CCT Comparison in Humidity CCT-K8

Dew Point Temperature +30 ° C to +95 ° C

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GOBIERNO DE ESPAÑA MINISTERIO DE DEFENSA
INSTITUTO NACIONAL DE TÉCNICA AEROESPACIAL

Status

- **VERY DELAYED – sincere apologies.**
- **NIST to act as co-pilot. Support from BEV/E+E.**
- **MBW sent four PRTs that had been calibrated and selected by INTA, to NIST for temperature calibration prior to final integration.**
- **New reference measurements to be performed now by INTA using same generator as EURAMET-T.K8.**

Protocol

- The EURAMET-T.K8 protocol has been taken as the starting point and we are currently documenting the method of analysis and criteria for detecting and rejecting outliers. Very important to fix this before we start, to avoid possible problems later.
- Circulation scheme (see figure 1)
- Allocated times (50 days meas. / 14 days transp.)
- Sampling configuration (No recirculation SHGs)
- Fittings (Swagelok 6mm and ¼").
- Flowmeters and condensation traps included.
- Fixed participation fee based on costs of CCT-K6.
- Advantage of delay is that now there is much more experience in all the labs using these types of instrument.
- Protocol **WILL** be sent out to all participants and WG6 before end of June 2014.

Participants

RMO	NMI		RANGE	Name	Email
APMP	MSL		30°C to +70°C	Dr. Jeremy Lovell-Smith	J.Lovell-Smith@irl.cri.nz
	NMC/A-STAR		30°C to +70°C	Dr. Wang Li	[illegible]ang_li@nmc.a-star.edu.sg
	NMIJ		30 °C to 95 °C	Mr. Hiro[illegible] Kitano	h.kitano@aist.go.jp
COOMET	VNIIFTRI		30 °C to 90 °C	Dr. Olga Podmurnaya	dep15@niiftri.irk.ru
EURAMET	BEV/E+E		30 °C to 95 °C	Dr. Helmut Mitter	helmut.mitter@epluse.at
	INRIM		30 °C to 85 °C	Dr. Vito Fernicola	v.fernicola@inrim.it
	INTA	P, C	30 °C to 95 °C	Dr. Robert Benyon	benyonpr@inta.es
	NPL		30 °C to 95 °C	Dr. Stephanie Bell	Stephanie.Bell@npl.co.uk
	PTB		30°C to +80°C	Dr. Norbert Boese	Norbert.Boese@ptb.de
SIM	NIST	P	30 °C to +85 °C	Dr. Peter Huang	phuang@nist.gov

UPDATE DETAILS

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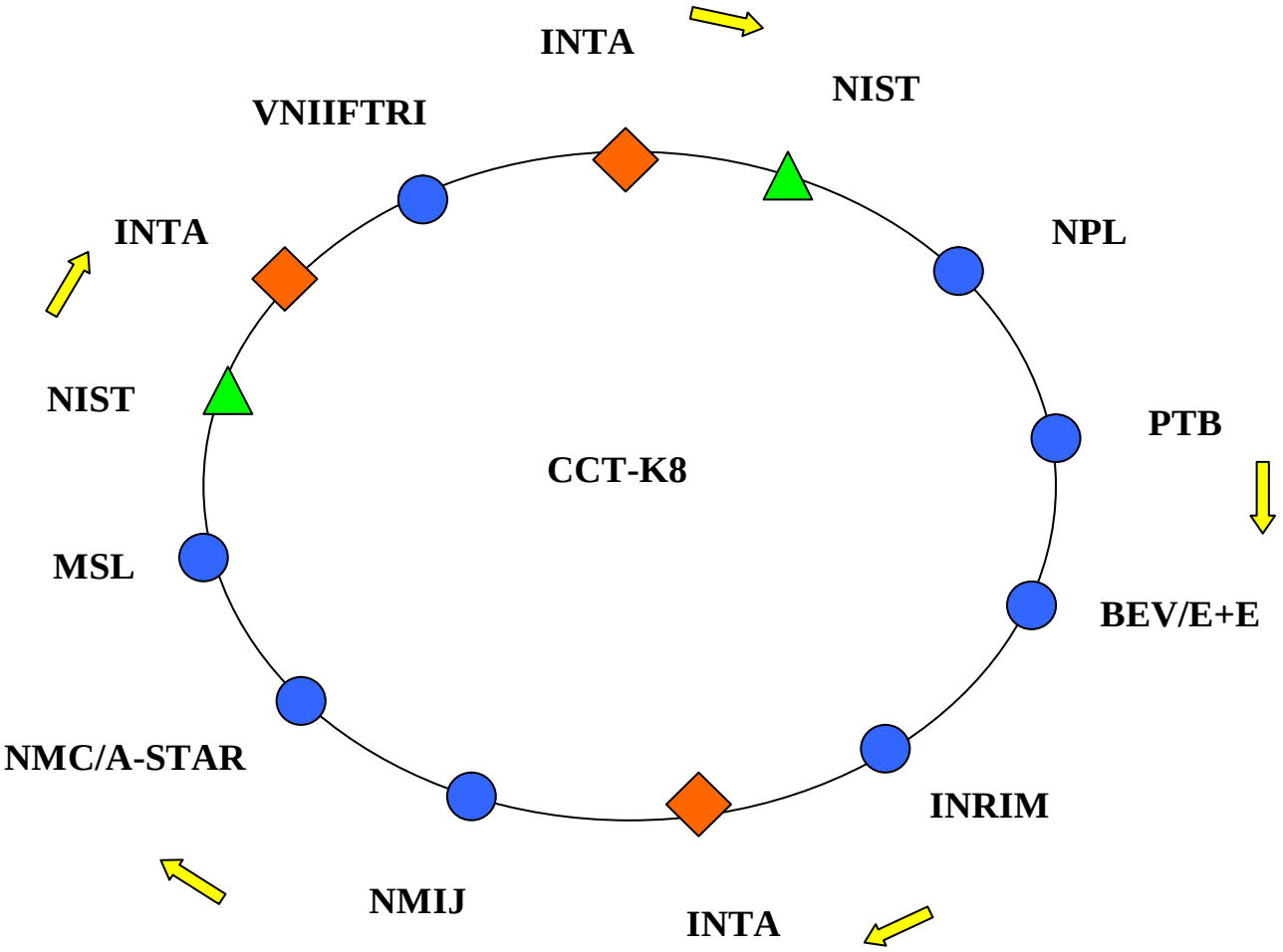
Circulation Scheme



