

**Balancing and Settlement Code**

**BSC Procedure**

**Production, Submission, Audit and Approval of Line Loss Factors**

**BSCP128**

**Version 11.0~~6254~~**

**Effective Date: ~~4 November 2021~~ DD MM YYYY**

**BSC Procedure 128 Production, Submission, Audit and Approval of Line Loss Factors**

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 Version ~~11.011.652~~, relating to Production, Submission, Audit and Approval of Line Loss Factors.
3. This BSC Procedure is effective from ~~4 November 2021~~DD MM YYYY.
4. This BSC Procedure has been approved by the Panel.

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**AMENDMENT RECORD**

| Version     | Date            | Description of Changes                | Changes Included | Mods/ Panel/<br>Committee Refs    |
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| 2.0         | 24/06/10        | June 10 Release                       | CP1326           | ISG111/03<br>SVG111/01            |
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| 10.0        | 01/09/21        | 1 September 2021 Non-Standard Release | P420             | P316/05                           |
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| <u>11.6</u> | <u>DD MM YY</u> |                                       |                  |                                   |

## CONTENTS

|           |   |           |
|-----------|---|-----------|
| <b>1.</b> | <b>INTRODUCTION .....</b>   | <b>5</b>  |
| 1.1       | Purpose .....   | 5         |
| 1.2       | Main Users of the Procedure and their Responsibilities .....                  | 5         |
| 1.2.1     | LLF Methodology Submission and Review.....                                    | 6         |
| 1.2.2     | Approval of Methodology.....  | 6         |
| 1.2.3     | LLF Submission and Calculation Audit.....                                     | 6         |
| 1.2.4     | Approval of LLFs .....  | 7         |
| 1.2.5     | Implementation of LLFs for use in Settlement .....                            | 7         |
| 1.3       | Key Milestones .....  | 7         |
| 1.4       | Balancing and Settlement Code Provision .....                                 | 8         |
| 1.5       | Associated BSC Procedures .....   | 8         |
| 1.6       | Use of the Procedure .....  | 9         |
| 1.7       | Assistance with using the Procedure .....                                     | 9         |
| 1.8       | Acronyms and Definitions .....  | 10        |
| 1.8.1     | Acronyms.....   | 10        |
| 1.8.2     | Definitions .....   | 12        |
| <b>2.</b> | <b>INTERFACE AND TIMETABLE INFORMATION.....</b>                               | <b>14</b> |
| 2.1       | Methodology Review for Host LDSOs and Embedded LDSOs that do not Mirror ..... | 14        |
| 2.2       | Methodology Review – Embedded LDSOs that Mirror .....                         | 17        |
| <b>3.</b> | <b>SUPPORTING INFORMATION .....</b>   | <b>38</b> |
| 3.6       | Appendices .....  | 45        |

## 1. INTRODUCTION

### 1.1 Purpose

This BSC Procedure (BSCP) defines the procedure by which Line Loss Factor (LLF) methodologies submitted by Licensed Distribution System Operators (LDSOs, including Host LDSOs and Embedded LDSOs) are reviewed by BSCCo, presented to the Panel for approval and, where appropriate, reported to the Performance Assurance Board (PAB).

It also defines the procedure by which LLF values submitted by LDSOs are audited by BSCCo, presented to the Panel for approval and provided to the Central Data Collection Agent (CDCA) or the Supplier Volume Allocation Agent (SVAA) for use in Settlement (they are also made available to Half Hourly Data Aggregators (HHDA)s for use in Settlement). The results of this audit are reported to the PAB.

This BSCP also describes the key interfaces and timetable and responsibilities for the main parties involved.

This BSCP128 supersedes BSCP28 (Approval and Notification of CVA Line Loss Factors) and BSCP528 (SVA Line Loss Factors for Half Hourly and Non Half Hourly Metering Systems registered in SMRS).

### 1.2 Main Users of the Procedure and their Responsibilities

The main users of this procedure are summarised in the table below:

| <b>Central Volume Allocation Agency (CVA)<br/>Metering Systems</b> | <b>Supplier Volume Allocation Agency<br/>(SVA) Metering Systems</b> |
|--|---|
| BSCCo  | BSCCo   |
| LDSO   | LDSO  |
| Registrant   | SVAA  |
| CDCA   | Suppliers   |
| Panel  | HHDA)s  |
|  | Panel   |

Each LDSO shall obtain approval for CVA and SVA LLFs applicable to Metering Systems registered in the CMRS and SMRS respectively. The stages for obtaining approval are outlined below:

### 1.2.1 LLF Methodology Submission and Review

Each Host LDSO and Embedded LDSO that does not Mirror shall prepare and submit a methodology for calculating LLFs that complies with the LLF Methodology Principles in accordance with [Section 3.1](#), along with the Methodology Self-assessment Document (MSAD, Appendix 1 providing evidence of compliance (or non-compliance).

Each Embedded LDSO that Mirrors the methodology of a Host LDSO or Mirrors the methodology on an Embedded LDSO that does not Mirror, must provide BSCCo with the details of each methodology that they intend to Mirror. Additionally they must include any information requested by BSCCo. The Embedded LDSO that Mirrors will submit this information within the MSAD (Appendix 2), which is tailored specifically for Embedded LDSOs that Mirror.

BSCCo shall review each methodology against the LLF Methodology Principles and will liaise with the relevant LDSO so that during this process, the LDSO can correct and BSCCo re-review any non-compliances, before the final report is issued to the Panel.

### 1.2.2 Approval of Methodology

BSCCo shall report the results of the review to the Panel and recommend the approval of each compliant methodology. The Panel shall approve the compliant methodologies and note any non-compliances. BSCCo shall report any non-compliance(s) to PAB who shall manage the identified non-compliances, existing at the end of the methodology review, in line with the current Risk Operating Plan (ROP). BSCCo shall report the outcome of the Panel meeting to the LDSO. Once a methodology has been approved subsequent reviews will only take place if the LDSO has changed the methodology, however the LDSO must confirm to BSCCo each year that its methodology has not been revised. Any LDSO whose methodology does not comply with the LLF Methodology Principles will be considered non-compliant with the Balancing and Settlement Code (Code).

### 1.2.3 LLF Submission and Calculation Audit

For Host LDSOs and Embedded LDSOs that do not mirror

Following approval of the LLF Methodology, each Host LDSO and Embedded LDSO that does not Mirror shall calculate the LLFs in accordance with the approved methodology and submit these to BSCCo along with the Calculation Self-assessment Document (CSAD, Appendix 3 and Appendix 5, providing evidence of compliance with the LLF methodology principles. BSCCo shall conduct an audit on the calculation of the LLFs created using the approved methodology for each submission. BSCCo shall publish LLFs submitted by Host LDSOs and Embedded LDSOs that do not Mirror, via the BSC Website.

For Embedded LDSOs that mirror

Embedded LDSOs that Mirror the LLFs of such LDSOs, can obtain these LLFs from the BSC Website, and then make their LLF submission along with a CSAD (Appendix 4), tailored specifically for Embedded LDSOs that Mirror, to BSCCo. BSCCo shall conduct an audit of the LLF values against the relevant approved methodology.

BSCCo shall liaise with the LDSO so that during the audit process, the LDSO can correct any non-compliances and BSCCo re-audit, before a final report is issued to the Panel.

[MHHS-GOV]When requesting approval of a new LLFC Id, in accordance with BSCP509, or a new DUoS Tariff ID and ~~or~~ LLF ID, in accordance with BSCP707, the LDSO shall submit its SVA LLFs and a completed CSAD to BSCCo. Where the registration of a Metering System is being transferred from SMRS to CMRS, then the LDSO shall use this BSCP128 to apply for the approval of CVA LLFs applicable to the Metering System to be registered in the CMRS.

#### 1.2.4 Approval of LLFs

BSCCo shall report the audited LLFs to the Panel. The Panel shall approve LLFs for use in Settlement and, where LLFs have not passed the calculation audit, BSCCo shall recommend default values to be approved by the Panel, in accordance with the rules in Section 3.3. BSCCo shall report the outcome of the Panel meeting to the LDSO. The LDSO shall correct any non-compliance(s) and submit revised LLFs, which the Panel may approve for the remainder of the relevant BSC year.

