

MINUTES

of the 19th meeting of the COOMET Technical Committee TC 1.10

«Thermometry and Thermophysics»

15 - 16 November 2022 (online)

1. Opening of the meeting, welcoming, introduction of the participants of the meeting, approving of the agenda of day

The meeting was opened by Chairperson of COOMET Technical Committee «Thermometry and Thermophysics» (TC 1.10) Petr Krivonos, who addressed the meeting participants with a welcoming speech and wished them successful work.

P. Krivonos welcomed the TC members and guests, who were present at the meeting. The meeting was attended by the representatives of 10 countries:

AZERBAIJAN

Ms. Mehriban Shirinova, member of TC 1.10, AzMI

ARMENIA

Dr. Garik Martirosyan, member of TC 1.10, CJSC «NBSM»

BELARUS

Mr. Petr Krivonos, member of TC 1.10, BelGIM

GEORGIA

Mr. Yuri Chelidze, member of TC 1.10, GEOSTM

KAZAKHSTAN

Mr. Asylbek Zhumagali, member of TC 1.10, RSE "KazStandard"

KYRGYZSTAN

Ms. Marina Denisova, member of TC 1.10, KYRGYZSTANDART

MOLDOVA

Mr. Konstantin Bordianu, member of TC 1.10, INM

RUSSIA

Prof. Anatoly Pokhodun, member of TC 1.10, VNIIM

Mr. Fuksov V., VNIIM

Mrs. Korchagina Ye., VNIIM

Mr. Razhba Ya., VNIIFTRI

Mr. Vinge M., VNIIFTRI

TAJIKISTAN

Ms. Musalama Khudoieva, member of TC 1.10, Tajikstandard

UZBEKISTAN

Mr. Bekhruz Yusupov, member of TC 1.10, UzNIM

COOMET SECRETARIAT

Ms. Liakhova N., BelGIM, Belarus

The quorum requirements for the meeting according to document COOMET D5/2021 have been met. Members of TC 1.10 from 17 COOMET member countries were appointed, 15 countries participate in the calculation of the quorum, 2 countries (Bulgaria and Cuba) have the status of «observer». The quorum is ensured with the participation of representatives of at least 8 countries.

The participants of the meeting approved the following agenda:

№	Question
1	2
1	Information about changes in the composition of the shopping mall. On the appointment of the Vice-Chairman and coordinators of directions
2	Information about the decisions of the COOMET Committee and the President's Council concerning the activities of the TC
3	Information on the activities of TC 1.10 in 2021-2022, including an analysis of the decisions of the previous meeting and information on the participation of TC representatives in meetings of working bodies of international organizations and RMOs
4	Information report on the decisions taken by the COOMET Joint Committee for Measurement Standards and discussion of issues related to with decisions
4.1	Discussion of the information provided by NMI CEEMS in terms of organization and carrying out comparisons and calibrations
4.2	Discussion of the information provided by NMI CEEMS in terms of organization and conducting training seminars
4.3	Discussion of the feasibility of developing primary reference measurement procedures and reference measurement procedures
5	On the progress of work on COOMET topics, including the proposed corrective actions for comparisons lasting more than 5 years and updating the work program of TC 1.10:
	851/RU/21 Supplementary comparisons of measurement standards of dew point temperature Participants: RU, BY, KZ, MD.
	826/MD-a/21 (COOMET.T-S5) Supplementary comparisons of standards for relative humidity unit Participants: MD, BY, FI.
	744/RU-a/18 (COOMET.T-S4) Comparisons in the field of measurements of combustion energy of coals with different sulphur content Participants: RU, BY, RO, CN, DE, TR.
	704/RU-a/16 (COOMET.T-K9.1) Comparisons of temperature national standards at the triple point of mercury Participants: MD, BY, GE, KZ, MD, DE.
	787/UZ-a/19 Pilot comparisons in the area of platinum resistance thermometers calibration Participants: RU, BY, UZ.
	780/RU-a/19 Pilot comparisons of national reference gas calorimeters using samples of gas mixtures Participants: RU, TR, FR.

