ELEXON

Final CP Report

CP1588 'Mandating Calibration Checks for Check and Main Meters'

Contents

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About This Document

You can find the definitions of the terms and acronyms used in this document in the BSC Glossary[1].

This document is the CP1588 Final Change Proposal (CP) Report which Elexon has published following the final decision from the Imbalance Settlement Group (ISG) and Supplier Volume Allocation Group (SVG) at their meetings on 09 January to approve CP1588.

There are four parts to this document:

- This is the main document. It provides details of the solution, impacts, costs, and implementation approach. It also summarises the ISG and SVG's views on the approved changes and the views of respondents to the CP Consultation, along with the final decision to approve this change.
- Attachment A contains the CP proposal form.
- Attachment B contains the approved redlined changes to deliver the CP1588 solution.
- Attachment C contains the full responses received to the CP Consultation.

[1] https://www.elexon.co.uk/glossary/?show=all

1. Summary

Why change?

Code of Practice (CoP) 4 'The Calibration, Testing and Commissioning Requirements of Metering Equipment for Settlement Purposes'[2] details the requirements for calibration, testing and commissioning of Metering Equipment used for Settlement purposes. The frequency and timing of Meter calibrations is specified in CoP4 as well as the required test points.

There is a lack of industry reporting to confirm whether Meter calibration checks are being carried out on the relevant Metering Equipment which poses a risk to Settlement where a lack of data being reported does not allow any analysis to highlight concerns about Meter accuracy to be carried out.

There is also no process for Elexon to follow in BSCP6013 'Metering Protocol Approval and Compliance Testing' to take action should it be identified that there is an issue with the long term accuracy of a particular Meter Type or, as required, notify the Office of Product Safety and Standards in the Department for Business and Trade where the Meter Type is on Schedule 4[4]

Solution

This CP will create a new section 5.2A in CoP4 to detail the requirements and timescales for end of life sample calibrations. These will focus on Meter Types used in CoP3[5] 'The Metering of Circuits with a Rated Capacity not exceeding 10MVA for Settlement Purposes' and CoP5[6] 'The Metering of Energy Transfers with Max Demand of up to (and including) 1MW for Settlement Purposes', Metering Systems.

Impacts and costs

This CP is approved as a document only change and the estimated central implementation costs for this CP will be approximately <£2K.

Implementation

This CP is approved for implementation on 29 February 2024 as part of the Standard February BSC Release.

Committee Decision

The SVG and ISG committees took the following decisions in their meetings on 9 January 2024:

Not sure where to start?

We suggest reading the following sections:

- Have 5 minutes? Read section 1
- Have 15 minutes? Read sections 1, 4, 5 and 8
- Have 30 minutes? Read all sections
- Have longer? Read all sections and the annexes and attachments

[2] CoP4 'Code of Practice for the Calibration, Testing and Commissioning Requirements of Metering Equipment for Settlement Purposes
[3] BSCP601: Metering Protocol Approval and Compliance Testing
[4] Electricity Act 1989: Statutory register of all pattern approved electricity meters suitable for billing purposes in the UK - Schedule 4: UK nationally approved electricity meters
[5] Code of Practice 3 'The Metering of Circuits with a Rated Capacity not exceeding 10MVA for Settlement Purposes'
[6] Code of Practice 5 'The Metering of Energy Transfers with Max Demand of up to (and including) 1MW for Settlement Purposes'

- **APPROVED** the proposed changes to CoP 4 and BSCP601 for CP1588;
- **APPROVED** CP1588 for implementation on 29 February 2024 as part of the standard February 2024 Release;

2. Why Change?

What is the issue?

CoP 4 details the requirements for calibration, testing and commissioning of Metering Equipment used for Settlement purposes. The calibration requirements for Meters are split into a Type A initial calibration and a Type B or C periodic calibration. The frequency and timing of Meter calibrations is specified in CoP4 as well as the required test points.

There is a lack of Industry reporting to confirm whether Meter calibration checks are being carried out on the relevant Metering Equipment which poses a risk to Settlement where a lack of data being reported does not allow any analysis to highlight concerns about Meter accuracy to be carried out.

