

CP Assessment Report

CP1578 'Amendments to BSCP128 to enable Embedded LDSOs to calculate and submit Site Specific LLFs as required'

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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 Change Proposal (CP) Assessment Report for CP1578 which Elexon will present to the ISG and SVG at their respective meetings on 5 September. The Committees will consider the proposed solution and the responses received to the CP Consultation before making a decision on whether to approve CP1578.

There are four 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 CP1578 solution.
- Attachment C contains the full responses received to the first CP Consultation.
- Attachment D contains the full responses received to the second CP Consultation.



Committee

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

Recommendation

Approve

Implementation Date

29 February 2024
(February 2024 Release)



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¹ <https://www.elexon.co.uk/glossary/?show=all>



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 6
- Have 30 minutes?
Read all sections
- Have longer? Read all sections and the annexes and attachments

Why change?

Line Loss Factors, which are used to account for losses on the Distribution Networks, are calculated and submitted to the BSC Company (BSCCo) by Licensed Distribution System Operators (LDSOs). Embedded LDSOs usually Mirror the Line Loss Factors (LLFs) of the Host LDSO, however, in certain circumstances they are required to calculate Site Specific LLFs. Several issues have been identified with the current process for calculating Site Specific LLFs that could prevent Embedded LDSOs from successfully completing their submissions.

Solution

This CP proposes updates to [BSCP128 'Production, Submission, Audit and Approval of Line Loss Factors'](#)² to remove issues that may stop Embedded LDSOs from submitting Site Specific LLFs. These updates will add deadlines and obligations to define the process for submitting Site Specific LLFs, including establishing deadlines and requirements for the Embedded and Host LDSOs.

Impacts and costs

This CP is expected to have a positive impact on Embedded LDSOs, as it will enable them to calculate and submit calculating and submitting Site Specific LLFs. The CP will also affect Host LDSOs as it will introduce obligations on them to calculate boundary LLFs that were previously specified. There will be no central system impacts but the CP will require updates to BSCP128. The implementation costs for the CP will be less than £1,000.

Implementation

This CP is recommended for implementation on 29 February 2024 as part of the standard February 2024 BSC Release. This is to ensure the change is implemented and that the benefits are realised for Embedded LDSOs at the earliest opportunity.

Recommendation

We invite the ISG and SVG to:

- **APPROVE** the proposed changes to BSCP128 for CP1578; and
- **APPROVE** CP1578 for implementation on 29 February 2024 as part of the standard February 2024 BSC Release.

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² <https://bscdocs.elexon.co.uk/bsc-procedures/bscp128-production-submission-audit-approval-of-line-loss-factors>

2. Why Change?

What is the issue?

Usually, an Embedded LDSO would Mirror the LLFs of the Host LDSO. However, there are specific circumstances where Site Specific LLFs are required. BSCP128 includes [LLF Methodology Principles](#)³, with which all LLF methodologies are required to comply. LLF Methodology Principle 1 requires LDSOs to calculate Site Specific LLFs for:

- Sites that are connected at Extra High Voltage (EHV); or
- Where the customer has requested a Site Specific LLF and the LDSO agrees.

Several issues have been identified which could prevent Embedded LDSOs from successfully calculating and submitting Site Specific LLFs. These issues are summarised below.

Calculation of boundary LLFs

Site Specific LLFs are required for EHV sites connected to a Host LDSO network within the same Grid Supply Point (GSP) Group. To calculate these Site Specific LLFs, Embedded LDSOs require Host LDSO LLFs at the boundary between the Host LDSO and Embedded LDSO. In BSCP128, there is currently no requirement for Host LDSOs to calculate LLFs at this boundary, and Host LDSOs do not have metered data or technical data of the embedded network to enable this calculation. There is also no requirement for Embedded LDSOs to provide metered data to the Host LDSO to enable this calculation. This means that an Embedded LDSO would be unable to calculate Site Specific LLFs without cooperation between the Embedded and Host LDSO. As the calculation of Site Specific LLFs for EHV sites is required within BSCP128, and boundary LLFs are required for the calculation, the processes involved in calculating the boundary LLFs should also be included as requirements in the BSCP.

