

# GETTING STARTED

## KCDB restricted web portal

KCDB 2.0  
v. 2022-04-05  
[www.bipm.org/kcdb](http://www.bipm.org/kcdb)



# 1 GETTING STARTED

The Key Comparison Database - KCDB – supports the Mutual Recognition Arrangement of the International Committee for Weights and Measures (CIPM MRA), implemented in 1999. It contains data on Calibration and Measurement Capabilities (CMCs) and comparison results of measurements in physics, chemistry and biology. The KCDB is an evidence-based database: all data included have been reviewed by international groups of experts and approved for mutual recognition.

The KCDB website [www.bipm.org/kcdb](http://www.bipm.org/kcdb) gives access to the following open access services:

- Search published CMCs in the KCDB
- Search published comparison reports and results
- Information on statistics and recent news on issues linked to CMCs and comparisons
- A set of guidance documents

The KCDB website also provides a restricted-access platform for users. It gives support for the creation and review of CMCs, as well as tools for the registration of comparisons and submission of comparison reports and associated documents. Statistics on the review process are also available by restricted access.

The restricted access area is aimed only for persons involved in the review process and its coordination. The restricted area is accessible via a guest username/password communicated by technical committee chairs and other coordinators. Once on the platform, if applicable, a guest may request a personalized user account in which the profiles as a CMC writer/reviewer or comparison pilot may be combined. The writer, reviewer and pilot always represent their institute.

This document gives an overview of the facilities available via the KCDB website.

As a complement, video clips demonstrating selected actions are available on the KCDB website, <https://www.bipm.org/en/cipm-mra/kcdb-help>, and on the BIPM YouTube, <https://www.youtube.com/thebipm>.

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## 2 HOME PAGE

The home page gives open access to four main sections:

- **CMC:** Search
- **Comparisons:** Search
- **News:** Search for recent news on issues linked to CMCs and comparisons
- **Statistics:** CMCs and comparisons.

Direct links to the BIPM website <https://www.bipm.org/en/home> and to the list of [CIPM MRA Participants](#) are situated at the top of the screen, where it is also possible to reach the restricted user area via **Login**.

Quick access to documents related to i) the KCDB, ii) the CIPM MRA, and iii) the CLASSIFICATION OF SERVICES (established by the Consultative Committees of the CIPM for each metrology area) are listed at the bottom of the Home page.

An Application Programming Interface (API) for search on published CMCs is available via "Help on the KCDB".

Logos giving direct access to each RMO are listed in the very bottom of the page.

The screenshot shows the KCDB (Key Comparison Database) home page. At the top, there is a navigation bar with a link to BIPM.org, a globe icon for CIPM MRA PARTICIPANTS, and a Login button. A yellow callout points to the CIPM MRA PARTICIPANTS link, stating: "Access to information about participants in the CIPM MRA". Below the navigation bar is a main header with the KCDB logo and a statement: "All data listed in the KCDB have been reviewed and approved within the CIPM Mutual Recognition Arrangement". The main content area is divided into several sections: "Calibration and Measurement Capabilities – CMCs" with a search bar and a "SEARCH" button; "Key and supplementary comparisons" with a search bar and a "SEARCH" button; "News" with three news items; and "Statistics" with a world map and links to "CMCs by country", "Comparisons by country", and "More statistics". A yellow callout points to a question mark icon in the "Key and supplementary comparisons" section, stating: "Information is available via pop-ups indicated by". At the bottom of the "Statistics" section, it says "Currently in the KCDB there are:" followed by three statistics: 3546 CMCs, 954 key comparisons, and 133 supplementary comparisons. A "SEE ALL NEWS" button is located at the bottom of the "News" section.

← to BIPM.org

CIPM MRA PARTICIPANTS Login

**KCDB**  
All data listed in the KCDB have been reviewed and approved within the CIPM Mutual Recognition Arrangement

CMCS COMPARISONS NEWS STATISTICS

**Calibration and Measurement Capabilities – CMCS**

Type a keyword **SEARCH** ?  
→ [Advanced search](#)

**Key and supplementary comparisons**

Type a keyword or identifier **SEARCH** ?  
→ [Advanced search](#)

**News**

21 JUNE 2019  
TITLE1  
text1

21 JUNE 2019  
TITLE2  
text2

21 JUNE 2019  
TITLE3  
text3

**SEE ALL NEWS**

**Statistics**

→ [CMCs by country](#)  
→ [Comparisons by country](#)  
→ [More statistics](#)

Currently in the KCDB there are:

**3546** CMCs  
**954** key comparisons  
**133** supplementary comparisons

Information is available via pop-ups indicated by ?

Figure 1 Upper part of the KCDB home page.

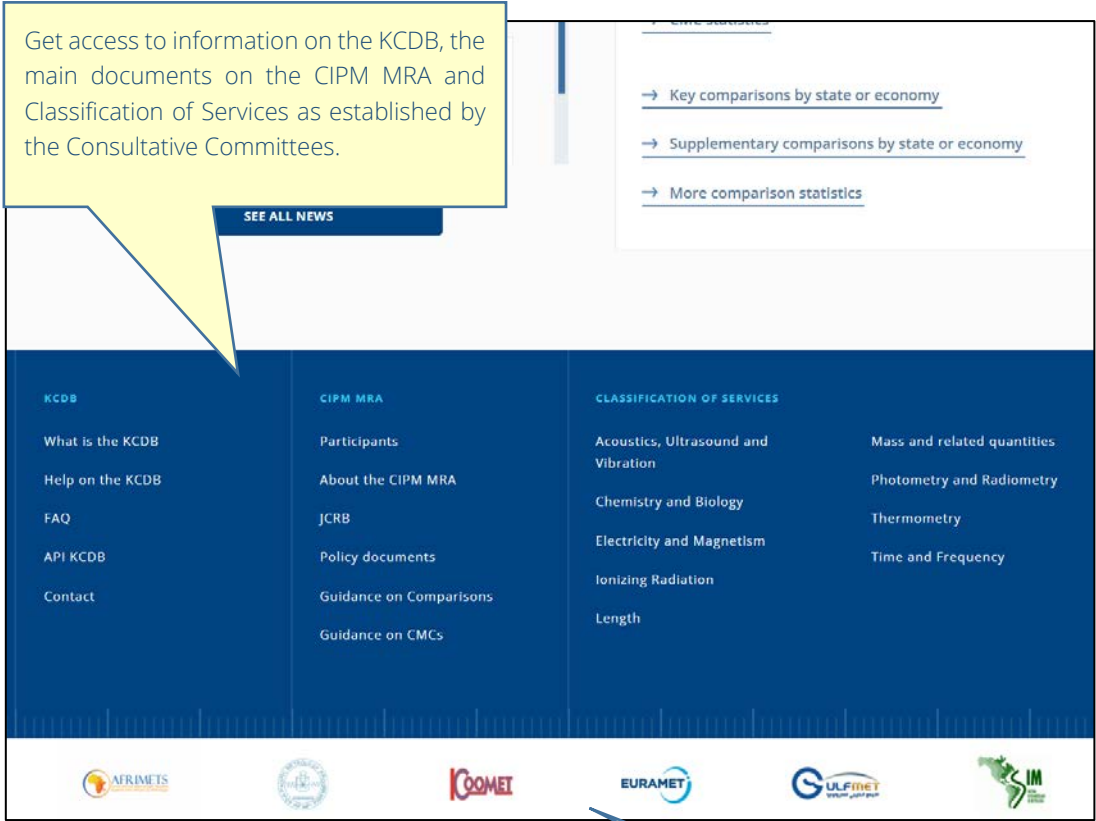


Figure 2 Lower part of the KCDB home page.

## 3 PROFILE

Restricted access to the user platform is designed for 9 different profiles:

- Guest
- TC Chair
- Writer
- Reviewer
- NMI Secretary
- RMO Secretary
- WG CMC Chair
- Pilot
- KCDB Office and JCRB Executive Secretary (hereinafter indicated as the KCDB Office)

Each account is associated with an e-mail address. For each role, it is possible that several persons have access to the same working area. As an example, during a time overlap between exiting and entering TC Chairs, it is possible that both have access to the same working area. It is then necessary that each person knows “who-does-what”.

### 3.1 GUEST

A guest has access to the restricted area, giving access to the list of Pending Actions for CMCs submitted for JCRB review and the list of CMCs being made available for vote. The Guest account also allow to consult review statistics.

The Guest may access the KCDB platform with a generic username and password that can be communicated by the TC Chair.

### 3.2 TC CHAIR

The TC Chair is an RMO coordinator within a specific scientific field and acts as a gate keeper. He<sup>1</sup> coordinates the intra RMO review of CMCs and is the contact person for the RMO for the specific metrology area(s) and expertise. He receives the submitted CMCs from the Writers within the RMO. He may choose reviewer(s) for a CMC for the intra-RMO and JCRB reviews and will vote on the approval of CMCs when required.

The TC Chair may approve the creation of user accounts.

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<sup>1</sup> “He” is used to refer to a person, regardless of gender.

The TC Chair is informed via the KCDB platform on the creation and updates of comparisons.

The TC Chair is assigned an account by the KCDB Office on request from the RMO, while being in office.

**A WG CMC Chair role cannot be combined in the same account with a TC Chair role for technical reasons – they must be associated to different user accounts.**

### 3.3 WRITER

The Writer is the author of a CMC with the authority to act as such for his institute. He interacts mainly with his TC-Chair. He may submit new CMCs, modify, or delete published CMCs, and grey out (momentarily remove) CMCs.

A Writer account may be requested by a person representing a metrology area and expertise within an institute participating in the CIPM MRA. The TC Chair of the metrology area/Expertise approves the account.

It is possible to act as Writer, Reviewer and Pilot using the same account.

### 3.4 REVIEWER

The Reviewer is invited by the TC-Chair of the RMO to review CMCs within his metrology area and expertise. He interacts mainly with his TC-Chair. He may accept a CMC or ask for revision.

A Reviewer account may be requested by a person representing a metrology area and expertise within an institute participating in the CIPM MRA. The TC Chair of the metrology area/Expertise approves the account.

It is possible to act as Writer, Reviewer and Pilot using the same account.

### 3.5 NMI SECRETARY

The NMI Secretary represents the Institute (for example the NMI Director or a Director of Department) but who does not write or review CMCs.

The NMI Secretary is assigned an account by the KCDB Office on request.

The NMI Secretary profile gives access to all Writer pages for all or selected metrology areas, in a 'read only' mode for the Institute concerned.

### 3.6 RMO SECRETARY

The RMO Secretary represents the RMO (the RMO President or any person having a strategic position within the RMO) but who does not write or review CMCs.

The RMO Secretary is assigned an account by the KCDB Office on request.

The RMO Secretary profile gives access to all TC Chair pages for all metrology areas, in a 'read only' mode for the RMO concerned.

### 3.7 WG CMC CHAIR

If used, the WG CMC Chair represents the TC Chairs of one metrology area on the JCRB level (for inter-RMO reviews). To avoid reviewing a given CMC by several RMOs he may dispatch and suggest the CMC for review to different RMOs.<sup>2</sup>

The WG RMO Chair is assigned an account by the KCDB Office.

**A WG CMC Chair role cannot be combined in the same account with a TC Chair role for technical reasons – they must be associated to different user accounts.**

### 3.8 PILOT

A Pilot is the main contact person for a comparison. The Pilot may register a comparison and is invited to update the indicated status at regular intervals. The Pilot interacts with the appropriate representative for review of the comparison report and ultimately with the KCDB Office.

A Pilot account may be requested by a person representing a metrology area and expertise within an institute participating in the CIPM MRA. The TC Chair of the metrology area/Expertise approves the account.

It is possible to act as Writer, Reviewer and Pilot using the same account.

### 3.9 KCDB OFFICE AND JCRB EXECUTIVE SECRETARY (HEREAFTER INDICATED AS THE KCDB OFFICE)

The KCDB Office is composed of BIPM staff who support the coordination of the database, and the JCRB Executive Secretary, who maintains contact with the RMOs.

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<sup>2</sup> This does not prevent other RMOs from reviewing the CMC if necessary or desired.

## 4 USER ACCOUNT AND MEMBER AREA

The member area is restricted to persons directly associated with activities of the CIPM MRA.

### 4.1 GUEST ACCOUNT

The member area is accessible via a **guest account**.

The username is **tcguest@bipm**

The password is **TContact1%**

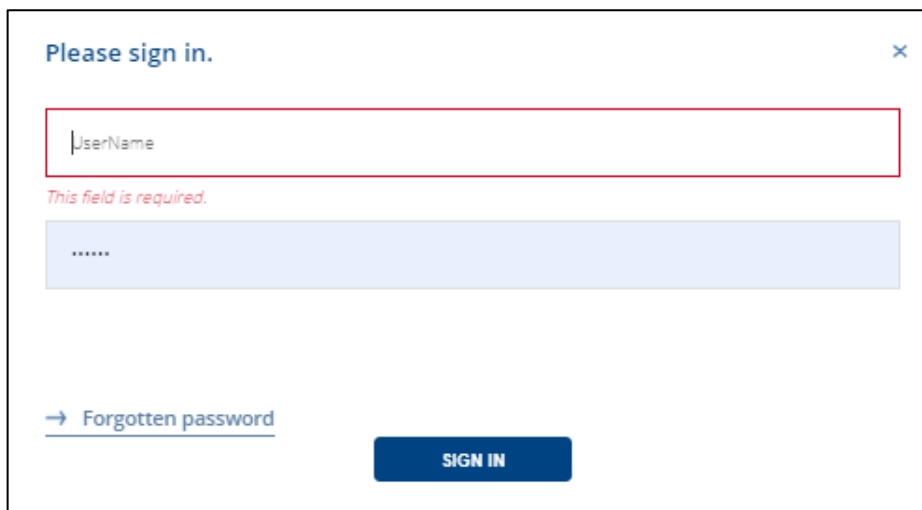


Figure 3 Pop-up window to log-in.

In addition to the open website, the Guest account gives access to

- Pending actions
- Vote tracking
- Statistics on review performance



## 4.2 REGISTER FOR A USER ACCOUNT

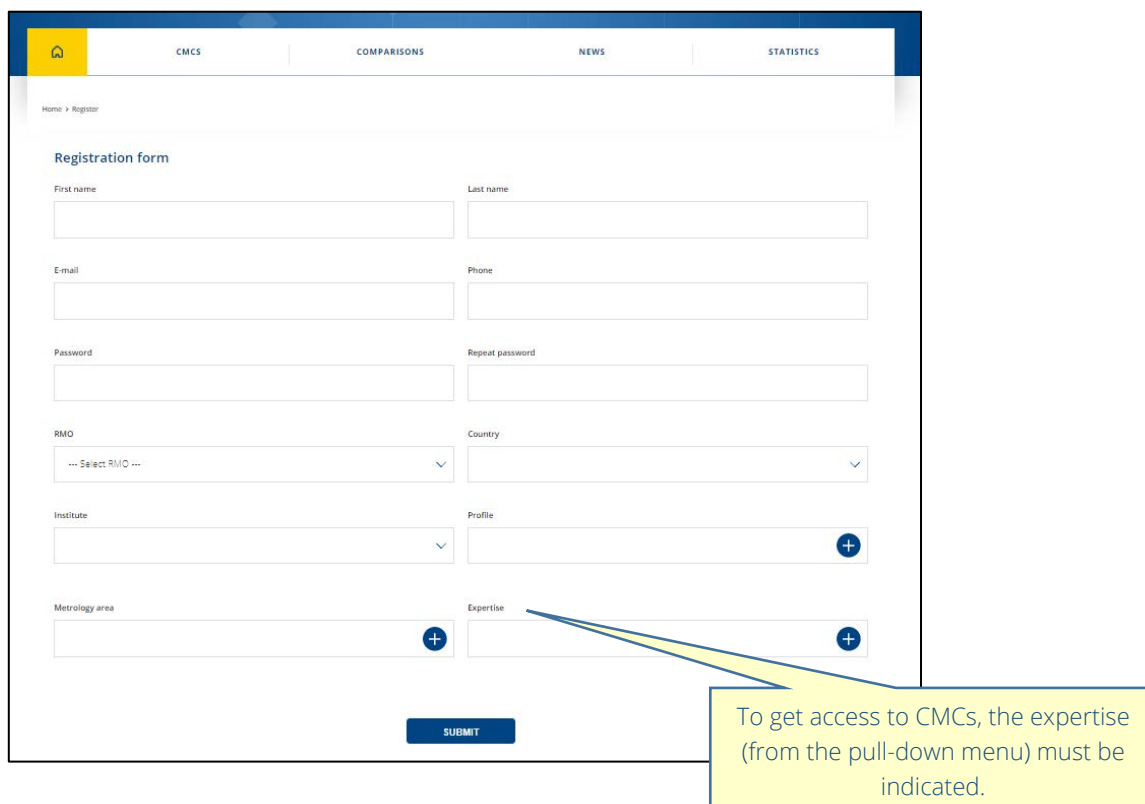
After having logged in with the Guest account, the user may register for a personalized user account. **Only persons who will write CMCs, review CMCs or pilot a comparison should request a user account. Accounts for TC Chair, RMO Secretary and WG CMC Chair are issued by the KCDB Office.** The profiles as Writer, Reviewer or Pilot for a comparison can be included in the same account.

Please note that persons who formerly have previously piloted a comparison may already have been assigned a user account. You will notice this when requesting a new account by the message “This e-mail address already exists. Please enter another valid e-mail address.”. In this case you may recover your account using the action “Forgotten password”.



The screenshot shows a registration form with fields for First name, Last name, E-mail, Phone, Password, and Repeat password. The E-mail field contains the text "epicard@bipm.org" and is highlighted with a red border. Below the field, a red error message reads: "This e-mail address already exist. Please enter another valid e-mail address." A yellow callout box with a blue border points to the E-mail field and contains the text: "Have you already piloted a comparison?"

Figure 4 You may already have a user account.



The screenshot shows the full registration form. The form includes fields for First name, Last name, E-mail, Phone, Password, Repeat password, RMO (a pull-down menu), Country (a pull-down menu), Institute (a pull-down menu), Profile (a pull-down menu with a plus icon), Metrology area (a pull-down menu with a plus icon), and Expertise (a pull-down menu with a plus icon). A blue "SUBMIT" button is at the bottom. A yellow callout box with a blue border points to the Expertise field and contains the text: "To get access to CMCs, the expertise (from the pull-down menu) must be indicated."

Figure 5 Registration form to request a user account.<sup>3</sup>

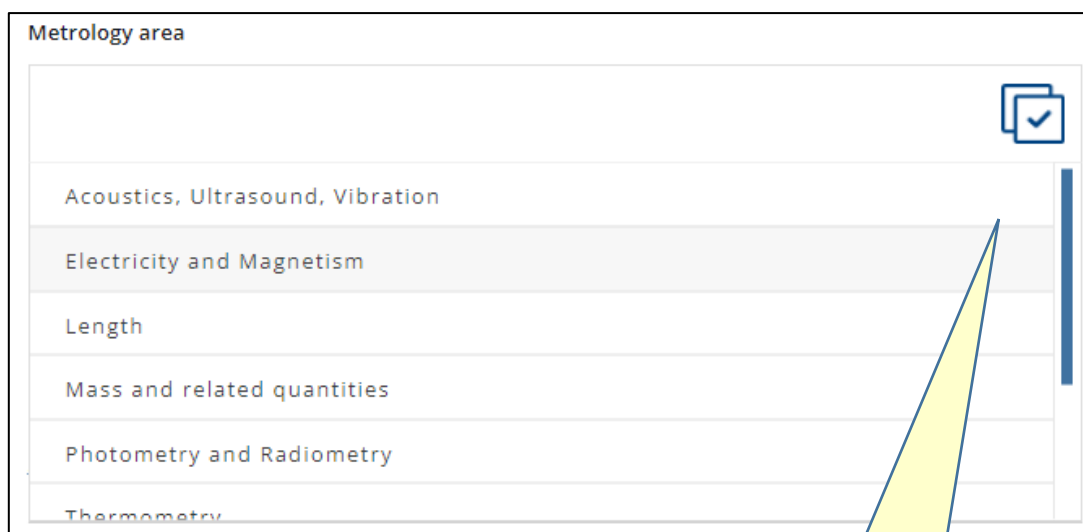
The image shows a web form titled "Metrology area". It contains a list of metrology fields: "Acoustics, Ultrasound, Vibration", "Electricity and Magnetism", "Length", "Mass and related quantities", "Photometry and Radiometry", and "Thermometry". To the right of the list is a vertical scrollbar. In the top right corner of the list area, there is a small icon consisting of two overlapping squares with a checkmark inside, representing a "Select all" option. A yellow callout box with a blue border points to this icon.

Figure 6 Close-up on select-all-option

This symbol represents "Select all".

Information on name, e-mail address, password, RMO<sup>4</sup>, country<sup>5</sup>, institute and profiles must be given. At least on metrology areas should be indicated, but several are accepted (see orange text below).

**Passwords must contain at least 10 characters, including 1 capital letter, 1 number and a special character, allowed: ! & # @ % \* < > \$ .**

Associated with the metrology area is on or several fields of expertise which will filter the accessible data. **If an expertise is not indicated, no CMCs for that expertise will be displayed.** No other fields apart from those directly concerning the user should be indicated.

For Chemistry and Biology the expertise is defined by the Working Group concerned. It is here necessary to include expertise **"Not attributed"** which presently label any of the CMCs not yet classified and OAWG, IAWG,...<sup>6</sup>

**Once the account has been approved by the TC Chair, any modification of metrology area and/or expertise must be requested from the TC Chair.**

<sup>3</sup> Information on the user is displayed on the open web when the person acts as comparison pilot. Information on the user is displayed to reviewers and TC Chairs on the restricted web within the CMC review process.

<sup>4</sup> For international organizations the RMO involved in the review process should be indicated.

<sup>5</sup> For international organizations, the country is indicated as the organization acronym and name.

<sup>6</sup> Users wishing to access CMCs in GAWG or EAWG only do not need to indicate "Not Attributed".

**If the account includes more than one Metrology Area, the KCDB Office should be informed by e-mail by the user, the TC Chair concerned placed in copy.**

The registered **user account** is personal to the extent that the registered e-mail is the account identifier. Nevertheless, the registered user always represents the institute.

In addition to the open website, the registered account gives access to

- Pending actions
- Vote tracking
- Statistics on review performance
- Platform tools according to the profile

### **4.3 APPROVAL OF A USER ACCOUNT**

The submission to request a user account is addressed via an automatic e-mail notification to the associated TC-Chair within the RMO and the KCDB Office. In general, it is the TC Chair who approves, or rejects, the request.

### **4.4 UPDATE OF AN ALREADY REGISTERED ACCOUNT**

When your account has been approved, you will see the account details as displayed in Figure 7. **The fields coloured in grey cannot be modified by the user – the TC Chair can carry out the update on request.**

### **4.5 NOTIFICATIONS ON USER ACCOUNTS**

A set of automatically generated e-mail notification gives information on the progress of the registration, see .

Edit user

First name

Julio

Last name

CORTAZAR

E-mail

aaa@aaa

Phone

Password

Repeat password

RMO

SIM

Country

Argentina

Institute

INTI

Profile

ROLE\_PILOT

ROLE\_REVIEWER

ROLE\_WRITER

Metrology area

Electricity and Magnetism

Expertise

AC voltage, current, and power

DC voltage, current, and resistance

Electric and magnetic fields

[See full selection](#)

SUBMIT

Figure 7 Pop-up window to log-in.

## 5 TRAINING PLATFORM

A **training platform** is available at <https://kcdb-cbkt.bipm.org:8443/kcdb/> which is a copy of recent KCDB software. The database is not an exact copy of the official KCDB but allows for the users to test and carry out actions without any consequences on the official site. It can be distinguished from the official site by an additional yellow banner.

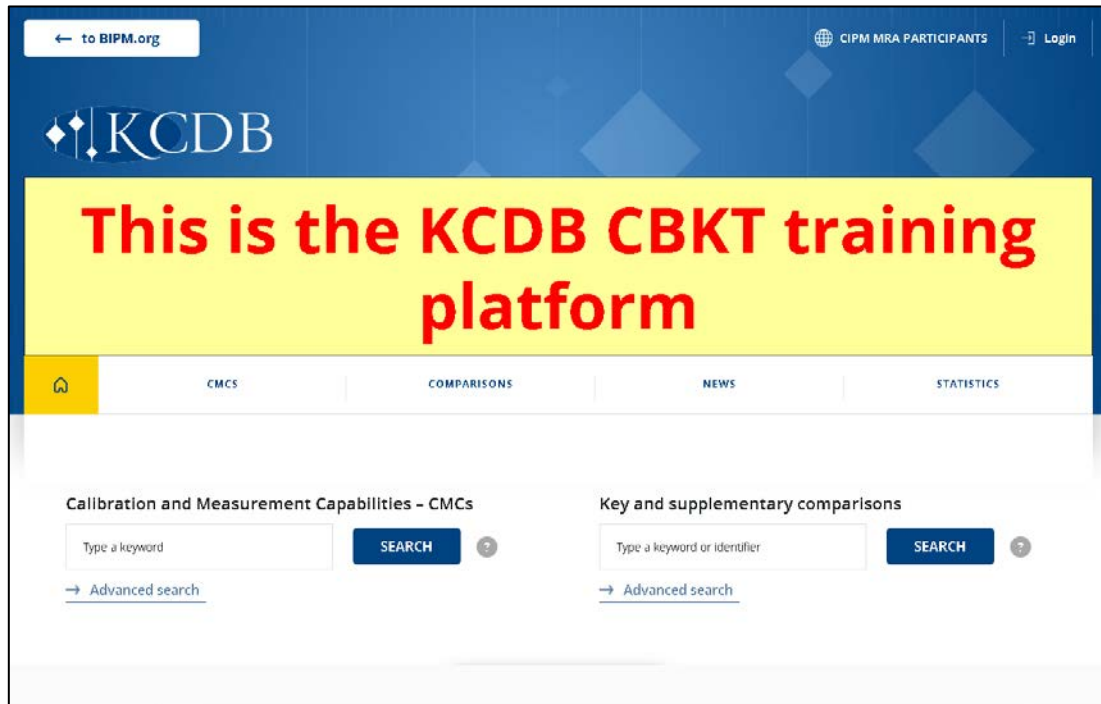


Figure 8 Home page for the TRAINING PLATFORM.

