

Industry request to review Metering Codes of Practice

Imbalance Settlement Group (ISG) and Supplier Volume Allocation Group (SVG)

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Summary **The Association of Meter Operator (AMO) has requested a BSC Issue is raised to review certain requirements in the Codes of Practice (CoP). This paper invites the ISG and SVG to agree that this review should be initiated, to sponsor the review and comment on the timing and scope of the review.**

1. Background

- 1.1 Codes of Practice (CoPs) detail the technical requirements for Metering Systems. These versions are not time limited in the same way as other BSC documents. When Metering Equipment is first registered in Settlement, it must comply with the requirements which are set out in the relevant Code of Practice in place at that time.
- 1.2 There are different CoPs depending on the maximum rates of electricity flow and different CoPs for Half Hourly (CoP1, CoP2, CoP3, CoP5, CoP6, CoP7 and CoP10) and non-Half Hourly Metering Systems (CoP8 and CoP9). CoP4 is different as it sets out the minimum requirements for calibrating, testing and commissioning the Metering Equipment installed in Metering Systems under all the other CoPs. The CoPs are owned by the ISG and SVG as detailed in Appendix 1.
- 1.3 The CoPs have not been reviewed in entirety since implemented in the New Electricity Trading Arrangements (NETA) in 2001¹.
- 1.4 CoPs 1 and 2 were reviewed in 2005 and took four meetings to complete. CoP4 was reviewed in 2007/8 and took 13 meetings to complete. The other CoPs have not been reviewed and a wholesale review has never taken place.
- 1.5 In addition, the CoPs have evolved over time. Significant changes include:
 - CoP10 was created from CoP5 and implemented in February 2009 ([CP1261](#));
 - Current Transformer requirements were added to CoP 10 in June 2009 ([CP1273](#)) in response to legislative changes;
 - Metering Equipment standards were updated in CoPs 1, 2, 3, 5 and 10 and [BSCP601](#) 'Metering Protocol Approval and Compliance Testing' in June 2019 ([CP1508](#)).
- 1.6 Since the implementation of [P370](#) 'Allow the Panel to designate non-BSC Parties to raise Modifications' on 3 April 2020, Elexon, as well as any interested third party including Party Agents or trade bodies, have been able to raise BSC Issues (but not Change Proposals).

¹ We are not aware of them being reviewed as part of NETA and may not have been reviewed since their creation in the early 1990's.

2. Issue

- 2.1 The Association of Meter Operators has asked Elexon to raise the BSC Issue in Attachment A titled 'Review of certain requirements in the BSC metering Codes of Practice (CoPs)'.
- 2.2 Whilst the review is of all of the CoPs, it can be anticipated that other items will surface as part of the review. The Issue highlights nine specific items for consideration. Generally, the items identified for consideration aim to aid clarity and remove any perceived ambiguity.
- 2.3 For example: "CoP 1, 2 & 3 are defined by Circuit Capacity, whereas CoP 5 & 10 are based on maximum demand. The aim of consideration is to simplify the boundary definitions to remove the current ambiguity which leads to different interpretations."
- 2.4 We have also highlighted four further items that could be included in the scope of the review, including an action from the ISG (action no. 214/01) related to cable loss materiality. The Proposer is open to including these. These are highlighted in yellow in the Issue Form.
- 2.5 We believe this is a significant undertaking for both industry and Elexon. Whilst we agree in principle that the CoPs would benefit from a review, the value it will deliver and impact on the Settlement Risks remains unclear or low. We summarise our current view of this in Appendix 2. The raiser of the Issue does not agree with all of the stated ratings and highlights that the effects of ambiguity have a cumulative impact on risk.
- 2.6 We believe the CoPs remain fit for purpose and use and therefore any review should be considered a low priority.

