

**Redlined Code of Practice Five text for CP1508 'Updating the references to the British and International Standards within the relevant Codes of Practice and Balancing and Settlement Procedure'**

This Change Proposal (CP) proposes changes to Sections 2, 5.1, 5.3 and 5.6.1. We have redlined these changes against Version 14.0.

In addition, we have taken the opportunity to correct a minor housekeeping error in section 5.1.3.

**There is no impact on any other part of this document for this CP.**

Amend Section 2 as follows:

## 2. REFERENCES

The following documents are referred to in the text<sup>2</sup>:-

BS EN 50470 – 3	Electricity metering equipment (a.c.) - Part 3: Particular requirements – Static meters for active energy (class indexes A, B and C)
BS EN/ <del>IEC 64036</del> <u>62053-21</u>	AC Static Watthour Meters for Active Energy (Classes 1 and 2)
BS EN/ <del>IEC 60524</del> <u>62053-11</u>	Class 0.5, 1 and 2 Alternating Current Watt-Hour Meters.
BS 7856	Code of Practice for Design of Alternating Current Watt-Hour Meters for Active Energy (Classes 1 & 2)
BS EN/ <del>IEC 64268</del> <u>62053-23</u>	Alternating Current Static Var-Hour Meters for Reactive Energy (Classes 2 and 3).
<del>BS 5685 Part 4</del>	<del>Specification for Class 3 Var-Hour Meters</del>
<del>BS EN/IEC Standard 44-361869-4</del>	Instrument Transformers - Combined Transformers
<del>BS EN/IEC Standard 48561869-2</del>	Current Transformers
<del>BS EN/IEC Standard 48661869-3</del>	Voltage Transformers
BS EN/ <del>IEC 64407</del> <u>62056-21</u>	Data Exchange for Meter Reading, Tariff and Load Control. Direct Local Exchange.
Balancing and Settlement Code	Section X; Annex X-1 and Section L and BSC Procedures
Code of Practice Four	Code of Practice for Calibration, Testing and Commissioning Requirements for Metering Equipment for Settlement Purposes
BSC Procedures	See BSC Procedures Index
Electricity Act 1989	Schedule 7, as amended by Schedule 1, to the Competition and Services (Utilities) Act 1992.
Meter Operation Code of Practice Agreement	Agreement between Meter Operators and Distribution Businesses governing arrangements for safety and technical competence
Standard Frequency and Time Signal Emission	International Telecommunication Union - RTF.460 (ISBN92-61-05311-4)

<sup>2</sup> Metering Equipment should be tested and stamped to the latest iteration of the applicable standard named in this document at the time of initial registration.

*Amend Section 5.1 as follows:*

## **5.1 Measurement Transformers**

The terms "current transformer" and "voltage transformer" used in 5.1.1 and 5.1.2 do not preclude the use of other measuring techniques with a performance equal to that specified for such measurement transformers.

For each circuit where current transformers (CT) and/or voltage transformers (VT) are used, they shall meet the requirements set out in clauses 5.1.1 and 5.1.2.

Additionally, where a combined unit measurement transformer (VT & CT) is provided the 'Tests for Accuracy' as covered in clause 8 of ~~BS EN/IEC Standard 44-361869-4~~ covering mutual influence effects shall be met.

### **5.1.1 Current Transformers**

Where required, one set of current transformers to ~~BS EN/IEC Standard 18561869-2~~ with a minimum standard of accuracy to Class 0.5, shall be provided per circuit. Preferably, the current transformers shall be dedicated for Settlement purposes, but the CTs may be used for other purposes provided the overall accuracy requirements in clause 4.3.1 are met and evidence of the value of the additional burden is available for inspection by the Panel or the Technical Assurance Agent.

The additional burden shall not be modified without prior notification to the Panel , and evidence of the value of the modified additional burden shall be available for inspection by either the Panel or the Technical Assurance Agent.

CT test certificates showing errors at the overall working burden or at burdens which enable the working burden errors to be calculated shall be available for inspection by the either the Panel or the Technical Assurance Agent. Where CT test certificates are not available and the CTs can be verified as class 0.5 or better and are installed on an LV installation, the extreme errors for the accuracy class shall be assumed.

