

Metering Dispensation D/505 – Measurement Transformer Standards

ISG238

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Summary **Elxon has proposed a lifetime Generic Metering Dispensation (D/505) from Code of Practice (CoP) 1, 2, 3, 4, 5 and 10 for the use of measurement transformers of a different IEC standard from the one specified in the relevant CoP so long as the accuracy class and specified limits of error specified within the relevant IEC standard are unchanged. We invite the ISG to approve the Generic Metering Dispensation D/505 on a lifetime basis.**

1. BSC requirements

- 1.1 [Section L](#)¹ of the Balancing and Settlement Code (BSC) requires all Metering Equipment to either:
- comply with the requirements set out in the relevant Code of Practice (CoP) at the time the Metering System is first registered for Settlement under the BSC (L3.2.2); or
 - be the subject of, and comply with, a Metering Dispensation (L3.4).
- 1.2 Section L allows the Registrant of a Metering System to apply for a Metering Dispensation if, for financial or practical reasons, Metering Equipment will not or does not comply with some or all the requirements of a CoP.
- 1.3 The process for applying for a Metering Dispensation is set out in [BSCP32](#)².

2. Confidentiality

- 2.1 BSCP32 allows the Metering Dispensation applicant to request confidentiality via the application form (BSCP32/4.1).
- 2.2 In this case, the application is a Public application due to the nature of the dispensation.

3. Background to Metering Dispensation D/505

- 3.1 An objective of the Metering CoPs is to ensure that metered data submitted for Settlement is accurate and this is done through; amongst other methods, specifying the limits for the Overall Accuracy of Metering Equipment. For accuracy the relevant items of Metering Equipment are the Voltage Transformer (VT), Current Transformer (CT) and the Meter(s). The relevant CoP will specify the individual accuracy requirements for each item of Metering Equipment.
- 3.2 The International Standards for all electrical, electronic and related technologies are prepared and published by the International Electrotechnical Commission (IEC). The CoPs use the IEC standard for CTs, VTs and combined transformers. All IEC standards are subject to periodic review.

¹ 'Metering'

² 'Metering Dispositions'

- 3.3 The British Standards Institution (BSI) will decide whether to adopt IEC standards for the United Kingdom and where they do will add 'BS EN' before the IEC reference.
- 3.4 For the purposes of Settlement the relevant part of the IEC standards are the accuracy classes and associated limits of error specified.

4. Metering Dispensation application D/505

- 4.1 When the IEC standard is updated; for example the current VT standard is IEC 61869-3 and the previous version was IEC 60044-3, the CoPs refer to an obsolete version of the standard until such time that the CoPs are updated. Where the IEC standard update is only an amendment the reference number does not change and only a year reference is added.
- 4.2 Elexon went through an exercise ([CP1508](#)) to update the standards referred in the CoPs to the latest versions for the June 2019 BSC Release.
- 4.3 Manufacturers of Metering Equipment have to manufacture to the new standard either from the date of publication or by any deadline specified in a crossover period to allow changes for the new standard to be implemented.
- 4.4 Changes in the IEC standard references have a direct impact on BSC Parties and Equipment Owners as they may have purchased CTs and VTs while the previous standard was in effect but not installed and registered the Metering System until the latest standard was in effect. As mentioned in 1.1, Metering Equipment needs to be compliant with the relevant CoP at the time the Metering System is first registered for Settlement.
- 4.5 Similarly to 4.3, where the IEC standard is updated and there is a period of time required for Elexon to raise a Change Proposal to update the CoPs to the latest reference number, BSC Parties and Equipment Owners may have purchased CTs and VTs to the latest standard where the CoP refer to the previous version.
- 4.6 Where the accuracy class and the limits of error have not changed there is no risk to Settlement where CTs and VTs have been manufactured under a version of the standard that is not the one referred to in the CoPs. Elexon have analysed the accuracy class history and limits of error for CTs and VTs. The available accuracy classes and limits of ratio error and limits of phase displacement from 1993 to the present have not changed.
- 4.7 The only options available to BSC Parties and Equipment Owners is to have stranded stock which will have a financial impact (or delay using it in the scenario described in 4.5) or apply for a site specific Metering Dispensation to use a different standard from the one specified in the relevant CoP. The latter having cost implications on BSC Parties applying and Elexon processing a large number of Metering Dispositions.

5. Consultation Response

- 5.1 BSC Section L 3.4.5 requires BSCCo to consult with all BSC Parties prior to a Generic Metering Dispensation being approved.
- 5.2 Elexon issued a Generic Metering Dispensation consultation on 16 November 2020, there was one respondent.
- 5.3 The respondent supported the Generic Metering Dispensation on a lifetime basis as (for full response see Appendix A) "It is necessary for industry parties to hold stock of equipment such as CTs/VTs so that they are available for issue to customer projects or post-fault replacement, etc. on demand. Holding such stock is good industry practice. "

6. MDRG comments

- 6.1 We circulated the Metering Dispensation application to the Metering Dispensation Review Group (MDRG) for comments.
- 6.2 Two of the four MDRG members responded to the consultation.
- 6.2.1 The two respondents raised concerns over the possibility of measurement transformers being manufactured to no recognised standard due to wording in the Generic Metering Dispensation Application (Attachment A). Elexon responded to these concerns clarifying that any CT and VT must be manufactured to an IEC standard

that has the same accuracy class as required by the relevant CoP and the same limits of ratio error and limits of phase displacement. Elexon reworded the Generic Metering Dispensation application.

