

**BSC Procedure 128 Appendix 3 relating to Calculation Assessment Document (CSAD) for Host LDSOs and Embedded LDSOs that do not Mirror**

1. Reference is made to the Balancing and Settlement Code (the Code) for the Electricity Industry in Great Britain and, in particular, to the definition of "BSC Procedure".
2. This is BSCP128 Appendix 3, [Version 8.0](#)~~Version 7.0~~ relating to the Calculation Self Assessment Document (CSAD) for Host LDSOs and Embedded LDSOs that do not Mirror.
3. This BSC Procedure Appendix is effective from [07 March 2025](#)~~1 September 2021~~.
4. This BSC Procedure has been approved by the Panel.

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## 1. Introduction

### Objectives of the CSAD

The Audit of Line Loss Factors seeks to provide additional transparency and consistency regarding the calculation and application of Line Loss Factors (LLFs) used in Settlement by creating a set of high level principles, which all LLF methodologies (created by Licensed Distribution System Operators (LDSOs)) must adhere to. The principles are detailed in BSCP128 'Production, Submission, Audit and Approval of Line Loss Factors'. The LDSO must then calculate the LLFs according to their approved methodology statement. An audit of the LLF calculations is required to ensure that they are consistent with the approved methodology.

The Calculation Self Assessment Document (CSAD) is designed to gather factual information about the compliance of the LLF Calculations and the methodology it applies to.

For any defined terms see BSCP128. All defined terms are initially capitalised. Any other terms please refer to the Balancing Settlement Code.

### Guidance for completing the CSAD

The CSAD has been split into three sections as follows:

#### 1.1 General Information

This section should be completed in full in respect of all questions.

#### 1.2 Calculation Applicability Section.

LDSOs should provide information to which GSP Groups and Methodology the calculation applies to.

#### 1.3 Calculations Assessment Section.

This section contains a series of questions, for each of which guidance is provided in order to either provide clarification or to set out the areas the response should address.

The LDSO should also indicate what evidence is available to support the responses given. This evidence will need to be available to BSCCo for the audit to review take place.

References to 'systems' within the CSAD do not relate solely to the functionality of computer hardware and software, but extend to the supporting business and operational processes (including manual processes). The term 'development' in relation to a system refers to either the development of a new system or to any significant changes or upgrades in respect of an existing system.

The final question in this section is not mandatory and is provided so that Applicants can provide any additional information that they consider to be relevant to their application.

Appendix 5 should accompany this document showing the Site Specific and EHV generic supporting information for both CVA and SVA (if applicable) and the Generic supporting information.

Appendix 9 should be used after the BSCCo have identified the site specific LLFs to audit. Another template instead of [Appendix 9](#) can be used as long as it aligns to the principles in BSCP128.

<b>1.1 General Information</b>	
<b>Distribution Company Name:</b>	
We confirm that:	
<ul style="list-style-type: none"> <li>the Line Loss Factor Calculation Self-Assessment Documents (CSAD) are true, complete and accurate and not misleading because of any omission or ambiguity or for any other reason; and</li> <li>in our opinion, the arrangements as documented are adequate and appropriate for the provisions under the Balancing and Settlement Code Section K and BSCP128 'Production, Submission, Audit and Approval of Line Loss Factors.</li> </ul>	
<b>Authorised Signature:</b>	
<b>Name of Authorised Signatory:</b>  (Category X as per BSCP38 'Authorisations')	
<b>Password:</b>	
<b>Date:</b>	
<b>VERIFICATION OF DETAILS</b> <i>To be completed by BSCCo</i>	
DATE RECEIVED: _____	
NAME AND PASSWORD/SIGNATURE VALID (Y/N): _____	

<b>1.2 Calculation Applicability</b>	<b>Details:</b>
<b>Please provide details of the relevant methodology statement that the calculations comply to:</b>	
Methodology Statement Name:  Publication Date:  Version No.:	
<b>Distribution Area(s) (GSP Group(s)) to which methodology is applicable to:</b>	
<b>Are the LLFs calculated in accordance with the methodology statement detailed above?</b>  <b>Yes/No (delete as appropriate)</b>	
<b>Have you re-calculated LLFs for this annual submission?</b>  <b>If so please provide details.</b>	