Continuation

1	2
5	771/MD-a/18 Pilot comparisons in the area of platinum resistance thermometers calibration in fixed points from triple point of mercury (-38.8344 °C) to melting point of gallium (29.7646 °C) Participants: MD, UZ.
6	On the organization of comparisons and examination of CMC
7	On the implementation of the CIPM MRA
7.1	On updating the list of technical experts for the examination of CMC
7.2	On the need to conduct workshops on the preparation of CMC and the calculation of the uncertainty budget
8	On the participation of TC 1.10 in the formation and implementation of the COOMET Plan on the development of standard calibration methods for various groups of measuring instruments (taking into account the decisions of Joint Committee for Measurement Standards)
9	Discussion of new topics
10	e-learning BIPM platform and other training issues
10.1	About the possibilities of the BIPM e-learning platform
10.2	About the creation of COOMET courses
10.3	About China's NIM proposals for organizing online learning
12	About the date of the next meeting

DECISIONS OF THE MEETING**1. Information about changes in the composition of the shopping mall. On the appointment of the vice-chairman and coordinators of directions.**

Speakers: Krivonos P.V (BelGIM).

In 2022, there was a change of the Chairman of TC 1.10 The COOMET Committee approved Petr Krivonos (BelGIM, Belarus) in this position.

In 2022, new TC members from Azerbaijan (Mehriban Shirinova) and Kazakhstan (Asylbek Zhumagali) were appointed.

Deputy Chairman of TC 1.10 at the suggestion of Krivonos P.V. remains Viktor Markovich Fuksov (VNIIM named after D.I. Mendeleev). TC members supported this proposal.

TC members discussed possible candidates for coordinators of the areas identified under TC 1.10 in accordance with the document COOMET D5.10/2022 «Regulations on the COOMET Technical Committee «Thermometry and Thermophysics (TC 1.10)». The agreed decisions are reflected in the decisions of the meeting.

Decision

1. Take note of the information about the change of members of TC 1.10.
2. To appoint Viktor Fuksov (VNIIM, Russia) as the Deputy Chairman of TC 1.10.
3. Appoint as coordinators of areas within the framework of TC 1.10 for a period of 5 years:
 - «Thermometry» - Viktor Fuksov (VNIIM, Russia);
 - «Thermophysical quantities (thermal conductivity, heat capacity, thermal diffusivity, etc.)» - Sergey Kondratiev (VNIIM, Russia);
 - «Hydrometry» - Mikhail Vinge (East-Siberian branch of «VNIIFTRI», Russia).

4. Take note of the information on the appointment of Davidovskaya A.G. (BelGIM, Belarus) Secretary of TC 1.10.

2. Information about the decisions of the COOMET Committee and the President's Council.

Speaker: Lyakhova N. (BelGIM)

Head of COOMET Secretariat Liakhova N. provided information on the decisions of the COOMET Committee and the President's Council adopted in 2022.

Decision

1. Take note of the information about the main decisions of the COOMET, COOMET President's Council (including the suspension of participation of Ukraine in the structural bodies of COOMET) and be guided by them in the future in the activities of TC 1.10.

2. Take note of the information on COOMET activities to support countries with developing metrological systems (CEEMS).

3. On the activities of COOMET Technical Committee TC 1.10 in 2021-2022

Speaker: Krivonos P.V. (BelGIM).

Chairman of TC 1.10 Krivonos P.V. noted that 2022 was «transitional» in connection with the transfer of powers of the chairman of the TC. The main priorities of the TC activities are still the following items of the COOMET Development Program:

- participation of the NMIs of the COOMET Member States in the implementation of the CIPM MRA;

- updating the Roadmap for the introduction of a new definition of kelvin into the practice of NMIs;

- organization of training seminars, conferences;

The practical implementation of the CIPM MRA is carried out by organizing and conducting regional key and supplementary comparisons, as well as by conducting an intra-regional examination of the CMCs of the COOMET member countries and interregional examination of the measurement capabilities of the NMIs of the participating countries of other RMOs.

As part of the practical implementation of the CIPM MRA, the NMIs of the COOMET member countries conduct research aimed at creating new national standards of units of thermophysical quantities and improving existing standards. Along with the above, research is being carried out aimed at introducing a new definition of kelvin into measurement practice in COOMET countries.

Information on other aspects of the activities of the TC was discussed under separate agenda items.

Decision

1. Take note of the information on the activities of TC 1.10 in 2021-2022.

4. Information report on the decisions taken by the COOMET Joint Committee for Measurement Standards and discussion of issues related to with decisions

Speaker: Krivonos P.V. (BelGIM).

Information on the decisions of the 22nd meeting of the Joint Committee for Measurement Standards is presented in Appendix 1.