Submission deadline

The BSCP128 annual LLF submission deadline is the same for Host LDSOs and Embedded LDSOs submitting Site Specific LLFs. If the Host LDSO boundary LLFs are not ready until the submission deadline, it is then too late for the Embedded LDSO to obtain the boundary LLFs and provide a Site Specific LLF submission. This would mean the Embedded LDSO would be unable to meet the submission deadline, through no fault of their own. There is also no obligation for the Host LDSO to provide the required LLFs to the Embedded LDSOs. If the Host LDSO refused to provide the values, then the Embedded LDSO would be unable to calculate the Site Specific LLFs.

Post-audit recalculation

The LLF audit can result in LLF values requiring recalculation, so until the audit has been completed LLF values are unapproved and could be subject to change. If a Host LDSO were to provide unapproved LLFs for the Site Specific LLF calculation, and the LLFs of the Host LDSO required recalculation, then the Site Specific LLFs would also require recalculation. This scenario is currently not accounted for in BSCP128, so there is no requirement to inform the Embedded LDSO of the need for recalculation, and no timelines detailed for the process. Ideally, the Host LDSO audit would be completed earlier, to allow time for recalculation before the audit of the Embedded LDSO LLFs.

³ <https://bscdocs.elexon.co.uk/bsc-procedures/bscp128-production-submission-audit-approval-of-line-loss-factors#3-3.1>

Background

[BSCP128 'Production, Submission, Audit and Approval of Line Loss Factors'](#) details the process through to approval for LLFs. LLF values are used to scale energy consumed or generated to account for losses on the GB Distribution Networks. They are submitted by LDSOs, including Host LDSOs, who operate a distribution network that is directly connected to the Transmission System in their own Distribution Licence area, and Embedded LDSOs, who operate an independent distribution network connected to a Host LDSO's distribution network.

The calculation, submission, and audit of LLFs is an annual process, with the timelines detailed in BSCP128. LDSOs must submit proposed LLF calculation methodologies to BSCCo by 1 August. Calculated LLFs must then be submitted by 30 September in accordance with an approved methodology. These deadlines currently apply to both Host LDSOs and Embedded LDSOs.

Related changes

[CP1547 'Clarification on the Site Specific Line Loss Factor Calculation Process for Embedded Licensed Distribution System Operators'](#)⁴ is a BSC Change Proposal (CP) that was implemented in November 2021. Following confusion around the process and timelines raised by Embedded LDSOs, the CP made updates to BSCP128 to provide a transparent view of the timeline and deliverable requirements for Embedded LDSOs.

This included clarification of the following:

- For new sites energised mid-year there will be no previously approved Site Specific LLFs, and so the approved Generic Line Loss Factor Class Group LLFs for the equivalent voltage level should be applied;
- Embedded LDSOs wishing to calculate Site Specific LLFs require Settlement data from a 12-month period, and so LLF values can be submitted only after this data is available;
- The standard submission deadlines for all LDSOs will apply to Embedded LDSOs that choose to calculate Site Specific LLFs, meaning they must submit a methodology for approval by 1 August and calculated LLF values by 30 September;
- If the Embedded LDSO cannot meet these deadlines for any reason, including 12-month data not yet being available, they will need to continue to Mirror the Host LDSOs Generic LLFs for the year.

This CP will build upon the changes made by CP1547 to further clarify and improve the processes around Site Specific LLFs for Embedded LDSOs.

⁴ <https://www.elexon.co.uk/change-proposal/cp1547/>

3. Solution

Proposed solution

This CP proposes the following updates to the process for submitting Site Specific LLFs in BSCP128:

- Add a deadline for Embedded LDSOs to request boundary LLFs from Host LDSOs, for the upcoming BSC Year.
- Add an obligation for Host LDSOs to provide any requested boundary LLFs to the Embedded LDSOs by 1 October annually. For example, where there is an embedded EHV site, the Host LDSO calculates and provides an LLF at the boundary.
- Add a requirement for the Embedded LDSO to ensure that the Host LDSO has enough metering (historical 365x48 Half Hourly demand profile) and the technical information to enable that calculation.
- Amend the submission deadline for Embedded LDSOs that do not Mirror to 31 October, to give them at least 20 Working Days (WD) to obtain the boundary LLFs, run the calculations and provide a submission to Elexon. It should also give sufficient time for Elexon to audit the LLFs and resolve any audit issues before the end of the year.
- Add a requirement for Host LDSOs to provide Elexon with the network boundary LLFs by 30 September.
- Add a caveat that recalculation may be required if the Host LDSO LLFs used in the calculation need to be recalculated as a result of a non-compliance identified during the audit.

