

CP Assessment Report

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

ELEXON



Committee

Supplier Volume Allocation Group (SVG), Imbalance Settlement Group (ISG)

Recommendation

Approve

Implementation Date

30 June 2022 (June 2022 Release)



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About This Document

This document is the Change Proposal (CP) Assessment Report for CP1527 which ELEXON will present to the SVG and ISG at their respective meetings on 7 April 2020. The Committees will consider the proposed solution and the responses received to the CP Consultation before making a decision on whether to approve CP1527.

There are 9 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 & SVG's initial views on the proposed changes and the views of respondents to the CP Consultation.
- Attachment(s) A-F contain(s) the proposed redlined changes to deliver the CP1527 solution.
- Attachment G contains the Change Proposal Form.
- Attachment H contains the full responses received to the CP Consultation.



What is the issue?

The Issue 80 [‘Increase in minimum data storage requirements within the relevant Metering CoPs’](#) 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 on 16 April 2019 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 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 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.



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 AMO.

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:

- Six channels for Supplier Volume Allocation (SVA) sites
- Four channels for Central Volume Allocation (CVA) sites
- Six 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.

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⁴ 'Metering Protocol Approval and Compliance Testing'

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
- 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 Attachments A-F.

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 'Metering Protocol Approval and Compliance Testing'	None
CoP1 'Code of Practice for the Metering of Circuits with a Rated Capacity Exceeding 100MVA for Settlement'	
CoP2 'Code of Practice for the Metering of Circuits with a Rated Capacity Not Exceeding 100MVA for Settlement Purposes'	
CoP3 'Code of Practice for the Metering of Circuits with a Rated Capacity Not Exceeding 10MVA for Settlement 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 Whole Current Metering of Energy via Low Voltage Circuits for Settlement Purposes'	

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 Settlement Risk 005⁵ and Settlement 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.

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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

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 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).

⁷ 'Metering Dispensations'

4 Implementation Approach

Recommended Implementation Date

We propose this CP be implemented on **30 June 2022** as part of the scheduled June 2022 BSC Release.

The Issue 80 WG recommended a 12 month implementation lead time, originally proposing an implementation date of **24 June 2021**. The logic for this was 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.

Following consultation responses and concerns raised by industry participants highlighted in Section 6; we recommend the original implementation date of 24 June 2021 be delayed by 12 months. This will enable Outstation manufacturers more time to develop products to match the new specifications and ensure that existing Outstation stock can be installed in the intervening period, thus reducing the risk of Metering Equipment becoming redundant.

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

SVG's Initial Views

The SVG noted the progression paper and provided 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-like⁸ constitutes a "material change"⁹ 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.

⁸ 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.

⁹ 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'.

6 Industry Views

This section summarises the responses received to the CP Consultation. You can find the full responses in Attachment G.

Summary of CP1527 CP Consultation Responses				
Question	Yes	No	Neutral/ No Comment	Other
Do you agree with the CP1527 proposed solution?	6	4	0	0
Do you agree that the draft redlining delivers the intent of CP1527?	7	1	2	0
Will CP1527 impact your organisation?	6	3	1	0
Will your organisation incur any costs in implementing CP1527?	5	3	2	0
Do you agree with the proposed implementation approach for CP1527?	7	2	1	0
Do you have any further comments on CP1527?	5	5	N/A	N/A

In total 10 responses were received for; two Suppliers, one Outstation manufacturer and seven participants representing multiple Supplier Agents including Meter Operators, Data Collectors, Data Aggregators for both Central and Supplier Volume Allocation roles and Half Hourly and Non Half Hourly roles.

Solution

Six respondents to the consultation agreed with the CP1527 solution, five of the seven Supplier Agents and one Supplier. Respondents believed that the changes would provide Settlement benefits as more data could be retrieved from Outstations in the event of communication issues.

Four respondents disagreed with the CP1527 solution. Concerns were raised around the timescale for implementing CP1527 and what would happen to existing Outstation stock that would not comply with the new CoP requirements following implementation. Following conversations with the Issue 80 proposer, respondents from Supplier Agents and an Outstation manufacturer, we propose to push the implementation of CP1527 back to 30 June 2022. The Supplier agents' agreed a one year extension would decrease the risk of having incompatible Outstations in stock without the ability to install them. The Outstation manufacturer advised this date would give them time to bring a new compatible product to market. An additional Supplier raised this concern but was unavailable for comment to our proposed Implementation Date amendment.

We have also advised participants there is no direct correlation between this CP and any possible prospective change in Settlement Periods. If such a change was to be implemented in the future there would be separate BSC change procedures to accommodate this.

The BSC Issue Group advised an increase to 250 days per channel in order to future proof against any potential changes around Settlement Periods and Settlement performance,

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effectively ensuring this would cover a move to four month Settlement performance standards upon a move to Market Wide Half Hourly Settlement (MHHS) and allowing data to be collected for the entire period if a change to 15 minutes Settlement Periods were introduced going forward (and Outstations needed to be programmed to 15 minutes integration periods). The Outstation manufacturer respondent noted having more data storage in an Outstation is an increased risk that allows for less site visits for manual data collection in the event of communications failure and could result in more estimated data in Settlement in the intervening period. ELEXON advised that existing controls might need to be looked at or additional controls might need to be introduced to counteract this.

Following conversation with the Outstation manufacturer we acknowledge potential issues they raised around testing Outstations with larger data storage capacities, e.g. the challenges faced with modern, more secure, Outstations of loading them with 'dummy data' to within 10 (or 20) days of full capacity to ensure newest data overwrites oldest data or the potential risk of getting a 'false positive' by using different integration periods (e.g. 5 minutes) to do so. We also agree that the test proposed in BSCP601 to check for the functionality (only) to select other non-Settlement integration periods (e.g. 15 minutes) does not actually require the Compliance Testing Agent to confirm Outstations accurately allocate energy to 15 minutes 'Demand Value' registers. However, we propose to contact Outstation manufacturers in the run up to the CP implementation date and ask them to confirm compliance with the proposed CP requirements and additionally suggest they confirm their Outstations do accurately allocate energy when set to 15 min integration periods. This could be done by a Compliance Testing Agent or ELEXON could conduct witness testing performed at the manufacturer's premises using suitably accurate and calibrated energy standards. This will provide assurance to themselves and industry that when the time comes to move to 15 minutes ISPs and, if in turn, this requires 15 minutes integration periods for Outstations, participants will have a 'heads up' on whether those Outstations should continue to be installed, well before the actual move.

Implementation

Following correspondence with ELEXON, the two respondents who did not agree with the implementation approach have confirmed they support the amended Implementation Date of 30 June 2022.

7 Recommendations

We invite the **SVG** to:

- **APPROVE** the proposed changes to BSCP601, CoP3, CoP5 and CoP10 for CP1527; and
- **APPROVE** CP1527 for implementation on 30 June 2022 as part of the June 2022 BSC Release.
- **NOTE** that CP1527 will also be presented for decision to the:
 - ISG on 7 April 2020.

We invite the **ISG** to:

- **APPROVE** the proposed changes to BSCP601, CoP1, CoP2 and CoP3 for CP1527; and
- **APPROVE** CP1527 for implementation on 30 June 2022 as part of the June 2022 BSC Release.
- **NOTE** that CP1527 will also be presented for decision to the:
 - SVG on 7 April 2020.

Appendix 1: Glossary & References

Acronyms

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

Acronyms	
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

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		
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/
ISG Webpage on the ELEXON Website	10	https://www.elexon.co.uk/meeting/isg226/
SVG Webpage	10	https://www.elexon.co.uk/meeting/svg228/

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