

	COOMET Information material	COOMET I/LM/10:2021
	Organization of the Sphere of State Regulation in the Field of Legal Metrology in COOMET Member Countries	
<p><i>Approved at the 31st COOMET Committee meeting (15-17 June 2021, online).</i></p>		

1. GENERAL PROVISIONS

The preparation of the information material on the organization of the sphere of state regulation in the field of legal metrology was carried out on the basis of the study of the experience of formation of the sphere of state regulation in the field of legal metrology of different COOMET member countries in the framework of COOMET project No. 629/RU-a/13. This work was carried out in order to identify the main forms of state regulation in key areas of metrological support of COOMET member countries and to further borrow their experience in the organization of the sphere of state regulation by the interested countries.

The work on this topic involved the members of TC 2 "Legal Metrology" from Russia (project Coordinator), Azerbaijan, Belarus, Germany, Kazakhstan, Kyrgyzstan, Cuba, Moldova, Slovakia, Uzbekistan.

This work was carried out in several stages:

- at the 1st stage, a questionnaire was prepared, which was sent to COOMET member countries to the members of the TC 2 Working Group who agreed to participate in this project;
- at the 2nd stage, the information received from the questionnaires of the Working Group members was collected, analyzed and summarized;
- at the 3rd stage, preparation of the information material on the organization of the sphere of state regulation in the field of legal metrology in different countries was carried out.

The interim results of the work were presented for the first time at the 17th TC 2 meeting, held in Tashkent. The interim results of the survey of 4 COOMET member countries were presented at the meeting. This topic aroused the interest of other participants of the TC 2 meeting and it was suggested that work on this topic should continue, the questionnaire on individual issues should be elaborated and sent again to the members of the TC 2 Working Group, which was done. The next results on this topic were presented in 2019 at the 19th TC 2 meeting, held in Kiev, Ukraine. After this discussion of the project, representatives of TC 2 from Azerbaijan and Kazakhstan joined the work on the project, having presented completed questionnaires. The final report on the project contains the results of the survey from 10 COOMET member countries and was presented at the 21st online TC 2 meeting.

2. PREPARATION OF THE QUESTIONNAIRE

The final version of the questionnaire contained the following 11 groups of questions (during the implementation of the project, separate questions were changed):

1. What are the main legislative documents that define the scope of state regulation of ensuring the uniformity of measurements?

On the first question, it is proposed to form an answer in 4 directions:

- the law on metrology;
- normative legal acts adopted in accordance with the law on metrology;
- acts adopted in accordance with the legislation on technical regulation;

- national standards and other regulatory documents.

2. Does the scope of state regulation apply to measurements (measuring instruments) in the following areas of activity?

As the areas of activity proposed for the survey, 8 most socially significant areas were identified, such as:

- state safety;
- trade;
- health;
- environmental protection;
- occupational safety;
- prevention of accidents;
- traffic regulating;
- official activities (customs and tax legislation, postal activity and communications, geodetic measurements).

In addition, it is proposed, when organizing the scope of state regulation in other areas, for example, in construction, transport, public utilities, and others, that they are specified.

3. How is the field of state regulation defined and what kind of a normative legal act (normative document) is it based upon?

On this question, it is proposed that answers be given in the following 5 areas:

- whether the field of state regulation is defined by the fields of measurements;
- whether the field of state regulation is defined by specific measurements with fixed indications of accuracy;
- whether the field of state regulation is defined by a specific list of measuring instruments;
- whether the field of state regulation is defined by a list of definite measuring instruments with fixed accuracy levels or unified verification/calibration intervals.

It is also proposed that other aspects defining the field of state regulation are indicated, if available.

4. What forms of state regulation (metrological control and supervision) are implied in the field of state regulation (regarding legal metrology).

To answer this question, it is proposed that answers are given to the following 13 forms of state regulation:

- type approval of reference materials;
- type approval of measuring instruments;
- verification of measuring instruments;
- calibration of measuring instruments;
- certification of measuring instruments;
- certification of reference materials;
- a special form of conformity assessment (approval) of measurement standards;
- metrological expertise /peer assessment;
- attestation of measurement procedures;
- accreditation of laboratories or organizations performing work in the field of ensuring the uniformity of measurements;
- authorization of organizations performing work in the field of ensuring the uniformity of measurements;
- state metrological supervision;
- a special form for conformity assessment of technical systems and devices with measuring functions.

5. Do the following elements of state regulation apply in your countries:

- verification intervals are regulated by the state;
- calibration intervals are regulated by the state;
- requirements for the dissemination of units of quantities (for verification schemes, hierarchical schemes for the dissemination of a unit of quantity, traceability schemes) are set at the state level?

6. Are there any information resources used in your country demonstrating the results of work in the field of legal metrology?