3. Approach

Committee Involvement

- 3.1 These types of review have typically been initiated by Elexon and/or the Panel Committees. For example, the Panel agreed the scope of the non-standard Balancing Mechanism Units and Metering Dispensations review in May 2016, which concluded in March 2017 ([264/08](#)). It's worth noting that this review assumed the overall level of assurance provided by the CoPs remains appropriate. The Panel approved the [Performance Assurance Framework Review](#) in March 2017, which recently concluded and the Trading Disputes Committee are the sponsors of a current [review of the Trading Disputes processes](#).
- 3.2 Should this review progress, we therefore recommend that the ISG/SVG sponsor the review and each nominate a sponsor to attend the Issue Group meetings.
- 3.3 We will also keep the Performance Assurance Board (PAB) informed of relevant information regarding Settlement Risks and to inform the Panel of the review. In particular, we would expect the PAB to reassess the risk to Settlement following the implementation of any changes.

Scope

- 3.4 The review of the CoPs will consider each CoP individually and across the CoPs, as appropriate. The Issue Form details specific areas for consideration. These form the scope.
- 3.5 However, as the review progresses other areas to address may be identified, in addition to the ones identified in the Issue Form.

Big bang versus iterative

- 3.6 These reviews have also typically reported its recommendations at the end of the review, after which any Modifications or Change Proposals are raised and progressed. This can take some time, especially where a number of changes are needed in the same area, as the work will pull on the same resource, which must also support other activities.
- 3.7 An alternative approach would look to deliver any identified 'quick wins' as they are identified, rather than waiting until the end of the review. An example would be removal of CoPs 6, 7, 8 and 9 which are regarded as obsolete. This will extend the duration of the review, but enable the industry to realise the benefits sooner. The risk with such an approach is that latter changes could supersede or make obsolete earlier changes. We have identified one such risk with a review of the CoPs.

- 3.8 The Issue Group could consider combining CoPs 1, 2, 3, 5 and 10 into a single CoP and highlight the areas where there are differences. A number of the CoP requirements are identical apart from a few changes (e.g. Metering Equipment accuracy requirements).
- 3.9 This approach has been proposed with CoP11 for Asset Metering in [P375](#) 'Settlement of Secondary BM Units using metering behind the site Boundary Point', which at the time of writing is at the final stages of Workgroup consideration. This approach was also taken in supporting the Department of Energy and Climate Change (DECC, now BEIS) for its Electricity Market Reform programme in the Capacity Market Rules Schedule 7 for Bespoke Metering. Elexon believes it would significantly simplify the documents for industry, as they would only need to look in one place, and the management of the documents for Elexon. However, if this approach is adopted, it could make some of the other recommended changes obsolete or at best be a less efficient route.
- 3.10 We initially believe, with support from the Proposer, that the approach of delivering 'quick wins' along the way is appropriate, but in order to validate this approach, we propose to use the first meeting to:
- Agree the scope;
 - Identify any dependencies between the items;
 - Prioritise the different items; and
 - Agree the delivery plan and approach.
- 3.11 To support the delivery of the quick wins, the Proposer has agreed to work with Elexon and the Issue Group to draft redlining for Issue Group discussion. This will speed up the progression of any changes and ensure the redlining delivers the intent of the Issue Group recommendation.
- 3.12 As changes are recommended by the Group and in advance of raising them, we will bring the recommended changes to the ISG/SVG for comment and consult industry, where needed. Under this approach, following Committee comment, for CPs, we could issue any CPs straight for consultation, and for any fully developed Modifications we could recommend to the Panel that the Modifications are sent straight to the Report Phase. Where further development of a Modification solution is needed the Modification should be submitted to a Workgroup for assessment. At this stage it is not considered that any Modifications are necessary.

4. Proposed timetable and resources

- 4.1 Although the proposer would like to commence earlier, Elexon propose to start the review in January 2021. We believe this will give sufficient time to mobilise and prepare for the review, taking into consideration existing commitments. The review will require the following resources from Elexon. We have provided estimated mean resource effort for the review, recognising this will vary at different stages of the review:
- Lead Analyst – point of contact with industry for the Issue, maintain the plan, arranging and facilitating meetings and writing up discussions and the Issue Report. Also initiate any identified changes. 0.25 Full Time Equivalent (FTE).
 - Design Authority – support rationalisation of issues and development of solutions, providing holistic oversight of any recommendations. 0.25 FTE.
 - Metering Expert – draft content for Issue Group and lead on any Issue Group recommendations. 0.5 FTE.
 - Chair – chair Issue Group meetings and sign-off of materials. 0.1 FTE.
- 4.2 To control the risk of significant scope creep and a prolonged review, we propose to limit the review to 12 months, with an additional 6 month contingency to be called upon, with ISG/SVG approval. This may require the Issue Group to prioritise what is reviewed and the changes to progress. The 12 months should include the raising of any 'quick wins.'
- 4.3 We also propose an additional 12 months to raise any changes that are not raised during the review. We expect these changes to be more substantial and will need to be considered alongside other competing demands.
- 4.4 A draft progression plan for comment is in Appendix 3 and is subject to the outcome from the Issue Group meetings, particularly the first meeting.

