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KCDB REPORT AS ON 16 APRIL 2007

Visits to the KCDB web site

The total number of monthly external connections to the KCDB website has increased from 10 300 to 18 200 between February 2006 and March 2007. Details are given for the two main parts of the website (key and supplementary comparisons, and CMCs) in Figure 1 below.

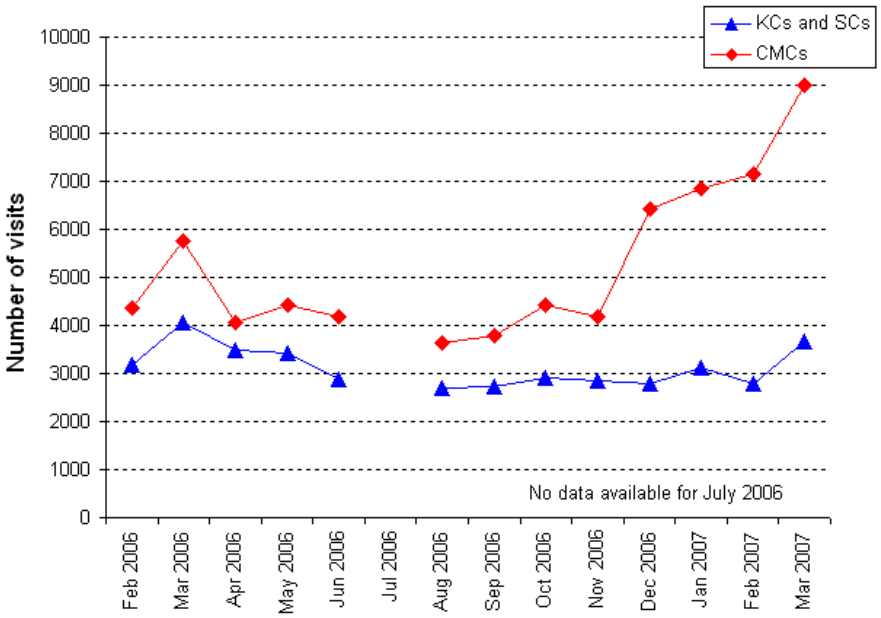

Figure 1. Number of visits to the KCDB website.

As already noticed, the database collecting information on key and supplementary comparisons is basically made “by the NMIs for the NMIs”, and it seems that we have now attracted this audience: the number of visits remains stable.

The number of visits to information on CMCs has continuously increased since the creation of the KCDB. It reached an average level of one visit every five minutes in March 2007.

Redesign of the KCDB web site and launch of a new search facility

The graph shown above seems to indicate that the process put in place by the launch of the CIPM MRA has become of interest to other users than our traditional audience, mainly composed of metrologists in the NMIs. We had positive feedback that the communities of regulators and accreditors have found an interest in the KCDB website since a few years, and that this interest is growing up. In addition, it seems that more recently it has attracted the attention of commercial and industrial companies who wish to take advantage of the mutual recognition of calibration and measurement certificates issued by NMIs for establishing their traceability.

We think, however, that a large majority of our new users are not acquainted to the CIPM MRA wording and experience difficulties in this regard. For instance, the expression “key comparison database” and the acronym “KCDB” are generic terms, used to cover a complete

and complex web application. The terms “Appendix A”, “Appendix B” and “Appendix C”, if well suited to a text with a main body, such as the text of the CIPM MRA itself, are not so easy to understand for a web site.

Some users have also commented that searching information on CMCs is sometimes difficult: one has first to select a metrology area, and then items presented under the format chosen for the Classification of Services drawn up for this metrology area. These items may be instruments, such as in dimensional metrology, or quantities, such as in electricity. This can be confusing and leads the visitor to simply download one or another global .pdf file from among those proposed, without using the search engine that would have delivered a well-targeted answer.

A number of actions have thus been recently taken, which led to a new design for the KCDB website, including the access to the text-based search engine. This was made publicly available on the Internet on 6 March 2007.