It is possible to register for a Writer, Reviewer or Pilot account on the **training platform**. No e-mail notifications are generated on the training platform. Therefore, you need to contact your TC Chair or the KCDB Office to get your training user account validated.

## 6 CMC REVIEW – SHORT OVERVIEW

### 6.1 INTRA-RMO REVIEW

The intra-RMO review has been designed to mirror the JCRB (also known as inter-RMO) review. The CMC may be revised an unlimited number of times. Set date limits are not programmed and are hence, in respect to the software, not fixed.

A CMC is drafted by the Writer and submitted to the TC Chair for intra-RMO review. The TC Chair may accept, or not accept, the CMC, or ask the writer for a revision. The TC Chair may also consult reviewers within the same RMO.

Writer, Reviewer and TC Chair may add comments to each CMC during the intra-RMO review process. When the CMC has been accepted by the RMO, it can be submitted for the JCRB review. The Writer or the TC Chair has the possibility to add additional documents for the submission, such as the mandatory QMS support documentation.

CMCs are treated one-by-one. To avoid 'drip-drip' effects, the acting TC-Chairs may agree on common dates for submission and review.

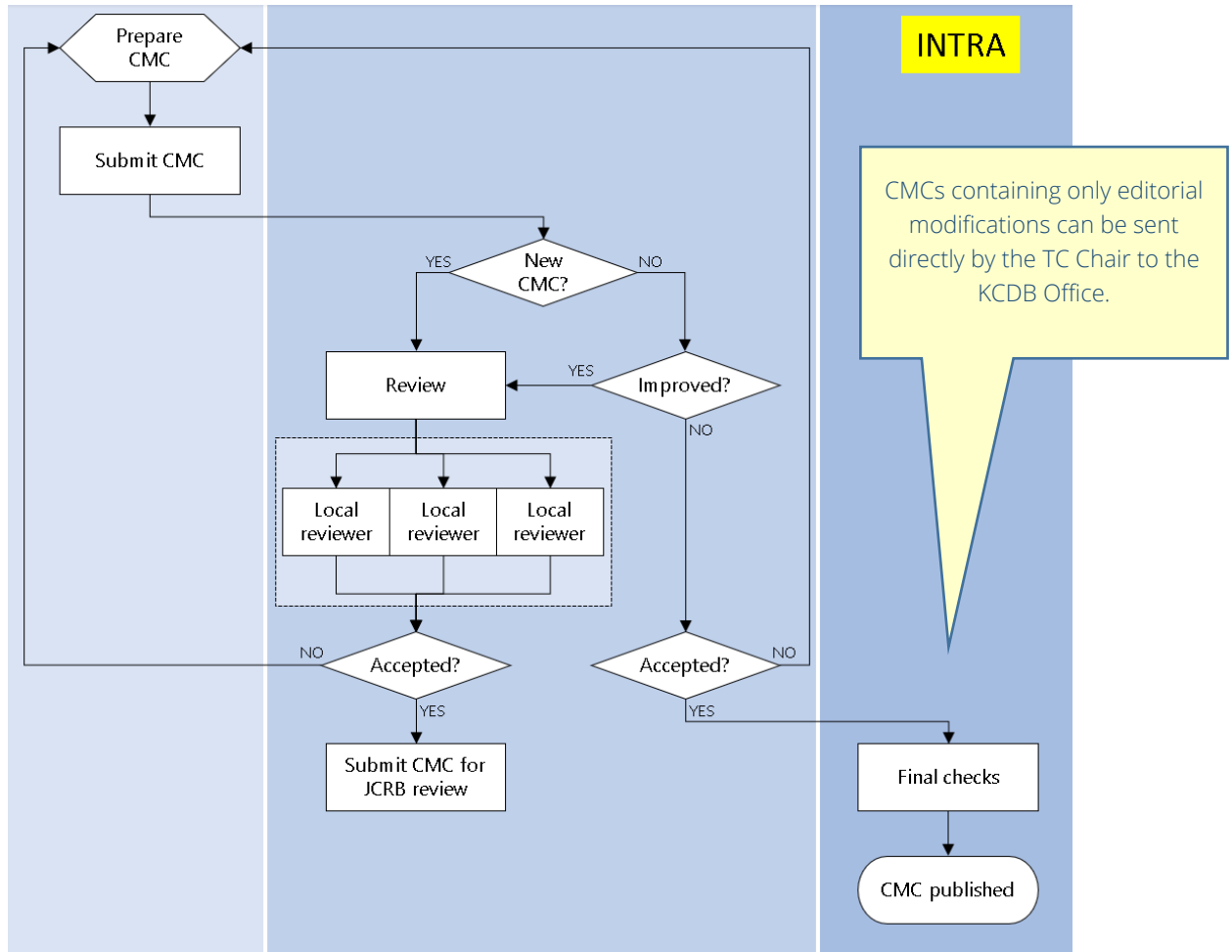


Figure 9 Flow diagram for intra-RMO review (extracted from CIPM MRA G-13).

## 6.2 NOTIFICATIONS ISSUED FOR THE INTRA-RMO REVIEW

A set of automatically generated e-mail notification gives information on the progress of the registration, see 0.

## 6.3 JCRB REVIEW

The JCRB review follows the JCRB rules [CIPM MRA G-13], where time limits are fixed for the process. Contrary to the intra-RMO review, the CMC may not be revised an unlimited number of times – it can be revised once.

The CMCs submitted by the TC Chairs for JCRB review are indicated in

- Pending actions (available to all logged-in users)
- JCRB request to review (available to the TC Chairs)

The TC Chair should first indicate the intention to review, or not to review a CMC. The TC Chair may then indicate the date for review.

The TC Chair may approve the CMC or ask the writer for revision. The TC Chair may also consult reviewers within his own RMO.

The reviewer and TC Chair may add comments to each CMC during the JCRB review process.

If the CMC is approved by all reviewing RMOs, it is automatically transmitted to the KCDB Office for publication and will not be submitted to a vote.

If at least one of the reviewing RMOs asks for a revision, the CMC is made available to the Writer for revision, as soon as all reviewing RMOs have indicated their standpoint, or at latest when the time limit for review has passed. The revised CMC is returned to the TC Chair of the originating RMO who will submit the CMC for vote. Unanimous approval will enable the KCDB Office to publish the CMC.

CMCs are treated one-by-one. To avoid 'drip-drip' effects, the acting TC-Chairs may agree on common dates for submission and review.

## **6.4 NOTIFICATIONS ISSUED FOR THE JCRB REVIEW**

A set of automatically generated e-mail notification gives information on the progress of the registration, see 0.



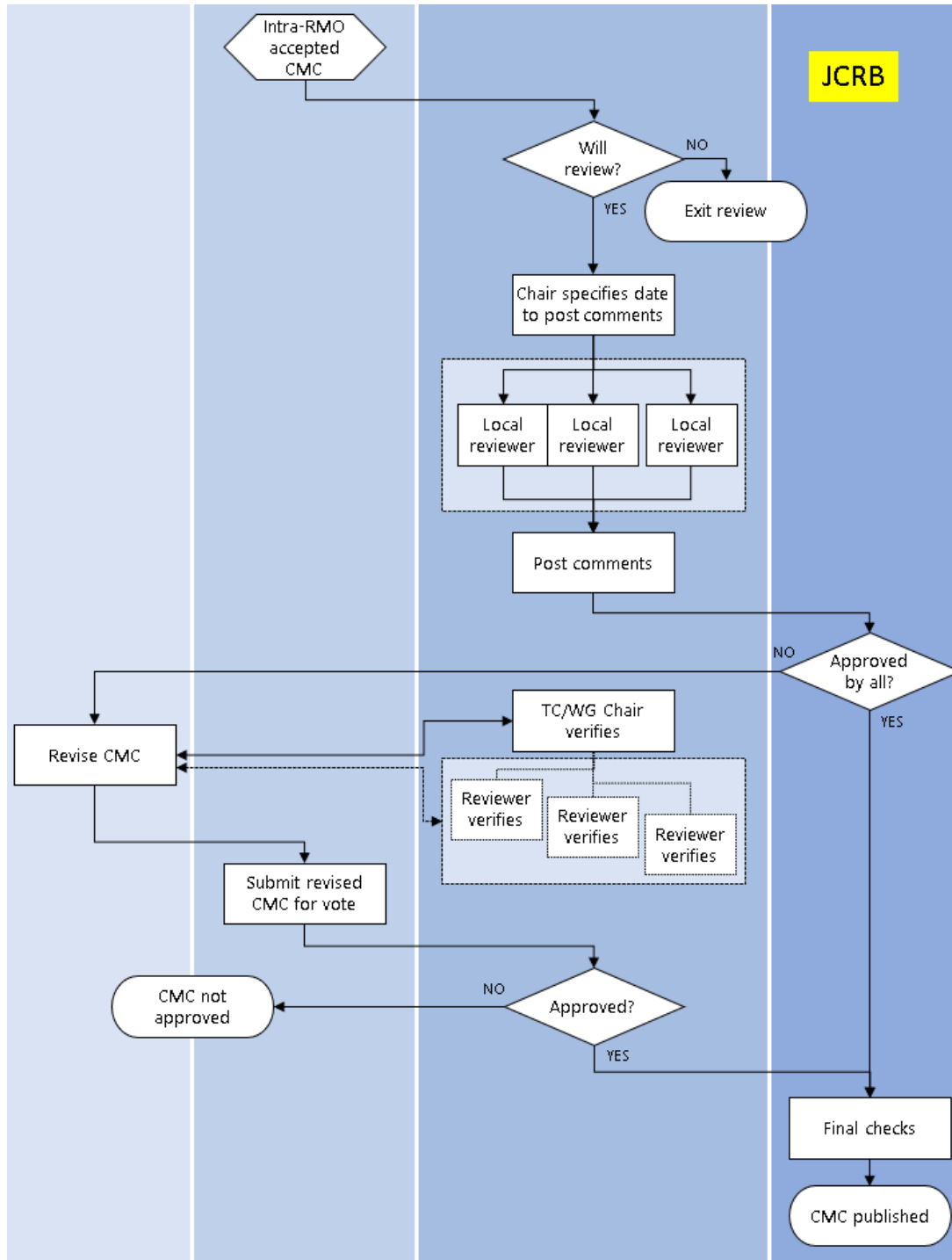


Figure 10 Flow diagram for JCRB (inter-RMO) review (extracted from CIPM MRA G-13).

## 7 CMC CODE AND STATUS

A CMC is composed of a set of information describing the capability or service. The contents depend on the metrology area. Some of the CMC information is mandatory, other information is optional. Part of the CMC information that is given when it is edited on the platform is intended only for the review and is not available on the open website once published.

### 7.1.1 KCDB ID

When available on the open web, a CMC is identified by its institute and associated service code.

In the database, and during the review process, the CMC is identified by the unique KCDB identifier that is attributed to all CMCs in the database. It is composed of:

**RMO-MetrologyArea-CountryCode-CMCNumber-VersionNumber**, where

RMO – Abbreviation of the Regional Metrology Organization

MetrologyArea – Abbreviation of the metrology area

CountryCode – 2-letter ISO country code (such as DE for Germany) or up to 4 letters international organizations (such as IAEA).

CMCNumber – an 8-digit alphanumerical-code where each digit spans from 0 to Z

VersionNumber – the alphanumerical version value from 1 to Z

The CMCNumber is automatically attributed by incrementing the latest number of CMC by +1 when a new CMC is added or updated. If a CMC is deleted, no other CMC will ever carry the same unique KCDB identifier. Deleted CMCs remain in the database.

### 7.1.2 CMC Review status

During the review process the status of the CMC is indicated in the dashboards available to the Writer, Reviewer and TC Chair.

<b>Draft</b>	status of CMC before having been submitted for intra-RMO review
<b>Withdrawn</b>	the Writer has withdrawn the CMC from the already initiated review.
<b>Greyed out</b>	the CMC has been submitted for intra-RMO review
<b>Published</b>	the CMC is approved and published in the KCDB for open access

<b>RMO: Submitted</b>	the CMC has been submitted for intra-RMO review
<b>RMO: Under review</b>	a reviewer has accepted to review, alternatively the TC Chair has reviewed the CMC
<b>RMO: Review completed</b>	at least one selected reviewer has completed the review
<b>RMO: Revision requested</b>	the Writer has been requested to revise the CMC and has again access to edit the CMC contents
<b>RMO: Revision completed</b>	the CMC has, after revision, been resubmitted to the TC Chair
<b>RMO: Accepted</b>	the CMC has been accepted and can be submitted for JCRB review is appropriate
<b>RMO: Turned down</b>	the CMC submission has been definitely rejected by the TC Chair
<b>Submitted to the JCRB</b>	the CMC has been submitted by the TC Chair to the JCRB for review.
<b>JCRB: Under review</b>	a reviewer has accepted to review; alternatively, at least one of the TC Chairs has reviewed the CMC
<b>JCRB: Revision requested</b>	the Writer has requested to revise the CMC and has regained access to edit the CMC contents
<b>JCRB: Revision completed</b>	the Writer has revised the CMC and re-submitted it to the TC Chair. The TC Chair may now submit the CMC for vote.
<b>JCRB: Review completed</b>	at least one selected reviewer has completed the review
<b>JCRB: Waiting for VOTE</b>	the revised CMC is accessible for voting
<b>JCRB: Approved</b>	all RMOs have approved the CMC
<b>JCRB: Not approved</b>	at least one of the TC Chairs has not approved the revised CMC.
<b>JCRB: Waiting for publication</b>	the CMC has been published by the KCDB Office and will appear online within 5 minutes
<b>Submitted to the KCDB</b>	the CMC has been submitted directly to the KCDB Office by the TC Chair

## 8 WRITER ACTIONS

### The Writer

- represents an institute that takes part in the CIPM MRA
- can create, update, delete, grey out<sup>7</sup>, and request for the reinstatement of greyed out, CMCs
- can submit CMCs for review to the TC Chair in his field

The Writer has unique access to three different screens via the menu:

- Create CMC
- My CMC space
- Institute CMCs

A structured form is dedicated for the creation of a CMC; it contains the sections

- **Classification of service**
- **Measurand, Parameters**
- **Expanded uncertainty**, and
- **References.**

Fields attributed for mandatory information are marked by a **red star (\*)**.

When filling in the form, the Writer must first indicate the metrology area. An already started form may be SAVED as a Draft, to be completed later. It is possible to check how the information may appear once published via the function PREVIEW. QUIT allows the CMC to be abandoned without saving. SUBMIT will save and submit the CMC immediately to the TC Chair for intra-RMO review.

When modifying a CMC that already has been published, the modifications should be described in the “Read or add comments” tool available in the lower part of the form.

‘Tip-tools’ are incorporated as additional guidance.

The available actions for the Writer are listed below

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<sup>7</sup> Temporarily withdraw.

A set of automatically generated e-mail notification gives information on the progress of the review, see 0.

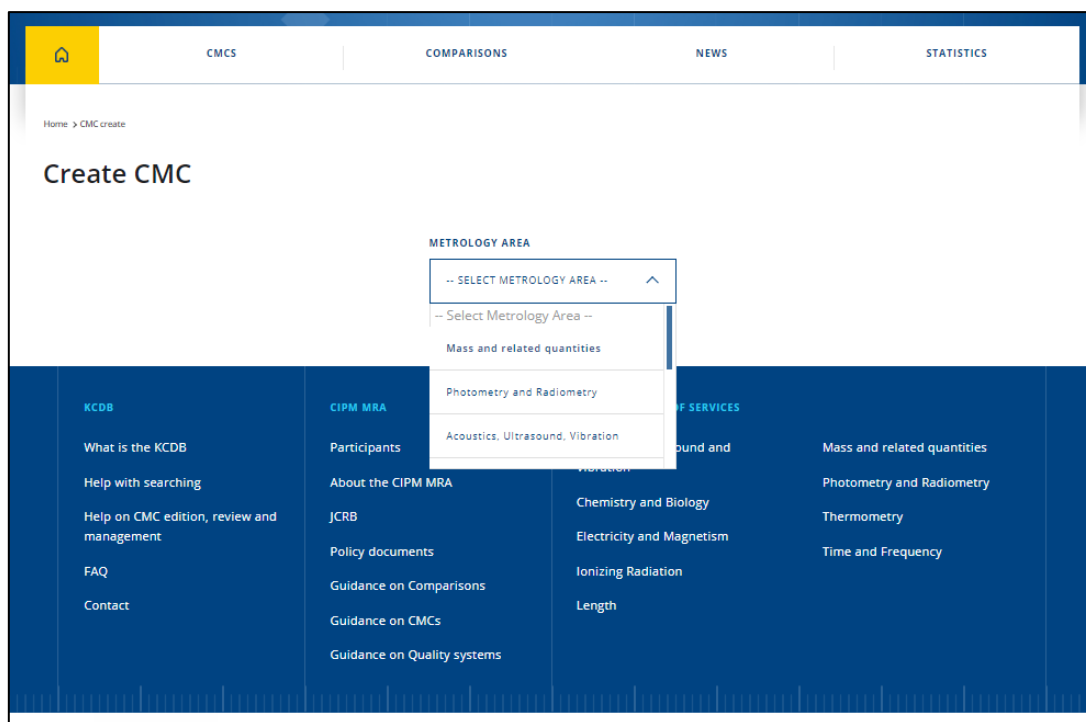


Figure 11 Chose the metrology area before drafting the CMC.

## 8.1 MY CMC SPACE

The **My CMC space** gives access to a dashboard with the CMCs that have been drafted by the user. At the beginning of KCDB 2.0, this space will be empty, as none of the already published CMCs are associated with the Writer.

A CMC that has been drafted but not yet submitted to the TC Chair is only available to the Writer, and has the status “Draft”.

The Writer has access to a set of filters, placed to the left of the dashboard.

The condition of the CMC is indicated by a combination of colour-and-letter, where

N – New

M – Modified

G – Greyed out

P – Published

The actions on the CMC can be triggered by

- using the blue buttons displayed above the dashboard
- the actions available in the column listed to the far right of the table. These actions allow to update, duplicate or ask for the reinstatement of a greyed-out CMC.

Home > My CMC space

[Reset all](#)

**CMC Identifier**

**Metrology area**

☒ Chemistry and Biology

**Category**

☒ Advanced materials

☒ Biological fluids and materials

☒ Electrolytic conductivity

[Extend list](#) [Deselect list](#)

**Group**

☒ Cell Analysis Working Group

☒ Electrochemical Analysis Working group

☒ Gas Analysis Working Group

[Extend list](#) [Deselect list](#)

**Status**

[DELETE](#) [GREYOUT](#) [CREATE A NEW CMC](#) [COMPARE CMCs](#) [SELECT ALL](#)

[XLS IMPORT](#)

[EXPORT XLS](#)

[SUBMIT CMC](#) [WITHDRAW](#)

[DOWNLOAD IMPORT CMC TEMPLATE](#)

CMC STATE	IDENTIFIER	GROUP	CATEGORY NAME	ANALYTE	INSTITUTE SERVICE ID	INITIALLY SUBMITTED	MOST RECENT SUBMISSION	ACTIONS
W	<a href="#">SIM.CM.AB.00000LSC.1</a>	Gas Analysis Working Group	Gases	ethane	K-C11	2020-10-19	2020-10-19	Wit
N	<a href="#">SIM.CM.AB.00000LSD.1</a>	Gas Analysis Working Group	Gases	ethylbenzene	K-C12	2020-10-19	2020-10-19	J Re Rec
N	<a href="#">SIM.CM.AB.00000LST.1</a>	Gas Analysis Working Group	Gases	ethylbenzene	CBKT-C12	2020-10-21	2020-10-21	F Ac
G	<a href="#">SIM.CM.AB.00000VQ.1</a>	Inorganic Analysis Working Group	High purity chemicals	total acid expressed as potassium hydrogen phthalate	INORGHPC-1			G
P	<a href="#">SIM.CM.AB.00000VQ.1</a>	Inorganic Analysis Working Group	Food	calcium	INORGFO-3			Pu

Figure 12 My CMC space (example for Chemistry and Biology)

## 8.2 INSTITUTE CMCs

Institute CMCs provides almost the same facilities as the My CMCs space but gives access to a dashboard with all CMCs that have been published by the Writer's institute within the same expertise of the Writer. Furthermore, as soon as a CMC has been submitted for review or greyed out it will be indicated on this page. CMCs that are presently saved as a Draft by a Writer will not appear in the list.

### 8.3 READ A CMC

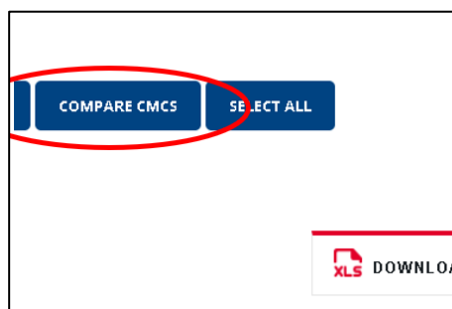
The Writer may read the CMCs by

clicking on the KCDB identifier (one-by-one)

CMC STATE	IDENTIFIER ▲	GROUP ▲	CAT NA
<input type="checkbox"/> P	<a href="#">EURAMET-QM-GB-000001YU-1</a>	Gas Analysis Working Group	G
<input type="checkbox"/> P	<a href="#">EURAMET-QM-GB-000001YV-1</a>	Gas Analysis Working Group	G
<input type="checkbox"/> P	<a href="#">EURAMET-QM-GB-000001YW-1</a>	Gas Analysis Working Group	G

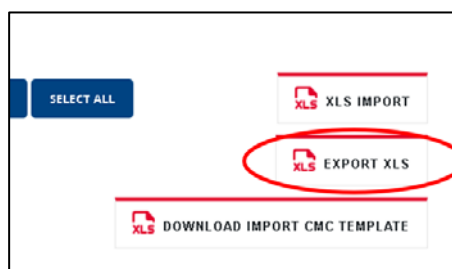
or by

clicking on the blue button “COMPARE” (one or several)



or by

exporting the data to an Excel file.



## 8.4 CREATE A NEW CMC

An empty CMC form will appear. When pressing SAVE it will be marked as new, “N”, in the CMC table. The version number of the KCDB code will become “1”, cf. 7.1.1.

## 8.5 MODIFY AN ALREADY PUBLISHED CMC

A CMC that is published can be modified.

The already published CMC to modify can be accessed via **Institute CMCs**, cf. 8.2.

If it has already be treated by the Writer, it will also appear in **My CMC Space**, cf 8.1.

By clicking in the **column far right**, the modify (update) function can be triggered. The CMC form will open and the modification can be made.

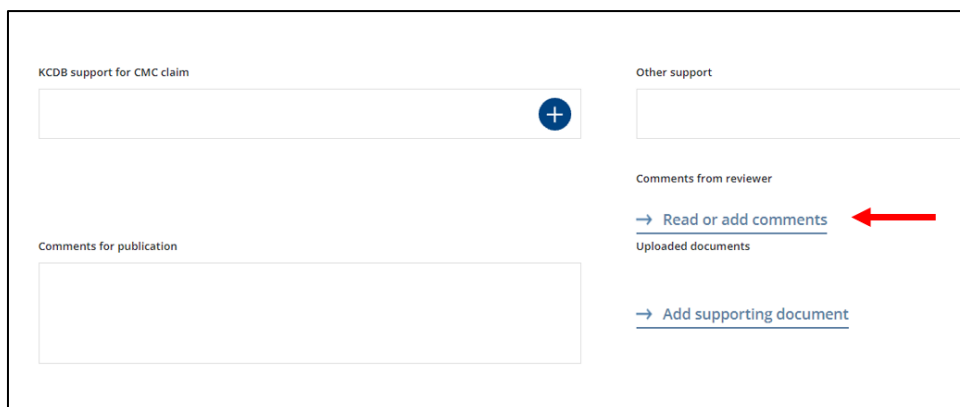
**When modifying a CMC, the items that have been changed should be indicated using the “Read or add comments” tool available in the lower part of the form.**

When saving the modified CMC it will be marked as “M” in the CMC table.

