

CP Consultation

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

ELEXON



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Contents

1	Why Change?	2
2	Solution	5
3	Impacts and Costs	7
4	Implementation Approach	9
5	Initial Committee Views	10
	Appendix 1: Glossary & References	11

About This Document

The purpose of this CP1527 Change Proposal (CP) Consultation is to invite BSC Parties, Party Agents and other interested parties to provide their views on the impacts and the merits of CP1527. The Supplier Volume Allocation Group (SVG) and the Imbalance Settlement Group (ISG) will then consider the consultation responses before making a decision on whether or not to approve CP1527.

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 SVG's initial views on the proposed changes.
- Attachment A contains the proposed redlined changes to deliver the CP1527 solution.
- Attachment B 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 C contains the CP1527 Proposal Form.

CP Consultation
CP1527

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Page 1 of 13

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1 Why Change?

What is the issue?

The current minimum data storage requirements for Settlement Outstations are low¹ 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.

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. Most of the available Settlement Outstations already store far more data than the current minimum data storage capacities required by the CoPs and therefore the impact of implementing this change will be limited. The current minimum data storage capacities required by the CoPs are:

Metering CoP	Minimum data storage capacity ²
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

This CP seeks to increase the minimum data storage requirements for Settlement Outstations within the metering Codes of Practice (CoPs) to 250 days per Outstation channel at 30 minutes integration periods, for Metering CoPs.

In addition [CoPs 1 and 2](#) are the only CoPs that require selectable integration periods yet there is currently no test for this requirement in BSCP601. This CP also seeks to mandate specific, selectable, integration periods for CoPs 3, 5, and 10 and add a test for this requirement into BSCP601.

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 Settlement³.

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.

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.



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 As reported by the associated Issue 80 Proposer from the Association of Meter Operators (AMO)

² per Outstation channel

³ Pulse counts are converted into energy values using the relevant Pulse Multiplier from the Meter Technical Details.



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 view of the Issue Group was 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 tried to establish what impact this was having on Settlement but was unable to do so. The CDCA confirmed they knew of no incidents with CVA Meters where the data was being overwritten due to insufficient memory.

The Issue Group noted that the Imbalance Settlement Period (ISP) is changing to 15 minutes as part of the [Clean Energy Package](#). This is required for implementation by 1 January 2021. Ofgem is currently considering whether to grant an exemption from implementation or a derogation (extension).

The Issue 80 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 for the reasons given in CP1527.

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](#)⁴. CoPs 3, 5 and 10 only require 30 minutes integration periods.

The Issue Group concluded that specific, selectable, integration periods for CoPs 3, 5, and 10 should be introduced. Consequently, a test for this requirement (in CoPs 1, 2, 3, 5 and 10) should also be included in BSCP601. The Issue Group noted that this change, like the increasing minimum data storage for Outstations change, would not require existing Outstations to be replaced. The new requirements would only apply to newly installed Outstations or where an existing (already installed) Outstation is materially changed.

As no BSC Parties came forward to raise the recommendations of the Issue 80 Group, ELEXON agreed to raise CP1527 on behalf of the Issue Group.

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

⁴ 'Metering Protocol Approval and Compliance Testing'

The Issue Group 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.

Proposed solution

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 (into CoPs 1, 2, 3, 5 and 10) into BSCP601.

We have also taken the opportunity to address a number of housekeeping issues. The corrections are explained throughout impacted documents.

Proposer's rationale

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 \(DWG\)](#)⁵.
- 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:

- 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

⁵ The DWG has designed the Target Operating Model (TOM) for Market-wide Half Hourly Settlement (MHHS), as well as the approach for transitioning from the current Settlement arrangements to the TOM. The TOM is a key output of Ofgem's Significant Code Review (SCR) on Electricity Settlement Reform.

- 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.

CP Consultation Question

Do you agree with the CP1527 proposed solution?

Please provide your rationale.

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

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 A.

CP Consultation Question

Do you agree that the draft redlining delivers the CP1527 proposed solution?

If 'No', please provide your rationale.

We invite you to give your views using the response form 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. CoP11 will therefore need updating to reflect the agreed minimum number of days per channel for "Half Hourly Integral Outstation Meters" if CP1527 is approved.

Central costs

The total BSC implementation costs for CP1527 will be approximately £840; £240 for the first document and £120 for each subsequent document.