Appendix A of CoP4 specifies that for CoP3 and CoP5, after the initial calibration of the Meter pre-installation, there isn't a requirement for a periodic calibration until year 15 for a Type B and year 20 for a Type C. With the low level of capital expenditure, compared to calibration testing, for CoP3 and CoP5 compliant Meters Registrants and Meter Operator Agents (MOAs) are choosing to replace the Meter prior to year 15, or year 10 if subject to a certification period[7] rather than perform a periodic calibration. As a consequence of this Elexon (BSCCo) has no data on the performance of the Meter, in terms of the errors and the drift from the initial calibration, to determine if there is a risk to Settlement posed by the use of a particular Meter Type.

There is also no process for Elexon to follow in BSCP601 to take action should it be identified that there is an issue with the long term accuracy of a particular Meter Type or, as required, notify the Office of Product Safety and Standards in the Department for Business and Trade where the Meter Type is on Schedule 4.

Background

The Issue 93[8] 'Review of the BSC metering Codes of Practice' group discussed an aspect with the intent of defining a process to deal with determining if Meter sample and periodic calibration checks are required to confirm the performance of particular Meter Types. The Workgroup highlighted the need for this requirement to trigger a recognition of a higher risk of failure at end of life and potentially inaccuracy.

The Workgroup arrived at the following areas to consider/progress:

- Parties must adhere to the requirement for completing a calibration (sample and periodic) check, if it is clearly set out in CoP4; and
- It was important to ensure Meter accuracy was known, if Meters were being replaced prior to their periodic calibration check, End of Life testing should be required.

The conclusion from the Issue 93 workgroup provided the below recommendations that were noted and agreed by the Workgroup:

- Continue and reinforce the current calibration check process (periodic and sample calibrations);
- Introduce CoP specific End of Life testing; and

[7] Electricity Act 1989: Statutory register of all pattern approved electricity meters suitable for billing purposes in the UK - Schedule 4: UK nationally approved electricity meters
[8] Issue 93 'Review of the BSC metering Codes of Practice'

- Introduce End of Life testing (CoP specific sample testing of existing Meter Types e.g. CoP3 and CoP5).

The recommendations were presented to, and noted by, the BSC Panel on 8 September 2022[9].

[9] BSC Panel 330/08

3. Solution

Approved solution

This CP will look to create a new section 5.2A in CoP4 to detail the requirements and timescales for end of life sample calibrations. These will focus on Meter Types used in CoP3 and CoP5 Metering Systems.

The Office for Product Safety & Standards (OPSS) In Service Testing (IST) Handbook[10] (May 2022 v3.61) section 7.0 'Sampling plan and criteria for meter populations requiring replacement' specifies the number of samples required for a known population size, as shown in the table below. Columns have been added to detail the percentage of the population range for the upper and lower limit.

Population	Sample Size	Lower % of Population	Upper % of Population
1,201 to 3,200	50	4.2%	1.6%
3,201 to 10,000	75	2.3%	0.75%
10,001 to 35,000	100	1.0%	0.29%
35,001 to 150,000	150	0.43%	0.1%
>150,000	200	0.13%	N/A

The CoP4 end of life sample testing population ranges and sample sizes will be based on the population of a Meter Type an individual Meter Operator Agent is responsible for. As the Meter Types that do not fall under IST Handbook (i.e. over 100 kW and current transformer operated Meters) have significantly lower volumes the population ranges have been amended for the end of life testing sample calibration. The following limits and sample sizes have been developed:

Population	Sample Size	Lower % of Population	Upper % of Population
100 to 500	5	5.0%	1.0%
501 to 2,000	10	2.0%	0.5%
2,001 to 10,000	20	1.0%	0.20%
>10,001	40	0.40%	N/A

An additional process has been added into BSCP601 section 2 'Interface and Timetable Information' for where BSCCo has identified an issue with errors following the analysis of end of life sample calibration test results. This will involve notifying and liaising with the Office of Product Safety and Standards and then making a recommendation to the Panel. This recommendation can be to instruct Parties to remove a particular Meter Type over a transitional period or prevent its continued installation.

Should this CP be approved Elexon will develop a process to identify the volumes of Meter Types a MOA is responsible for in CoP3 and CoP5 and develop a technique to analyse

[10] Office for Product Safety & Standards In Service Testing Handbook

calibration test results to make an assessment, and if required a recommendation, on the accuracy performance of a Meter Type.

Proposer's rationale

This CP will provide an assurance process to confirm whether a Meter Type is still operating within the allowed accuracy limits or is drifting towards, or beyond, the extreme end of the limits. It will also define the steps to be taken where an issue is identified mitigating the risk to Settlement.

Approved redlining

The CP proposes to update CoP4 and BSCP601. The redlining to support this change can be found in Attachment B.

