

CP1485 'Validation of power transformer and cable/line loss adjustments'



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About This Document

The purpose of this CP1485 CP Consultation is to invite BSC Parties, Party Agents and other interested parties to provide their views on the impacts and the merits of CP1485. The Imbalance Settlement Group (ISG) and Supplier Volume Allocation Group (SVG) will then consider the consultation responses before making a decision on whether or not to approve CP1485.

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's and SVG's initial views on the proposed changes.
- Attachment A-E contains the proposed redlined changes to deliver the CP1485 solution.
- Attachment F contains the specific questions on which we seek your views. Please use this form to provide your response to these questions, and to record any further views or comments you wish to be considered.
- Attachment G contains the proposed standard methodology.

1 Why Change?

BSC requirements

[Section K 'Classification and Registration of Metering Systems and BM Units'](#) of the Balancing and Settlement Code (BSC) requires Parties to be responsible for measuring and recording flows of electricity using compliant Metering Equipment:

- at Systems Connection Points (SCPs); and
- to or from Plant or Apparatus connected to the Total System¹ at Boundary Points (BPs).

These Parties (Registrants) must register the Metering Equipment as one or more Metering System(s).

<https://www.elexon.co.uk/bsc-related-documents/balancing-settlement-code/bsc-sections/> requires Metering Equipment to comply with the requirements set out in the relevant Code of Practice (CoP) at the time the Metering System, to which the Metering Equipment belongs, is first registered under the BSC.

If the Metering Equipment does not comply with any or all the requirements of the relevant CoP, then the Registrant must apply for a Metering Dispensation for the Metering Equipment. The Metering Dispensation application process is set out in [BSCP32 'Metering Dispensations'](#) and the BSC Panel² considers Metering Dispensation applications.

The CoPs define the points at which measurements of flows of electricity are required for Settlement purposes. These points of measurement are the Defined Metering Points (DMPs) and relate to SCPs and BPs.

The CoPs also state the required accuracy of measurement required at the DMP, whether or not the measurement transformers for the Metering System are located at the DMP or away from the DMP.

What is the issue?

On 23 November 2013, ELEXON presented a paper ([ISG151/01](#)) to the ISG on issues related to the three DMPs in Appendix A of CoPs 1, 2, 3, 5 and 10.

At the meeting an ISG member expressed concerns about the visibility of electrical loss adjustments applied to Metering Systems under a Metering Dispensation. The ISG member was concerned because the current process relies on the Registrant to ensure the electrical loss adjustments are correct. ELEXON explained that the Technical Assurance Agent (TAA) does review electrical loss adjustments applied to Metering Systems when it audits Metering Systems. The TAA audits Half Hourly (HH) Metering Systems (Measurement Class C only) on a sample basis, as set out under [BSCP27 'Technical Assurance of Half Hourly Metering Systems for Settlement Purposes'](#).

ELEXON suggested that the Metering Dispensation Review Group (MDRG), a voluntary group of industry metering experts, could review any electrical loss adjustments required as part of the Metering Dispensation application process and the TAA could also provide comments on the Metering Dispensation application at this earlier stage. The ISG



What are the DMP and the AMP?

The DMP is the point of connection between the Transmission System and the Distribution System. The AMP is the actual Metering Point means the physical location at which electricity is metered.

¹ The Total System includes the Transmission System, each Offshore Transmission User Asset and each Distribution System.

² Delegated to the ISG and to the SVG.

suggested that ELEXON set up an Issue Group to consider the three issues with the DMPs in Appendix A of CoPs 1, 2, 3, 5 and 10, and the validation of power transformer and cable or line electrical loss adjustments, as part of the Metering Dispensation application process.

Following the ISG discussion, ELEXON raised [Issue 54 'Discrepancies between the points of measurement required in the BSC and the CoPs and the physical points of connection'](#) on 6 February 2014.

The ISG expressed concern about the lack of validation of power transformer or line loss compensation factors as part of the Metering Dispensation application process.

The Issue 54 Group commented that the ISG does not necessarily need to see the compensation values but would like someone with the relevant expertise to have seen them. It added that currently the validation process is under the responsibility of the Registrant but the Meter Operator Agent (MOA) calculates the compensation values. The Group questioned whether a standard approach should be taken. In this way there will be a generic process for the industry.