BSCCo shall provide a copy of the report presented to the Panel with details of any non-compliance(s) to PAB. PAB shall manage the identified non-compliances existing at the end of the LLF audit, in line with the current Risk Operating Plan.

#### 1.2.5 Implementation of LLFs for use in Settlement

BSCCo shall provide the CDCA with approved CVA LLFs for entry into the CDCA system for CVA Metering Systems for use in Settlement.

BSCCo shall provide the SVAA with approved SVA LLFs for entry into the SVAA systems for Non Half Hourly Metering Systems for use in Settlement.

BSCCo shall also publish approved LLFs on the BSC Website. Half Hourly Data Aggregators shall obtain and implement approved SVA LLFs for use in Settlement for Half Hourly Metering Systems.

[MHHS-GOV]The SVAA shall obtain and implement approved SVA LLFs for use in Settlement for migrated MHHS metering systems.

### 1.3 Key Milestones

The key milestones in this procedure are:

- (a) Submission of methodologies in accordance with [Section 2.1](#) or [Section 2.2](#);
- (b) Review of methodologies in accordance with Section 2.1 or Section 2.2;
- (c) Approval of methodologies in accordance with Section 2.1 or Section 2.2;
- (d) Submission of Line Loss Factors in accordance with [Section 2.3](#) or [Section 2.4](#);
- (e) Audit of Line Loss Factors in accordance with Section 2.3 or Section 2.4;

- (f) Approval of LLFs in accordance with Section 2.3 or Section 2.4; and
- (g) Notification of Approved LLFs to CDCA/SVAA in accordance with Section 2.3.

#### 1.4 Balancing and Settlement Code Provision

This BSCP should be read in conjunction with the Code and in particular [Sections K, R](#) and [Annex S-2](#).

This BSC Procedure has been produced in accordance with the provisions of the Code. In the event of an inconsistency between the provisions of this BSC Procedure and the Code, the provisions of the Code shall prevail.

#### **[MHHS-GOV]1.5 Associated BSC Procedures**

##### **CVA Metering Systems**

BSCP15 - BM Unit Registration

BSCP25 - Registration of Transmission System Boundary Points, Grid Supply Points, GSP Groups and Distribution Systems Connection Points

BSCP38 - Authorisations

BSCP68 - Transfer of Registration of Metering Systems between CMRS and SMRS

BSCP75 - Registration of Meter Aggregation Rules for Volume Allocation Units

BSCP515 - Licensed Distribution

[BSCP705 – Licensed Distribution for MHHS Metering Systems](#)<sup>1</sup>

##### **SVA Metering Systems**

BSCP38 - Authorisations

BSCP68 - Transfer of Registration of Metering Systems between CMRS and SMRS

BSCP503 - Half Hourly Data Aggregation For Metering Systems Registered in SMRS.

BSCP508 - Supplier Volume Allocation Agent.

[BSCP703 – BSC Central Services for Migrated Market-wide Metering Systems](#)

BSCP509 - Changes to Market Domain Data

[BSCP707 – Changes to Industry Standing Data](#)

BSCP515 - Licensed Distribution

[BSCP705 – Licensed Distribution for MHHS Metering Systems](#)

<sup>1</sup> [The text relating to CVA Metering Systems in BSCP705 is identical to that in BSCP515. BSCP705 will replace BSCP515 after the transition period.](#)



## 1.6 Use of the Procedure

Throughout this BSCP, timetables reflect the number of Working Days (WD) by which an activity should be completed, and may refer to the Effective From Date (EFD), being the day on which the approved LLF comes into use in Settlement.

## 1.7 Assistance with using the Procedure

Where assistance is required in the use of this BSCP the user should, in the first instance, contact their BSC Change Administrator (BCA). Where queries cannot be answered by the BCA, contact should be made with the BSC Service Desk.

## 1.8 Acronyms and Definitions

### 1.8.1 Acronyms

|                          |  |
|--------------------------|--|
| BCA                      | Balancing and Settlement Code Change Administrator   |
| BSCCo                    | BSC Company  |
| BSCP                     | Balancing and Settlement Code Procedure  |
| CMRS                     | Central Meter Registration Service   |
| Code                     | Balancing and Settlement Code  |
| CDCA                     | Central Data Collection Agency   |
| CVA                      | Central Volume Allocation  |
| CVA LLF(s)               | CVA Line Loss Factor(s)  |
| <u>DUoS Tariff Id(s)</u> | <u>Equivalent of LLFC Id for migrated Market-wide Metering Systems</u>                                     |
| EFD                      | Effective From Date  |
| GSP                      | Grid Supply Point  |
| GSPG                     | Grid Supply Point Group  |
| HHDA(s)                  | Half Hourly Data Aggregator(s)   |
| Id                       | Identifier   |
| <u>ISD</u>               | <u>Industry Standing Data</u>  |
| LDSO                     | Licensed Distribution System Operator <sup>2</sup>   |
| LLF                      | Line Loss Factor   |
| <u>LLF Id</u>            | <u>Line Loss Factor Identifier</u>   |
| LLFC Id(s)               | Line Loss Factor Class Identifier(s) <u>equivalent of DUoS Tariff ID for non-migrated Metering Systems</u> |
| LLFC(s)                  | Line Loss Factor Class (es)  |
| MDD                      | Market Domain Data   |
| MSID                     | Metering System Identifier   |
| SMRS                     | Supplier Meter Registration Service  |
| SVA                      | Supplier Volume Allocation   |
| SVA LLF(s)               | SVA Line Loss Factor(s)  |
| SVAA                     | Supplier Volume Allocation Agent   |
| WD                       | Working Day  |

<sup>2</sup> This includes both Host LDSOs and Embedded LDSOs.



## 1.8.2 Definitions

Full definitions of the above acronyms are, where appropriate, included in the Balancing and Settlement Code.

|   |  |
|---|--|
| <b>Extra High Voltage (EHV)</b>                   | As defined in the LDSO's approved LLF methodology.   |
| <b>Embedded LDSO</b>                              | A LDSO operating an independent distribution network connected to a Host LDSO's distribution network <sup>3</sup> .<br>e.g. This includes both independent LDSOs; and Host LDSOs that are operating outside their geographical area.   |
| <b>Day (Generic)</b>                              | As defined in each Distribution System Operator's Methodology Statement.   |
| <b>Generic LLF</b>                                | The adjustment factor applied to the readings from a (group of) metering system(s) to adjust for losses on the distribution network and calculate the associated amount of energy at the GSP.  |
| <b>LLFC Group (Generic)</b>                       | A group of Line Loss Factor Classes that share the same generic set of Line Loss Factors.  |
| <b>Night (Generic)</b>                            | Hours of the Settlement Day not covered by Day (Generic).  |
| <b>Host LDSO</b>                                  | A LDSO operating a distribution network that is directly connected to the Transmission System in their own distribution licence area.  |
| <b>High Voltage (HV)</b>                          | As defined in the LDSO's approved LLF methodology excluding those high-voltage metered sites defined as EHV sites.   |
| <b>Low Voltage (LV)</b>                           | As defined in the Special Conditions of a distribution licence granted pursuant to section 6(1)(c) of the Electricity Act 1989.  |
| <b>Manifest error:<br/>Retrospective changes</b>  | An unambiguous error in the application of the approved methodology, in the calculation input data or corruption of the LLF values in the submission process in such a way that there is a material impact on Settlement or a material impact to the advantage or detriment of the customer. |
| <b>Material impact:<br/>Retrospective changes</b> | An impact or estimated impact that has a value or estimated value greater than or equal to the Materiality Threshold for rectification of a valid Trading Dispute (as defined in BSC Procedure <a href="#">BSCP11</a> ).   |
| <b>Mirror/Mirroring</b>                           | Where the Embedded LDSO replicates the Generic Line Loss Factors of the relevant Host LDSO for their own specified LLFCs for the GSP Group.  |
| <b>Non-Technical Losses</b>                       | Losses other than Technical Losses.  |
| <b>Registrant</b>                                 | See BSC <a href="#">Annex X-1</a>  |
| <b>Remote Audit</b>                               | An audit that is not performed at the LDSO's offices but is performed using data requests to review records and conduct interviews remotely  |

