ELEXON

CP Assessment Report

CP1572 'Specifying the requirements to provide Single Line Diagrams (SLDs) for High Voltage (HV) and Extra High Voltage (EHV) sites'

Contents

About This Document

Not sure where to start? We suggest reading the following sections:

- Have 5 mins? Read section 1
- Have 15 mins? Read sections 1, 4, 5 and 6
- Have 30 mins? Read all sections
- Have longer? Read all sections and the annexes and attachments
- *You can find the definitions of the terms and acronyms used in this document in the BSC Glossary*

This document is the Change Proposal (CP) Assessment Report for CP1572 which Elexon will present to the ISG at its meeting on 10 January 2023 and the SVG at its meeting on 10 January 2023. The Committees will consider the proposed solution and the responses received to the CP Consultation before making a decision on whether to approve CP1572.

There are 4 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 and the views of respondents to the CP Consultation.
- Attachment A contains the CP proposal form.
- Attachment B contains the proposed redlined changes to deliver the CP1572 solution.
- Attachment C contains the full responses received to the CP Consultation.

Committee

Supplier Volume Allocation Group (SVG)

Recommendation

Approve

Implementation Date

29 June 2023

(June 2023 Release)

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1. Summary

Why change?

Currently there is no requirement in the BSC to produce Single Line Diagrams (SLDs) despite a number of BSC processes requiring an SLD to be submitted. Without the requirement to produce SLDs being specified, some Parties have not felt incentivised to create them.

Solution

A requirement will be added to the relevant Codes of Practice (CoPs) that mandates that an SLD must be created, and be auditable, for new High Voltage (HV) and Extra High Voltage (EHV) Metering Systems, or reconfiguration of HV and EHV sites, e.g. which may introduce additional Boundary Point connections or an embedded Metering System.

Impacts and costs

CP1572 will have an impact on the National Electricity Transmission System Operator (NETSO), Licensed Distribution System Operators (LDSOs) and some Registrants, but only Registrants for sites where metering is installed on a licence exempt network. CP1572 will also have an impact on Supplier Volume Allocation (SVA) MOAs for Complex Sites.

The central implementation cost for CP1572 will be <£1k to update the relevant documents.

Implementation

CP1572 is proposed for implementation on 29 June 2023 as part of the standard June 2023 BSC Release.

Recommendation

CP1572 is recommended for approval and implementation on 29 June 2023 as part of the standard June 2023 BSC Release.

2. Why Change?

What is the issue?

Currently there is no requirement in the BSC to produce SLDs despite a number of BSC processes requiring an SLD to be submitted. Without the requirement to produce SLDs being specified, some Parties have not felt incentivised to create them despite there being requirements in the BSC to submit SLDs, e.g. to Elexon and the Technical Assurance Agent (TAA).

Elexon does receive SLDs for Balancing Mechanism (BM) Unit registrations (BSCP15[1]) and Registration of Transmission System Boundary Points, Grid Supply Point (GSP) Groups and Distribution Systems Connection Points (BSCP25[2]). There is also a requirement in BSCP27 'Technical Assurance of Half Hourly Metering Systems for Settlement purposes'[3] to provide an SLD to the TAA as part of the Desktop Audit process (implemented via P391 'Introducing Desktop Audits'[4]).

Additionally, under the TAA's Working Instructions[5] the TAA requires an SLD for on-site Inspection Visits in order to determine if a Metering Dispensation is required for the location of the measurement transformers versus the Defined Metering Point (DMP) set out in the relevant CoP. The TAA also requires this SLD for on-site Inspection Visits to identify the DMP and Actual Metering Point/s (AMP/s) (to see if a Metering Dispensation is required) and validate CVA Aggregation Rules (BSCP75[6]) to confirm that all circuits are captured correctly in the Aggregation Rule(s).

The TAA has highlighted that Registrants of Metering Systems are not providing SLDs as part of these audits. CP1559 'Complex Sites Process Improvements'[7] and R0018 'Complex Sites Process Improvements'[8] have been raised, and approved (for November 2022 implementation), under the BSC and the Retail Energy Code (REC) to mandate the provision of SLDs for SVA Complex Sites. However, there is no requirement, in either Code, to actually produce them outside of Complex Sites.

Complex Sites

A 'Complex Site' means; any site that requires a 'Complex Site Supplementary Information Form' to enable the Half Hourly Data Collector (HHDC) to interpret the standing and dynamic Metered Data relating to SVA Metering Systems for Settlement purposes to be provided to the HHDC in addition to the D0268 (Half Hourly Meter Technical Details).