COMPARE CMCS		SELECT ALL		XLS XLS IMPORT	
				XLS EXPORT XLS	
				XLS DOWNLOAD IMPORT CMC TEMPLATE	
ALLY ITTED	MOST RECENT SUBMISSION	STATUS	SUBMITTED TO JCRB	ACTIONS	
		Published		<div> <div>—</div> <div>^</div> <div>...</div> <div>Update</div> <div>Duplicate</div> <div>—</div> <div>v</div> </div>	
		Published			

Figure 13 Option to duplicate the CMC or to create a modified version.





KCDB support for CMC claim

Other support

Comments from reviewer

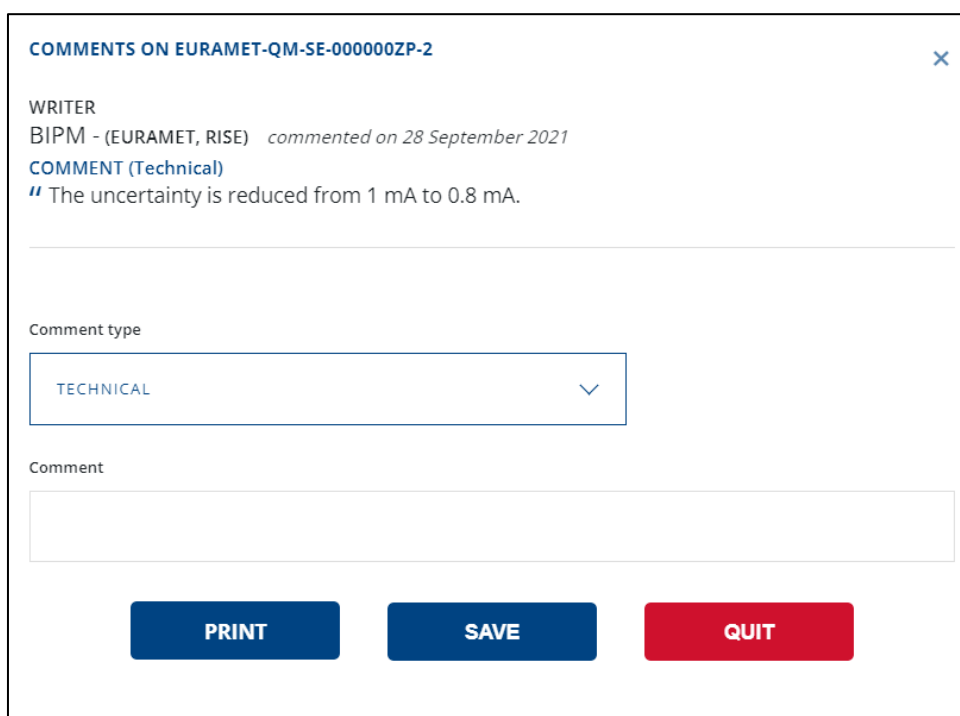
→ [Read or add comments](#)

Uploaded documents

→ [Add supporting document](#)

Comments for publication

Figure 14 The contents of modifications should be indicated in "Read or add comments".



COMMENTS ON EURAMET-QM-SE-000000ZP-2

WRITER  
BIPM - (EURAMET, RISE) commented on 28 September 2021

COMMENT (Technical)

" The uncertainty is reduced from 1 mA to 0.8 mA.

Comment type

TECHNICAL

Comment

PRINT SAVE QUIT

Figure 15 Example of comment given by the Writer to indicate a modification.

When an update is made, **the originating CMC remains published until the modified CMC has been approved and published**. The modified CMC will carry the same KCDB code but a new version number, incremented by +1, cf. 7.1.1.

When the Modified CMC has been published, it will be marked as "P". The former version of the CMC will no longer appear in the Writer screens.

## 8.6 DUPLICATE A CMC

A published CMC or a Draft CMC can be duplicated if a new CMC is to be created, having similar contents compared to the latter. When pressing “Duplicate” in the column far right a new CMC form will appear, containing the data of the original CMC but having a new KCDB code. When pressing SAVE, the CMC will appear as new, “N”, in the CMC table. The version number will hence be “1”.

## 8.7 SUBMIT A CMC

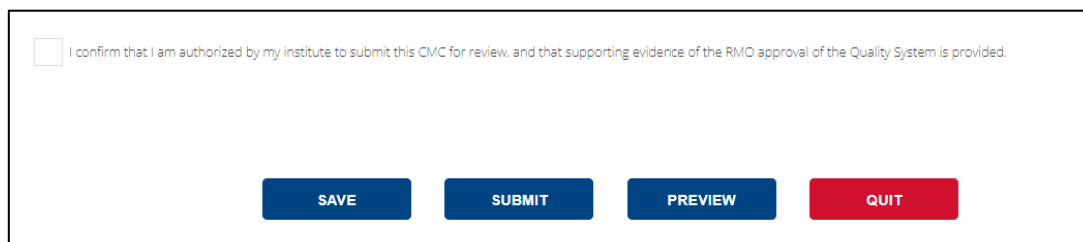
The CMC can be submitted directly from the form when this is open. This action will save the CMC and submit the CMC to the TC Chair.

The CMC can also be submitted from the dashboard, using one of the blue buttons.

When a CMC has been submitted to the TC Chair, it can no longer be modified by the Writer. It can be modified again by the Writer when the CMC has been made available for revision. The submitted CMC will be listed in the screen “Institute CMCs”, visible to all Writers having the same registered expertise.

### 8.7.1 Quality system

It is mandatory to confirm that existence of a valid quality system before submitting the CMC.



☐ I confirm that I am authorized by my institute to submit this CMC for review, and that supporting evidence of the RMO approval of the Quality System is provided.

SAVE SUBMIT PREVIEW QUIT

Figure 16 Tick box for confirming the support by a valid quality system displayed in the bottom of the CMC form.

If this tick box has been left out, it is still possible to make the confirmation at submission. It is also possible to confirm the quality system for several CMCs simultaneously, see Figure 17.

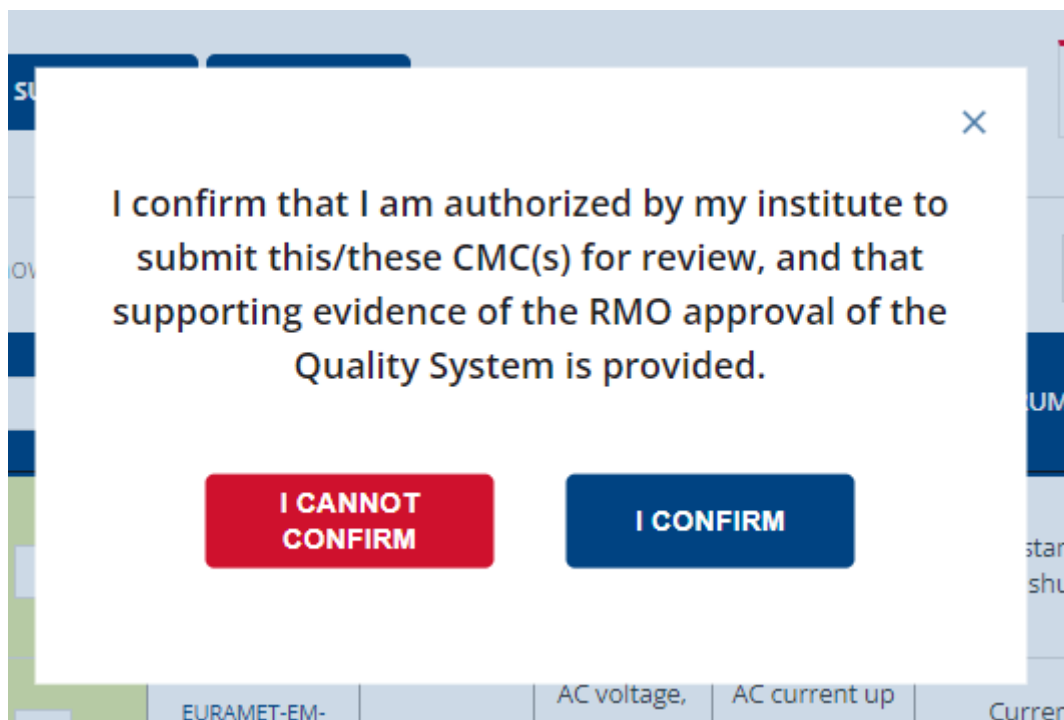


Figure 17 Pop-up when submitting a CMC where the tick box confirming a quality system has not been indicated.

### 8.7.2 Intra-RMO review

If the TC Chair indicates a request for revision, the Writer will again get access to the CMC in “My CMC space” to make the requested revision. The Writer may re-submit a revised CMC an unlimited number of times during the intra-RMO review.

The writes may submit using the i) blue **SUBMIT** button, ii) use the submit function in the column far right of the table, or iii) submit the CMC when the form is open.

### 8.7.3 JCRB review

Reviewing TC Chairs may also ask for a revision during the JCRB review. In this case the Writer will again get access to the CMC in “My CMC space” once the latest deadline for review has passed, or all reviewing RMOs have replied, to make the requested revision. The Writer may re-submit a revised CMC only once during the JCRB (inter-RMO) review. There is no programmed time-limit on submissions.

## 8.8 DELETE A DRAFT

A CMC draft can be deleted. The draft CMC will then no longer be displayed to the user, nor in “My CMC space”. As soon as a CMC has been submitted, it is no longer possible to delete the unpublished CMC.

## 8.9 DELETE A PUBLISHED CMC

A published CMC may be deleted by the action “Delete”. The CMC will no longer be accessible to the Writer in any of the screens, nor will it appear via search on the web.

## 8.10 WITHDRAW A CMC

When a CMC has been submitted for review, it may happen that the submitting institute wishes to interrupt the review. Such CMC may be withdrawn from the review by the action “WITHDRAW”. To withdraw a CMC, it must have been returned to the Writer for revision.

The CMC will be displayed in “My CMC space” with the status “Withdrawn” during 2 months. It is no longer possible to re-submit a displayed withdrawn CMC.

## 8.11 GREY OUT A CMC

A CMC may be greyed out by the action “Grey out” (see [CIPM MRA G-13](#)). This will remove public access to the CMC until the CMC has been reinstated. Greyed out CMCs are marked with **G**.


CMC STATE	IDENTIFIER	SERVICE CODE	BRANCH	QUANTITY	INSTRUMENT	INSTITUTE SERVICE ID	INITIALLY SUBMITTED
 <b>G</b>	<a href="#">SIM-EM-AR-000005 4-1</a>	AC current	AC voltage, current, and power	AC current up to 100 A: sources	AC current source, multifunction calibrator	INTI/102.02.03.05.10.003	

Figure 18 Display of a greyed-out CMC.

The CMCs that have been greyed out can be exported by filtering on Status “Greyed out” and selecting the CMCs concerned via the tick boxes (“SELECT ALL” export ALL CMCs).

When a CMC has been greyed out, it appears in “List of greyed-out CMCs”, available in the Statistics tab on the KCDB home page for logged-in users.

### 8.11.1 Grey out a CRM (Chemistry and Biology)

It may happen that only the CRM part should be greyed out for a valid CMC. In this case, the CMC and CRM should be greyed out, but the CMC part should remain published. To do so, the following actions should be carried out for each CRM to be greyed out:

1) DUPLICATE the CMC **A** that contains the CRM to be greyed out. The new CMC (copy of A) is here called **B**.

- 2) Edit the form of **B** and delete the CRM data in **B** (but keep the CMC data).
- 3) Add a comment in **B** via "Read or add comments", write that the CRM is greyed out and indicate the CMC ID of **A** (RMO-QM-COUNTRY-000...). This information will only appear internally, but not to the users on the open web.
- 4) SAVE the CMC **B**.
- 5) SUBMIT the newly duplicated CMC **B** to the TC Chair. This CMC should not require a JCRB review but can be submitted by the TC Chair directly to the KCDB Office for publication.
- 6) GREYOUT the original CMC **A**.

As soon as a CMC has been greyed out it is visible in the statistics to logged-in users.

## 8.12 REINSTATE A GREYED-OUT CMC

An already greyed-out CMC may be reinstated by the action available in the column on the far right.




CMC STATE	IDENTIFIER	SERVICE CODE	INITIALLY SUBMITTED	MOST RECENT SUBMISSION	STATUS	SUBMITTED TO JCRB	ACTIONS
 G	<a href="#">EURAMET-EM-GB-00000E0G-1</a>	AC current			Greyed out		<div> <div>—</div> <div>^</div> <div>...</div> <div>Reinstate the CMC</div> </div>
 P	<a href="#">EURAMET-EM-GB-00000E1F-1</a>	AC current			Published		<div> <div>—</div> <div>v</div> </div>
	<a href="#">EURAMET-EM-</a>	AC power			Published		<div> <div>—</div> <div>v</div> </div>

Figure 19 The column far right allows to reinstate a greyed-out CMC.

When the command "Reinstate the CMC" a draft version will appear **My CMC screen**.

CMC STATE	IDENTIFIER	SERVICE CODE	BRANCH	QUANTITY	INSTRUMENT	INSTITUTE SERVICE ID	INITIALLY SUBMITTED	MOST RECENT SUBMISSION	STATUS	SUBMITTED TO JCRB	ACTIONS
 G	<a href="#">SIM-EM-AB-00000004-1</a>	AC current	AC voltage, current, and power	AC current up to 100 A; sources	AC current source, multifunction calibrator	INT/102.02.03.05.10.003			Greyed out		<div> <div>—</div> <div>v</div> </div>
 G	<a href="#">SIM-EM-AB-00000004-2</a>	AC current	AC voltage, current, and power	AC current up to 100 A; sources	AC current source, multifunction calibrator	INT/102.02.03.05.10.003			Draft		<div> <div>—</div> <div>v</div> </div>

Figure 20 A new version will be created when requesting reinstatement.

It is now possible to modify the contents if necessary. Describe the modifications using the “Read or add comments” tool available in the lower part of the form.

INSTRUMENT	INSTITUTE SERVICE ID	INITIALLY SUBMITTED	MOST RECENT SUBMISSION	STATUS	SUBMITTED TO JCRB	ACTIONS
AC current source, multifunction calibrator	INTI/102.02.03.05.10.003			Greyed out		— ▼
AC current source, multifunction calibrator	INTI/102.02.03.05.10.003			Draft		— ▲ ... Edit Duplicate Submit CMC

Figure 21 Edit the new version if necessary.

You may now submit the CMC to the TC Chair for reinstatement. The former version that is “all-grey” and its inclusion in the greyed-out statistics will remain until the reinstated CMC has been published.

### 8.12.1 Reinstatement a greyed-out CRM (Chemistry and Biology)

Select the greyed-out CMC in the writer space and indicate “Submit for reinstatement”.

When the reinstates CMC has been published, remember to delete the CMC containing only the CMC part.

## 8.13 DELETE A GREYED-OUT CMC

It is possible to delete a greyed-out CMC.

## 8.14 EXPORT CMCs

It is possible to export selected CMCs to an Excel file. The exported data represents CMC-related information registered in the KCDB for the selected CMCs.

By using “SELECT ALL” all CMCs are exported.

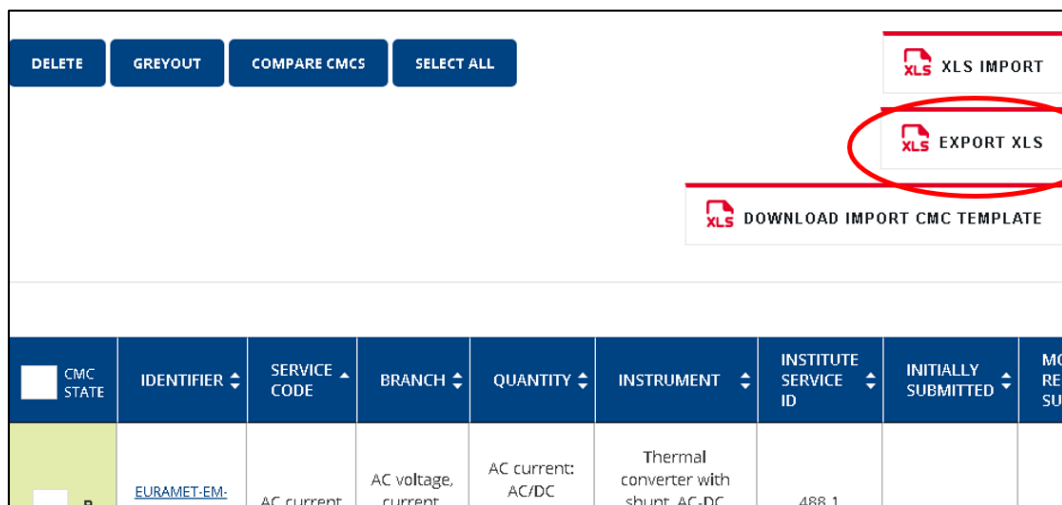


Figure 22 Export facility when logged in on the web platform.

The exported CMC data is contained in an Excel spreadsheet names “Sheet1”.

Included uncertainty tables are exported to separate sheets. Each CMC having an uncertainty table will have a corresponding sheet, marked by the uncertainty table name. It may happen that several CMCs have the same uncertainty table, carrying the same *name*. The first appearance of the uncertainty table will carry the label *name* and contain the uncertainty data. The copies of the uncertainty table will carry the label *name(1)*, *name(2)* etc. These sheets are empty.

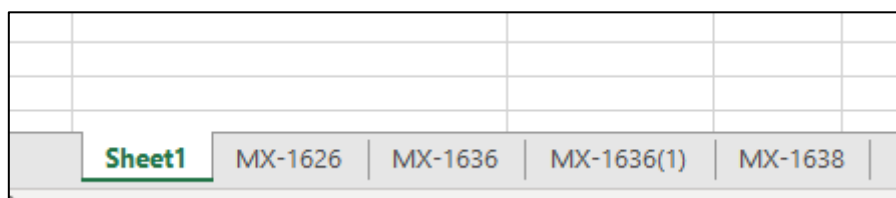


Figure 23 Example of labelling of Excel sheets for CMC data and associated uncertainty tables. in this case, MX-1626, MX-1636 and MX-1638 contain data, while MX-1636(1) is empty.

## 8.15 IMPORT CMCs

It is possible to import CMCs from an Excel file<sup>8</sup>. If for any reason the Writer wishes to import the CMCs using an Excel sheet, a template can be downloaded from the platform containing the necessary information.

<sup>8</sup> Excel 2010 or later version are supported.

However, the format of the contents is strict to match with the expected information hosted by the database. It is therefore recommended to use the web form when editing CMCs, at least for the first time.

An importation template is available for each domain. Another method to check the consistency of format is by exporting already edited or published CMCs having similar contents, where the exported file may serve as a basis for the importation file having the same format.

An exported file contains columns AQ, AR and AS giving information on the previous writer, approval date and CMC status. These columns must be erased before importation.

It is possible to import new and CMCs to be modified from a common sheet.



Figure 24 Import facility and access to an importation template when logged in on the web platform.

### 8.15.1 Some general hints before importing CMCs

- Make sure that the first row – the header – is an exact reproduction of what is contained in the template.
- It is possible that some of the units accepted at the initial implementation of KCDB 2.0 are no longer accepted. The accepted units are listed when using the CMC form as support. When the importation fails for this reason, this is clearly stated in an error message.
- Only numbers are accepted as CMC measurand, CRM and uncertainty lower and upper limit.
- When adding an uncertainty table, it must be appropriately labelled and completed.



- Do not import other CMCs than those that are new or have been modified.

### 8.15.2 Import new CMCs

When new CMCs are imported the cell *KCDB internal CMC identifier* must be **empty**. A unique KCDB code will be attributed when the CMC is imported.

	A	B	C	D	E	F
1	Type	KCDB internal CMC identifier	Metrology area	Branch	Service code	Sub service
2	PHYSICS		EM	EM/AC	6	1
3	PHYSICS		EM	EM/AC	6	2
4	PHYSICS		EM	EM/AC	6	2
5	PHYSICS		EM	EM/AC	6	2
6	PHYSICS		EM	EM/AC	6	2
7	PHYSICS		EM	EM/AC	6	2
8	PHYSICS		EM	EM/AC	6	2
9	PHYSICS		EM	EM/AC	6	2
10	PHYSICS		EM	EM/AC	7	1

Figure 25 Example of a part of the importation sheet for new CMCs, here given for Physics.

The newly imported CMCs will be listed in **My CMC Space**, marked by “N” and with the CMC status **Draft**.

### 8.15.3 Import modified CMCs

When a CMC is to be modified and then imported, the KCDB code for the presently published version should be listed. This code is listed for the already published version that is to be modified.

Only published CMCs can be subject for importation in this case.

The same KCDB code will be attributed when the CMC is imported, but with a version number incremented by **+1**.

	A	B	C	D	E	
1	Type	KCDB internal CMC identifier	Metrology area	Branch	Service code	Sub s
2	PHYSICS	EURAMET-EM-SE-00000EUS-1	EM	EM/AC	6	
3	PHYSICS	EURAMET-EM-SE-00000EV4-1	EM	EM/AC	6	
4	PHYSICS	EURAMET-EM-SE-00000EV5-2	EM	EM/AC	6	
5	PHYSICS	EURAMET-EM-SE-00000N8U-1	EM	EM/AC	6	
6	PHYSICS	EURAMET-EM-SE-00000N8V-3	EM	EM/AC	6	
7	PHYSICS	EURAMET-EM-SE-00000N8W-1	EM	EM/AC	6	
8	PHYSICS	EURAMET-EM-SE-00000N8X-1	EM	EM/AC	6	
9	PHYSICS	EURAMET-EM-SE-00000N8Y-1	EM	EM/AC	6	
10	PHYSICS	EURAMET-EM-SE-00000N8Z-1	EM	EM/AC	7	

Figure 26 Example of a part of the importation sheet for modified CMCs, here given for Physics.

If the already published CMCs have been drafted by a Writer different from the person importing the data a message will appear, see Figure 1Figure 27.

The newly imported CMCs will be listed in **My CMC Space**, marked by “**M**” and with the CMC status **Draft**.

**CMCs that have been modified via importation should be completed by a description of the modification using the comment tool available in the bottom of the CMC form.**

#### 8.15.4 Import greyed out or cmcs to be deleted

**It is not possible to import CMCs to be greyed out, reinstated, or deleted.** These actions must be carried out in the Writer screen.

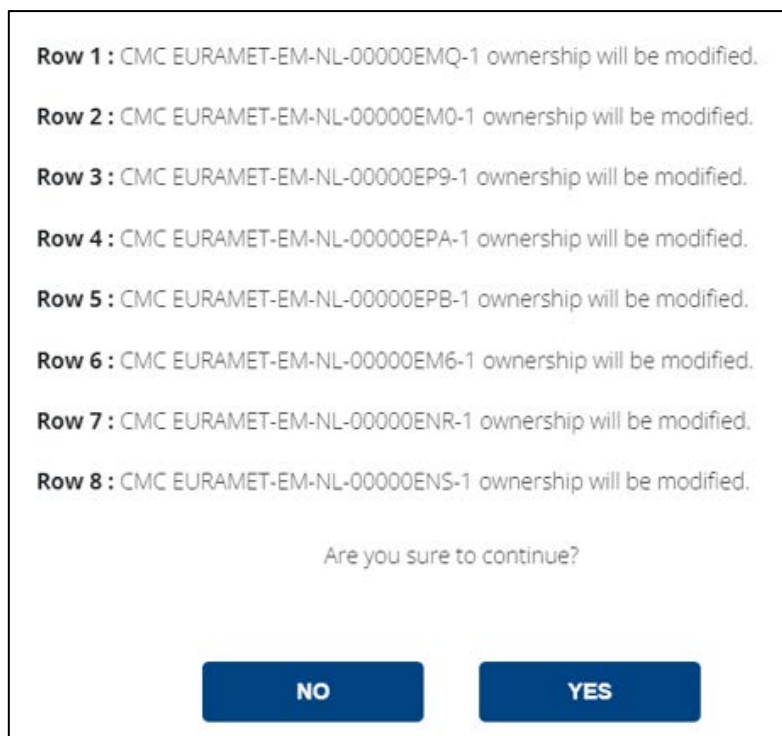


Figure 27 Message when importing CMCs originally registered for another user.

### 8.15.5 Import an uncertainty table

It is possible to import associated uncertainty tables when doing the importation of CMCs. The sheet containing the uncertainty table should be labelled by the same name as marked in the column AG, *Expanded uncertainty Table name*.

If the same uncertainty table is used for several CMCs in the same file, the corresponding Excel sheet should only appear once. For formatting imported uncertainty tables, cf. 9.1.19.

### 8.15.6 Importation and special characters

Symbols used for units and prefixes, such as  $\Omega$  or  $\mu$  must be represented by the expected code when importing data.

For example,  $\Omega$  used as a unit must be represented by 03A9 HEX, while  $\mu$  must be represented by 00B5 HEX. The choice of font is only an obligation for units and prefixes, which have been pre-programmed.