7. Is there an authorized body responsible for the compliance with the prescribed requirements in the field of state regulation concerning measurements/measuring instruments (their groups)?

8. Are there any local (territorial) metrological bodies involved in solving the tasks in legal metrology in your country and what is their main task (if available)?

9. Do the NMIs take part in solving the tasks of legal metrology?

10. Are there any changes envisaged in the field of state regulation, and if yes, what will they be focused on?

11. Are there any changes in the forms of state regulation (metrological control and supervision) envisaged and what will they include?

For each question, it is proposed that a short answer (yes/no) is given, it is indicated what the implementation of the requirement on this issue implies in the law on metrology or in another regulatory legal act (a bylaw that is mandatory for application) and a brief characteristic of the answer to this question is given.

3. SURVEY RESULTS

Based on the analysis of the submitted responses, the following information was obtained on the organization of the sphere of state regulation in the field of legal metrology.

1. The main legislative documents defining the scope of state regulation of ensuring the uniformity of measurements.

As the main regulatory documents, in accordance with which state regulation is carried out and the scope of state regulation of ensuring the uniformity of measurements is determined (hereinafter – the scope of state regulation, the scope of legal metrology), specific documents used in the state are given, including:

- the law on metrology;
- normative legal acts adopted in compliance with the law on metrology;
- regulations adopted in compliance with the legislation on technical regulation;
- national standards and other normative documents.

At the same time, it is noted that the law on ensuring the uniformity of measurements (the law on metrology) establishes the general legal framework, defines the shape of the sphere of state regulation, and normative legal acts adopted in accordance with the law directly define the sphere of state regulation in the form of lists of measurements (the list of measuring instruments, the register of measuring instruments).

2. Areas of activity related to the sphere of state regulation (legal metrology).

2.1. According to the results of the survey, the main areas of activity of the sphere of state regulation are:

- trade;
- area of professional security;
- health;
- traffic regulating;

- official activities (customs and tax legislation, postal activity and communications, geodetic measurements).

In these areas of activity, state regulation is carried out by all ten COOMET member countries that participated in the survey (hereinafter referred to as the countries that participated in the survey).

At the same time, in Germany, the tax legislation applies only to taxes on ethanol in terms of determining the percentage of ethanol in ethanol-water mixtures.

2.2. Environmental protection. Environmental protection activities in 9 countries that participated in the survey (90% of the number of countries surveyed) belong to the sphere of state regulation of ensuring the uniformity of measurements (legal metrology). Environmental protection activities in Cuba do not fall within the scope of state regulation (legal metrology).

2.3. National security. In 7 countries that participated in the survey (80%), state regulation (related to legal metrology) applies to the sphere of national security. These countries include Azerbaijan, Belarus, Kazakhstan, Cuba, Moldova, Russia, Slovakia, and Uzbekistan. In Germany and Kyrgyzstan (20 %), the sphere of national security does not belong to the sphere of state regulation (legal metrology).

2.4. Prevention of accidents, including occupational safety. The field of accident prevention (occupational safety) in the 6 countries that participated in the survey (Azerbaijan, Belarus, Cuba, Germany, Russia, Slovakia, 60 %) belongs to the field of state regulation (legal metrology). In Uzbekistan (10 %), this area of activity is provided for in the draft new version of the law on metrology, and in 3 countries that participated in the survey (30 %), such as Moldova, Kyrgyzstan, and Kazakhstan, the activity on accident prevention (occupational safety) does not belong to the sphere of state regulation (legal metrology).

2.5. Other areas of activity in the field of state regulation (legal metrology). In addition to the areas of activity specified in the questionnaire that determine the scope of state regulation (legal metrology), the survey participants additionally indicate certain areas of activity in which state regulation is also carried out in their countries (they belong to the field of legal metrology). These areas of activity include:

- public order and public safety;
- consumer protection;
- construction;
- transport (use of tachographs);
- collection of payments, utilities;
- conduct of official sports events, training athletes;
- use of nuclear energy;
- veterinary activities;
- activities on behalf of courts, authorities.

3. The mechanism of state regulation. When answering the question "How is the field of state regulation defined", the following answers were provided:

in 5 countries (Belarus, Germany, Kyrgyzstan, Moldova, Slovakia, 50%), the scope of state regulation is defined by the areas of activity and the lists of measuring instruments;

in the Russian Federation (10%), the scope of state regulation is defined by the areas of activity and the lists of measurements established for these areas of activity with the requirements/accuracy indicators set for them;

in 2 countries (Azerbaijan and Kazakhstan, 20 %), the scope of state regulation is defined by the areas of activity and the lists of measurements established for these areas of activity with the requirements/accuracy indicators set for them, as well as the lists of measuring instruments for which mandatory requirements are also set.

in 2 countries (Cuba and Uzbekistan, 20 %), the scope of state regulation is defined only by the areas of activity.