4.1 Discussion of the information provided by NMI CEEMS regarding the organization and conduct of comparisons and calibrations

During the meeting, information on the need to organize and carrying out comparisons and calibrations for CEEMS NMIs, in particular, the following proposals were considered:

- **Kyrgyzstandart (Kyrgyzstan):**

- pilot comparisons within COOMET or bilateral comparisons for glass thermometers;
- pilot comparisons within COOMET or bilateral comparisons for digital thermometers;
- supplementary comparisons within COOMET or bilateral comparisons for resistance temperature converters;
- pilot/supplementary comparisons within COOMET or bilateral comparisons for relative humidity hygrometers;
- **UzNIM (Uzbekistan):**
- supplementary comparison in the field of thermometry from 0 °C to 200 °C for platinum resistance thermometers by direct comparison.

There was no discussion of proposals for the calibration of standards, since the collection and analysis of information from the NMIs of countries that can support CEEMS is carried out by KazStandard - the information will be taken into account when preparing the Program of Work to support CEEMS.

Decision

1. Organize the following comparisons for CEEMS NMIs:
 - COOMET pilot comparisons for glass thermometers (pilot – BelGIM (BY), expected participants: Kyrgyzstandart (KG), CJSC «NBSM» (AM), UzNIM (UZ));
 - COOMET pilot comparisons for digital thermometers (pilot – «KazStandart» (KZ), proposed participants: CJSC «NBSM» (AM), UzNIM (UZ));
 - supplementary COOMET comparisons for resistance thermocouples (pilot – NIM (MD), proposed participants: CJSC «NBSM» (AM), KazStandard (KZ), UzNIM (UZ));
 - pilot or supplementary (if after completion of topic 826/MD-a/21) comparisons within COOMET for relative humidity hygrometers (pilot – East Siberian branch of «VNIIFTRI» (RU), intended participants: CJSC «NBSM» (AM), «KazStandard» (KZ));
2. Comparison pilots to agree with the prospective participants on samples for comparisons and start work on the preparation of the technical protocol of comparisons.
3. UzNIM to clarify the need to organize supplementary comparisons in the field of thermometry from 0 °C to 200 °C for platinum resistance thermometers by direct comparison. Submit information at the next meeting of TC 1.10.

4.2 Discussion of the information provided by NMI CEEMS regarding the organization and conduct of training seminars

During the meeting, information on the need to organize and conducting internships/training seminars for CEEMS NMIs, in particular, the following proposals were considered:

- **CJSC «NBSM» (AM):** calibration of glass and digital thermometers, calibration of resistance thermometers and thermoelectric converters (thermocouples), calibration methods, calculation of measurement uncertainty, presentation of results;
- **UzNIM (Uzbekistan):** calibration of resistance thermometers, thermoelectric converters by implementing reference points in accordance with ITS-90, measurements and processing of results.

Decision

1. Support the idea of holding training seminars for CEEMS NMIs according to their needs; make the final decision in working order by correspondence or at the next meeting of the TC (depending on the timing of receipt from «KazStandard» (KZ) generalized materials based on the results of the survey indicating proposals from NMIs of countries that can support CEEMS).

4.3 Discussion of the feasibility of developing primary reference measurement procedures and reference measurement procedures

Chairman of TC 1.10 Krivonos P. reported that, in his opinion, there is no need to develop primary reference measurement methods and reference measurement methods in the field of thermometry and thermal physics. The participants of the meeting supported this position.

Decision

1. To note the inexpediency of developing primary reference measurement methods and reference measurement methods in the field of thermometry and thermal physics.

2. Ask the chairman of the TC to inform the decision of the Joint Committee for Measurement Standards about this.

5. On the progress of work on COOMET topics, including the proposed corrective actions for comparisons lasting more than 5 years and updating the work program of TC 1.10

5.1 Discussion of the progress of work on topic 851/RU/21 «Supplementary comparisons of dew point temperature standards».

Speaker: Vinge M.A. (East-Siberian branch of «VNIIFTRI», Russia).

The theme coordinator and pilot of the comparisons is «VNIIFTRI», Russia.

Participants - NMIs of Belarus, Moldova, Kazakhstan.

The draft technical protocol of the comparisons has been prepared. Comparisons will be carried out according to the "star" principle. Problems related to the logistics of conducting comparisons, and, accordingly, the timing of the work, were voiced.