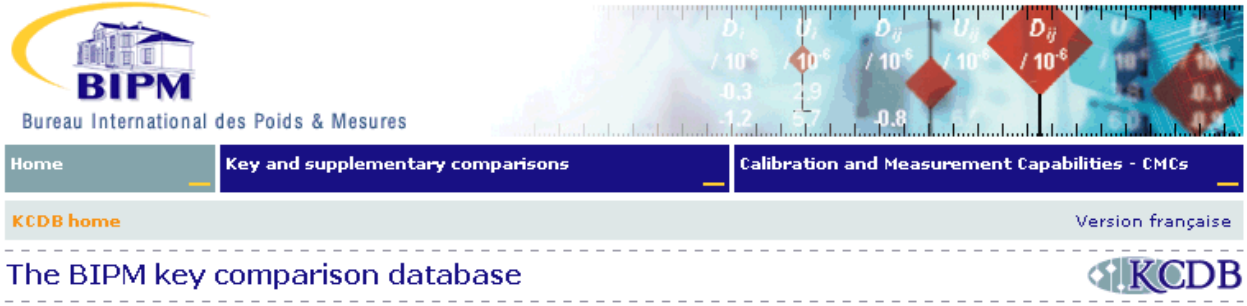

Figure 2: The BIPM KCDB home page (launched on 6 March 2007).

The main features of the new KCDB website are as follows:

- The list of participants (“Appendix A of the CIPM MRA”) is made available in the form of searchable html pages kept on the main BIPM website.
- The KCDB home page gives access to two independent websites: the “Key and supplementary comparisons” website (“Appendix B of the CIPM MRA”), and the “Calibration and Measurement Capabilities – CMCs” website (“Appendix C of the CIPM MRA”). The word “Appendix” is mentioned in a very discreet manner, and only in the home page.
- The KCDB home page also gives access to a number of useful links, including statistics, FAQs, a glossary, and the KCDB Newsletters page.
- As reported previously, the BIPM studied the advantages of implementing a search facility that would be able to interpret a text-based inquiry. Several such search engines, all commercially available, were compared, and the BIPM purchased such software in December 2005. Our new search engine was implemented on the KCDB and publicly launched on 6 March 2007. It takes the form of free-text boxes available from the comparisons and the CMCs websites, in which the user types words[1]. The previous directed search facilities are also maintained for sake of continuity, especially the possibility of downloading .pdf files of reports on comparisons or full lists of CMCs declmared by a given country and covering a given metrology area.
- The BIPM search engine is a powerful tool with the advantages of full-text searching, and dynamically generated tables of contents based on each search results page, to allow an easy means of refining the search query, as shown on Figure 3. The increase of visits to the CMCs database, which was observed In March 2007 (see Figure 1), may be interpreted as a consequence of its implementation

[1] The BIPM search engine is also implemented on the main BIPM website. It offers a search across the websites of all institutes participating in the CIPM MRA and a number of databases maintained at the BIPM, promoting the BIPM website as the world’s reference portal for metrology.