## 9 CREATE A CMC

### 9.1 CREATE CMC - PHYSICS

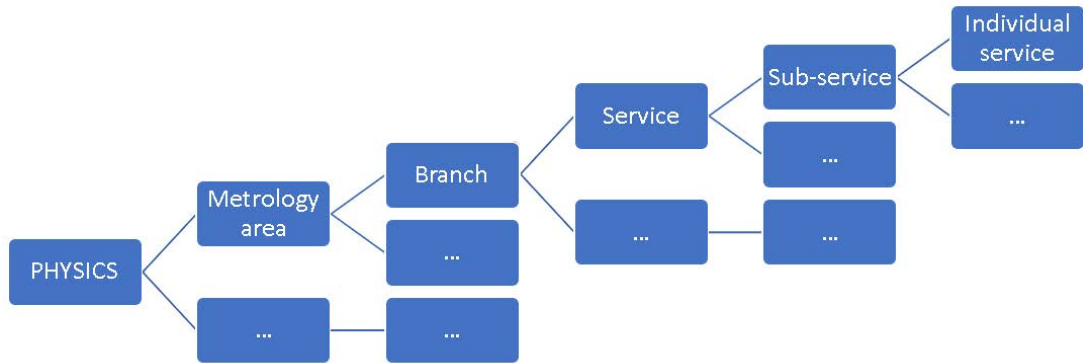


Figure 28 Scheme for classification of Service - Physics.

Home > CMC create

### Create CMC

METROLOGY AREA

ELECTRICITY AND MAGNETISM

---

**Classification of service**

Branch *	Code *	Service
<input type="text" value="-- Select --"/>	<input type="text" value="-- Select --"/>	<input type="text" value="-- Select --"/>
Institute service identifier	Code *	Sub-service
<input type="text"/>	<input type="text" value="-- Select --"/>	<input type="text" value="-- Select --"/>
Web link to individual service	Code *	Individual service
<input type="text"/>	<input type="text" value="-- Select --"/>	<input type="text" value="-- Select --"/>

---

Measurand

Figure 29 Form for classification of Service - Physics.

### 9.1.1 Branch (\*)

Choose the Branch. For guidance on the structure, the specific service list established by each consultative committee is available in the bottom of the page.

### 9.1.2 Service, Sub-service and Individual service Codes (\*)

This information can either be indicated by the dedicated number, or the explicit category. For guidance on the structure, the specific service list, established by each Consultative Committee, is available at the bottom of the page.

### 9.1.3 Institute service identifier

Each institute may, and are recommended to, attribute a specific identifier for their service, which is indicated here. It may be completed by a link.

### 9.1.4 Link to Institute service identifier

The specific link to the service (or the institute web page for services, or the web page of the institute, etc.) can be indicated. It is the responsibility of the originating institute to update the link if it changes.

Figure 30 Measurand - Physics.

### 9.1.5 Quantity (\*)

Quantity expressions already included in the database are suggested in a menu (type 3 letters first), but it is also possible to indicate a personalized expression when needed.

### 9.1.6 Instrument or artifact under study (\*)

Indicate the instrument or artefact that can be calibrated.

### 9.1.7 Instrument type or method applied (\*)

Indicate the instrument type or method that is applied.

### 9.1.8 International standard

Indicate if a specific international standard<sup>9</sup> or other recommendations<sup>10</sup> is followed, standards already included in the database are suggested in a menu<sup>11</sup>, but it is also possible to indicate a new standard if it is missing from the list.

### 9.1.9 Unit (\*)

The unit is chosen in a fixed drop-down menu. “(dimensionless)” may be chosen for measurands without units, such as ratios or indices and will create an empty space when displayed. The unit “dimension 1” may be chosen when the unit “1” is targeted. Please make sure that the chosen unit is in line with the quantity. If a unit is not available, the Writer is invited to contact the KCDB Office: ([bipm.kcdb@bipm.org](mailto:bipm.kcdb@bipm.org)).

### 9.1.10 Lower limit

“Lower limit” is the lower limit of the measurand range. If the lower and upper limits are identical, they should be indicated the same in both fields. A point (.) is used as the decimal separator. The symbol “E” represents exponential of 10. For example, 10300 may be expressed as 1.03E04; 0.0067 may be expressed as 6.7E-03.

### 9.1.11 Upper limit

“Upper limit” is the upper limit of the measurand range. If the lower and upper limits are identical, they should be indicated the same in both fields. A point (.) is used as the decimal separator. The symbol “E” represents

---

<sup>9</sup> Examples: IAEA, ISO, IEC standards or documents established by Consultative Committees.

<sup>10</sup> Example: References expressed by the Consultative Committees.

<sup>11</sup> Made by autocomplete: if the 3 first letters correspond to already recorded contents, these will be suggested.

exponential of 10. For example, 10300 may be expressed as 1.03E04; 0.0067 may be expressed as 6.7E-03.

### 9.1.12 Parameters

As many as five sets of parameters may be indicated, if required, by opening the parameter window. The laboratory conditions, such as temperature or humidity, or specific measurement settings such as applied frequency or voltage, can be indicated.

#### Expanded uncertainty

Unless otherwise stated the expanded uncertainties given below correspond to  $k = 2$  (at a 95 % level of confidence)

Unit \*

--- Select ---

Lower limit \*

Upper limit \*

Coverage factor

2

% confidence level

95

Absolute or Relative Uncertainty

Absolute

[→ Edit table](#)

[→ Edit equation](#)

#### References

Figure 31 Expanded uncertainty - Physics.

### 9.1.13 (Uncertainty) Unit (\*)

The uncertainty unit is chosen in a fixed drop-down menu. “(dimensionless)” may be chosen for measurands without units, such as ratios or indices and will create an empty space when displayed. The unit “dimension 1” may be chosen when the unit “1” is targeted. Please make sure that the chosen uncertainty unit is in line with the quantity and the indicated measurand unit. If a unit is not available, the Writer is invited to contact the KCDB Office: ([bipm.kcdb@bipm.org](mailto:bipm.kcdb@bipm.org)).

#### 9.1.14 (Uncertainty) Lower limit (\*)

“Lower limit” represents the lower limit of the expanded uncertainty with a coverage factor of approximately 95 %. If the lower and upper limits are identical, they should be indicated the same in both “Lower limit” and “Upper limit” fields. A point (.) is used as the decimal separator. The symbol “E” represents exponential of 10. For example, 10300 may be expressed as 1.03E04; 0.0067 may be expressed as 6.7E-03.

#### 9.1.15 (Uncertainty) Upper limit (\*)

“Upper limit” represents the upper limit of the expanded uncertainty with a coverage factor of approximately 95 %. If the lower and upper limits are identical, they should be indicated the same in both “Lower limit” and “Upper limit” fields. A point (.) is used as the decimal separator. The symbol “E” represents exponential of 10. For example, 10300 may be expressed as 1.03E04; 0.0067 may be expressed as 6.7E-03.

#### 9.1.16 Coverage factor (\*)

The coverage factor  $k$  represents the term for which  $k \times u$  has a coverage factor of 95 %,  $u$  representing the standard uncertainty of the measurand value. The default value is  $k = 2$ .

#### 9.1.17 % confidence interval (\*)

The default value of the coverage factor is 95 %, as stated in the CIPM MRA.

#### 9.1.18 Absolute or Relative Uncertainty (\*)

The absolute or relative nature of the stated uncertainty must be selected from the drop-down menu.

#### 9.1.19 Edit table

When several services are covered by the same instrument or technique, they may be grouped into one single CMC with an associated uncertainty table.

Applications are for example

- measured AC voltage at different frequencies
- mass standards of a set
- a radionuclide measured using different techniques.

This grouping can then be indicated in a common table indicating the uncertainty for each case. This grouping facilitates, in general, the review of the CMCs and the overview of the services.



First indicate the unique name of the table under “Uncertainty table name”.

The table is edited by first indicating the number of rows and columns (headers included). Each field is then completed.

Each cell should contain a symbol – indicate by a hyphen symbol (-)

In the table comment field, an indication of units (for example “*Uncertainties given in  $\mu V$* ”) or other essential information can be given.

A table may also be imported from an Excel file. This file must contain only the uncertainty table and will populate the table including indicating the numbers of rows and columns. Each cell must contain a symbol – indicate empty cells by a hyphen symbol (-).<sup>12</sup>

Figure 32 Table for uncertainties - Physics.

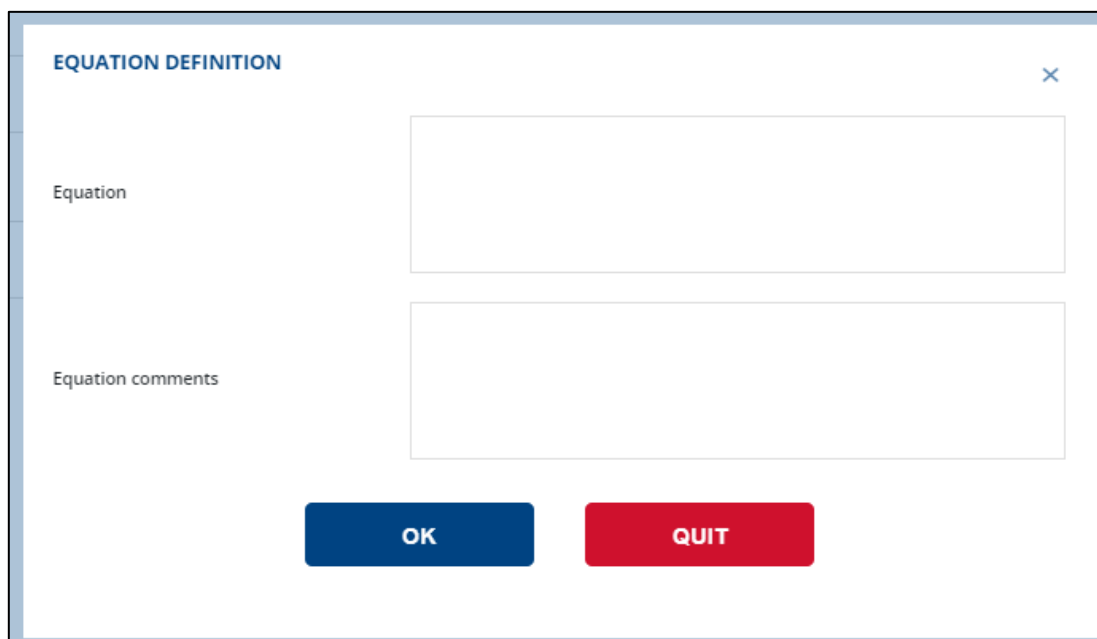
### 9.1.20 Edit an uncertainty equation

Uncertainties expressed as an equation are edited in this pop-up. A comment on the equation can be given, where notably the representation of different symbols may be indicated, for example “*L* representing length”.

The format of quantity-based equations was adopted at the Consultative Committee Presidents’ meeting in June 2018 [Report CIPM 2018]. Information

<sup>12</sup> Excel 2010 or later version is supported. If the table data is already listed in an Excel file of a previous version, it must be copy/pasted as “values” (not reproducing the original format).

on quantity-based equations is given in [“Guide to converting numerical equations into quantity equations for KCDB applications”](#).



The screenshot shows a dialog box titled "EQUATION DEFINITION" with a close button (X) in the top right corner. Inside the dialog, there are two text input fields. The first field is labeled "Equation" and the second field is labeled "Equation comments". At the bottom of the dialog, there are two buttons: a blue "OK" button and a red "QUIT" button.

Figure 33 Field for equation - Physics.

#### 9.1.21 Reference standard in calibration

The reference standard used for the calibration is indicated here.

#### 9.1.22 Source of traceability (\*)

The source of traceability refers to the institute to which measurement traceability is connected.

Indicate the institute by its acronym.

**References**

Reference standard used in calibration

Source of traceability \*

Group identifier

KCDB support for CMC claim

Other support

Comments for publication

Comments from reviewer

→ [Read or add comments](#)

Uploaded document

→ [Add support document](#)

☐ I confirm that I am authorized by my institute to submit this CMC for review, and that supporting evidence of the RMO and the Quality System is provided.

**SAVE** **SUBMIT** **PREVIEW** **CANCEL**

Figure 34 References - Physics.

The contents here will be published on the KCDB web for open access.

The contents here are intended for the Writer, TC Chairs and Reviewer during the review process.

Please indicate possible modifications of the CMC here.

### 9.1.23 Group identifier

The Group identifier is a “tag” that can be attributed to a set of CMC that are related. The identifier should be unique for the metrology area.

Examples:

- In electricity and magnetism, amplitude and phase of a measurand are declared as separate CMCs but are related.
- In chemistry and biology, several analytes may be detected simultaneously within the same chemical matrix. These are regarded as separate CMCs, but are related.
- In ionizing radiation, several radionuclides may be detected simultaneously within the same matrix. These are regarded as separate CMCs, but are related.

When the CMC is published on the open KCDB website, it will be indicated by a special “link” symbol

Clicking on this symbol will display

the related CMCs.



#### 9.1.24 KCDB support for CMC claim

You may add one or more references to comparisons published in the KCDB.

#### 9.1.25 Other support

Indicate one or more support other than comparisons published in the KCDB.

#### 9.1.26 Comments for publication

These comments will be published on the open website. **This field is not aimed for review comments.**

#### 9.1.27 Read or add comments

The contents here are intended for the Writer, TC Chairs and Reviewer during the review process. Indicate possible modifications of the CMC here.

#### 9.1.28 Uploaded documents

Please upload the documents to which you refer (other than KCDB comparisons) to give the reviewing experts access to the documents.

#### 9.1.29 Supporting evidence for Quality System provided (\*)

The Writer confirms that a validated Quality System exists before engaging the review procedure. The CMC cannot be submitted without having confirmed this fact.

## 9.2 CREATE CMC – IONIZING RADIATION

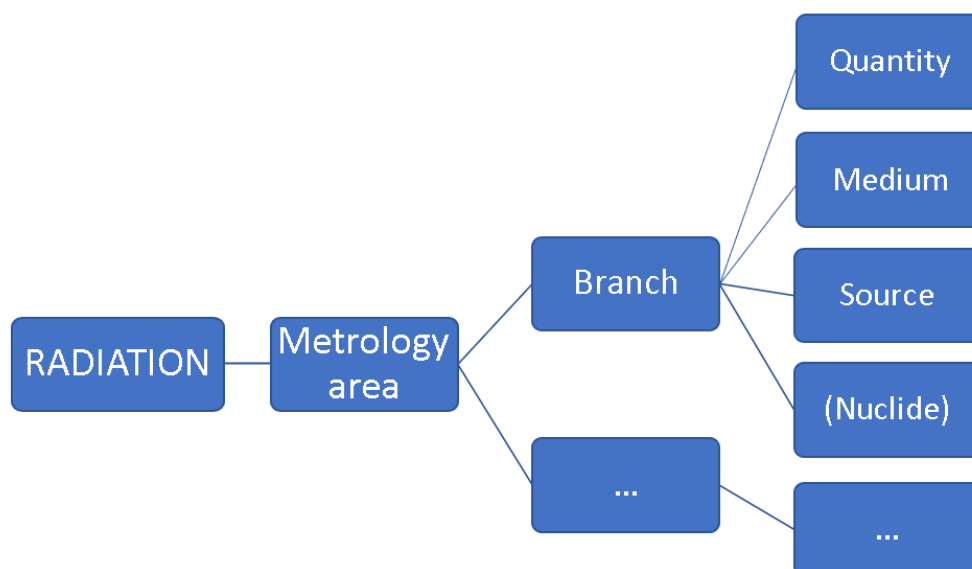


Figure 35 Scheme for classification of Service - ionizing radiation.

### 9.2.1 Branch (\*)

Choose the Branch. For guidance on the structure, the specific service list established by each consultative committee is available in the bottom of the page.

### 9.2.2 Institute service identifier

Each institute may attribute a specific identifier for their service, which is indicated here. It may be completed by a link.

### 9.2.3 Link to Institute service identifier

The specific link to the service (or the institute web page for services, or the web page of the institute, etc.) can be indicated. Please note that it is the responsibility of the originating institute to update the link if it changes.

The screenshot shows a web form titled 'Classification of service' within a 'METROLOGY AREA' context. The 'METROLOGY AREA' is indicated by a blue header and a dropdown menu currently showing 'IONIZING RADIATION'. The form itself has a title 'Classification of service' and a red asterisk next to the 'Branch' label. It contains three input fields: a dropdown menu for 'Branch' with the placeholder text '--- Select ---', a text input field for 'Institute service identifier', and another text input field for 'Web link to individual service'.

Figure 36 Form for classification of service – Ionizing radiation.

#### 9.2.4 Quantity (\*)

Select the quantity.

#### 9.2.5 Instrument or artifact under study (\*)

Indicate the instrument or artefact that can be calibrated.

#### 9.2.6 Instrument type or method applied (\*)

Indicate the instrument type or method that is applied.

#### 9.2.7 International standard

Indicate if a specific international standard<sup>13</sup> or other recommendations<sup>14</sup> is followed, standards already included in the database are suggested in a menu<sup>15</sup>, but it is also possible to indicate a new standard if it is missing from the list.

<sup>13</sup> Examples: IAEA, ISO, IEC standards or documents established by Consultative Committees.

<sup>14</sup> Example: References expressed by the Consultative Committees.

<sup>15</sup> Made by autocomplete: if the 3 first letters correspond to already recorded contents, these will be suggested.

**Measurand**

Quantity \*  
--- Select ---

Instrument or Artifact under study \*  
[Text Field]

Instrument type or method applied \*  
[Text Field]

International standard  
[Text Field]

Medium \*  
--- Select ---

Source \*  
--- Select ---

Specification on nuclide or source \*  
[Text Field]

Unit \*  
[Text Field]

Lower limit  
[Text Field]

Upper limit  
[Text Field]

**PARAMETERS**

Parameter 1	Information on parameter 1
[Text Field]	[Text Field]

→ Add a new parameter

Figure 37 Measurand – Ionizing radiation.

**9.2.8 Medium (\*)**

Indicate the medium.

**9.2.9 Nuclide (\*)**

Indicate the nuclide.

**9.2.10 Source (\*)**

Indicate the source.

The field "NUCLIDE" is visible only when the branch "Radioactivity" has been chosen.

**9.2.11 Specification of nuclide or source (\*)**

If the branch concerns radioactivity, please indicate the nuclide specifications here.

If the branch concerns dosimetry or neutron measurements, please indicate the source specifications here.

### 9.2.12 Unit (\*)

The unit is chosen in a fixed drop-down menu. “(dimensionless)” may be chosen for measurands without units, such as ratios or indices and will create an empty space when displayed. The unit “dimension 1” may be chosen when the unit “1” is targeted. Please make sure that the chosen unit is in line with the quantity. If a unit is not available, the Writer is invited to contact the KCDB Office: ([bipm.kcdb@bipm.org](mailto:bipm.kcdb@bipm.org)).

### 9.2.13 Lower limit

“Lower limit” is the lower limit of the measurand range. If the lower and upper limits are identical, they should be indicated the same in both fields. A point (.) is used as the decimal separator. The symbol “E” represents exponential of 10. For example, 10300 may be expressed as 1.03E04; 0.0067 may be expressed as 6.7E-03.

### 9.2.14 Upper limit

“Upper limit” is the upper limit of the measurand range. If the lower and upper limits are identical, they should be indicated the same in both fields. A point (.) is used as the decimal separator. The symbol “E” represents exponential of 10. For example, 10300 may be expressed as 1.03E04; 0.0067 may be expressed as 6.7E-03.

### 9.2.15 Parameters

As many as five sets of parameters may be indicated, if required, by opening the parameter window. The laboratory conditions, such as temperature or humidity, or specific measurement settings such as applied frequency or voltage, can be indicated.



### Expanded uncertainty

Unless otherwise stated the expanded uncertainties given below correspond to  $k = 2$  (at a 95 % level of confidence)

Unit \*

--- Select ---

Lower limit \*
Upper limit \*

Coverage factor

2

% confidence level

95

Absolute or Relative Uncertainty

Absolute

[→ Edit table](#)

[→ Edit equation](#)

References

Figure 38 Expanded uncertainty - Ionizing radiation.

#### 9.2.16 (Uncertainty) Unit (\*)

The uncertainty unit is chosen in a fixed drop-down menu. “(dimensionless)” may be chosen for measurands without units, such as ratios or indices and will create an empty space when displayed. The unit “dimension 1” may be chosen when the unit “1” is targeted. Please make sure that the chosen uncertainty unit is in line with the quantity and the indicated measurand unit. If a unit is not available, the Writer is invited to contact the KCDB Office: ([bipm.kcdb@bipm.org](mailto:bipm.kcdb@bipm.org)).

#### 9.2.17 (Uncertainty) Lower limit (\*)

“Lower limit” represents the lower limit of the expanded uncertainty with a coverage factor of approximately 95 %. If the lower and upper limits are identical, they should be indicated the same in both “Lower limit” and “Upper limit” fields. A point (.) is used as the decimal separator. The symbol “E” represents exponential of 10. For example, 10300 may be expressed as 1.03E04; 0.0067 may be expressed as 6.7E-03.

#### 9.2.18 (Uncertainty) Upper limit (\*)

“Upper limit” represents the upper limit of the expanded uncertainty with a coverage factor of approximately 95 %. If the lower and upper limits are

identical, they should be indicated the same in both “Lower limit” and “Upper limit” fields. A point (.) is used as the decimal separator. The symbol “E” represents exponential of 10. For example, 10300 may be expressed as 1.03E04; 0.0067 may be expressed as 6.7E-03.

### 9.2.19 Coverage factor (\*)

The coverage factor  $k$  represents the term for which  $k \times u$  has a coverage factor of 95 %,  $u$  representing the standard uncertainty of the measurand value. The default value is  $k = 2$ .

### 9.2.20 % confidence interval (\*)

The default value of the coverage factor is 95 %, as stated in the CIPM MRA.

### 9.2.21 Absolute or Relative Uncertainty (\*)

The absolute or relative nature of the stated uncertainty must be selected from the drop-down menu.

### 9.2.22 Edit table

When several services are covered by the same instrument or technique, they may be grouped into one single CMC with an associated uncertainty table.

Applications are for example

- measured AC voltage at different frequencies
- mass standards of a set
- a radionuclide measured using different techniques.

This grouping can then be indicated in a common table indicating the uncertainty for each case. This grouping facilitates, in general, the review of the CMCs and the overview of the services.

First indicate the unique name of the table under “Uncertainty table name”.

The table is edited by first indicating the number of rows and columns (headers included). Each field is then completed.

Each cell should contain a symbol – indicate by a hyphen symbol (-)

In the table comment field, an indication of units (for example “*Uncertainties given in Bq*”) or other essential information can be given.

A table may also be imported from an Excel file. This file must contain only the uncertainty table and will populate the table including indicating the

numbers of rows and columns. Each cell must contain a symbol – indicate empty cells by a hyphen symbol (-).<sup>16</sup>

**UNCERTAINTY TABLE**

Numbers of rows (including headers)

Numbers of columns (including headers)

Uncertainty table name \*

**XLS IMPORT**

Table comments

**SAVE** **QUIT**

Figure 39 Table for uncertainties - Ionizing radiation. Edit an uncertainty equation

**EQUATION DEFINITION**

Equation

Equation comments

**OK** **QUIT**

Figure 40 Field for equation - Ionizing radiation.

<sup>16</sup> Excel 2010 or later version is supported. If the table data is already listed in an Excel file of a previous version, it must be copy/pasted as “values” (not reproducing the original format).

### 9.2.23 Edit an uncertainty equation

Uncertainties expressed as an equation are edited in this pop-up. A comment on the equation can be given, where notably the representation of different symbols may be indicated, for example “*D* representing the absorbed dose”.

The format of quantity-based equations was adopted at the Consultative Committee Presidents’ meeting in June 2018 [Report CIPM 2018]. Information on quantity-based equations is given in [“Guide to converting numerical equations into quantity equations for KCDB applications”](#).

**References**

Reference standard used in calibration

Group identifier

Other support

Comments for publication

☐ I confirm that I am authorized by my institute to submit this CMC for review, and that supporting evidence of the RMO approval of the Quality System is provided.

Source of traceability \*

KCDB support for CMC claim

Comments from reviewer

→ Read or add comment

Uploaded documents

→ Add supporting document

SAVE SUBMIT PREVIEW QUIT

The contents here are intended for the Writer, TC Chairs and Reviewer during the review process. Please indicate possible modifications of the CMC here.

The contents here will be published on the KCDB web for open access.

Figure 41 References - Ionizing radiation.

### 9.2.24 Reference standard in calibration

The reference standard used for the calibration is indicated here.

### 9.2.25 Source of traceability (\*)

The source of traceability refers to the institute to which measurement traceability is connected.

Indicate the institute by its acronym.

### 9.2.26 Group identifier

The Group identifier is a “tag” that can be attributed to a set of CMCs that are related. The identifier should be unique for the metrology area.

Examples:

In electricity and magnetism, amplitude and phase of a measurand are declared as separate CMCs but are related.

In chemistry and biology, several analytes may be detected simultaneously within the same chemical matrix. These are regarded as separate CMCs, but are related.