Background

The issue came to light at the Technical Assurance of Metering Expert Group (TAMEG) when discussing non-compliances related to the requirement under Desktop Audits for the LDSO to provide SLDs where an LDSO representative highlighted that there is no requirement in the CoPs to provide one. At the seventh Workgroup meeting under Issue 93 'Review of the BSC metering Codes of Practice'[9], the Workgroup agreed to raise a CP that addresses the 'Requirements to provide SLDs for HV and EHV sites' aspect of Issue 93.

[1] https://bscdocs.elexon.co.uk/bsc-procedures/bscp-15-bm-unit-registration
[2] https://bscdocs.elexon.co.uk/bsc-procedures/bscp-25-registration-of-transmission-system-boundary-pointsgrid-supply-points-gsp-groups-and-distribution-systems-connection-points
[3] https://bscdocs.elexon.co.uk/bsc-procedures/bscp-27-technical-assurance-of-half-hourly-metering-systems-for-settlement-purposes
[4] https://www.elexon.co.uk/mod-proposal/p391/
[5] https://www.elexon.co.uk/documents/performance-assurance/techniques/tams/technical-assurance-agent-instructions-for-desktop-audits/
[6] https://bscdocs.elexon.co.uk/bsc-procedures/bscp-75-registration-of-meter-aggregation-rules-for-volume-allocation-units
[7] https://www.elexon.co.uk/change-proposal/cp1559/
[8] https://recportal.co.uk/group/guest/-/complex-sites-process-improvements
[9] https://www.elexon.co.uk/smg-issue/issue-93/

3. Solution

Proposed solution

CP1572 proposes to introduce a requirement to the relevant CoPs that mandates that an SLD must be created, and be auditable, for new HV and EHV Metering Systems, or reconfiguration of HV and EHV sites, e.g. which may introduce additional Boundary Point connections or an embedded Metering System. This change will not be retrospective and will therefore not impact existing HV and EHV sites unless significant works take place (e.g. replacement of switchgear containing measurement transformers used by the Metering System).

The Issue 93 Workgroup agreed that this should not be a requirement for Low Voltage (LV) Metering Systems as LV SLDs are quite generic so don't add any value to the audit process. Additionally, the risk and materiality associated with a Metering Equipment non-compliance is much lower.

SLDs shall be created by the:

- NETSO for Grid Supply Points and Transmission System Boundary Points, including Interconnectors;
- LDSO for Distribution System Connection Points and Distribution System Boundary Points, including Interconnectors; or
- Registrant for Transmission System or Distribution System connected Customer or Generator networks, including Complex Sites.

Proposer's rationale

The provision of SLDs assists Elexon in determining where Settlement Metering Equipment is located so it can carry out validation against CoP requirements for location and Metering Equipment accuracy classes. The lack of a requirement to produce an SLD, within the relevant CoP, is causing an issue where the Metering System ID has been selected for a Desktop Audit or on-site Inspection Visit. This prevents the TAA from being able to confirm the compliance of Metering Systems.

Adding a requirement in the CoPs will ensure that there is an obligation on the LDSO, or other BSC Parties, to create the SLD at the installation and commissioning stage, or site reconfiguration stage of the process. Producing and providing SLDs for new, and reconfigured, HV and EHV sites will allow the TAA and Elexon to check that CVA and SVA Metering Systems comply with the relevant CoP and CVA Aggregation Rules, as well as SVA Complex Site aggregation rules correctly aggregating and allocating metered data to the appropriate BSC Party (the Registrant), for Settlement purposes.

Proposed redlining

Following the consultation, Elexon identified that the redlining refers to the Total System which is only listed in CoP11 definitions and not the other CoPs. Therefore Elexon has updated the redlining to refer to only defined terms in the relevant CoPs, and has included some additional definitions into the CoPs. Additionally consultation respondents voiced that it was not clear on who needs to create the SLD. Elexon has therefore updated the redlining

to clarify who shall create an SLD, what an SLD shall include and when an SLD should be created or updated.

Elexon have also made updates to CoP4 to recognise the obligation to provide an SLD in accordance with the relevant CoP. Elexon believe this should be helpful to industry, as a lot of the pre-energisation commissioning checks are done based on CoP4 requirements and this is often when the as-built drawing is finalised, which will be relevant to the provision of the SLD.

The updated proposed redlining to CoPs 1, 2, 3, 4 and 5 to deliver the solution can be found in Attachment B. The previous version of the redlining (CoPs 1, 2, 3 and 5) can be found in the consultation documentation on the CP1572 webpage.

4. Impacts and Costs

BSC Party & Party Agent impacts and costs

Participant impacts

This CP will impact those participants that will be required to create and provide the SLDs.