<sup>3</sup> An Embedded LDSO may also operate an independent distribution network that is connected to Host LDSO's distribution network via another Embedded LDSO's network (known as a nested network). Furthermore, an Embedded LDSO may also operate an independent distribution network that is connected to Transmission System within a Host LDSO's geographic distribution area.

|                                       |   |
|---------------------------------------|---|
| <b>Site Specific LLF</b>              | Where the Line Loss Factor is calculated for an individual Metering System and represents distribution losses specific to Metered Volumes measured by that Metering System.   |
| <b>Site Specific: Material Change</b> | A Material Change (that occurs mid year) to the physical plant, apparatus, or distribution network that causes a significant change to the Technical Losses specific to the Metered Volumes measured by the Metering System as determined by the Panel.     |
| <b>Site Specific: Relevant Change</b> | A significant change to the physical plant, apparatus, distribution network, or capacity that causes a change to the Line Loss Factors. This is used to determine whether Site Specific LLFs shall be recalculated for the annual LLF submission.           |
| <b>Technical Losses</b>               | Technical Losses are losses caused by the intrinsic electrical characteristics internal to the power system and consist mainly of power dissipation in electrical system components such as transmission lines, power transformers and measurement systems. |

## 2. Interface and timetable information

### 2.1 Methodology Review for Host LDSOs and Embedded LDSOs that do not Mirror

| REF.  | WHEN                                       | ACTION  | FROM  | TO    | INFORMATION REQUIRED   | METHOD                                     |
|-------|--|---|-------|-------|--|--|
| 2.1.1 | By 1 August prior to the relevant BSC year | Submit proposed methodology and MSAD, or MSAD only where there has been no change since the methodology was last approved.  | LDSO  | BSCCo | MSAD and methodology or MSAD confirming continued use of approved methodology in accordance with Appendix 1.                             | Email or other electronic means            |
| 2.1.2 | Within 2 WD of 2.1.1                       | Acknowledge receipt of methodology and MSAD, or confirmation that there has been no change since the methodology was last approved.<br><br>If the methodology has not changed, proceed to Ref (2.1.6) below.<br><br>Or if incomplete information has been received from LDSO contact LDSO to advise of any further information required; or advise LDSO that no methodology has been submitted. | BSCCo | LDSO  | Confirmation of receipt and notification of any initial concerns; or notification of failure to submit methodology.                      | Email, telephone or other electronic means |
| 2.1.3 | Within 5 WD of 2.1.1                       | Review methodology for compliance with the LLF Methodology Principles in accordance with Section 3.1 and provide draft report highlighting any non-compliance(s); or confirmation of continued use of approved methodology has been submitted.  | BSCCo | LDSO  | Methodology, MSAD, draft LDSO report, any non-compliances or confirmation of continued use of approved methodology.                      | Email or other electronic means            |
| 2.1.4 | Within 5 WD of 2.1.3                       | Resolve any identified non-compliance(s) and submit updated methodology and MSAD; or submit methodology and MSAD if not submitted by deadline; or submit MSAD confirming continued use of existing approved methodology.  | LDSO  | BSCCo | MSAD, updated methodology, evidence of resolved non-compliance(s), methodology or MSAD confirming continued use of approved methodology. | Email, telephone or other electronic means |

| REF.  | WHEN                       | ACTION  | FROM  | TO    | INFORMATION REQUIRED                         | METHOD                                     |
|-------|----------------------------|---|-------|-------|--|--|
| 2.1.5 | Within 15 WD of 2.1.1      | If non-compliance(s) have been identified, review submission in Ref (2.1.4).<br><br>Provide report with confirmation of compliance or non-compliance.   | BSCCo | LDSO  | LDSO report.                                 | Email, telephone or other electronic means |
| 2.1.6 | To meet Panel requirements | Submit a final report to Panel stating:<br><br>(a) Recommendations for the approval of each methodology with no non-compliance(s) or corrected non-compliance(s); or<br><br>(b) Any continued non-compliance(s); or<br><br>(c) Any failures to submit methodology or confirmation of continued use of approved methodology. | BSCCo | Panel | Final report.                                | Email or other electronic means            |
| 2.1.7 | Within 1 WD of 2.1.6       | Review report submitted in Ref (2.1.6) and:<br><br>Approve methodologies with no outstanding non-compliance(s); and<br><br>Note any non-compliance(s); and<br><br>Note any failures to submit a methodology or confirmation of continued use of existing approved methodology.  | Panel | BSCCo | Final report and Panel decision.             | -  |
| 2.1.8 | Within 5 WD of 2.1.7       | Notify each LDSO stating whether the Panel:<br><br>Approved the methodology; or<br><br>Noted any non-compliance(s); or<br><br>Noted the failure to submit a methodology; or<br><br>Noted the failure to submit confirmation of continued use of existing approved methodology.  | BSCCo | LDSO  | Notification detailing the Panel's decision. | Email or other electronic means            |

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| REF.  | WHEN                     | ACTION   | FROM  | TO  | INFORMATION REQUIRED                             | METHOD                          |
|-------|--------------------------|--|-------|-----|--|---------------------------------|
| 2.1.9 | To meet PAB requirements | Provide report detailing non-compliance(s) or failures to submit a methodology or failure to confirm continued use of existing approved methodology. | BSCCo | PAB | Report detailing non-compliance(s) and failures. | Email or other electronic means |



## 2.2 Methodology Review – Embedded LDSOs that Mirror

| REF.  | WHEN                                   | ACTION  | FROM          | TO            | INFORMATION REQUIRED   | METHOD                                     |
|-------|--|---|---------------|---------------|--|--|
| 2.2.1 | By 1 August prior to relevant BSC year | If Embedded LDSO intends to use their own methodology they must submit proposed methodology and MSAD or MSAD only where there has been no change since the methodology was last approved.                                 | Embedded LDSO | BSCCo         | Confirmation of Mirroring Host or Embedded LDSO methodology and MSAD, in accordance with Appendix 2. | Email or other electronic means            |
| 2.2.2 | Within 2 WD of 2.2.1                   | Acknowledge receipt of notification to Mirror.<br><br>Or where incomplete information received from Embedded LDSO contact Embedded LDSO to advise of any further information required.                                    | BSCCo         | Embedded LDSO | Confirmation of receipt and notification of any initial concerns.                                    | Email, telephone or other electronic means |
| 2.2.3 | To meet Panel requirements             | Submit a Panel paper stating:<br><br>(a) The Embedded LDSO shall Mirror Host or Embedded LDSO methodology (or methodologies).<br><br>(b) Any failures to submit notification to Mirror Host or Embedded LDSO methodology. | BSCCo         | Panel         | Report.  | Email or other electronic means            |

| REF.  | WHEN                 | ACTION  | FROM  | TO    | INFORMATION REQUIRED             | METHOD |
|-------|----------------------|---|-------|-------|----------------------------------|--------|
| 2.2.4 | Within 1 WD of 2.2.3 | Review report submitted in Ref (2.2.3) and:<br><br>Note any interaction with Host or Embedded LDSO Methodologies reviewed in 2.1.7 and any non-compliance(s); and<br><br>Note any failures to notify BSCCo that the Embedded LDSO will Mirror Host or Embedded LDSO methodology (or methodologies). | Panel | BSCCo | Report detailing Panel decision. |        |

### 2.3 Annual Submission and Audit of Line Loss Factors (CVA and SVA) – Host LDSOs and Embedded LDSOs that do not Mirror

| REF.  | WHEN <sup>4</sup> | ACTION   | FROM  | TO    | INFORMATION REQUIRED                               | METHOD                                     |
|-------|-------------------|--|-------|-------|--|--|
| 2.3.1 | By 1 September    | <p>If LLF methodology has been approved, submit data request for Remote Audit or propose dates to conduct a site visit.</p> <p>If LLF methodology has not been approved, submit data request for Remote Audit or agree site visit dates as soon as any outstanding non-compliance(s) have been resolved.</p> | BSCCo | LDSO  | Data request <sup>5</sup> or dates for site visit. | Email, telephone or other electronic means |
| 2.3.2 | By 10 September   | <p>If a site visit is required, agree date(s) with BSCCo. Where a date has not been agreed by this time BSCCo shall determine a suitable date for the site visit.</p> <p>If a data request for Remote Audit has been provided, confirm that the data can be provided by 30 September.</p>                    | LDSO  | BSCCo | Data request or dates for site visit.              | Email, telephone or other electronic means |

<sup>4</sup> Changes to the timescales set out below can be made at the discretion of BSCCo when CVA LLF approval is necessary in less than 40 WD before the Effective Date to carry out BM Unit Registrations and Registration transfers from SMRS to CMRS.