4. Forms of state regulation. When answering question 4 in relation to the forms of state regulation (metrological control and supervision) provided for in the field of state regulation (to the areas of legal metrology), various answers were also received that characterize the forms used in the countries that participated in the survey.

4.1. The main forms of state regulation. Such forms of state regulation (metrological control and supervision) as approval of the type of measuring instruments, verification of measuring instruments, metrological expertise and state metrological supervision are used by all countries that participated in the survey.

4.2. Type approval of a reference materials as a form of state regulation is used in 7 countries that participated in the survey (80 %). Such countries that use the type approval of reference materials as an independent form of state regulation include Azerbaijan, Belarus, Germany, Kazakhstan, Kyrgyzstan, Russia, Slovakia and Uzbekistan. Two countries (20 %), Cuba and Moldova, do not use the "type approval of reference materials" form of state regulation.

4.3. Calibration of measuring instruments as a form of state regulation is used in 4 countries that participated in the survey (Azerbaijan, Belarus, Slovakia, Uzbekistan, 40 %). Cuba and Kyrgyzstan (20 %) apply calibration, as a form of state regulation, only to standards for which measuring instruments are used. In 4 countries (Germany, Russia, Moldova, Kazakhstan, 40 %) calibration, as a form of state regulation, is not applied, but is used only on a voluntary basis.

4.4. Certification of measuring instruments as a form of state regulation is used in 3 countries (Azerbaijan, Kazakhstan and Uzbekistan, 30 %) and in 7 countries (Belarus, Germany, Kyrgyzstan, Cuba, Moldova, Russia, Slovakia, 70 %) this form of state regulation does not apply. At the same time, in Belarus, the certification of measuring instruments was used before the amendments to the law "On Ensuring the Uniformity of Measurements" in 2020, and Kyrgyzstan, which currently does not use this form of state regulation, on the contrary, plans to return to it when the next amendments to the law are made.

4.5. Certification of reference materials as a form of state regulation is not applied in any country that participated in the survey.

4.6. Attestation of measurement procedures as a form of state regulation is applied in 6 countries (Azerbaijan, Belarus, Kazakhstan, Kyrgyzstan, Russia, Uzbekistan, 60 %) and 4 countries (Germany, Cuba, Moldova, Slovakia, 40 %) do not use it.

4.7. Accreditation of laboratories or organizations performing work in the field of ensuring the uniformity of measurements is carried out in 4 countries (Azerbaijan, Kazakhstan, Kyrgyzstan, Uzbekistan, 40 %) and in 4 countries (Germany, Cuba, Moldova, Slovakia, 40 %) it is not applied as a form of state regulation, but is carried out on a voluntary basis. In the Republic of Belarus and in the Russian Federation accreditation of organizations performing work in the field of ensuring the uniformity of measurement is carried out within the framework of state regulation and on a voluntary basis.

4.8. Authorization (notification) is applied as a form of state regulation in 5 countries (Belarus, Germany, Kazakhstan, Kyrgyzstan, Slovakia, 50 %) and in 5 countries (Azerbaijan, Cuba, Moldova, Russia, Uzbekistan, 50 %) this form of state regulation is not applied.

4.9. Conformity assessment of measurement standards. A special form of state regulation is the assessment of conformity of measurement standards. 40% of the countries that participated in the survey use calibration as a form of assessing the conformity of standards. These countries include Azerbaijan, Kazakhstan, Cuba and Slovakia. 20 % of the countries that participated in the survey (Kyrgyzstan and Uzbekistan) use their verification as a form of conformity assessment of standards, and 30 % of the countries (Germany, Moldova and Russia) use a special form of conformity assessment of measurement standards. In the Republic of Belarus, verification and calibration are used as a form of conformity assessment of standards.

4.10. A special form for conformity assessment of technical systems and devices with measuring functions. This question was included in the questionnaire at the last stage of the survey,

so the answers to this question were received only from Azerbaijan, Kazakhstan, Russia and Slovakia (40 %). Technical systems and devices with measuring functions are not allocated to a separate group of devices in most of these countries and, accordingly, a special form of conformity assessment of these devices is not provided. They are mainly considered as measuring instruments. In the Russian Federation, technical systems and devices with measuring functions are allocated to a separate group, and for them establishment of requirements and special forms of conformity assessment in accordance with the legislation on technical regulation is envisaged. However, currently this mechanism still does not work as a form of state regulation.

5. Individual elements of state regulation. As part of the survey conducted under question 5, the results on the application of certain elements of state regulation were obtained.