Decision

1. The pilot shall complete the coordination with the participants of the comparisons of the technical protocol of the comparisons; agree on the logistics of comparisons based on from the requirements of the legislation of the proposed countries participating in the comparisons.

2. The pilot should register the comparisons in the KCDB, and then complete the form of the agreed COOMET topic in the prescribed manner.

5.2 Discussion of the progress of work on the topic 826/MD-a/21 (COOMET.T-S5) «Supplementary comparisons of relative humidity unit standards».

Speaker: Bordianu C. (NIM, Moldova).

Theme coordinator and comparison pilot – NIM, Moldova.

The participants are the NMIs of Moldova, Belarus and Finland.

The measurements and processing of the results were carried out. Report A is agreed.

Decision

1. Take note of the information about the results of comparisons.

2. Pilot to complete the approval of the report B. Send the report to the TC Chairman on comparisons for approval in the CCT.

5.3 Discussion of the progress of work on the topic 744/RU-a/18 (COOMET.T-S4) «Comparisons in the field of measuring the heat of combustion of coals with different sulfur values».

Speaker: Korchagina E.N. («VNIIM», Russia).

The theme coordinator and pilot of the comparisons is «VNIIM», Russia.

The participants are the NMIs of Russia, Belarus, Romania, China, Germany and Turkey.

The measurements and processing of the results were carried out. Report B sent to participants. The problem of the lack of feedback from the participants of the comparisons was voiced.

Decision

1. The pilot completes the approval of the comparison report (report B); if necessary, send a request to the NMI through the COOMET Secretariat or the CCT secretary.
2. Submit the final version of report B for approval by the TC after completion of the agreement with the participants of the comparisons.

5.4 Discussion of the progress of work on the topic 704/RU-a/16 (COOMET.T-K9.1) «Regional key comparisons of national standards of the unit of temperature at the triple point of mercury».

Speaker: Razhba Ya.E. («VNIIFTRI», Russia).

The topic coordinator and pilot of the comparisons is «VNIIFTRI», RU.

Participants - NMIs of Russia, Belarus, Georgia, Kazakhstan, Moldova and Germany.

At present, measurements have been taken by the NMIs of Russia, Belarus, Georgia, Kazakhstan and Moldova. The problem of the lack of feedback from the participants of comparisons (Germany) was voiced.

Decision

1. Ask COOMET Secretariat to send a request to PTB (Germany) on the possibility of continuing work on comparisons. If it is not possible to continue work, ask PTB (Germany) to provide a notification on termination of participation in comparisons.
2. Ask the pilot to prepare an A report within one month (1) after receiving notification based on the results available or (2) after the resumption of work by PTB (Germany).
3. Submit the final version of report B for approval by the TC after completion of the agreement with the participants of the comparisons.
4. The Chairman of the TC to apply to the NIM of China with a proposal on the appointment of a member of TC 1.10 and on the possibility of participation in COOMET comparisons in the field of thermometry and thermal physics as a linking institute.

5.5 Discussion of the progress of work on topic 787/UZ-a/19 «Pilot comparisons in the field of calibration of platinum resistance thermometers».

Speaker: Yusupov B. (UzNIM, Uzbekistan).

Theme coordinator and pilot of comparisons – UzNIM, Uzbekistan.

Participant - NMI of Moldova.

The measurements and processing of the results were carried out. Report A is agreed.

Decision

1. Complete the preparation and approval of report B, and then submit to the COOMET Secretariat the form of the final report on the topic of COOMET.

5.6 Discussion of the progress of work on topic 780/RU-a/19 «Pilot comparisons of national reference gas calorimeters on samples of gas mixtures».

Speaker: Korchagina E.N. («VNIIM», Russia).

The theme coordinator and pilot of the comparisons is «VNIIM», Russian Federation.

Participants - NMIs of Russia, Turkey and France.

The measurements and processing of the results were carried out. A report was compiled and sent to the participants. The problem of the lack of feedback from the participants of the comparisons was voiced.

Decision

1. The pilot completes the approval of the comparison report (report A); if necessary, send a request to the NMI through the COOMET Secretariat or the CCT secretary. After approval of report A, organize the preparation and approval of report B.

4. Submit the final version of report B for approval by the TC after completion of the agreement with the participants of the comparisons.

5.7 Discussion of the progress of work on topic 771/MD-a/18 «Pilot comparisons in the field of calibration of platinum resistance thermometers at fixed points in the range from the triple point of mercury (-38.8344 °C) to the melting point of gallium (29.7646 °C)».

