

CP Progression Paper

CP1479 'Updates to the Defined Metering Points in Codes of Practice 1, 2, 3, 5 and 10'

ELEXON



Committee

Imbalance Settlement
Group/Supplier Volume
Allocation Group



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About This Document

This document provides information on new Change Proposal (CP) CP1479 and outlines our proposed progression timetable for this change, including when it will be issued for CP Consultation in the next suitable Change Proposal Circular (CPC) batch.

We are presenting this paper to capture any comments or questions from Imbalance Settlement Group (ISG) and Supplier Volume Allocation Group (SVG) Members on this CP before we issue it for consultation.

There are seven parts to this document:

- This is the main document. It provides a summary of the solution, impacts, anticipated costs, and proposed implementation approach, as well as our proposed progression approach for this CP.
- Attachment A contains the CP1479 proposal form.
- Attachments B-F contain the proposed redlined changes to deliver the CP1479 solution.

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1 Why Change?

What are the BSC Requirements?

Balancing and Settlement Code (BSC) [Section K 'Classification and Registration of Metering Systems and BM Units'](#) requires Parties responsible for flows of electricity at Systems Connection Points (SCPs), and flows of electricity to or from Plant or Apparatus connected to the Total System at Boundary Points (BPs), to measure and record these flows using compliant Metering Equipment.

[Section L 'Metering'](#) requires Metering Equipment to comply with the requirements set out in the relevant Code of Practice (CoP), i.e. the version which is current at the time the Metering Equipment is first registered as a Metering System under the BSC.

If the Metering Equipment does not comply with the requirements of the relevant CoP, the Metering Equipment must comply with a Metering Dispensation. The Metering Dispensation application process is set out in [BSC Procedure \(BSCP\) 32 'Metering Dispensations'](#). The Panel delegated responsibility to SVG and ISG to consider Metering Dispensation applications.

The Defined Metering Points in Codes of Practice 1, 2, 3, 5 and 10

The CoPs define the points at which responsible Parties are required to measure flows of electricity for Settlement purposes. These points of measurement are the Defined Metering Points (DMPs) and relate to SCPs and BPs. In CoPs 1, 2, 3, 5 and 10 these are set out in Appendix A of each document and cover a range of different connection scenarios¹. CoPs 6, 7, 8 and 9 define the DMP in the main body of each document and this CP does not impact these DMPs.

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

There are three scenarios where the person responsible for registering the Metering Equipment as a Metering System(s) (i.e. the Registrant) would need to apply for a Metering Dispensation in relation to the DMP:

1. Where the Registrant cannot install the measurement transformers at the DMP due to practical or financial reasons. In other words, the Actual Metering Point (AMP)² does not coincide with the DMP. Thus, the Metering System may not be able to maintain measurement accuracy within the limits set out in the relevant CoP at the DMP. The Registrant must consider applying electrical loss adjustments to correct the accuracy of the Metering System as part of the Metering Dispensation application. The electrical loss adjustments can either be implemented in the Meter itself or in the Data Collector's system to ensure measurement accuracy is maintained at the DMP.
2. Where the Registrant installs the measurement transformers at the DMP, but this doesn't coincide with the point of connection/commercial interface. In this case, the Registrant can seek to maintain CoP measurement accuracy limits at the point of connection/commercial interface. If so, the Registrant needs to apply for a Metering Dispensation to correct the accuracy of the Metering System for electrical

¹ E.g. a generator connecting to a Distribution System or a generator connecting to the Transmission System.

² The AMP is where the Meter is actually installed and this may or not coincide with the DMP. Where it does not, the Registrant requires a Metering Dispensation.

losses from the DMP to the point of connection/commercial interface. This will maintain CoP measurement accuracy limits at the point of connection/commercial interface.