<sup>5</sup> [\[MHHS\]](#) The data request will include a list of Metering Systems to be audited for the correct application of LLFC/[DUoS Tariff ID](#).

| REF.                        | WHEN <sup>4</sup>    | ACTION  | FROM  | TO    | INFORMATION REQUIRED   | METHOD                                     |
|-----------------------------|----------------------|---|-------|-------|--|--|
| <a href="#">[MHHS]2.3.3</a> | By 30 September      | <p>Submit calculated LLFs<sup>6</sup> in accordance with the approved methodology. This should be in the form of a completed CSAD<sup>7</sup> signed by an authorised signatory as well as a completed CSAD Appendix 5.</p> <p>Additionally, if there has been a change to a Line Loss Factor Class (LLFC/<a href="#">DUoS Tariff ID</a>) for an SVA submission then submit appropriate changes in accordance with <a href="#">BSCP509</a> or <a href="#">BSCP707</a> as appropriate.</p> | LDSO  | BSCCo | <p>CSAD (Appendix 3) signed by an authorised person in accordance with <a href="#">BSCP38</a>, a completed CSAD Appendix 5 and:</p> <p>(a) If CVA Submission: CVA Long or Short Format data files, in accordance with Appendix 6; and/or</p> <p>(b) If SVA Submission: SVA Format data file (D0265) in accordance with Appendix 7 and information in accordance with <a href="#">BSCP509</a> if MDD changes are required <a href="#">for non-migrated metering systems or in accordance with BSCP707 for migrated MHHS metering systems.</a></p> | Email or other electronic means            |
| 2.3.4                       | Within 2 WD of 2.3.3 | Acknowledge receipt of CSAD and LLFs and confirm authorised signature.  | BSCCo | LDSO  | Confirmation of receipt and authorised signature.  | Email, telephone or other electronic means |

<sup>6</sup> Separate Site Specific LLFs for Import and Export Metering Systems may be applied in accordance with BSCP75.

<sup>7</sup> Please note that the CSAD covers both CVA and SVA LLFs.

| REF.                                  | WHEN <sup>4</sup>   | ACTION  | FROM  | TO   | INFORMATION REQUIRED  | METHOD  |
|---------------------------------------|---|---|-------|------|---|---|
| 2.3.5                                 | Within 10 WD of 2.3.3 <sup>8</sup>                                    | Provide SVA LLF summary report to Host LDSOs and/or Embedded LDSOs that do not Mirror.  | BSCCo | LDSO | Summary Report for SVA LLFs in accordance with Appendix 8.  | Email or other electronic means                 |
| <a href="#">[MHHS-<br/>GOV]</a> 2.3.6 | Within 10 WD of 2.3.3   | Publish submitted LLFs on the BSC Website, <del>with a status of 'pending'</del> .  | BSCCo |      | SVA LLF Summary Report and:<br><br>(a) If CVA Submission: CDCA-I022 data files; and/or<br><br>(b) If SVA Submission: D0265 data files.  | BSC Website                                     |
| 2.3.7                                 | Between 1 October and 20 November on date agreed in Ref (2.3.2) above | Conduct calculation audit in accordance with Section 3.5. <sup>9,10</sup><br><br>If LLFs have been re-calculated conduct audit, including spot checks on MSIDs. | BSCCo |      | CSAD and CSAD Appendix 5 and:<br><br>(a) If CVA Submission: CDCA-I022 data file; and/or<br><br>(b) If SVA Submission: D0265 data file.<br><br><u>(c) SVA and CVA LLF files and summary report published</u> | CSAD review, LLF validation system, site visits |
| 2.3.8                                 | Within 5 WD of calculation audit <sup>11</sup>                        | Provide draft audit report highlighting any identified non-compliance(s).   | BSCCo | LDSO | Draft LDSO report.  | Email or other electronic means                 |

<sup>8</sup> If Host LDSO LLFs (or LLFs submitted by Embedded LDSOs that do not Mirror) have not been submitted by 30 September, provide summary report of LLFs after 5 WD from the date of Host LDSO LLF submission (or LLF submission by Embedded LDSOs that do not Mirror).

<sup>9</sup> The calculation audit may involve further exchange of information between BSCCo and the LDSO to clarify, correct and re-audit any non-compliance(s). The LDSO shall use reasonable endeavours to provide any information requested by BSCCo. BSCCo will feedback to the LDSO the results of the review of the CSAD and the validation of the LLFs prior to site visit to enable the LDSO to address and identify non-compliances at an early stage. As part of the site visit BSCCo may also wish to target certain areas of the LDSO systems and processes to seek evidence on whether the LDSO has addressed these non-compliance(s).

<sup>10</sup> Where revised LLF values for existing sites have been submitted mid-year prior to commencement of the current submission cycle and are awaiting approval by the Panel, BSCCo shall include the LLF values in the calculation audit.

<sup>11</sup> Where no site visit is required the calculation audit will be limited in scope.

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| <b>REF.</b> | <b>WHEN<sup>4</sup></b>                    | <b>ACTION</b>  | <b>FROM</b> | <b>TO</b> | <b>INFORMATION<br/>REQUIRED</b>  | <b>METHO<br/>D</b>                                     |
|-------------|--|--|-------------|-----------|--|--|
| 2.3.9       | Within 15<br>WD of<br>calculation<br>audit | Resolve any non-<br>compliance(s)<br>identified in Ref<br>(2.3.8) and notify<br>BSCCo. | LDSO        | BSCCo     | Any further<br>information<br>required and<br>evidence of<br>resolved non-<br>compliance(s). | Email,<br>telephone<br>or other<br>electronic<br>means |

| REF.         | WHEN <sup>4</sup> | ACTION  | FROM | TO    | INFORMATION REQUIRED  | METHOD                          |
|--------------|-------------------|---|------|-------|---|---------------------------------|
| [MHHS]2.3.10 | By 10 December    | Submit any revised LLFs to address any outstanding non-compliance(s). | LDSO | BSCCo | <p>Any revised LLFs as required and final CSAD with evidence of resolved non-compliance(s). Final CSAD signed by an authorised person in accordance with BSCP38 and:</p> <p>(a) If CVA re-submission:<br/>CVA Long or Short Format data files in accordance with Appendix 6; and/or</p> <p>(b) If SVA re-submission:<br/>SVA Format data file (D0265) in accordance with Appendix 7 and information in accordance with BSCP509 if MDD changes are required <u>for non-migrated metering systems or in accordance with BSCP707 for migrated MHHS metering systems.</u></p> | Email or other electronic means |

| REF.                                   | WHEN <sup>4</sup>  | ACTION  | FROM  | TO   | INFORMATION REQUIRED  | METHOD  |
|--|--------------------|---|-------|------|---|---|
| <a href="#">[MHHS-<br/>GOV]</a> 2.3.11 | By 31<br>December  | Conduct calculation<br>audit on revised<br>submission.                                    | BSCCo | -    | CSAD and:<br>(a) If CVA<br>Submission<br>: CDCA-<br>I022 data<br>file; and/or<br><br>(b) If SVA<br>Submission<br>: D0265<br>data file <a href="#">for<br/>non-<br/>migrated<br/>metering<br/>systems or<br/>Published<br/>ISD<br/>Catalogue<br/>for<br/>migrated<br/>MHHS<br/>metering<br/>systems.</a> | CSAD<br>review,<br>LLF<br>validation<br>system          |
| 2.3.12                                 | By 31<br>December. | Provide final audit<br>report and<br>confirmation of<br>compliance or non-<br>compliance. | BSCCo | LDSO | Final LDSO<br>report.   | Email,<br>telephone<br>or other<br>electronic<br>means. |