The Issue 54 Group did not agree with ELEXON's suggestion that the MDRG could validate any electrical loss adjustments, because the MDRG is a voluntary group of industry metering experts who contribute their time and expertise to review Metering Dispensation applications free of charge. Some MDRG members also act as MOAs and calculate electrical loss adjustments for Registrants on a chargeable basis. The Issue 54 Group recommended that the TAA validate any electrical loss adjustments as part of the Metering Dispensation application process.

The Issue 54 Group also suggested that the process should allow for certain parties to provide input into the electrical loss calculation process where the electrical losses occur in equipment (i.e. power transformers and/or cables/lines) that do not belong to the Registrant. For example, Transmission network owners, LDSOs or Customers/Generators.

Proposed solution

ELEXON raised [CP1485 'Validation of power transformer and cable/line loss adjustments'](#) on 13 March 2017. This CP seeks to address the validation of power transformer and cable or line electrical loss adjustments. It proposes that a new role is created for an appointed party to validate power transformer and cable/line electrical loss adjustments as part of the Metering Dispensation application process.

The Issue 54 Group recommended that the TAA validate any electrical loss adjustments. ELEXON recommends that the term 'TAA' is not used in BSCP32 for the party that performs the electrical loss adjustment validation. Instead, ELEXON recommends using the term 'Electrical Loss Validation Agent' (ELVA). This term will future proof BSCP32 in case the party that performs the electrical loss adjustment validation changes. This CP proposes that the ELVA validates the power transformer and/or cable/line losses before the ISG and/or the SVG approves a Metering Dispensation, in which compensation for power transformer or cable/line losses is proposed to be applied to the Metering System. The steps that the ELVA will take to fulfil the new obligation are set out in the Attachment B. A standard methodology will be agreed by the SVG and the ISG as part of this CP (Attachment G).

The process should allow for certain parties to provide input into the electrical loss calculation process where the electrical losses occur in equipment (i.e. power transformers and/or cables/lines) that does not belong to the Registrant (i.e. Transmission network owners, Licenced Distribution System Operators (LDSOs) or Customers/Generators.)

Suggested BSCP32 Processes

For site specific Metering Dispersations, where the Registrant proposes electrical loss adjustments, the Registrant will need to submit the Metering Dispensation application and any proposed power transformer and/or cable or line electrical loss adjustments to ELEXON. ELEXON will circulate the Metering Dispensation application to the MDRG, Transmission Company and/or LDSO and send any proposed power transformer and/or cable or line electrical loss adjustments to the ELVA for validation. ELEXON will present the MDRG/TC/LDSO comments, ELEXON's view on the Metering Dispensation application and, where relevant, the ELVA's assessment of the suitability of the proposed (or potentially revised) electrical loss adjustments to the relevant BSC Panel Committee for approval.

Where the Registrant proposes to apply electrical loss adjustments to a Metering System where:

- a Metering Dispensation is not required (e.g. for Offshore Metering Systems at Offshore Power Park Modules (Section 4.3.3 of CoPs 1, 2, 3 and 5); and
- where the AMP does not coincide with the proposed new DMC (point of connection) for a connection between the Transmission System and a Distribution System of a LDSO.³

ELEXON will provide the ELVA with the proposed electrical loss adjustments and the ELVA will confirm with ELEXON that the electrical loss adjustments are suitable. Where the ELVA considers the proposed electrical loss adjustments as not suitable, the applicant may:

- withdraw the application;

³ This concept will be implemented under [CP1479 'Updates to the Defined Metering Points in Codes of Practice 1, 2, 3, 5 and 10'](#) on 2 November 2017.

- propose new electrical loss adjustments; or
- ask the BSCCo to proceed with the application and provide additional justification for the proposed electrical loss adjustments to support its use for the Metering System.

Please note that there is no requirement to apply this change retrospectively to existing circuits. Any changes arising from this CP will apply to Metering Systems installed and registered after the CP Implementation Date.

If any change occur which impact the approved Metering Dispensation (including validated compensation), the Registrant will need to submit an updated Metering Dispensation in accordance with the BSCP32.

Proposer's rationale

Currently, Registrants are responsible for ensuring that appropriate electrical loss adjustments are calculated and applied to a Metering System to correct for power transformer and/or cable or line electrical losses under a Metering Dispensation. However, the Registrant does not normally provide these electrical loss adjustments as part of the Metering Dispensation application itself.

