

JCRB matters: AUV CMC submissions statuses and Hybrid Comparisons

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Executive Secretary of the JCRB

Bureau
| **I**nternational des
| **P**oids et
| **M**esures



CMC sets with status *Review in progress*: 30 as of 31 August 2019

RMO	
AFRIMETS	-
APMP	4
COOMET	6
EURAMET	10
SIM	10

Area	
AUV	2
EM	1
L	3
M	14
PR	4
RI	5
T	1
TF	-

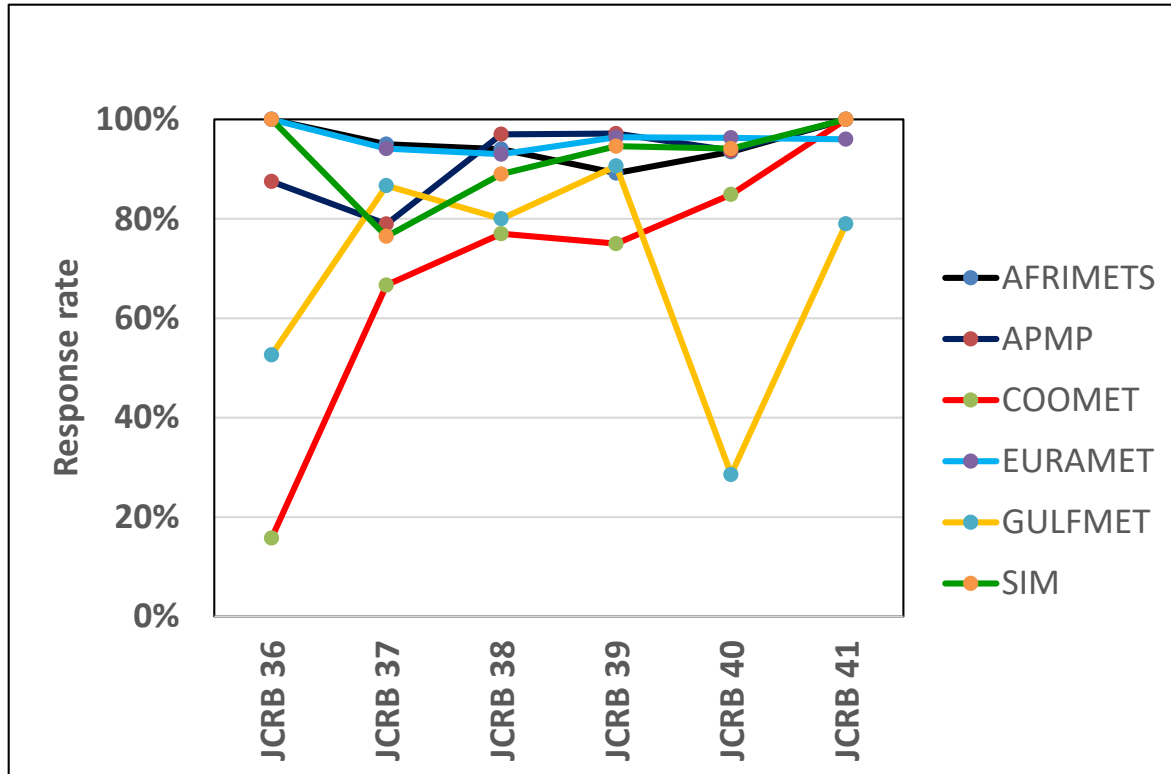
Name	RMO	Area	Comment	CMC status	Last update
APMP.M.41.2016	APMP	M	CMC - NIM China	Review in progress	28-Jun-16
APMP.M.49.2019	APMP	M	NMIJ Japan CMCs in the field of Mass and Torque	Review in progress	17-Jul-19
APMP.PR.10.2018	APMP	PR	CMC from one country	Review in progress	13-Feb-19
APMP.RI.10.2015	APMP	RI	ARPANSA CMCs	Review in progress	18-Jun-15
COOMET.L.12.2016	COOMET	L	COOMET.L-S13 (NSC IM) SURFACE PARAMETERS	Review in progress	24-Feb-16
COOMET.L.15.2019	COOMET	L	COOMET 570/UA/12 (COOMET.L-S15) Comparisons of Measurement Standards of Flatness	Review in progress	05-Mar-19
COOMET.L.16.2019	COOMET	L	The bilateral comparison of length standards for measuring end measures in the range up from 0.5 mm to 100 mm	Review in progress	22-Aug-19
COOMET.M.33.2019	COOMET	M	VNIIR CMC low-pressure air flowrate	Review in progress	27-Mar-19
COOMET.M.34.2019	COOMET	M	CMC_AzMI_mass	Review in progress	29-Aug-19
COOMET.PR.14.2019	COOMET	PR	CMC from VNIIOFI (Russia)	Review in progress	21-Jul-19
EURAMET.AUV.20.2019	EURAMET	AUV	CMC Vibration for LNE	Review in progress	27-Feb-19
EURAMET.AUV.21.2019	EURAMET	AUV	EURAMET.AUV.21.2019 (GUM)	Review in progress	06-Aug-19
EURAMET.M.63.2019	EURAMET	M	VUGTK_Gravity, Czechia, QMS confirmation included	Review in progress	02-Jun-19
EURAMET.M.64.2019	EURAMET	M	DMDM, Pressure	Review in progress	02-Apr-19
EURAMET.M.66.2019	EURAMET	M	PTB, Mass	Review in progress	01-May-19