In ionizing radiation, several radionuclides may be detected simultaneously within the same matrix. These are regarded as separate CMCs, but are related.

When the CMC is published on the open KCDB website, it will be indicated by a special “link” symbol



Clicking on this symbol will display the related CMCs.

### 9.2.27 KCDB support for CMC claim

You may add one or more references to comparisons published in the KCDB.

### 9.2.28 Other support

Indicate one or more support other than comparisons published in the KCDB.

### 9.2.29 Comments for publication

These comments will be published on the open website. **This field is not aimed for review comments.**

### **9.2.30 Read or add comments**

The contents here are intended for the Writer, TC Chairs and Reviewer during the review process. Indicate possible modifications of the CMC here.

### **9.2.31 Uploaded documents**

Please upload the documents to which you refer (other than KCDB comparisons) to give access to the documents by the reviewing experts.

### **9.2.32 Supporting evidence for Quality System provided (\*)**

The Writer confirms that there exists a validated Quality System before engaging the review procedure. The CMC cannot be submitted without having confirmed this information.

### 9.3 CREATE CMC – CHEMISTRY AND BIOLOGY

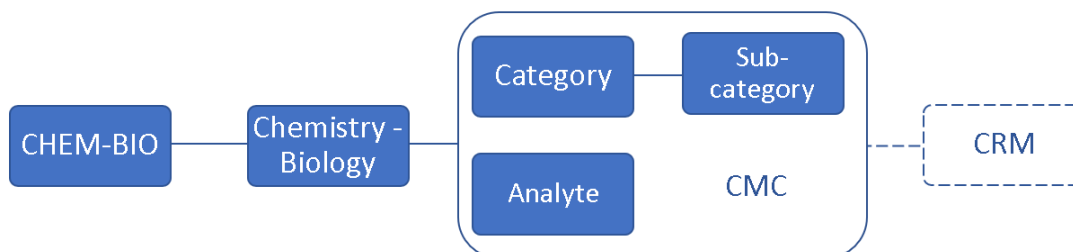


Figure 42 Scheme for classification of service – Chemistry and Biology.

Figure 43 Form for classification of service – Chemistry and Biology.

#### 9.3.1 Category (\*)

Choose the category. For guidance on the structure, the specific service list established by each Consultative Committee is available at the bottom of the page.

### 9.3.2 Sub-category (\*)

Choose the sub-category. For guidance on the structure, the specific service list established by each Consultative Committee is available at the bottom of the page.

### 9.3.3 Institute service identifier

Each institute may attribute a specific identifier for their service which is indicated here. It may be completed by a link.

### 9.3.4 Web link to institute service identifier

The specific link to the service (or the institute webpage for services, or the web page of the institute...) can be indicated. Please note that it is the responsibility of the originating institute to update the link if it changes.

### 9.3.5 Group

Choose one or more groups that are relevant to the contents of the CMC.

The screenshot shows a web form with two main sections. The first section, titled 'Measurand', contains four input fields: 'Matrix \*', 'Analyte or component \*', 'CAS number', and 'Quantity \*'. The second section, titled 'CMC Value', contains three input fields: 'Unit \*' (a dropdown menu), 'Lower limit', and 'Upper limit'. The form is styled with a light blue header and a white background.

Figure 44 Measurand and CMC value - Chemistry and Biology.

When **modifying** a CMC, if the CMC group is indicated as "Not attributed" (except those for the Electrochemical Analysis and Gas Analysis group), please update the relevant group(s).



### 9.3.6 Matrix (\*)

Matrix expressions already included in the database are suggested in a pull-down menu (type 3 letters first), but it is also possible to indicate an unlisted expression if needed.

### 9.3.7 Analyte or component (\*)

Analyte or component expressions already included in the database are suggested in a menu (type 3 letters first), but it is also possible to indicate an unlisted expression if needed.

### 9.3.8 CAS number<sup>17</sup>

By typing 3 characters, already registered CAS numbers will be suggested. Indicating the CAS number is optional.<sup>18</sup>

### 9.3.9 Quantity

Quantity expressions already included in the database are suggested in a menu (type 3 letters first), but it is also possible to indicate an unlisted expression if needed.

### 9.3.10 Unit (\*)

The unit is chosen in a fixed drop-down menu. “(dimensionless)” may be chosen for measurands without units, such as ratios or indices and will create an empty space when displayed. The unit “dimension 1” may be chosen when the unit “1” is targeted. Please make sure that the chosen unit is in line with the quantity. If a unit is not available, the Writer is invited to contact the KCDB Office: ([bipm.kcdb@bipm.org](mailto:bipm.kcdb@bipm.org)).

### 9.3.11 Lower limit

“Lower limit” is the lower limit of the measurand range. If the lower and upper limits are identical, they should be indicated the same in both fields. A point (.) is used as the decimal separator. The symbol “E” represents exponential of 10. For example, 10300 may be expressed as 1.03E04; 0.0067 may be expressed as 6.7E-03.

### 9.3.12 Upper limit

“Upper limit” is the upper limit of the measurand range. If the lower and upper limits are identical, they should be indicated the same in both fields.

---

<sup>17</sup> Chemical Abstracts Service

<sup>18</sup> For technical reasons, not all analytes can be attributed a CAS number in the database. To add new CAS numbers, please contact the KCDB Office [bipm.kcdb@bipm.org](mailto:bipm.kcdb@bipm.org).

A point (.) is used as the decimal separator. The symbol “E” represents exponential of 10. For example, 10300 may be expressed as 1.03E04; 0.0067 may be expressed as 6.7E-03.

### 9.3.13 (Uncertainty) Unit (\*)

The uncertainty unit is chosen in a fixed drop-down menu. “(dimensionless)” may be chosen for measurands without units, such as ratios or indices and will create an empty space when displayed. The unit “dimension 1” may be chosen when the unit “1” is targeted. Please make sure that the chosen uncertainty unit is in line with the quantity and the indicated measurand unit. If a unit is not available, the Writer is invited to contact the KCDB Office: ([bipm.kcdb@bipm.org](mailto:bipm.kcdb@bipm.org)).

If a unit is not available, the writer is invited to contact the KCDB Office: [bipm.kcdb@bipm.org](mailto:bipm.kcdb@bipm.org).

**Expanded uncertainty**

Unless otherwise stated the expanded uncertainties given below correspond to  $k = 2$  (at a 95 % level of confidence)

Unit \*

--- Select ---

▼

Lower limit \*

Upper limit \*

Coverage factor

2

% confidence level

95

Absolute or Relative Uncertainty

Absolute

▼

[→ Edit table](#)

[→ Edit equation](#)

References

Figure 45 Expanded uncertainty – Chemistry and Biology.

### 9.3.14 (Uncertainty) Lower limit (\*)

“Lower limit” represents the lower limit of the expanded uncertainty with a coverage factor of approximately 95 %. If the lower and upper limits are identical, they should be indicated the same in both “Lower limit” and “Upper limit” fields. A point (.) is used as the decimal separator. The symbol “E”

represents exponential of 10. For example, 10300 may be expressed as 1.03E04; 0.0067 may be expressed as 6.7E-03.

### 9.3.15 (Uncertainty) Upper limit (\*)

“Upper limit” represents the upper limit of the expanded uncertainty with a coverage factor of approximately 95 %. If the lower and upper limits are identical, they should be indicated the same in both “Lower limit” and “Upper limit” fields. A point (.) is used as the decimal separator. The symbol “E” represents exponential of 10. For example, 10300 may be expressed as 1.03E04; 0.0067 may be expressed as 6.7E-03.

### 9.3.16 Coverage factor (\*)

The coverage factor  $k$  represents the term for which  $k \times u$  has a coverage factor of 95 %,  $u$  representing the standard uncertainty of the measurand value. The default value is  $k = 2$ .

### 9.3.17 % confidence interval (\*)

The default value of the coverage factor is 95 %, as stated in the CIPM MRA.

### 9.3.18 Absolute or Relative Uncertainty (\*)

The absolute or relative nature of the stated uncertainty must be selected from the drop-down menu.

### 9.3.19 Edit table

When several services are covered by the same instrument or technique, they may be grouped into one single CMC with an associated uncertainty table.

Applications are for example

- measured AC voltage at different frequencies
- mass standards of a set
- a radionuclide measured using different techniques.

This grouping can then be indicated in a common table indicating the uncertainty for each case. This grouping facilitates, in general, the review of the CMCs and the overview of the services.

First indicate the unique name of the table under “Uncertainty table name”.

The table is edited by first indicating the number of rows and columns (headers included). Each field is then completed.

Each cell should contain a symbol – indicate by a hyphen symbol (-)

In the table comment field, an indication of units (for example “*Uncertainties given in  $\mu V$* ”) or other essential information can be given.

A table may also be imported from an Excel file. This file must contain only the uncertainty table and will populate the table including indicating the numbers of rows and columns. Each cell must contain a symbol – indicate empty cells by a hyphen symbol (-).<sup>19</sup>

Figure 46 Table for uncertainties - Chemistry and Biology.

### 9.3.20 Edit an uncertainty equation

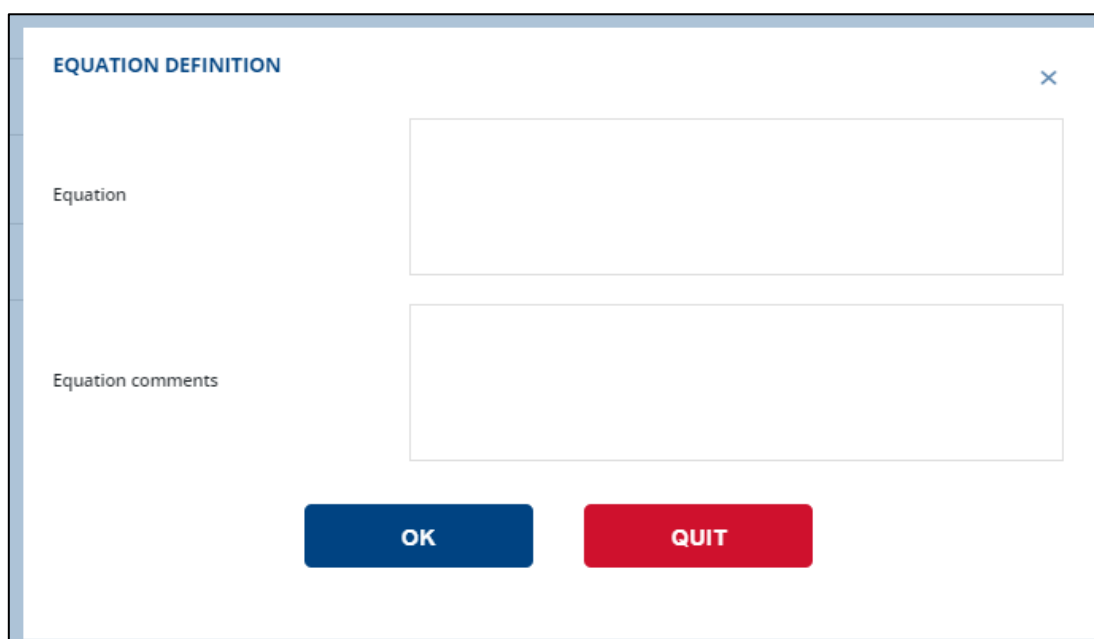
Uncertainties expressed as an equation are edited in this pop-up. A comment on the equation can be given, where notably the representation of different symbols may be indicated, for example “*c* representing molar concentration”.

<sup>19</sup> Excel 2010 or later version is supported. If the table data is already listed in an Excel file of a previous version, it must be copy/pasted as “values” (not reproducing the original format).

The format of quantity-based equations was adopted at the Consultative Committee Presidents' meeting in June 2018 [Report CIPM 2018]. Information on quantity-based equations is given in "[Guide to converting numerical equations into quantity equations for KCDB applications](#)".

### 9.3.21 CRM Value

Registering a CRM value is optional. The type of content is identical to that described above for CMCs.



The image shows a software dialog box titled "EQUATION DEFINITION". It has a standard window frame with a close button (X) in the top right corner. The dialog is divided into two main sections for text input. The first section is labeled "Equation" and contains a large, empty rectangular text box. The second section is labeled "Equation comments" and also contains a large, empty rectangular text box. At the bottom of the dialog, there are two prominent buttons: a blue button labeled "OK" and a red button labeled "QUIT".

Figure 47 Field for equation - Chemistry and Biology.

CRM Value

Unit

Lower limit

Upper limit

CRM Expanded Uncertainty

Unless otherwise stated the expanded uncertainties given below correspond to  $k = 2$  (at a 95 % level of confidence)

Unit

Lower limit

Upper limit

Coverage factor

2

% confidence level

95

Absolute or Relative Uncertainty

Absolute

→ [Edit table](#)

→ [Edit equation](#)

Figure 48 Field for CRM - Chemistry and Biology.

**References**

Mechanism(s) for service delivery \*

Measurement technique(s) used

Uncert. Convention  
One

Other support

Comments for publication

Source of traceability \*

Group identifier

KCDB support for CMC claim

Comments from reviewer  
→ [Read or add comments](#)

Uploaded documents  
→ [Add supporting document](#)

Figure 49 References - Chemistry and Biology.

The contents here will be published on the KCDB web for open access.

### 9.3.22 Mechanism(s) for service delivery (\*)

The mechanism for the delivery of service is indicated here.

### 9.3.23 Source of traceability (\*)

The source of traceability refers to the institute to which measurement traceability is connected.

### 9.3.24 Measurement technique(s) used

Give information on the measurement technique(s).

Indicate the institute by its acronym.

### 9.3.25 Group identifier

The Group identifier is a “tag” that can be attributed to a set of CMCs that are related. The identifier should be unique for the metrology area.

Examples:

- In electricity and magnetism, amplitude and phase of a measurand are declared as separate CMCs but are related.
- In chemistry and biology, several analytes may be detected simultaneously within the same chemical matrix. These are regarded as separate CMCs, but are related.
- In ionizing radiation, several radionuclides may be detected simultaneously within the same matrix. These are regarded as separate CMCs, but are related.

When the CMC is published on the open KCDB website, it will be indicated by a special “link” symbol



Clicking on this symbol will display the related CMCs.

### 9.3.26 Uncertainty convention

The expanded uncertainty range may be expressed according to two conventions. For 'Uncertainty convention 1', the expanded uncertainty range spans from the smallest numerical value of the uncertainty to the largest numerical value of the uncertainty found within the quantity range. For 'Uncertainty convention 2', the expanded uncertainty range is expressed as the uncertainty of the smallest value of the quantity to the uncertainty of the largest value of the quantity.

### 9.3.27 KCDB support for CMC claim

You may add one or several references to comparisons published in the KCDB.

### 9.3.28 Other support

Indicate support other than comparisons published in the KCDB



### 9.3.29 Comments for publication

These comments will be published on the open website. **This field is not aimed for review comments.**

### 9.3.30 Read or add comments

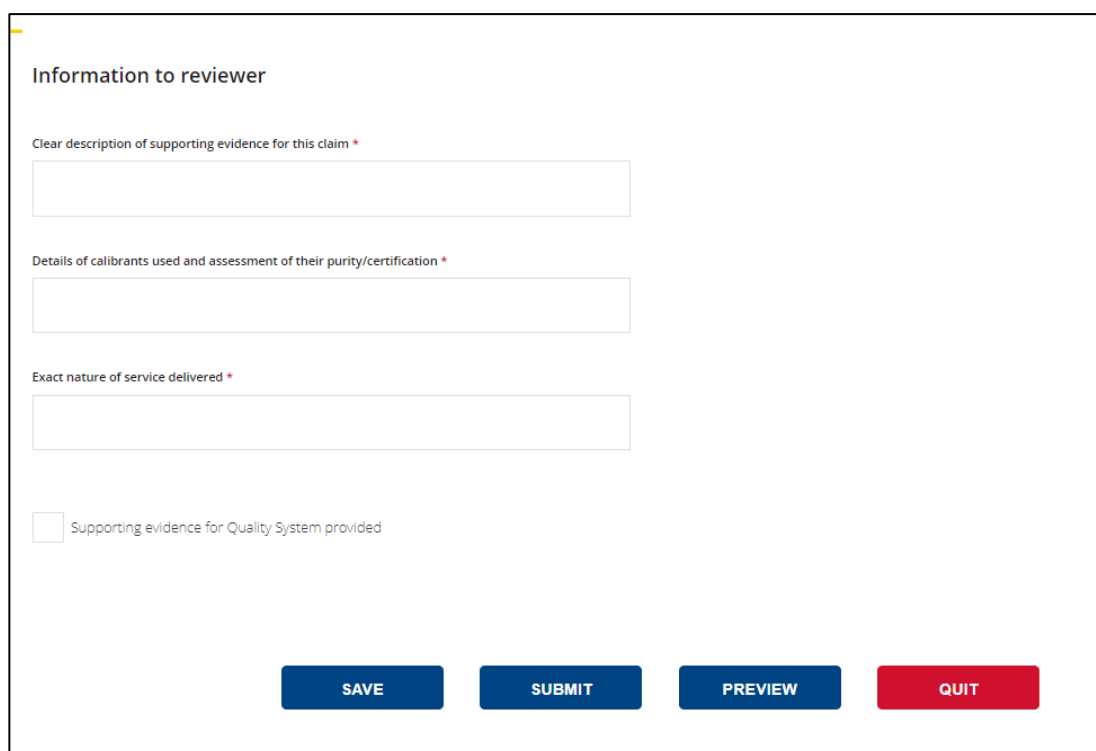
The contents here are intended for the Writer, TC Chairs and Reviewer during the review process. Indicate possible modifications of the CMC here.

### 9.3.31 Uploaded documents

Please upload the documents to which you refer (other than KCDB comparisons) to allow the reviewing experts to access the documents.

### 9.3.32 Clear description of supporting evidence for this claim

This information is specific for Chemistry and Biology.



The screenshot shows a web form titled "Information to reviewer". It contains three text input fields with the following labels: "Clear description of supporting evidence for this claim \*", "Details of calibrants used and assessment of their purity/certification \*", and "Exact nature of service delivered \*". Below these fields is a checkbox labeled "Supporting evidence for Quality System provided". At the bottom of the form, there are four buttons: "SAVE" (dark blue), "SUBMIT" (dark blue), "PREVIEW" (dark blue), and "QUIT" (red).

Figure 50 Information to reviewer - Chemistry and Biology.

### 9.3.33 Details of calibrants used and assessment of their purity/certification

This information is specific for Chemistry and Biology.

#### **9.3.34 Exact nature of service delivered**

This information is specific for Chemistry and Biology.

#### **9.3.35 Supporting evidence for Quality System provided (\*)**

The Writer confirms that a validated Quality System exists before engaging the review procedure. The CMC cannot be submitted without having confirmed this information.

#### **9.3.36 Broad claims**

CMC broad claims did not reach consensus within the Consultative Committee for Amount of Substance (CCQM) and its associated working groups before that the KCDB platform was initially implemented.

For more information on broad claims the delegated RMO coordinator should be consulted.

## 10 REVIEWER

A reviewer has access to review dashboards under

- **My RMO space** for Intra-RMO review
- **JCRB space** for JCRB review

The **Reviewer** and **JCRB Reviewer dashboards** give access to the CMCs that have been submitted to the Reviewer by the TC Chair. The actions made by the Reviewer for the intra-RMO review and the JCRB review are identical.

The deadlines for review are set by the TC Chair, and are not fixed for the intra-RMO review – nothing will happen automatically after having passed the date. However, the JCRB rules are applied in the JCRB review in which the indicated deadlines are fixed; if the review is not completed before the date, the review will not be accepted.

The Reviewer has access to a set of filters, placed to the left of the dashboard.

The condition of a CMC is indicated by a combination of colour-and-letter, where

N – New

M – Modified

G – Greyed out for reinstatement

The actions on the CMC can be triggered by

- using the blue buttons displayed above the dashboard, cf. Figure 53
- the actions available in the column listed to the far right of the table, cf. Figure 51. These actions allow indication of “Will review/Will not review” and subsequently “CMC accepted/CMC not accepted”.
- The actions available in the form once accepting to review, cf. Figure 52.

If the Reviewer indicates “Will not review” the CMC is no longer displayed in the dashboard.

When the Reviewer has indicated whether to accept or not accept the CMC, the CMC remains in the dashboard:

- Until the CMC has been submitted for JCRB review for the RMO screen.
- Until two months after approval/non approval in the JCRB review screen.

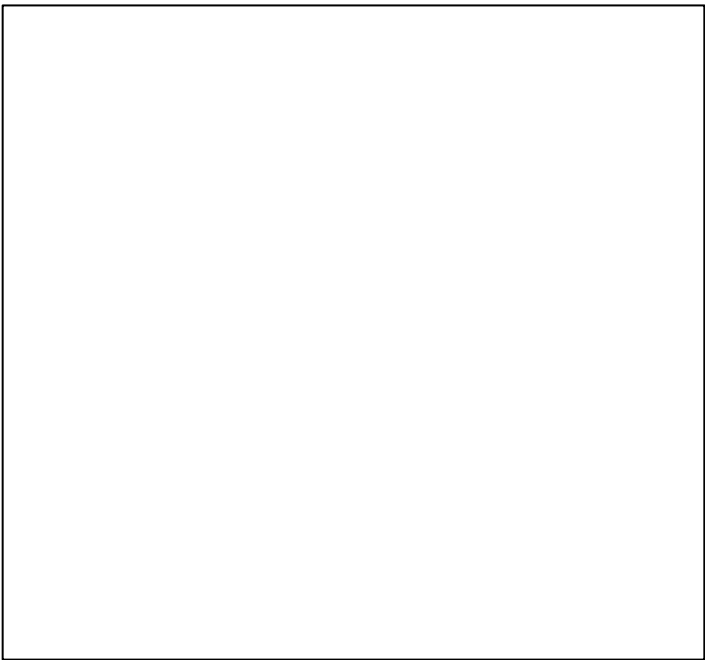


Figure 51 The Reviewer should first indicate whether to review or not.

[→ Read or add comments](#)

[→ Add document\(s\)](#)

CMC ACCEPTED

CMC NOT ACCEPTED

QUIT

Figure 52 Actions are possible form the CMC form once accepting to review.

The Reviewer may read the CMCs by

clicking on the CMC identifier (one-by-one)

CMC STATE	IDENTIFIER ^	GROUP ^	CAT NAME
<input type="checkbox"/> P	<a href="#">EURAMET-QM-GB-000001YU-1</a>	Gas Analysis Working Group	G
<input type="checkbox"/> P	<a href="#">EURAMET-QM-GB-000001YV-1</a>	Gas Analysis Working Group	G
<input type="checkbox"/> P	<a href="#">EURAMET-QM-GB-000001YW-1</a>	Gas Analysis Working Group	G

or by

clicking on the blue button "COMPARE" (one or several)

REYOUT	CREATE A NEW CMC	COMPARE CMCS
--------	------------------	--------------

IDENTIFIER ^	GROUP ^	CATEGORY NAME ^	ANALYTE ^
<a href="#">EURAMET-QM-GB-000001YU-1</a>	Gas Analysis Working Group	Gases	cis-2-pentene

It is possible to export selected CMCs to an Excel file. The exported data represents information registered in the KCDB on that particular CMC.

The Reviewer can add documents to support the review. The Reviewer may indicate comments at the bottom of the form via .

The Reviewer should give a comment/reason when not accepting the CMC. The comment will be accessible for the TC Chair. The Writer will access the comments when the CMC has been returned for revision.

The Reviewer may alter the accept/not accept indication for revised CMCs during the intra-RMO review

- if the status is "RMO: Revision Completed" or "RMO: Under Review",

- if the TC Chair has not yet indicated accepted/not accepted, and
- if the review date limit set for the reviewer has not been reached.

Home > Reviewer Dashboard

Search

Metrology area

Acoustics

Ultrasound

Vibration

Electricity and Magnetism

Length

Expand List

DeSelect List

Branch

Sound in air

Sound in water

Vibration

Expand List

DeSelect List

Country

--- Select ---

Status

+

CMC Identifier

CMC STATE

CMC IDENTIFIER

SERVICE CODE

BRANCH

QUANTITY

INSTRUMENT

COUNTRY

STATUS

REVIEW LIMIT

REPLY

ACTIONS

<input type="checkbox"/>	M	ADJULM1W:000005702	Force	Force: compression, tension	Force measuring device	Chinese Taipei	RMO: Submitted	2019-10-11		...
<input type="checkbox"/>	M	ADJULM1W:000005702	Force	Force: compression, tension	Force measuring device	Chinese Taipei	RMO: Submitted	2019-10-11		...
<input type="checkbox"/>	M	ADJULM1W:000005702	Force	Force: compression	Force measuring device	Chinese Taipei	RMO: Submitted	2019-10-11		...
<input type="checkbox"/>	M	ADJULM1W:000005802	Force	Force: compression	Force measuring device	Chinese Taipei	RMO: Submitted	2019-10-11		...

<

1

>

COMPARE CMCs

ADD REVIEW DOCUMENTS

WILL REVIEW

WILL NOT REVIEW

ACCEPT

NOT ACCEPT

XLS EXPORT

Figure 53 Reviewer dashboard (example for Mass and related quantities).