BSC Party & Party Agent Impacts	
BSC Party/Party Agent	**Impact**
LDSO	LDSO to create SLD for Distribution System Connection Points and Distribution System Boundary Points, including Interconnectors
NETSO	NETSO to create SLD for Grid Supply Points and Transmission System Boundary Points, including Interconnectors
Registrants (but only where metering is installed on a licence exempt network)	Registrant to create SLD for Transmission System or Distribution System connected Customer or Generator networks, including Complex Sites
SVA MOA	Under the existing Retail Energy Code (REC) obligation Metering Operations Schedule Part C – Operations Processes[10], the SVA MOA will need to send the SLD for Complex Sites.

Participant costs

The majority of consultation respondents noted that the costs would be low. Some respondents did not believe they would incur any costs and some others did not know.

Central impacts and costs

Central impacts

The CP1572 solution only affects BSC documentation, specifically CoPs 1, 2, 3, 4 and 5. Therefore, no BSC Central Systems will be impacted.

Central Impacts	
Document Impacts	**System Impacts**

[10] https://recportal.co.uk/the-rec-public REC Schedules number 14

• Code of Practice 1: The Metering of Circuits with a Rated Capacity Exceeding 100 MVA for Settlement Purposes[11] • Code of Practice 2: The Metering of Circuits with a Rated Capacity not Exceeding 100 MVA for Settlement Purposes[12] • Code of Practice 3: The Metering of Circuits with a Rated Capacity not Exceeding 10 MVA for Settlement Purposes[13] • Code of Practice 4: The Calibration, Testing and Commissioning Requirement of Metering Equipment for Settlement Purposes[14] • Code of Practice 5: The Metering of Energy Transfers with Maximum Demand of up to (and Including) 1MW for Settlement Purposes[15]	• None

Impact on BSC Settlement Risks

Impact on BSC Settlement Risks
Having an SLD to check provides another control for the relevant Risk (SVA or CVA). This will help Elexon in confirming correct Aggregation Rules are in place to prevent double counting and check if the customer requires a Metering Dispensation for the AMP not at DMP. If the SLDs show CT/VT ratios and even accuracy classes, this will allow us to confirm CoP compliance. Therefore there will be a positive impact on; Risk 003 'Metering Equipment installation, programming, maintenance and Commissioning (SVA)'[16]; Risk 006 'Meter Technical Details transfer and processing'[17]; Risk 012 'Metering Equipment Technical Detail Quality'[18]; Risk 020 'Metering Equipment installation, programming, maintenance and Commissioning (CVA)'[19]; and Risk 026 'Aggregation Rules'[20].

Central costs

The central implementation costs for CP1572 will be approximately <£1k.

[11] https://bscdocs.elexon.co.uk/codes-of-practice/code-of-practice-1-the-metering-of-circuits-with-a-rated-capacity-exceeding-100-mva-for-settlement-purposes
[12] https://bscdocs.elexon.co.uk/codes-of-practice/code-of-practice-2-the-metering-of-circuits-with-a-rated-capacity-not-exceeding-100-mva-for-settlement-purposes
[13] https://bscdocs.elexon.co.uk/codes-of-practice/code-of-practice-3-the-metering-of-circuits-with-a-rated-capacity-not-exceeding-10-mva-for-settlement-purposes
[14] https://bscdocs.elexon.co.uk/codes-of-practice/code-of-practice-4-the-calibration-testing-and-commissioning-requirements-of-metering-equipment-for-settlement-purposes
[15] https://bscdocs.elexon.co.uk/codes-of-practice/code-of-practice-5-the-metering-of-energy-transfers-with-maximum-demand-of-up-to-and-including-1mw-for-settlement-purposes
[16] https://www.elexon.co.uk/reference/performance-assurance/performance-assurance-processes/003-sva-risk-metering-equipment-installations-are-incorrect/
[17] https://www.elexon.co.uk/reference/performance-assurance/performance-assurance-processes/006-sva-risk-incorrect-meter-detail-transfer-on-change-of-agent/
[18] https://www.elexon.co.uk/reference/performance-assurance/performance-assurance-processes/012-sva-risk-meter-system-technical-details-inaccurate/
[19] https://www.elexon.co.uk/reference/performance-assurance/performance-assurance-processes/performance-assurance-risk-evaluation-register/020-cva-risk-cva-metering-equipment-installation-and-commissioning/
[20] https://www.elexon.co.uk/reference/performance-assurance/performance-assurance-processes/performance-assurance-risk-evaluation-register/026-cva-risk-aggregation-rules/

5. Implementation Approach

Recommended Implementation Date

CP1572 is recommended for implementation on 29 June 2023 as part of the standard June 2023 BSC Release.