EURAMET.PR.11.2019	EURAMET	PR	CMCs from 5 countries (CH, CZ, FI, FR, TR)	Review in progress	02-Sep-19
EURAMET.RI.11.2019	EURAMET	RI	VINS (Serbia) new CMCs Submission for Dosimetry	Review in progress	26-Aug-19
EURAMET.RI.12.2019	EURAMET	RI	SCK (Belgium) new CMCs for Dosimetry	Review in progress	23-Aug-19
EURAMET.RI.13.2019	EURAMET	RI	VSL (Netherlands) CMC-RI submission (Dosimetry)	Review in progress	26-Aug-19
EURAMET.T.11.2019	EURAMET	T	Czech Republic 1 IPRT new CMCs and 2 modified, 7 new CMCs for thermocouples, 4 new CMCs in radiation thermometry and 1 new and 1 modified CMCs on humidity, Germany 1 new and 1 modify CMC in radiation thermometry. Italy Modification of all the services identifiers and other misprints. 1 IPRT new CMC, 1 thermocouple CMC modified and 1 new, 4 radiation thermometry new CMCs, 3 CMCs withdrawal. Supporting information included:- IIRIM_supporting_evide	Review in progress	24-Apr-19
SIM.EM.11.2019	SIM	EM	INTI, Argentina CMCs in the field of RF	Review in progress	31-Jul-19
SIM.M.30.2016	SIM	M	INM (Colombia) Pressure	Review in progress	12-Apr-16
SIM.M.36.2017	SIM	M	CMCs from CENAMEP (Panama) in the field of Force	Review in progress	12-May-17
SIM.M.38.2017	SIM	M	CENAMEP AIP, Volume of Liquids	Review in progress	10-May-17
SIM.M.41.2019	SIM	M	SIM, Volume of Liquids, CR, UY	Review in progress	24-Feb-19
SIM.M.42.2019	SIM	M	CMC (INM_Colombia_MASS)	Review in progress	02-May-19
SIM.M.43.2019	SIM	M	CMC_Mass (LATU_Uruguay)	Review in progress	02-May-19
SIM.M.44.2019	SIM	M	NIST, Fluid Flow	Review in progress	07-Aug-19
SIM.PR.11.2019	SIM	PR	CMCs from Inmetro/Brazil	Review in progress	27-May-19
SIM.RI.18.2019	SIM	RI	CMCs from Brazil: Dosimetry. CMCs are covered by a Quality System, passed an intra-SIM review and are approved by the SIM-RMO.	Review in progress	28-May-19

