

Review of Draft Metering Code of Practice 4, Issue 5 (v4.1)

Common Issues

CoP4 is retrospective, with immediate effect. Some clauses included for cut over of testing but there are huge implications for existing metering schemes which will now be non-compliant.

Page by Page Review

Section 1 – Scope

Paragraph 2 – Reference to BSCP06 and BSCP514 does not appear to be relevant. These CoP's cover the process of gaining access to metering equipment. It is suggested that all references to these CoP's be removed from the text. If a meter is found to be out of calibration then simply state that meter either needs to be replaced, or adjusted, and calibrated until the accuracy by CoP4 and the relevant CoP is achieved.

Under Scope the document should include a reference to NHH, even if it explains why it is not included and perhaps suggested timescale to when it will be included.

Link between CoP4 and Electricity Act has been removed. Why is this the case?

Similarly original CoP4 referred to Section L of the BSC. This has been removed. Need to explain where the CoP4 gets its authority. This line was included in a previous draft – why was it removed?

Section 3 - References

MOCOPA is referenced. Where can the document be obtained? Must not be enforced on CVA MOA's who are not signatories.

Section 4 – Definitions and Interpretations

Other CoPs used to include some preceding text which explained which definitions were taken directly from the BSC and those which had been modified for clarity. For instance "Metering Equipment" which was previously highlighted as differing from the BSC.

Why was this removed? CoP4 is now out of step with the other codes.

What happened to 4.6 and 4.7?

"Test House" – definition is missing. Accredited Laboratory is included. Suggest that a definition of Test House be included for completeness.

Section 5.1.1 – Types of Calibration

Last paragraph – is unclear what is needed to confirm that the calibration of the compensated meter. Provided that the meter has previously been calibrated then the compensation change could be confirmed through suitably robust QA, a prevailing load check, comparison to a commissioned meter (eg the Check meter if Main meter changed) or a commissioning test. This would allow a blank calibrated meter to be

installed on site and compensated from a program file, for instance, without the need for a full calibration.

Second major paragraph – remove reference to BSCP06 and 514.

Section 5.1.2.1 – Type A Calibration

First sentence – what does the “relevant product standard mean”. Is it what is expanded in the next paragraph?

Is there a conflict between the requirements of the BS EN for the meter and the calibration points given in Appendix B. Is it appropriate to ask the manufacturer to calibrate to additional test points outside the BS EN?

5.1.2.3 – Type C Calibration

Suggest for clarity that include reference to Appendix D for details of uncertainties in different locations.

5.1.2.4 – Calibration of “Existing Installed” Code of Practice 1 and 2 Meters

Bullet point – the words “without adjustment” imply that there is no need to do any work on a meter that is found to be out of the required accuracy requirements. An additional sentence is required after the bullet point to emphasise that where a meter is found to be outside the accuracy requirements then it needs to be removed from service and either replaced or adjusted and calibrated.

The bullet point and the succeeding paragraph could allow an interpretation that meters on existing installation do not have to have a phased calibration regime, bringing them into line with the new CoP requirements. This needs to be clarified.

5.1.3 Sealing

In it not appropriate to place BSCP06 and BSCP514 requirements on meter manufacturers and laboratories.

The physical design of meter may not lend itself to a wire seal.

Allowance must be provided for “non-approved” seal, such as a paper seal, which would still provide evidence that the seal had been broken after the meter was calibrated.

5.1.4 Records

General comment – Meters, VT’s, CT’s – uncertainty details are not generally available on older metering equipments. CoP4 requires uncertainty data to be made available on all test certificates and is retrospective. This will lead to a large number of non-compliances.

Manufacturers have not had any input into the development of the CoP and may not be aware of its forthcoming issue. These requirements may not be achievable.

Elxon have previously agreed that uncertainty measurements may not be available for existing equipment but have stated in correspondence that where certificate does not include a statement of the measurement of uncertainty covering all test points

the Party will need to provide supporting evidence. It is unclear to the Forum members just what evidence could be provided and clarification of this comment has not been provided by Elexon.

5.1.4.1 – Calibration Certificates

Third Paragraph – “Equipment used and person (or persons) responsible for the calibration” – this level of information may not be included on existing test certificates. For example CEWE manufacturers test certificates do not state the equipment used. This will lead to a huge number of compliances.

The way that this and the preceding paragraph are drafted suggests that existing Type A calibration certificates need to include more information than new Type A calibration certificates

Paragraph 4 – Statements of Uncertainties are not available on a large number of the test certificates for existing meters. As a result there will be a large number of non-compliances against this requirement.

Paragraph 6 – Text is ambiguous – what is the Standard? British Standard or Reference / Working Standard? This paragraph also asks for information to be added to the test certificate. We cannot expect the manufacturer or external lab to comply with all the requirements stated in terms of information to be placed on the certificate. Suggest paragraph is removed.