Timing

- **Time (days):**
  - **Measurements: 50**
  - **Transport: 14**

- **Start: Sep 14**
- **End: Jan 17**

Timing (ATA1)

Days	Start	End	NMI		RANGE	ATA	COMMENTS
0	01-SEP-14	15-OCT-14	INTA	P, C	30 ° C to 95 ° C		ATA Carnet-1 issued
60	31-OCT-15	20-DIC-14	NIST	P	30 ° C to 85 ° C		
126	05-JAN-15	24-FEB-15	NPL		30 ° C to 95 ° C		ATA Carnet-1 to INTA
192	12-MAR-15	01-MAY-15	PTB		30° C to 80° C		
258	17-MAY-15	06-JUL-15	BEV/E+E		30 ° C to 95 ° C		
324	22-JUL-15	10-SEP-15	INRiM		30 ° C to 85 ° C		
390	26-SEP-15	15-NOV-15	INTA	P, C	30 ° C to 95 ° C		New ATA Carnet-2 issued

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Timing (ATA2)

Days	Start	End	NMI		RANGE	ATA	COMMENTS
390	26-SEP-15	15-NOV-15	INTA	P, C	30 ° C to 95 ° C		New ATA Carnet-2 issued
456	01-DEC-15	20-JAN-16	NMIJ		30° C to 70° C		
522	05-FEB-16	27-MAR-16	MSL		30° C to 70° C		
588	12-APR-16	01-JUN-16	NMC/A-STAR		30 ° C to 95 ° C		
654	17-JUN-16	06-AUG-16	NIST	P	30 ° C to 85 ° C		
654	17-JUN-16	16-AUG-16	INTA	P, C	30 ° C to 95 ° C		New ATA Carnet-3 issued

