

CP Progression Paper



CP1527 'Increase the minimum data storage capacity for Settlement Outstations and mandate specific selectable integration periods for Metering Codes of Practice'

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About This Document

This document provides information on new Change Proposal (CP) CP1527 and outlines our proposed progression timetable for this change, including when it will be issued for CP Consultation in the Change Proposal Circular (CPC) batch on 10 February 2020.

We are presenting this paper to the Imbalance Settlement Group (ISG) on 4 February 2020 to capture any comments or questions from Committee Members on this CP before we issue it for consultation.

There are three 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 CP1527 proposal form.
- Attachment B contains the proposed redlined changes to deliver the CP1527 solution.



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1 Why Change?

What is the issue?

The Issue 80 Proposer, the Association of Meter Operators (AMO), believes that the minimum data storage requirements for Settlement Outstations within the metering Codes of Practice (CoPs) are now 30 years old and reflect the cost of memory and equipment at that time. Meter Operator Agents (MOAs) regard this requirement as unreasonably low. Low memory can result in metered data being overwritten where there are communication line faults and/or sites are difficult to access in order to carry out hand held reads. The Proposer notes that most of the available Settlement Outstations already store far more data than the current minimum data storage capacities required by the CoPs, which are as follows:

Metering CoP	Minimum data storage capacity ¹
CoP1 – circuit rated capacity exceeding 100MVA	10 days
CoP2 – circuit rated capacity not exceeding 100MVA	10 days
CoP3 – circuit rated capacity not exceeding 10MVA	20 days
CoP5 – energy transfers with a maximum demand up to 1MW	20 days
CoP10 – energy for low voltage circuits up to 100kW	20 days

Background

A Settlement Outstation is a device which stores Half Hourly (HH) metered data (or pulse counts) from one, or more, Settlement Meters. Data Collectors retrieve the HH metered data (or pulse counts) from these Outstations for use in Settlement².

The data storage capacity of an Outstation is limited by the amount of memory that can be allocated to data storage. Once the data storage capacity limit is reached new metered data overwrites the oldest metered data.

The minimum requirements for Settlement Outstations are defined in the relevant metering CoPs.

Issue 80

The AMO raised Issue 80 '[Increase in minimum data storage requirements within the relevant Metering CoPs](#)' on 16 April 2019. The Issue Group was established to consider whether there is an issue with, and if a change should be made to increase, the current minimum data storage capacity for Settlement Outstations.

The view of the Issue Group is that the current minimum data storage requirements for Settlement Outstations are low and sometimes this causes an issue where an Outstation cannot be read for a period longer than the data storage capacity of the Outstation, resulting in estimated data entering Settlement.

The Issue Group noted that the Imbalance Settlement Period (ISP) is changing to 15 minutes as part of the [Clean Energy Package](#). ELEXON understands that the 15 minute ISP is mandatory from 1 January 2021 unless Ofgem grants an exemption or delay and that Ofgem



What is an Outstation?

[Section X Annex X-1](#) defines an **Outstation** as equipment which receives and stores data from a Meter(s) for the purpose, inter alia, of transfer of that metering data to the CDCA or a Data Collector, as the case may be, and which may perform some processing before such transfer and may be one or more separate units or may be integral with the Meter.



¹ per Outstation channel

² Pulse counts are converted into energy values using the relevant Pulse Multiplier from the Meter Technical Details.

is currently considering an exemption. However, this does not preclude the possibility of moving to 15 minutes in the future, even if an exemption is granted now.



What is an integration period?

An integration period is a time interval over which instantaneous power measurements (e.g. kilowatts) are converted ('integrated with respect to time') into energy measurements (e.g. kilowatthours).

The Proposer believes that a move to a 15 minutes ISP would result in many Outstations needing to be replaced, in the run up to the move to a 15 minutes ISP, if they could not comply with the current minimum data storage requirements. The Proposer believes the industry should prepare for the move to a 15 minutes ISP so that less Outstations require replacing in the future, meaning they can simply be reprogrammed from 30 minutes integration periods to 15 minutes integration periods (either remotely or on site).

The Issue Group concluded that the current minimum data storage capacity requirements for Settlement Outstations should be increased.

Additionally, the Issue Group noted that CoPs 1 and 2 are the only CoPs that require selectable integration periods (i.e. 30, 20, 15, 10 and 5 minutes), yet there is currently no test for this requirement in [BSCP601](#)³. CoPs 3, 5 and 10 only require 30 minutes integration periods.

As few BSC Parties were involved with Issue 80 ELEXON agreed to raise CP1527 on behalf of the Issue Group and the Association of Meter Operators.

Further Issue Group Considerations

In addition to increasing the minimum Outstation data storage capacity requirements the Issue Group also considered for the following change to be made to the CoP requirements:

Mandate the number of Outstation channels to be used for data storage for Settlements purposes as follows:

- 6 channels for Supplier Volume Allocation (SVA) sites
- 4 channels for Central Volume Allocation (CVA) sites
- 6 channels where there is a split between SVA/CVA i.e. follow SVA requirements

The WG agreed the above change subject to checking potential impacts with the National Electricity Transmission System Operator (NETSO)/Transmission System Owners and Licensed Distribution System Operators (LDSOs) and their requirements for Reactive Energy Measurement Quantities and Demand Values for Use of System (UoS) charging.