Paragraph 8 – There are concerns that this allows the audit trail will be lost, so MOA will not be able to show that they have complied with MCoP4 over lifetime of the meter. This is contradicted to some degree by Paragraph 10 where evidence is required.

Paragraph 9 – needs to be reconsidered based on outcome of wording for Section 5.1.1 last paragraph

5.1.4.2 – Annual Calibration Report

This is additional to the work carried out by the MOA at present and there will be a cost associated with it. What is the information going to be used for? The obligation should be placed on the BSCCo to provide a summary of the report to the Panel and to circulate information to the MOA’s in order to highlight any makes / models of meter that are less reliable / accurate.

How would this be managed under P207?

If this is not the case, then the current spot checks that the TAA carry out during site policing visits should be adequate.

The report may not pick up meters which have been gone faulty and been replaced.

We would suggest that format of report is mandatory. However format in Appendix E is confusing, does not capture the necessary information and needs to be completely revised.

5.1.4.3 and 5.1.4.4 – Inspection of Certificates, Records and Testing / Technical Audit
Reference to test house – not included in definitions

How does this apply to retrospective certificates where may not be available. Suggest also including a time limit – in 30 years time existing time, company may not be trading. Suggest include words “where reasonably”.

Last paragraph contradicts statement in 5.1.4.1 regarding retention of certificates on CoPs 3,5,6 and 7.

There are serious concerns over the transfer of records between MOA’s. Meters are owned by customer and transfer of MOA’s can be very often.. Under BSCP 20 only requirement is to transfer Meter Technical Details.

5.1.4.5 – Quality Assurance

Should this requirement be on the Registrant? The Registrant should be able to appoint an Accredited MOA and the accreditation should include the quality process.

BS EN for calibration is 17025. Should this be the preferred standard rather than BS EN ISO 9001.

5.2 – Sample Calibrations

CVA members of review group had written to Elexon, suggesting that sample calibration should start much earlier – otherwise meters will be in service for 8 years before there is any indication that there could be a problem with the meter accuracy. By this time there may be 1000’s of meters in service. Routine calibration programme may not start until year 15, by which time many of the meters may be thrown out. As there is no requirement for an end of life calibration these meters will never have been calibrated.

It is unclear what is required. Are these additional calibrations if MOA is already doing sufficient type B calibrations during their normal routines? We do not believe that this is intended, but alterations to the wording may be required.

What happens if there is a change to a MCoP, such as has just happened under MCoP 1 and 2 where all existing meter approvals become invalid. Wording in CoP4 suggests that all meter types would immediately require sample calibration even though they are not really new.

5.3 – Measurement Transformers

See general comment already made on uncertainty.

Remove word “sample” in sentence 1.

5.3.1

Paragraph – suggest that it would be clearer if the sentence referred to equipment installed from CoP4 Effective Date.

Paragraph 3 – provides detail on uncertainty of measurement. Same level of detail was not included for meter calibration.

5.3.3

General comment – Meters, VT's, CT's – uncertainty details are not generally available on older metering equipments. CoP4 requires uncertainty data to be made available on all test certificates and is retrospective. This will lead to a large number of non-compliances.

Manufacturers have not had any input into the development of the CoP and may not be aware of its forthcoming issue. These requirements may not be achievable.

Elexon have previously agreed that uncertainty measurements may not be available for existing equipment but have stated in correspondence that where certificate does not include a statement of the measurement of uncertainty covering all test points the Party will need to provide supporting evidence. It is unclear to the Forum members just what evidence could be provided and clarification of this comment has not been provided by Elexon.

For existing metering schemes, especially those installed at vesting, certificates may not be available and it was accepted that certificates from equipment with similar serial numbers would be acceptable. For HV reactive metering, certificates were not available and it was accepted that name plate data would be sufficient. In CVA metering systems there will be insufficient data available for the equipment to be included in the national transformer error statement.

This section of CoP4 will raise a large number of non-compliances, unless this is treated as an “exceptional circumstance” as covered by paragraph 4. If the CoP is introduced then there will be a large number of applications to the BSCCo for derogations.

Where CT's and VT's are not provided by the MOA but are owned by the site or other party so provision of this data may not be within the MOA's control.

5.4 – Voltage Failure Alarm

Suggest remove reference to BSCP 06 and 514

CoP does not include confirmation that an alarm is raised and indicated remotely. Suggest this is included

5.5.1 – Commissioning Tests

The way that this is written suggests that every commissioning process includes all these steps. This is not necessarily the case. The full list of tests is only appropriate to a new metering installation.