3. Where a Registrant chooses to install Metering Equipment at a location that is not the DMP, for example they wish to install Metering Equipment at the point of connection/commercial interface. They may want to do this because they do not wish to correct for losses to the point of connection/commercial interface. In this case, the Registrant can apply for a Metering Dispensation to meet the accuracy limits set out in the CoP at the AMP rather than at the DMP.

What is the issue?

In 2013, ELEXON identified discrepancies between the points of measurement defined in the BSC and Half Hourly (HH) CoPs 1, 2, 3, 5 and 10 (i.e. the DMPs), and the actual physical points of connection at certain types of sites. These discrepancies could potentially cause avoidable Metering Dispensation applications which could result in additional associated time and resource to process. ELEXON proposed potential solutions to the ISG at its meeting in November 2013 ([ISG151/01](#)).

As a result of this paper, on 6 February 2014 ELEXON raised [Issue 54 'Discrepancies between the points of measurement required in the BSC and the CoPs and the physical points of connection'](#). ELEXON presented the Issue 54 Final Report to the BSC Panel on 12 June 2014 ([BSC Panel 225/13](#)).

Issue 54 found that all of the DMPs listed in Appendix A of CoPs 1, 2, 3, 5 and 10 are defined as being at the point(s) of connection between Systems (i.e. at SCPs) or between Systems and Customers/Generating Plant (i.e. at BPs), except in three cases:

Case 1: The DMP between the Distribution System of an LDSO (with no other parties connected) and the Transmission System is defined as: 'at the lower voltage side of the supergrid (connected) transformer (SGT)';

Case 2: The DMP between a Generating Plant and the Transmission System is defined as: 'at the high voltage side of the generator transformers and station transformer(s)'; and

Case 3: The DMPs between an External System and the Transmission System are specifically defined as certain points on circuits at the Sellindge (for the Anglo French Interconnector) and Auchencrosh (for the Moyle Interconnector) substations. There are no such descriptions of the DMPs for the newer BritNed or East-West External Interconnectors which connect to the Transmission System.

The consequences of the DMPs as currently defined in the above cases are detailed below.

Case 1

Where an LDSO's Distribution System connects to the Transmission System at a Grid Supply Point (GSP) (with no other parties connected), the Transmission System owner installs the measurement transformers at the lower voltage side of its SGT (i.e. at the DMP). In almost all cases this does not coincide with the point of connection/commercial interface to the Distribution System of the LDSO/commercial interface with the LDSO. The distance between the lower voltage side of the SGT to the LDSO's circuit or busbar(s) can range from tens of metres to hundreds of metres. Where the distance between the DMP

and the point of connection/commercial interface is fairly large, e.g. hundreds of metres, this can result in Registrants applying for Metering Dispensations to apply loss adjustments to the Metering System for electrical losses in the cable or lines to the point of connection/commercial interface.

In the past five years LDSOs raised eight Metering Dispensations related to this issue. Therefore, this issue could result in Registrants applying for more Metering Dispensations in the future.

Case 2

In 1993 the 'numeric' CoPs were developed for England and Wales, with the commercial boundaries for existing generators subsequently established as the high voltage side of the generator and station transformers (referred to as the commercial interfaces). The DMP for Generating Plant connecting to the Transmission System has remained the same since then and through British Electricity Trading and Transmission Arrangements (BETTA) go-live.

In Scotland, prior to BETTA, some existing Generating Plant, for example hydro and gas turbine Generating Units, had measurement transformers installed on the lower voltage side of the power transformers that connected them to the Transmission System.

As part of the BETTA, the Authority approved 18 Metering Dispensations for existing Generating Plant to leave the measurement transformers on the low voltage side of Transmission System connected power transformers. ELEXON notes that these Metering Systems are compensated to the high voltage side of these power transformers to comply with the DMP in the relevant CoP. Therefore, the power transformers are treated as generator or station transformers.