<b>1.3 Calculations Assessment</b>				
<b>No.</b>	<b>Question</b>	<b>Guidance</b>	<b>Response</b>	<b>Evidence</b>
<b>1a</b>	<b>Please provide details of the calculation method for <u>Site Specific</u> LLFs.</b>	<p>Please give a description of the calculation method used. This should include a reference to the location in the methodology statement.</p> <p>The LDSO may wish to include an illustrative example as evidence.</p>		
<b>1b</b>	<b>Please provide details of the process steps for your calculation of <u>Site Specific</u> LLFs.</b>	<p>Please give a description of the end to end process for calculating Site Specific LLFs.</p> <p>The LDSO may wish to include high level flow diagram of the process or internal working instructions that detail the process.</p>		
<b>1c</b>	<b>Data Request for Site Specific calculations</b>	<p>A list of CVA sites will be provided that are subject to a Site Specific calculation audit. Please provide spreadsheets used in the calculation and screen shots of the site in the network model.</p> <p>The screen shots should be taken when the model is run so that the data forms an audit trail to the spreadsheet.</p> <p>A brief commentary should be included to explain why you believe the LLFs are an accurate reflection of the losses for that site.</p>		

<b>1.3 Calculations Assessment</b>				
<b>No.</b>	<b>Question</b>	<b>Guidance</b>	<b>Response</b>	<b>Evidence</b>
<b>2a</b>	<b>Please provide details of the calculation method for <u>Generic</u> LLFs.</b>	Please give a description of the calculation method used. This should include a reference to the location in the methodology statement.		
<b>2b</b>	<b>Please provide details of the process steps for your calculation of <u>Generic</u> LLFs.</b>	Please give a description of the end to end process for calculating Generic LLFs.  LDSO may wish to include high level flow diagram of the process or internal working instructions that detail the process.		
<b>2c</b>	<b>Please provide a copy of the model used to calculate the <u>Generic</u> LLFs</b>	Please provide a copy of the live model used to calculate your generic LLFs and the input data that supports Principle 9 of BSCP128.  Where the data set is very large a subset of the data can be provided to demonstrate the year period used.  A brief commentary should be included to explain why you believe the LLFs are an accurate reflection of the losses for the network at each voltage level.		

<b>1.3 Calculations Assessment</b>				
<b>No.</b>	<b>Question</b>	<b>Guidance</b>	<b>Response</b>	<b>Evidence</b>
<b>3</b>	<b>Please complete the table of information for all Site Specific and Generic LLFs as detailed in section 2.</b>	Data can be submitted in Excel file format with your CSAD submission.  Section 2 is for supporting information for Site Specific and Generic data information submission. This information is used to aid the validation of the LLF data submission. LDSOs may choose to submit the information in Excel format as an attachment to the CSAD.		
<b>4</b>	<b>Please provide the LLFC and voltage for each Metering System in the list provided by BSCCo.</b>	The list of Metering Systems will be provided by 1 September. You will need to add the voltage and LLFC to the list.  A number of sites in the list will be marked as requiring connection diagrams, you will need to provide a screen shot of the connection for these sites.		



1.3 Calculations Assessment				
No.	Question	Guidance	Response	Evidence
5 <a href="#">[P478]</a>	<p><b>Have all changes or new SVA LLFC IDs been submitted into the Market Domain Data (MDD) change process (as per BSCP509) for non-migrated metering systems?</b></p> <p><b>If so please give details.</b></p>	<p>Any changes or new LLFC IDs must be submitted through the MDD change process. The correct LLFC Ids (and supporting information) are required to be approved in MDD prior to submission of the SVA LLFs. LDSOs should confirm that the MDD Change Request Form(s) (with CR References) have been submitted (see BSCP509 for further details).</p>		
	<p><b><u>Have all changes or new SVA DUoS Tariff IDs been submitted into the Industry Standing Data( ISD) change process (as per BSCP707) for migrated metering systems?</u></b></p> <p><b><u>If so, please give details.</u></b></p>	<p><u>Any changes or new DUoS Tariff IDs must be submitted through the ISD change process. The correct DUoS Tariff Ids ( and supporting information) are required to be approved in ISD prior to submission of the SVA LLFs. LDSOs should confirm that the ISD Change Request Form(s) (with CR References) have been submitted ( see BSCP707) for further details.</u></p>		