## 11 TC CHAIR

The TC Chair (named WG Chair in SIM) has a coordinating role. He is in contact with the representatives of all connected institutes within his RMO and metrology area/expertise.

The TC Chair coordinates the intra-RMO review and surveys so that the submitted CMCs attain such quality that they are expected to be approved after a JCRB review.

He oversees the submission of the CMCs for JCRB review and should liaise with the TC Chairs of the other RMOs on common issues in a general sense.

He manages the contents of the user accounts of the attributed metrology area/expertise and approves new user accounts.

### 11.1 TC CHAIR ROLE AND DATE LIMITS

Several of the actions on the KCDB platform are restricted to date limits.

There are no programmed date limits for the intra-RMO review.

For the JCRB review, the following date limits are **strictly** applied:

- Reply to an invitation for JCRB review of a CMC : within 3 weeks after issued invitation
- Set date limit to complete a JCRB review : cannot be recovered if the date limit has passed
- Set date limit to vote on the approval for a CMC: within 3 weeks after issued invitation

There is no date limit for the revision of a CMC that has been returned to the Writer. Nevertheless, it is advisable that the Writer acts on the review comments within a reasonable delay.

### 11.2 TC CHAIR MENU

The TC Chair has access 5 menus where two are of particular importance: **CMCS** and **BACK OFFICE**.

### 11.3 TC CHAIR BACK OFFICE

The Back Office tool for user accounts allows managing these. The dashboard contains

- a) A set of command buttons at top of the dashboard
- b) A set of filters at the left of the screen
- c) Navigation tools.

<b>DELETE</b>	The platform is made inaccessible to the user and ear marked DELETED
<b>APPROVE</b>	The platform is made accessible to the user
<b>REFUSE ACCOUNT</b>	The account is deleted from the user list, only applicable to new user account requests
<b>SELECT ALL</b>	Select all filtered items for export to and Excel file

When a new account request has been received, filter on NEW to access rapidly the new accounts.

Registered RMO, Institute and country are permanent for accounts and cannot be modified. Already registered **ROLE, METROLOGY AREA** and **EXPERTISE** cannot be altered by the WRITER **BUT** can be updated by the TC Chair.



**Edit user**

First name:  Last name:

E-mail:  Phone:

Password:  Repeat password:

RMO:  Country:

Institute:  Profile:  +

☒ ROLE\_REVIEWER  
☒ ROLE\_WRITER

Metrology area:  +  
☒ Mass and related quantities

Expertise:  +  
☒ Fluid flow  
☒ Pressure

Figure 54 Encircled fields can be modified by the TC Chair.

## 11.4 TC CHAIR CMC MENU AND DASHBOARD CONTENTS

Via the CMC menu, the TC Chair has notably access to

- **My RMO space** for Intra-RMO review
- **JCRB space** for JCRB review

Each section contains several dashboards, consisting of

- A set of command buttons at top of the dashboard
- A set of filters at the left of the screen
- A CMC table with navigation tools.

### 11.4.1 TC Chair command buttons

The command buttons allow in some cases to make an action on several CMCs simultaneously. These actions vary depending which kind of review is being made. They are described in the following sections.

### 11.4.2 TC Chair filters

The filter “CMC identifier” allows filtering on the CMC unique identifier.

The filter on Reviewer allows filtering the CMCs on the selected reviewer. The **first name, family name or the e-mail address** are used as search criteria.

All other filters are in select mode.

The screenshot displays the TC Chair dashboard interface. On the left, there are filter sections for 'CMC Identifier' (with a search bar), 'Metrology area' (with checkboxes for Acoustics, Ultrasound, Vibration; Electricity and Magnetism; and Length), 'Branch' (with checkboxes for Sound in air; Sound in water; and Vibration), 'Country' (with a dropdown menu), 'Reviewer' (with a text input), and 'Status' (with a dropdown menu and a plus icon). The main area features a table of CMCs with columns: CMC STATE, CMC IDENTIFIER, SERVICE CODE, BRANCH, QUANTITY, INSTRUMENT, COUNTRY, and WRITER. The table shows five entries, all with 'N' in the CMC STATE column. The table is surrounded by a yellow border. Above the table, there are buttons for 'SUBMIT TO THE JCRCB', 'SUBMIT TO THE KCDB', 'ADD REVIEWER', 'ADD REVIEW DOCUMENTS', 'COMPARE CMCs', 'ACCEPT', 'SELECT ALL', and 'EXPORT XLS'.

CMC STATE	CMC IDENTIFIER	SERVICE CODE	BRANCH	QUANTITY	INSTRUMENT	COUNTRY	WRITER
N	EURAMET-M-TL-00000NDR-1	Density	Density	Density of liquid	Hydrometer	Turkey	
N	EURAMET-T-GB-00000NDQ-1	Items for disseminating ITS-90 and PLTS 2000	Temperature	Temperature	Noble metal thermocouple, type B	United Kingdom	
N	EURAMET-T-GB-00000NDP-1	Items for disseminating ITS-90 and PLTS 2000	Temperature	Temperature	Noble metal thermocouple, type B	United Kingdom	
N	EURAMET-T-GB-00000NDQ-1	Items for disseminating ITS-90 and PLTS 2000	Temperature	Temperature	Noble metal thermocouple, type B	United Kingdom	
N	EURAMET-T-GB-00000NDR-1	Items for disseminating ITS-90 and PLTS 2000	Temperature	Temperature	Noble metal thermocouples, type B	United Kingdom	

Figure 55 Typical layout of a TC Chair dashboard.

### 11.4.3 TC Chair table for CMCs

The condition of the CMC is indicated by a combination of colour-and-letter, where

N – New

M – Modified

G – Greyed out for reinstatement

The actions on the CMC can be triggered by

- using the blue buttons displayed above the dashboard, as an example see Figure 56.
- the actions available in the column listed to the far right of the table, cf. Figure 57. These actions allow to indicate approval or a request for revision.
- The actions available in the form once accepting to review, as an example see Figure 62.

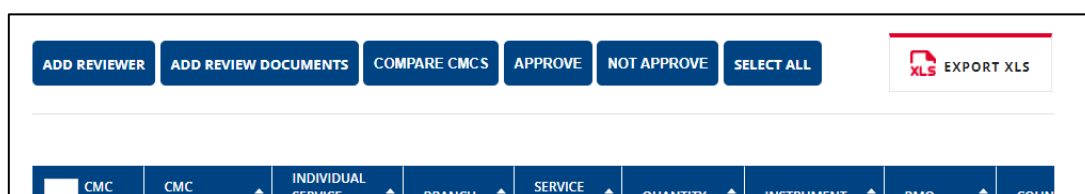


Figure 56 Blue buttons available for actions, here the top of JCRB CMC Without reviewer screen.



Figure 57 Actions available for the TC Chair in the far-right column. Here and example from the JCRB With Reviewer screen.

The deadlines for review are set by the TC Chair. The deadline is not fixed for the intra-RMO review – nothing will happen automatically after having passed the date. However, the JCRB rules are applied for the JCRB review, for which deadlines are fixed. If the review is not completed before the date, the review will not be accepted.

The TC Chair may read the CMCs by

clicking on the CMC identifier (one-by-one)

or by

clicking on the blue button "COMPARE" (one or several)


CMC STATE	CMC IDENTIFIER	SERVICE CODE	BRANCH
N	<a href="#">SIM-T-CR-00000LPP-1</a>	Items for disseminating ITS-90 and PLTS 2000	Temperature
N	<a href="#">SIM-T-CR-00000LPQ-1</a>	Items for disseminating ITS-90 and PLTS 2000	Temperature
N	<a href="#">SIM-T-CR-00000LOY-1</a>	Hygrometers	Humidity

IDENTIFIER	GROUP	CATEGORY NAME	ANALYTE
<a href="#">3AMET-OM-200001YU-1</a>	Gas Analysis Working Group	Gases	cis-2-pentene

It is possible to export selected CMCs to an Excel file.

The TC Chair can add documents associated with review and indicate comments in the bottom of the form.

Greyed out CMCs submitted for re-instatement wilm appear as indicated below.

 <b>G</b>	<a href="#">SIM-EM-AR-000008J4-2</a>	AC current	AC voltage, current, and power	AC current up to 100 A: sources	AC current source, multifunction calibrator	Argentina	writer1NTI@kcdb.fr
--	--------------------------------------	------------	--------------------------------	---------------------------------	---	-----------	--------------------

## 11.5 TC CHAIR: INTRA-RMO REVIEW

In **My RMO space** for Intra-RMO review, the TC Chair has access to two dashboards:

- CMC without reviewer
- CMC with reviewer

All CMCs submitted by the Writers within the RMO for intra-RMO review are initially available in **CMC without reviewer**.

### 11.5.1 RMO: CMC without reviewer - Contact reviewer(s)

The TC Chair may ask experts within the same RMO to review one or several CMCs. By clicking on the blue **"ADD REVIEWER"** button, all Reviewers that have user accounts with a profile "Reviewer" covering the same expertise can be selected by the TC Chair. The TC Chair ends the action by indicating a deadline.

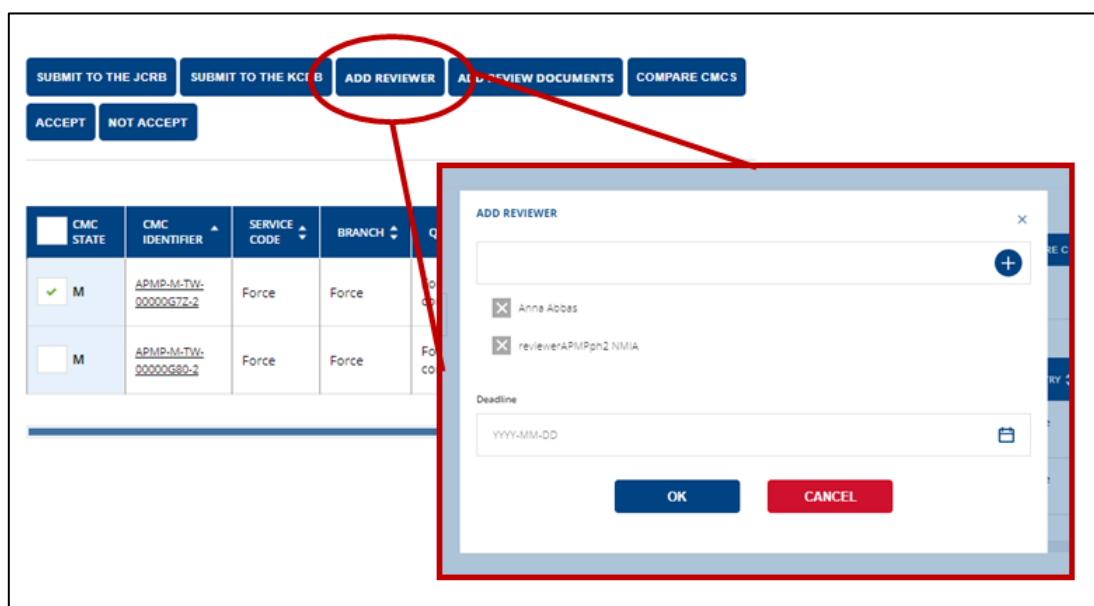


Figure 58 TC Chair can select reviewers within the RMO and metrology area (example for Mass and related quantities).

- If the TC Chair submits a CMC to the JCRB, the CMC is automatically considered as accepted in the intra-RMO review. The CMC will no longer be available as **"CMC without reviewer"** but will become available on the **"CMC with reviewer"** dashboard.

External reviewers and the TC Chair may review the same CMC, if necessary, but the TC Chair must wait for the review reply and the TC Chair reply will be the final decision.

- The CMC remains in the “**CMC without reviewer**” dashboard until at least one of the selected reviewers has indicated “Will review” or the TC Chair has indicated his review conclusion at this stage. The CMC will then no longer be available as “CMC without reviewer” but will become available on the “**CMC with reviewer**” dashboard.
- A TC Chair may also review a CMC without engaging an external reviewer. The TC Chair may hence accept the CMC or ask the Writer for revision. In these two cases, the CMC will no longer be displayed. The option “Not accept” removes the possibility for the Writer to revise the CMC.

CMCs having undergone only editorial modifications, reduced measurand range or increased uncertainty can be submitted directly by the TC Chair to the KCDB Office for publication in the KCDB [CIPM MRA-G-13]. For large sets, the TC Chair is invited to inform the KCDB Office [bipm.kcdb@bipm.org](mailto:bipm.kcdb@bipm.org). See also Section 11.5.3.

Please print CMIC without parameters

**CMIC Identifier**

**Metrology area**

- Accuracy Verification Version
- Electricity and Magnetism
- Length
- Mass
- Temperature
- Time
- Volume
- Weight

**Branch**

- Force in air
- Force in water
- Viscosity

**Country**

**Reviewer**

**Status**

**Actions**

**Submit to the JCRCB** **Submit to the KCQB** **Add Reviewer** **Add Review Documents** **Compare CMIC's**

**Accept** **Not Accept**

CMIC State	CMIC Identifier	Service Code	Branch	Quantity	Instrument	Country	Initially Submitted	Last Update	Review Limit	Contacted Reviewers	Status	Actions
M	ADJ00AAL7M0 000000070A	Force	Force	Force: compression, tension	Force measuring device	Chinese Taipei	2019-10-11	2019-10-11			RMO: Submitted	...
M	ADJ00AAL7M0 000000070A	Force	Force	Force: compression, tension	Force measuring device	Chinese Taipei	2019-10-11	2019-10-11			RMO: Submitted	...
M	ADJ00AAL7M0 000000070A	Force	Force	Force: compression, tension	Force measuring device	Chinese Taipei	2019-10-11	2019-10-11			RMO: Submitted	...
M	ADJ00AAL7M0 000000080A	Force	Force	Force: compression	Force measuring device	Chinese Taipei	2019-10-11	2019-10-11			RMO: Submitted	...

< >

Figure 59 Without-reviewer dashboard (example for Mass and related quantities). Complete the intra-RMO review ("CMC with reviewer")

11.5.2 RMO: CMC with reviewer -- Study Review comments

As soon as at least one reviewer has accepted to review a CMC, it is no longer be available as “CMC without reviewer” but becomes available on the “CMC with reviewer” dashboard.

It is still possible for the TC Chair to add Reviewers at this stage, if necessary, via the column far right.

<input type="checkbox"/>	N	<a href="#">EURAMET-M-GB-00000LIQ-1</a>	Density	2021-09-14		RMO: Under Review	---
<input type="checkbox"/>	N	<a href="#">EURAMET-T-IE-00000LRS-1</a>	Items for disseminating ITS-90 and PLTS 2000	2021-06-22		RMO: Accepted	--- Add reviewer CMC Accepted CMC not accepted Return for revision
<input type="checkbox"/>	N	<a href="#">EURAMET-T-BA-00000MLY-1</a>	Items for disseminating ITS-90 and PLTS 2000	2021-06-22		RMO: Accepted	---
<input type="checkbox"/>	M	<a href="#">EURAMET-T-SI-00000BQA-3</a>	Hygrometers	2021-06-22		RMO: Accepted	---

Figure 60 It is also possible for the TC Chair to add Reviewers in the screen "CMC with reviewer".

Reviewed CMCs that have been commented have their CMC ID in bold in the “CMC with reviewer” dashboard.

<input type="checkbox"/>	CMC STATE	CMC IDENTIFIER	SERVICE CODE	BRANCH
<input type="checkbox"/>	M	<b><a href="#">APMP-M-TW-00000G7X-2</a></b>	Force	Force
<input type="checkbox"/>	M	<b><a href="#">APMP-M-TW-00000G7Y-2</a></b>	Force	Force
<input type="checkbox"/>	M	<b><a href="#">APMP-M-TW-00000G7Z-2</a></b>	Force	Force

Figure 61 The code for a commented CMC is indicated in bold font.

The TC Chair can indicate the review conclusion from the column far-right of the table, cf. Figure 57, or using the blue buttons at the top of the screen. He can also use the



bottom of the form when reading the CMC, as illustrated in Figure 62. Once the TC Chair has indicated his choice, the choice is firm.

A CMC should be accepted before being submitted for JCRB review. The CMC can be returned to the Writer for revision by the Writer when necessary.

The Reviewer may alter the accept/not accept indication for revised CMCs during the intra-RMO review.

The CMC remains in the dashboard until the CMC has been submitted for JCRB review.

Only in rare cases the CMC is “not accepted”. This means that the CMC cannot be re-submitted. It will obtain the status “RMO: Turned down” and will be displayed for the TC Chair for 60 days. It will be automatically be erased from the screen.

KCDB support for CMC claim

[EURAMET.M.D-K1.1](#)

[EURAMET.M.D-S3](#)

☒ I confirm that I am authorized by my institute to submit this CMC for review, and that supporting evidence of the RMO approval of the Quality System is provided.

→ [Read or add comments](#) → [Add document\(s\)](#)

**CMC ACCEPTED** **CMC NOT ACCEPTED** **RETURN FOR REVISION** **QUIT**

Figure 62 The TC Chair may indicate the review conclusion when reading the CMC.

The TC Chair shall make sure that the reason for revision is clearly stated via the comment tool, cf. Figure 63.

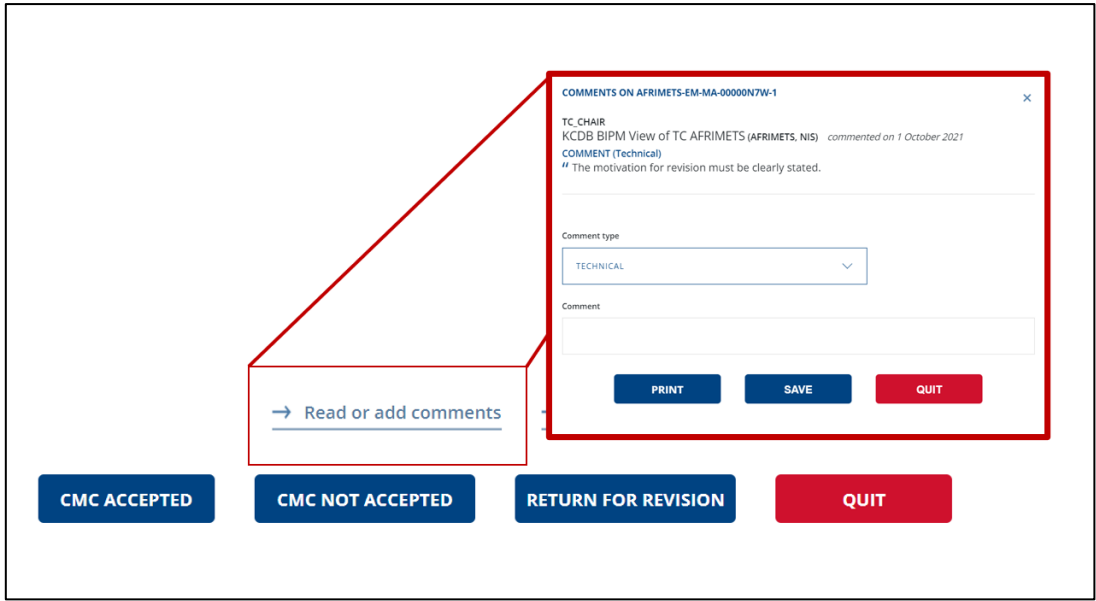


Figure 63 The reason for revision must be clearly indicated.

Reviewed CMCs that have been commented have their CMC ID in bold in the “CMC with reviewer” dashboard.

CMC STATE	CMC IDENTIFIER	SERVICE CODE	BRANCH
<input type="checkbox"/> M	<b>APMP-M-TW-00000G7X-2</b>	Force	Force
<input type="checkbox"/> M	<b>APMP-M-TW-00000G7Y-2</b>	Force	Force
<input type="checkbox"/> M	<b>APMP-M-TW-00000G7Z-2</b>	Force	Force

Figure 64 The code for a commented CMC is indicated in bold font.

The conclusion of the Reviewer(s) and TC Chair are shown by pictograms: green “tick” represents “**Accepted**” while a red cross represents “**not accepted**”. It should be noted that a Reviewer’s indication of “Not accept” is a recommendation, as the TC Chair choice to not accept removes the possibility for the Writer to revise the CMC.

	REVIEW LIMIT	REVIEWER LIST + REVIEW STATUS
	2019-10-11	reviewerAPMPph2 NMIA ✗ tcchairAPMPph ANSTO ✗
	2019-10-11	tcchairAPMPph ANSTO ✓ reviewerAPMPph2 NMIA
	2019-10-11	tcchairAPMPph ANSTO ✗ reviewerAPMPph2 NMIA ✓

Figure 65 Different symbols indicate the replies from the consulted Reviewers.

Those CMCs that have been accepted are now ready to be submitted to the JCRB for review by selecting the CMCs and clicking on the blue button “**SUBMIT TO THE JCRB**”.

CMCs that have been submitted to the JCRB are no longer available in the “**CMC without reviewer**” or “**CMC with reviewer**” dashboards, but in **CMCs from my RMO** in the JCRB menu.

### 11.5.3 CMCs not needing review

When an updated CMC fulfill a combination of the following conditions only:

- Editorial modification
- Enlarged uncertainty
- Reduced range for measurand

The CMCs does not need a new review and approval.

The TC Chair should in this case submit the CMC directly to the KCDB Office by using the blue button **SUBMIT TO THE KCDB**.

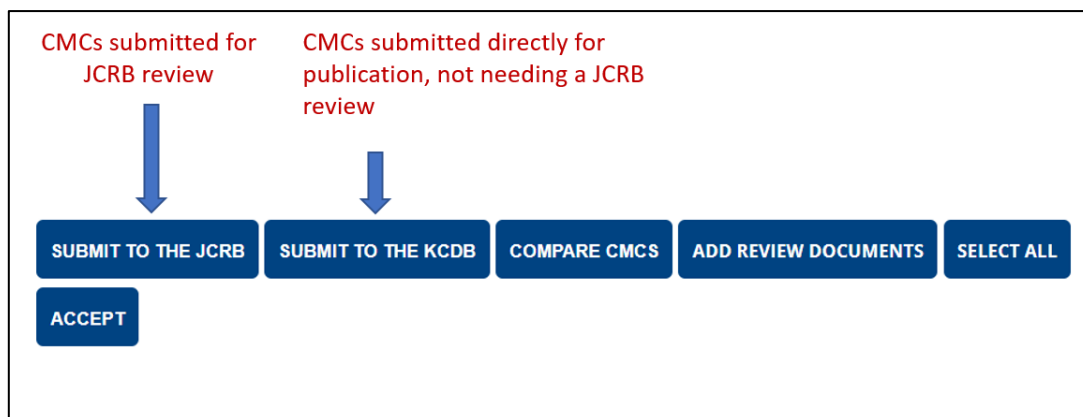


Figure 66 New and modified CMCs should undergo a JCRB review. In some cases, modified CMCs can be directed to the KCDB Office for publication (see CIPM MRA G-13).

### 11.5.4 JCRB: CMCs from my RMO

CMCs that have been submitted to the JCRB are available in the menu **JCRB space “CMCs from my RMO”** dashboard. The TC Chair has the possibility to follow the review progress. The TC Chair may also submit CMCs for voting in this dashboard.

Home > CMCs from my RMO

Reset all

CMC Identifier

**Metrology area**

- ☒ Acoustics, Ultrasound, Vibration
- ☒ Electricity and Magnetism
- ☒ Length

[Extend list](#) [Deselect list](#)

**Branch**

- ☒ Sound in air
- ☒ Sound in water
- ☒ Vibration

[Extend list](#) [Deselect list](#)

**Status**

[SUBMIT CMCS FOR JCRB VOTE](#) [COMPARE CMCS](#)

	CMC IDENTIFIER	SERVICE CODE	METROLOGY AREA	BRANCH	QUANTITY	INSTRUMENT	COUNTRY	LAST UPDATE	STATUS
<input type="checkbox"/>	<a href="#">EURAMET-EU-GB-000002G2</a>	AC current	Electricity and Magnetism	AC voltage, current, and power	AC current: AC/DC transfer difference	AC-DC standard plus shunt	United Kingdom	2019-09-30	JCRB: Under Review
<input type="checkbox"/>	<a href="#">EURAMET-EU-GB-000002H2</a>	AC current	Electricity and Magnetism	AC voltage, current, and power	AC current up to 100 A: meters	Current transducer	United Kingdom	2019-09-30	JCRB: Under Review
<input type="checkbox"/>	<a href="#">EURAMET-EU-GB-000002I2</a>	AC current	Electricity and Magnetism	AC voltage, current, and power	AC current up to 100 A: meters	Mains frequency harmonics analysers, flicker meters, wattmeters	United Kingdom	2019-09-30	Submitted to the JCRB
<input type="checkbox"/>	<a href="#">EURAMET-EU-FI-000002J2</a>	AC current	Electricity and Magnetism	AC voltage, current, and power	AC current up to 100 A: meters	Multimeter	Finland	2019-10-08	JCRB: Revision Completed
<input type="checkbox"/>	<a href="#">EURAMET-EU-FI-000002K2</a>	AC current	Electricity and Magnetism	AC voltage, current, and power	AC current up to 100 A: meters	Rogowski coil, current transducer	Finland	2019-10-08	JCRB: Revision Completed
<input type="checkbox"/>	<a href="#">EURAMET-EU-ES-000002L2</a>	Angle	Length	Dimensional metrology	Angle by circle dividers	Optical polygon: face angle	Spain	2019-10-09	JCRB: Approved
<input type="checkbox"/>	<a href="#">EURAMET-EU-ES-000002M2</a>	Angle	Length	Dimensional metrology	Angle instruments	Autocollimator: error of indicated angle	Spain	2019-10-09	JCRB: Waiting for VOTE

Figure 67 “CMCs from my RMO” dashboard (several metrology areas in this example)

## 11.6 TC CHAIR: JCRB REVIEW

All information on the JCRB review is listed in the menu **JCRB space**.