5. In-flight and upcoming metering changes

- 5.1 The CoP review will call on the same resources within industry and Elexon as do a number of other in-flight changes, detailed below:

Change	Final Report Due Date	Target Implementation Date	Notes
P375 'Settlement of Secondary BM Units using metering behind the site Boundary Point'	December 2020	23 June 2022	Metering work is largely complete (new CoP11), but will require metering expertise to support implementation
CP1530 'Introduction of a formalised process for the validation of measurement transformer ratios by Elexon'	September 2020	25 February 2021	
Issue 88 'Clarification of BSC Arrangements relating to Complex Sites'	December 2020	n/a	Subsequent CPs and Modifications are likely to be raised requiring metering expertise
Issue 87 'Busbar voltage transformer metering for Offshore wind farms under OFTO arrangements'	November 2020	n/a	Any subsequent CP or Mod will require metering expertise support

5.2 Similarly, a number of other metering related changes have been suggested, and subject to further assessment, should be raised:

Change	Business value	Complexity	Current Target raise date
Introducing a CVA Commissioning End-to-End Check	High	Medium	Q4 2020
Reinforcing the fault rectification process	Medium	High	Q3 2021
Amend the timescales for measurement transformer commissioning	Medium	Low	Q1 2021
Informing LCCC of Metering Dispensations which affect CfD Generators	Medium	Low	Q4 2020
Processes for registering and settling export meters within the BSC following the introduction of the Smart Export Guarantee (SEG) and the growth of shared smart meters	Medium	Medium	Q4 2020
Tightening the minimum accuracy classes for Meters (CoP5) and CTs (CoPs 3,5 and 10) ²	Low	Low	Q1 2021
Metering low voltage supplies in Offshore and onshore substations	Low	High	TBC
Mandate the number of Outstation channels to be used for data storage for Settlements purposes.	Low	Low	TBC

The in-flight and upcoming changes are contributing to the proposed start date for the review. It is important to note that the target raise dates are subject to change, as new changes are submitted and circumstances change. There is a risk that new high priority and complex metering changes arrive during the CoPs review. Should the need arise, the 'reinforcing the fault rectification process' change could be pushed back to after the 12 month CoPs review to mitigate this.

6. Recommendations

6.1 We invite the ISG and SVG to:

- a) **AGREE** that the CoPs should be reviewed via a BSC Issue;
- b) **AGREE** with the draft timetable and approach detailed in this paper;
- c) **COMMENT** on the timing and scope;
- d) **NOMINATE** a sponsor for the review; and
- e) **NOTE** that we will initiate the review in January 2021.

² This change is proposed to be included within the scope of this review, for discussion with the Issue Group, before being raised

Attachments

Attachment A – Submitted Issue Form from the Association of Meter Operators

For more information, please contact:

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Appendices

Appendix 1 – CoP Ownership

CoP	Title	Owner
COP_1	Code of Practice for the Metering of Circuits with a Rated Capacity Exceeding 100MVA for Settlement	ISG
COP_2	Code of Practice for the Metering of Circuits with a Rated Capacity Not Exceeding 100MVA for Settlement Purposes	ISG
COP_3	Code of Practice for the Metering of Circuits with a Rated Capacity Not Exceeding 10MVA for Settlement Purposes	ISG and SVG
COP_4	Code of Practice for the Calibration, Testing and Commissioning Requirements of Metering Equipment for Settlement Purposes	ISG and SVG
COP_5	Code of Practice for the Metering of Energy Transfers with a Maximum Demand of up to (and Including) 1MW for Settlement Purposes	SVG
COP_6	Code of Practice for the Metering of Energy Imports Via Low Voltage Circuits Fused at 100 Amps or Less Per Phase for Settlement Purposes	SVG
COP_7	Code of Practice for the Metering of Energy Imports Via Low Voltage Circuits Fused at 100 Amps or Less Per Phase for Settlement Purposes	SVG
COP_8	Code of Practice for the Metering of Import Active Energy Via Low Voltage Circuits for Non-Half Hourly Settlement Purposes	SVG
COP_9	Code of Practice for the Metering of Import and Export Active Energy Via Low Voltage Circuits for Non-Half Hourly Settlement Purposes	SVG
COP_10	Code of Practice for Whole Current Metering of Energy via Low Voltage Circuits for Settlement Purposes	SVG