| REF.                                   | WHEN <sup>4</sup> | ACTION  | FROM  | TO | INFORMATION REQUIRED   | METHOD      |
|--|-------------------|---|-------|----|--|-------------|
| <a href="#">[MHHS-<br/>GOV]</a> 2.3.13 | By 31<br>December | Publish revised LLFs on the BSC Website <del>with a status of 'pending'</del> . | BSCCo |    | SVA LLF Summary Report and:<br><br>(a) If CVA Submission : CDCA-I022 data files; and/or<br><br>(b) If SVA Submission : D0265 data files <u>for non-migrated metering systems -or Published ISD Catalogue for migrated MHHS metering systems.</u> | BSC Website |

| REF.                                   | WHEN <sup>4</sup>          | ACTION   | FROM  | TO    | INFORMATION REQUIRED   | METHOD                          |
|--|----------------------------|--|-------|-------|--|---------------------------------|
| <a href="#">[MHHS-<br/>GOV]</a> 2.3.14 | To meet Panel Requirements | Submit a final report specifying the LLFs for which the audit did not identify non-compliance(s) (including resolved non-compliance(s)) and the LLFs for which the audit identified non-compliance(s) including any default values requiring approval <sup>12</sup> .<br><br>Where MDD/ <a href="#">ISD</a> changes have been identified submit notice in accordance with BSCP509/ <a href="#">BSCP70</a> <a href="#">7</a> that there has been (or is due to be) a change to MDD/ <a href="#">ISD</a> for Panel approval. | BSCCo | Panel | Final report, any default values and any MDD/ <a href="#">ISD</a> changes. | Email or other electronic means |
| 2.3.15                                 | To meet Panel Requirements | Approve LLFs with no identified non-compliance(s) and note any non-compliant LLFs in Ref (2.3.14) above.<br><br>Approve default values for any non-compliant LLFs.   | Panel | BSCCo | LLFs, Final report and any default values.                                 | -                               |
| 2.3.16                                 | Within 1 WD of 2.3.15      | Notify Panel decision.   | Panel | BSCCo | Panel decision.  | -                               |
| 2.3.17                                 | To meet PAB requirements   | Provide a copy of the final report in Ref (2.3.14) giving details of any non-compliance(s).  | BSCCo | PAB   | Final report in Ref (2.3.14) with details of any non-compliance(s).        |                                 |

<sup>12</sup> Where no methodology has been approved, default LLFs shall be presented to the Panel for approval.

| REF.   | WHEN <sup>4</sup>                    | ACTION  | FROM  | TO      | INFORMATION REQUIRED   | METHOD                          |
|--------|--------------------------------------|---|-------|---------|--|---------------------------------|
| 2.3.18 | Within 2 WD of 2.3.16                | Provide a final report for the LDSO stating whether the Panel:<br><br>Approved LLFs with no outstanding non-compliance(s); or<br><br>Noted any continued non-compliance(s) and approved default values. | BSCCo | LDSO    | Final report detailing Panel approval of LLFs; any default values and any continued non-compliance(s). | Email or other electronic means |
| 2.3.19 | As agreed between BSCCo and the LDSO | If the Panel has noted any non-compliance(s), liaise with BSCCo to correct and re-submit LLFs. <sup>13</sup>  | LDSO  | BSCCo   | Any revised LLFs as required and final CSAD with evidence of resolved non-compliance(s).               | Email or other electronic means |
| 2.3.20 | Within 2 WD of 2.3.16                | Notify Parties of LLFs approved by the Panel.   | BSCCo | Parties | LLFs approved by the Panel (including any default LLFs).   | Email or other electronic means |

<sup>13</sup> As appropriate, BSCCo shall present the corrected LLFs to Panel for approval and inform PAB of the Panel outcome.

| REF.                                  | WHEN <sup>4</sup>     | ACTION   | FROM  | TO                  | INFORMATION REQUIRED  | METHOD           |
|---------------------------------------|-----------------------|--|-------|---------------------|---|------------------|
| 2.3.21                                | Within 2 WD of 2.3.16 | <p>Update LLFs on BSC Website to be utilised in Settlement, when either:</p> <p>(a) The Panel has approved the submission, update LLFs and EFD; or</p> <p>(b) If the Panel has approved default values, update LLFs to default values to be used in Settlement and EFD.</p> <p>If SVA submission only – BSCCo should proceed to Ref (2.3.28).</p> <p>If both CVA and SVA submission then – BSCCo should proceed from Ref (2.3.24) onwards.</p> | BSCCo | -                   | Confirmation of Panel decision, LLFs and default values for non-approved LLFs.  | Electronic means |
| <a href="#">[MHHS-<br/>GOV]2.3.22</a> | Within 5 WD of 2.3.21 | Obtain LLFs for the LLFCs from BSC Website <del>for non-migrated metering systems.</del>   | -     | HHDAs/<br>Suppliers | <p>D0265 data files <del>for non migrated metering systems.</del></p> <p><a href="#">Published ISD monthly catalogue for migrated metering systems and CVA.</a></p> | BSC Website      |

| REF.                                   | WHEN <sup>4</sup>   | ACTION  | FROM                     | TO    | INFORMATION REQUIRED   | METHOD                                   |
|--|---|---|--------------------------|-------|--|--|
| <a href="#">[MHHS-<br/>GOV]</a> 2.3.23 | Within 10<br>WD of<br>2.3.22                                    | HHDA's and<br>Suppliers<br>implement into<br>systems  | HHDA's/<br>Supplier<br>s | -     | D0265 data files<br><a href="#">for non-migrated<br/>metering systems.</a><br><br><a href="#">Published ISD<br/>monthly catalogue<br/>for migrated<br/>metering systems<br/>and CVA.</a> | -  |
| 2.3.24                                 | By 10<br>March.   | Provide CDCA<br>with CVA LLFs for<br>use in Settlement:<br><br>(a) If the Panel<br>has<br>approved the<br>CVA LLF<br>submission,<br>provide<br>CVA LLFs<br>and EFD; or<br><br>(b) If the Panel<br>has<br>approved<br>default<br>values,<br>provide<br>default CVA<br>LLF values<br>and EFD. | BSCCo                    | CDCA  | Confirmation of<br>approval of<br><br>CVA LLFs and<br>EFD contained in<br>CDCA-I022 data<br>files; or<br><br>CVA Metering<br>System ID,<br>CDCA-I022 data<br>files and<br><br>EFD.       | Email or<br>other<br>electronic<br>means |
| <a href="#">[MHHS]</a> 2.3.2<br>5      | Within 1 WD<br>of 2.3.24  | Acknowledge<br>receipt of CVA<br>LLFs and notify<br>BSCCo of any<br>exceptions via the<br>CDCA-I023 data<br>file.   | CDCA                     | BSCCo | CDCA-I022 <del>3</del> data<br>file.   | Email or<br>other<br>electronic<br>means |
| 2.3.26                                 | Within a<br>timescale<br>agreed<br>between<br>CDCA and<br>BSCCo | Implement<br>approved CVA<br>LLFs in accordance<br>with CDCA-I022<br>data files supplied<br>in Ref (2.3.24)<br>above into CDCA<br>systems.  | CDCA                     | -     | CDCA-I022 data<br>files.   | -  |
| 2.3.27                                 | Within 1 WD<br>of 2.3.26  | Notify BSCCo of<br>successful CDCA-<br>I022 load.   | CDCA                     | BSCCo | -  | Email or<br>other<br>electronic<br>means |