4. Impacts and Costs

BSC Party & Party Agent impacts and costs

Participant impacts

The only impact identified is on Meter Operator Agents who will be required to carry out the additional end of life sample calibrations. They should already have in place the systems and processes for calibration testing as CoP4 requires MOAs to carry out sample calibrations (CoP4 Section 5.2) should they be instructed to do so by BSCCo.

BSC Party & Party Agent Impacts	
BSC Party/Party Agent	Impact
Meter Operator Agents	Medium – perform additional end of life sample calibration testing

Participant costs

Minor on-going costs may be incurred to facilitate additional standards and for internal technical process changes.

Central impacts and costs

Central impacts

The solution in this CP only affects BSC documentation. No BSC Central Systems or Agents will be impacted.

Central Impacts	
Document Impacts	System Impacts
• CoP4 'Code of Practice for the Calibration, Testing and Commissioning Requirements of Metering Equipment for Settlement Purposes'; • BSCP601 'Metering Protocol Approval and Compliance Testing'	• None

Impact on BSC Settlement Risks

Impact on BSC Settlement Risks
CP1588 is anticipated to have a positive impact on reducing Settlement Risks. By having a process to identify Meter Types with errors drifting towards, or beyond, the limits of error and to then develop a transition plan for the removal of impacted Meter Types it will mitigate risk to Settlement and as a result improve Settlement accuracy.

Impact on Market-wide Half Hourly Settlement (MHHS)

Impact on MHHS
None

Central costs

The central implementation costs for CP1588 will be approximately <£2K.

5. Implementation Approach

29 February 2024

This CP will be implemented on 29 February 2024 as part of the Standard February BSC Release.

6. Initial Committee Views

ISG's initial views

At its meeting on 7 November 2023 (271/06), the ISG was invited to note the progression of the CP and provide any comments or additional questions for inclusion in the CP Consultation.

The ISG did not form a quorate committee therefore the members were invited to give their views on the CP1588 via email to which no objections were received.

SVG's initial views

At its meeting on 7 November 2023 (273/06), the SVG was invited to note the progression of the CP and provide any comments or additional questions for inclusion in the CP Consultation.

The SVG made no further comments and did not provide any additional consultation questions.

7. Industry Views

The consultation for CP1588 closed on Friday 8th December 2023. Three responses were received. All of them were unanimously in support of the CP.

A comment was received during the consultation asking for necessity and priority of delivery of this Change Proposal at the start of 2024 (Feb 2024 release). It stated concerns about the volume of industry change running in parallel with MHHS changes during the winter period. It suggested that between the consultation period and the intended release date (Feb 24) there are already multiple industry changes due, assuming this passes consultation late Dec / early Jan it doesn't leave much time to deliver. A response was drafted and emailed to the organisation. No further comments were received after the email.

Two comments were received in response to the question of the impact on the organizations by this Change. They suggested that some internal processes, reporting and documentation needs to be changed to accommodate the new testing when required.

Summary of CP1588 CP Consultation Responses				
Question	Yes	No	Neutral/No Comment	Other
Do you agree with the CP1588 proposed solution?	3	0	0	0
Do you agree that the draft redlining delivers the intent of CP1588?	3	0	0	0
Will CP1588 impact your organisation?	2	1	0	0
Will your organisation incur any costs in implementing CP1588?	2	1	0	0
Do you agree with the proposed implementation approach for CP1588?	3	0	0	0
Do you have any further comments on CP1588?	1	2	0	0

Comments on the proposed redlining

No comments were received.

8. Final Committee Views and Decision

ISG's final views

At their meeting on 9 January 2024 (273/05)[11], the ISG was invited to provide their decision on the CP and provide any comments.

The committee made no further comments and approved the CP for implementation.

SVG's final views

At their meeting on 9 January 2024 (275/03)[12], the SVG was invited to provide their decision on the CP and provide any comments.

The committee made no further comments and approved the CP for implementation.

Final decision

The ISG and SVG have:

- **APPROVED** the proposed changes to Code of Practice (CoP) 4 and BSCP601 for CP1588;
- **APPROVED** CP1588 for implementation on 29 February 2024 as part of the standard February 2024 Release;
- **NOTED** that CP1588 was presented for decision to the
    - SVG on 9 January 2024; and
    - ISG on 9 January 2024.

[11] ISG273 - Elexon BSC
[12] SVG275 - Elexon BSC