1.3 Calculations Assessment				
No.	Question	Guidance	Response	Evidence
6 <a href="#">[P478]</a>	Have all SVA LLFs been submitted in the <a href="#">CSADD0265</a> file format?	<p><del>The file format for SVA LLF submission is detailed in <a href="#">Appendix 7</a> of BSCP128.</del></p> <p>The file format for SVA LLFs submission is detailed in <a href="#">Appendix 5</a> of BSCP128.</p>		
7	Have CVA LLFs been submitted in the specified long or short file format?	<p>The file format for CVA LLF submission is detailed in <a href="#">Appendix 5</a> of BSCP128.</p> <p>There are two formats that can be used, a long format detailing every Settlement Day and Settlement Period LLF and a short format detailing the LLF to be used for specified date ranges.</p> <p>The file requires a checksum, further information on calculating the checksum is detailed in section <a href="#">Appendix 5</a> of BSCP128.</p>		
8	Are all LLFs submitted for start date 01 April (and start Settlement Period 1)? If not please give details,	<p>The annual submission of LLFs covers the period 01 April to 31 March. Confirmation is required that all LLFs in the submission start from Settlement Period 1 on 01 April.</p> <p>Evidence will detail how this had been checked.</p>		

<b>1.3 Calculations Assessment</b>				
<b>No.</b>	<b>Question</b>	<b>Guidance</b>	<b>Response</b>	<b>Evidence</b>
<b>9</b>	<b>Are all LLFs calculated to at least 3 decimal places (d.p.) and submitted to 3 decimal places?</b>	LLFs are required to be calculated to three decimal places. Please confirm that all LLFs are calculated to at least 3 d.p. in all files submitted.  Evidence should include details of how this validation has been carried out.		
<b>10a</b>	<b>Are all SVA LLFs <math>\geq 0.750</math> and <math>\leq 1.250</math>?</b>	Please confirm that all SVA LLFs are calculated within the range specified.  Evidence should include details of how this validation has been carried out.		
<b>10b</b>	<b>Are all CVA LLFs <math>\geq 0.750</math> and <math>\leq 1.250</math>?</b>	Please confirm that all CVA LLFs are calculated within the range specified.  Evidence should include details of how this validation has been carried out.		

<b>1.3 Calculations Assessment</b>				
<b>No.</b>	<b>Question</b>	<b>Guidance</b>	<b>Response</b>	<b>Evidence</b>
<b>10c</b>	<p><b>Are there any SVA LLFs that have significantly changed from the last submission of LLFs?</b></p> <p><b>BSCCo would expect evidence to be provided for all LLFs which are expected to breach this tolerance.</b></p>	<p>BSCCo will be validating the SVA submission in accordance with BSCP128 Section 3.5 point 7 c), BSCCo will identify any LLF values that are outside of the range specified. BSCCo will request from the LDSO evidence for any values that fall outside of this range and supporting rationale to justify this change.</p> <p>Evidence should include details of how this validation has been carried out and supporting rationale for the change in LLF Values.</p>		
<b>10d</b>	<p><b>Are there any CVA LLFs that have significantly changed from the last submission of LLFs?</b></p> <p><b>BSCCo would expect evidence to be provided for all LLFs which are expected to breach this tolerance.</b></p>	<p>BSCCo will be validating the CVA submission in accordance with BSCP128 Section 3.5 point 7 d), BSCCo will identify any LLF values that are outside the range specified. BSCCo will request from the LDSO evidence for any values that fall outside of this range and supporting rationale to justify this change.</p> <p>Evidence should include details of how this validation has been carried out and supporting rationale for the change in LLF Values.</p>		

<b>1.3 Calculations Assessment</b>				
<b>No.</b>	<b>Question</b>	<b>Guidance</b>	<b>Response</b>	<b>Evidence</b>
<b>10e</b>	<b>Are there any new Site Specific sites that were not included in last year's submission? If so, please give details.</b>	Please provide information in 2.1 for any new Site Specific sites.		
<b>11</b>	<b>Have any sites undergone a Relevant Change? If so please provide details.</b>	Relevant Changes are defined in BSCP128 as 'A significant change to the physical plant, apparatus, distribution network, or capacity which causes a change to the Line Loss Factors'.  Information and supporting evidence should be detailed in the response. MSIDs should be flagged with the relevant information as in 2.1.		
<b>12</b>	<b>Please provide details of the error checking processes carried out when calculating LLFs.</b>	LDSOs are required to have robust error detection and correction processes in place throughout the calculation of LLFs.  LDSOs may wish to provide references in to their working instructions and/or process maps, including details on the error checking processes used in the calculation process.		