5.5.3 – Records

Paragraph 2 – original draft had “as required” at end of sentence. As it is drafted BSCCo will get a report from the MOA every time a meter is changed. We do not believe this was the intention. Suggest the original wording be reinstated.

See previous comments against 5.1.4.3-5.1.4.5

7. – Calibration Equipment for Meters

7.1.1.1

Any temperature variation should be factored into uncertainty budgets. Remove last sentence.

7.1.1.2

Has lost the words “Save as it is necessary to meet the accuracy requirement of this standard”. These should be reinstated.

7.2.1.1

Should say “Transfer Standards” not “Reference Standards”

Any temperature variation should be factored into uncertainty budgets. Remove last sentence.

7.3.1.1

For consistency we need to include a reference to uncertainty. For consistency should also include effect of temperature variation on uncertainty budget.

7.4 – Records

7.4.2 – Implies that where a meter is sent to an external laboratory the MOA then needs to obtain a calibration record of all the standards held by the external lab for that calibration. This is not reasonable.

7.4.3 – Should specifically reference UKAS standard M3003.

8 – Calibration Equipment for Measurement Transformers

Second paragraph can be quite onerous. This may be fine for large organisations which order hundreds of VT’s and CT’s, but may be difficult for smaller meter operators to achieve where they purchase a few VT’s and CT’s at any one time.

What is meant by “confidence”?

8.1 – Records

8.1.1 – has a specific exclusion for existing metering equipment. This should apply to all paragraphs in this section.

8.1.2 – Is this relevant to “Records”. Should this paragraph be moved into the main text under section 8?

If the metering equipment is bought by the site rather than the MOA where does the obligation lie? Who would receive the non-compliance?

8.1.3 – Is this clause retrospective. See also comments above (5.1.4.3 and 5.1.4.4) regarding time limits – in 30 years time the calibration facility may no longer be trading.

Subscripts 2 and 3 – should wording be the same? Why is there a difference?

APPENDICES

Appendix A

In table, against CoP 1 and 2, would be clearer if horizontal line was extended into the year 5 box and text clarified.

Appendix B

General comment – section and table headings are confusing.

Tables B1 to B4. The use of “C” in this table may introduce confusion as “C” is also used in Appendix A and for the type of calibration (eg. Type A,B and C)

Tables B1, B3 and B4 – need to clarify whether the “overload” test is required. Normal practice would be to test at 120% of rated current so we presume that it is required, but may not be interpreted this way by others.

Table B2 – the number of tests required in this table would appear to be excessive. Custom and practice has been to carry out a reduced number of tests at critical test points, supported by a random sample of laboratory calibrations to confirm that the site tests are indeed adequate. There has been no evidence that doing a reduced number of tests has led to less accurate data in Settlements. This can be backed up with previous test evidence if required.

Appendix C

Table C1 and C3 – Column headed “directly connected meters”. No where else in the document have we referred to directly connected meters. Should there be a note in appendix B to confirm that tables refer equally to directly and non-directly connected meters. Also should they be referred to at some place in the main text?

Table C1 and C3 only define limits from 2% and up. However tables in Appendix B define tests at 1%. These need to be aligned.

Appendix D

Tighter limits on uncertainty on calibration at type C – what is the incentive on MOAs to achieve this level of accuracy, rather than just carrying out a lower accuracy test on site.

Tables D2 and D4 – final shell document was not fully populated for measurements other than at unity power factor. Where were the values for “Measurements at other than unity power factor” derived from as it is not consistent with tables D1 and D3

where the “non-unity power factor” uncertainties are double the “unity power factor” values.

Appendix E

This table is confusing and is unclear what data is actually required. For instance the third column appears to want 3 figures but quite what is needed is unknown. Elexon were unable to provide an answer when questioned.

Submission also needs space for explanatory text for MOA to provide a narrative on the data they have submitted.

Appendix F

F1 – This appendix is for guidance, however in third paragraph the text states that these are “minimum requirements”. It should perhaps say they are “guidance on achieving minimum requirements”

F1.2 paragraph 2 – wording suggest that for CVA systems, tests 1.2.1 to 1.2.5 are sufficient for commissioning test prior to energisation. Should be extended 1.2.6

F1.2.8 – For SVA meters you can wait until the load is 10% of full load to carry out this test, but for CVA meters tests need to be done when the circuit is first energised. For CVA sites prevailing tests are unlikely to be possible as when the circuit is first energised there may be no load.

CVA sites, commissioning needs to be carried out before Proving Tests and these then need to be completed before the system is energised. What came first, the chicken or the egg?

Suggest that first sentence becomes “carried out when first energised and carrying sufficient load for the tests to provide meaningful results.”

F2 – Refers to 5.5.4 - Should refer to 5.5.3