CP Consultation

CP1550 'Updates to monitoring of voltage failure alarms requirements'

Contents

About This Document

Not sure where to start? We suggest reading the following sections:

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- Have 15 mins? Read sections 1, 4, 5 and 6
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- Have longer? Read all sections and the annexes and attachments

The purpose of this CP1550 CP (Change Proposal) Consultation is to invite BSC Parties, Party Agents and other interested parties to provide their views on the impacts and the merits of CP1550. The Imbalance Settlement Group (ISG) will then consider the consultation responses before making a decision on whether or not to approve CP1550.

There are five 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 initial views on the proposed changes.
- Attachment A contains the CP1550 proposal form.
- Attachments B and C contains the proposed redlined changes to deliver the CP1550 solution.
- Attachment D 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.

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1 Summary

Why change?

Section 5.1.3 of Code of Practice (CoP) 1 'The metering of circuits with a rated capacity exceeding 100 MVA for Settlement purposes' and CoP2 'The metering of circuits with a rated capacity not exceeding 100 MVA for Settlement purposes' outlines the requirement for monitoring voltage transformers and creating failure alarms at CoP1 and CoP2 sites.

Currently, there is a lack of clarity around the technical requirements of monitoring Voltage Transformers (VTs) and whether voltage monitoring (i.e. phase failure) can or cannot be combined with other prevailing conditions before the phase failure alarm is activated. This lack of clarity recently led to a large Trading Dispute, DA1110, which had a financial impact of £12 million on Settlement.

Also, the obligation where a separate Outstation (a data logger) is used that requires a phase failure alarm to be flagged in a manned location is obsolete for CoPs 1 and 2 Metering Systems. This is because most new Power Stations do not use separate Outstations nor have manned locations at site.

Solution

This CP proposes to make changes to Section 5.1.3 of CoPs 1 and 2 to clarify when a phase failure alarm should be flagged and remove the obsolete requirement.

This includes clarifying that a phase failure alarm should be flagged if one phase, a combination of phases, or all phases go down and should not be combined with any other conditions (e.g. no current).

Removing the obligation, which requires a phase failure alarm to be flagged in a manned location, will ensure that all phase failures are reported, via the Outstation, for the CDCA, or HHDC, to see and immediately alert the Registrant and Meter Operator Agent (MOA).

Impacts and costs

This CP is expected to have a positive impact on Settlement by strengthening the VT monitoring requirements whereby faults are reported and are more likely to be resolved quicker.

A document change will be required in CoPs 1 and 2, and no changes to BSC central systems.

The central implementation cost for this CP will be less than £1,000 to update the relevant documents.

Implementation

The CP is proposed for implementation on 30 June 2022 as part of the June 2022 Balancing and Settlement Code (BSC) Standard Release.

Central Data Collection Agent (CDCA)

The CDCA retrieves, validates and processes metering data metered data from Half Hourly Meters comprised in Central Volume Allocation (CVA) Metering Systems.

2 Why Change?

What is the issue?

At the second meeting of Issue 93 'Review of the BSC metering Codes of Practice', the workgroup agreed to progress a CP that addresses the 'Monitoring of voltage failure alarms' aspects of Issue 93.

Section 5.1.3 of CoPs 1 and 2 details the requirement for monitoring of VTs. It states that where a common mode fault, such as a VT fuse failure, could cause incorrect voltages on both the main and check Meters, Meters combining integral Outstations shall provide for the data to be identified with an alarm indicating phase failure. Section 5.1.3 further specifies that for separate Outstations (that do not have a spare channel) the alarm must provide notification of a phase failure by the next Working Day at a point which is normally manned.

Currently, it is not clear to MOAs whether the phase failure alarm can or cannot be combined with other prevailing conditions before the phase failure alarm is activated, i.e. if current and voltage are not present. In this situation, if the secondary wiring to the Meters is totally severed, no phase failure alarm is recorded even though the primary circuit may still be energised and on load.

