

## CP1505 'Allowing 'off site' Commissioning of Current Transformers (CTs) preinstalled in cut outs or switchgear at manufacture for use in Low Voltage (LV) installations'



### Committee

Supplier Volume Allocation Group



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### About This Document

The purpose of this Change Proposal (CP) 1505 Consultation is to invite BSC Parties, Party Agents and other interested parties to provide their views on the impacts and the merits of CP1505. The Imbalance Settlement Group (ISG) and Supplier Volume Allocation Group (SVG) will then consider the consultation responses before making a decision on whether or not to approve CP1505.

There are three parts to this document:

- This is the main document. It provides details of the solution, impacts, costs, and proposed implementation approach. It also summarises the ISG and SVG's initial views on the proposed changes.
- Attachment A contains the proposed redlined changes to deliver the CP1505 solution.
- Attachment B contains the specific questions on which we seek your views. Please use this form to provide your response to these questions, and to record any further views or comments you wish to be considered.

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# 1 Why Change?

## Background

[Code of Practice \(CoP\) 4 'The Calibration, Testing and Commissioning Requirements of Metering Equipment for Settlement Purposes'](#) details the requirements for Commissioning Metering Equipment for Settlement purposes.

CoP4 Sections 5.5.2 and 6.2 (Half Hourly (HH) and Non Half Hourly (NHH) respectively) detail the required output of the Commissioning tests and state that these tests should be conducted 'on site':

*'Commissioning tests on site shall be performed to confirm and record ....'*

Therefore, the Metering Equipment must be in situ upon Commissioning to be compliant to the CoP4 requirements.

## What is the issue?

Whilst Commissioning tests are required, it is not always practical or convenient for these to be completed 'on site' where the Metering Equipment is used in low voltage (LV) installations. This is the case for current transformers (CTs) preinstalled in cut outs or switchgear at the manufacturer.

In some installations, CTs are delivered in sealed units and have already been tested (and certain requirements of CoP4 confirmed) by the manufacturer 'off site' (i.e. in the factory). In these instances it may not be cost effective or necessary to complete all Commissioning tests 'on site', as elements of accuracy, such as ratios and polarity will have been confirmed at manufacture. Furthermore, it may not be practicable to perform tests on site as the sealed design of the equipment prevents tampering of the transformers between manufacture and delivery for connection. For this reason it may not be physically possible to access the CTs prior to energisation (the preferred Commissioning test method for LV connections of this type) and so meaningful Commissioning tests cannot be completed easily 'on site'.

For High Voltage (HV) and Extra HV (EHV) Metering Equipment, multi-ratio CTs may be used. Therefore 'on site' Commissioning tests are necessary to confirm the correct configuration of the equipment.



### What counts as Metering Equipment?

Defined in Section X Annex X-1 'General Glossary' of the Balancing and Settlement Code (BSC) as Meters, measurement transformers (voltage, current or combination units), metering protection equipment including alarms, circuitry, associated Communications Equipment and Outstations and wiring.



### What counts as low voltage?

CP1505 uses the LV definition listed in The Electricity Supply and Continuity Regulations 2002: 'In relation to alternating current, a voltage exceeding 50 volts measured between phase conductors (or between phase conductors and earth), but not exceeding 1000 volts measured between phase conductors (or 600 volts if measured between phase conductors and earth), calculated by taking the square root of the mean of the squares of the instantaneous values of a voltage during a complete cycle.'



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### Proposed solution

This change proposes to add three new paragraphs and a new bullet point into CoP4. These additions specify that CTs preinstalled in cut outs or switchgear at manufacture may be Commissioned 'off site'. This is conditional on the 'off site' tests being completed in line with requirements detailed in Sections 5.5 and 6.2 (Half Hourly (HH) and Non Half Hourly (NHH) respectively) of CoP4.

Where CTs are owned by a BSC Party, that Party shall be responsible for ensuring the requirements of the aforementioned Sections of CoP4 are performed on its Metering Equipment up to and including the Testing Facilities. Where the CTs are not owned by a BSC Party, the Registrant of the Metering System, via its appointed Meter Operator Agent (MOA), shall be responsible for ensuring these requirements are met.

CP1505 also proposes an amendment to the existing footnote regarding the instruments used for Commissioning (7). The addition shall confirm responsibility and traceability of the Commissioning tests completed 'off site'.

The added text this change proposes gives a BSC Party the ability to Commission CTs 'off site' whilst emphasising the responsibility for ensuring full Commissioning of the Metering System is completed to the current CoP4 standard. It also specifies that some 'on site' tests will still be required to confirm the overall accuracy of the Metering System (as per the relevant CoP), such as the connections up to the Meter and the Meter itself.

### Proposer's rationale

It has been brought to ELEXON's attention by a number of market participants - both BSC Parties (Licensed Distribution System Operators (LDSOs)) and non-BSC Parties (Independent Connection Providers (ICPs)) - that the requirement in CoP4 to Commission Metering Equipment 'on site' is not always practical or possible. Commissioning of Metering Equipment would be more cost efficient if completed 'off site'. The current requirement to Commission 'on site' causes duplication of testing, which is unnecessarily resource intensive and time consuming. In some instances, the CTs may not be accessible to complete Commissioning 'on site' where modern design of the sealed unit does not easily allow access.

#### CP Consultation Question

Do you agree with the CP1505 proposed solution?

*Please provide your rationale.*

We invite you to give your views using the response form in Attachment B

### Proposed redlining

Attachment A contains the proposed redlined changes to CoP4 to deliver the CP1505 solution.