| REF.                             | WHEN <sup>4</sup>                                | ACTION   | FROM  | TO    | INFORMATION REQUIRED   | METHOD                          |
|----------------------------------|--|--|-------|-------|--|---------------------------------|
| <a href="#">[MHHS-GOV]2.3.28</a> | By 10 March.                                     | Provide SVAA with SVA LLFs for use in Settlement:<br><br>(a) If the Panel has approved the SVA LLF submission, provide SVA LLFs and EFD; or<br><br>(b) If the Panel has approved default values, provide default SVA LLF values and EFD. | BSCCo | SVAA  | <a href="#">For non-migrated metering systems</a><br><br>Confirmation of approval of SVA LLFs and EFD contained in D0265 data files; or<br><br>D0265 data files, default values and EFD.<br><br><a href="#">For migrated MHHS metering systems</a><br><br><a href="#">Confirmation of approval of SVA LLFs and EFD contained in ISD Data Catalogue; or Information contained in ISD Data Catalogue data files, default values and EFD.</a> | Email or other electronic means |
| 2.3.29                           | Within 1 WD of 2.4.28                            | Acknowledge receipt of SVA LLFs.   | SVAA  | BSCCo | -  | Email or other electronic means |
| <a href="#">[MHHS-GOV]2.3.30</a> | Within a timescale agreed between SVAA and BSCCo | Implement approved SVA LLFs in accordance with D0265 data files supplied in Ref (2.3.28) above into SVAA systems <a href="#">or Published ISD Data Catalogue (as appropriate) supplied in Ref (2.3.28) into SVAA system.</a>             | SVAA  |       | D0265 data files <a href="#">Information contained in Published ISD Data Catalogue.</a>  | Email or other electronic means |

| REF.                                   | WHEN <sup>4</sup>        | ACTION  | FROM | TO    | INFORMATION REQUIRED | METHOD                                   |
|--|--------------------------|---|------|-------|----------------------|--|
| <a href="#">[MHHS-<br/>GOV]</a> 2.3.31 | Within 1 WD<br>of 2.3.30 | Notify BSCCo of<br>successful D0265<br><a href="#">or information<br/>contained in ELEX-<br/>REP-005</a> data file<br>load. | SVAA | BSCCo | -                    | Email or<br>other<br>electronic<br>means |

## 2.4 Annual Submission and Audit of LLFs – Embedded LDSOs that Mirror

| REF.        | WHEN            | ACTION  | FROM          | TO            | INFORMATION REQUIRED   | METHOD                                      |
|-------------|-----------------|---|---------------|---------------|--|---|
| [MHHS]2.4.1 | By 1 September  | Provide list of Metering Systems to be audited for the correct application of <a href="#">LLFC/DUoS Tariff ID</a> . | BSCCo         | Embedded LDSO | List of Metering Systems   | Email or other electronic means             |
| [MHHS]2.4.2 | By 30 September | Confirm <a href="#">LLFC/DUoS Tariff ID</a> and voltage for each Metering System in list provided by BSCCo.         | Embedded LDSO | BSCCo         | List of Metering Systems   | Email or other electronic means             |
| [MHHS]2.4.3 | By 10 October   | Check a representative sample of Metering Systems are assigned to the correct <a href="#">LLFC/DUoS Tariff ID</a> . | BSCCo         | -             | MSAD Metering System sample  | Email, other electronic means or Site visit |
| 2.4.4       | By 10 October   | Provide Metering System sample report highlighting any non-compliance(s).   | BSCCo         | Embedded LDSO | Metering System sample report.   | Email or other electronic means             |
| 2.4.5       | By 31 December  | Resolve any identified non-compliance(s) in Ref (2.4.4) and notify BSCCo.   | Embedded LDSO | BSCCo         | Any further information required and evidence of resolved non-compliance(s). | Email, telephone or other electronic means  |



| REF.  | WHEN                   | ACTION   | FROM          | TO    | INFORMATION REQUIRED  | METHOD   |
|-------|------------------------|--|---------------|-------|---|--|
| 2.4.6 | By 31 December + 10 WD | Obtain LLFs submitted by the relevant Host LDSO(s) or Embedded LDSOs that do not Mirror; and submit LLFs <sup>6</sup> and CSAD documents in accordance with approved Host LDSO or Embedded LDSO methodology. | Embedded LDSO | BSCCo | <p>LDSO's submitted LLFs;</p> <p>(a) If CVA Submission: CVA Long or Short Format data files in accordance with Appendix 6; and/or</p> <p>(b) If SVA Submission: SVA Format data file (D0265) or Short Format data file(s) in accordance with Appendix 7 and information in accordance with BSCP509 if MDD changes are required <u>non-migrated metering systems or in accordance with BSCP707 for migrated MHHS metering systems.</u></p> <p>This must be accompanied by a CSAD for Embedded LDSOs that Mirror in accordance with Appendix 4, signed by an authorised person in accordance with BSCP38 and an Appendix 5.</p> | <p>BSC Website or Host LDSO or Embedded LDSO that does not Mirror</p> <p>Email or other electronic means</p> |

| REF.   | WHEN                  | ACTION  | FROM          | TO            | INFORMATION REQUIRED  | METHOD   |
|--------|-----------------------|---|---------------|---------------|---|--|
| 2.4.7  | Within 2 WD of 2.4.6  | Acknowledge receipt of CSAD and LLFs and confirm authorised signature.    | BSCCo         | Embedded LDSO | Confirmation of receipt and authorised signature.   | -  |
| 2.4.8  | Within 4 WD of 2.4.6  | Conduct LLF Calculation Audit.  | BSCCo         | -             | CSAD and:<br>(a) If CVA submission: CVA Long or Short Format data files or other format agreed with BSCCo; and/or<br>(b) If SVA submission: D0265 data files or other format agreed with BSCCo. | LLF Validation System, Host LDSO LLF submissions |
| 2.4.9  | Within 6 WD of 2.4.6  | Provide draft audit report highlighting any non-compliance(s).            | BSCCo         | Embedded LDSO | Draft LDSO report.  | Email or other electronic means                  |
| 2.4.10 | Within 10 WD of 2.4.9 | Resolve any identified non-compliance(s) in Ref (2.4.9) and notify BSCCo. | Embedded LDSO | BSCCo         | Any further information required and evidence of resolved non-compliance(s).  | Email, telephone or other electronic means       |

| REF.         | WHEN                   | ACTION  | FROM          | TO    | INFORMATION REQUIRED   | METHOD                          |
|--------------|------------------------|---|---------------|-------|--|---------------------------------|
| [MHHS]2.4.11 | At same time as 2.4.10 | Submit any revised LLFs to address any outstanding non-compliance(s). | Embedded LDSO | BSCCo | <p>Any revised LLFs as required and final CSAD with evidence of resolved non-compliance(s).</p> <p>The submission should include the final CSAD signed by an authorised person in accordance with <a href="#">BSCP38</a> as well as an <a href="#">Appendix 5</a> and;</p> <p>and:</p> <p>(a) If CVA re-submission:<br/>CVA Long or Short Format data files in accordance with Appendix 6; and/or</p> <p>(b) If SVA re-submission:<br/>SVA Format data file (D0265) or Short Format file(s) in accordance with Appendix 7 and information in accordance with <a href="#">BSCP509</a> if MDD changes are required <u>for non-migrated metering systems. For migrated MHHS metering systems, in accordance with BSCP707.</u></p> | Email or other electronic means |

| REF.   | WHEN                  | ACTION   | FROM  | TO            | INFORMATION REQUIRED | METHOD                              |
|--------|-----------------------|--|-------|---------------|----------------------|-------------------------------------|
| 2.4.12 | Within 4 WD of 2.4.10 | Conduct calculation audit on revised submission.   | BSCCo | -             | -                    | CSAD review, LLF validation system. |
| 2.4.13 | Within 6 WD of 2.4.10 | Produce final audit report and confirmation of compliance or non-compliance.<br><br>Proceed to <a href="#">Section 2.3</a> of this BSCP and continue onwards from Ref (2.3.14) to complete the submission and audit process. | BSCCo | Embedded LDSO | Final LDSO report.   | Email or other electronic means     |