The total burden on each current transformer shall not exceed the rated burden of such CT.

### **5.1.2 Voltage Transformers**

Where required a voltage transformer to ~~BS EN/IEC Standard 18661869-3~~ with a minimum standard of accuracy to Class 1 shall be provided for the metering of a circuit. The voltage transformer may be used for other purposes provided the overall accuracy requirements in clause 4.3.1 are met and evidence of the value of the additional burden is available for inspection by either the Panel or the Technical Assurance Agent.

The additional burden shall not be modified without prior notification to the Panel , and evidence of the value of the modified additional burden shall be available for inspection by either the Panel or the Technical Assurance Agent.

A VT test certificate(s) showing errors at the overall working burden(s) or at burdens which enable the working burden errors to be calculated shall be available for inspection by either the Panel or the Technical Assurance Agent.

The total burden on each secondary winding of a VT shall not exceed the rated burden of such secondary winding.

The VT supplies shall be fused as close as practicable to the VT, with a set of isolating links, suitably identified provided locally to the Metering Equipment.

#### 5.1.3 Measurement Transformers Installed on Existing Circuits

Where circuits, other than those newly installed, are to be metered to this Code of Practice and where the installed measurement transformers do not comply with the Class accuracies specified in clauses 5.1.1 & 5.1.2, then such measurement transformers may be used providing the following requirements and those in clause 4.3.4 are met.

- (i) Where subsequently a significant alteration to the primary plant (e.g. a switchgear change) is carried out, new measurement transformers as detailed in clauses 5.1.1 and 5.1.2, shall be provided.
- (ii) In all other respects the requirements of clauses 5.1.1 and 5.1.2 are met, except that where test certificates are not available other documentary evidence as referred to in clause 4.2.2 shall be available.

*Amend Section 5.3 as follows:*

### 5.3 Meters

The Meters may be either static or induction disc types.

For each circuit, Active Energy Meters shall be supplied which shall meet the requirements of either BS EN/~~IEC 61036~~IEC 62053-21 Class 2 or BS EN 50470-3 Class A or BS EN/~~IEC 60521~~IEC 62053-11 and BS 7856 Class 2.

Active Energy Meters provided for the metering of supplies to customers shall be in accordance with Schedule 7 of the Electricity Act 1989.

For each circuit, Reactive Energy Meter(s) shall be supplied which shall meet the requirements of ~~either~~ BS EN/~~IEC 61268~~IEC 62053-23 Class 3 ~~or BS 5685 Part 4~~.

Active Energy Meters shall be configured such that the number of measuring elements is equal to or one less than the number of primary system conductors. These include the neutral conductor, and/or the earth conductor where system configurations enable the flow of zero sequence energy.

All Meters supplied via measurement transformers shall be set to the actual primary and secondary ratings of the measurement transformers and the ratios displayed as follows:-

- (i) For Meters separate from the display and/or Outstation the ratios shall be recorded on the nameplate of the Meter.
- (ii) For static Meters combined with the display and/or the Outstation, the ratios shall be displayed and downloaded during the interrogation process. In addition, the compensation factor that has been applied for measurement transformer errors and/or system losses, where this is a constant factor applied at security level 3 shall be similarly displayed and downloaded.

All Meters shall include a non-volatile Meter Register of cumulative energy for each measured quantity (see 4.1.1). The Meter Register(s) shall not roll-over more than once within the normal Meter reading cycle.

Meters which provide data to separate Outstations shall for this purpose provide an output per measured quantity (see 4.1.1).

For Meters using electronic displays due account shall be taken of the obligations to obtain Meter Readings, even when the circuit is de-energised.

All Meters shall be labelled or otherwise be readily identifiable with respect to their associated circuit(s), and in accordance with Appendix B.

*Amend Section 5.6.1 as follows:*

5.6.1 Local Interrogation

- (i) An interrogation port shall be provided for each Outstation which preferably shall be an opto port to BS EN/~~IEC 61850-21~~IEC 62056-21, and with a serial protocol such as BS EN/~~IEC 61850-21~~IEC 62056-21.