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| **WORLD METEOROLOGICAL ORGANIZATION**  **\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**  **COMMISSION FOR INSTRUMENTS AND**  **METHODS OF OBSERVATION**  **CIMO MANAGEMENT GROUP**  **Thirteenth Session**  Offenbach, Germany 7 – 9 December 2014 |  | CIMO/MG-13/Doc. 3.3(1)  (27.XI.2014)  \_\_\_\_\_\_\_  ITEM: 3.3  Original: ENGLISH |

**WORK PLAN OF THE CIMO EXPERT TEAM ON OPERATIONAL METROLOGY (ET-OpMet)**

(Submitted by R. Merrouchi and D. Groselj)

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| **Summary and purpose of document**  This document provides information on the proposed Work Plan for Expert Team on Operational Metrology. |

**Action proposed**

The Meeting is invited to note the structure and content of the draft Work Plan, and to approve the Workplan.

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**Appendix:** Draft Workplan of ET-OpMet

**WORK PLAN OF THE CIMO EXPERT TEAM ON OPERATIONAL METROLOGY (ET-OpMet)**

1. **INTRODUCTION**

The proposed Work Plan for the Expert Team on Operational Metrology is contained in the Appendix for the consideration and approval of the CIMO Management Group.

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**APPENDIX: Workplan of ET-Operational Metrology (2014-2018)**