## 2.5 Mid-year submission of new and revised LLFs<sup>14</sup>

| REF.                            | WHEN <sup>4</sup>   | ACTION  | FROM  | TO    | INFORMATION REQUIRED  | METHOD                          |
|---------------------------------|---|---|-------|-------|---|---------------------------------|
| <a href="#">[MHHS-GOV]2.5.1</a> | >= EFD-50 WD if mid-year submission for new site; or<br>>=EFD-40 WD if mid-year submission of revised LLFs for an existing site | Submit calculated LLFs in accordance with the approved methodology and completed CSAD <sup>7</sup> ( <a href="#">Appendix 10</a> ) signed by an authorised signatory. | LDSO  | BSCCo | CSAD signed by an authorised person in accordance with BSCP38; and<br><br>(a) If CVA Submission: CVA Long or Short Format data files in accordance with <a href="#">Appendix 6</a> ; and/or<br><br>(b) If SVA Submission: SVA Format data file (D0265) in accordance with <a href="#">Appendix 7</a> and information in accordance with BSCP509 if MDD changes are required <u>for non-migrated metering systems. For migrated MHHS metering systems, in accordance with BSCP707.</u> | Email or other electronic means |
| 2.5.2                           | Within 2 WD of 2.5.1  | Acknowledge receipt of CSAD and LLFs and confirm authorised signature.  | BSCCo | LDSO  | Confirmation of receipt and authorised signature.   | Email or telephone              |

<sup>14</sup> Mid year submission of revised LLFs are subject to the criteria defined in the LLF Methodology Principles 14, 15 and 16, see Appendix 3.1 of this document.

| REF.        | WHEN <sup>4</sup>    | ACTION   | FROM  | TO   | INFORMATION REQUIRED  | METHOD                          |
|-------------|----------------------|--|-------|------|---|---------------------------------|
| [MHHS]2.5.3 | Within 5 WD of 2.5.1 | Conduct calculation audit. <sup>9</sup>  | BSCCo |      | CSAD and<br>(a) If CVA submission: CVA Long or Short Format data files; and/or<br>(b) If SVA submission: D0265 data files <u>for non-migrated metering systems.</u> | LLF validation system           |
| 2.5.4       | Within 5 WD of 2.5.3 | Produce final report and confirmation of compliance or non-compliance.<br><br>Proceed to Ref (2.3.15). | BSCCo | LDSO | Final Report.   | Email or other electronic means |

### 3. Supporting Information

#### 3.1 LLF Methodology Principles

All LLF methodologies are required to comply with the Principles described below:

1. LLFs shall be calculated using a generic (non Site Specific) method except for:
  - (a) Sites that are connected at Extra High Voltage (EHV); or
  - (b) Where the customer has requested a Site Specific LLF, and the LDSO is in agreement.
2. All LLFs shall be calculated to at least 3 decimal places and submitted to 3 decimal places.
3. All Site Specific LLFs shall account for Technical Losses only.
4. All Generic LLFs shall account for all losses (Technical and Non Technical).
5. Site Specific losses and the total Grid Supply Point Group (GSPG) losses shall be considered in the calculation of Generic LLFs.<sup>15</sup>

<sup>15</sup> This principle allows Site Specific Losses to be calculated individually or in aggregate and then used in the calculation of Generic LLFs.

6. Non-EHV Generic LLFs for Import and Export at the same site where the voltage level is the same shall have the same values.
7. [MHHS] There shall be no more than 2 Low Voltage (LV) and 2 High Voltage (HV) Generic LLFC/DUoS Tariff ID Groups, in each GSPG, and at least 1 Generic EHV LLFC/DUoS Tariff ID Group. All DUoS Tariff IDs to be mapped to an appropriate LLFid.
8. As a minimum, Generic LLFs shall be calculated separately for Day and Night.
9. LDSOs shall utilise Settlement data from a Settlement Run at R3 or greater and from a complete 12-month period, for calculating Generic LLFs. The 12-month period to be used shall be the BSC Year<sup>16</sup> 3 years prior to the BSC Year for which the LLFs are being calculated.
10. Adjustments to calculation or application of LLFs, to take into account historic market wide issues noted in the BSC Auditor's latest Report, can only be made if agreed to be appropriate by the Panel.
11. Robust error detection and correction processes shall be in place throughout the calculation and submission of LLFs.
12. All Generic LLFs shall be re-calculated at least every 2 years.
13. All Site Specific LLFs shall be re-calculated when there has been a relevant change to the site or network, and at least every 5 years.<sup>17</sup>
14. No changes shall be made to approved Generic LLFs mid year. Annual updates will have an effective from date of 1 April. Where default LLFs have been applied due to an audit failure, these may be replaced with approved LLFs on a prospective basis as determined when the LLFs resubmitted by the LDSO have been approved by the Panel.
15. No retrospective changes shall be made to approved Site Specific or Generic LLFs other than to correct material manifest errors.
16. Changes shall only be made to approved Site Specific LLFs mid year if there has been a material change affecting the site; and the revised LLFs have been approved by the Panel. Annual updates will have an effective from date of 1 April. Where default LLFs have been applied due to an audit failure, these may be updated to the approved LLFs on a prospective basis as determined from time to time by the Panel.
17. Where the usage profile for a given site contains insufficiently large consumption or generation volumes to enable calculation of realistic Site Specific LLFs then a default calculation, or default replacement process shall be undertaken.

<sup>16</sup> This principle only applies to the calculation of Generic LLFs. The BSC Year is 1 April to 31 March, LLFs for use in the BSC Year commencing 1 April 2011 should be calculated using the Settlement Data from the 2008 BSC Year, 1 April 2008 to 31 March 2009.

<sup>17</sup> Appendix 3.4 provides clarification on how this should be implemented.

A default replacement process shall be deemed to have been undertaken if a generic methodology is used where the following applies<sup>18</sup>:

- (a) A Site<sup>19</sup> has multiple connections to the Total System and the primary connection is at EHV but there is a subordinate connection that is not connected at EHV, then a generic methodology **MAY** be used for the subordinate connection (even if a Site specific LLF is used for the Site's primary connection as per Principle 1); and
- (b) The connection has a capacity of less than or equal to 1MVA

### 3.2 Guidelines for the approval of LLF Values

The BSCCo will employ the following guidelines in its submission of LLFs to the Panel for approval:

- (a) The methodology employed by the LDSO has been approved;
- (b) The LLF values have been calculated in accordance with the approved methodology;
- (c) The LLF values have been audited and any outstanding non-compliance(s) have been resolved; and
- (d) Where appropriate, default LLF values are provided in accordance with [Section 3.3](#) below.

LLF values that fail any part of the audit shall not be approved.

### 3.3 Use of Default Values

**[MHHS]** For all non-approved Site Specific LLFs and Generic LLFs default values shall be applied in the order of precedence below:

- (a) The values shall be the last approved LLFs;
- (b) Where there are no previously approved Site Specific LLFs, the default values shall be the approved Generic LLFC/[DUoS Tariff ID](#) Group LLFs for the equivalent voltage level<sup>20</sup>;
- (c) Where there are no previously approved Generic LLFs, the default values shall be set to 1.000 (unity);

Default values shall continue to apply until such time as the LDSO submits a set of LLFs which are approved by the Panel, whereupon the new approved LLFs shall be applied on a prospective basis only;

<sup>18</sup> If a connection is at EHV due to the Import/Export capacity associated with its primary purpose but, a much lower Import/Export capacity is also required for secondary purposes, which would be a non-EHV connection if considered in its own right, this default replacement process **MAY** also apply e.g. a single Metering System with separate Import and Export MSIDs

<sup>19</sup> In this context, Site has the meaning given to it in BSC Section K 1.6

<sup>20</sup> This also applies to new sites energised mid-year.



[MHHS] For existing Site Specific LLFs or a Generic LLFC/DUoS Tariff ID Group the previously approved LLFs shall continue to apply until such time as the LDSO submits a new set of LLFs which are approved by the Panel, whereupon the new approved LLFs shall be applied on a prospective basis only.

The default LLFs are applied on the equivalent Seasonal Time of Day (SToD)<sup>21</sup> basis, for example, the previously approved LLFs for a 'Night' SToD period will be the default LLFs for a Night SToD period in the next year.