Additionally, the requirement to flag a phase failure to a manned location in Section 5.1.3 of CoPs 1 and 2 is no longer relevant to modern Metering Systems.

Background

This issue was raised as an aspect of the Issue 93 'Review of the BSC metering Codes of Practice' to address the ambiguity in the VT monitoring requirement currently specified in Section 5.1.3 of CoPs 1 and 2.

A voltage failure occurs when there is a loss of power supply to a Metering System (e.g. a VT failure or VT fuse failures). When this happens, the voltage failure alarm is either tagged to the Outstation data or notified to a point which is normally manned by the next Working Day.

VT monitoring - lack of clarity in the phase failure alarm requirements

Currently, the perceived ambiguity in the wording around VT monitoring has led to some MOAs combining voltage monitoring and current monitoring, resulting in no phase failure alarm is flagged in a situation where no current is seen by the meter, but is still flowing in the primary circuit. The primary circuit reps the physical conductors that carry power to and from a site. The Secondary rep the wiring carrying measurement signals from the CTs and VTs to the Meters.

This lack of clarity recently led to a large Trading Dispute, DA1110, which had an impact of £12 million on Settlement. The MOA combined current monitoring and voltage monitoring such that the voltage failure alarm would not be triggered if a circuit was de-energised (i.e. no current or voltage signals were present at the Settlement Meters). However, in this particular case, the secondary wiring from the measurement transformers to the Settlement Meters was severed, leaving only the primary cables energised. This resulted in the Meter not recording a voltage failure alarm (because no current was registered and

therefore, the Meter and its Outstation did not alert the CDCA and the Registrant/MOA accordingly).

Clarifying this requirement in CoPs 1 and 2 by requiring phase failure of one or more phase and not combining this with any other condition will strengthen the VT monitoring process. This will help ensure the CDCA or HHDC is aware of a voltage failure, irrespective of current.

VT monitoring – obsolete requirement for notification at manned points

Notification at a manned location of voltage failure, by the next Working Day is accommodated for in CoPs 1 and 2. This means that the CDCA or HHDC may not be aware of any potential incorrect Settlement data because they are dependent on the staff at the manned location to inform them. This requirement reflects a legacy arrangement for Metering Equipment which does not promptly alert the CDCA or HHDC to a potential error that could negatively impact Settlements. Also, this requirement is not mentioned in CoPs 3, 5 and 10, making CoPs 1 and 2 not aligned.

Removing this arrangement from CoPs 1 and 2 will strengthen the requirement to notify phase failure via the Meter's Outstation for the CDCA or HHDC to see and report to the Registrant and MOA. It will also align the requirement across all CoPs.

3 Solution

Proposed solution

This CP proposes to make changes to Section 5.1.3 of CoPs 1 and 2 to clarify to MOAs how phase failure alarms should be managed and to remove the outdated requirements. This document change includes the following:

- Update CoPs 1 and 2 to clarify that an alarm should be flagged if one phase, a combination of phases, or all phases go down. It will also specify that the phase failure alarm must be dedicated to the monitoring of only voltage transformers.
- Remove the obsolete arrangement which requires a phase failure is flagged to a manned location.

Proposer's rationale

This change will enable the CDCA, or relevant HHDC, to report phase failure alarms to Registrants of Metering Systems and their MOAs. As a result, MOAs will be able to investigate phase failures and, with the help of the VT owners, resolve them.

By specifying that alarms should be flagged if one phase, a combination of phases, or all phases go down and phase failure alarms must be dedicated to voltage transformer monitoring, the risk of a large Trading Dispute similar to **Trading Dispute DA1110** from occurring in the future, will be lowered.

CP Consultation Question
Do you agree with the CP1550 proposed solution? *Please provide your rationale.*
We invite you to give your views using the response form in Attachment D

Proposed redlining

The proposed redlining to deliver this CP can be found in Attachments B and C of this paper.