Since 2005, the majority of new Generating Plant connections to the Transmission System in Scotland measure flows at the registered BPs (points of connection/commercial interfaces). The power transformers that connect these Generating Plants to the Transmission System are owned by the Transmission System owner and we have therefore considered them part of the Transmission System. Arguably, based on the most relevant DMP definition for such a connection, they should instead be metered on the high voltage side of these power transformers and have a Metering Dispensation to compensate for losses to the point of connection/commercial interface.

ELEXON has elected not to require Registrants to apply for Metering Dispensations on the basis that the DMP, which is defined with respect to transformers, is not really applicable to these connections. Instead, ELEXON has deferred to the BSC requirement that refers to determining flows at the BP, which is typically where the Imports and Exports are measured.

This creates uncertainty about whether a Metering Dispensation is required.

Case 3

The DMP description for External Interconnectors is very specific about the location of the DMPs for two External Interconnectors which are already in operation but does not include any reference to any other existing External Interconnectors or potential new ones.

ELEXON has confirmed that the existing Transmission System-connected External Interconnectors either have:

- measurement transformers located at the point of connection/commercial interface to the Transmission System (i.e. the DMP); or

- a Metering Dispensation in place for the AMP not being at the point of connection/commercial interface.

Because the DMP for the two existing External Interconnectors is too specific, it is not clear to developers, Meter Operator Agents (MOAs) and Registrants where the DMP should be for new External Interconnectors. In addition, by defining these two existing DMPs specifically, CoPs 1, 2, 3, 5 and 10 are not future-proofed in case new External Interconnectors connect to the Transmission System.

Issue 54 Group recommendations

The Issue 54 Group agreed that the following changes are required to the DMPs in CoPs 1, 2, 3, 5 and 10 to address the three cases identified:

- change the DMP for a single LDSO connecting to the Transmission System to be 'at the point of connection' and create a generic Metering Dispensation for where Metering Equipment cannot be located at the point of connection for practical reasons for the above, but within an agreed distance;
- change the DMP for Generating Plant connecting to the Transmission System to be 'at the point of connection' to remove any ambiguity about where Metering Equipment needs to be installed; and
- create a generic definition for the Interconnector DMPs as "at the point(s) of connection to the TS" to prevent the need for further changes to the HH CoPs.

The Issue 54 Group therefore agreed that CPs should be raised to progress the changes identified.

Proposed solution

ELEXON raised [CP1479 'Updates to the Defined Metering Points in Codes of Practice 1, 2, 3, 5 and 10'](#) on 23 November 2016. The CP amends CoPs 1, 2, 3, 5 and 10 in order to resolve the three issues highlighted and implement the recommendations in the Issue 54 Report.

Solution to case 1

This CP proposes to change the DMP between a Distribution System of an LDSO (with no other parties connected) and the Transmission System to the point of connection/commercial interface or within 50 metres from the point of connection/commercial interface (please note this distance is subject to a consultation question). In some cases it is not possible to install measurement transformers at the point of connection/commercial interface for practical reasons.

This approach will allow measurement transformers to be installed at the most practical location, within a certain distance from the point(s) of connection (e.g. within 50 metres). Where any power transformer sits between the AMP and the new DMP, a site specific Metering Dispensation will still be required.

This will clarify where flows of electricity at GSPs should be made for Settlement purposes. It will also reduce the number of Metering Dispensation applications that ELEXON receives by allowing measurement transformers to be installed at the point of connection/commercial interface (or within an agreed distance (e.g. 50 metres), which will be subject to consultation under this CP).

Solution to case 2

This CP proposes to change the DMP for Generating Plant connecting to the Transmission System to be 'at the point of connection'.

Solution to case 3

CP1479 proposes to make the DMP between any (future) External Interconnector and the Transmission System the point of connection/commercial interface, rather than specify all the existing External Interconnectors. It also proposes to extend the definition of the DMP to include External Interconnectors which could connect to a Distribution System of a LDSO to further future-proof CoPs 1, 2, 3, 5 and 10.