If, after attempting to apply the rules in (b) to (c), there is no data available from the corresponding Settlement Period in the previous year, a default LLF of 1.000 shall be applied.

In each instance, the default LLFs shall only be replaced by approved LLFs notified in accordance with Section 2.3.21.

### 3.4 Recalculation of LLFs

The LDSO shall employ the following guidelines when recalculating LLFs:

- (a) Site Specific LLFs which have been recalculated in the last 5 years, will only need to be recalculated when this 5 years is complete, even if the last recalculation was completed before 20 April 2009;
- (b) Site Specific LLFs which have not been recalculated in the last 5 years prior to 20 April 2009, will need to be recalculated for the second LLF submission following this date;
- (c) New Site Specific LLFs (for new sites, or sites that have moved to Site Specific LLFs as a result of Principle 1) must be calculated for the first LLF submission following 20 April 2009; and
- (d) Where 12-month Settlement data becomes available, the standard deadlines for submission of the methodology and LLF values listed in [Section 2](#) still apply. Embedded LDSOs who are unable to meet these deadlines will need to continue to Mirror the Host LDSOs Generic LLFs.

### 3.5 LLF Calculation Audit Scope

The LLF Calculation audit<sup>22</sup> covers the checks outlined below:

1. Confirm all LLFs submitted have effective from dates of 1 April;
2. Confirm that CVA and SVA LLFs were submitted by a Category X Signatory;
3. Confirm all LLFs submitted are calculated to at least 3 decimal places and submitted to 3 decimal places (as per Principle 2);
4. Confirm data files are in the correct formats:

<sup>21</sup> STOD (Seasonal Time of Day) Distribution losses vary according to the time the power is taken by the customer. Typically there will be different LLFs for Day, Night, Summer Day and Winter Day and Winter Peak times. The STOD periods are specified in the LDSO's methodology statement.

<sup>22</sup> BSCCo will use a LLF validation system to conduct a number of the validation checks as outlined in this section.

- (a) For CVA LLFs, confirm that the long and/or short format files are in accordance with the format defined in Appendix 6;
  - (b) For SVA LLFs, confirm that the D0265 file is in accordance with the format defined in the Energy Market Data Specification (EMDS) in Appendix 7.
5. Confirm that the number of Settlement Periods for each Settlement Date matches the number of LLFs submitted for that date;
  6. Confirm that all SVA LLFC IDs submitted are entered in MDD or an application has been made to do so and that LLFs have been submitted for all LLFCs contained in MDD;

[

[MHHS]7 Confirm that all LLF IDs submitted are in ISD or an application has been made to do so and that LLFs have been submitted for all LLF IDs contained in ISD and published as part of the ISD Catalogue.;

87. Conduct a validation check, which will pick out<sup>23</sup>:

- (a) All SVA LLFs which are <0.750 or >1.250.
- (b) All CVA LLFs which are <0.750 or >1.250.
- (c) All revised SVA LLFs which are outside a range specified as:  
 {last year's LLF minus 20% of last year's loss<sup>24</sup>} to {last year's LLF plus 20% of last year's loss};

Examples:

- (i) if last year's LLF was 1.050, the valid range for this year would be 1.040 – 1.060; and
- (ii) if last year's LLF was 0.950, the valid range for this year would be 0.940 – 0.960.
- (d) All revised CVA LLFs which are outside a range specified as:  
 {last year's LLF minus 50% of last year's loss<sup>24</sup>} to {last year's LLF plus 100% of last year's loss};

Examples:

- (i) if last year's LLF was 1.050, the valid range for this year would be 1.025 – 1.100; and

<sup>23</sup> For checks 7(a) to 7(e) BSCCo shall compare the value submitted by the LDSO with a previous factor for a similar time period.

<sup>24</sup> The loss refers to the proportion of energy lost as a result of electricity flowing through the Distribution System.

- (ii) if last year's LLF was 0.950, the valid range for this year would be 0.900 – 0.975.
- (e) All sites with new CVA or SVA Site Specific LLFs (that were not included in last year's submission).
- (f) All site specific SVA or CVA LLFs for which a default calculation, or default replacement had been applied;

Examples:

- (i) if for a given SToD period/periods instead of Settlement consumption or generation data, a set energy threshold was applied (e.g. 200 kVA); or
- (ii) if for a given SToD period/periods generic LLF values were applied.

| 98. Check a representative sample of LLFs to confirm that they have been calculated in accordance with the audited methodology. This check may be performed at the LDSO's offices, and will include discussions with the LDSO and consideration of the audit trail.

For the site specific audit the LDSOs are required to submit details of how the site specific LLFs have been calculated. Appendix 9 can be used to submit the information but if the LDSO decides to submit their own format it must comply with the following guidelines:

| Requirement | Description of Requirement  |
|-------------|---|
| 1           | The calculation details must be provided in a spreadsheet format (requirement 7 and 9 can be provided in additional attachments)  |
| 2           | Show the year of data being used to calculate the Line Loss Factor  |
| 3           | Show that the Line Loss Factor calculation takes into account both variable losses and fixed losses   |
| 4           | Show/confirm that the Line Loss Factor calculation takes into account Technical Losses only   |
| 5           | Show that Line Loss Factor is calculated for the SToD as defined in the methodology statement   |
| 6           | Show the difference in network losses when the customer is connected and disconnected   |
| 7           | Provide screenshot/raw data to support requirement 6  |
| 8           | Show the customer's load data that is being used to calculate the Line Loss Factor  |
| 9           | Show the customer's line diagram and label the connection voltage for the customer  |
| 10          | Check the calculated Line Loss Factor values against previously approved values (within acceptable tolerance level)   |
| 11          | Show both export and import LLF calculations using the "Additional LLF Calculation" sheet. Provide a description on how the export LLF and import LLF are combined to calculate the final LLF. This is only applicable if export and import LLFs are individually calculated and then combined to derive the final LLF. |

9. **[MHHS]** Check a representative sample of Metering Systems to confirm that the correct LLFC/**DUoS Tariff ID** has been applied. This check may be performed at the LDSO's offices. For clarity, this check will look at the application of an LLFC/**DUoS Tariff ID** to Metering Systems during the last year.

## 3.6 Appendices

### Methodology Self Assessment Documents

**Appendix 1:** Methodology Self-Assessment Document (MSAD) for Host LDSOs and Embedded LDSOs that do not Mirror.

**Appendix 2:** Methodology Self-Assessment Document (MSAD) for Embedded LDSOs that Mirror.

### Calculation Self Assessment Documents

**Appendix 3:** Calculation Self-Assessment Document (CSAD) for Host LDSOs and Embedded LDSOs that do not Mirror.

**Appendix 4:** Calculation Self-Assessment Document (CSAD) for Embedded LDSOs that Mirror.

**Appendix 5:** Calculation Self-Assessment Document (CSAD) 2.1 and 2.2 Supporting Data for Host LDSOs and Embedded LDSOs that do not Mirror.

### LLF Submission forms

**Appendix 6:** CVA Long and Short Format data files.

The CVA Long Format is essentially a file containing every Line Loss Factor (LLF) for every Settlement Period of every Settlement Day for the BSC Year. This is provided by the LDSO to BSCCo and the format of this data file is detailed in [Appendix 6](#).

**Appendix 7:** SVA Format data file (D0265) and SVA Short Format files.

This provides detail of line loss factors published by line loss factor class. This flow is sent from the Distributor to the Half Hourly Data Aggregator (HHDA), Supplier and the Supplier Volume Allocation Agent (SVAA). Further detail of this flow can be found in [Appendix 7](#).

### SVA LLF Summary Report

**Appendix 8:** SVA Summary Report.

The Summary Report is a schedule of Line Loss Factors provided to the LDSO. This is produced by BSCCo as an output from the SVA data files that was supplied by the LDSO and published on the Elexon portal. Further detail of can be found in [Appendix 8](#).

**Appendix 9:** Calculation Self-Assessment Document (CSAD) Site Specific LLF Calculation Audit Evidence Template

**Appendix 10:** Calculation Self-Assessment Document (CSAD) Site Specific LLF Calculation Audit Evidence Template