<b>1.3 Calculations Assessment</b>				
<b>No.</b>	<b>Question</b>	<b>Guidance</b>	<b>Response</b>	<b>Evidence</b>
<b>13</b>	<b>Have all Site Specific LLFs been calculated within the last 5 years?</b> <b>Yes/No (delete as appropriate)</b>	Site Specific LLFs must be calculated at least every 5 years. The cut off for the 5 year period is 30 September. Any failure to do so will lead to a non-compliance.  For example, the annual LLFs for 1 April 2011, with calculations submission date of 1 October 2010, any Site Specific LLFs calculated up to and including 30 September 2005 must have been re-calculated.		
<b>14</b>	<b>Have all Generic LLFs been calculated within the last 2 years? (Y/N)</b>	Generic LLFs must be calculated at least every 2 years. The cut off for the 2 year period is 30 September. Any failure to do so will lead to a non-compliance.  For example, the annual LLFs for 1 April 2011, with calculations submission date of 1 October 2010, any LLFs calculated up to and including 30 September 2008 must have been re-calculated.		

<b>1.3 Calculations Assessment</b>				
<b>No.</b>	<b>Question</b>	<b>Guidance</b>	<b>Response</b>	<b>Evidence</b>
<b>15</b>	<b>Are there any SVA or CVA Site Specific sites for which a default calculation, or default replacement process was undertaken?  If so, please give details.</b>	SVA or CVA Site specific LLFCs for which a default calculation or default replacement was applied have to be documented and provided to the BSCCo auditor upon request. Any failure to do so will lead to a non- compliance.  For example SVA or CVA sites where for a given SToD period instead of applying calculated LLF, a calculation was performed using a defined threshold (e.g. 200 kVA) or a generic LLF was applied.		
<b>16</b>	<b>In the case of Sites with multiple connections to the Total System, where the primary connection is at EHV and there is a subordinate connection that Principle 17 (a)-(b) would apply to, please provide details of the process steps to determine that generic LLFs shall be used for the subordinate connection</b>	Please give a description of the end to end process for determining that generic LLFs are a suitable default replacement process instead of Site Specific LLF.  The LDSO may wish to include high level flow diagram of the process or internal working instructions that detail the process.		

<b>1.3 Calculations Assessment</b>				
<b>No.</b>	<b>Question</b>	<b>Guidance</b>	<b>Response</b>	<b>Evidence</b>
<b>17</b>	<b>Does the calculation involve third parties? If so please provide details</b>	<p>Where aspects of the calculation are sub-contracted to a third party the activity should be detailed in the response field (description of process, process maps, quality checks, etc). The LDSO is still responsible for any elements that it has contracted out.</p> <p>For example, a LDSO may utilise a third Party to generate the Site Specific LLFs for a particular site.</p>		
<b>18</b>	<b>Is there any additional detail you would like to add to your response?</b>	Additional information that supports the Audit of the Calculations can be added here or appended to the document.		



**AMENDMENT RECORD – BSCP128 APPENDIX 3**

Version	Date	Description of Changes	Changes Included	Mods/ Panel/ Committee Refs
1.0	20/04/09	First Published	P216	153/04
2.0	24/06/10	June 10 Release	CP1326	ISG111/03 SVG11/01
3.0	28/06/12	June 12 Release	CP1371	ISG135/06 SVG136/06
4.0	26/06/14	June 14 Release	CP1407 v2.0	ISG157/01 SVG160/05 P225/12
5.0	22/02/18	February 18 Release	CP1492	ISG198/06 SVG200/04
6.0	27/02/19	February 20 Release	CP1519	ISG221/05, SVG224/04
7.0	01/09/21	1 September 2021 Non-Standard Release	P420	P316/05
<a href="#">7.18.0</a>	<a href="#">07/03/25MHHS Milestone M8</a>	<a href="#">P478MHHS Milestone M8</a>	<a href="#">P478</a>	

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