Proposer's rationale

Case 1

In the past three years ELEXON received eight Metering Dispensation applications related to GSP Metering Equipment being located at the DMP for new SGTs, but where the DMP does not coincide with the point of connection/commercial interface. The Registrant (i.e. the LDSO) has in each of these cases requested a Metering Dispensation to correct for the electrical line (or cable) losses to the point of connection/commercial interface.

ELEXON has regular discussions with National Grid about the energisation of new circuits at GSPs. We are therefore aware of 5 new circuits at GSPs to be registered by the beginning of April 2017. Work at GSPs is ongoing and over the course of 2017, 2018 there will be more new circuits added to GSPs. We do not have numbers of circuits for this

future work at the moment. If the definitions for DMPs highlighted in the cases described above remain unclarified, any new GSPs and new circuits at existing GSPs could potentially result in many avoidable applications for Metering Dispensations for the Registrant to correct for electrical losses between the DMP and the point of connection/commercial interface.

Applications for Metering Dispensations take time and resource from the Registrant, ELEXON, the Metering Dispensation Review Group (MDRG) and the BSC Panel Committees to progress. The proposed solution, with its generic Metering Dispensation, will allow a more efficient registration process for any non-compliant Metering Systems (i.e. where the measurement transformers cannot be installed at the new DMP but can be installed within an agreed distance from the new DMP).

The Issue 54 Group noted that if the distance between the AMP and the point of connection/commercial interface is less than 50 metres compensation is not required. One Issue Group Member made some high level calculations which suggested that around 1,500m of 132kV cable between the AMP and point of connection/commercial interface does not have a material effect on losses and was not at a level within the accuracy of the metering itself (i.e. 0.5%). The Issue Group noted that this suggests that 50 metres may be shorter than what might intuitively have been expected. However, it was agreed overall for the 50 metres figure to be included in a CP as a starting figure and see what industry's views are (please see the proposed consultation questions).

Case 2

Changing the DMP between Generating Plant and the Transmission System to the point of connection/commercial interface will remove any ambiguity about where Registrants need to install Metering Equipment.

Prospectively, this will remove the requirement to install Metering Equipment on the high voltage side of the Transmission System owner's power transformer. This will also avoid the need for the Registrant to apply for a site specific Metering Dispensation to account for power transformer losses from the high voltage side of the Transmission System owner's power transformer to the point of connection/commercial interface on the low voltage side.

Case 3

ELEXON anticipates that many new External Interconnectors will connect to the Transmission System (and possibly to a Distribution System of a LDSO) in the future as Europe integrates electricity networks. Therefore it would be prudent to update the CoPs to clearly state that the DMP for all External Interconnectors is 'at the point(s) of connection' to future-proof CoPs 1, 2, 3, 5 and 10. Defining the DMP as the point of connection/commercial interface will also clarify to developers/MOAs/Registrants where the DMP should be for new External Interconnectors.

Proposed redlining

Attachments B-F contain the proposed changes to the Code Subsidiary Documents (CSDs) to deliver CP1479.

Housekeeping Change

The redlining includes an additional Housekeeping Change to remove the word 'operator' when referring to 'Transmission System operator'. This applies to Appendix A in CoPs 1, 2,

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3, 5 and 10. These Housekeeping Changes have been included in response to the ISG discussions on [CP1422 'Add a Defined Metering Point for an Offshore Transmission Connection Point to the HH Codes of Practice'](#) at [ISG163](#). The ISG believed references to the transfer of electricity should be in relation to a Transmission System, not the Transmission System operator.

ELEXON also recommends that the redlining includes Housekeeping Change to change the wording in any DMPs which reference connections to a 'Licensed Distribution System Operator' to a 'Distribution System operated by a Licensed Distribution System Operator' for consistency with the ISG's suggestion.

ELEXON also recommends minor Housekeeping Changes to ensure consistency of the wording used for the DMPs across each Appendix A of CoPs 1, 2, 3, 5 and 10.