Proposer's rationale

CP1578 is needed to enable Embedded LDSOs to calculate and submit Site Specific LLFs in accordance with BSCP128. This CP is intended to address the issues that may prevent Embedded LDSOs from completing these calculations, allowing them to comply with the LLF Methodology Principles.

Proposed redlining

The CP proposes to update BSCP128. The redlining to support this change can be found in Attachment B. Several amendments have been made to the redlining following the first CP Consultation. The rationale for these changes are explained in Section 7 of this document.

4. Impacts and Costs

BSC Party & Party Agent impacts and costs

Participant impacts

This CP is expected to have a positive impact on Embedded LDSOs by addressing the outlined issues that would prevent them from submitting Site Specific LLFs, allowing them to comply with the LLF methodology principles stated in BSCP128. This may result in an increase in Embedded LDSOs calculating Site Specific LLFs rather than Mirroring the LLFs of the Host LDSO, improving the accuracy of LLF values.

There will also be an impact to Host LDSOs, as the CP will introduce a requirement for Host LDSOs to provide any requested boundary LLFs to the Embedded LDSOs by 1 October. The impact of this should be minor, due to the expected numbers of Embedded LDSOs that will be calculating Site Specific LLFs.

BSC Party & Party Agent Impacts	
BSC Party/Party Agent	Impact
Embedded LDSO	Ability to submit Site Specific LLFs
Host LDSO	Requirement to provide boundary LLFs to Embedded LDSOs, where requested

Participant costs

Participant costs may be incurred for both Embedded and Host LDSOs, relating to required updates to processes and additional work to facilitate the correct calculation and submission of Site Specific LLFs for Embedded LDSOs. However, these costs are expected to be low, as validated by the consultation responses. In both the first and second consultations all respondents, with both Host and Embedded LDSOs represented, felt that the costs incurred by their organisation would be low or none.

Central impacts and costs

Central impacts

The solution in this CP only affects BSC documentation, specifically BSCP128. No BSC Central Systems or Agents will be impacted.

Central Impacts	
Document Impacts	System Impacts
<ul style="list-style-type: none">BSCP128 'Clarification on the Site Specific Line Loss Factor Calculation Process for Embedded Licensed Distribution System Operators'	<ul style="list-style-type: none">None

Impact on BSC Settlement Risks

Impact on BSC Settlement Risks

Elxon anticipate that this CP will have a positive impact on [Settlement Risk 015: Reference Data incorrect](#)⁵. It will improve the Risk factor "LDSO not creating or providing compliant LLF annually and mid-year".

Impact on Market-wide Half Hourly Settlement (MHHS)

Impact on MHHS

We have mitigated the impact to MHHS by adding a requirement for the boundary equivalent LLFs to be provided independently to the BSCP128 appendix forms. If the boundary equivalent LLFs were added to the existing forms, the ISD requirements would need to be updated. No further MHHS impacts have been identified.

Central costs

The central implementation costs for this CP will be less than £1,000 to implement the relevant document changes.

⁵ <https://www.elxon.co.uk/reference/performance-assurance/performance-assurance-processes/015-sva-risk-reference-data-incorrect/>

5. Implementation Approach

Recommended Implementation Date

This CP is recommended for implementation on 29 February 2024 as part of the standard February 2024 BSC Release. This is to ensure the change is implemented and the benefits for Embedded LDSOs are realised at the earliest opportunity. This would ensure that the proposed changes are implemented prior to the 2024 LLF submission deadline.

6. Initial Committee Views

ISG's initial views

The CP1578 Progression Paper ([ISG265/04](#)) was presented to the ISG at its meeting on 2 May 2023.

The ISG Committee had no comments or questions, and did not suggest any additional consultation questions.

SVG's initial views

The CP1578 Progression Paper ([SVG267/03](#)) was presented to the SVG at its meeting on 2 May 2023.

An SVG Member questioned whether it was appropriate for this change to be a CP when it appeared to be creating new obligations for LDSOs. Elexon confirmed that the obligation to calculate LLFs and to comply with BSCP128 is held in [BSC Section K 'Classification and Registration of Metering Systems and BM Units' 1.7.8](#). Updates to the processes detailed in BSCPs, which explain how Parties should meet the obligations held within the BSC Legal Text, should be progressed as CPs. Elexon also confirmed that within the BSC Embedded and Host LDSOs and both referred to as LDSOs.