5.1. Regulation of intervals between verifications of measuring instruments. Thus, all the countries that participated in the survey regulate the intervals between verifications of measuring instruments, which are established either when approving the type of measuring instruments, or by separate regulatory legal acts.

5.2. Adjustment of intervals between calibrations of measuring instruments. All the experts who participated in the survey noted that the intervals between calibrations of measuring instruments are not regulated by the state, but are set independently. At the same time, it is not entirely clear, and the responses did not mention how the intervals for assessing the conformity of standards are regulated, where calibration is used as a form of assessing the conformity of standards. The issue of conformity assessment of standards in general requires separate additional consideration in a separate project, as shown by the results of the survey in this project, in order to ensure a uniform understanding of the forms of conformity assessment used in COOMET member countries and the concepts themselves.

5.3. Requirements for the dissemination of units of quantities. It was also noted by all experts that at the state level, there are requirements for the requirements of units of quantities, which are set either to verification schemes or to other hierarchical schemes for the requirements of a unit of quantity (traceability schemes).

6. Information resources. According to the results of the survey, it was found out that in the countries that participated in the survey, information resources are used to reflect the results of work in the field of legal metrology. At the same time, the level of informatization in each country is different and the existing information resources are used in different ways.

7. The authorized body responsible for the compliance with the prescribed requirements in the field of state regulation and local (territorial) metrological bodies.

In all the countries that participated in the survey, there is an authorized body responsible for compliance with the prescribed requirements concerning measurements and/or measuring instruments (their groups) in the field of state regulation.

In addition, 8 countries (Azerbaijan, Belarus, Germany, Kazakhstan, Kyrgyzstan, Cuba, Russia and Uzbekistan 80 %) have local (territorial) bodies, the main task of which is the implementation of state metrological supervision. In two countries (Slovakia and Moldova, 20%), there are no territorial authorities. The functions of the state metrological supervision are assigned to the authorized body.

8. National metrology institutes. The role and participation of national metrology institutes has been noted in solving the problems of legal metrology. The main tasks of the national metrology institutes are the following:

- basic and applied research;
- development, improvement, content, comparisons and application of national primary standards;
- participation in the development of draft normative legal acts in the field of metrology;
- participation in international cooperation in the field of metrology;
- performance of metrological work.

9. The main directions of changes in the sphere of state regulation. In terms of proposed changes in the sphere of state regulation, where they are envisaged, the following was noted:

- reduction of the scope of government regulation;
- compliance with the legislation of the EU or the EAEU (for the states that are members of the relevant union);
- specification of the scope by introducing a list of measuring instruments subject to type approval and verification.

10. The main directions of changes in the forms of state regulation. Regarding the proposed changes in the forms of state regulation (metrological control and supervision), the following was noted:

The Republic of Belarus replaced the metrological certification of measuring instruments with the approval of the type of measuring instruments based on the positive results of the metrological examination of measuring instruments, metrological confirmation of the suitability of measurement methods was replaced by their metrological certification. All the changes planned during the implementation of the project are implemented in the wording of the Law of the Republic of Belarus "On Ensuring the Uniformity of Measurements" No. 254-Z of November 11, 2019.

The transition from paper to electronic confirmation of the results of type approval and verification of measuring instruments has been provided for in the Russian Federation. Confirmation of the results of these works is the information contained in the Federal Information Fund for Ensuring the Uniformity of Measurements. All the changes planned during the implementation of the project were implemented by the adoption of Federal Law No. 496-FZ of December 27, 2019, which introduced these changes.

Germany provides for the introduction of a single bylaw on the packaging of goods. Currently the issues related to the packaging of goods (labeling, packaging) are regulated by various laws. With the adoption of this act, all the requirements (aspects) of packaging will be concentrated in one bylaw on packaging.

As part of the improvement of the legislation on metrology, the Republic of Cuba intends to grant greater powers and autonomy to local authorities.

At the 21st meeting of COOMET TC2 the representatives of Kyrgyzstan noted the desire to return to metrological certification of measuring instruments instead of approving the type of measuring instruments (for single production).

Thus, the information material on the organization of the sphere of state regulation in the field of legal metrology of COOMET member countries, prepared under the project based on the study of the experience of Russia, Azerbaijan, Belarus, Germany, Kazakhstan, Kyrgyzstan, Cuba, Moldova, Slovakia, and Uzbekistan, allowed us to identify the main forms of state regulation in key areas of metrological support of these countries and can serve to borrow their experience in the organization of the sphere of state regulation by other interested countries.

Information

1. Organization, coordinating the development: VNIIMS, Russian Federation;
2. COOMET project 629/RU-a/13 (project Coordinator Yury Androshchuk, VNIIMS, Moscow, Russian Federation);
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