3 Impacts and Costs

Central impacts and costs

CP1479 will require changes to CoPs 1, 2, 3, 5 and 10. No system changes are required and there will be no impact on BSC Agents.

CoPs 1 and 2 are owned by the ISG, CoP3 is jointly owned by ISG and SVG while CoPs 5 and 10 are owned by the SVG. Although we are changing documents that are jointly owned or solely owned by the SVG, there is no impact on Supplier Volume Allocation (SVA). In fact, the scope of the CP is changing the DMPs registered in Central Volume Allocation (CVA). The changes are in Appendix A 'Defined Metering Point', which is a generic Appendix that appears in all these CoPs.

Central Impacts	
Document Impacts	System Impacts
<ul style="list-style-type: none">• CoP 1• CoP 2• CoP 3• CoP 5• CoP 10	<i>None</i>

Central costs

The central implementation costs for CP will be approximately £240 (one ELEXON working day) to implement the relevant document changes.

BSC Party & Party Agent impacts and costs

CP1479 is expected to impact ELEXON, generators, Registrants (CVA), the Transmission Company, LDSOs, Interconnected System Operators and CVA MOAs.

The Transmission Company will be impacted (as National Grid, owner of the Transmission System in England and Wales) because it often installs Metering Equipment at the DMP for Grid Supply Points, in England and Wales, which the LDSO registers in Settlement. Similarly the Transmission System owners in Scotland may be impacted if they provide Metering Equipment for GSPs and generators in Scotland.

Registrants (CVA) will need to register the Metering Equipment which has been installed at the point of connection/commercial interface to the Transmission System (or seek a Metering Dispensation where they cannot install Metering Equipment at the DMP).

LDSOs and Interconnected System Operators are impacted as Registrants of GSP Metering Systems and Interconnector Metering Systems respectively.

CVA MOAs will be impacted because they need to ensure Metering Equipment is compliant with the relevant CoP (on behalf of the Registrant) and notify the Registrant if not.

No other BSC Parties or Party Agents are expected to be impacted but we will confirm this through this CP Consultation.

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BSC Party & Party Agent Impacts	
BSC Party/Party Agent	Impact
Generators	Changes will be required to implement the solution
Registrants (CVA)	
Transmission Company	
LDSOs	
Interconnected System Operator	
CVA MOAs	

4 Implementation Approach

Recommended Implementation Date

CP1479 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.

5 Proposed Progression

Progression timetable

The table below outlines the proposed progression plan for CP1479:

Progression Timetable	
Event	Date
CP Progression Paper presented to ISG for information	13 Dec 16
CP Progression Paper presented to SVG for information	03 Jan 17
CP Consultation	09 Jan 17 – 03 Feb 17
CP Assessment Report presented to ISG for decision	21 Feb 17
CP Assessment Report presented to SVG for decision	28 Feb 17
Proposed Implementation Date	02 Nov 17 (Nov 17 Release)

CP Consultation questions

In addition to the standard CP Consultation questions for CP1479, we intend to ask an additional question as outlined below.

Standard CP Consultation Questions
Do you agree with the CP1479 proposed solution?
Do you agree that the draft redlining delivers the CP1479 proposed solution?
Will CP1479 impact your organisation?
Will your organisation incur any costs in implementing CP1479?
Do you agree with the proposed implementation approach for CP1479?

The Issue 54 Group suggested that the Industry review the minimum suggested distance value (50 metres) between the AMP and the new DMP that the proposed generic Metering Dispensation should cover.

Additional CP Consultation Questions
Do you agree with the suggested minimum distance value of 50 metres in relation to the proposed solution for Case 1?
If not, please indicate and justify a suitable minimum distance.

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ISG's initial views

The ISG considered CP1479 at its meeting on 13 December 2016 ([188/08](#)).