- 6.2.2 One respondent raised a concern that there was no time limit and CTs and VTs could be purchased to an out of date standard. Elexon clarified that this Generic Metering Dispensation was to use up existing stocks of CTs and VTs.
- 6.2.3 No response has since been received.

7. NETSO comments

- 7.1 We circulated the Metering Dispensation application (and attachments) to the National Electricity Transmission System Operator (NETSO) for comments.
- 7.2 We have not received a response from NETSO at the time of writing.

8. Elexon's view

- 8.1 Elexon supports this lifetime Metering Dispensation application on the condition that Elexon will confirm that the accuracy classes specified in the relevant CoPs are still in the relevant IEC standard and the limits of error and limits of phase displacement have not changed; and that BSI have adopted the IEC standard as:
- Overall Accuracy will be maintained within the limits defined within the relevant CoP;
 - The VT accuracy classes and associated limits of error and limits of phase displacement must be the same;
 - The CT accuracy classes and associated limits of error and limits of phase displacement must be the same; and
 - The use of CTs and VTs compliant with an earlier version of the IEC standard is limited to using up existing stock held by a BSC Party or Equipment Owner.

9. Recommendation

- 9.1 We invite the ISG to:
- a) **APPROVE** Generic Metering Dispensation D/505 for the use of measurement transformers of a different IEC standard specified in the relevant CoP so long as the accuracy class and specified limits of error and limits of phase displacement specified within the IEC standard are unchanged on a lifetime basis.
- b) **NOTE** that Generic Metering Dispensation D/505 will also be presented for decision to the SVG on 2 February 2021.

Attachments

Attachment A – Metering Dispensation application (D/505)

For more information, please contact:

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Appendix A – Consultation Response

Company Name:	UK Power Networks
No. of BSC Parties Represented	3
Parties Represented	EELC, LOND, SSEB

Q	Question	Response ¹	Rationale
1.	Do you support the proposed generic Metering Dispensation (D/505) against current, and future (Issues and) versions of Code of Practice (CoP) 1, 2, 3, 4, 5 and 10 to allow the use of current transformers, voltage transformers and combined transformers manufactured to the previous IEC standard to be installed from the publication date of the current standard? (currently for current transformers the current version is IEC 61869-2 (2012) and the previous version is IEC 60044-2; for voltage transformers the current version is IEC 61869-3 (2011) and the previous version was IEC 60044-3; and for combined transformers the current version is IEC 61869-4 (2013) and the previous version was IEC 60044-3)	Yes	It is necessary for industry parties to hold stock of equipment such as CTs/VTs so that they are available for issue to customer projects or post-fault replacement, etc. on demand. UK Power Networks holds such a stock of all these type of transformers under IEC 61869-2/3/4 for current and future use. Holding such stock is good industry practice. If UK Power Networks did not hold such stocks then for example levels of customer services would be lower and the lead time for replacement following faults would be longer, both of which would be detrimental to the Electricity Industry as a whole (and the latter having an impact on the accuracy of the data entering Settlement). It would, therefore, be unreasonable for the BSC to invalidate necessary inventory by bureaucratic fiat. This is particularly true in the current situation where in the latest version of the IEC standard for the relevant CoP the accuracy class requirements for a measurement transformer are unchanged.
2.	Do you support the proposed generic Metering Dispensation (D/505) against current, and future (Issues and) versions of Code of Practice (CoP) 1, 2, 3, 4, 5 and 10 to allow the use of current transformers, voltage transformers and combined transformers manufactured to the latest IEC standard to be installed from the publication date of the current standard while the CoPs go through a Change Proposal to update the CoPs to the latest version of the IEC standards?	Yes	
3.	Do you support the condition on the Metering Dispensation that it is only in effect against a CoP so long as the accuracy class requirements for a measurement transformer are unchanged in the latest version of the IEC standard for the relevant CoP?	Yes	
4.	Do you support Elexon's recommendation to extend the scope of the application to include the British Standards as these are identical to the IEC standards e.g. BS EN 61869-3 for voltage transformers as this is identical to IEC 61869-3?	Yes	
5.	Do you support Elexon's recommendation that a measurement transformer manufactured against the previous IEC standard can be installed so long as the accuracy class requirements for a	Yes	

	measurement transformer are unchanged in the latest version of the IEC standard for the relevant CoP?		
6.	Would you prefer that there should be a limited period that a measurement transformer manufactured against the previous IEC standard can be installed?	No	
7.	If question 5 had been answered as yes what period (in years) would you propose for the time period from the date of publication of the current IEC standard?		5 years.
8.	Do you know how many measurement transformers you have in stock manufactured to the previous IEC standard (i.e. IEC 61869-2, IEC 61869-3 and IEC 61869-4)?	Yes	200
9.	Do you have an estimate of when the measurement transformers you have in stock manufactured to the previous IEC standard (i.e. IEC 61869-2, IEC 61869-3 and IEC 61869-4) would be installed by?	No	Some of the older stock such as Ritherden cabinets will continue to be installed where and when required. We envisage the other we have in stock will be used during a 5 year period