KCDB 2.0 Launch

Executive Summary

We are fast approaching the launch of KCDB 2.0, which marries together into a single platform both the display of CMCs and registered comparisons (i.e., the existing capabilities of KCDB 1.0), and the review process for CMCs currently managed through the JCRB review area. Furthermore, the new platform will support the regional CMC review process for the first time.

New additional features will either be included from the launch or added shortly after. These include a numerical search facility for CMCs, tailored statistics package, enhanced import and export capabilities, as well as extended search facilities on CMCs and comparisons.

The switchover from KCDB 1.0 to KCDB 2.0 is complex, it requires the importation of more than 25,000 existing CMCs and more than 1600 comparison reports. We have to address those CMCs that are already 'in train' in the current system whilst opening up the new system. In this document we describe how this will be addressed. The aim is to ensure the smoothest possible transition.

Going forward our community will have a single integrated tool to write, review, publish and display CMCs, and to track comparisons and publish comparison reports.

Information on the new key comparison database

What and when?

This message concerns the national metrology institutes (NMIs), the designated institutes (DIs) and the international organizations (IOs) – collectively referred to as 'Participants' – that take part in the International Committee for Weights and Measures Mutual Recognition Arrangement (CIPM MRA) and publish their calibration and measurement capabilities (CMCs) in the key comparison database (KCDB).

BIPM plans to launch a new database for CMCs and comparisons within the framework of the CIPM MRA around the end of October 2019. On the time of launch it will use the web address www.bipm.org/kcdb which at the time of writing redirects to the current KCDB.

We will henceforth refer to the new database and web facility as "KCDB 2.0" to be distinguished from the present key comparison database, the KCDB, which we will refer to as "KCDB 1.0". KCDB 2.0 marries together into a single platform both the display of CMCs and registered comparisons (i.e., the existing capabilities of KCDB 1.0), and the review process for CMC sets currently managed through the JCRB review area.

Operation

KCDB 2.0 will provide extended search facilities on CMCs and comparisons, and the possibility to generate customized statistics. It will provide a web portal for CMC submission and review, and support for registration and tracking of comparisons and associated approved final reports. Although the current practice of submitting CMCs in groups/batches will continue to be supported, each CMC will have its own identity and can be treated individually. This provides the advantage that a review problem with a particular CMC will no longer delay other CMCs in a given set. All current practices known to be applied in the different metrological areas are foreseen to be accommodated in the KCDB 2.0 platform.

The KCDB 2.0 provides a single interface to draft a CMC, its intra- and inter-RMO reviews and subsequent publication in the database. The search facilities will continue as an open access service and for those operating and inputting to the KCDB 2.0, the new web portal will be accessible via user accounts. A series of video clips explaining the basic features will be available on the KCDB website and YouTube, and a document "getting started" will also be prepared.

The interaction with the KCDB 2.0 is based on a set of roles {Writer, Reviewer, TC Chair} with different permissions associated with each role and more detailed descriptions of the roles to be described in separate documents. Review rules are applied as established by the JCRB, and the TC Chair maintains the key role being the coordinator within the RMO and field, liaising with the other TC Chairs in the same field. The TC Chair authorizes, or declines, the requests for user accounts and manages these roles within the RMO and specific field. The CMC writer, reviewer and TC Chair will each have access to the submitted and reviewed CMCs on the KCDB web in a dedicated space. TC Chair accounts will be created by the BIPM.

The log in:
Username: tcguest@bipm
Password: tcontact
will allow our community to consult the pending actions on CMCs, the status of voting and some internal statistics. This is similar to the process today with the JCRB review area. It will also allow those wishing to be writers, reviewers and/or comparison pilots to request a user account.

If TC Chairs wish to avoid treating CMCs continuously as they arrive, they are free to agree and manage local rules (e.g., a deadline for submission, or defined periods for intraregional reviews). The limits for intraregional reviews are not programmed as each RMO works rather differently. For the interregional review, where the JCRB rules apply, the time limits are programmed into the process.

Special arrangements will apply during the transition period.

Transition period for consulting the KCDB 2.0

The KCDB 2.0 will replace the KCDB 1.0 as an evidence-based database, offering improved search facilities on CMCs and comparisons. All the data in the KCDB 1.0 will be imported into the KCDB 2.0 shortly before its launch. The KCDB 1.0 can be consulted until the KCDB 2.0 has been launched. After launch of the KCDB 2.0, KCDB 1.0 will no longer be accessible on the web.