CP Consultation Question
Do you agree that the draft redlining delivers the CP1550 proposed solution? *If 'No', please provide your rationale.*
We invite you to give your views using the response form in Attachment D

4 Impacts and Costs

BSC Party & Party Agent impacts and costs

Participant impacts

BSC Party & Party Agent Impacts	
BSC Party/Party Agent	Impact
Meter Operator Agents	Programming new Meters with unconditional phase failure monitoring, using integral Outstations or separate Outstations which have the facility to record phase failures.

Central impacts and costs

Central impacts

The solution in this CP only affects BSC documentation, specifically CoPs1 and 2. Therefore no BSC Central Systems will be impacted.

Central Impacts	
Document Impacts	System Impacts
CoP1 'The metering of circuits with a rated capacity exceeding 100MVA for Settlement purposes'	None
CoP2 'The metering of circuits with a rated capacity not exceeding 100MVA for Settlement purposes'	

Central costs

The central implementation costs for CP1550 will be approximately £1,000 to implement the relevant document changes.

CP Consultation Questions
Will CP1550 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 CP1550 and the CP1550 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 CP1550? *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 D

5 Implementation Approach

Recommended Implementation Date

This CP is recommended for implementation on 30 June 2022 as part of the standard June 2022 BSC Release.

CP Consultation Question
Do you agree with the proposed implementation approach for CP1550? *Please provide your rationale.*
We invite you to give your views using the response form in Attachment D

6 Initial Committee Views

ISG's initial views

This change was presented to the ISG committee on Tuesday 5 October 2021, with comments and views from two members.

One ISG member asked if the impacted CoP documents (CoPs1 and 2) will make it clear to the CDCA that they are to report the phase failure alarms from CVA Metering Systems to the relevant Registrants and MOAs, when they receive them. Elexon noted this comment and confirmed that the process to report faults raised from alarm flags on data are already part of the process in BSCP06 'CVA Meter Operations for Metering Systems Registered in CMRS'.

Another ISG member commented that Elexon should consider what voltage level will be accepted as a valid failure alarm report as a fuse failure would not necessarily result in zero volts being present at the Meter. Elexon noted this comment and confirmed that some redlining will be done to clarify that a phase failure is any drop in voltage from nominal level and does not have to be to zero volts.

There were no further comments and the committee were comfortable with the proposed progression plan, providing no additional questions to include in the consultation.

Appendix 1: Glossary & References

Acronyms

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

Acronyms	
Acronym	Definition
BS	British Standard
BSC	Balancing and Settlement Code
BSCCo	Balancing and Settlement Code Company
CoP	Code of Practice
CP	Change Proposal
CPC	Change Proposal Circulars
ISG	Imbalance Settlement Group
VT	Voltage Transformer

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, 3, 7	CoP1 'The metering of circuits with a rated capacity exceeding 100MVA for Settlement purposes'	https://www.elexon.co.uk/bsc-and-codes/bsc-related-documents/codes-of-practice/
2, 3, 7	CoP2 'The metering of circuits with a rated capacity not exceeding 100MVA for Settlement purposes'	https://www.elexon.co.uk/csd/code-of-practice-2-the-metering-of-circuits-with-a-rated-capacity-not-exceeding-100-mva-for-settlement-purposes/
4	Issue 93 'Review of the BSC metering Codes of Practice'	https://www.elexon.co.uk/smg-issue/issue-93/
5	Trading Dispute, DA1110	https://www.elexon.co.uk/documents/operations-settlement/trading-disputes-decisions/register-of-determinations/
8	ISG committee	https://www.elexon.co.uk/group/imbalance-settlement-group-isg/
8	BSCP06 'CVA Meter Operations for Metering Systems Registered in CMRS'.	https://www.elexon.co.uk/csd/bscp06-cva-meter-operations-for-metering-systems-registered-in-cmrs/