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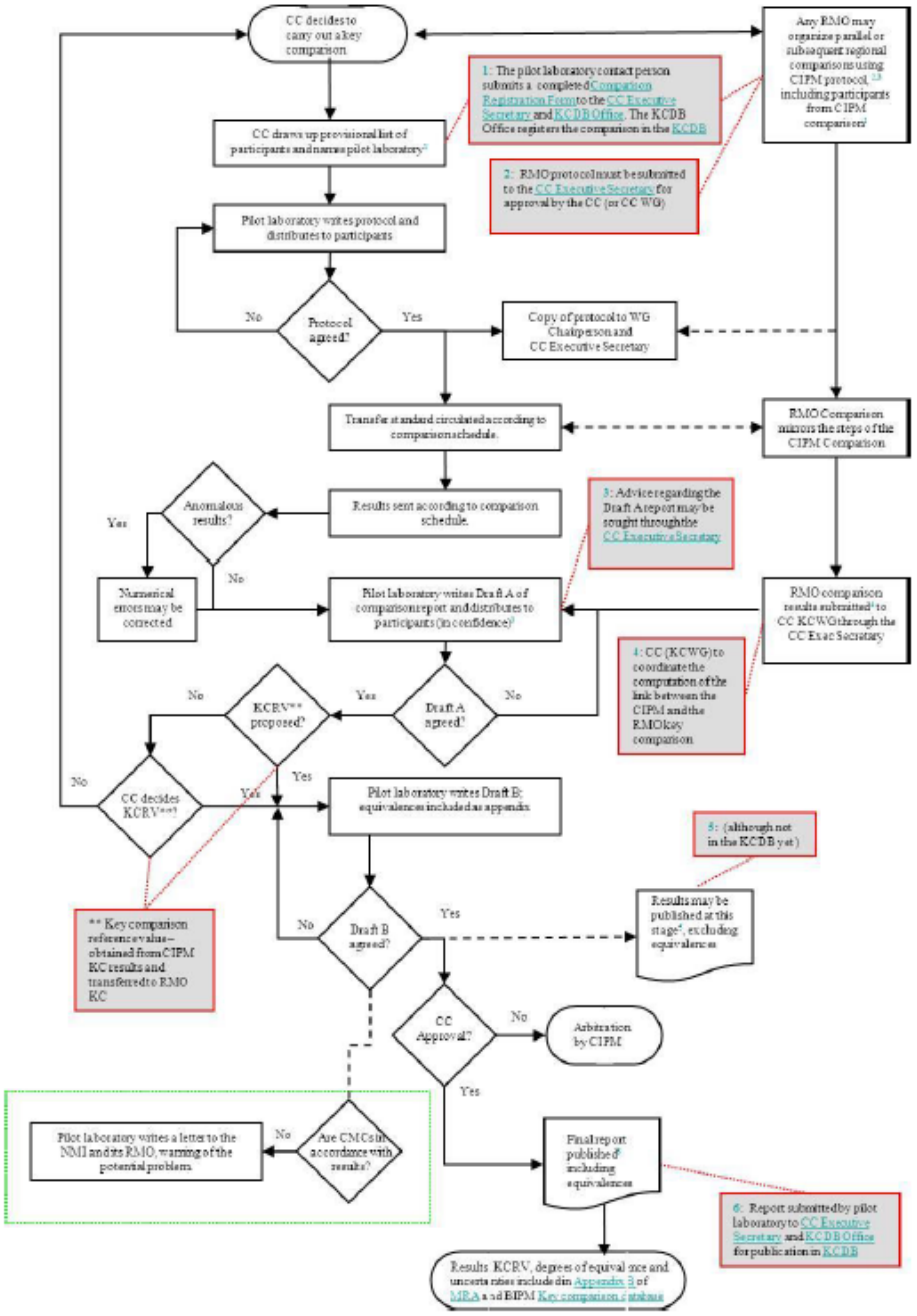
Timing (ATA3)

Days	Start	End	NMI		RANGE	ATA	COMMENTS
654	17-JUN-16	16-AUG-16	INTA	P, C	30 ° C to 95 ° C		New ATA Carnet-3 issued
734	05-SEP-16	25-OCT-16	VNIIFTRI		30 ° C to 90 ° C		
814	24-NOV-16	13-ENE-17	INTA	P, C	30 ° C to 95 ° C		


CC decides to carry out a key comparison
Any RMO may organize parallel or subsequent regional comparisons using CIPM protocol [2,3] including participants from CIPM comparison[1]
1: The pilot laboratory contact person submits a completed Comparison Registration Form to the CC Executive Secretary and KCDB Office. The KCDB Office registers the comparison in the KCDB
2: RMO protocol must be submitted to the CC Executive Secretary for approval by the CC (or CC WG)
CC draws up provisional list of participants and names pilot laboratory[2]
Pilot laboratory writes protocol and distributes to participants
No
Protocol agreed?
Yes
Copy of protocol to WG Chairperson and CC Executive Secretary
Transfer standard circulated according to comparison schedule.
RMO Comparison mirrors the steps of the CIPM C comparison
Anomalous results?
Yes
Results sent according to comparison schedule.
3: Advice regarding the Draft A report may be sought through the CC Executive Secretary
Numerical errors may be corrected
No
Pilot laboratory writes Draft A of comparison report and distributes to participants (in confidence)[3]
RMO comparison results submitted[4] to CC KCWG through the CC Exec Secretary
4: CC (KCWG) to coordinate the computation of the link between the CIPM and the RMO key comparison
No
KCRV** proposed?
Yes
Draft A agreed?
No
No
CC decides KCRV**?
Yes
Yes
Pilot laboratory writes Draft B: equivalences included as appendix
5: (although not in the KCDB yet)
** Key comparison reference value – obtained from CIPM KC results and transferred to RMO KC
No
Draft B agreed?
Yes
Results may be published at this stage[5], excluding equivalences
CC Approval?
No
Arbitration by CIPM
Yes
Pilot laboratory writes a letter to the NMI and its RMO, warning of the potential problems
No
Are CMCs in accordance with results?
Final report published including equivalences
6: Report submitted by pilot laboratory to CC Executive Secretary and KCDB Office for publication in KCDB
Results: KCRV, degrees of equivalence and uncertainties include din Appendix B of MRA and BIPM Key comparison database