| **No.** | **Task description** | **Person responsible** and subteam | **Action** | **Deliverable** | **Deadline for deliv.** | **Priority** | **Status**  **[%]** | **Comments** |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 1. | **Estimation of calibration uncertainty – traceability to SI** | **D.Groselj,** K.Premec, A.Mounir, T.Holfelder, N.Mander | 1. Review document on computation of calibration uncertainties 2. Develop workshop on uncertainty calculations 3. Carry-out workshop | 1. IOM report on calibration uncertainties   2a. Concept for Workshop  2b. Training units and associated presentations prepared.  3. Workshop carried out | 1. Approved for publication  2a. July 2015  2b. Dec. 2015   1. TBD | M |  | CIMO-XV para 6.3  CIMO-16, Doc. 6, para 6.9  Workshop should also address how to establish calibration certificates  Workshop could be done on-site, or possibly remotely. |
| 2. | **RIC inter-laboratory intercomparisons (demonstrating capabilities in achieving declared RIC calibration and measurement capabilities (CMCs))** | **RA-VI:**  **D.Groselj,**  F.Montariol,  **RA-II & V:**  **K.Nakashima**,  F.Barcenas,  **RA-I:**  **A.Mounir**,  **RA-IV & III:**  **D.Walker**, D.Prescod | 1. Set-up intercomparison kit for temperature, humidity and pressure (at least one, but preferably all 3 parameters) 2. Schedule intercomparisons with other RICs of Regions 3. Publish intercomparison report 4. Develop procedure for conducting and evaluating inter-laboratory comparison (based on general principles published in ISO standard for comparison between many laboratories) | 1-3. (IOM) Reports on intercomparisons & Presentations at CIMO-2016  4a.Document describing procedure  4b. Update of CIMO Guide, incorporating procedure. | 1. July 2017  4a. July 2017  4b. Dec. 2017 | M |  | CIMO-XV para 6.3  CIMO-16, Doc. 6, para 6.9  ET-RIC meeting report, § 3.5, 7.3 and 8.8 |
| 3. | **Strengthening RICs and supporting their communication with Members** | **K.Nakashima,** D.Groselj, A.Mounir, T.Holfelder, D.Prescod | 1. Contact RICs without standard websites and support them in developing the information needed for their websites 2. Review outcomes of RIC evaluations and support those which have problems in performing such evaluations 3. On request, provide support for the evaluation of RICs | 1. Standard websites for all RICs 2. Evaluation of all RICs 3. Report on RIC audits | 1. July 2016  2. Dec. 2016  3. May. 2016 | H |  | CIMO-XV para 6.3 |
| 4. | **Calibration of ceilometer, visibilimeter and present weather sensor** | **N.Mander,** F.Montariol, D.Groselj, J.Lin | 1. Develop calibration procedure for ceilometer, visibilimeter and present weather sensor | 1. Document describing procedure  2. Update of CIMO Guide, incorporating procedure. | 1. Dec. 2015  2. July 2016 | M |  |  |
| 5. | **Implementation of the strategy for improving traceability of measurements** | **K.Premec,** N.Mander, D.Groselj, A.Mounir, K.Nakashima, F.Barcenas, J.Lin, D.Prescod | 1. Develop outreach flyer (for decision makers) on importance of measurement traceability 2. Finalize calibration strategy 3. Ensure inclusion of the strategy in the CIMO Guide 4. Develop guidance material on how to implement the strategy (use of field inspection kit) | 1. Outreach flyer 2. Document with calibration strategy 3. Relevant CIMO Guide chapters updated 4. Document with guidance material published as IOM report or Annex to CIMO Guide | 1. March 2015  2. Dec. 2016  3. July 2017  4. July 2017 | H |  | CIMO-16, Doc. 6, §6.8 |
| 6. | **Impact of Minamata convention and guidance for transition from mercury-based instruments to alternative technologies** | **A.Mounir,** N.Mander, D.Groselj, T.Holfelder, K.Premec, D.Prescod,  P. Copping | 1. Develop outreach flyer (for decision makers) on impact of Minamata convention 2. Collect expertise from Members having successfully transitioned away from Mercury 3. Develop road-map for transition of instruments containing mercury to alternative devices 4. Develop guidance on how to choose modern cost-effective alternative instruments (incl. list of minimum metrological characteristics of these alternatives) | * 1. Outreach flyer   2. Links to relevant publications provided on IMOP website   3. Document with roadmap for Members wanting/having to transition away from Mercury   4. Documents with guidance on instrument selection (possibly to be included as annex to a CIMO Guide chapter) | 1. March 2015  2. Dec. 2015  3. July 2016  4. July 2017 | H |  | CIMO-16, Doc. 6, §6.10  CIMO-16, Doc. 6, §6.12  CIMO-16, Doc. 6, §6.13  CIMO-16, Doc. 6, §6.14  ET-RIC meeting report, § 8.8 |
| 7 | Assess status and need for regional standard barometer and update CIMO Guide and relevant WMO resolutions accordingly | **A.Mounir,** K.Nakashima, F.Montariol,  D.Prescod, F.Barcenas | 1. Collect the needs for regional standards barometers in RAs | 1. Report to CIMO on the status and need for regional standard barometers | 1. Dec. 2015 | M |  |  |
| 8 | **Use of modern alternatives to obsolete instruments** | **F.Barcenas,**  T.Holfelder, N.Mander, A.Mounir, K.Nakashima, D.Groselj  P.Copping | 1. Collect information on successful experiences 2. Collaborate with HMEI in identifying alternative instruments 3. Develop guidance on how to select, purchase, maintain, inspect and calibrate modern instruments replacing outdated instruments | 1. Lists of relevant publications, and links provided on IMOP website 2. Document (possibly IOM Report) proposing alternatives 3. Updates of relevant CIMO Guide chapters | 1. July 2016  2. Dec 2016  3. July 2017 | H |  | CIMO-16, Doc. 6, §6.15  ET-RIC meeting report, § 8.10 |
| 9 | **CIMO Guide update** | **Temperature: K.Premec,** D.Groselj, F.Montariol,  T.Holfelder,  K.Nakashima    **Pressure:** **T.Holfelder,** K.Premec, F.Montariol, N.Mandel, D.Groselj | 1. Fully revise and update CIMO Guide chapter on temperature and pressure | * 1. Updated CIMO Guide chapter | 1. July 2015 | H |  |  |
| 10 | **Precipitation** | **N. Mander, A.**Mounir, D.Groselj, D.Walker | 1. Review the CIMO Guide chapter on precipitation 2. Review documentation on practices on laboratory precipitation calibration | 1. Propose updates of the CIMO guide | 1. Dec 2017 | L |  |  |