### CP Consultation Question

Do you agree that the draft redlining delivers the CP1505 proposed solution?

*If 'No', please provide your rationale.*

We invite you to give your views using the response form in Attachment B

## 3 Impacts and Costs

### Central impacts and costs

#### Central impacts

CP1505 will require changes to CoP4, which is jointly owned by the ISG and SVG. No Central System changes are required for this CP.

Central Impacts	
Document Impacts	System Impacts
<ul style="list-style-type: none"><li>CoP4</li></ul>	<ul style="list-style-type: none"><li>None</li></ul>

#### Central costs

The central implementation costs for CP1505 will be approximately £240 (one ELEXON working day to implement the necessary document changes).

### BSC Party & Party Agent impacts and costs

We expect this change to have an impact on Distribution System Operators (DSOs). HH Meter Operator Agents (HHMOAs) may also potentially be impacted when Commissioning CTs that are not owned by a BSC Party.

CP Consultation Questions
Will CP1505 impact your organisation? <i>If 'Yes', please provide a description of the impact(s) on your organisation and any activities which you will need to undertake between the approval of CP1505 and the CP1505 Implementation Date (including any necessary changes to your systems, documents and processes). Where applicable, please state which of the roles that you operate as will be impacted and any differences in the impacts between each role.</i>
Will your organisation incur any costs in implementing CP1505? <i>If 'Yes', please provide details of these costs, how they arise and whether they are one-off or on-going costs.</i>
Will your organisation accrue any procedural benefits or financial savings as a result of the implementation of CP1505? <i>If 'Yes', please provide details of these benefits or savings and how they will be accrued.</i>
We invite you to give your views using the response form in Attachment B

## 4 Implementation Approach

### Recommended Implementation Date

CP1505 is proposed for implementation on **1 November 2018** as part of the November 2018 BSC Release.

The November 2018 Release is the next appropriate Release that can include this CP.

#### CP Consultation Question

Do you agree with the proposed implementation approach for CP1505?

*Please provide your rationale.*

We invite you to give your views using the response form in Attachment B

### ISG's initial views

CP1505 was presented to the ISG for information at its meeting on 20 March 2018 ([ISG203/04](#)).

ISG members initially questioned the level of Commissioning that could currently be completed in line with CoP4. The ISG also questioned how many MW of load had been installed under the current arrangements in order to gauge the potential materiality of the issue. ELEXON responded that the proposer had installed 650 LV installations within the last 12 months, representing approximately 160MW load. Post meeting, it was confirmed as not possible to Commission CTs pre-installed in cut outs or switchgear via prevailing load (after energisation) due to the physical inaccessibility of the test terminals. However, it is possible to Commission (pre-energisation) via injection testing, which is already required for Central Volume Allocation (CVA) Metering Systems. This is not the case for Supplier Volume Allocation (SVA) Metering Systems and Parties argue that primary injection for CoP4 LV sites is impractical and not cost effective - particularly when elements of these tests have already been completed by the manufacturer offsite.

ISG members questioned the point at which manufacturers complete the Commissioning tests and whether this was at the point of physical manufacture or at the point of sale. The ISG members noted concern regarding the time between the installations being initially tested and then the point of installation on site, and questioned the point at which assurance would be provided. Members were concerned that CTs accuracy could degrade between the point of manufacture and point of installation or through adverse and lengthy transportation conditions. In turn they asked if the certificates of assurance are time limited. It has been clarified by the proposer that the LV installations are tested at the point of manufacture and the installations are then shipped directly to site (approximately 3-4 days). ELEXON did note a possible risk of CTs being damaged through adverse and lengthy travel conditions. Any such damage would be identified by the MOA. This would be ensured through the MOA's additional site testing which is still required under CoP4.

The ISG questioned whether, if tests have been completed by the manufacturer, there would be assurance that the installation was fit for purpose on site. An ISG member explained that the DNO requires (time limitless) certificates that testing has been completed for audit purposes and therefore certificates are retained for each individual asset.

### SVG's initial views

CP1505 was presented to the SVG for information at its meeting on 27 March 2018 ([SVG206/08](#)).

The SVG did not provide any direct comments on CP1505.

## Appendix 1: Glossary & References

### Acronyms

Acronyms	
Acronym	Definition
BSC	Balancing and Settlement Code ( <i>industry Code</i> )
CP	Change Proposal
CoP	Code of Practice
CPC	Change Proposal Circular
CT	Current Transformer
DSO	Distribution System Operator
EHV	Extra High Voltage
HH	Half Hourly
HV	High Voltage
HHMOA	Half Hourly Meter Operating Agent
ICP	Independent Connection Provider
ISG	Imbalance Settlement Group ( <i>Panel Committee</i> )
LV	Low Voltage
NHH	Non Half Hourly
SVG	Supplier Volume Allocation Group ( <i>Panel Committee</i> )

### External links

External Links		
Page(s)	Description	URL
2	Code of Practice 4: The Calibration, Testing and Commissioning Requirements of Metering Equipment for Settlement Purposes	<a href="https://www.elexon.co.uk/bsc-and-codes/bsc-related-documents/codes-of-practice/">https://www.elexon.co.uk/bsc-and-codes/bsc-related-documents/codes-of-practice/</a>
7	ISG203 meeting ELEXON webpage	<a href="https://www.elexon.co.uk/meeting/isg-203/">https://www.elexon.co.uk/meeting/isg-203/</a>
7	SVG206 meeting ELEXON webpage	<a href="https://www.elexon.co.uk/meeting/svg-206/">https://www.elexon.co.uk/meeting/svg-206/</a>