set by ICAO. This reflects the agency's commitment to meeting stringent airworthiness requirements, from maintenance procedures and personnel qualifications to documentation practices and adherence to airworthiness directives.

By incorporating ICAO recommendations into AR-AIR-01, the Civil Aviation Agency of Uzbekistan demonstrates its proactive approach to improving aviation safety and efficiency. This document is a valuable resource for aviation stakeholders

and provides clear guidance on best practices and regulatory requirements related to aircraft airworthiness in the nation's aviation industry [3].

In conjunction with AR-AIR-01's comprehensive coverage of aviation airworthiness and maintenance organization approval, it is important to acknowledge the important role played by the International Civil Aviation Organization (ICAO) applications related to these areas. Integrated with global aviation standards, these annexes provide detailed requirements and guidance necessary to ensure the safety, reliability and regulatory compliance of aircraft maintenance and flight operations practices. is enough.

ICAO Annex 6 – Operation of Aircraft, Part I – International Commercial Air Transport – Airplanes and Part II – International General Aviation – Standards and Recommended Practices for the Operation of Airplanes, Aircraft, including Maintenance Specific to Commercial and General Aviation Aircraft specifies display requirements. These applications cover areas such as maintenance programs, inspections, continuing airworthiness management and approval of maintenance organizations [5].

In addition, ICAO Annex 8 - Airworthiness of Aircraft sets out standards and recommended practices for the airworthiness of aircraft, including design, construction and maintenance. This annex specifies the requirements for airworthiness certificates, maintenance inspections, modifications, repairs and compliance with Airworthiness Directives (ADs), which are all important elements in maintaining the continued airworthiness of aircraft [6].

Conclusion: In conclusion, it should be noted that ICAO defines and regulates international safety standards in civil aviation, including requirements for pilot training, maintenance, flight safety, aerodromes and air traffic control. These standards help ensure a high level of safety for passengers and cargo. ICAO develops and oversees standards and recommendations for navigation equipment, air navigation procedures, flight maintenance and aeronautical communications. This

ensures the efficiency and reliability of air traffic. ICAO is working to develop standards and recommendations to reduce emissions of pollutants, noise and other aspects affecting the environment. ICAO proposals help to develop cooperation between countries in the field of civil aviation. It will help ensure uniform standards and procedures for international flights, which will ensure the safety and efficiency of air traffic. Overall, ICAO proposals play an important role in ensuring the safety, efficiency and sustainability of civil aviation globally.

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