When a TC Chair has submitted one or several CMCs to the JCRB for review they are listed as **“Pending actions”**.

### 11.6.1 JCRB Request for Review

TC Chairs from the other RMOs are first requested to consult **“JCRB request for review”** to indicate

- If they Will or Will not review
- Indicate a deadline for the review

It is mandatory to indicate **“Will review”** to get access to the CMCs to review in **“JCRB space / CMC without reviewer”**.

The screens for the JCRB review are very much similar those for the RMO review.

There are a few distinct differences for the JCRB review compared to the intra-RMO review:

- Deadline dates are fixed and follow the JCRB rules.
- If all reviewing TC Chairs approve the CMC, the CMC will not be submitted to vote but will automatically become available to the KCDB Office for publication.
- If at least one of the reviewing TC Chairs asks for revision, the revised CMC should be submitted for vote after revision.
- A CMC at this stage can be revised only once by the Writer.
- The outcome of the review is concluded (latest) at the latest date set for review deadline by the reviewing TC Chairs, but may end earlier if all reviewing partners have completed their review.

### 11.6.2 WG Chair dashboard read only - Overview of which RMO reviews what

The TC Chair has the possibility to observe which other RMO has accepted to review a CMC via the screen **WG Chair dashboard read only**. CMCs that have been accepted to be reviewed are indicated by a green field. See also Section 15.

### 11.6.3 JCRB: CMC without reviewer - Contact reviewer(s)

The TC Chair may ask experts within the same RMO to review one or several CMCs. By clicking on the blue **“ADD REVIEWER”** button, all Reviewers that have user

accounts with a profile “Reviewer” covering the same expertise can be selected by the TC Chair. The TC Chair ends the action by indicating a deadline.

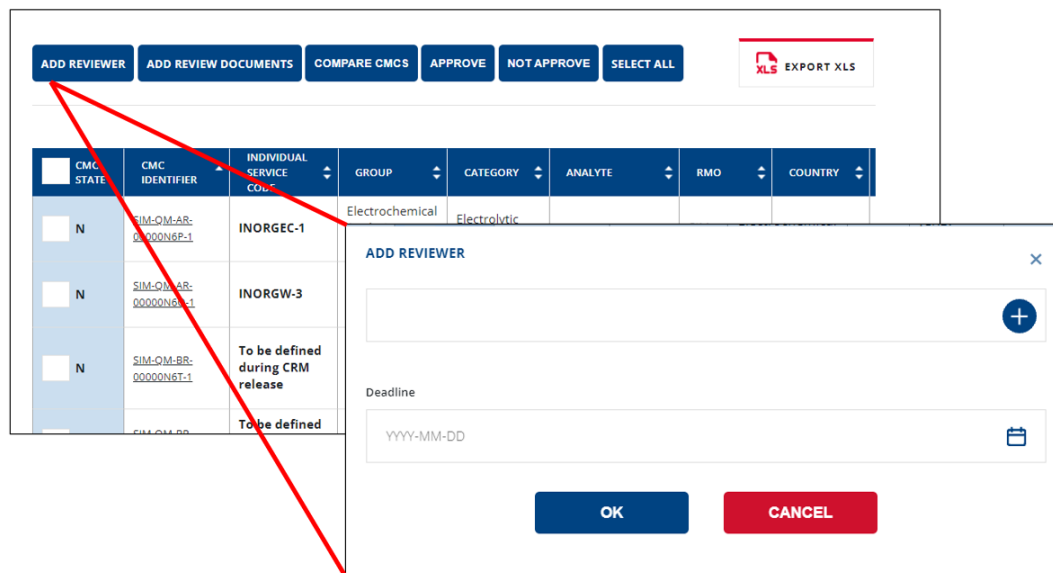


Figure 68 TC Chair can select reviewers within the RMO and metrology area (example for Chemistry and Biology).

- The CMC remains in the “**CMC without reviewer**” dashboard until at least one of the selected reviewers has indicated “Will review” or the TC Chair has indicated his review conclusion at this stage. The CMC will then no longer be available as “CMC without reviewer” but will become available on the “**CMC with reviewer**” dashboard.
- A TC Chair may also review a CMC without engaging an external reviewer. The TC Chair may hence approve the CMC or ask the Writer for revision. In these two cases, the CMC will no longer be displayed.

External reviewers and the TC Chair may review the same CMC, if necessary. The TC Chair review represents the final decision and cannot be modified.

#### 11.6.4 JCRB: CMC with reviewer - Study Review comments

As soon as at least one reviewer has accepted to review a CMC, it is no longer available as “**CMC without reviewer**” but becomes available on the “**CMC with reviewer**” dashboard.

It is still possible for the TC Chair to add Reviewers at this stage, if necessary, via the column far right.

N	EURAMET-M-IE-00000KXM-1	Pressure	JCRB: Under Review	2021-09-30		...
M	SIM-EM-US-00000786-2	Radio frequency measurements	JCRB: Under Review	2021-09-30		...
M	SIM-EM-US-00000788-2	Radio frequency measurements	JCRB: Under Review	2021-09-30		Add reviewer
M	SIM-EM-US-00000770-2	Radio frequency measurements	JCRB: Under Review	2021-09-30		Approve
						Return for Revision
						...

Figure 69 It is also possible for the TC Chair to add Reviewers also in the screen "CMC with reviewer" (the names of the reviewers have been shaded).

STATUS	JCRB REVIEW LIMIT	REVIEWER LIST + REVIEW STATUS	ACTIONS
JCRB: Under Review	2021-10-26	TC Chair EURAMET ✓	...
JCRB: Under Review	2021-10-26	Anna Panna ✓ TC Chair EURAMET ✗	...
JCRB: Under Review	2021-10-26	TC Chair EURAMET ✓ Anna Panna ✗	...

Figure 70 Display of review results. In this example the TC Chair has not followed the recommendation by the Reviewer.

The conclusion of the Reviewer(s) and TC Chair are shown by pictograms, cf. Figure 70. A green "tick" represents **"Accepted"** while a red cross represents **"Not accepted"** by the Reviewers.

However, a green "tick" for the TC Chair now represents **"Approved"** while a red cross represents **"Return for revision"**.

The TC Chair can indicate the review conclusion from the column far-right of the table, cf. Figure 57, or using the blue buttons at the top of the screen. He can also use the bottom of the form when reading the CMC, as illustrated in Figure 71. Once the TC Chair has indicated his choice, the choice is firm.

→ [Read or add comments](#)    → [Add document\(s\)](#)

**APPROVE**    **RETURN FOR REVISION**    **QUIT**

Figure 71 The TC Chair may indicate the review conclusion when reading the CMC.

The TC Chair shall make sure that the reason for revision is clearly stated via the comment tool, cf. Figure 72. Figure 63

→ [Read or add comments](#)

**APPROVE**    **RETURN FOR REVISION**    **QUIT**

**COMMENTS ON AFRIMETS-EM-MA-00000N7W-1** [X]

TC\_CHAIR  
KCDB BIPM View of TC AFRIMETS (AFRIMETS, NIS) commented on 1 October 2021  
COMMENT (Technical)  
" The motivation for revision must be clearly stated.

Comment type  
TECHNICAL

Comment

**PRINT**    **SAVE**    **QUIT**

Figure 72 The reason for revision must be clearly indicated.



A CMC for which a request for revision has been stated remains in the TC Chair dashboard for 2 months after that it has been approved/not approved in the JCRB review.

## 12 SUBMIT FOR VOTE, VOTE AND VOTE TRACKING

A CMC that has been revised during the JCRB review will be subject to a vote.

### 12.1 ORIGINATING RMO SUBITS CMC

The revised CMC is submitted by the Writer to the corresponding TC Chair. This CMC will appear in **"CMCs from my RMO"** in the TC Chair JCRB menu and has the status **"JCRB: Revision completed"**. The TC Chair selects the CMC(s) in question and submits these to the JCRB for voting by clicking on the blue button at the top of the dashboard.



	CMC IDENTIFIER	SERVICE CODE	METROLOGY AREA	BRANCH	QUANTITY	INSTRUMENT	COUNTRY	LAST UPDATE	STATUS
<input type="checkbox"/>	<a href="#">EURAMET-AUV-DE-000000DM-2</a>	Linear vibration	Acoustics, Ultrasound, Vibration	Vibration	Charge sensitivity (phase shift)	Accelerometer	Germany	2019-10-21	JCRB: Revision Completed
<input type="checkbox"/>	<a href="#">EURAMET-AUV-DE-000000DM-2</a>	Linear vibration	Acoustics, Ultrasound, Vibration	Vibration	Charge sensitivity (phase shift)	Accelerometer	Germany	2019-10-21	JCRB: Revision Completed
<input type="checkbox"/>	<a href="#">EURAMET-AUV-DE-000000DIO-2</a>	Linear vibration	Acoustics, Ultrasound, Vibration	Vibration	Voltage sensitivity (phase shift)	Acceleration measuring chain	Germany	2019-10-21	JCRB: Approved
<input type="checkbox"/>	<a href="#">EURAMET-AUV-DE-000000DIO-2</a>	Linear vibration	Acoustics, Ultrasound, Vibration	Vibration	Voltage sensitivity (phase shift)	Acceleration measuring chain	Germany	2019-10-21	JCRB: Revision Requested
<input type="checkbox"/>	<a href="#">EURAMET-AUV-DE-000000DIO-2</a>	Angular vibration	Acoustics, Ultrasound, Vibration	Vibration	Charge sensitivity (phase shift)	Angular accelerometer	Germany	2019-10-21	JCRB: Under Review
<input type="checkbox"/>	<a href="#">EURAMET-AUV-</a>	Angular	Acoustics, Ultrasound	Vibration	Voltage sensitivity	Angular acceleration	Germany	2019-10-21	JCRB: Under

Figure 73 "JCRB CMC with reviewers" carrying the status "JCRB: Waiting for vote" (encircled in red) are available to be submitted for vote by the originating RMO.

### 12.2 VOTING RMOs

The voting TC Chair will find the revised CMC, submitted for vote, in **"JCRB CMC with reviewers"** carrying the status **"JCRB: Waiting for vote"**.

The vote is carried out by clicking "Approve" or "Not approve".

This can be carried out from the column far right. It can also be accomplished from the CMC form when reading the contents.

The conditions and progress of vote may be consulted in the dashboard "JCRB vote tracking". By clicking on the CMC ID, the details of the voting process are displayed.

CMC STATE	CMC IDENTIFIER	SERVICE CODE	BRANCH	QUANTITY	INSTRUMENT	RMO	COUNTRY	SUBMITTED TO JCRB	STATUS	JCRB REVIEW LIMIT	REVIEWER LIST + REVIEW STATUS	ACTIONS
M	EURAMET-AUX-DE-000000IM.2	Linear vibration	Vibration	Charge sensitivity (phase shift)	Accelerometer	EURAMET	Germany	2019-09-21	JCRB: Waiting for VOTE	2019-10-21	any any ✖	...
M	EURAMET-AUX-DE-000000IN.2	Linear vibration	Vibration	Charge sensitivity (phase shift)	Accelerometer	EURAMET	Germany	2019-09-21	JCRB: Waiting for VOTE	2019-10-21	any any ✖	...

Figure 74 "CMCs from my RMO" dashboard where the CMCs that can be submitted for vote by the originating RMO are encircled in red.

→ [Read or add comments](#)

APPROVE

NOT APPROVE

QUIT

Figure 75 It is possible for the TC Chair to vote from the opened CMC form.

### 12.3 VOTE TRACKING

The results and status of the voting process may be consulted in the dashboard **"JCRB vote tracking"**. By clicking on the CMC ID, the details of the voting process are displayed.

CMC IDENTIFIER ▾	SERVICE CODE ▲	METROLOGY AREA ▾	BRANCH ▾	QUANTITY ▾	INSTRUMENT ▾	COUNTRY ▾	STATUS ▾
<a href="#">EURAMET-AUV-DE-00000DJM-2</a>	Linear vibration	Acoustics, Ultrasound, Vibration	Vibration	Charge sensitivity (phase shift)	Accelerometer	Germany	JCRB: Waiting for VOTE
<a href="#">EURAMET-AUV-DE-00000DJN-2</a>	Linear vibration	Acoustics, Ultrasound, Vibration	Vibration	Charge sensitivity (phase shift)	Accelerometer	Germany	JCRB: Waiting for VOTE
<a href="#">EURAMET-AUV-DE-00000DJO-2</a>	Linear vibration	Acoustics, Ultrasound, Vibration	Vibration	Voltage sensitivity (phase shift)	Acceleration measuring chain	Germany	JCRB: Approved

< 1 >

Figure 76 “Vote tracking” dashboard.

<b>JCRB Vote detail</b>				
CMC Identifier				
<b>EURAMET-AUV-DE-00000DJM-2</b>				
Service code				
<b>Linear vibration</b>				
Branch				
<b>Vibration</b>				
Country				
<b>Germany</b>				
Last date for vote				
<b>2019-11-11</b>				
RMO				
AFRIMETS	APMP	COOMET	GULFMET	SIM
N/A	Accepted	Vote in progress	N/A	N/A

Figure 77 “Vote tracking” details. The RMOs that are not authorized to vote are indicated with “N/A”.

## 13 PENDING ACTIONS

The list of pending actions gives information on what the different RMOs are expected to do during the JCRB review.

Home > Pending Actions

Pages: 1

**Metrology area**

☒ Acoustics, Ultrasound, Vibration  
☒ Electricity and Magnetism

[Delect list](#)

**Branch**

☒ Sound in air  
☒ Sound in water  
☒ Vibration

[Expand list](#) [Delect list](#)

**Submitting RMO**

☒ AFRIMETS  
☒ APMP  
☒ COOMET

[Expand list](#) [Delect list](#)

**Country**

--- Select ---

**RMO Concerned**

☒ AFRIMETS  
☒ APMP  
☒ COOMET

[Expand list](#) [Delect list](#)

**Pending actions**

**COMPARE CMC'S**

CMC STATE	CMC IDENTIFIER	METROLOGY AREA	SERVICE CODE	BRANCH	QUANTITY	INSTRUMENT	SUBMITTING RMO	COUNTRY	RMO CONCERNED	PENDING ACTIONS	REVIEW LIMIT
M	EURAMET-AUV-DE-00000000-2	AUV	Linear vibration	Vibration	Charge sensitivity (phase shift)	Accelerometer	EURAMET	Germany	COOMET	Proceed to vote	2019-11-11
M	EURAMET-AUV-DE-00000000-2	AUV	Linear vibration	Vibration	Charge sensitivity (phase shift)	Accelerometer	EURAMET	Germany	COOMET	Proceed to vote	2019-11-11
M	EURAMET-AUV-DE-00000000-2	AUV	Linear vibration	Vibration	Voltage sensitivity (phase shift)	Acceleration measuring chain	EURAMET	Germany	EURAMET	To respond to comments and submit revised CMC	
M	EURAMET-AUV-DE-00000000-2	AUV	Angular vibration	Vibration	Charge sensitivity (phase shift)	Angular accelerometer	EURAMET	Germany	GULPMET	Acknowledge receipt	
M	EURAMET-AUV-DE-00000000-2	AUV	Angular vibration	Vibration	Charge sensitivity (phase shift)	Angular accelerometer	EURAMET	Germany	AFRIMETS	Acknowledge receipt	
M	EURAMET-AUV-DE-00000000-2	AUV	Angular vibration	Vibration	Charge sensitivity (phase shift)	Angular accelerometer	EURAMET	Germany	APMP	To complete review	2019-10-25
M	EURAMET-AUV-DE-00000000-2	AUV	Angular vibration	Vibration	Charge sensitivity (phase shift)	Angular accelerometer	EURAMET	Germany	SIM	Acknowledge receipt	
M	EURAMET-AUV-DE-00000000-2	AUV	Angular vibration	Vibration	Charge sensitivity (phase shift)	Angular accelerometer	EURAMET	Germany	COOMET	Acknowledge receipt	
M	EURAMET-AUV-DE-00000000-2	AUV	Angular vibration	Vibration	Voltage sensitivity (phase shift)	Angular acceleration measuring chain	EURAMET	Germany	SIM	Acknowledge receipt	
M	EURAMET-AUV-DE-00000000-2	AUV	Angular vibration	Vibration	Voltage sensitivity (phase shift)	Angular acceleration measuring chain	EURAMET	Germany	GULPMET	Acknowledge receipt	

1 2 3 4 
 1 2 3 4

Figure 78 List of pending actions.

The pending actions indicated are:

- Acknowledge receipt of submitted CMC
- To complete review
- To respond to comments and submit revised CMC
- Proceed to vote

## 14 JCRB REQUEST FOR REVIEW

A TC Chair is requested to indicate the intention to review or not a CMC that has been submitted for JCRB review. When indicating the intention to review the TC Chair sets the deadline which allows access to the CMCs in **“JCRB space / CMCs without reviewer”**, see also Section 11.6.

## 15 CMC WG CHAIR

The coordinator of a CMC WG<sup>20</sup>, usually the CMC WG Chair, has access via his profile to a form where all CMCs that have been submitted to the JCRB space for JCRB review are listed.

The CMC WG Chair may here indicate his selection of which RMO(s) should review which CMCs by a check mark. RMOs for which the TC Chairs have accepted to review are indicated with a green field in the form.

The selected RMO TC Chair should indicate his wish to review in “JCRB request for review”. RMOs that have or have not been selected are not notified

The screenshot displays the WG CMC Chair dashboard. The top navigation bar includes links for CMCS, COMPARISONS, BACK OFFICE, NEWS, and STATISTICS. The main content area is divided into three sections: 'Search published CMCs' (with 'Advanced search' and 'Quick search'), 'My RMO space' (with 'CMCs without reviewer' and 'CMCs with reviewer'), and 'JCRB space' (with 'CMCs without reviewer', 'CMCs with reviewer', 'JCRB request for review', 'Pending actions', 'JCRB vote tracking', 'WG Chair dashboard read only' (highlighted with a yellow box), and 'CMCs from My RMO'). Below these sections is a table titled 'Metrology area' with a 'Branch' filter (Thermometry, Humidity, Temperature, Thermophysical quantities, and a 'Deselect list' link). The table lists five CMCs, all with the status 'JCRB: Under Review' and the date '2020-08-14'. The table has columns for 'JCRB: Under Review', '2020-08-14', and a grid of checkboxes. The 'JCRB: Under Review' column is highlighted in green.

Branch	JCRB: Under Review	2020-08-14	Grid of checkboxes
Thermometry	JCRB: Under Review	2020-08-14	[Green field] [Green field] [Grey field] [Grey field] [Grey field] [Grey field] [Grey field] [Grey field] [Grey field] [Grey field]
Thermometry	JCRB: Under Review	2020-08-14	[Green field] [Green field] [Grey field] [Grey field] [Grey field] [Grey field] [Grey field] [Grey field] [Grey field] [Grey field]
Thermometry	JCRB: Under Review	2020-08-14	[Green field] [Green field] [Grey field] [Grey field] [Grey field] [Grey field] [Grey field] [Grey field] [Grey field] [Grey field]
Thermometry	JCRB: Under Review	2020-08-14	[Green field] [Green field] [Grey field] [Grey field] [Grey field] [Grey field] [Grey field] [Grey field] [Grey field] [Grey field]
Thermometry	JCRB: Under Review	2020-08-14	[Green field] [Green field] [Grey field] [Grey field] [Grey field] [Grey field] [Grey field] [Grey field] [Grey field] [Grey field]

Figure 79 WG CMC Chair dashboard in read only.

<sup>20</sup> The coordinator of the JCRB (inter-RMO) review, usually represented by the CMC WG Chair.

The CMC WG Chair may review the CMCs without involving the TC Chairs when appropriate.

All TC Chairs have access to the form in 'read-only' mode.

If the CMC WG Chair does not distribute the CMCs for review, it is still possible for the TC Chairs to identify which RMO has already registered to carry out the review.

The CMCs remain in the WG Chair dashboard until it has been approved or not approved. Withdrawn CMCs will not appear.

Export

CMPARE CMCS

EXPORT XLS

CMC STATE	CMC IDENTIFIER	BRANCH	SUBMITTING RMO	COUNTRY	SUBMITTED TO CCB	CCB STATUS	REVIEW LIMIT	AFFRIMETS	APMP	CCGMET	EURAMET	GULFMET	SEM	ACTIONS
N	AFRIMETS-EM: ZL-20190801LL1	EWAC	AFRIMETS	South Africa	2019-10-06	JCRB: Revision Requested	2019-11-29							...
M	APMP-EM-CN: D0101000EL2	EWAC	APMP	China	2019-10-06	JCRB: Revision Requested	2019-11-27							...
M	APMP-EM-CN: D0101000EL2	EWAC	APMP	China	2019-10-06	JCRB: Revision Requested	2019-11-15							...
M	APMP-EM-CN: D0101000EL2	EWAC	APMP	China	2019-10-06	JCRB: Revision Requested	2019-11-13							...
N	APMP-EM-CN: D0101000LL1	EWDC	APMP	China	2019-10-06	JCRB: Revision Requested	2020-12-31							...
M	EURAMET-EM: DL-5001FECN2	EWDC	EURAMET	Germany	2019-10-06	JCRB: Revision Requested	2019-11-27							...
M	EURAMET-EM: DL-5001FECH2	EWDC	EURAMET	Germany	2019-10-06	JCRB: Revision Requested	2019-11-27							...
M	EURAMET-EM: DL-5001FCOL2	EWAC	EURAMET	Germany	2019-10-06	JCRB: Revision Requested	2019-11-27							...
M	EURAMET-EM: DL-5001FCOL2	EWAC	EURAMET	Germany	2019-10-06	JCRB: Revision Requested	2019-11-27							...
M	EURAMET-EM: DL-5001FCOL2	EWAC	EURAMET	Germany	2019-10-06	JCRB: Revision Requested	2019-11-27							...
N	EURAMET-EM: FR-5001HNL1	EWAC	EURAMET	France	2019-10-06	JCRB: Revision Requested	2019-10-26							...

Country

---

+

RMO

AFRIMETS

APMP

CCGMET

Extended List

Download List

Status

+

Figure 80 Example of WG CMC form.



## 16 UPDATE OF REFERENCE DATA

### 16.1.1 Unit not available when drafting a CMC

If a unit is needed that is not listed in the drop-down list of the CMC form, please contact the KCDB Office, [bipm.kcdb@bipm.org](mailto:bipm.kcdb@bipm.org).

### 16.1.2 Update of service categories

When a Consultative Committee updates service categories, the KCDB Office must be consulted on the technical aspects (numbering, validity...).

A former service can be removed completely, i.e. it is no longer available when drafting or updating a CMC, and no longer available via advanced search.

It can also be partially removed during a transition period. In this case no new CMCs can be drafted, but the service is still searchable.

## 17 COMPARISONS

The process concerning comparisons is carried out within the frame of document [CIPM-MRA-G-11] **The review of the Final Report is not supported by the platform.**

The following steps are supported by the KCDB platform and should be employed by the comparison pilot:

- New comparisons should be registered on the KCDB web platform by the person piloting the comparison.<sup>21</sup>
- The pilot should keep the information that is posted on the KCDB platform up to date during the comparison.
- The draft B report should be submitted for review by e-mail to the appropriate reviewing group, following the instructions of CIPM MRA-G-11.

When the comparison has been approved, the person in charge of reviewing group<sup>22</sup> communicates the final version to the BIPM with a copy to the Pilot. The Pilot posts the associated documents onto the platform for publication by the KCDB office:

- a form that can be downloaded to be completed with the degrees of equivalence and result tables for key comparisons.

---

<sup>21</sup> Pilot studies are not included in the KCDB and should not be registered on the platform. Registration forms are no longer used.

<sup>22</sup> Usually the Executive Secretary for the Consultative Committee, but in some cases represented by a working group chair or TC Chair.

- A form that can be downloaded to be completed if the final comparison report is to be published in *Metrologia Technical Supplements* <https://iopscience.iop.org/journal/0026-1394>

The Pilot will be requested to update the status of the comparison by an automatic e-mail issued at regular intervals via an automatic e-mail notification.

E-mail notifications are automatically generated and distributed to the TC Chairs, WG Chairs, Executive Secretary, Pilot and KCDB Office when

- the Pilot registers a comparison;
- the KCDB Office attributes a comparison code and make the comparison available on the KCDB website;
- the Pilot updates the status;
- the Pilot submits the results to the KCDB Office for publication;
- when the KCDB Office publishes the results on the KCDB website.