7. Industry Views – First CP Consultation

This section summarises the responses received to the CP Consultation. The full responses to the consultation can be found in Attachment C. There were seven responses received, all from Distributors – three Embedded LDSOs and four Host LDSOs. The majority of respondents supported CP1578 and believed the redlining delivered the proposed solution.

The respondent that did not agree with the proposed CP1578 solution did so because they believed that Boundary Metering would be required between the Host and Embedded LDSO networks to allow the calculation of Site Specific LLFs. Following discussions with the respondent, they now agree that Boundary Metering would not be required.

Summary of CP1578 CP Consultation Responses				
Question	Yes	No	Neutral/No Comment	Other
Do you agree with the CP1578 proposed solution?	6	1	0	0
Do you agree that the draft redlining delivers the intent of CP1578?	5	1	0	1
Will CP1578 impact your organisation?	7	0	0	0
Will your organisation incur any costs in implementing CP1578?	5	2	0	0
Do you agree with the proposed implementation approach for CP1578?	7	0	0	0
Do you have any further comments on CP1578?	2	5	0	0

Comments on the proposed redlining

There were several comments on the proposed redlining that Elexon have considered and discussed further with the respondents. Elexon's responses to the comments are detailed below, followed by a table summarising the updates that have been made to the redlining.

Comments on the CP1578 Proposed Redlining of BSCP128	
Comment	Elexon's Response
Principle 1b, which states that Site Specific losses can be applied "Where the customer has requested a Site Specific LLF, and the LDSO is in agreement" should include a provision that the Host LDSO must also agree.	Elexon believes that this should not be a requirement, as the Host LDSO has no relationship with the customer. It is up to the Embedded LDSO to manage that conversation with the Host LDSO as part of their working relationship.
The requirement for Host LDSOs to send the boundary LLFs to Elexon on 30 September appears to be missing.	This has been added.

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Comments on the CP1578 Proposed Redlining of BSCP128	
Comment	Elxon's Response
There is ambiguity around the requirements post audit, as there does not seem to be a requirement for the Host LDSO to provide the revised LLFs to the Embedded LDSO.	This was included in 2.3.5 footnote and 2.3.12, but we have added clarification that recalculated boundary equivalent LLFs should be provided to Embedded LDSO and Elxon.
Depending on the timings of the audits for the Host and Embedded LDSOs, it may not be possible for any non-compliance in the boundary LLF to be reflected in the audit report for the Embedded LDSO.	The intention is for Elxon to carry out the Host LDSO audits first to allow for this. We have added a requirement for Elxon to complete the Host LDSO audit by 12 November in order to allow time to audit the Embedded LDSO after the Host LDSO and before 20 November.
It should be added that the Embedded LDSOs should provide the boundary profile to the Host DNO by 1st August.	The redlining has already specified that the information related to the Embedded LDSO site is required by 1 August, which would include the boundary profile.
The redlining of BSCP128 has not specified the type of profiles that the Embedded LDSO should submit to Host DNOs	Ideally, this would be specified; however, discussions indicate that the information required is not consistent between Host LDSOs. The information required should be agreed between the Embedded and Host LDSO in each instance. The guidance document will be updated to include examples of the data required by Host LDSOs to complete the calculation.
Host DNOs conduct their generic LLFs calculation utilising aggregated settlement profiles for each voltage of their network, in accordance to the current NewLAF model. Where Embedded LDSOs calculated site specific LLFs for their EHV end users, the boundary LLFs and profiles calculation could be impacted.	Following discussion with the respondent and other LDSOs, we do not believe that the new Site Specific LLFs for Embedded LDSO sites will impact upon the Host LDSO generic LLFs, as the generic losses are calculated using historic data.
This CP currently has not specified in which form or format the boundary LLFs should be submitted to Elxon or provided to Embedded LDSOs	Agree that the format of the boundary LLFs should be included in the BSCP. We have now specified that boundary equivalent LLFs should be kept in a separate file from BSCP128 Appendix forms.