Appendix 2 – Summary of Issues for consideration

Issue	Benefit	Impact on Settlement Risks
Threshold boundaries between the CoP applicability is open to different interpretations	Remove ambiguity	Low
Use of Half Hourly and non-Half Hourly within the CoPs are no longer appropriate	To simplify and ensure consistency	Low
Requirement in CoP1 and 2, to install duplicate remote communications paths to the Metering Equipment, is overly restrictive and has not kept up with the developments in technology	To provide consistency and simplify	Low
Not clear if the calibration checks and operation checks for main and check meters are being done and whether they are working, as there is currently no requirement to report on this	Support compliance reduce Settlement risk	Low
The current requirements for de-energising a circuit/feeder are inconsistent between the CoPs and do not adopt best practice. This could result in estimated data unnecessarily entering Settlement.	To ensure consistency and remove any ambiguity	Low
CoPs 6, 7, 8 and 9 are regarded as redundant. It is potentially misleading industry and undermining good governance to keep them. To maintain them fully would include wasteful effort by industry.	To remove redundant documents to make it easier to maintain and understand the CoPs	Low
Inconsistent use of energy units (MWh vs. kWh) and the granularity	To aid consistency	Low
The obsolete metering requirements in the CoPs is not robust or clear. This poses a risk of erroneous or estimated data entering Settlement caused by faulty Metering Equipment.	Remove redundant requirements to aid understanding	Low
Remote notification to manned locations of voltage failures is allowed in CoPS 1 & 2. This requires action on the next working day, whereas modern metering equipment should identify this within a day without a dependency on staff in a manned control room.	To ensure still fit for use and reduce risk of incorrect settlement data not being identified/resolved in a timely manner	Low
Combining CoPs 1, 2, 3, 5 and 10 into a single CoP	To simplify and ensure consistency	Low
Criteria to define cable loss materiality	To avoid ambiguity, simplify the process and provide clarity on the methodology for determining cable losses	Low/Medium
Consider the issue on metering with unbalanced loads and if earthing transformers installed at site	To avoid ambiguity and provide clarification	Low
Tightening the minimum accuracy classes for Meters (CoP5) and CTs (CoPs 3,5 and 10))	To simplify the Overall Accuracy process and avoid non-material TAA NC's	Low

Appendix 3 – Proposed Progression Timetable

Event	Date
Raise Issue	4 January 2021
1 st Meeting – agree scope and approach as detailed above	w/c 25 Jan 21
2 nd meeting – review redlining for first batch of quick wins	w/c 8 Feb 21
Progress first batch of quick wins	Feb to Mar 21
3 rd meeting – follow up actions from first meeting, review second batch of quick wins	w/c 22 Mar 21
Progress second batch of quick wins	Mar to Apr 21
4 th meeting – deep review of CoP 1 and 2	w/c 26 Apr 21
5 th meeting – deep review of CoP 3 and 5	May 21
6 th meeting – deep review of CoP 6, 7, 8, 9 and 10	Jun 21
7 th meeting – Mop up from previous meetings	Jul 21
8 th meeting – holistic review of CoPs, including CoP 4 ³ – should they be merged?	Aug 21
9 th meeting – review redlining for third batch of quick wins and final recommendations	Oct 21
Progress third batch of quick wins	Nov to Dec 21

³ We've been doing an informal review of CoP4 already. Currently, this Issue has not identified any specific issues with CoP4. If that remains the case, no CP to CoP4 will be needed. However, the CoPs review may identify something that has a knock on effect to CoP4 and consequently require a CP.