Four weeks prior to the "go live" for KCDB 2.0, no more data will be uploaded into the KCDB 1.0. Any CMC sets approved in that period will be held and then uploaded by the KCDB Office into the KCDB 2.0. *Due to the workload of the KCDB Office it may also be necessary to restrict the uploading into the KCDB 1.0 of very large submissions that have achieved approval even earlier than this date. RMO TC Chairs will be informed on a case by case basis where this proves necessary.*

KCDB 1.0 available for consultation until 'go live', when web address leads to KCDB 2.0 and all the imported data. Thus there will be continuous access to published data.

	week -7	week -6	week -5	week -4	week -3	week -2	week -1	go live	week +1	week +2
Consulting KCDB 1.0										
Consulting KCDB2.0										
Publishing CMCs on KCDB 1.0										
Publishing CMCs on KCDB 2.0										

CMC sets reviewed and approved through the existing JCRB review area published on KCDB 2.0. They will be imported by the KCDB Office as soon as possible after 'go live' for those queued, and when they become available from those in pipeline.

Approved CMCs sets continue to be published on the existing KCDB 1.0 until 4 weeks before 'go live'. CMC sets approved after week minus 4 are held and imported into KCDB 2.0 by the KCDB Office as soon as possible after 'go live'.

Transition period for submitting CMCs for review using KCDB 2.0

The KCDB 2.0 will also successively replace the JCRB CMC review area, such that the transition period for submission of CMCs will be done individually by metrology areas (or by groups of metrology area). CMC sets may be submitted to the old JCRB review area until submission to the KCDB 2.0 is possible. Communication of the transition date will be made to the TC Chairs and RMO Secretariats by e-mail as soon as the dates can be fixed.

The JCRB CMC review area presently hosts a number of CMCs sets that are currently under review. These CMCs may continue to follow their usual circuit on that platform. When they have been approved, they will be uploaded into the KCDB 2.0 by the KCDB Office. That is to say the review of already *'in train'* CMCs will be completed under the old system, with the approved CMCs published in the new system. The intention is to maintain the current JCRB CMC review area for a period of months to allow those CMC sets '*in train'* to complete their review. However, at some point it will be necessary to close the old platform and the JCRB will decide on the fate of any sets that have not completed their review at the date of closure.

We will open the review platform of KCDB 2.0 in phases to ensure as smooth a transition as possible and the anticipated period to accommodate all areas is one month.

- The metrological areas will have different start dates for submitting directly to KCDB 2.0.
- The 'spread' will depend on how smoothly the transition runs.
- TC Chairs will be able to continue to submit to the old JCRB review area until the KCDB 2.0 review platform opens for their area.
- If submitted to the JCRB review area, the entire review and approval will be completed on the JCRB review area (though eventually at some point we will look to see about closing out the old platform. This will be the subject of a new action.)
- CMC sets approved through the JCRB review area will be imported to KCDB 2.0 by the KCDB Office.

	week -2	week -1	First submission date TBD per area or group of areas	week +1	week +2
Submission of CMCs for interregional review on the present JCRB area	🟥	🟥			
Review of in-train CMCs on the present JCRB area	🟥	🟥	🟥	🟥	🟥
Submission of CMCs on KCDB 2.0			🟦	🟦	🟦
CMC review on KCDB 2.0			🟦	🟦	🟦

To ensure the smoothest transition, first date for submissions will be staggered by metrological area.

Quality checks

The KCDB Office has run a number of trial importations of data from KCDB 1.0 into the prototype KCDB 2.0 and undertaken quality assurance checks on samples of the uploaded data. While some problems have been found (and solved), the data has been reproduced faithfully by in large. The problems encountered have been generally limited to formatting. A number of checks will also be done on sample sets by our NMI/DI beta testers before we go live.

The testing carried out so far has given us confidence that the process of importation of the CMC data is sound. Nevertheless, the testing has been on samples of data, and ultimately Participants are responsible for the quality of their CMC data. Each Participant is therefore asked to plan to check their CMCs as soon as they go live on the KCDB 2.0. To perform the check, the Participants' CMC Excel files that are used to produce the .pdf-files in KCDB 1.0, are and will for the coming months continue to be, accessible from the CMC review part of the JCRB review area
https://www.bipm.org/JCRBCMCs/ using the credentials

Username: tcguest
Password: tcontact

Send list:

JCRB representatives
RMO Presidents
RMO Secretariats
CIPM members
CC Presidents
CC Exec Secs