Last update
> 2 years.
- 6 sets

CMC sets with other statuses as of 31 August 2019

Name	RMO	Area	Status	Comment	Submitted	Updated
APMP.M.46.2018	APMP	M	Approved by JCRB	NIM Fluid Flow	01-Oct-18	12-Aug-19
APMP.T.16.2019	APMP	T	Approved by JCRB	CMCs from APMP TCT after 2018 RMO Review	15-Apr-19	15-Aug-19
EURAMET.TF.11.2018	EURAMET	TF	Approved by JCRB	Revised CMCs from ROA	15-Nov-18	26-Jul-19
SIM.M.39.2018	SIM	M	Approved by JCRB	INACAL_Mass (CMC)	01-Nov-18	25-Jul-19
SIM.M.40.2019	SIM	M	Approved by JCRB	CMC (INTN_MASS) Paraguay mass standards, QMS included	04-Feb-19	18-Jun-19
APMP.L.29.2019	APMP	L	Waiting for approval	New and Modified CMCs from RCM LIPI	25-Jan-19	29-Aug-19
COOMET.EM.14.2019	COOMET	EM	Waiting for approval	COOMET.EM.14.2019	04-Jun-19	02-Sep-19
EURAMET.L.20.2019	EURAMET	L	Waiting for approval	15 CMCs from 6 countries	31-May-19	26-Aug-19
EURAMET.M.65.2019	EURAMET	M	Waiting for approval	EURAMET CMC 2019	18-Mar-19	27-Aug-19
EURAMET.RI.25.2016	EURAMET	RI	Waiting for approval	ITN Portugal Dosimetry	27-Jan-16	23-Aug-19
APMP.RI.11.2019	APMP	RI	Not approved	CMC of OAP, Thailand from APMP	18-Feb-19	12-Aug-19
SIM.T.11.2019	SIM	T	Not approved	Colombia INM CMCs Temperature and Humidity	04-Mar-19	29-Jul-19
COOMET.M.32.2018	COOMET	M	Not approved	CMC AzMI pressure	02-Jul-18	20-May-19
EURAMET.PR.13.2018	EURAMET	PR	Not approved	CMCs from 8 countries (BG, CH, DE, ES, FR, HU, IT, PT)	16-Jan-18	18-Jul-18
EURAMET.RI.27.2016	EURAMET	RI	Not approved	CIEMAT Spain Dosimetry revised	12-Feb-16	20-Apr-18
SIM.T.10.2016	SIM	T	Not approved	Dew point hygrometers and Relative humidity sensors	18-Apr-16	27-Feb-18
APMP.T.13.2017	APMP	T	Not approved	APMP CMCs submission approved by technical review and QS review	02-Aug-17	17-Nov-17
EURAMET.M.49.2017	EURAMET	M	Not approved	EURAMET CMC Force Croatia	17-Apr-17	03-Oct-17
APMP.RI.8.2014	APMP	RI	Not approved	CMCs of KRISS Radioactivity and Neutron metrology area	30-Sep-14	31-Aug-16
EURAMET.RI.28.2016	EURAMET	RI	Not approved	BIM (NCM) Bulgaria, Dosimetry and Activity	23-Mar-16	01-Jul-16
EURAMET.M.42.2015	EURAMET	M	Not approved	CMCs for BEV in Mass	21-Apr-15	08-Aug-15
SIM.RI.13.2014	SIM	RI	Not approved	two CMCs in dosimetry from Mexico (resubmission)	02-Dec-14	03-Mar-15
COOMET.EM.15.2019	COOMET	EM	Abandoned	COOMET.EM.15.2019	12-Jul-19	28-Jul-19

Inter-RMO review performance: adherence to deadlines



25 sets since JCRB 40:

- 3 sets for review and voting
- 5 sets for voting only
- 17 sets for reviewing only

• AFRIMETS:	100 %
• APMP:	100 %
• COOMET:	100 %
• EURAMET:	96 %
• GULFMET:	79 %
• SIM:	100 %

Less than 100 % complete due to loss of

rig

Evaluation may vary between
JCRB executive secretaries

Did not vote on final approval

CMC, working group issues: CMC submissions without QMS evidence

Calibration and Measurement Capabilities in the context of the CIPM MRA
CIPM MRA-D-04

3. Criteria for acceptance of CMCs

The JCRB requires that CMCs submitted for publication in Appendix C are accompanied by an RMO report indicating that the local Technical Committee/Working Group has approved the range and uncertainty of said CMCs and that each one of them is supported by a fully implemented Quality System reviewed and approved by the local RMO.

Furthermore, the JCRB requires that the range and uncertainty of the CMCs submitted be consistent with information from some or all of the following sources:

1. Results of key and supplementary comparisons
2. Documented results of past CC, RMO or other comparisons (including bilateral)

Calibration and Measurement Capabilities in the context of the CIPM MRA
CIPM MRA-D-04

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5.2. Submission of CMCs

1. TC/WG Chairs or RMO Representatives may submit a set of CMCs for inter-regional review at any time.
2. Only CMCs that are supported by a fully-implemented quality system, reviewed and approved by the respective RMO may be submitted for inter-regional review. All submissions must be accompanied by a declaration from the Chair of the RMO Quality Systems Working Group, indicating that this requirement has been met.
3. Each submission may contain CMCs from several NMIs belonging to the same technical area. CMCs from different areas must be forwarded as separate submissions. Metrology areas have been classified according to the nomenclature of

Action 35/09: *The RMOs to remind TC and WG chairs of the requirement stated in CIPM MRA-D-04 to submit, at the beginning of the inter-RMO review, the confirmation that the QMS evidence supports the CMC set, and to consider how this will be embedded in the update to the KCDB/JCRB IT suite.*

JCRB Outcomes related to Hybrid Comparisons (41st meeting outcomes approved as of 26 September 2019)

BIPM - JCRB CMC Website x BIPM - JCRB Outcomes x +

bipm.org/en/committees/jc/jcrb/meeting/40.html

➤ **Recommendation 40/1** March 2019

The JCRB agrees that the Hybrid Comparison scheme proposed by APMP may be used as an example of “Other available knowledge and experience” in Section 3 of CIPM MRA D-04, which underpins CMCs. It was noted that the use of Hybrid Comparisons is not an alternative to participation in key or supplementary comparisons when accessible. It was also noted that it is not intended to include Hybrid Comparisons within Appendix B of the KCDB. This agreement is to be sent to the CIPM for approval in order to expedite communication to the Consultative Committees.

➤ **Resolution 40/1** March 2019

Action 41/2 APMP to send its revised guidelines for the operation of Hybrid Comparisons to the next meeting of the JCRB.

Thank you!

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