ELEXON is in the process of engaging with LDSOs and the NETSO and will raise a Change Proposal after assessing impacts of the proposed change.

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³ 'Metering Protocol Approval and Compliance Testing'

Proposed solution

The Issue Group concluded that a CP should be raised to increase the minimum data storage capacity requirements for Settlement Outstations. In addition, the Issue Group noted that CoPs 1 and 2 are the only CoPs that require selectable integration periods (i.e. 30, 20, 15, 10 and 5 minutes), yet there is currently no test for this requirement in [BSCP601](#)⁴.

This Change Proposal proposes two changes:

- Increase the minimum data storage capacity for Settlement Outstations to 250 days per channel, at 30 minutes integration periods, for CoPs 1, 2, 3, 5 and 10; and
- Mandate specific, selectable, integration periods for CoPs 3, 5, and 10 and add a test for this requirement (and for CoPs 1 and 2) into BSCP601.

Proposer's rationale

The Issue 80 Workgroup (WG) believes increasing the minimum data storage requirements for Settlement Outstations has two main benefits. Firstly, it would reduce the risk of estimated data entering Settlement caused by metered data being overwritten when the Outstation data storage capacity is exceeded. Secondly, it would be a proactive step in supporting a potential future move to 15 minutes Settlement as halving the integration period will double the amount of metered data an Outstation would have to store.

The rationale for increasing the minimum data storage capacities for Settlement Outstations is that:

- all new and significantly modified Outstations are more resilient to data loss in the event of communications/access issues;
- a capacity of 250 days at a 30 minutes integration period will allow for 125 days at 15 minutes integration periods per Outstation channel should a 15 minutes ISP be implemented and require Outstations to have 15 minutes integration periods, i.e. it will cover four months of data storage to align with the four month Final Reconciliation (RF) Run proposed in the Market-wide Half Hourly Settlement (MHHS) report by the Design Working Group (DWG);
- some Outstation manufacturers are currently producing Outstations that meet the proposed requirements (17 out of 32 Outstations would already meet the requirement);
- the Issue Group did not believe the costs associated with increasing the minimum data storage requirement for Settlement Outstations would be significant;
- changing the CoPs will improve and simplify industry standards; and
- this change will ensure data storage requirements for Settlement Outstations keep pace with technology and are not barriers to future innovation.

The rationale for mandating specific, selectable, integration periods (i.e. 30, 20, 15, 10 and 5 minutes) for CoPs 3, 5, and 10, to align with CoPs 1 and 2, and adding a test for this requirement into BSCP601 (for CoPs 1, 2, 3, 5 and 10) is:

⁴ 'Metering Protocol Approval and Compliance Testing'

- it will ensure consistency across all the CoPs;
- it will future proof CoPs 3, 5 and 10 if 15 minutes integration periods are required; and
- confirming this requirement, as part of the BSCP601 process, for CoPs 1, 2, 3, 5 and 10 Outstations will provide assurance that all Outstations do indeed comply with this requirement.

Proposed redlining

CP1527 will require amendments to:

[CoP1 'Code of Practice for the metering of circuits with a rated capacity exceeding 100MVA for Settlements purposes'](#)

[CoP2 'Code of Practice for the metering of circuits with a rated capacity not exceeding 100MVA for Settlements purposes'](#)

[CoP3 'Code of Practice for the metering of circuits with a rated capacity not exceeding 10MVA for Settlements purposes'](#)

[CoP5 'Code of Practice for the metering of energy transfers with a maximum demand of up to \(and including\) 1MW for Settlement purposes'](#)

[CoP10 'Code of Practice for metering of energy via low voltage circuits for Settlement purposes'](#)

[BSCP601 'Metering Protocol Approval and Compliance Testing'](#)

Minor Housekeeping changes have been made to all the above documents.

Redlined changes to these documents can be found in Attachment B.

3 Impacts and Costs

Central impacts and costs

Central impacts

BSC Document changes are needed to Codes of Practice 1, 2, 3, 5 and 10 and BSCP601 to implement the solution to this CP. BSC Document changes are required as outlined in the table below:

Central Impacts	
Document Impacts	System Impacts
BSCP601	None
CoP1	
CoP2	
CoP3	
CoP5	
CoP10	

CoP11 being developed under Modification P375 '[Metering behind the Boundary Point](#)' will be impacted if CP1527 is approved and will need updating to reflect the agreed minimum number of days per channel for "Half Hourly Integral Outstation Meters".

Central costs

The total BSC implementation costs for CP1527 will be approximately £240 (one ELEXON Working Day) of effort to implement the necessary document changes.