When a Metering System is selected for a Technical Assurance audit, as set out in [Section L.7 'Technical Assurance of Metering Systems'](#) and BSCP27, the TAA requests evidence of any electrical loss adjustments made to the Metering System. The TAA performs limited validation on these electrical loss adjustments which includes confirming whether accuracy is maintained within the overall accuracy limits defined in the relevant CoP.

In some cases MOAs or Registrants may not have passed records of the electrical loss adjustments applied to Meters on to a new MOA/Registrant. This can lead to non-compliances where Meters physically indicate (on the display for instance) that electrical loss adjustments have been applied but the MOA/Registrant has no evidence to back up the applied electrical loss adjustments. Also, in some cases, Registrants prefer to use the Data Collector's system to apply electrical loss adjustments so they are centrally available.

By validating power transformer and/or cable or line electrical loss adjustments for any site specific Metering Dispersations, additional assurance can be provided that Settlement is being protected and any electrical losses are attributed to the relevant Party where:

- power transformer and/or cable/line loss adjustments are required, and, cable/line electrical loss adjustments; and
- the Registrant wishes to apply them as part of the proposed generic Metering Dispensation (under CP1479, which will be implemented in November 2017).

By keeping a record of these agreed electrical loss adjustments, Registrants/MOAs will have an additional method of retrieving records of the agreed and validated electrical loss adjustments factors if they no longer possess the records. ELEXON would be responsible for maintaining records of all Metering Dispersations.

CP Consultation Question

Do you agree with the CP1485 proposed solution?

Please provide your rationale.

We invite you to give your views using the response form in Attachment F

Proposed redlining

Attachments A-E set out the redlined changes necessary to achieve the proposed solution.

CP Consultation Question

Do you agree that the draft redlining delivers the CP1485 proposed solution?

If 'No', please provide your rationale.

We invite you to give your views using the response form in Attachment F

3 Impacts and Costs

Central impacts and costs

CP1485 will require changes to BSCP32, CoPs 1, 2, 3 and 5. No system changes are required and there will be no impact on BSC Agents. CoPs 1 and 2 are owned by the ISG, CoP3 and BSCP32 are jointly owned by ISG and SVG while CoP5 is owned by the SVG. Therefore this CP will be presented to both Committees for information and for decision.

| Central Impacts | |
|--|----------------|
| Document Impacts | System Impacts |
| <ul style="list-style-type: none">• BSCP32• CoP 1• CoP 2• CoP 3• CoP 5 | <i>None</i> |

Central costs

The central implementation costs for CP1485 will be approximately £240 (one ELEXON man day) to implement the relevant document changes. The TAA confirmed they can validate power transformer and cable or line electrical loss adjustments at costs of £900 per application processed.

BSC Party & Party Agent impacts and costs

CP1485 is expected to impact the TAA and ELEXON.

No other BSC Parties or Party Agents are expected to be impacted but we seek confirmation of this through this CP Consultation.

| BSC Party & Party Agent Impacts | |
|---------------------------------|--|
| BSC Party/Party Agent | Impact |
| TAA | Changes will be required to implement the solution |
| ELEXON | |

CP Consultation Questions

Will CP1485 impact your organisation?

If 'Yes', please provide a description of the impact(s) on your organisation and any activities which you will need to undertake between the approval of CP1485 and the CP1485 Implementation Date (including any necessary changes to your systems, documents and processes). Where applicable, please state which of the roles that you operate as will be impacted and any differences in the impacts between each role.

Will your organisation incur any costs in implementing CP1485?

If 'Yes', please provide details of these costs, how they arise and whether they are one-off or on-going costs.

We invite you to give your views using the response form in Attachment F

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4 Implementation Approach

Recommended Implementation Date

CP1485 is proposed for implementation on **2 November 2017** as part of the November 2017 BSC Systems Release.

The November 2017 Release is the next available Release that can include this CP.

CP Consultation Question

Do you agree with the proposed implementation approach for CP1485?

Please provide your rationale.

We invite you to give your views using the response form in Attachment F

ISG's initial views

The ISG considered CP1485 at its meeting on 28 March 2017 ([ISG192/04](#)).

An ISG Member asked who will perform the ELVA role. ELEXON noted that the Issue Group 54 recommended the TAA, who has confirmed that they could potentially do this, with the associated costs defined in this paper. ELEXON will appoint this role when it is needed.

