

*Avdeeva A. N., candidate of technical sciences, associate professor
Associate Professor of the Department of Materials Science and Mechanical
Engineering*

Tashkent State Transport University

Uzbekistan, Tashkent

*Ablyalimov O. S., candidate of technical sciences,
Professor of the Department "Locomotives and locomotive economy"*

Tashkent State Transport University

Uzbekistan, Tashkent

**THE ROLE OF THE DISCIPLINE "METROLOGY AND
STANDARDIZATION" IN THE TRAINING OF AVIATION
ENGINEERING SPECIALISTS OF THE TASHKENT STATE
TRANSPORT UNIVERSITY**

Annotation: The article assesses the need for teaching the discipline "Metrology and standardization" for aviation engineering specialists of the Tashkent State Transport University. The main regulatory documents necessary for a young specialist to work are presented. The authors made conclusions about the expediency of the acquired knowledge both in the field of standardization and metrology.

Key words: metrology, standardization, standards, convention, unity and accuracy of measurements.

*Авдеева А. Н., кандидат технических наук, доцент
доцент кафедры «Материаловедение и машиностроение»
Ташкентский Государственный Транспортный Университет
Узбекистан, г. Ташкент
Аблялимов О. С., кандидат технических наук,
профессор кафедры «Локомотивы и локомотивное хозяйство»*

**РОЛЬ ДИСЦИПЛИНЫ «МЕТРОЛОГИЯ И СТАНДАРТИЗАЦИЯ»
ПРИ ПОДГОТОВКЕ СПЕЦИАЛИСТОВ АВИАЦИОННОЙ
ИНЖЕНЕРИИ ТАШКЕНТСКОГО ГОСУДАРСТВЕННОГО
ТРАНСПОРТНОГО УНИВЕРСИТЕТА**

Аннотация: В статье проведена оценка необходимости преподавания дисциплины «Метрология и стандартизация» для специалистов авиационной инженерии Ташкентского Государственного Транспортного Университета. Представлены основные нормативные документы, необходимые молодому специалисту для работы. Авторами сделаны выводы о целесообразности получаемых знаний как в области стандартизации, так и метрологии.

Ключевые слова: метрология, стандартизация, стандарты, конвенция, единство и точность измерений.

The priority task of any state, including Uzbekistan, in a market economy, is competitiveness. The global requirements for quality are constantly rising in all areas of the reality around us. In the aviation industry, these requirements are much higher, since flight safety depends on it. The Decree of the President of the Republic of Uzbekistan “On measures to radically improve public administration in the field of technical regulation” clearly states that “if a product does not have an international standard, it will never be competitive” [1].

However, today, more and more often there are students who talk about the uselessness of studying the discipline "Metrology and standardization" [2]. Moreover, proposals are being made to reduce this discipline in the curricula for the specialties of aeronautical engineering, based on the experience of some foreign countries. The answer to doubts about the need to study the discipline "Metrology standardization" may be the requirement of President Shavkat

Mirziyoyev, expressed at a meeting on the effectiveness of reforms in the system of technical regulation, standardization, certification and metrology: "It is necessary to create an environment in which every manufacturer in the country knows and understands the standards.

A young specialist in the aviation industry, who graduated from the University, will have to do his job, which is directly related to the knowledge of regulatory documents. For example, on July 3, 1992, the Parliament of Uzbekistan ratified the Convention on International Civil Aviation (Decree of the Supreme Council No. 666-XII of July 3, 1992) and on November 12, 1992, the Republic of Uzbekistan became a full member of the International Civil Aviation Organization (ICAO), adopting themselves corresponding obligations. ICAO develops standards for use in civil aviation around the world. The study of these standards is included in the program of the discipline "Metrology and standardization". If, upon graduation from the University, graduates want to improve their knowledge, then they should know that they can continue their studies at the Singapore Civil Aviation Academy and in Korea, with the assistance of the ICAO agency in Uzbekistan.

Organization of air traffic in the airspace of the Republic of Uzbekistan - SUE Center "UZAERONAVIGATION", bases its work on regulatory documents, such as: rules of AP RUz-71 "Air traffic services in civil aviation"; "Guidelines for the organization of air traffic in the Republic of Uzbekistan"; ICAO Annex 11 "Air Traffic Services"; ICAO Doc.4444 "Air Traffic Management". An aeronautical engineering graduate should be aware of the existence and content of the listed documents.