Impact on BSC Settlement Risks

Impact on BSC Settlement Risks

The change should help mitigate risk under Risk 005⁵ and Risk 023⁶ as it will give Registrants/HHMOAs/CVA MOAs more time to successfully retrieve HH metered data from Outstations that have a comms fault or are on permanent hand held reads and sites where access is difficult to secure, when site visits are required.

BSC Party & Party Agent impacts

BSC Parties (Generators, Suppliers, Transmission Operator and Distributor) and Party Agents (CVA MOA and HH MOA) who purchase and/or install Outstations need to be aware that the CoPs are changing so they purchase/install compliant Outstations if CP1527 is approved. BSC Parties (i.e. Registrants) who register Outstations need to be aware that

⁵ A fault with SVA Metering Equipment is not resolved, such that metered data is recorded incorrectly or cannot be retrieved

⁶ A fault with CVA Metering Equipment is not resolved, such that metered data is recorded incorrectly or cannot be retrieved

the CoPs are changing so they register compliant Outstations and do not therefore need to seek Metering Dispensations under [BSCP32](#)⁷ if CP1527 is approved.

Outstation manufacturers

As part of the Issue 80 discussions ELEXON engaged with Outstation manufacturers to gauge the impact of changes to minimum Outstation data storage capacity requirements.

Some manufacturers confirmed their Outstations would be able to comply with the proposed change (17/32 Outstations could comply). However, some Outstation manufacturers will need time to redesign existing or develop new Outstation types to meet the new requirements so this should feed into the implementation timescale for CP1527.

ELEXON will need to contact current Outstation manufacturers and advise them of the approved changes (and implementation date) and ask them to submit BSCP601 compliance testing applications and confirm compliance with the new requirements (either through a formal letter confirming compliance or through testing).

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⁷ 'Metering Dispensations'

4 Implementation Approach

Recommended Implementation Date

We propose this CP be implemented on **24 June 2021** as part of the scheduled June 2021 BSC Release.

The Issue 80 WG recommends a 12 month implementation lead time. Some Outstation manufacturers will need time to redesign existing or develop new Outstation types to meet the new requirements so this should feed into the implementation timescale for a CP1527.

5 Proposed Progression

Progression timetable

The table below outlines the proposed progression plan for CP1527:

Progression Timetable	
Event	Date
CP Progression Paper presented to Imbalance Settlement Group (ISG) for information	4 February 2020
CP Consultation	10 February 2020 – 6 March 2020
CP Assessment Report presented to ISG for decision	7 April 2020
Proposed Implementation Date	24 June 2021 (June 2021 - 12 month implementation lead time)

CP Consultation questions

We intend to ask the standard CP Consultation questions for CP1527. We do not believe any additional questions need to be asked for this CP.

Standard CP Consultation Questions
Do you agree with the CP1527 proposed solution?
Do you agree that the draft redlining delivers the CP1527 proposed solution?
Will CP1527 impact your organisation?
Will your organisation incur any costs in implementing CP1527?
Do you agree with the proposed implementation approach for CP1527?

6 Recommendations

We invite the ISG to:

- **NOTE** that CP1527 has been raised;
- **NOTE** the proposed progression timetable for CP1527; and
- **PROVIDE** any comments or additional questions for inclusion in the CP Consultation.

Appendix 1: Glossary & References

Acronyms

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

Acronym	Definition
AMO	Association of Meter Operators
BSC	Balancing and Settlement Code
BSCP	Balancing and Settlement Code Procedure
CoP	Metering Code of Practice
CP	Change Proposal
CPC	Change Proposal Consultation
CVA	Central Volume Allocation
DWG	Design Working Group
HH	Half Hourly
ISG	Imbalance Settlement Group
ISP	Imbalance Settlement Period
LDSO	Licensed Distribution System Operator
MOA	Meter Operator Agent
MHHS	Market-wide Half Hourly Settlement
NETSO	National Electricity Transmission System Operator
RF	Final Reconciliation
SVA	Supplier Volume Allocation
UoS	Use of System (UoS)
WG	Workgroup

External links

External Links		
Description	Page	URL
Issue 80 Webpage on ELEXON Website	2	https://www.elexon.co.uk/smg-issue/issue-80/
Clean Energy Package	2	https://ec.europa.eu/energy/en/topics/energy-strategy-and-energy-union/clean-energy-all-europeans
BSCP601 Webpage	3	https://www.elexon.co.uk/csd/bscp601-metering-protocol-approval-and-compliance-testing/
CoP1 Webpage on the ELEXON Website	5	https://www.elexon.co.uk/csd/cop-code-of-practice-1/
CoP2 Webpage on the ELEXON Website	5	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/
CoP3 Webpage on the ELEXON Website	5	https://www.elexon.co.uk/csd/cop-code-of-practice-3/
CoP5 Webpage on the ELEXON Website	5	https://www.elexon.co.uk/csd/cop-code-of-practice-5/
CoP10 Webpage on the ELEXON Website	5	https://www.elexon.co.uk/csd/code-of-practice-10-the-metering-of-energy-via-low-voltage-circuits-for-settlement-purposes/
P375 Webpage	6	https://www.elexon.co.uk/mod-proposal/p375/