Impact on BSC Settlement Risks

Impact on BSC Settlement Risks
The change should help mitigate risk under Risk 005 ⁶ and Risk 023 ⁷ 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

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

⁷ A fault with CVA Metering Equipment is not resolved, such that metered data is recorded incorrectly or cannot be retrieved

approved. BSC Parties (i.e. Registrants) who register Outstations need to be aware that the CoPs are changing so they register compliant Outstations and do not therefore need to seek Metering Dispensations under [BSCP32](#)⁸ if CP1527 is approved.

Outstation manufacturers

As part of the Issue 80 discussions ELEXON engaged extensively (via email, phone, and a Request for Information) with Outstation manufacturers to gauge the impact of changes to minimum Outstation data storage capacity requirements. ELEXON also conducted on-line research.

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).

CP Consultation Questions

Will CP1527 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 CP1527 and the CP1527 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 CP1527?

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 B.

⁸ '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 Workgroup recommends a minimum 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. We welcome feedback on this approach via the CP1527 consultation.

CP Consultation Question

Do you agree with the proposed implementation approach for CP1527?

Please provide your rationale.

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

CP Consultation Question

Do you have any further comments on CP1527?

Please provide your rationale.

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

5 Initial Committee Views

The SVG ([SVG228](#)) and ISG ([ISG226](#)) considered CP1527 on 4 February 2020.

SVG's Initial Views

The SVG noted the progression paper. There were no comments on the proposed change.

ISG's Initial Views

An ISG Member raised concerns about the availability of compliant Outstations if the proposed change is made. There is a risk that less Outstation manufacturers will produce compliant Outstations if other models become non-compliant leaving the industry with less choices. The Member gave an example of an SVA Outstation type (which is a popular choice with HHMOAs) which would not comply with the proposed changes and the manufacturer had indicated it had no plans to modify the Outstation to do so. ELEXON noted the manufacturer feedback/analysis it had undertaken in the Issue 80 Final Report about Outstation compliance and that the Issue 80 WG believes that increasing the minimum data storage capacity requirements in the CoPs may facilitate a more competitive market. The Issue 80 WG did have some concerns about the availability of CT operated Meters with integral Outstations for CoP3 sites.

The Member highlighted that while the majority of Outstations are integral with Meters some Meters are separate from Outstations and that some separate Outstations are nearing end of life. Manufacturers are less likely to change these Outstations to comply with the proposed requirements. The Member wondered whether existing spares for/stocks of these Outstations could be used after the change is implemented. ELEXON expressed its view that replacing Metering Equipment like-for-like⁹ constitutes a "material change"¹⁰ to Metering Equipment and therefore replacement Metering Equipment would need to comply with the latest version of the relevant CoP. ELEXON noted that a Registrant could apply for a Metering Dispensation to allow Outstation types (that would become non-compliant) to be used if a "material change" was made to the Outstation at a site.

The Member asked if the proposed change is retrospective. ELEXON confirmed that the proposed change is not retrospective, it will only be effective going forward.

⁹ Post meeting clarification: If spare parts are used, and these don't constitute a "material change" to the Outstation, then the Outstation can continue to be used after the Implementation Date.

¹⁰ Section L3.3 'Material change' defines a material change as 'a change to the Metering Equipment other than a change by way of repair, modification or replacement of any component which is not, in the judgement of the Meter Operator Agent acting in accordance with Good Industry Practice, a substantial part of the Metering Equipment even where an enhanced or equivalent component is used for the repair, modification or replacement rather than an identical component'.

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
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
SVG	Supplier Volume Allocation Group
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	3	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	6	https://www.elexon.co.uk/csd/cop-code-of-practice-1/
CoP2 Webpage on the ELEXON Website	6	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	6	https://www.elexon.co.uk/csd/cop-code-of-practice-3/
CoP5 Webpage on the ELEXON Website	6	https://www.elexon.co.uk/csd/cop-code-of-practice-5/
CoP10 Webpage on the ELEXON Website	6	https://www.elexon.co.uk/csd/code-of-practice-10-the-metering-of-energy-via-low-voltage-circuits-for-settlement-purposes/
SCR Review on the Ofgem Website	7	https://www.ofgem.gov.uk/electricity/transmission-networks/charging/targeted-charging-review-significant-code-review
DWG Webpage on the ELEXON Webpage	7	https://www.elexon.co.uk/group/design-working-group/
P375 Webpage	7	https://www.elexon.co.uk/mod-proposal/p375/
BSCP32 Webpage on the ELEXON Website	8	https://www.elexon.co.uk/csd/bscp32-metering-dispensations/

External Links		
Description	Page	URL
ISG Webpage on the ELEXON Website	10	https://www.elexon.co.uk/meeting/isg226/
SVG Webpage	10	https://www.elexon.co.uk/meeting/svg228/