When designing, researching, testing, maintaining and troubleshooting aviation transport (AT), as well as in ground flight support (AtoN), the unity and accuracy of measurements is necessary. The control of AT and AtoN parameters during operation and repair is carried out by standards and special measuring instruments. Timely verification and calibration of measuring instruments is

carried out by metrologists. Drawing up methods, rules, norms and control of the uniformity of measurements, development of regulatory documents for the metrological support of production activities are also the responsibility of the metrological services of the aviation industry. In aviation, metrology has two more global features: firstly, in addition to general-purpose measuring instruments, there is a huge variety of special ones; secondly - and this is the main thing - metrological service is directly related to flight safety. In other words, knowledge of metrology is required. Without them, it is impossible to imagine a modern, full-fledged, competitive aviation engineering specialist.

Without fail, when mastering the discipline "Metrology and standardization", students study the basic laws of the Republic of Uzbekistan "On metrology", "On standardization", "On certification of products and services", "On conformity assessment", "On consumer rights"

Another aspect of the importance of studying the discipline "Metrology and Standardization" for bachelors of the Transport University is the knowledge of the regulatory documents proposed by ISO, which in most countries of the world are the basis of State standards. In our Republic they are designated as O`zDSt. Uzbekistan is one of the leaders in QMS certification (O`zDSt ISO 9001-2008 (ISO 9001: 2008)), among the CIS countries. According to the press. services of Uzbekistan - at the end of March 2011, 8 structural divisions of the National Airline "Uzbekistan Airways" passed the certification of quality management systems according to ISO 9001:2015. These are the airports of Tashkent, Samarkand, Bukhara, Namangan, Nukus, Termez, Karshi and KMTS "Uzaviatekhsnab". At the moment, planned activities for the implementation of a quality management system are being completed, and preparations are underway for a certification audit in other divisions of the aviation industry in Uzbekistan. The ultimate goal of this process is to fully certify Uzbekistan Airways according to international standards. This means that the airline of our Republic will provide services at the highest level. Young professionals need to comply with the

requirements of international standards, and be aware not only about the existence and content of the State (for example, Resolution of the Cabinet of Ministers of the Republic of Uzbekistan No. 349 dated July 22, 2004 "On measures to introduce quality management systems at enterprises that meet international standards"), but and international standards relating to both air transport and production management.

Metrology, standardization and certification are aimed at improving the quality of our entire life, and in particular, at improving the quality of the aviation industry in Uzbekistan. "The basis for modern competitive production is to ensure product quality" (Shavkat Mirziyoyev). The implementation of the competitiveness program is possible only if there is a necessary number of highly qualified international specialists with knowledge and skills in the field of metrology and standardization.

Used sources:

1. Н. К. Турсунов, А. Н. Авдеева, Ш. И. Мамаев, Д. И. Нигматова
МЕТРОЛОГИЯ И СТАНДАРТИЗАЦИЯ: РОЛЬ И МЕСТО
ДИСЦИПЛИНЫ В ПОДГОТОВКЕ СПЕЦИАЛИСТОВ
ЖЕЛЕЗНОДОРОЖНОГО ТРАНСПОРТА РЕСПУБЛИКИ
УЗБЕКИСТАН // Academic research in educational sciences. 2022. №TSTU
Conference 1. URL: <https://cyberleninka.ru/article/n/metrologiya-i-standartizatsiya-rol-imesto-distsipliny-v-podgotovke-spetsialistov-zheleznodorozhnogo-transportarespubliki> (дата обращения: 24.01.2023).
2. Авдеева А. Н., Абляимов О. С., Турсунов Н.К., Валиева Д.Ш
ИНДИВИДУАЛЬНАЯ РАБОТА ПЕДАГОГА СО СТУДЕНТАМИ ПРИ
ИЗУЧЕНИИ ДИСЦИПЛИНЫ «МЕТРОЛОГИЯ И
СТАНДАРТИЗАЦИЯ» [Электронный ресурс]// Теория и практика
современной науки.-2022.-№10(88) (дата публикации: 23.10.2022).- URL:
https://www.modern.ru/files/ugd/b06fdc_8bb02525c0b84da28d2e5b63de4a4197.pdf?index=true (дата обращения: 24.01.2023)