This is the earliest available release so that we can realise the benefits of this CP as early as possible.

Respondents agreed with the Implementation Date.

6. Initial Committee Views

ISG's initial views

The ISG had no comments.

SVG's initial views

The SVG had no comments.

7. Industry Views

This section summarises the responses received to the CP Consultation. You can find the full responses in Attachment C. We received eight responses with represented roles of Distributor, CVA MOA, SVA MOA, Data Collector (DC) and Data Aggregator (DA).

Summary of CP1572 CP Consultation Responses				
Question	**Yes**	**No**	**Neutral/No Comment**	**Other**
Do you agree with the CP1572 proposed solution?	7	1	0	0
Do you agree that the draft redlining delivers the intent of CP1572?	5	3	0	0
Will CP1572 impact your organisation?	7	0	0	1
Will your organisation incur any costs in implementing CP1572?	4	0	2	2
Do you agree with the proposed implementation approach for CP1572?	7	1	0	0
Do you have any further comments on CP1572?	4	4	0	0

The majority of respondents agreed with the CP solution. The respondent that was not in agreement commented that there is a lack of detail about what the SLDs should show and how they will be used. We have updated the redlining to help clarify this. The majority of respondents agreed there would be a low-medium impact and cost, with some respondents noting that they were unsure as it is not clear who will be managing the SLDs.

The majority of respondents agreed with the Implementation Date, with one respondent not agreeing due to their disagreement with the solution.

A number of respondents noted that the suggested redline wording says that the SLDs have to be produced, but not by who, who they are sent to and who is responsible for retaining them. Elexon has updated the redlining to address these comments.

Comments on the proposed redlining

There were a number of comments on the redlining including grammatical suggestions such as amending the sentence “All High Voltage and Extra High Voltage sites must *provide* an SLD“ to “All High Voltage and Extra High Voltage sites must *have* an SLD”. There was also a point about needing a clear obligation on who must create the SLD. Elexon has updated the redlining to address these points.

Comments on the CP1572 Proposed Redlining		
Document & Location	**Comment**	**Elexon’s Response**
CoP 1, 2, 3 and 5 Section 3 – interpretations and definitions	Suggest including the symbol ‡ after SLD in the definitions and interpretations section as it appears to be specific to the CoP (as per the introduction of section 3).	This has now been added after ‘Single Line Diagram’ in the list of definitions.

CoP 1, 2, 3 and 5 Section 5.8	I don't think the words "provide an" is right in the sentence "All High Voltage and Extra High Voltage sites must provide an SLD,…." The site isn't providing anything! I think "have an SLD" would be better.	The proposed text has been updated to clarify the obligation on parties to provide an SLD.
CoP 1, 2, 3 and 5 Section 3.31/5.7	Should this proceed a practical method of passing the documents or acknowledgment that an SLD has been verified by the LDSO needs to take place. Perhaps adding an extra filed to the D383 flow with a Y or N that there is an SLD from LDSO and a Y or N or NA (no access) from the MOP to say that it is standard following the MOP P283 commission.	The redlining has been updated to state who is responsible for the provision of the SLD. The redlining has also been updated to reference providing a copy of the SLD in accordance with the relevant BSCP and also to the BSC Panel and Technical Assurance Agent (TAA) in request. The relevant BSCP outlines who is responsible and the process for when the SLD needs to be submitted and by whom. CVA Registration – validated by Elexon as part of the overall process and the TAA as part of desktop audits. SVA Registration – The SLD would only be sent by the LDSO to the TAA and any non-compliance would be against the LDSO.
CoP 1, 2, 3 and 5 Section 3.31/5.7	Should this proceed, the obligation would need to be placed on the DSO to provide unique schemes to the MOP and registrant. Clear remedies need to be within the COPs should this not be provided.	The redlining has been updated to reference providing a copy of the SLD in accordance with the relevant BSCP and also to the BSC Panel and Technical Assurance Agent (TAA) in request. The relevant BSCP outlines who is responsible and the process for when the SLD needs to be submitted and by whom.

8. Recommendations

We invite the **SVG** to:

- **AGREE** the amendments to the proposed redlining for CoP3, CoP4 and CoP5 for CP1572 made following the CP Consultation;
- **APPROVE** the proposed changes to CoP3, CoP4 and CoP5 for CP1572; and
- **APPROVE** CP1572 for implementation on 29 June 2023 as part of the standard June 2023 Release.
- **NOTE** that CP1572 will also be presented for decision to the
    - ISG on 10 January 2023