

High Level Changes to CoP4 Issue 5 (v4.0) Requirements

The following table lists the high level summary of changes between the current requirements as set out in CoP4 Issue 5 (v4.0) and those set out in the new draft version of CoP4 Issue 5 (v4.1) as recommended by the CoP4 Review Group and ELEXON:

High Level Requirement	CoP4 Issue 5 (v4.0)	CoP4 Issue 5 (v4.1)
	Current Requirement(s)	New Requirement(s)
Calibration of Meters	<p>Initial Calibration - Calibrate (in lab/test house) before installation; overall uncertainty calculated using NAMAS directive NIS3003 (> 95% confidence); overall accuracy within limits in Tables 1 (active + uncertainty) and 3 (reactive + uncertainty)</p> <p>Periodic Testing (lab for Class 0.2S, otherwise can be on-site):</p> <p>(i) Calibration - calibrate Electromechanical Meters (<10 yrs), specific types more frequently; Calibrate Electronic Meters (evenly phased schedule for each Meter type on-circuit. Over 10 year period at least 20% of the total of such type of Meter). MOA must calibrate at least one Meter of each type in any 5 yr period.</p> <p>(ii) On-site Accuracy Tests - in addition to calibrating Meters carry out on-site accuracy tests. Electromechanical - Class 0.5 (on site <5 yrs). No testing required for other types. Electronic - if main and check Meters (CoP1, 2 and 3) are of same manufacturer and type test Active Energy Meters (< 5yrs and for Reactive Energy Meters, 10 yrs). No testing if of different manufacturer or</p>	<p>Three types of Calibration (Type A - initial, Type B - periodic, Type C - periodic; like Type A but not necessarily at reference conditions i.e. in a laboratory).</p> <p>Initial Calibration - Calibrate under reference conditions before installation at test points given in Appendix B1/B2; measured errors not to exceed those in Appendix C (accuracy tables - active and reactive) with measurement uncertainties as stated in Appendix D (measurement uncertainty on and off site, active and reactive); seal immediately after Calibration before leaving lab/test house</p> <p>Periodic Calibration:</p> <p>All Meters at intervals depending on applicable CoP - Appendix A:</p> <p>CoP1 and 2 Type A at yr 0; Type B by yr 5 and Type B by yr10; or Type C by yr 10 and Type C by yr 20.</p> <p>CoP3 and 5 Type A at yr 0; Type B by yr 15 and Type C by yr 20.</p>

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	<p>type. CoP5 test at intervals not exceeding 10 yrs. Where only a main Reactive Energy Meter (<10 yrs).</p>	<p>Sample Calibration - new (installed from 5yrs prior to CoP4 effective date) Meter Types - 1% after yr 8</p> <p>Cut-over period - Applies to CoP 1 and 2 and only if the Meter was installed more than 5yrs before new CoP4 effective date.</p> <p>Other Checks - Check voltage failure alarms (if not integral to Meter) when calibrating Meter (Type B and C)</p>
Calibration of Measurement Transformers	<p>Initial Calibration - calibrate prior to initial installation</p> <p>Periodic Testing - VTs with no voltage monitoring/alarm facility burden test for fuse faults every 6 months</p>	<p>Initial Calibration - calibrate prior to installation to demonstrate compliance with applicable BS EN standards; Calibrate multi ratio Voltage Transformers (VT) and Current Transformers (CT) for all ratios</p> <p>Periodic Calibration - no periodic Calibrations required; check voltage monitor/alarm (if not integral with Meter) when on site for CoP4 testing (Type B and C Calibrations)</p>

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Calibration of Standards	<p>Reference Standard - Maintain at appropriate Reference Temperature (RT) within +/- 2 C; Calibrate (< 24 months); Technical Assurance Agent (TAA) may permit intervals to be increased; CT and VT Standards (< 5 yrs).</p> <p>AC/DC Transfer Standards - Maintain at RT +/- 2 C; Calibrate (< 24 months); TAA may permit intervals up to 5 years by submitting records; Calibrate against Reference Standard prior to use or if records show negligible deviation then interval can be up to 6 months; Notify BSCCo if out of spec</p> <p>AC Transfer Standards - need not be maintained at a given temperature as long as accuracy requirements of CoP4 Issue 5 v4.0 met; need not be verified at an Accredited lab provided they are calibrated against a Reference or AC/DC Transfer Standard at monthly intervals or TAA can allow increase to 6 months (with evidence); calibrate before and after use for on site calibrations; interval between use and re-calibration (< 1 week); notify TAA within 3 WD if out of spec</p> <p>Working Standards - need not be maintained at RT as long as accuracy requirements of CoP4 Issue 5 v4.0 met; need not be verified at an Accredited lab if Calibrated against a Reference or Transfer Standard at monthly intervals or TAA can allow increase (< 6 months) by submitting records; notify TAA within 3 WD if out of spec</p>	<p>Reference Standards – effects of temperature variations shall be allowed for in uncertainty budget or maintain at RT +/- 2 C; apply to BSCCo for extensions to Calibration intervals</p> <p>AC/DC Transfer Standards - Amalgamated with AC Transfer Standards under Transfer Standards. See below:</p> <p>Transfer Standards – effects of temp variation shall be accounted for in uncertainty budget; verify at intervals (< 6 months); apply to BSCCo for extensions (< 12 months); notify BSCCo promptly if out of spec</p> <p>Working Standards – verify at 3 monthly intervals; apply to BSCCo for extension (up to 6 months); notify BSCCo promptly if out of spec</p>