## 17.1 COMPARISON DASHBOARD

If the Pilot has already piloted comparisons, these will be listed in “Dashboard” under the menu “Comparisons”.

Home > Comparisons Dashboard

**NEW COMPARISON** **XLS EXPORT**

Reset all

Search for #Id or Identifier:

Q

Refine your search:

Metrology area

- ☒ Acoustics, Ultrasound, Vibration
- ☒ Electricity and Magnetism
- ☒ Length

Extend list Deselect list

#ID	IDENTIFIER	DESCRIPTION	LAST UPDATE	VALIDITY	STATUS
1632	CCEM-K109	Current measurement using shunt r...	2019-11-07	Current	Approved

< 1 >

DOWNLOAD PUBLICATION FORM TEMPLATE

DOWNLOAD DEGREES OF EQUIVALENCE TEMPLATE

Figure 81 Comparison dashboard.

By clicking on the comparison, the form will open and can be updated when applicable.

It is also possible to import the templates for publication in *Metrologia Technical Supplements* and the form to provide the Degrees of Equivalence. The latter are only applicable when the comparison is linked to a key comparison.

## **17.2 REGISTER A COMPARISON**

The comparison Pilot should log into the KCDB platform and will find the registration form in the menu “Comparisons” under “new comparisons”.

Home > Comparison

INFORMATION & CONTACT

Comparison conducted by \*

Select

Approved by \*

Select

Comparison Identifier

Comparison type \*

Select

Metrology area \*

Select

Comparison sub-field \*

Select

Comparison linked to

Select

Summary Description \*

Measurand \*

Measured Values

Parameters

Transfer device or sample

Progress Status

Planned

Additional contact person(s)

→ Add additional contact person

Measurement start year

Enter start year yyyy

Measurement end year

Enter end year yyyy

Supporting document(s) (All documents uploaded here will automatically be published online)

→ Add supporting document(s)

Supporting link(s)

→ Add supporting link(s)

Comments

Optional message to the KCDB Office

SAVE

SUBMIT TO KCDB OFFICE

QUIT

Figure 82 Comparison registration form.

### **17.2.1 Comparison conducted by**

The Consultative Committee or organization conducting the comparison should be indicated.

### **17.2.2 Approved by**

To indicate the Consultative Committee concerned.

### **17.2.3 Comparison identifier**

The comparison identifier is given by the KCDB office after submitting the form. If the Pilot has a suggestion, this can be indicated in the bottom of the form under “Optional message to the KCDB Office”.

### **17.2.4 Comparison type**

“Key Comparison” or “Supplementary Comparison”.

### **17.2.5 Metrology area**

Indicate the metrology area concerned.

### **17.2.6 Comparison sub-field**

Indicate the sub-field concerned.

### **17.2.7 Comparison linked to**

If the comparison should be linked to a key comparison that is carried out by the Consultative Committee, the comparison code should be indicated here.

### **17.2.8 Summary description**

Short description of the comparison.

### **17.2.9 Measurand**

Indicate the measurand.

### **17.2.10 Measurand values**

Indicate the nominal measurand value(s) or range and unit.

### **17.2.11 Parameters**

Any parameters applied for the measurements (optional).

### **17.2.12 Transfer device or sample**

Indicate the transfer device or the type of sample that is circulated or distributed to the comparison participants.

### **17.2.13 Progress status**

Indicate the present status of the comparison.

### **17.2.14 Additional contact person**

Only one person can be identified as the Pilot. If there are co-pilots, these persons should be listed as “Additional contact person”.

### **17.2.15 Measurement start year**

Indicates the year when measurements started (or are planned to start).

### **17.2.16 Measurement end year**

Indicates the year when measurements ended (or are planned to end).

### **17.2.17 Supporting document(s)**

Documents linked to the comparison, such as the Technical Protocol. When uploaded, these documents will appear automatically on the KCDB web.

### **17.2.18 Supporting link(s)**

Indicates one or more URLs, each associated with a title.

### **17.2.19 Comments**

Comments to be published on the KCDB web.

### **17.2.20 Optional message to the KCDB Office**

Messages to the KCDB Office. This message will not be published on the KCDB web.

### **17.2.21 Save and register**

The contents can be saved at any time by pressing **SAVE**.

### **17.2.22 Participants**

After having saved the initial data, as second tab becomes available to indicate the participants. Press **SAVE**.

### 17.2.23 Submit registration

To submit the information for publication on the KCDB web, press **SUBMIT TO KCDB OFFICE**. You, as well as the associate TC Chair, WG Chair, Executive Secretary covering the metrology area and the KCDB Office, will receive a notification.

After having submitted the information to the KCDB Office, only the information on **Progress status, Measurement start and end year, Supporting document(s), Comments, additional contact person(s) and Optional message to the KCDB Office** can be edited by the Pilot.

*The contents of the fields listed above might be edited by the KCDB Office so that the text harmonizes with other similar comparisons.*

## 17.3 REVIEW AND APPROVAL OF THE COMPARISON REPORT

The review process is not supported by the platform. The comparison report should be submitted to the appropriate reviewing group for approval [CIPM MRA-G-11].

## 17.4 SUBMIT THE FINAL REPORT OF A COMPARISON

When the comparison has been approved, the person in charge of reviewing group will confirm approval to the BIPM/KCDB Office<sup>23</sup> and communicates the final version to the BIPM/KCDB Office with a copy to the Pilot<sup>24</sup>.

The Pilot posts the associated documents onto the platform for publication by the KCDB office:

The Pilot posts the associated documents for publication via the tab “FINAL REPORT”.

### Key Comparisons

- The form “**table-doe.xlsx**” can be downloaded and be completed with the degrees of equivalence and result tables. It should be submitted **un-protected**.
- The form “publication-form.docx” that can be downloaded and completed if the final comparison report is to be published in *Metrologia Technical Supplements* <https://iopscience.iop.org/journal/0026-1394>. It should be submitted **un-protected**.

### Supplementary Comparisons

- The form “publication-form.docx” that can be downloaded and completed if the final comparison report is to be published in *Metrologia Technical Supplements*

<sup>23</sup> Procedure depending on the Consultative Committee.

<sup>24</sup> Protected files cannot be uploaded via the KCDB web platform.

<https://iopscience.iop.org/journal/0026-1394>

## Pilot Studies

- Pilot studies are not covered by the KCDB.

The final report should be submitted by the Pilot in a **non-protected pdf** format via the tab “FINAL REPORT”. In the case of key comparisons, the Pilot should also submit the determined degrees of equivalence using the template form available on the platform (only applicable when the comparison is linked to a key comparison). It is also recommended to provide the source document (e.g. the Word document) of the report.

The screenshot displays the 'FINAL REPORT' tab within the KCDB restricted web portal. The interface includes a top navigation bar with links to CMCS, COMPARISONS, BACK OFFICE, NEWS, and STATISTICS. Below this, a breadcrumb trail shows 'Home > Comparison'. A horizontal menu contains four tabs: INFORMATION & CONTACT, PARTICIPANTS, FINAL REPORT (which is active), and RESULT. The main content area features a 'Comparison Identifier' field with the value 'APMP.L-57'. Below this, there are two download links: 'Download publication-form template' (with a file named 'publication-form.docx') and 'Download Degrees-of-Equivalence template' (with a file named 'table-doe.xlsx'). The 'Final report' section has a dropdown arrow and a link to 'Add final report'. The 'Additional document(s)' section has a link to 'Add an additional document'. The 'Completed publication form' section has a link to 'Add completed publication form'. The 'Optional message to the KCDB Office' section has a text input area. At the bottom, there are two buttons: 'SAVE' (blue) and 'QUIT' (red).

Figure 83 Form for posting associated documents for the final comparison report.

## 17.5 UPDATE STATUS

The Pilot will receive an automatic notification at regular intervals (twice each year) with the request to update the status. If the status has not change, the Pilot is still invited to consult the comparison status and indicate “save” to confirm that the comparison is still active.



## 18 STATISTICS

### 18.1.1 CMC statistics

The menu on Statistics allows the user to:

- Get information on number of CMCs for each state economy and brach or category.
- Generate customized statistics on the number of CMCs according to RMO, state economy, metrology area or approval year.

A logged-in user can also consult the list of greyed-out CMCs and obtain statistics on CMC review performance.

### 18.1.2 Comparison statistics

The menu on Statistics allows the user to:

- Get information on the number of Key Comparisons for each state economy participatong in the CIPM MRA, and brach or category, with statistics on piloting.
- Get information on the number of Supplementary Comparisons for each state economy economy participatong in the CIPM MRA, and brach or category, with statistics on piloting.
- Generate customized statistics on the number of Key and Supplementary comparisons according to organization, selected state economies, metrology area or registration year on the platform.

A logged-in user can also consult the number on not yet completed comparisons for which the measurement start year dates since 5 years or more.



Figure 84 Menu on statistics for all users.



Figure 85 Menu on statistics for logged-in users.

## 19 REFERENCES

Report CIPM 2018: International Committee for Weights and Measures, Report of the 107th meeting (2018) p. 91

<https://www.bipm.org/utis/en/pdf/CIPM/CIPM2018-EN.pdf>

[CIPM-MRA-G-11] Measurement comparisons in the CIPM MRA, Guidelines for organizing, participating and reporting

<https://www.bipm.org/documents/20126/43742162/CIPM-MRA-G-11.pdf/9fe6fb9a-500c-9995-2911-342f8126226c>

[CIPM-MRA-G-13] Calibration and measurement capabilities in the context of the CIPM MRA, Guidelines for their review, acceptance and maintenance

<https://www.bipm.org/documents/20126/43742162/CIPM-MRA-G-13.pdf/f8b8c429-42e0-4cf1-dc6c-bc60ab7f371a>

Guidance on quantity-based equations

<https://www.bipm.org/documents/20126/43908835/Conversion-of-equations-KCDB.pdf/9188599c-87df-763c-a50c-fa9f387d6b60>

## 20 BROWSER INTEGRATION

The versions listed below are guaranteed. More recent version function but are not guaranteed.

### 20.1 DESKTOP

Windows		Mac OS
Mozilla Firefox	Google Chrome	Safari
53 to 60	58 to 67	up to 8

### 20.2 MOBILE AND TABLET

IOS	Android		Mac OS
Safari	Google Chrome	Android Browser	IE Mobile
IOS 9 to 10.6.8	Android 7 to 9		10

## 21 APPENDIX

Notifications are issued automatically, triggered by certain actions.

The sender address is [new\\_kcdb\\_message@bipm.org](mailto:new_kcdb_message@bipm.org)

This address does not accept any e-mails.

If you expect but do not receive any notifications, first check your SPAM, and make sure that the security settings of your IT system do not filter out these notifications.

### 21.1 USER ACCOUNT NOTIFICATIONS

When a new user registers for an account, the following notification is issued to the user:

Hello.

Your request for a user account has been transferred to your TC Chair and the KCDB/JCRB office.

The TC Chair concerned receives

One or several requests for a user account is waiting for your approval.

<https://www.bipm.org/kcdb/>

After that the TC Chair has approved the account, the user receives:

Hello.

Your account was approved and now you can access to BIPM KCDB

### 21.2 CMC NOTIFICATIONS

Examples of notifications are listed in the following pages. In the bottom of notifications concerning CMCs with time constraints, a reminder on the date limits is available:

Applied time limits:

Limit for indicated intention for review: 3 weeks.

Limit for review: the date you indicate is a hard deadline.

Detailed information on the CMC review process is described in the guidance document CIPM MRA-G-13, available on the BIPM website: <https://www.bipm.org/utis/common/documents/CIPM-MRA/CIPM-MRA-G-13.pdf>.

Most of the notifications are issued in a regrouped e-mail within 24 h but some are sent immediately.

ISSUE	NOTIFICATION	RECEIPT OF NOTIFICATION						
		Writer	TC Chair RMO	TC Chairs concerned	Reviewer	WG Chair	RMO secretary concerned	NMI secretary concerned
<b>USER ACCOUNT</b>								
Register for a user account	Your request for a user account has been transferred to your TC Chair and the KCDB/JCRB office.	X						
Register for a user account	One or several requests for a user account is waiting for your approval.		X					X
Approve a user account	Your account was approved and now you can access to BIPM KCDB.	X						
Delete a user account	Your account was deleted from BIPM KCDB	X						
<b>CMC SUBMISSION ISSUES</b>								
Writer submits a new or revised CMC to TC Chair for intra-RMO review	YYYY-MM-DD (date of submission, my comment) CMC KCDB CODE (BRANCH or GROUP) was submitted to the TC Chair today by WRITER (NMI)	X	X		X			
CMC has been returned to the Writer for revision (both intra- and JCRB review)	YYYY-MM-DD CMC KCDB CODE (BRANCH or GROUP) is now available for the Writer for revision	X	X					
Writer submits a revised CMC to TC during the JCRB review	YYYY-MM-DD (date of submission, my comment) CMC KCDB CODE (BRANCH or GROUP) is available in "CMCs from my RMO" to be submitted for JCRB vote	X	X					
<b>CMC DELETION</b>								
Writer deletes a CMC	YYYY-MM-DD (date of submission, my comment) CMC KCDB CODE (BRANCH or GROUP) was deleted by NMI.	X	X					X

ISSUE	NOTIFICATION	RECEIPT OF NOTIFICATION						
		Writer	TC Chair RMO	TC Chairs concerned	Reviewer	WG Chair	RMO secretary concerned	NMI secretary concerned
<b>INVITED CMC REVIEWERS</b>								
Reviewer is invited by TC Chair (both intra- and JCRB review)	You are invited for CMC review on CMC KCDB CODE (BRANCH or GROUP).				X			
Reviewer is invited by TC Chair: REMINDER (both intra- and JCRB review)	YYYY-MM-DD Only 1 week remaining for JCRB review of CMC KCDB CODE (BRANCH or GROUP)..				X			
Reviewer submits review comments (both intra- and JCRB review)	Reviewed CMC KCDB CODE (BRANCH or GROUP) was returned to TC Chair.		X					
<b>JCRB REVIEW</b>								
CMCs have been submitted for JCRB Review	YYYY-MM-DD You have received a CMC for JCRB review for CMC KCDB CODE (BRANCH or GROUP).					X		
CMCs have been submitted for JCRB Review	YYYY-MM-DD You are invited for JCRB review on CMC KCDB CODE (BRANCH or GROUP).			X				
CMCs have been submitted for JCRB Review: REMINDER	YYYY-MM-DD Only 1 week remaining to reply to the JCRB review invitation for CMC KCDB CODE (BRANCH or GROUP).			X				
No RMO has registered to review	YYYY-MM-DD You are invited for JCRB review on CMC KCDB CODE (BRANCH or GROUP). This is a repeated invitation to that made 3 weeks ago. Please notice that, if none of the RMOs register to review again, this CMC will be considered as approved.			X				

ISSUE	NOTIFICATION	RECEIPT OF NOTIFICATION							
		Writer	TC Chair RMO	TC Chairs concerned	Reviewer	WG Chair	RMO secretary concerned	NMI secretary concerned	KCDB Office
JCRB REVIEW (continued)									
No RMO has registered to review: REMINDER one week before the extended date limit	YYYY-MM-DD You are invited for JCRB review on CMC KCDB CODE (BRANCH or GROUP). This is a repeated invitation to that made 3 weeks ago. Please notice that, if none of the RMOs register to review again, this CMC will be considered as approved.			X					
	YYYY-MM-DD You have received a CMC for JCRB review for CMC KCDB CODE (BRANCH or GROUP).			X					
CMCs have been selected to be reviewed: REMINDER	YYYY-MM-DD You have received a CMC for JCRB review - 3 weeks remaining to JCRB review limit for CMC KCDB CODE (BRANCH or GROUP).	X	X			X			
CMCs have been selected to be reviewed: REMINDER	YYYY-MM-DD Only 1 week remaining for JCRB review of CMC KCDB CODE (BRANCH or GROUP).	X	X			X			
CMC has been submitted for vote	YYYY-MM-DD CMC available for vote - 3 weeks remaining to vote on CMC KCDB CODE (BRANCH or GROUP).			X					
CMC has been submitted for vote: REMINDER	YYYY-MM-DD Only 1 week remaining for JCRB vote of CMC KCDB CODE (BRANCH or GROUP)..			X			X		X



ISSUE	NOTIFICATION	RECEIPT OF NOTIFICATION						
		Writer	TC Chair RMO	TC Chairs concerned	Reviewer	WG Chair	RMO secretary concerned	NMI secretary concerned
<b>JCRB REVIEW (continued)</b>								
KCDB Office publishes a CMC	CMC KCDB CODE (BRANCH or GROUP) is now published in the KCDB.	X		X				X
<b>GREYING OUT</b>			X				X	X
Writer greys out a CMC	YYYY-MM-DD CMC KCDB CODE (BRANCH or GROUP) was greyed out by NMI.	X	X					X
The greyed out CMC has reached the 4-y limit	YYYY-MM-DD The 4-year limit of the greyed out CMC KCDB CODE (BRANCH or GROUP) has now passed. Please i) consult CIPM MRA-G-13 (available via the BIPM website), and ii) get in touch with the JCRB Executive Secretary.	X	X				X	X
The greyed out CMC has reached the 4-y limit	YYYY-MM-DD The 5-year limit of the greyed out CMC KCDB CODE (BRANCH or GROUP) has now passed. Please i) consult CIPM MRA-G-13 (available via the BIPM website), and ii) get in touch with the JCRB Executive Secretary.	X	X				X	X
KCDB Office publishes a CMC to be reinstated.	YYYY-MM-DD (date of submission, my comment) CMC KCDB CODE (BRANCH or GROUP), previously greyed out, has now been reinstated in the KCDB.	X		X		X		

## 21.3 COMPARISON NOTIFICATIONS

Each step on comparisons supported by the platform is followed by a notification.

### 21.3.1 Comparison Pilot Presents a comparison

Notification on a newly organized comparison that should be assigned a comparison code and placed online.

***This information is sent to the Pilot, TC Chairs, Working Group Chair, Executive Secretary and KCDB Office.***

A new Supplementary comparison in Metrology Area, Branch has been presented by First and Last name (e-mail address), Full name of institute for registration in the KCDB.

Please note that this comparison will be registered in the KCDB as soon as possible, unless the KCDB Office ([BIPM.KCDB@bipm.org](mailto:BIPM.KCDB@bipm.org)) receives an immediate response to the present email, giving instructions to the contrary.

#### **INFORMATION:**

Comparison conducted by: Consultative Committee or RMO in question

Summary Description: short description

Measurand: information

Measurand values: information

Parameters: Frequency: information

Transfer device or sample: Measuring system for field strength transfer TFS 11, Schaffner

Additional contact persons: information

Registered participants: name if institutes

Measurement dates: information

Progress status: information

RMO internal identifier (when applicable): information

### 21.3.2 Confirmation of registration from the KCDB Office

***This information is sent to the Pilot, TC Chairs, Working Group Chair, Executive Secretary and KCDB Office.***

The comparison COMPARISON CODE (database ID) was registered in the KCDB today.

### 21.3.3 Request to Pilot to update an already registered comparison

***This information is sent to the Pilot and KCDB Office.***

Dear Colleague,

You are presently registered as Pilot for the comparison COMPARISON CODE.

Please update its status and participants on the KCDB web portal as per the procedure below for a 6 month comparison progress review.

With our best regards,

The BIPM KCDB Office

[bipm.kcdb@bipm.org](mailto:bipm.kcdb@bipm.org)

Log in using <https://www.bipm.org/kcdb/>.

Choose "Dashboard" under the header Comparisons.

Choose the comparison in question and open the "Information & Contact" form.

Update the "STATUS" and select "SAVE".

If the participation has changed, please update and save.

N.B. In case the status has not changed, please select "SAVE".

### **21.3.4 The Pilot submits the Final Report and data on degrees of equivalence**

***This information is sent to the Pilot, TC Chairs, Working Group Chair, Executive Secretary and KCDB Office.***

The Final report of COMPARISON CODE was submitted for publication in the KCDB today.

### **21.3.5 The KCDB Office completes the publication of comparison results (for Key Comparisons)**

***This information is sent to the Pilot, TC Chairs, Working Group Chair, Executive Secretary and KCDB Office.***

The Final report and results of COMPARISON CODE were published in the KCDB today.

## 21.4 BROWSER INTEGRATION

The versions listed below are guaranteed. More recent versions function but are not guaranteed.

### 21.4.1 Desktop

Windows		Mac OS
Mozilla Firefox	Google Chrome	Safari
53 to 60	58 to 67	up to 8

### 21.4.2 Mobile and tablet

IOS	Android		Mac OS
Safari	Google Chrome	Android Browser	IE Mobile
IOS 9 to 10.6.8	Android 7 to 9		10

## 21.5 BRANCH CODES USED FOR IMPORTATION

The following branch codes should be used for importation of CMCs:

name	Metrology area	Branch code
Sound in air	AUV	AUV/A
Vibration	AUV	AUV/V
Sound in water	AUV	AUV/W
AC voltage, current, and power	EM	EM/AC
DC voltage, current, and resistance	EM	EM/DC
Electric and magnetic fields	EM	EM/Field
High voltage and current	EM	EM/HV
Impedance up to the MHz range	EM	EM/Imped
Materials	EM	EM/Mater
Other DC and low frequency measurements	EM	EM/OtherDC
Radio frequency measurements	EM	EM/RF
Dimensional metrology	L	L/DimMet
Laser frequencies	L	L/Laser
Density	M	M/Dens
Fluid flow	M	M/FF
Force	M	M/Force
Mass, mass standards	M	M/Mass
Pressure	M	M/Pres
Torque	M	M/Tor
Viscosity	M	M/Vis
Hardness	M	M/Har
Gravity	M	M/Gra
Properties of detectors and sources	PR	PR/Detector
Fibre optics	PR	PR/Fibre
Properties of materials	PR	PR/Mater
Photometry	PR	PR/Photo
Humidity	T	T/H
Temperature	T	T/T
Thermophysical quantities	T	T/TQ
Frequency	TF	TF/F
Time interval	TF	TF/TI
Time scale difference	TF	TF/TSD
Dosimetry	RI	DOS
Radioactivity	RI	RAD
Neutron Measurements	RI	NEU

## 21.6 FIELD SIZE

### 21.6.1 Accessible field size of CMC interactive forms

CMC FIELD	SIZE / CHAR
Institute service identifier	160
Web link to individual service	512
Quantity	255 (*)
Source of traceability	255 (*)
Comments for publication	512
Other support	255
Instrument or artifact (PH, RI)	255 (*)
Instrument type or method (PH, RI)	255 (*)
International standard (PH, RI)	255 (*)
Parameter (PH, RI)	255
Information on parameter (PH, RI)	255
Reference standard used... (PH, RI))	255 (*)
Nuclide (RI)	255 (*)
Specification of nuclide or source (RI)	255 (*)
Matrix (QM)	255 (*)
Analyte or component (QM)	1000 (*)
Mechanism for service delivery (QM)	255 (*)
Measurement technique(s) used (QM)	255 (*)
Clear description of supp... (QM)	255
Details of calibrants used... (QM)	255
Exact nature of service delivered (QM)	255

(\*) Using less characters is recommended

## 21.6.2 Accessible field size of Comparison interactive forms

COMPARISON FIELD	SIZE / CHAR
Uploaded document name	255
Summary description	255 (*)
Measurand	255 (*)
Measurand value	400 (*)
Parameters	255 (*)
Transfer device or sample	255 (*)
Comments	255
Optional message to the KCDB Office	255

(\*) Using less characters is recommended



## 22 REVISION HISTORY

Version	Modification
2020-03-24	Complete version
2020-06-16	Editorial modifications. WG CMC Chair dashboard now available for TC Chairs in mode “read-only”. Guide for quantity-based uncertainty equations made available. Revision history added.
2020-06-29	Added information on KCDB training platform (4.1), on user accounts (4.2) and updated flow chart schemes (6.1) and (6.2).
2020-08-17	Added sections 8.8.1 “Grey out a CRM”, 8.9.1 “Reinstate a greyed out CRM”, 10.1.5 “CMCs not needing review”.
2020-12-07	Added information on writers comments and restructured Section 9.
2021-05-31	Updated CMC review illustrations. Modified Figure indices. Updated references and links. Added description of new facilities to change review deadlines.
2021-10-04	New link to KCDB training platform. Made instructions more detailed based on questions received. Added new features (e.g. possibility for TC Chair and Reviewer to act from the CMC form, TC Chair can vote from the form). Added paragraph 16 and Appendix describing the issued notifications.
2022-01-07	Updated notifications. Added “8.15.1 Some general hints before importing CMCs”. New password criteria. CMCs remain from now on in the Reviewer and TC Chair until submission to the JCRB for intra-RMO review, and until 2 months after approval/non approval for JCRB screens.
2022-02-02	Added information for TC Chair (11.1 and 11.3) on tasks, date limits and user account management, and user account notifications (21.1).
2022-04-05	Added information to 17.2, updated password in 4.1 and special characters in 4.2.