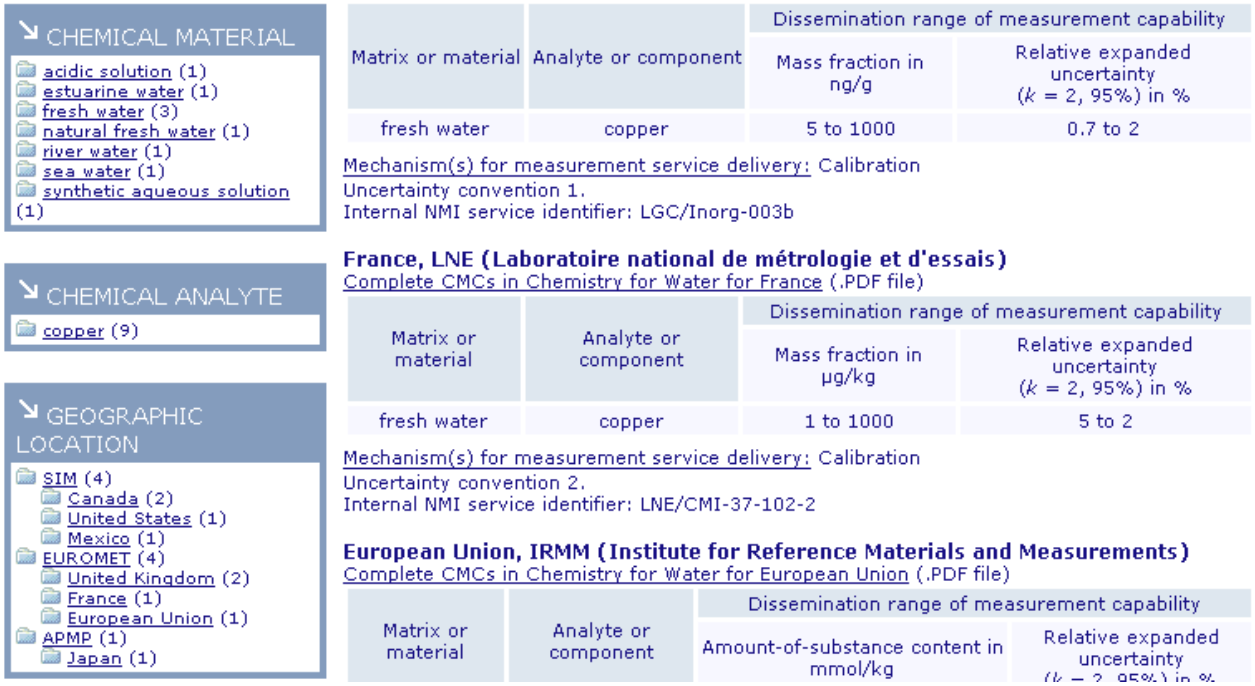

Figure 3: Results of the query “copper in water” entered in the free-text box implemented on the KCDB CMCs website. The right part of the screen displays some of the relevant CMCs. A number of contextual links are provided on the left and can be used to refine the search by geographic location of the declaring NMI, and by chemical material.

Information registered in the KCDB

- Key and supplementary comparisons

The database now covers 567 key comparisons (78 from the BIPM, 288 from the CCs, and 201 from RMOs) and 153 supplementary comparisons, which correspond to 35 new registration over the last six months.

Among the 567 key comparisons that are registered:

- 89 correspond to exercises prior to the implementation of the CIPM MRA, and will never have results published in the KCDB (they were “Approved for provisional equivalence”, and
- 254 have their Final Reports approved and posted in the KCDB, providing a total of about 800 graphs of equivalence displayed in the KCDB (on 21 March 2006, this number was 680).

The results of 43 RMO key comparisons (against 35 at the time of last JCRB meeting) - 17 conducted by APMP, 1 by COOMET, 23 by EUROMET, and 2 by SIM - are published in the KCDB. Linkage has also been carried out for seven bilateral key comparisons subsequent to full-scale CC key comparisons; their results are added on the appropriate graphs of equivalence.

A number of key comparison results are regularly updated. These mainly concern the ongoing BIPM key comparisons. In addition, new data concerning the computation of Coordinated Universal Time, UTC (key comparison CCTF-K001.UTC)[2], are published every month.

[2] Key comparison CCTF-K001.UTC was identified as “CCTF-K2001.UTC” until March 2007. The change of identifier is a decision of the CCTF at its meeting held in September 2006.

- CMCs

On 16 April 2007, 19 390 CMCs were published in the KCDB:

- 12 132 in general Physics,
- 3 463 in Ionizing Radiation, and
- 3 795 in Chemistry.

This is an additional 900 CMCs compared to the time of last JCRB meeting. These mainly concerns claims from countries that are associates of the CGPM (see details in the CMCs News). Though Appendix C contains CMCs belonging to all global fields of metrology, some sub-fields, such as Humidity for instance, are not yet covered at all.

Following the decision of the JCRB at its 14th meeting, held in Minsk in May 2005, 723 CMCs (79 from APMP, zero from COOMET, five from EUROMET, 94 from SADCMET, and 545 from SIM – see details in the KCDB Report to the 15th JCRB meeting) that were not covered by an approved Quality System were deleted from the KCDB in July 2005. Since then, the following sets of CMCs have been reinstated:

- 94 CMCs from SADCMET (60 in PR, and 34 in EM, all from South Africa on 10 October 2005),
- 131 from SIM (6 in EM from Mexico, 33 in M and 4 in T from Chile, 33 in RI from Argentina, and 43 in EM from Canada in May 2006; 5 in T from Canada, 3 in EM (DC Voltage) from Mexico, and 4 in EM from Canada – that had been forgotten in May 2006 - in September 2006),
- none from APMP, and
- none from EUROMET.

