

Alternate proposal of wording for WG PV for action by CCM (5)

We propose to **rephrase the text in Appendix A1 in CIPM-MRA-P11** as follows:

"A CMC is deemed to cover services that meet all of the following criteria:

a) Use the same *reference* instrument type/measurement method as that identified in the CMC, noting that more than one *reference* instrument type/measurement method can be listed in one CMC,

Present text:

a) Use the same instrument type/measurement method as that identified in the CMC, noting that more than one instrument type/measurement method can be listed in one CMC,

Example implication of phrasing for illustrative purposes

- ◆ An NMI offers a set of services for which they have developed a table (below) of their best uncertainties for different devices depending on the calibration route/method.
- ◆ This may be done for costing and client communication purposes to offer services for lower quality devices that require lower amounts of work to calibrate.
- ◆ An NMI may also like to provide a calibration requiring reduced set of data points/characterisation, but increases the uncertainties to compensate.
- ◆ The justification for the table is maintained in the NMIs quality system.

Reference Instrument	Uncertainty for best UUC					
	Piston Gauge (multiple points)	Piston Gauge (single points)	Pressure Calibrator	Resonance Gauge	Capacitance Gauge	Other Gauge
Primary Manometer/Realization	0.30	1.00	2.00	3.00	4.00	300
Piston Gauge	0.42	1.08	2.04	3.03	4.02	300
Secondary Piston Gauge	0.59	1.16	2.08	3.06	4.04	300
Pressure calibrator	2.00	2.24	2.83	3.61	4.47	300

Values/devices for illustrative purposes only

Under the proposed phrasing:

A CMC supported by a key comparison in which a *manometer* is used to calibrate a *piston gauge*, all calibration services listed in yellow can be supported by the CMC and may include the MRA logo on all certificates:

Reference Instrument	Uncertainty for best UUC					
	Piston Gauge (multiple points)	Piston Gauge (single points)	Pressure Calibrator	Resonance Gauge	Capacitance Gauge	Other Gauge
Primary Manometer/Realization	0.30	1.00	2.00	3.00	4.00	300
Primary Piston Gauge	0.42	1.08	2.04	3.03	4.02	300
Secondary Piston Gauge	0.59	1.16	2.08	3.06	4.04	300
Pressure calibrator	2.00	2.24	2.83	3.61	4.47	300

But if the institute has a CMC supported by a key comparison in which a *piston gauge* is used to calibrate a *resonance-based gauge*, then the services supported by the CMC are reduced:

Reference Instrument	Uncertainty for best UUC					
	Piston Gauge (multiple points)	Piston Gauge (single points)	Pressure Calibrator	Resonance Gauge	Capacitance Gauge	Other Gauge
Primary Manometer/Realization	0.30	1.00	2.00	3.00	4.00	300
Piston Gauge	0.42	1.08	2.04	3.03	4.02	300
Secondary Piston Gauge	0.59	1.16	2.08	3.06	4.04	300
Pressure calibrator	2.00	2.24	2.83	3.61	4.47	300

As described do we agree this is already presently acceptable practice within the CIPM-MRA?

- ◆ If we agree the answer is yes:
 - Do we also agree it is sufficiently clear in the present phrasing of CIPM-MRA-P-11. → If YES: then we should do nothing
 - If NO: then we should select new wording such as the phrasing proposed here to recommend to the JCRB. (Consequences to consider)
- ◆ If we do not agree the answer is yes we could ask the JCRB for clarification pointing to the example illustrated, eg.:

“Under the MRA is the example illustrated correct interpretation and if so/not where is the text supporting the correct interpretation documented”