Summary of changes to the proposed redlining, following the first CP Consultation	
Document & Location	Update
BSCP128 2.3.1	Clarified that boundary equivalent profile(s) and other information required by the relevant Host LDSO should be sent from the Embedded LDSO to the Host LDSO by 1 August.
BSCP128 2.3.7	Added deadline of 30 September for Host LDSO to send boundary equivalent LLF to Elexon.
BSCP128 2.3.7	Specify that boundary equivalent LLFs should be kept in a separate file from BSCP128 Appendix forms.
BSCP128 2.3.11	Added clarification that if Host LDSOs have provided boundary equivalent LLFs to the Embedded LDSO, then Elexon should complete Host LDSO audit before 12 November.
BSCP128 2.3.13	Added clarification that following the audit, if applicable, the Host LDSO should provide recalculated boundary equivalent LLFs to Embedded LDSO and Elexon.

Elexon felt that the amendments to the redlining were material and therefore should be issued for industry consultation prior to Committee decision. In particular, it felt improper to insert an additional deadline for Host LDSOs without the opportunity for industry comment. This meant that CP1578 was issued for a second industry consultation.

8. Committee Views Following the First CP Consultation

ISG's initial views Following the First CP Consultation

A verbal update including the consultation responses and proposed updated timetable were presented to the ISG at its meeting on 4 July 2023 ([ISG267](#)).

Elxon specifically asked the ISG if they had any views on whether BSCP128 should specify which data the Embedded LDSO should send to the Host LDSO to facilitate the calculation of boundary equivalent LLFs. An ISG Member questioned whether sharing the specifics about the equivalent boundary LLF calculation could cause any issues with intellectual property. Elxon did not believe that there were any intellectual property concerns with this calculation.

The ISG Committee had no further comments or questions, and did not suggest any additional consultation questions.

SVG's initial views Following the First CP Consultation

A verbal update including the consultation responses and proposed updated timetable were presented to the SVG at its meeting on 4 July 2023 ([SVG269](#)).

Elxon specifically asked the SVG if they had any views on whether BSCP128 should specify which data the Embedded LDSO should send to the Host LDSO to facilitate the calculation of boundary equivalent LLFs. An SVG Member supported Elxon's desire to not over specify within the BSCP, and felt that it was appropriate for the Host and Embedded LDSOs to agree between them what data should be shared.

The SVG Committee had no comments or questions, and did not suggest any additional consultation questions.

9. Industry Views – Second CP Consultation

Following the material amendments made to the CP1578 redlining, the CP was issued for a second industry consultation. Ellexon reached out to all respondents of the first consultation to allow them the opportunity to comment on the updated redlining. Those who chose not to respond to the second consultation raised no additional issues. This section summarises the responses received to the CP Consultation. The full responses can be found in Attachment D. There were four responses received, all from Host LDSOs. The respondents unanimously supported CP1578 and felt that the redlining delivered the proposed solution.

Summary of CP1578 CP Consultation Responses				
Question	Yes	No	Neutral/No Comment	Other
Do you agree with the CP1578 proposed solution?	4	0	0	0
Do you agree that the draft redlining delivers the intent of CP1578?	4	0	0	0
Will CP1578 impact your organisation?	4	0	0	0
Will your organisation incur any costs in implementing CP1578?	3	1	0	0
Do you agree with the proposed implementation approach for CP1578?	4	0	0	0
Do you have any further comments on CP1578?	0	4	0	0

Comments on the proposed redlining

One respondent did state that a requirement for the Embedded LDSO to provide any relevant data to the Host LDSO by the end of June of the relevant year would allow for more time for the assets to be included in the Host LDSO LLF calculation. Host and Embedded LDSOs would be able to agree an earlier, unofficial deadline between themselves if desired, and as the other respondents were happy with the proposed deadline for 1 August, this has not been amended.

The respondent also highlighted the importance of communication between the Embedded and Host LDSOs, particularly around recalculation of Site Specific LLFs, which is mandated every five years but could be carried out more frequently.

There were no further comments on the proposed redlining.

10. Recommendations

We invite the ISG and SVG to:

- **APPROVE** the proposed changes to BSCP128 for CP1578; and
- **APPROVE** CP1578 for implementation on 29 February 2024 as part of the standard February 2024 BSC Release.
- **NOTE** that CP1578 will also be presented for decision to the:
 - ISG on 5 September 2023; and
 - SVG on 5 September 2023.