Please note that no CMCs from COOMET (of any metrology areas) and no CMCs in Chemistry (of any regions) have ever been deleted.
Recently EUROMET alerted the JCRB that 11 CMCs (3 in Fluid Flow, and 8 in AUV) from Greece were not covered by an approved QS. These were deleted from the Appendix C database on 05 September 2006.
The situation concerning deletion and reinstatement of CMCs is summarized in Annex 1.

Please note that the CMCs that were published in the KCDB, but that are currently deleted, are distinguished by a grey background in the EXCEL files. These EXCEL files are made available in the part “Get Published CMCs” of the access-restricted JCRB CMCs web site.

As already mentioned in previous reports, in addition to publication of newly approved data, we undertake a daily update to respond to small corrections (mainly editorial, including change of laboratory names), minor changes (increase of uncertainty values, reduction of the measurement ranges, etc.), and deletion of some CMCs (services that are no longer offered to clients).

Publicity

We try to publicize the KCDB as often as we can through, for example, the distribution of copies of the KCDB leaflet, and the presentation of the KCDB web site at workshops and congresses. We will be present at the PTB-BIPM Workshop on the Impact of Information Technology in Metrology, to be held in Berlin (Germany) from 4 to 8 June 2007. The KCDB website and new search engine will also be demonstrated on Wednesday 1st August 2007 in the exhibition hall of the NCSLI Conference (Saint Paul, Minnesota, United States)[3].

Issue 6 of the KCDB Newsletter was launched on 14 December 2007. The KCDB Newsletter provides an ideal place for the communication of matters relevant to the CIPM MRA, the JCRB, and any other news concerning the content of Appendices B and C.

[3] The BIPM is grateful to NRC for hosting the KCDB demonstration on their stand.

Reminder: a new page in the KCDB website

A new page entitled "KCDB Newsletter – KCDB Statistics" is available from the KCDB Home page at http://kcdb.bipm.org/kcdb_statistics.asp
It gives access to the successive issues of the KCDB Newsletter and to some statistics corresponding to FAQ answers, especially it displays real-time information on the number of key and supplementary comparisons registered in the Appendix B, and on the number of CMCs published by country and by metrology area in Appendix C.

KCDB actions requested by the 16th JCRB meeting

1. Look in Appendix B of the CIPM MRA for key comparisons that have been pending for many years and alert the committee to them. On 13 September 2006, Final reports were not yet available for 41 CC key comparisons and 52 RMO key comparisons (17 % of the total number of key comparisons registered in the KCDB), though the corresponding measurements were scheduled to be finished before the end of 2003. The KCDB Office has no news for most of them.

9. Temporarily remove those QM CMCs not supported by an RMO approved QS from the KCDB by July 28, 2006 or as schedule permits: No information yet provided to the KCDB Office

16. Reinstate SIM CMCs in Appendix C of the CIPM MRA as per instructed by SIM: Done in May 2006, and follow-up in September 2006

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Annex 1

Distribution of CMCs deleted from the KCDB due to lack of approved Quality Systems

	M	PR	EM	T	RI	L	AUV	Total by country
APMP								
AU			**10**					**10**
CN			**21**					**21**
IN			**15**					**15**
KR		**33**						**33**
								Total APMP: 79
COOMET								
								Total COOMET: 0
EUROMET								
GR	**4+3 = 7**						**8**	**15** (instead of 4)
FR		**1**						**1**
								Total EUROMET: 16
SADCMET								
ZA		**60-60 = 0**	**34-34 = 0**					**0** (instead of 94)
								Total SADCMET: 0
SIM								
MX	**6**	**17**	**66-6-3 = 57**					**80** (instead of 89)
CL	**33-33 = 0**			**4-4 = 0**				**0** (instead of 37)
BR	**3**							**3**
AR					**104-33 = 71**			**71** (instead of 104)
UY	**4**							**4**
CA		**30**	**245-43-4 = 198**	**14-5 = 9**	**15**	**4**		**256** (instead of 308)
								Total SIM: 414

black: 723 CMCs deleted in July 2005, following the decision of the 15th JCRB meeting

red: deleted after July 2005

green: reinstated after July 2005

On 21 September 2006, still 509 CMCs were deleted and not reinstated