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Records	<p>Standards - permanent signed records with overall accuracy and uncertainty of measurement</p> <p>Meter Certificates - initial calibrations provided with record which is traceable to manufacturer or lab/test house; permanent signed record</p> <p>Measurement Transformers - permanent signed records; test certificate, wherever possible and economic, showing they comply with accuracy class; test certificates for new or replacement measurement transformers shall detail burden conditions during test</p> <p>Commissioning Record - provide evidence to Panel or TAA that</p>	<p>Standards - traceable record of each Calibration of Standards (including overall accuracy and uncertainty of measurement statement); all certificates for new Calibration equipment (brought into use after CoP4 effective date) must be produced using verifiable Standards; uncertainty determined according to UKAS but suitable method may be used as agreed by BSCCo</p> <p>Meter Certificates - traceable certificates of conformance or actual errors from Calibration; must identify serial no., name of testing body, location of Calibrations and date concluded (if none, use date of manufacture), means of identifying equipment used and person responsible for Calibration; overall uncertainty required; where additional Calibration points used, measurement uncertainty covering all measurement points; hard copy or electronic un-editable format; missing Type A records can be replaced by Type C record; CoP3, 5, 6, 7 keep latest set, CoP1, 2 keep all</p> <p>Measurement Transformers - traceable, complete with statements of measurement uncertainty covering all test points; 'existing installed can use error on national measurement transformer error statement to calculate overall uncertainty; for 'existing installed', Parties can apply to BSCCo in regards inspection of certificates</p> <p>Commissioning Record - provide evidence to BSCCo that</p>

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	Metering Equipment meets requirements of Code and relevant CoPs (evidence must include a signed and dated commissioning record); record reason why primary injection test not carried out; record Meter/Outstation (s) values - one half hour minimum	Metering Equipment meets requirements of Code and relevant CoPs (evidence must be traceable and dated); minimum requirements (where applicable) for contents of certificate defined
Commissioning	<p>Commissioning - Commissioning programme for all new Metering Equipment (ME); if replacement ME fitted commissioning programme covering changes. Expected tests and checks provided in Appendix A</p> <p>Sealing - Seal after completing Commissioning</p> <p>Validation - after Commissioning register Meter Technical Details in Settlement and carry out a Proving Test defined in the relevant BSCP</p>	<p>Commissioning - Commissioning programme for all new Metering Equipment (ME); if replacement ME fitted commissioning programme covering changes. List provided for Commissioning tests which need to be confirmed and recorded. Appendix F added for guidance containing tests and checks</p> <p>Sealing - Seal in accordance with relevant BSCP</p> <p>Proving - Perform Proving Test in accordance with any relevant BSCP</p>

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Reports	<p>Periodic Testing - Results of periodic calibrations shall be sent to TAA; TAA to advise Panel of need to revise requirements</p>	<p>Periodic Calibrations - Annual Report (detailing no. Calibrated, age since last Calibration plus no. outside limits) to BSCCo for Type B and C Calibrations</p> <p>Sample Calibrations - Annual Report (detailing no. sampled per Meter type, time since initial Calibration, whether within limits plus no. outside limits)</p>
References/Definitions	<p>References - BSC, NAMAS, Electricity Act and BS5750</p> <p>Definitions - definitions relevant at time and to document listed</p>	<p>References - NAMAS updated to UKAS, BS 5750 updated to BS EN ISO 9001 (Quality management systems), new standard added for competence of Calibration labs (BS EN ISO/IEC 17025), new BS EN Standards for Meters/Current Transformers/Voltage Transformers added and reference to the Meter Operator Code of Practice Agreement (MOCOPA) inserted.</p> <p>Definitions - new definitions added, irrelevant ones removed, some definitions expanded and others made more general</p>