An ISG Member asked why the Issue Group recommended spending money instead of utilising the volunteers from the MDRG. ELEXON responded that this was because volunteer work is less manageable and harder to keep to deadlines, which could cause delays with complex issues.

An ISG Member noted that situations requiring loss adjustments often involve multiple stakeholders, e.g. a generator and a distribution network, so the stakeholders should be involved in authorising the loss adjustments, and not just the Registrant. ELEXON noted that they would include this as a question in the consultation.

An ISG Member noted that in BSCP32 it says 'where the registrant proposes Electrical Loss Adjustments...', and asked what would happen if the registrant does not propose Electrical Loss Adjustments. ELEXON responded that Metering Dispensations do not always relate to the actual Metering Point not being at the Defined Metering Point, so there would be no need for electrical Losses, this line was suggesting that not all Metering Dispensations are the same. ELEXON added a footnote and amended the wording of step 3.1.2 of the redlined text in order to clarify this point. For consistency we also amended the wording of steps 3.3.4, 3.3.5 and 3.3.8.

An ISG Member asked who would be responsible for the upkeep of the records. ELEXON noted that it would be ELEXON that kept and maintained the records of all Metering Dispensations. ELEXON clarified this in the CP.

CP Consultation Question

Do you agree with the ISG that stakeholders (DNOs and Transmission Company) should be explicitly included in the validation process in BSCP32?

Please provide your rationale.

We invite you to give your views using the response form in Attachment F

SVG's initial views

The SVG considered CP1485 at its meeting on 4 April 2017 ([SVG194/05](#)).

In light of the cost of the solution, the SVG considered the underlying rationale for raising the CP. ELEXON responded that the proposed solution would avoid errors in the dispensation process and it will ensure the accuracy of Settlement by providing extra assurance during the consideration of a Metering Dispensation. The CP is proposing to ensure an upfront, thorough, technical review of proposed adjustment values. An SVG Member noted that the agent that will perform the role of the ELVA will need to be identified before the Implementation Date. ELEXON confirmed this will be done on time. The SVG member also asked whether ELEXON will need to go through the process of procuring the agent. The SVG considered whether or not an existing agent or a new agent

would carry out the role. ELEXON noted that the TAA role could be re-procured but in the meantime it would be a standalone service/contract.

Appendix 1: Glossary & References

Acronyms

Acronyms used in this document are listed in the table below.

| Acronyms | |
|----------|---------------------------------------|
| Acronym | Definition |
| AMP | Actual Metering Point |
| BP | Boundary Points |
| BSC | Balancing and Settlement Code |
| CoP | Code of Practice |
| CP | Change Proposal |
| CPC | Change Proposal Circular |
| DMP | Defined Metering Point |
| ELVA | Electrical Loss Validation Agent |
| HH | Half-Hourly |
| ISG | Imbalance Settlement Group |
| LDSO | Licensed Distribution System Operator |
| MDRG | Metering Dispensation Review Group |
| MOA | Meter Operator Agent |
| SCP | Systems Connection Points |
| SVG | Supplier Volume Allocation Group |
| TAA | Technical Assurance Agent |

External links

A summary of all hyperlinks used in this document are listed in the table below.

All external documents and URL links listed are correct as of the date of this document.

| External Links | | |
|----------------|---|---|
| Page(s) | Description | URL |
| 2, 5 | BSC sections page on the ELEXON website | https://www.elexon.co.uk/bsc-related-documents/balancing-settlement-code/bsc-sections/ |
| 2 | BSCPs page on the ELEXON website | https://www.elexon.co.uk/bsc-related-documents/related-documents/bscps/ |
| 2 | ISG151 page on the ELEXON website | https://www.elexon.co.uk/meeting/isg151/ |
| 3 | Issue 54 page on the ELEXON website | https://www.elexon.co.uk/smg-issue/issue-54/ |
| 4 | CP1485 page on the ELEXON website | https://www.elexon.co.uk/change-proposal/cp1485/ |

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| Page(s) | Description | URL |
| 4 | CP1479 page on the ELEXON website | https://www.elexon.co.uk/change-proposal/cp1479/ |
| 9 | ISG192 page on the ELEXON website. | https://www.elexon.co.uk/meeting/isg-192/ |
| 9 | SVG194 page on the ELEXON website. | https://www.elexon.co.uk/meeting/svg-194/ |