An ISG Member noted that if 50 metres is the maximum distance where Metering Dispensations for losses are not required, this figure should be specified in the redlined texts. In addition the ISG noted that if any power transformers lie between the point of connection and the AMP a site specific Metering Dispensation would be required therefore the redlined texts should probably refer to the AMP as being within this distance and at the same voltage. ELEXON clarified that the redlined text states that there must only be cable/line between the point of connection and the AMP. The ISG was satisfied that this would address its concerns. An ISG Member suggested that the redlined texts need not refer to 'at or within 50 metres of the point of connection' but simply say 'within 50 metres of the point of connection'.

An ISG Member noted that it is not clear what the BP for some wind farms is. There is also confusion about the distinction between DMP, AMP, BP, commercial boundary and point of connection. ELEXON noted that the requirement is for flows at BPs to be measured by Metering Equipment compliant with the relevant CoP, and then the CoPs specify the location where overall accuracy should be maintained. The BP and DMP can coincide but we highlighted two cases when this does not happen (Cases 1 and 2). ELEXON also added that in Scotland this is even more complicated because the power transformers are owned by the Transmission System owner and they are considered part of the Transmission System. As such these wind farms do not have generator transformers therefore the DMP is confusing. For example, it states the DMP is at the high voltage side of the generator transformer and station transformer(s) when there are no generators (or station transformer) at many of these wind farms.

An ISG Member noted that in Scotland the BP is the low voltage side of the power transformer. In England and Wales, the generator's transformers for larger stations are owned by the generators so the BP is on the high voltage side of the generator's transformers. The ISG Member asked ELEXON if the Issue 54 discussed the consistency of the BPs. ELEXON replied that this issue was discussed.

An ISG Member noted that, while the rationale for Case 1 is clear, it is not the same for Case 2 and 3. The BSC is not explicit about how commercial boundaries should be determined. The commercial boundaries are determined by commercial agreements between the Transmission Company and the connectee and this may not necessarily be in the interests of BSC Parties as a whole.

The Chairman also added that ELEXON had recently published a consultation as part of its Review of Metering Dispensations and non-Standard BMU Applications. The consultation provides ISG Members and BSC Parties with the opportunity to elaborate on the concerns regarding the definition of DMPs as raised during the meeting.

7 Recommendations

We invite you to:

- **NOTE** that CP1479 has been raised;
- **NOTE** the proposed progression timetable for CP1479;
- **PROVIDE** any comments or additional questions for inclusion in the CP Consultation; and
- **NOTE** that CP1479 was presented to the ISG at its meeting on 13 December 2016.

Appendix 1: Glossary & References

Acronyms

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

Acronyms	
Acronym	Definition
AMP	Actual Metering Point
BETTA	British Electricity Trading and Transmission Arrangements
BP	Boundary Point
BSC	Balancing and Settlement Code (<i>Industry Code</i>)
BSCP	Balancing and Settlement Code Procedure
CMRS	Central Meter Registration Service
CoP	Code of Practice
CP	Change Proposal
CPC	Change Proposal Circular
CSD	Code Subsidiary Document
CVA	Central Volume Allocation
DMP	Defined Metering Point
GSP	Grid Supply Point
HH	Half Hourly
ISG	Imbalance Settlement Group (<i>Panel Committee</i>)
LDSO	Licensed Distribution System Operator
MDRG	Metering Dispensation Review Group
MOA	Meter Operator Agent
SCP	Systems Connection Point
SGT	Supergrid transformer
SVA	Supplier Volume Allocation
SVG	Supplier Volume Allocation Group (<i>Panel Committee</i>)
TC	Transmission Company

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.

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2	BSCP page on the ELEXON website	https://www.elexon.co.uk/bsc-related-documents/related-documents/bscps/
4	ISG 151 page on the ELEXON website	http://www.elexon.co.uk/meeting/isg151/
4	BSC Panel 225 page on the ELEXON website	https://www.elexon.co.uk/meeting/bsc-panel-225/
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