Speaker: Bordianu C. (NIM, Moldova).

Theme coordinator and comparison pilot – NIM, Moldova.

Participant - NMI of Kazakhstan.

The measurements and processing of the results were carried out. Preparing a report B.

Decision

1. Complete the preparation and approval of report B, and then submit to the COOMET Secretariat the form of the final report on the topic of COOMET.

6. On the organization of comparisons and examination of CMC

Chairman of TC 1.10 Krivonos P.V. announced the need to intensify work on the examination of SMS. In n.v. work is underway to transfer the rights of the chairman of the TC to the KCDB, which caused some delays and problems with the work at KCDB. He also expressed his gratitude to K. Bordian for his help in carrying out interregional expertise of CMC.

A.I. Pokhodun expressed concern about the need to conduct key regional COOMET comparisons of triple point water ampoules. Comparisons are necessary to confirm the calibration and measurement capabilities previously declared by COOMET member countries.

The equivalence of national measurement standards of the COOMET member countries was established based on the results of regional key comparisons with the help of a linking institute, which participated in both the Consultative Committee for Thermometry (CCT) key comparisons and COOMET key comparisons. At present, only «VNIIM», representing Russia in the CCT.

In the current situation, VNIIM cannot play the role of a linking institution. In this regard, it seems appropriate to search for NMIs that could act as a liaison institute for COOMET comparisons. In addition, due to the updating of the KCDB, it is necessary to start COOMET regional key comparisons of triple point water ampoules in 2023.

Decision

1. Take note of the information on the work on the examination of SMS within the framework of the CIPM MRA and emerging issues in the implementation of the CIPM MRA (in terms of examination of SMS data).

2. In cases where it is not possible to conduct an inter-regional examination of CMC, notify the KCDB office in advance of the impossibility of conducting an examination on behalf of COOMET.

3. Take note of information about problems in the implementation of the CIPM MRA (in terms of comparisons).

4. Ask the TC Chairman to apply to NIM China with a proposal on the appointment of a member of TC 1.10 and on the possibility of participation in COOMET comparisons in the field of thermometry and thermal physics as a linking institute.

5. To include in the COOMET Program of Comparisons in 2023 the preparation and

commencement of key comparisons of triple point water ampoules.

7. On the implementation of the CIPM MRA.

7.1 On updating the list of technical experts for the examination of CMC.

Chairman of TC 1.10 Krivonos P.V. reported on the appointments in n.v. technical experts of COOMET on examination of CMC-strings and offered to update the list.

Decision

1. Instruct C. Bordian, as the leader of the group, to update the composition of the group of technical experts for the examination of CMC (including the nomination of candidates for the TE). The Chairman of the TC to organize the work of the appointed TEs on the examination of the CMC.

2. The updated list should be sent to the COOMET Secretariat by 15.03.2023 for subsequent placement of information on the TC 1.10 page.

3. Request all designated technical experts to open or update KCDB accounts.

7.2 On the need to conduct seminars on the preparation of CMC strings and calculation of the uncertainty budget.

Decision

1. Conduct a workshop for members of TC 1.10 «The practice of applying CIPM MRA documents regulating the activities of NMIs on the procedure for preparing CMC lines and calculating the uncertainty budget» together with the TC meeting in 2023

2. To note the expediency of participation of interested representatives of TC 1.10 in the COOMET seminar on teaching the general principles of working with KCDB 2.0 (for candidates for TE on CMC examination) in 2023.

3. Conduct an online seminar»Implementation of the new definition units of temperature – kelvin» in April 2023 (speakers - specialists from VNIIM and VNIIFTRI, Russia); ask the chairman of TC 1.10 to inform the Joint Committee for Measurement Standards about this in order to update the information in the COOMET P6/2021 program (clause A4.3).

8. On the participation of TC 1.10 in the formation and implementation of the COOMET Plan on the development of standard calibration methods for various groups of measuring instruments (taking into account the decisions of Joint Committee for Measurement Standards).

Chairman of TC 1.10 Krivonos P. reported on the decisions of the Joint Committee for Measurement Standards regarding the revision in 2023 of the recommendation COOMET R/GM/31:2016 «Methods for the calibration of measuring instruments. General Requirements» (the new version will describe in detail the procedure for developing methods, its structure and the content of sections, as well as the validation process in the calibration laboratory, etc.).

The Joint Committee for Measurement Standards also recommends:

– for pilots of comparisons, when planning work, to prescribe the Protocol of comparisons in more detail, including the stages of preparation for measurements, measurements, data processing, etc.;

– representatives of interested CEEMS to develop calibration methods on their own, based on the priority of their needs, and submit draft calibration procedures for consideration at TC meetings.

The meeting participants exchanged views on the advisability of developing standard calibration methods in the area of responsibility of TC 1.10.

Decision

1. Recommend to members of TC 1.10, incl. from among the CEEMS, be guided by the decisions of the Joint Committee for Measurement Standards.
2. To note the inexpediency of developing standard methods for calibrating groups of measuring instruments in the field of thermometry and thermal physics.

9. Discussion of new topics.

Under this agenda item:

- 1) Korchagina E.N. («VNIIM», Russia) proposed a new topic for 2023 - comparisons of reference bomb calorimeters on samples of liquid pure organic substances. The specialists of the Federal State Unitary Enterprise «VNIIM», Russia.
- 2) Considering that in the COOMET P6/2021 program (clause A 1.3) for 2022-2023. comparisons of national standards of the unit of temperature were planned in the range from 961 °C to 3000 °C, the transfer of these works to 2024-2025 was agreed. A possible coordinator of the comparisons is «VNIIM», Russia.

Decision

1. Approve the new topic "Comparisons of reference bomb calorimeters on samples of liquid pure organic substances" (pilot – « VNIIM», Russia). To ask the coordinator of these comparisons to prepare and send to the COOMET Secretariat in accordance with the established procedure the form of the proposed COOMET topic in the first quarter of 2023 for registration of comparisons and their inclusion in the COOMET Program of Comparisons.
2. Ask the Chairman of TC 1.10 to inform the Joint Committee for Measurement Standards about the change in the timing of comparisons under item A 4.3 of the COOMET P6/2021 program. Include discussion of the issue of organization of comparisons of national standards of temperature unit in the range from 961°C to 3000°C in the agenda of the next meeting of TC 1.10.

10. e-learning BIPM platform and other training issues

10.1 About the possibilities of the BIPM e-learning platform

Speaker: Liakhova N., BELGIM, Belarus

Head of COOMET Secretariat Liakhova N. presented information about the possibilities of the BIPM e-learning platform (see <https://e-learning.bipm.org/>). Registration of students is required to take training courses on the platform.

10.2 About the creation of COOMET courses

Liakhova N. reported that in n.v. only 3 courses are posted on the platform in the COOMET section. It is possible to post new metrology courses in Russian and English. The COOMET Secretariat, course administrators and creators are ready to provide all kinds of support in the preparation of training courses. The COOMET Committee recommended each structural body to organize the creation and placement in the COOMET section of at least one course on subjects in the area of responsibility of the CSB.

Decision

1. Take note of the information about the possibilities of the BIPM e-learning platform.
2. After the workshop on redefining the unit of temperature (see decision 7.2.3), consider it expedient to prepare a COOMET course based on the materials (presentations) of the workshop with their subsequent transformation into the format of training materials, taking into account the requirements of the BIPM electronic platform.

10.3 About China's NIM proposals for organizing online learning

The participants of the meeting discussed the proposals of the NIM of China on the

organization of online courses, and the field of thermometry with the participation of speakers from among the specialists of the NIM of China.

Decision

1. Express gratitude to the BAT of China for the submitted proposals.
2. Consider it expedient to conduct an online course «Calibration of infrared medical thermometers and medical electronic thermometers» in 2023, and an online course «Calibration of digital thermohygrometers» in 2024.
3. To ask the COOMET Secretariat and TC 4 to negotiate on the organization of the above courses.

11. About the date of the next meeting.

Representative of the East Siberian branch of «VNIIFTRI» Vinge M. announced the possibility of holding the next meeting of TC 1.10 on the basis of the East Siberian branch of «VNIIFTRI» in September-October. The participants supported this proposal. It is planned to hold a meeting in a combined format or online (depending on the current situation).

The Chairman of TC 1.10 informs the members of the TC about the exact dates and format of the meeting no later than June 1, 2023.

12. Closing of the meeting

Chairman of TC 1.10 Krivonos P. thanked the meeting participants for active work.

Chairperson of TC 1.10



P. Krivonos

